Surface Water Supply of the United States 1961–65

Part 12. Pacific Slope Basins in Washington

Volume 2. Upper Columbia River Basin

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1933

Prepared in cooperation with the States of Idaho, Montana, and Washington, and with other agencies

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PREFACE

This report was prepared by the U.S. Geological Survey in cooperation with the States of Idaho, Montana, and Washington, and with other agencies, by personnel of the Water Resources Division, E. L. Hendricks, chief hydrologist, G. W. Whetstone, assistant chief for Reports and Data Processing, under the general direction of G. A. Billingsley, chief, Reports Section, and B. A. Anderson, chief, Data Reports Unit.

The data were collected and computed under supervision of district chiefs, Water Resources Division, as follows:

W. L. Burnham.....Boise, Idaho
L. B. Laird.....Tacoma, Wash.
G. M. Pike.....Helena, Mont.

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UPPER COLUMBIA RIVER BASIN--Continued

SURFACE WATER SUPPLY OF PACIFIC SLOPE BASINS IN WASHINGTON, UPPER COLUMBIA RIVER BASIN

SCOPE OF WORK

This volume is one of a series of 37 reports presenting records of stage, discharge, and content, of streams, lakes, and reservoirs in the United States during the 1961-65 water years. Since 1888, when the U.S. Geological Survey first studied streamflow in relation to problems of irrigation, similar records have been obtained at more than 17,500 gaging stations in the 50 States. On September 30, 1965, the Geological Survey and cooperating organizations were maintaining 9,100 gaging stations. Partial-record stations for low flow or for floodflow have been operated at many other points. The records for the 1961-65 water years at gaging stations and partial-record stations in Pacific slope basins in Washington, Upper Columbia River basin are given in this report.

COOPERATION

Many State, municipal, and private organizations have cooperated with the Geological Survey in this work by either furnishing or helping to collect data. Organizations that supplied data are acknowledged in station descriptions, and organizations that assisted in the collection of data through cooperative agreements with the Survey are as follows:

Idaho--Idaho Department of Reclamation and Idaho Department of Highways.

Montana--Office of the State Engineer; State Water Conservation Board; State Highway Commission; and Endowment and Research Foundation at Montana State University.

Washington--State Department of Conservation; State Department of Fisheries; State Department of Game; State Department of Highways; City of Seattle Department of Lighting; Chelan County P.U.D. No. 1; Douglas County P.U.D. No. 1; Grant County P.U.D. No. 2; Pend Oreille County P.U.D. No. 1; and Stevens County P.U.D. No. 1.

Assistance in form of funds or services was given by the Bureau of Reclamation, U.S. Department of the Interior, in collecting records published herein for 49 gaging stations; by the U.S. Department of State for 13 stations; by the Bonneville Power Administration, U.S. Department of the Interior, for 11 stations; by the Corps of Engineers, U.S. Army, for 10 stations; and by the Forest Service, U.S. Department of Agriculture, for 2 stations.

The following organizations aided in collecting records:

Idaho--Washington Water Power Co.

Montana--The Montana Power Co.; The Washington Water Power Co.; Pacific Power and Light Co.; and the Lewis and Clark Generating and Transmission Cooperative.

Washington--The Washington Water Power Co.

On waters adjacent to the international boundary certain gaging stations are maintained by the United States (or Canada) under agreement with Canada (or the United States) and the records are obtained and compiled in a manner equally acceptable in both countries. These stations are designated as "International gaging stations."

DIVISION OF WORK

The stream-gaging work was done by the Water Resources Division of the Geological Survey under the direction of personnel cited in the preface. The data for stations in the several States were collected and prepared for publication in the district offices listed below.

State	District office	Address
Idaho	Boise 83702	Room 365 Federal Building
Montana	Helena 59601	Room 421 Federal Building
Washington	Tacoma 98402	1305 Tacoma Avenue South

DEFINITION OF TERMS AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discnarge record, the term is applied herein only to those gaging stations where a continuous record of discharge is obtained.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimes will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

Partial-record station is a particular site where limited streamflow data are collected systematically over a period of years for use in hydrologic analyses.

Discharge is the volume of water in a stream which passes a given point in a unit of time.

Cubic foot per second (cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute.

Cubic feet per second per square mile (cfsm) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Runoff in inches (in.) shows the depth to which the drainage area would be covered if all the runoff a given time period were uniformly distributed on it.

Acre-foot (ac-ft) is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet or 325,851 gallons.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

Stage-discharge relation is the relation between gage height (the stage of the stream in relation to a reference gage) and the amount of water flowing in a channel, expressed as volume per unit of time.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Contents is the volume of water in a reservoir. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Drainage area of a stream above a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing area, within the area unless otherwise noted.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBER

Beginning with the series of reports for the water year ending September 30, 1951, the order of listing gaging-station records is in a downstream direction along the main stem. All stations on a tributary entering above a main-stem station are listed before that station. A station on a tributary that enters between two main-stem stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a gaging station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in the listing of gaging stations in the table of contents of this report. Each indention represents one rank. This downstream order and system of indention show which gaging stations are on tributaries between any two stations and the rank of the tributary on which each gaging station is situated.

The order of listing used before the publication of the 1951 report listed first all stations on the main stem from headwaters toward mouth, then all stations on the uppermost tributary to the main stem from the tributary's source to mouth, and then all stations from source to mouth of the uppermost tributary to the tributary.

As an added means of identification, each gaging station and partial-record station has been assigned a number. Numbers have been assigned in the same downstream order as described in this report. In assigning station numbers, no distinction is made between partial-record stations and regular gaging stations; the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 12-3530.00, includes the part number "12" plus a 6-digit number. In this report the nonessential zeros are not shown. For example, the complete number 12-3530.00 will appear as 12-3530, just to the left of the station name.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used as needed to supplement base data in determining the daily flow. Records of stage are obtained from a water-stage recorder that gives a continuous graph of fluctuations (for digital recorders, a tape punched at 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge, (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs, and by other methods), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharges are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and on notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in determining discharge. Information requisite for determining the slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by rapid change in stage. If so, the rate of change in stage is used as a factor in determining discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts of the country the stage-discharge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute the daily discharge. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins.

The data in this report generally comprise a description of the station, and tables showing the daily discharge and monthly and yearly discharges of the stream. Records are published on a water year basis which begins on October 1 and ends on September 30.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, general remarks, and notations on revisions of the previously published record. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "Location" for some stations, is that determined and used by the Corps of Engineers unless otherwise noted. Under "Records available" are given the periods for which there are published records generally equivalent to those at present site. Under "Gage" are given the type of gage currently in use and the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. The reference to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U.S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given, usually in tabular form, the maximum instantaneous discharge and gage height for the current water years (1961-65); the minimum instantaneous discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum instantaneous discharge if it is abnormally low); and the minimum gage height if it is also abnormally low. For stations for which peak discharges are published, all independent peaks above the selected base and the time of occurrence and corresponding gage heights are published in the first table under "Extremes." The base discharge, which is given in parentheses in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate table following the table of peaks. In the paragraph following the current data, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and conditions which affect the natural flow at the gaging station is given under "Remarks."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such reports are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "Revisions (water years)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are concerned in the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that

only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The daily table gives the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of the day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with non-recording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage, the discharge is determined from gage-height graph based on gage readings.

In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "MEAN" gives the average flow in cubic feet per second during the month. On the line headed "MAX" the figures are the maximum daily discharges for the months, not the momentary maximum discharges. Likewise, the line headed "MIN" are the minimum daily discharges for the months. Discharge for the month may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches, or if the flow is appreciably affected by regulation by upstream reservoirs.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges for the calendar and water years; likewise, the minimums are the minimum daily discharges.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description under "Remarks" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

In earlier reports the figures of daily mean discharge, computed manually, were usually rounded to tenths below 10 cfs, but the rounding rules were not rigid; some discharges were given to hundredths if the accuracy was sufficiently good and others were rounded to whole numbers if the accuracy was poor. In this report, however, most of the tables of daily mean discharge are tabulated by a computer which rounds the figures solely on basis of the magnitude of the discharge. Therefore, zeros to the right of the decimal point should not be construed to indicate an accuracy greater than is stated in the "Remarks" paragraph.

Discharge at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

OTHER DATA AVAILABLE

Data collected at partial-record stations are given at the end of this report. Data for partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are given in special tables following the tables of partial-record stations.

Information of a more detailed nature than that published for most of the gaging stations is on file in the district offices, such as discharge measurements, gage-height records, and rating tables. Many gaging-station records have been analyzed to give several statistical summaries, mainly: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. Under "Remarks" of the station description, reference is made to water-quality records collected on a regular basis for that station.

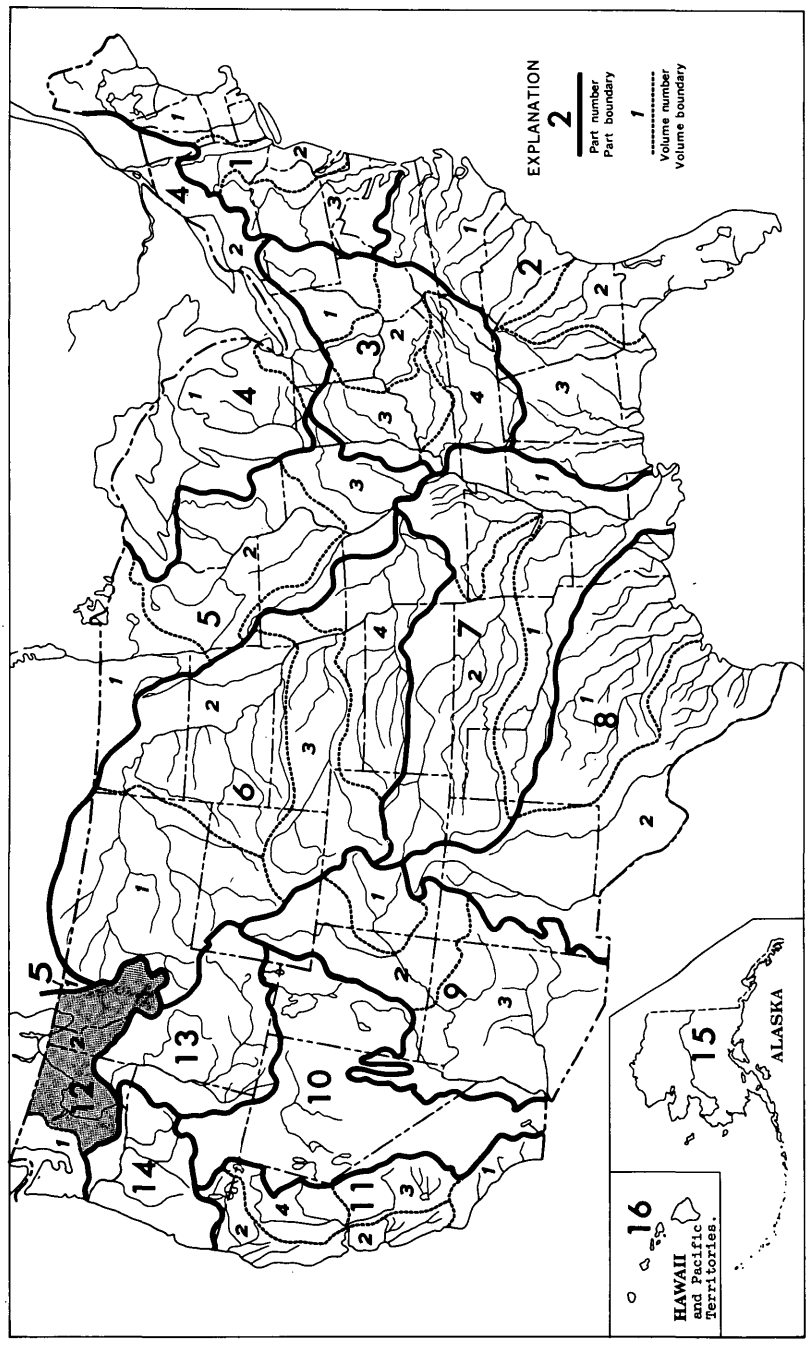

Figure 1.--Map of the United States showing area covered by the volumes in the series on surface-water supply. The area covered by this report is shaded.

Results of the data collected are published in water-supply papers entitled "Quality of Surface Waters of the United States," and in annual reports issued by States beginning with the 1964 water year. These annual reports are entitled, "Water Resources Data for (state). Part 2, Water Quality Records." Information on the availability of electronic computer analyses, unpublished data, or quality of water records may be obtained from the district offices listed on page 2.

PUBLICATIONS

Through September 30, 1960, the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Prior to 1951, there were 14 volumes in the series; one for each of the 14 parts whose boundaries coincided with certain natural drainage lines within the conterminous United States. From 1951 to 1960, there were 20 volumes in the series, including one each for the States of Alaska and Hawaii.

This report marks the beginning of a new series of water-supply papers to be published on a 5-year basis. This series covers the 5-year period October 1, 1960, to September 30, 1965. To meet interim requirements, streamflow and related data have been released by the Geological Survey in annual reports, beginning with the 1961 water year, by State. These reports are entitled, "Water Resources Data for (state), Part 1. Surface Water Records." Distribution of these reports is limited and primarily for local needs. Any revision or corrections found necessary to the records published in these annual State reports have been made and published herein without reference.

This series of 5-year water supply papers consists of 37 volumes. The boundaries of the various parts and volumes within the parts are indicated in the following list and on the map in figure 1.

Part 1. North Atlantic slope basins, in three volumes:
- Volume 1: Basins from Maine to Connecticut
- Volume 2: Basins from New York to Delaware
- Volume 3: Basins from Maryland to York River

Part 2. South Atlantic slope and eastern Gulf of Mexico basins, in three volumes:
- Volume 1: Basins from James River to Savannah River
- Volume 2: Basins from Ogeechee River to Carrabelle River
- Volume 3: Basins from Apalachicola River to Pearl River

Part 3. Ohio River basin, in four volumes:
- Volume 1: Ohio River basin above Kanawha River
- Volume 2: Ohio River basin from Kanawha River to Louisville, Kentucky
- Volume 3: Ohio River basin from Louisville, Kentucky, to Wabash River
- Volume 4: Ohio River basin below Wabash River

Part 4. St. Lawrence River basin, in two volumes:
- Volume 1: Basins of streams tributary to Lakes Superior, Michigan, and Huron
- Volume 2: St. Lawrence River basin below Lake Huron

Part 5. Hudson Bay and Upper Mississippi River basins, in three volumes:
- Volume 1: Hudson Bay Basin
- Volume 2: Upper Mississippi River basin above Keokuk, Iowa
- Volume 3: Upper Mississippi River Basin below Keokuk, Iowa

Part 6. Missouri River basin, in four volumes:
- Volume 1: Missouri River basin above Williston, North Dakota
- Volume 2: Missouri River basin from Williston, North Dakota, to Sioux City, Iowa
- Volume 3: Missouri River basin from Sioux City, Iowa, to Nebraska City, Nebraska
- Volume 4: Missouri River basin below Nebraska City, Nebraska

Part 7. Lower Mississippi River basin, in two volumes:
- Volume 1: Lower Mississippi River basin except Arkansas River basin
- Volume 2: Arkansas River basin

Part 8. Western Gulf of Mexico basins, in two volumes:
- Volume 1: Basins from Mermentau River to Colorado River
- Volume 2: Basins from Lavaca River to Rio Grande

Part 9. Colorado River basin, in three volumes:
Volume 1: Colorado River basin above Green River
Volume 2: Colorado River basin from Green River to Compact Point
Volume 3: Lower Colorado River basin
Part 10. The Great Basin
Part 11. Pacific Slope Basins in California, in four volumes:
Volume 1: Basins from Tia Juana River to Santa Maria River
Volume 2: Basins from Arroyo Grande to Oregon State line except Central Valley
Volume 3: Southern Central Valley basins
Volume 4: Northern Central Valley basins
Part 12. Pacific Slope basins in Washington, in two volumes:
Volume 1: Pacific Slope basins in Washington except Columbia River basin
Volume 2: Upper Columbia River basin
Part 13. Snake River basin
Part 14. Pacific Slope basins in Oregon and Lower Columbia River basin
Part 15. Alaska
Part 16. Hawaii and other Pacific areas

Water-supply papers and other publications of the Geological Survey containing data on the water resources of the United States may be purchased or consulted as follows:

1. Copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402, who will, on application, furnish lists giving prices. A list of Geological Survey publications may also be obtained by applying to the Director, Geological Survey, Washington, D. C. 20242.

2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.

3. Sets are available for consultation in the offices of the Water Resources Division of the Geological Survey. Addresses of the offices in the area covered by this report are given on page 2.

Early records of the flow of streams in the United States are published in the reports listed below. In many of these reports records for years earlier than those indicated have been included for some streams. Most of these reports are out of print, but may be available for consultation in the district offices and in public libraries.

Streamflow data for the years 1884-1901, in reports of the Geological Survey

(A - Annual Report; B - Bulletin)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information	1844 to September 1890
12th A, pt. 2	do	1844 to June 30, 1891.
13th A, pt. 3	do	1884-92.
14th A, pt. 3	Monthly discharge.	1888-93.
B 131. . .	Descriptions, measurements, gage heights, and ratings	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140. . .	Descriptions, measurements, gage heights, ratings and monthly discharge.	1895.
WSP 11. . .	Gage heights.	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1895-96.
WSP 15. . .	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
WSP 16. . .	Descriptions, measurements, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1897.
WSP 27. . .	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.

Streamflow data for the years 1884-1901, in reports of the Geological Survey--Continued

(A - Annual Report; B - Bulletin)

Report	Character of data	Year
WSP 28. . .	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4	Monthly discharge.	1898.
WSP 35 to 39.	Descriptions, measurements, gage heights, and ratings	1899.
21st A, pt. 4	Monthly discharge.	1899.
WSP 47 to 52	Descriptions, measurements, gage heights, and ratings	1900.
22nd A, pt. 4	Monthly discharge.	1900.
WSP 65, 66. .	Descriptions, measurements, gage heights, and ratings	1901.
WSP 75. . . .	Monthly discharge.	1901.

Reports on surface water supply containing records from 1899 to date for drainage basins in this report are listed below. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained.

Numbers of water-supply papers containing results of stream measurements in Pacific slope basins in Washington, Upper Columbia River basin, 1899-1960

Year	WSP	Year	WSP	Year	WSP	Year	WSP	Year	WSP
1899	38	1912	332-A	1925	612	1937	832	1949	1152
1900	51	1913	362-A	1926	632	1938	862	1950	1182
1901	66,75	1914	392	1927	652	1939	882	1951	1216
1902	85	1915	412	1928	672	1940	902	1952	1246
1903	100	1916	442	1929	692	1941	932	1953	1286
1904	135	1917	462	1930	707	1942	962	1954	1346
1905	178	1918	482	1931	722	1943	982	1955	1396
1906	214	1919-20	512	1932	737	1944	1012	1956	1446
1907-8	252	1921	532	1933	752	1945	1042	1957	1516
1909	272	1922	552	1934	767	1946	1062	1958	1566
1910	292	1923	572	1935	792	1947	1092	1959	1636
1911	312	1924	592	1936	812	1948	1122	1960	1716

Records for the area covered by this report have been compiled through September 1950 and for the period October 1950 to September 1960 and published in Water-Supply Papers 1316 and 1736, respectively. These reports contain a summary of monthly and annual discharges for all previously published records as well as some records not contained in the annual series of water-supply papers. All records were re-examined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical.

The reports listed in the foregoing tables contain the customary records of discharge collected during the systematic operation of gaging stations. Detailed information on the stage and discharge of many streams during major floods has been included in special reports on these floods published by the Geological Survey. The more recent of these special reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier notable floods. The following list gives the numbers and titles of these reports:

WSP	Title
771.	Floods in the United States, magnitude and frequency.
847.	Maximum discharges at stream-measurement stations through September 1938.
1080	Floods of May-June 1948 in Columbia River basin.
1137-I	Summary of floods in the United States during 1950.
1260-F. . . .	Summary of floods in the United States during 1952.
1320-E. . . .	Summary of floods in the United States during 1953.
1370-C. . . .	Summary of floods in the United States during 1954.
1530	Summary of floods in the United States during 1956.
1687	Magnitude and frequency of floods in the United States.
1750-B. . . .	Summary of floods in the United States during 1959.
1810	Summary of floods in the United States during 1961.

Special reports on floods published by the Geological Survey--Continued

WSP	Title
1830-B. . . .	Summary of floods in the United States during 1963.
1840-B. . . .	Floods of June 1964 in Northwestern Montana.
1866	Floods of December 1964 and January 1965 in the Far Western States.

Reports giving records of chemical quality and temperature of surface water and suspended-sediment loads of streams in the area covered by this volume for the water years 1941-65 are listed below:

Numbers of water-supply papers containing water-quality records in the Pacific slope basins in Washington, Upper Columbia River basin, 1941-65

Year	WSP	Year	WSP	Year	WSP	Year	WSP	Year	WSP
1941	942	1946	1050	1951	1200	1956	1453	1961	1885
1942	950	1947	1102	1952	1253	1957	1523	1962	1945
1943	970	1948	1133	1953	1293	1958	1574	1963	1951
1944	1022	1949	1163	1954	1333	1959	1645	1964	1959
1945	1030	1950	1189	1955	1403	1960	1745	1965	1966

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

Records of discharge have been collected by other agencies at numerous sites throughout the United States that are not published by the Geological Survey. The Office of Water Data Coordination, Water Resources Division, U.S. Geological Survey, Washington, D. C. 20242, maintains an index of such sites. Information on records available in specific sites can be obtained upon request.

KOOTENAI RIVER BASIN

12-3000. Kootenay River at Newgate, British Columbia

(International gaging station)

Location (revised).--Lat 49°00'52", long 115°10'27", on left bank at old highway bridge site, 1 mile north of international boundary, 1.2 miles southeast of Newgate, and at mile 272.1.

Drainage area.--7,660 sq mi, approximately.

Records available.--October 1930 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,310.23 ft above mean sea level (datum of Geodetic Survey of Canada, adjustment of 1945). Prior to Oct. 1, 1940, staff gage at same site at datum 1.00 ft higher. Oct. 1, 1940, to Apr. 30, 1947, staff gage at present site and datum.

Average discharge.--35 years, 10,430 cfs (7,551,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 28, 1961	91,800	14.31	Dec. 10, 1960	a 1,740	-
1962	June 19, 1962	47,200	10.28	Dec. 12, 1961	a 1,770	-
1963	June 1, 1963	50,200	10.60	Jan. 12, 1963	a 1,160	-
1964	June 9, 1964	70,100	12.50	Mar. 25, 1964	1,650	1.30
1965	June 19, 1965	65,200	12.05	Dec. 18, 1964	a 2,100	-

a Minimum daily.

1930-65: Maximum discharge, 98,200 cfs May 28, 1948 (gage height, 15.02 ft); minimum observed, 994 cfs Feb. 7, 1936; minimum gage height observed, 0.21 ft Jan. 11, 1944.

Remarks.--Records excellent except those for winter periods, which are fair. Records give total flow of main channel and slough.

Cooperation.--This is one of a number of stations which are maintained jointly by Canada and the United States.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,620	4,300	2,550	2,020	2,590	3,040	3,960	6,520	68,700	25,800	12,000	6,930
2	4,500	4,150	2,680	2,100	2,780	3,100	4,430	9,130	71,000	22,900	11,200	7,630
3	4,460	4,000	2,900	2,200	2,850	2,970	5,460	12,000	74,100	21,100	10,700	7,840
4	4,390	3,930	3,100	2,300	2,750	2,780	7,060	12,800	76,400	20,600	10,400	7,300
5	4,310	3,770	2,850	2,430	2,710	2,600	6,920	12,700	79,200	20,000	10,200	6,770
6	4,200	3,700	2,500	2,710	2,780	2,620	6,300	12,600	83,200	20,200	10,100	6,560
7	4,150	3,650	2,180	2,760	2,800	2,700	5,680	12,100	85,400	20,100	10,200	6,590
8	4,280	3,650	2,000	2,830	2,880	2,680	5,300	11,800	83,700	20,200	9,840	6,590
9	4,440	3,530	1,850	2,800	2,830	2,680	5,060	12,800	76,600	19,800	9,420	6,410
10	4,590	3,450	1,740	2,800	2,870	2,700	4,850	14,200	66,200	18,300	9,360	6,310
11	4,440	3,530	1,790	2,830	2,970	2,680	4,640	16,600	55,600	17,000	9,140	6,460
12	4,480	3,610	2,040	2,830	2,900	2,650	4,590	16,800	53,200	16,200	8,500	6,770
13	4,420	3,650	2,240	2,830	2,870	2,630	5,080	16,400	55,600	15,700	8,140	6,510
14	4,280	3,590	2,730	2,760	2,760	2,760	5,220	16,300	55,800	15,400	7,990	6,260
15	4,240	3,500	3,050	2,830	2,760	2,820	4,950	16,800	55,800	15,400	7,750	6,050
16	4,080	3,450	3,000	2,950	2,730	2,930	4,720	18,400	57,200	15,800	7,630	5,830
17	4,000	3,480	2,710	3,100	2,680	3,020	4,740	19,600	59,200	16,400	7,870	5,700
18	3,900	3,520	2,300	3,060	2,600	3,120	5,710	20,300	59,800	16,700	8,820	5,660
19	3,880	3,730	2,430	2,850	2,520	3,020	6,520	22,000	57,800	15,500	9,940	5,520
20	3,880	3,800	2,500	2,450	2,620	3,100	6,520	27,600	56,300	14,200	9,620	5,590
21	3,880	4,150	2,620	2,170	2,900	3,190	6,160	36,700	53,500	13,500	8,980	5,770
22	3,900	3,930	2,680	2,220	4,110	3,210	5,790	46,200	48,400	13,200	8,460	5,810
23	3,980	3,530	2,780	2,220	4,240	3,210	5,540	53,100	42,300	13,600	7,930	5,660
24	4,050	3,490	2,850	2,180	3,780	3,190	5,440	61,100	38,900	13,800	7,780	5,500
25	4,290	4,000	2,980	2,080	3,740	3,190	5,540	66,500	37,300	13,600	7,630	5,480
26	4,680	3,880	2,920	2,200	3,570	3,170	5,810	68,300	36,100	13,200	7,750	5,330
27	5,000	3,700	2,840	2,300	3,310	3,330	5,870	78,000	34,900	12,400	7,750	5,220
28	5,000	3,400	2,630	2,070	3,160	3,370	5,870	90,300	32,100	11,700	7,450	5,160
29	4,900	2,860	2,300	2,070	------	3,310	5,760	84,000	28,600	11,800	7,070	5,200
30	4,700	2,500	2,000	2,180	------	3,550	5,840	76,300	27,200	12,400	6,740	5,180
31	4,500	------	1,980	2,330	------	3,720	------	71,200	------	12,500	6,560	------
TOTAL	134,420	109,430	77,720	77,460	84,060	93,040	165,330	1,039.2M	1,710.1M	509,000	272,920	183,590
MEAN	4,336	3,648	2,507	2,499	3,002	3,001	5,511	33,520	57,000	16,420	8,804	6,120
MAX	5,000	4,300	3,100	3,100	4,240	3,720	7,060	90,300	85,400	25,800	12,000	7,840
MIN	3,880	2,500	1,740	2,020	2,520	2,600	3,960	6,520	27,200	11,700	6,560	5,160
CFSM	.57	.48	.33	.33	.39	.39	.72	4.38	7.44	2.14	1.15	.80
IN.	.65	.53	.38	.38	.41	.45	.80	5.05	8.30	2.47	1.33	.89
AC-FT	266,600	217,100	154,200	153,600	166,700	184,500	327,900	2,061M	3,392M	1,010M	541,300	364,100

CAL YR 1960: TOTAL 3,799,830 MEAN 10,380 MAX 54,100 MIN 1,740 CFSM 1.36 IN 18.45 AC-FT 7,537,000
WAT YR 1961: TOTAL 4,456,220 MEAN 12,210 MAX 90,300 MIN 1,740 CFSM 1.59 IN 21.64 AC-FT 8,839,000

M Expressed in thousands.

12-3000. Kootenay River at Newgate, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,180	5,630	4,020	2,900	2,700	2,380	3,260	11,700	36,700	26,100	11,300	6,100
2	5,090	5,550	4,080	2,980	2,800	2,500	3,480	11,000	33,400	26,800	10,700	5,920
3	5,050	5,300	4,010	2,980	3,000	2,580	3,830	10,900	32,500	25,100	10,900	5,880
4	4,890	5,050	3,920	2,930	3,450	2,600	4,160	11,800	32,800	21,600	10,500	5,880
5	4,850	4,910	3,880	2,900	3,550	2,570	4,550	11,500	30,400	18,600	10,500	5,740
6	4,970	4,750	3,580	2,870	3,050	2,510	5,130	10,800	27,100	17,100	10,400	5,550
7	5,590	4,650	3,340	2,750	2,850	2,520	6,140	10,500	24,300	16,500	10,200	5,410
8	6,280	4,610	3,100	2,600	3,200	2,600	6,210	10,100	22,700	16,800	9,810	5,440
9	6,240	4,510	2,780	2,370	3,400	2,670	5,660	9,840	26,000	17,500	9,620	5,720
10	6,050	4,470	2,320	2,230	3,430	2,460	5,260	10,100	36,400	18,200	9,840	5,700
11	6,050	4,690	2,070	2,120	3,530	2,470	4,990	10,800	39,700	19,000	9,520	5,740
12	6,010	4,810	1,770	2,270	3,480	2,460	4,890	11,500	37,700	19,800	8,980	5,960
13	5,920	4,690	2,230	2,290	3,430	2,390	4,970	12,100	35,900	19,600	8,450	5,740
14	6,070	4,510	2,540	2,280	3,390	2,440	5,370	12,600	36,000	19,000	9,050	5,700
15	6,260	4,430	2,850	2,320	3,340	2,510	6,610	13,100	36,000	18,200	9,000	5,570
16	6,610	4,140	3,150	2,200	3,290	2,520	8,270	13,700	39,100	17,100	8,400	5,460
17	7,720	3,560	3,280	2,050	3,190	2,590	9,100	14,900	43,500	15,600	8,200	5,480
18	9,360	3,020	3,230	1,940	3,160	2,680	9,620	16,900	46,400	14,800	8,000	5,390
19	9,460	3,260	3,100	1,810	3,110	2,790	11,300	19,600	46,800	14,400	7,990	5,240
20	9,200	3,370	2,830	2,000	2,950	2,870	14,000	24,700	44,500	13,400	7,960	5,160
21	8,560	3,490	3,050	2,100	2,680	2,920	16,000	27,700	42,500	12,600	7,630	5,050
22	7,930	3,580	3,430	2,090	2,680	2,920	15,900	29,400	40,500	12,300	7,510	4,970
23	7,480	3,520	3,530	2,170	2,270	2,890	15,500	30,800	37,400	12,600	7,810	4,910
24	7,120	3,370	3,680	2,350	2,180	2,890	16,700	33,000	34,600	12,800	7,690	4,950
25	6,800	3,200	3,770	2,640	2,150	2,910	20,300	35,200	35,100	13,000	7,180	5,010
26	6,610	3,000	3,670	2,820	2,100	3,070	21,200	36,300	36,700	13,300	6,820	4,950
27	6,610	3,070	3,200	2,800	2,100	3,180	19,000	37,000	37,600	13,400	6,690	4,870
28	6,510	3,230	2,500	2,790	2,200	3,190	16,700	39,900	34,200	13,200	6,690	4,850
29	6,210	3,560	2,480	2,790	------	3,130	14,400	43,400	28,600	13,100	6,590	4,950
30	5,990	3,670	2,600	2,740	------	3,100	13,000	43,800	25,500	12,900	6,510	5,130
31	5,740	------	2,750	2,720	------	3,110	------	41,100	------	12,300	6,330	------
TOTAL	202,410	123,600	96,740	76,800	82,660	84,420	295,500	655,740	1,060.6M	516,700	266,770	162,420
MEAN	6,529	4,120	3,121	2,477	2,952	2,723	9,850	21,150	35,350	16,670	8,605	5,414
MAX	9,460	5,630	4,080	2,980	3,550	3,190	21,200	43,800	46,800	26,800	11,300	6,100
MIN	4,850	3,000	1,770	1,810	2,100	2,380	3,260	9,840	22,700	12,300	6,330	4,850
CFSM	.85	.54	.41	.32	.39	.36	1.29	2.76	4.62	2.18	1.12	.71
IN.	.98	.60	.47	.37	.40	.41	1.43	3.18	5.15	2.51	1.30	.79
AC-FT	401,500	245,200	191,900	152,300	164,000	167,400	586,100	1,301M	2,104M	1,025M	529,100	322,200

CAL YR 1961: TOTAL 4,557,400 MEAN 12,490 MAX 90,300 MIN 1,770 CFSM 1.63 IN 22.13 AC-FT 9,039,000
WAT YR 1962: TOTAL 3,624,360 MEAN 9,930 MAX 46,800 MIN 1,770 CFSM 1.30 IN 17.60 AC-FT 7,189,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,160	4,650	4,290	3,670	1,800	3,420	3,770	13,100	49,600	35,900	12,500	6,610
2	4,970	4,570	4,170	3,790	1,790	3,370	3,640	13,500	45,700	34,300	12,200	6,530
3	4,850	4,510	4,080	3,900	2,080	3,260	3,460	12,400	41,300	36,200	11,800	6,560
4	4,770	4,450	3,970	3,920	2,520	3,150	3,370	11,200	39,700	38,200	11,300	6,560
5	4,670	4,430	3,770	3,700	3,150	3,050	3,440	10,100	39,800	38,100	10,900	6,430
6	4,610	4,450	3,920	3,530	3,400	3,100	3,730	11,600	41,600	37,100	10,800	6,300
7	4,450	4,390	4,020	3,370	3,500	3,070	4,580	14,500	44,200	34,500	10,600	6,170
8	4,450	4,370	3,990	3,340	3,500	3,150	4,710	14,800	44,000	34,300	10,600	6,120
9	4,410	4,390	3,920	3,260	3,400	2,940	4,730	14,600	42,000	35,700	10,500	6,120
10	4,370	4,450	3,900	1,840	3,350	2,910	4,580	13,200	42,400	33,200	10,500	6,060
11	4,410	4,350	3,840	1,220	3,300	2,920	4,540	12,800	40,100	28,900	10,200	6,270
12	4,490	4,450	3,740	1,160	3,200	2,890	4,450	12,600	39,200	25,700	10,100	6,430
13	4,650	4,370	3,670	1,180	3,200	2,890	4,430	12,700	41,200	23,600	10,100	6,660
14	4,810	4,270	3,530	1,800	3,150	2,860	4,690	12,800	42,900	22,300	11,100	6,740
15	4,710	4,160	3,500	2,060	3,320	2,920	5,670	13,500	44,200	22,600	11,400	6,940
16	4,550	4,060	3,750	2,570	3,420	2,810	7,050	14,000	43,700	25,000	11,000	7,390
17	4,330	3,920	4,160	2,710	3,350	2,780	7,570	15,000	44,100	25,500	10,400	7,080
18	4,250	3,880	4,160	2,550	3,310	2,810	7,220	16,000	43,500	23,600	9,650	6,800
19	4,190	3,830	3,900	2,220	3,320	2,780	6,850	18,000	42,500	22,100	9,190	6,580
20	4,100	4,250	3,780	1,800	3,310	2,790	6,430	20,000	41,500	20,800	8,740	6,300
21	4,060	5,130	3,750	1,770	3,350	2,810	6,120	24,000	39,100	19,700	8,610	6,090
22	4,270	5,070	3,700	1,880	3,340	2,860	5,790	29,000	36,200	18,700	8,440	5,820
23	5,550	4,850	3,350	2,020	3,310	3,080	5,670	34,000	33,500	17,800	8,120	5,840
24	6,210	4,450	2,890	1,980	3,290	3,410	5,550	38,000	29,600	16,600	7,810	5,860
25	5,830	4,210	1,950	1,940	3,240	3,480	5,430	45,000	27,000	15,700	7,480	6,140
26	5,480	5,160	1,950	1,910	3,270	3,410	5,550	49,000	26,800	15,100	7,330	6,190
27	5,240	6,050	2,190	1,880	3,530	3,420	6,060	47,000	26,400	14,900	7,330	5,890
28	5,010	5,480	2,600	1,830	3,550	3,730	7,300	42,000	24,600	14,000	7,240	5,740
29	4,890	4,870	2,840	1,790	------	4,040	9,290	42,200	25,100	13,600	7,080	5,600
30	4,750	4,430	3,150	1,780	------	4,120	11,200	44,100	33,000	13,900	6,860	5,000
31	4,670	------	3,510	1,770	------	4,010	------	48,300	------	13,100	6,690	------
TOTAL	147,160	135,900	109,940	74,140	88,250	98,240	166,870	720,000	1,154.5M	771,000	296,590	198,820
MEAN	4,747	4,530	3,546	2,392	3,152	3,169	5,562	23,230	38,480	24,870	9,567	6,294
MAX	6,210	6,050	4,290	3,920	3,550	4,120	11,200	49,000	46,600	38,200	12,500	7,390
MIN	4,060	3,830	1,950	1,160	1,790	2,780	3,370	10,100	24,600	13,100	6,690	5,000
CFSM	.62	.59	.46	.31	.41	.41	.73	3.03	5.02	3.25	1.25	.82
IN.	.71	.66	.53	.36	.43	.48	.81	3.50	5.61	3.74	1.44	.92
AC-FT	291,900	269,600	218,100	147,100	175,000	194,900	331,000	1,428M	2,290M	1,529M	588,300	394,500

CAL YR 1962: TOTAL 3,594,610 MEAN 9,848 MAX 46,800 MIN 1,810 CFSM 1.29 IN 17.45 AC-FT 7,130,000
WAT YR 1963: TOTAL 3,951,410 MEAN 10,830 MAX 49,600 MIN 1,160 CFSM 1.41 IN 19.18 AC-FT 7,838,000

M Expressed in thousands.

12-3000. Kootenay River at Newgate, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,780	4,380	2,400	3,160	2,550	2,300	2,860	6,940	35,100	29,400	14,500	7,000
2	5,040	4,430	2,300	3,420	2,430	2,310	3,210	7,660	39,600	29,900	14,000	6,920
3	5,290	4,400	2,340	3,460	2,410	2,300	3,370	8,610	44,200	32,400	12,500	7,080
4	5,110	4,340	2,400	3,260	2,410	2,270	3,460	9,940	49,100	32,700	11,600	7,260
5	5,040	4,230	2,700	3,070	2,510	2,360	3,510	10,500	51,700	33,000	11,300	7,050
6	4,980	4,210	3,200	3,030	2,490	2,380	3,420	11,500	52,300	34,200	11,900	6,850
7	4,910	4,250	3,500	2,950	2,410	2,240	3,370	11,600	55,000	32,800	11,500	6,710
8	4,820	4,250	3,000	2,670	2,270	2,120	3,480	11,800	61,700	31,200	10,800	6,630
9	4,710	4,100	2,600	2,380	2,330	2,220	3,750	13,300	68,800	32,800	10,600	6,560
10	4,600	3,950	2,400	2,120	2,460	2,270	4,120	16,000	64,200	35,300	10,700	6,520
11	4,540	3,930	2,400	2,410	2,540	2,270	4,430	17,100	57,400	32,500	10,900	6,520
12	4,290	3,810	2,400	2,380	2,510	2,350	4,540	16,800	57,000	28,600	10,000	6,400
13	4,270	3,730	2,450	2,430	2,440	2,360	4,270	17,300	58,800	27,300	9,500	6,270
14	4,290	3,710	2,600	2,540	2,250	2,330	4,210	18,100	60,200	27,900	9,400	6,090
15	4,180	3,930	2,790	2,600	2,200	2,350	4,620	18,000	60,100	27,000	9,800	6,010
16	4,120	4,270	2,860	2,620	2,270	2,360	4,950	18,000	59,100	25,400	9,420	5,960
17	4,040	4,250	2,630	2,630	2,380	2,410	4,600	20,600	57,900	23,500	8,950	5,920
18	4,060	4,270	2,650	2,650	2,310	2,540	4,250	26,400	54,800	20,700	8,660	6,120
19	3,930	4,140	2,710	2,650	2,380	2,550	4,040	31,000	51,200	18,900	8,470	7,100
20	3,950	3,910	2,990	2,550	2,360	2,490	3,990	35,200	47,400	17,800	8,560	8,190
21	3,930	3,410	3,050	2,540	2,220	2,460	4,100	36,000	44,600	16,800	8,560	7,890
22	3,990	2,870	3,150	2,520	2,200	2,360	4,290	36,200	42,800	16,000	8,190	7,600
23	5,290	3,000	3,260	2,430	2,220	2,190	4,470	35,300	42,000	15,300	7,750	7,360
24	5,990	3,200	3,310	2,400	2,250	2,010	4,470	29,500	43,900	14,800	7,550	7,100
25	6,060	3,400	3,350	2,450	2,220	1,890	4,620	25,000	46,100	13,900	7,410	7,000
26	5,670	3,800	3,390	2,550	2,120	1,980	5,340	22,400	44,300	12,800	7,360	7,440
27	5,340	4,100	3,350	2,630	2,130	2,120	6,010	21,500	42,500	12,400	7,130	8,790
28	5,060	4,100	3,240	2,600	2,180	2,140	6,170	23,200	42,100	12,200	7,260	8,560
29	4,870	3,800	3,030	2,550	2,220	2,240	6,190	25,800	38,600	12,100	7,050	8,130
30	4,690	2,900	2,880	2,570	------	2,310	6,380	29,800	32,900	12,500	7,020	7,780
31	4,560	------	3,000	2,590	------	2,510	------	32,800	------	13,500	7,000	------
TOTAL	146,400	117,070	88,330	82,810	67,670	70,990	130,490	643,850	1,505.4M	725,600	295,340	210,810
MEAN	4,723	3,902	2,849	2,671	2,333	2,290	4,350	20,770	50,180	23,410	9,527	7,027
MAX	6,060	4,430	3,500	3,460	2,550	2,550	6,380	36,200	68,800	35,300	14,500	8,790
MIN	3,930	2,870	2,300	2,120	2,120	1,890	2,860	6,940	32,900	12,100	7,000	5,920
CFSM	.62	.51	.37	.35	.30	.30	.57	2.71	6.55	3.06	1.24	.92
IN.	.71	.57	.43	.40	.33	.34	.63	3.13	7.31	3.52	1.43	1.02
AC-FT	290,400	232,200	175,200	164,300	134,200	140,800	258,800	1,277M	2,986M	1,439M	585,800	418,100

CAL YR 1963: TOTAL 3,910,210 MEAN 10,710 MAX 49,600 MIN 1,160 CFSM 1.40 IN 18.98 AC-FT 7,756,000
WAT YR 1964: TOTAL 4,084,760 MEAN 11,160 MAX 68,800 MIN 1,890 CFSM 1.46 IN 19.83 AC-FT 8,102,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8,500	5,510	3,890	3,500	2,700	3,490	2,700	21,900	40,900	28,800	12,100	7,690
2	8,690	5,450	3,940	3,500	2,480	3,110	2,900	19,900	35,600	28,900	11,800	7,440
3	8,720	5,490	4,100	3,500	2,380	2,980	3,000	17,300	37,400	31,100	11,800	7,330
4	8,310	5,510	4,330	3,500	2,440	2,940	3,100	15,300	43,400	33,200	11,900	7,660
5	7,860	5,680	4,390	3,500	2,910	2,940	3,210	14,000	43,300	34,000	13,100	7,720
6	7,520	5,790	4,350	3,500	3,370	2,980	3,630	12,900	43,900	34,100	15,500	7,630
7	7,360	5,660	4,310	3,500	3,280	2,990	3,870	12,300	46,700	34,000	15,000	7,380
8	7,440	5,510	4,140	3,500	3,160	3,040	3,870	11,700	43,400	34,600	13,300	7,050
9	7,630	5,530	3,990	3,500	3,110	3,040	3,920	11,600	39,200	33,700	12,000	6,850
10	7,980	5,790	3,940	3,450	2,910	3,090	4,030	13,000	41,600	30,700	11,300	6,800
11	8,380	5,830	3,920	3,300	2,620	3,200	4,420	15,500	48,500	27,100	11,000	6,730
12	8,470	5,680	3,060	2,900	2,500	3,250	4,940	19,900	55,200	23,700	10,800	6,710
13	8,160	5,430	2,670	2,880	2,530	3,260	5,660	25,800	58,900	21,600	10,800	6,680
14	7,950	5,240	3,060	2,870	2,560	3,250	6,610	29,400	55,800	20,000	10,700	6,630
15	7,860	4,900	3,230	2,950	2,470	3,210	7,920	30,100	48,500	19,200	10,500	6,680
16	7,890	4,600	2,890	3,060	2,520	3,130	8,500	31,000	42,800	19,700	9,720	6,830
17	7,830	4,250	2,600	3,090	2,610	2,940	8,040	31,100	42,400	19,800	9,080	6,800
18	7,390	4,350	2,100	3,160	2,860	2,610	7,550	26,500	51,900	19,300	8,630	6,610
19	7,080	4,540	2,150	3,200	3,280	2,530	7,150	22,700	64,300	19,200	8,280	6,500
20	6,850	4,660	2,400	3,180	3,720	2,530	7,440	21,500	61,700	18,200	8,190	6,430
21	6,660	4,680	2,850	3,140	3,720	2,720	8,660	21,500	52,000	16,500	8,160	6,380
22	6,540	4,640	3,200	3,080	3,300	2,770	9,000	20,000	43,800	15,200	8,100	6,500
23	6,400	4,480	3,350	2,890	2,670	2,750	9,400	19,000	37,900	14,700	7,920	6,920
24	6,250	4,560	3,400	2,720	2,660	2,470	9,800	18,600	35,200	14,600	7,980	7,390
25	6,140	4,780	3,450	2,560	2,820	2,540	10,500	18,800	36,600	14,500	8,070	7,360
26	6,050	4,560	3,480	2,410	3,010	2,530	11,400	19,600	37,800	13,600	8,070	7,260
27	5,940	4,390	3,500	2,620	3,380	2,420	12,800	21,100	37,400	13,400	8,130	7,330
28	5,830	4,290	3,500	2,640	3,720	2,480	14,500	25,600	38,100	13,500	8,160	7,280
29	5,680	3,760	3,500	2,720	------	2,480	18,600	35,000	34,900	13,500	8,160	7,020
30	5,590	3,380	3,500	2,750	------	2,560	21,900	44,700	30,900	13,100	8,250	6,830
31	5,510	------	3,500	2,800	------	2,600	------	47,600	------	12,600	8,130	------
TOTAL	224,460	148,920	106,690	95,870	81,690	88,830	229,020	694,900	1,330.0M	686,100	314,630	210,360
MEAN	7,241	4,964	3,442	3,093	2,918	2,865	7,634	22,420	44,330	22,130	10,150	7,011
MAX	8,720	5,830	4,390	3,500	3,720	3,490	21,900	47,600	64,300	34,600	15,500	7,720
MIN	5,510	3,380	2,100	2,410	2,380	2,420	2,700	11,600	30,900	12,600	7,920	6,380
CFSM	.95	.65	.45	.40	.38	.37	1.00	2.93	5.79	2.89	1.32	.92
IN.	1.09	.72	.52	.47	.40	.43	1.11	3.37	6.46	3.33	1.53	1.02
AC-FT	445,200	295,400	211,600	190,200	162,000	176,200	454,300	1,378M	2,638M	1,361M	624,100	417,200

CAL YR 1964: TOTAL 4,213,030 MEAN 11,510 MAX 68,800 MIN 1,890 CFSM 1.50 IN 20.45 AC-FT 8,356,000
WAT YR 1965: TOTAL 4,211,450 MEAN 11,540 MAX 64,300 MIN 2,100 CFSM 1.51 IN 20.45 AC-FT 8,353,000

M Expressed in thousands.

12-3013. Tobacco River near Eureka, Mont.

Location.--Lat 48°54', long 115°06', in SW¼ sec.9, T.36 N., R.27 W., on right bank 2½ miles northwest of Eureka and 6 miles upstream from mouth.

Drainage area.--440 sq mi.

Records available.--September 1958 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,518.85 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--7 years, 291 cfs (210,700 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	2,300	7.12	Jan. 25, 1961	a 50	-
1962	May 29, 1962	960	4.71	Jan. 19, 1962	a 45	-
1963	June 30, 1963	910	b 4.53	Jan. 11, 1963	a 20	-
1964	June 9, 1964	2,320	6.74	Mar. 24, 1964	c 27	-
1965	June 18, 1965	2,090	6.45	Dec. 17, 1964	a 50	-

a Minimum daily.
b Maximum gage height for year, 5.08 ft Feb. 4, 1963, backwater from ice.
c Result of discharge measurement.

1958-65: Maximum discharge, 2,320 cfs June 9, 1964 (gage height, 6.74 ft); maximum gage height, 7.12 ft May 27, 1961; minimum daily discharge, 20 cfs Jan. 11, 1963.
Maximum discharge known, 2,810 cfs about May 22, 1948, from slope-area measurement of peak flow at site 1 mile upstream.

Remarks.--Records good except those for winter periods, which are poor. Numerous small diversions for irrigation of hay meadows upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	108	162	110	90	115	146	254	690	1,500	424	175	134
2	106	165	115	85	120	135	298	890	1,520	407	170	160
3	106	162	120	80	110	120	393	1,100	1,500	393	162	148
4	106	146	125	85	105	120	511	925	1,520	382	162	137
5	106	135	115	90	110	115	511	805	1,500	379	155	130
6	106	130	110	100	115	125	424	771	1,530	382	158	128
7	108	132	110	107	120	120	372	699	1,690	365	148	125
8	128	130	105	117	110	115	340	636	1,400	351	144	125
9	121	120	105	119	114	115	316	686	1,260	337	141	121
10	110	130	100	117	132	115	298	895	1,180	323	146	125
11	112	137	95	112	178	112	285	1,210	1,100	312	141	132
12	130	134	105	112	172	110	285	1,140	1,190	306	134	130
13	125	128	110	112	158	117	298	980	1,150	292	130	121
14	117	132	110	112	139	121	292	935	1,070	285	128	119
15	112	128	105	128	141	139	273	1,000	1,080	279	121	117
16	117	128	95	139	144	158	260	1,060	1,090	279	121	117
17	119	128	85	134	132	145	269	1,080	1,070	266	123	114
18	117	130	90	130	125	145	330	1,020	1,030	254	123	112
19	114	130	100	114	121	145	386	1,030	970	248	121	117
20	112	141	105	100	123	178	372	1,160	900	243	121	125
21	112	150	105	85	165	165	337	1,370	805	237	121	132
22	134	139	105	75	234	160	320	1,540	726	226	117	125
23	146	137	100	70	190	172	306	1,610	668	234	112	125
24	155	141	100	65	180	180	295	1,750	636	251	110	119
25	160	188	105	50	180	193	298	1,660	582	228	106	119
26	153	183	100	55	160	206	312	1,810	551	217	108	123
27	150	153	95	55	145	228	351	2,210	515	212	104	114
28	146	140	90	65	135	223	358	1,780	483	198	102	114
29	150	115	90	75	-------	209	368	1,500	467	193	102	123
30	144	110	90	85	-------	220	483	1,490	447	188	100	123
31	141	-------	90	110	-------	237	-------	1,530	-------	180	106	-------
TOTAL	3,871	4,184	3,185	2,973	3,973	4,789	10,195	36,962	31,130	8,871	4,012	3,754
MEAN	125	139	103	95.9	142	154	340	1,192	1,038	286	129	125
MAX	160	188	125	139	234	237	511	2,210	1,690	424	175	160
MIN	106	110	85	50	105	110	254	636	447	180	100	112
CFSM	.28	.32	.23	.22	.32	.35	.77	2.71	2.36	.65	.29	.28
IN.	.33	.35	.27	.25	.34	.40	.86	3.12	2.63	.75	.34	.32
AC-FT	7,680	8,300	6,320	5,900	7,880	9,500	20,220	73,310	61,750	17,600	7,960	7,450

CAL YR 1960: TOTAL 124,917 MEAN 341 MAX 1,540 MIN 70 CFSM .78 IN 10.56 AC-FT 247,800
WAT YR 1961: TOTAL 117,899 MEAN 323 MAX 2,210 MIN 50 CFSM .73 IN 9.97 AC-FT 233,800

12-3013. Tobacco River near Eureka, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	121	132	117	100	106	65	132	424	676	334	119	85
2	119	123	114	94	137	70	141	418	650	323	114	85
3	117	128	112	110	168	75	148	459	758	306	117	86
4	114	125	106	114	158	75	162	499	726	285	125	83
5	112	117	110	108	123	72	183	495	640	279	137	83
6	119	117	88	104	110	74	206	455	582	273	137	81
7	130	114	90	102	117	81	266	467	539	254	125	76
8	132	112	85	94	112	74	266	487	519	237	125	76
9	125	112	75	85	106	72	266	519	622	226	121	76
10	125	119	65	75	121	81	237	591	704	220	123	77
11	141	121	60	80	117	90	217	609	690	209	117	98
12	146	117	65	85	117	74	209	600	672	201	108	98
13	146	112	70	85	117	85	223	600	672	196	104	92
14	150	119	75	85	123	77	251	622	654	190	100	90
15	148	98	80	75	123	74	337	622	658	188	98	92
16	144	79	80	70	114	81	421	604	708	180	96	90
17	155	77	80	65	106	81	443	618	717	172	94	86
18	153	90	75	60	104	90	451	640	708	168	90	85
19	148	104	80	45	102	94	547	694	658	162	86	81
20	165	106	92	50	98	96	776	766	618	153	85	81
21	160	88	102	50	86	94	840	740	586	150	81	81
22	150	106	98	60	80	92	748	744	560	148	81	81
23	146	106	100	75	70	92	699	753	535	141	81	79
24	150	104	144	90	50	90	758	805	499	130	77	77
25	144	106	137	100	55	96	890	860	479	130	74	72
26	144	96	119	105	55	119	820	845	467	134	72	72
27	144	106	123	105	55	132	672	820	432	132	76	70
28	146	110	96	110	60	128	600	895	400	132	92	74
29	137	114	102	102	------	117	539	930	376	137	88	77
30	134	110	110	94	------	114	471	825	354	123	94	77
31	128	------	104	94	------	121	------	730	------	121	90	------
TOTAL	4,293	3,288	2,954	2,671	2,890	2,776	12,919	20,136	17,859	6,034	3,127	2,461
MEAN	138	109	95.3	86.2	103	89.5	431	650	595	195	101	82.0
MAX	165	132	144	114	168	132	890	930	758	334	137	98
MIN	112	77	60	45	50	65	132	418	354	121	72	70
CFSM	.31	.25	.22	.20	.23	.20	.98	1.48	1.35	.44	.23	.19
IN.	.36	.28	.25	.23	.24	.23	1.09	1.70	1.51	.51	.26	.21
AC-FT	8,520	6,480	5,860	5,300	5,730	5,510	25,620	39,940	35,420	11,970	6,200	4,880

CAL YR 1961: TOTAL 117,174 MEAN 321 MAX 2,210 MIN 50 CFSM .73 IN 9.90 AC-FT 232,400
WAT YR 1962: TOTAL 81,388 MEAN 223 MAX 930 MIN 45 CFSM .51 IN 6.88 AC-FT 161,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	76	96	123	114	60	117	201	551	722	825	144	83
2	74	96	119	119	80	110	175	535	654	730	144	90
3	72	94	117	121	120	104	168	475	632	645	150	92
4	72	94	104	108	220	96	162	421	636	568	150	90
5	70	98	110	110	470	112	165	393	640	507	132	85
6	70	96	119	106	210	100	185	439	694	459	125	77
7	72	92	117	100	190	92	240	586	645	432	121	76
8	74	94	114	100	170	94	251	645	622	410	114	74
9	77	108	110	94	160	100	246	586	704	379	112	74
10	81	114	112	30	150	104	231	527	717	362	119	76
11	83	112	110	20	140	98	220	495	650	376	125	77
12	98	110	108	30	140	90	214	487	614	372	117	76
13	114	108	106	50	130	92	220	479	573	351	114	77
14	121	104	106	60	134	94	240	471	551	334	123	94
15	114	100	106	70	134	96	323	487	539	316	114	66
16	112	98	139	80	130	88	432	503	519	306	110	94
17	106	94	137	80	130	88	414	535	503	289	106	94
18	106	90	137	60	125	92	362	564	471	276	102	88
19	112	90	134	40	121	90	323	573	439	266	102	81
20	106	112	130	50	119	94	289	591	418	248	100	76
21	104	130	128	60	114	98	266	618	400	234	100	76
22	106	128	123	70	114	104	251	663	539	220	100	74
23	108	121	90	60	114	119	243	681	539	214	98	86
24	106	108	80	60	114	137	237	726	495	209	102	79
25	104	119	80	60	112	130	231	766	475	203	96	77
26	104	132	100	50	119	128	237	766	443	201	98	74
27	102	141	110	50	125	137	273	735	421	193	94	70
28	100	137	125	50	125	168	362	699	400	183	94	69
29	98	114	128	40	------	206	424	704	560	172	92	69
30	98	119	125	30	------	212	511	744	845	158	86	66
31	98	------	119	40	------	203	------	776	------	148	86	------
TOTAL	2,938	3,249	3,566	2,112	4,070	3,593	8,096	18,221	17,060	10,586	3,470	2,400
MEAN	94.8	108	115	68.1	145	116	270	588	569	341	112	80.0
MAX	121	141	139	121	470	212	511	776	845	825	150	94
MIN	70	90	80	20	60	88	162	393	400	148	86	66
CFSM	.22	.25	.26	.15	.33	.26	.61	1.34	1.29	.78	.25	.18
IN.	.25	.27	.30	.18	.34	.30	.68	1.54	1.44	.89	.29	.20
AC-FT	5,830	6,440	7,070	4,190	8,070	7,130	16,060	36,140	33,840	21,000	6,880	4,760

CAL YR 1962: TOTAL 80,626 MEAN 221 MAX 930 MIN 45 CFSM .50 IN 6.81 AC-FT 159,900
WAT YR 1963: TOTAL 79,361 MEAN 217 MAX 845 MIN 20 CFSM .49 IN 6.71 AC-FT 157,400

12-3013. Tobacco River near Eureka, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	63	66	74	85	65	70	148	351	842	475	182	112
2	63	66	63	89	62	67	165	407	856	463	179	157
3	63	64	79	80	70	62	148	447	900	467	171	162
4	63	64	77	78	68	67	154	479	940	435	168	162
5	69	66	86	70	70	70	148	535	890	503	162	148
6	74	69	96	76	68	68	138	591	900	487	148	130
7	72	74	79	73	65	64	133	567	965	428	146	133
8	69	74	70	62	62	70	146	579	1,550	410	140	133
9	68	72	79	72	72	72	154	619	1,810	404	140	130
10	66	69	70	68	73	68	165	752	1,300	382	148	123
11	66	68	80	68	73	68	174	838	1,060	365	138	116
12	66	66	90	67	67	70	174	806	965	330	130	114
13	64	66	85	68	70	67	162	838	920	316	135	112
14	63	64	79	68	64	67	162	920	920	316	138	110
15	63	69	76	70	70	72	165	838	905	323	133	106
16	63	70	74	72	68	75	202	797	910	309	128	104
17	62	69	69	70	68	91	202	905	980	281	121	106
18	60	69	72	70	61	108	176	1,140	895	295	118	114
19	60	69	75	70	67	100	174	1,170	810	278	123	112
20	60	69	78	68	58	91	185	1,270	761	257	123	114
21	60	66	83	68	65	92	190	1,390	725	238	116	114
22	66	79	82	67	68	83	202	1,120	689	225	106	116
23	102	86	83	65	70	50	202	890	684	212	102	118
24	90	86	82	65	72	40	202	756	689	202	98	114
25	85	83	78	68	55	70	218	666	676	193	98	126
26	79	86	76	68	72	76	250	615	648	190	104	128
27	77	98	75	62	72	76	278	635	627	176	108	121
28	72	98	75	68	67	76	264	716	583	171	108	126
29	70	83	72	65	70	83	267	788	531	174	106	123
30	69	70	64	65	------	100	316	833	499	190	108	143
31	68	------	75	65	------	121	------	820	------	188	108	------
TOTAL	2,135	2,198	2,396	2,170	1,952	2,354	5,664	24,078	26,430	9,683	4,033	3,747
MEAN	68.9	73.3	77.3	70.0	67.3	75.9	189	777	881	312	130	125
MAX	102	98	96	89	73	121	316	1,390	1,810	503	182	182
MIN	60	64	63	62	55	40	133	351	499	171	98	104
CFSM	.16	.17	.18	.16	.15	.17	.43	1.77	2.00	.71	.30	.28
IN.	.18	.19	.20	.18	.16	.20	.48	2.04	2.23	.82	.34	.32
AC-FT	4,230	4,360	4,750	4,300	3,870	4,670	11,230	47,760	52,420	19,210	8,000	7,430

CAL YR 1963: TOTAL 76,337 MEAN 209 MAX 845 MIN 20 CFSM .48 IN 6.45 AC-FT 151,400
WAT YR 1964: TOTAL 86,840 MEAN 237 MAX 1,810 MIN 40 CFSM .54 IN 7.34 AC-FT 172,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	179	121	162	150	90	121	133	1,240	870	567	174	116
2	188	130	179	154	85	135	148	1,080	810	551	165	114
3	212	130	165	126	90	121	157	890	895	543	162	130
4	193	130	154	114	108	118	165	779	935	543	171	130
5	179	133	138	110	110	116	188	707	890	535	206	140
6	176	133	135	110	116	118	206	648	935	507	190	135
7	165	130	130	106	102	121	209	599	925	479	176	133
8	162	130	128	104	112	118	222	567	833	467	162	130
9	168	135	126	102	110	123	238	575	815	447	151	133
10	179	140	126	102	90	130	267	619	885	432	148	130
11	168	140	114	100	85	135	281	707	985	418	143	128
12	165	138	114	100	90	135	305	890	1,160	400	148	126
13	160	135	126	100	95	128	376	1,060	1,080	418	176	128
14	157	126	112	104	95	135	443	1,110	910	386	171	140
15	154	118	110	106	90	135	515	1,090	815	362	160	165
16	154	108	55	104	95	126	551	1,040	770	344	154	157
17	148	112	50	104	102	85	575	980	833	323	148	151
18	146	116	60	104	112	95	507	846	1,450	298	143	145
19	143	118	70	102	126	105	467	766	1,780	288	140	148
20	140	121	80	100	133	115	619	815	1,280	278	146	157
21	138	123	95	100	116	126	915	870	1,040	270	146	162
22	133	121	105	100	116	114	1,080	810	925	278	128	165
23	133	116	115	89	85	94	1,000	766	851	274	135	157
24	130	133	105	98	95	85	900	766	810	260	154	151
25	130	138	80	92	126	95	895	748	766	250	148	140
26	128	135	70	108	114	100	810	743	738	238	143	135
27	128	123	85	104	138	102	935	748	680	228	130	130
28	130	118	105	98	140	102	1,020	820	648	222	128	116
29	130	104	130	96	------	106	1,150	965	631	206	126	114
30	128	135	135	94	------	112	1,260	1,150	591	188	123	114
31	123	------	140	100	------	118	------	1,020	------	182	115	------
TOTAL	4,767	3,790	3,499	3,281	2,966	3,569	16,641	26,424	27,545	11,182	4,713	4,121
MEAN	154	126	113	106	106	115	555	852	918	361	152	137
MAX	212	140	179	154	140	135	1,260	1,240	1,780	567	206	165
MIN	123	104	50	89	85	85	133	567	591	182	118	114
CFSM	.35	.29	.26	.24	.24	.26	1.26	1.94	2.09	.82	.35	.31
IN.	.40	.32	.30	.28	.25	.30	1.41	2.23	2.33	.95	.40	.35
AC-FT	9,460	7,520	6,940	6,510	5,880	7,080	33,010	52,410	54,630	22,180	9,350	8,170

CAL YR 1964: TOTAL 92,167 MEAN 252 MAX 1,810 MIN 40 CFSM .57 IN 7.79 AC-FT 182,800
WAT YR 1965: TOTAL 112,498 MEAN 308 MAX 1,780 MIN 50 CFSM .70 IN 9.51 AC-FT 223,100

12-3018.5. Kootenai River at Warland Bridge, near Libby, Mont.

Location.--Lat 48°30'00", long 115°17'10", in NE¼NE¼ sec.34, T.32 N., R.29 W., on right bank at county road bridge, 0.1 mile downstream from Barron Creek, 14½ miles northeast of Libby, and at mile 228.6.

Drainage area.--8,892 sq mi.

Records available.--July 1961 to September 1965.

Gage.--Water-stage recorder with pressure recording bubbler system and water temperature recorder. Datum of gage is 2,145.4 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels by Corps of Engineers). Prior to Apr. 9, 1962, wire-weight gage on bridge at same site and datum.

Extremes.--Maximum and minimum discharges for July 1961 to September 1965 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	July 1, 1961	24,200	10.44	Sept.29, 1961	5,590	-
1962	June 18, 1962	49,500	13.07	Jan. 21, 1962	a 1,800	-
1963	June 1, 1963	52,700	13.40	Jan. 12, 1963	a 1,100	-
1964	June 9, 1964	70,900	15.45	Mar. 25, 1964	1,920	-
1965	June 19, 1965	65,400	14.90	Dec. 19, 20, 1964	a 1,500	-

a Minimum daily.

1961-65: Maximum discharge, 70,900 cfs June 9, 1964 (gage height, 15.45 ft); minimum daily, 1,100 cfs Jan. 12, 1963.
Flood of May 28, 1948, reached a stage of 21.8 ft, from floodmark.

Remarks.--Records good except those for winter periods, which are poor. No regulation. Diversions for irrigation of about 14,000 acres from tributaries above station in Canada and the United States. Records of water temperatures for the water years 1962-65 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1										24,200	12,900	7,050
2										23,800	12,100	7,920
3										21,600	11,600	8,080
4										20,900	11,200	8,240
5										19,800	11,000	7,610
6										19,300	10,700	6,810
7										19,200	10,700	7,050
8										18,800	10,300	7,210
9										19,100	10,200	7,170
10										18,300	9,950	7,250
11										17,400	9,540	6,850
12										16,800	9,640	7,210
13										16,300	8,960	7,430
14										15,900	8,600	7,050
15										15,600	8,460	6,810
16										15,800	8,380	6,650
17										16,100	8,240	6,340
18										16,500	8,600	6,150
19										16,400	9,540	6,110
20										15,300	10,600	5,880
21										14,300	9,860	6,260
22										14,000	9,460	6,370
23										13,800	8,600	6,410
24										14,400	8,460	6,070
25										14,300	8,380	5,880
26										14,100	8,460	6,030
27										13,300	8,420	5,810
28										12,600	8,240	5,630
29					------					12,200	7,920	5,590
30					------					12,600	7,560	5,770
31		------			------		------		------	13,000	7,250	------
TOTAL										515,700	293,820	200,690
MEAN										16,640	9,478	6,690
MAX										24,200	12,900	8,240
MIN										12,200	7,250	5,590
CFSM										1.87	1.07	.75
IN.										2.16	1.23	.84
AC-FT										1,023M	582,800	398,100

M Expressed in thousands.

12-3018.5. Kootenai River at Warland Bridge, near Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,760	6,490	4,340	3,600	3,500	2,700	3,120	14,500	39,600	25,800	12,700	6,570
2	5,690	6,340	4,520	3,600	3,600	2,500	3,090	13,400	35,400	26,800	12,000	6,230
3	5,590	5,970	4,340	3,700	4,100	2,600	3,140	13,300	33,600	25,900	11,800	6,110
4	5,830	5,760	4,340	4,000	4,600	2,600	4,130	13,800	33,900	23,500	11,600	6,080
5	5,380	5,590	4,490	4,000	5,300	2,600	4,550	14,300	32,300	20,600	11,600	6,080
6	5,380	5,380	4,300	3,900	5,200	2,600	5,220	13,400	29,200	18,900	11,400	5,860
7	5,690	5,250	4,000	3,900	4,800	2,700	6,110	12,800	26,300	18,300	11,300	5,720
8	6,490	5,220	3,500	3,800	4,600	2,700	7,600	12,600	24,500	18,500	10,800	5,650
9	6,910	5,220	3,100	3,600	4,500	2,800	6,610	12,400	25,100	18,400	10,600	5,900
10	6,720	5,120	2,500	3,500	4,500	2,700	6,230	12,700	34,200	18,600	10,700	6,040
11	6,720	5,120	2,200	3,200	4,500	2,600	5,760	13,300	41,200	19,300	10,700	6,080
12	6,800	5,350	1,900	2,900	4,600	2,700	5,480	14,000	39,600	20,100	10,000	6,230
13	6,720	5,350	2,000	2,700	4,400	2,700	5,480	14,600	37,300	20,300	9,400	6,150
14	6,720	5,250	2,100	2,400	4,400	2,500	5,830	15,400	36,500	20,100	9,100	6,110
15	6,910	5,060	2,300	2,300	4,400	2,500	6,950	15,800	36,900	19,700	9,400	5,970
16	7,110	4,900	2,300	2,200	4,300	2,500	9,100	16,500	38,800	18,600	9,100	5,790
17	7,650	4,490	2,400	2,100	4,200	2,500	10,400	17,400	44,500	17,300	8,680	5,760
18	9,350	3,800	2,400	2,000	4,100	2,600	11,100	19,300	47,900	16,200	8,400	5,830
19	10,800	3,600	2,200	1,900	4,000	2,700	12,700	21,700	48,700	15,800	8,400	5,690
20	10,500	3,900	2,200	1,900	3,900	2,800	16,200	25,300	46,600	15,000	8,360	5,550
21	9,900	3,900	3,200	1,800	3,600	2,960	19,100	28,900	44,200	13,900	8,180	5,480
22	9,250	3,900	3,700	1,900	3,300	2,860	19,300	30,600	42,200	13,200	7,820	5,420
23	8,680	3,900	3,800	1,900	3,000	2,920	19,000	32,100	39,000	13,200	8,090	5,350
24	8,140	3,900	4,100	2,100	2,700	2,920	19,600	34,000	35,400	13,600	8,180	5,320
25	7,860	3,900	4,400	2,300	2,600	2,960	22,500	36,700	34,900	13,900	7,730	5,420
26	7,520	3,500	4,300	2,600	2,700	2,940	24,300	38,100	36,200	14,300	7,270	5,380
27	7,350	3,600	4,100	3,000	2,500	3,120	22,700	38,500	37,400	14,500	7,070	5,280
28	7,440	3,800	3,700	3,300	2,600	3,090	20,500	40,900	35,800	14,400	7,030	5,320
29	7,190	3,900	3,500	3,500	-------	3,120	18,100	45,500	30,000	14,300	7,030	5,320
30	6,800	4,100	3,300	3,500	-------	3,120	16,000	47,100	26,500	14,000	6,870	5,520
31	6,570	-------	3,600	3,400	-------	3,090	-------	44,600	-------	13,700	6,830	-------
TOTAL	225,420	141,560	103,130	90,500	110,500	85,700	339,900	723,500	1,093.7M	550,700	288,140	173,210
MEAN	7,272	4,719	3,327	2,919	3,946	2,765	11,330	23,340	36,460	17,760	9,295	5,774
MAX	10,800	6,490	4,520	4,000	5,300	3,120	24,300	47,100	48,700	26,800	12,700	6,570
MIN	5,380	3,500	1,900	1,800	2,500	2,500	3,090	12,400	24,500	13,200	6,830	5,280
CFSM	.82	.53	.37	.33	.44	.31	1.27	2.62	4.10	2.00	1.05	.65
IN.	.94	.59	.43	.38	.46	.36	1.42	3.03	4.57	2.30	1.21	.72
AC-FT	447,100	280,800	204,600	179,500	219,200	170,000	674,200	1,435M	2,169M	1,092M	571,500	343,600

CAL YR 1961: TOTAL		MEAN	MAX	MIN	CFSM	IN	AC-FT	
WAT YR 1962: TOTAL 3,925,960		MEAN 10,760	MAX 48,700	MIN 1,800	CFSM 1.21	IN 16.42	AC-FT 7,787,000	

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,620	4,990	4,770	3,820	2,000	3,820	4,430	14,300	51,900	36,400	13,300	6,990
2	5,550	4,960	4,640	3,930	2,100	3,680	4,190	15,200	49,000	34,900	13,000	6,870
3	5,420	4,900	4,490	4,070	2,200	3,570	3,990	14,500	43,800	35,400	12,800	6,870
4	5,250	4,830	4,400	4,160	2,600	3,400	3,820	13,100	40,800	37,900	12,300	6,870
5	5,190	4,770	4,340	4,100	3,500	3,300	3,840	12,000	40,500	38,500	11,800	6,830
6	5,090	4,740	4,220	3,840	5,900	3,250	4,160	11,600	41,600	37,600	11,600	6,680
7	4,990	4,740	4,310	3,790	6,900	3,220	4,900	13,800	45,000	35,300	11,400	6,570
8	4,900	4,770	4,340	3,620	6,500	3,170	5,380	16,900	45,400	33,900	11,400	6,490
9	4,830	4,770	4,310	3,590	6,200	3,140	5,420	17,100	43,600	35,300	11,400	6,450
10	4,770	4,800	4,310	2,600	5,800	3,140	5,350	15,800	43,700	34,600	11,200	6,490
11	4,830	4,830	4,250	1,400	5,500	3,120	5,190	14,800	41,800	30,200	11,100	6,640
12	4,930	4,740	4,220	1,100	5,200	3,040	5,190	14,500	39,800	27,000	10,900	6,870
13	5,060	4,800	4,130	1,200	4,900	2,990	5,120	14,500	40,900	24,900	10,800	7,070
14	5,190	4,680	4,020	1,400	4,500	2,940	5,320	14,700	43,100	23,400	11,000	7,110
15	5,220	4,520	3,930	2,200	4,300	2,920	6,190	15,300	44,700	22,700	11,800	7,150
16	4,990	4,400	3,930	2,300	4,100	2,920	7,730	16,400	44,600	24,500	11,800	7,600
17	4,830	4,370	4,340	2,300	4,100	2,860	8,770	17,800	44,400	25,700	11,300	7,600
18	4,710	4,190	4,580	2,300	4,100	2,840	8,580	19,400	44,300	24,700	10,600	7,230
19	4,640	4,130	4,580	2,200	4,000	2,860	8,000	20,800	43,200	23,100	9,850	6,990
20	4,610	4,220	4,460	2,200	4,000	2,840	7,520	21,900	42,000	21,800	9,400	6,720
21	4,550	5,090	4,340	2,100	3,800	2,890	7,070	24,000	40,400	20,700	9,100	6,420
22	4,520	5,450	4,160	2,100	3,700	2,940	6,720	27,600	36,800	19,700	8,960	6,190
23	5,120	5,280	4,160	2,100	3,600	3,040	6,450	31,700	34,700	18,700	8,720	6,110
24	6,570	4,990	3,500	2,000	3,500	3,300	6,260	37,200	31,000	18,000	8,360	6,110
25	6,490	4,680	2,900	2,000	3,500	3,620	6,110	43,600	27,500	16,800	8,000	6,190
26	6,110	4,830	2,600	2,000	3,600	3,650	6,150	47,000	26,900	16,000	7,730	6,450
27	5,790	6,570	2,600	1,900	3,800	3,650	6,530	48,900	27,000	15,800	7,650	6,260
28	5,480	6,150	3,200	1,900	3,900	3,900	7,780	48,200	25,600	15,000	7,600	6,080
29	5,320	5,550	3,400	1,800	-------	4,310	9,900	45,700	24,600	14,400	7,440	5,860
30	5,220	5,020	3,500	1,800	-------	4,610	12,200	45,800	30,400	14,400	7,270	5,590
31	5,060	-------	3,620	1,900	-------	4,680	-------	48,900	-------	14,000	7,110	-------
TOTAL	160,850	146,760	124,550	77,720	117,800	103,610	188,260	763,000	1,179.0M	791,300	316,690	199,350
MEAN	5,189	4,892	4,018	2,507	4,207	3,342	6,275	24,610	39,300	25,530	10,220	6,645
MAX	6,570	6,570	4,770	4,160	6,900	4,680	12,200	48,900	51,900	38,500	13,300	7,600
MIN	4,520	4,130	2,600	1,100	2,000	2,840	3,820	11,600	24,600	14,000	7,110	5,590
CFSM	.58	.55	.45	.28	.47	.38	.71	2.77	4.42	2.87	1.15	.75
IN.	.67	.61	.52	.33	.49	.43	.79	3.19	4.93	3.31	1.32	.83
AC-FT	319,000	291,100	247,000	154,200	233,700	205,500	373,400	1,513M	2,339M	1,570M	628,100	395,400

CAL YR 1962: TOTAL 3,888,010		MEAN 10,650	MAX 48,700	MIN 1,800	CFSM 1.20	IN 16.26	AC-FT 7,712,000	
WAT YR 1963: TOTAL 4,168,890		MEAN 11,420	MAX 51,900	MIN 1,100	CFSM 1.28	IN 17.44	AC-FT 8,269,000	

M Expressed in thousands.

12-3018.5. Kootenai River at Warland Bridge, near Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,530	4,750	4,470	3,100	2,450	2,310	2,950	7,980	37,300	30,500	14,400	7,130
2	5,500	4,630	3,850	3,200	2,450	2,340	3,470	8,830	40,800	29,700	14,700	7,130
3	5,500	4,660	3,850	3,200	2,400	2,340	3,820	9,640	45,300	32,000	13,500	7,170
4	5,430	4,590	3,850	3,200	2,400	2,340	4,000	11,200	49,500	33,200	12,300	7,290
5	5,290	4,560	3,800	3,100	2,400	2,360	4,060	12,000	53,000	33,300	11,600	7,410
6	5,260	4,470	3,730	3,050	2,350	2,410	4,060	12,900	53,200	34,400	11,800	7,130
7	5,190	4,470	3,880	2,900	2,400	2,390	4,030	13,400	55,700	33,800	12,000	6,930
8	5,050	4,450	3,610	2,700	2,400	2,290	4,030	13,500	60,600	32,000	11,300	6,820
9	4,990	4,400	3,300	2,600	2,350	2,170	4,240	14,700	69,200	32,200	10,700	6,710
10	4,920	4,350	2,400	2,600	2,300	2,220	4,630	17,600	67,200	35,200	10,600	6,590
11	4,850	4,250	2,250	2,650	2,400	2,270	5,120	20,300	59,700	34,300	10,800	6,550
12	4,660	4,120	2,400	2,600	2,450	2,310	5,290	19,900	57,500	30,000	10,700	6,520
13	4,530	4,030	2,500	2,500	2,450	2,360	5,360	20,400	58,900	27,800	10,200	6,400
14	4,590	3,970	2,650	2,600	2,450	2,390	5,050	21,200	61,000	27,900	9,910	6,180
15	4,530	4,000	2,700	2,650	2,400	2,390	5,120	21,300	61,000	27,600	10,100	6,070
16	4,430	4,340	2,700	2,750	2,390	2,360	5,850	21,100	59,900	26,100	10,000	5,960
17	4,400	4,530	2,600	2,900	2,480	2,430	5,780	23,000	59,200	24,600	9,460	5,890
18	4,340	4,500	2,500	2,850	2,460	2,560	5,430	28,800	56,100	22,200	9,010	5,850
19	4,240	4,470	2,550	2,800	2,480	2,790	5,120	34,000	52,600	19,900	8,780	6,250
20	4,210	4,430	2,700	2,800	2,460	2,740	4,950	39,200	48,600	18,800	8,700	7,770
21	4,210	3,970	2,800	2,800	2,410	2,660	4,950	46,900	45,600	17,800	8,830	8,060
22	4,310	3,440	2,900	2,750	2,360	2,580	5,120	50,600	43,500	16,900	8,570	7,850
23	4,750	3,250	3,000	2,700	2,310	2,460	5,360	43,000	42,300	16,200	8,190	7,610
24	5,960	3,610	3,000	2,600	2,310	2,240	5,430	34,700	43,100	15,600	7,890	7,290
25	6,210	3,850	3,050	2,500	2,310	2,150	5,500	29,400	45,600	14,800	7,610	7,130
26	6,110	4,120	3,000	2,500	2,310	2,070	5,960	26,100	44,900	13,700	7,530	7,170
27	5,750	5,530	2,950	2,500	2,220	2,150	6,860	24,300	42,700	13,000	7,410	8,270
28	5,460	6,900	2,950	2,550	2,240	2,270	7,250	25,600	42,000	12,800	7,410	8,920
29	5,260	6,100	2,900	2,500	2,220	2,360	7,250	28,200	40,400	12,600	7,370	8,520
30	4,990	5,260	2,900	2,500	------	2,430	7,450	31,900	34,800	12,600	7,210	8,100
31	4,920	------	2,950	2,450	------	2,610	------	34,900	------	13,200	7,170	------
TOTAL	155,370	134,000	94,690	85,100	69,010	73,750	153,490	746,550	1,531.2M	744,700	305,750	212,670
MEAN	5,012	4,467	3,055	2,745	2,380	2,379	5,116	24,080	51,040	24,020	9,863	7,089
MAX	6,210	6,900	4,470	3,200	2,480	2,790	7,450	50,600	69,200	35,200	14,700	8,920
MIN	4,210	3,250	2,250	2,450	2,220	2,070	2,950	7,980	34,800	12,600	7,170	5,850
CFSM	.56	.50	.34	.31	.27	.27	.58	2.71	5.74	2.70	1.11	.80
IN.	.65	.56	.40	.36	.29	.31	.64	3.12	6.40	3.11	1.28	.89
AC-FT	308,200	265,800	187,800	168,800	136,900	146,300	304,400	1,481M	3,037M	1,477M	606,400	421,800

CAL YR 1963: TOTAL 4,120,790 MEAN 11,290 MAX 51,900 MIN 1,100 CFSM 1.27 IN 17.23 AC-FT 8,173,000
WAT YR 1964: TOTAL 4,306,280 MEAN 11,770 MAX 69,200 MIN 2,070 CFSM 1.32 IN 18.01 AC-FT 8,541,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8,850	6,000	3,930	3,300	3,100	4,120	3,150	27,000	44,900	29,900	13,000	8,430
2	9,290	5,960	4,460	3,300	3,000	3,900	3,370	24,600	39,100	29,100	12,800	8,090
3	9,420	5,850	4,370	3,400	2,800	3,780	3,630	21,600	38,200	30,800	12,600	8,010
4	9,290	5,850	4,490	3,400	2,800	3,570	3,660	19,100	43,800	32,800	12,700	8,300
5	8,850	5,920	4,590	3,300	2,900	3,490	3,870	17,400	45,200	34,100	13,200	8,470
6	8,300	6,070	4,590	3,300	3,200	3,520	4,150	16,000	44,400	34,200	15,800	8,430
7	8,130	6,210	4,530	3,300	3,500	3,570	4,460	15,400	47,300	34,000	16,300	8,090
8	8,090	6,030	4,530	3,300	3,400	3,600	4,590	14,200	45,700	34,400	14,800	7,840
9	8,130	5,960	4,330	3,300	3,300	3,630	4,690	14,200	41,300	34,000	13,600	7,560
10	8,380	6,030	4,300	3,300	3,200	3,690	4,820	15,400	41,600	31,600	12,600	7,640
11	8,590	6,180	4,180	3,200	3,100	3,750	5,190	18,000	47,200	28,400	12,100	7,520
12	8,940	6,180	3,960	3,100	3,000	3,840	5,670	22,300	54,600	25,400	11,800	7,520
13	8,940	6,000	3,460	3,100	3,000	3,900	6,510	28,500	59,400	23,100	11,700	7,480
14	8,680	5,780	3,810	3,200	3,000	3,870	7,600	33,200	57,200	21,400	11,600	7,400
15	8,470	5,330	3,870	3,200	3,000	3,840	9,030	33,900	50,400	20,400	11,500	7,480
16	8,380	4,990	3,500	3,300	2,900	3,870	10,600	34,400	44,000	20,300	10,800	7,600
17	8,470	4,690	2,200	3,300	3,000	3,570	10,300	34,800	42,600	20,700	10,200	7,600
18	8,220	4,560	1,900	3,000	3,200	3,340	9,690	31,200	48,200	20,300	9,690	7,360
19	7,760	4,690	1,500	3,000	3,500	3,120	9,120	26,800	62,600	19,900	9,380	7,160
20	7,600	4,850	1,500	3,300	3,900	3,010	10,100	25,200	63,500	19,500	9,030	7,120
21	7,360	4,950	1,700	3,200	4,200	3,060	12,200	25,300	54,500	17,900	8,940	7,080
22	7,200	4,990	1,900	3,200	4,000	3,150	13,400	23,900	45,400	16,600	8,810	7,160
23	7,000	4,850	3,000	3,200	3,600	3,170	13,400	22,800	39,600	15,700	8,720	7,520
24	6,850	4,890	4,000	3,100	3,300	3,040	13,300	22,200	36,000	15,600	8,850	8,090
25	6,740	5,060	3,500	3,000	3,500	3,040	13,800	22,000	36,200	15,200	8,940	8,130
26	6,660	5,090	3,400	2,900	3,700	2,980	14,600	22,400	37,700	14,600	8,940	7,920
27	6,510	4,920	3,300	2,800	3,900	2,930	15,600	23,700	37,600	14,400	8,980	8,050
28	6,430	4,720	3,200	2,800	4,000	2,850	17,800	27,000	38,000	14,300	9,070	8,090
29	6,210	4,400	3,300	2,900	------	2,870	21,800	35,000	36,500	14,400	8,980	7,880
30	6,180	4,050	3,300	2,900	------	2,980	25,900	45,200	32,400	14,100	9,070	7,640
31	6,180	------	3,300	3,000	------	3,060	------	50,000	------	13,600	8,980	------
TOTAL	244,100	161,050	107,900	97,900	93,000	106,110	286,000	792,700	1,355.1M	710,700	343,480	232,660
MEAN	7,874	5,368	3,481	3,158	3,321	3,423	9,533	25,570	45,170	22,930	11,080	7,755
MAX	9,420	6,210	4,590	3,400	4,200	4,120	25,900	50,000	63,500	34,400	16,300	8,470
MIN	6,180	4,050	1,500	2,800	2,800	2,850	3,150	14,200	32,400	13,600	8,720	7,080
CFSM	.89	.60	.39	.36	.37	.38	1.07	2.88	5.08	2.58	1.25	.87
IN.	1.02	.67	.45	.41	.39	.44	1.20	3.32	5.67	2.97	1.44	.97
AC-FT	484,200	319,400	214,000	194,200	184,500	210,500	567,300	1,572M	2,688M	1,410M	681,300	461,500

CAL YR 1964: TOTAL 4,435,270 MEAN 12,120 MAX 69,200 MIN 1,500 CFSM 1.36 IN 18.55 AC-FT 8,797,000
WAT YR 1965: TOTAL 4,530,700 MEAN 12,410 MAX 63,500 MIN 1,500 CFSM 1.40 IN 18.95 AC-FT 8,987,000

M Expressed in thousands.

12-3020. Fisher River near Jennings, Mont.

Location.--Lat 48°14'40", long 115°17'10", in NW¼SE¼ sec.27, T.29 N., R.29 W., on right bank 80 ft downstream from bridge, 1.9 miles downstream from Wolf Creek, 9 miles upstream from mouth, and 9 miles southeast of Jennings.

Drainage area.--780 sq mi.

Records available.--December 1950 to September 1965.

Gage.--Water-stage and water temperature recorders. Datum of gage is 2,443.23 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Average discharge.--14 years (1951-65), 535 cfs (387,300 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 11, 1961	3,190	5.40	Oct. 4-7, 1960	99	1.20
1962	Apr. 20, 1962	2,920	5.21	Dec. 11, 1961	a 50	-
1963	May 1, 1963	1,190	b 3.61	Sept.12, 1963	66	1.07
1964	June 9, 1964	3,410	5.48	Oct. 2, 3, 1963	75	1.11
1965	Apr. 22, 1965	4,770	6.44	Sept. 8, 1965	121	1.32

a Minimum daily.
b Maximum gage height for year, 6.82 ft Feb. 5, 1963, backwater from ice.

1950-65: Maximum discharge, 6,320 cfs Apr. 17, 1956 (gage height, 7.32 ft); minimum daily, 50 cfs Dec. 11, 1961.

Remarks.--Records good except those for winter periods and those for periods of no gage-height record, which are poor. Numerous small diversions for irrigation of hay meadows above station. Records of water temperatures for the water years 1963-65 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	103	148	155	110	170	553	702	1,550	1,900	377	148	135
2	101	153	150	110	200	544	842	2,140	1,940	344	145	172
3	101	145	150	100	210	460	1,240	2,550	1,830	344	140	153
4	99	138	145	100	200	400	1,830	2,260	1,810	333	138	133
5	99	131	130	110	210	360	1,610	2,060	1,850	336	133	126
6	99	126	125	120	220	380	1,330	1,910	1,630	400	128	121
7	103	123	130	140	230	370	1,150	1,830	1,670	358	128	119
8	119	120	130	150	200	351	1,020	1,810	1,350	333	126	114
9	119	110	130	160	202	340	944	1,860	1,250	308	123	112
10	110	121	130	155	469	329	860	2,320	1,160	290	126	117
11	114	135	130	150	920	315	788	3,110	1,050	280	121	135
12	119	140	130	140	1,030	308	776	2,780	1,290	272	121	131
13	126	133	130	135	800	311	818	2,470	1,140	259	117	119
14	121	131	135	138	668	358	788	2,310	1,050	249	114	114
15	114	128	135	193	553	400	740	2,280	1,010	245	114	112
16	110	133	130	252	544	443	696	2,330	980	235	114	108
17	110	145	130	280	483	483	740	2,390	938	225	112	106
18	110	158	130	250	424	483	890	2,260	908	215	114	103
19	110	175	140	230	389	495	1,010	2,220	860	209	112	108
20	110	164	140	210	389	523	980	2,420	788	202	112	106
21	110	178	140	190	654	535	920	2,680	707	196	117	110
22	110	167	140	180	1,850	531	872	2,780	625	193	114	112
23	114	153	130	160	1,290	527	818	2,610	566	196	112	112
24	119	175	128	140	980	535	776	2,650	562	202	106	112
25	140	394	126	130	878	558	764	2,430	531	187	108	108
26	135	347	120	130	729	576	812	2,550	511	178	131	112
27	150	269	121	120	636	600	902	2,840	479	172	128	108
28	150	220	120	120	553	550	950	2,240	436	164	119	112
29	153	180	120	120	------	585	968	1,820	412	161	112	148
30	140	170	120	120	------	605	1,180	1,810	385	156	110	135
31	135	------	120	140	------	641	------	1,940	------	150	110	------
TOTAL	3,653	5,010	4,090	4,783	16,081	14,489	28,716	71,210	31,618	7,769	3,753	3,613
MEAN	118	167	132	154	574	467	957	2,297	1,054	251	121	120
MAX	153	394	155	280	1,850	641	1,830	3,110	1,940	400	148	172
MIN	99	110	120	100	170	308	696	1,550	385	150	105	103
CFSM	.15	.21	.17	.20	.74	.60	1.23	2.94	1.35	.32	.16	.15
IN.	.17	.24	.20	.23	.77	.69	1.37	3.40	1.51	.37	.18	.17
AC-FT	7,250	9,940	8,110	9,490	31,900	28,740	56,960	141,200	62,710	15,410	7,440	7,170

CAL YR 1960: TOTAL 184,163 MEAN 503 MAX 3,220 MIN 99 CFSM .65 IN 8.78 AC-FT 365,300
WAT YR 1961: TOTAL 194,785 MEAN 534 MAX 3,110 MIN 99 CFSM .68 IN 9.29 AC-FT 386,400

12-3020. Fisher River near Jennings, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	123	133	138	180	290	150	507	1,110	1,090	381	140	101
2	117	138	148	190	320	150	590	1,140	1,040	347	140	97
3	114	131	138	190	340	150	680	1,310	1,150	318	140	97
4	112	131	133	200	350	160	824	1,480	1,040	297	143	97
5	110	121	148	200	300	170	980	1,400	896	297	161	97
6	117	121	130	190	340	180	1,210	1,290	794	300	187	95
7	126	123	120	190	350	190	2,310	1,250	740	286	164	101
8	128	121	120	170	360	180	2,120	1,250	740	280	156	108
9	123	119	90	130	370	170	1,680	1,350	884	280	153	106
10	123	119	70	90	350	160	1,400	1,520	938	272	148	103
11	143	128	50	120	326	130	1,200	1,570	848	262	140	133
12	145	126	80	140	322	140	1,080	1,530	800	252	133	135
13	164	121	110	150	329	140	1,060	1,530	800	245	131	123
14	193	123	130	160	344	140	1,230	1,540	740	232	123	119
15	167	119	140	170	344	150	1,680	1,480	729	225	119	117
16	150	110	150	140	336	153	2,000	1,440	746	215	117	110
17	145	90	150	120	326	153	1,900	1,490	782	202	112	106
18	138	90	150	100	311	156	1,880	1,580	746	196	108	106
19	133	90	140	80	304	161	2,210	1,650	680	187	108	103
20	133	100	160	80	294	175	2,840	1,600	641	178	103	99
21	143	100	170	60	262	184	2,680	1,570	610	175	103	99
22	138	110	180	70	280	184	2,180	1,650	571	169	103	97
23	138	110	180	100	215	193	1,930	1,660	531	167	106	95
24	156	100	190	150	170	190	2,120	1,650	499	167	103	95
25	145	100	190	200	150	218	2,350	1,590	487	164	99	95
26	143	90	170	260	120	286	2,050	1,500	487	158	97	93
27	150	90	150	280	130	385	1,740	1,440	483	164	97	95
28	148	110	150	280	140	400	1,630	1,580	432	158	106	99
29	140	120	170	280	-------	393	1,400	1,540	408	153	117	110
30	135	123	180	270	-------	404	1,230	1,280	385	145	110	114
31	131	-------	180	270	-------	439	-------	1,160	-------	140	106	-------
TOTAL	4,271	3,407	4,405	5,210	8,073	6,434	48,731	45,170	21,717	7,012	3,873	3,145
MEAN	138	114	142	168	288	208	1,624	1,457	724	226	125	105
MAX	193	138	190	280	370	439	2,840	1,660	1,150	381	187	135
MIN	110	90	50	60	120	130	507	1,110	385	140	97	93
CFSM	.18	.15	.18	.22	.37	.27	2.08	1.87	.93	.29	.16	.13
IN.	.20	.16	.21	.25	.38	.31	2.32	2.15	1.04	.33	.18	.15
AC-FT	8,470	6,760	8,740	10,330	16,010	12,760	96,660	89,590	43,080	13,910	7,680	6,240

CAL YR 1961: TOTAL 194,115 MEAN 532 MAX 3,110 MIN 50 CFSM .68 IN 9.26 AC-FT 385,000
WAT YR 1962: TOTAL 161,448 MEAN 442 MAX 2,840 MIN 50 CFSM .57 IN 7.70 AC-FT 320,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	110	126	362	280	160	366	962	1,170	770	366	117	74
2	108	123	333	297	180	351	866	1,120	707	329	117	79
3	108	121	318	315	190	340	764	1,010	674	308	114	95
4	106	119	283	322	250	318	707	908	680	294	112	87
5	106	123	262	300	500	318	680	854	712	276	108	81
6	103	143	286	286	994	300	788	884	707	262	106	77
7	103	138	290	272	1,020	294	926	1,020	625	262	103	74
8	108	135	294	266	1,010	286	974	1,110	590	255	95	72
9	126	175	290	262	944	280	944	1,030	625	242	93	70
10	138	225	290	140	896	280	902	950	663	228	97	70
11	133	212	286	110	720	280	860	890	685	228	101	68
12	175	209	280	140	580	269	806	884	674	228	97	66
13	242	202	269	160	479	259	776	908	605	215	89	70
14	255	187	262	170	447	255	794	914	566	202	89	93
15	235	172	272	190	416	252	944	938	519	193	89	91
16	193	167	424	200	393	249	1,080	944	491	184	87	99
17	169	158	515	180	370	245	1,060	968	467	175	85	97
18	158	153	527	160	355	238	994	980	436	169	85	89
19	150	153	499	150	344	238	908	1,000	404	161	83	87
20	145	386	463	150	389	242	836	974	385	156	81	85
21	150	463	447	160	362	255	764	980	351	153	83	83
22	167	362	471	170	340	255	712	1,000	344	148	83	85
23	158	308	416	160	336	280	690	980	333	145	83	91
24	150	266	300	170	329	318	652	1,030	308	140	87	91
25	145	290	290	180	318	322	625	1,060	308	138	87	89
26	140	610	300	170	340	329	620	1,000	318	138	83	87
27	135	712	310	160	385	347	652	914	300	135	79	83
28	133	527	310	170	370	507	794	854	294	131	77	83
29	131	428	300	150	-------	625	902	818	329	126	74	81
30	128	381	294	130	-------	890	1,050	830	396	121	74	79
31	126	-------	280	140	-------	1,070	-------	830	-------	119	74	-------
TOTAL	4,534	7,774	10,523	6,110	13,417	10,858	25,032	29,752	15,266	6,227	2,832	2,476
MEAN	146	259	339	197	479	350	834	960	509	201	91.4	82.5
MAX	255	712	527	322	1,020	1,070	1,080	1,170	770	366	117	99
MIN	103	119	262	110	160	238	620	818	294	119	74	66
CFSM	.19	.33	.44	.25	.61	.45	1.07	1.23	.65	.26	.12	.11
IN.	.22	.37	.50	.29	.64	.52	1.19	1.42	.73	.30	.14	.12
AC-FT	8,990	15,420	20,870	12,120	26,610	21,540	49,650	59,010	30,280	12,350	5,620	4,910

CAL YR 1962: TOTAL 172,196 MEAN 472 MAX 2,840 MIN 60 CFSM .60 IN 8.21 AC-FT 341,500
WAT YR 1963: TOTAL 134,801 MEAN 369 MAX 1,170 MIN 66 CFSM .47 IN 6.43 AC-FT 267,400

12-3020. Fisher River near Jennings, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	77	93	170	123	112	112	290	1,170	1,690	590	205	143
2	75	91	160	138	103	108	404	1,220	1,780	560	215	150
3	75	93	175	131	108	108	408	1,250	1,820	530	196	156
4	79	91	169	126	112	108	428	1,240	1,750	510	150	148
5	81	99	169	123	119	110	436	1,280	1,570	490	190	143
6	85	110	161	126	108	108	432	1,280	1,670	470	178	135
7	83	126	160	128	105	108	436	1,250	1,570	450	169	131
8	83	128	145	125	110	99	471	1,300	2,110	430	164	131
9	81	126	120	120	117	110	548	1,530	2,840	412	158	128
10	81	121	105	120	112	103	646	1,860	2,100	393	153	123
11	81	112	105	120	119	106	724	1,900	1,670	351	150	121
12	81	106	120	115	112	112	724	1,840	1,620	333	148	117
13	79	103	140	110	117	110	663	2,020	1,440	329	150	114
14	79	101	145	100	106	110	610	2,140	1,370	326	148	114
15	79	117	145	100	117	114	806	1,950	1,240	336	143	114
16	79	133	140	115	114	123	1,060	1,880	1,220	370	140	110
17	79	133	135	125	112	135	987	2,240	1,150	308	133	110
18	79	138	135	130	108	161	884	2,640	1,040	294	135	114
19	77	135	135	131	119	158	800	2,630	956	283	138	112
20	77	140	140	131	108	150	770	2,830	908	259	138	128
21	79	135	140	126	108	150	776	3,060	872	249	133	148
22	87	128	140	117	110	150	812	2,440	872	235	128	140
23	112	123	145	131	110	121	860	1,860	866	225	126	140
24	121	123	140	138	117	120	830	1,510	866	215	121	135
25	145	123	140	133	99	135	800	1,300	788	205	119	133
26	131	131	135	138	119	150	842	1,210	724	202	121	131
27	112	218	135	123	112	135	884	1,150	700	196	131	126
28	108	225	130	119	110	138	854	1,330	670	187	135	123
29	103	181	130	117	117	140	872	1,570	640	187	135	121
30	99	175	125	121	------	158	1,010	1,640	620	193	140	133
31	95	------	123	110	------	202	------	1,660	------	222	145	------
TOTAL	2,782	3,858	4,357	3,810	3,240	3,952	21,067	54,180	39,132	10,340	4,675	3,872
MEAN	89.7	129	141	123	112	127	702	1,748	1,304	334	151	129
MAX	145	225	175	138	119	202	1,060	3,060	2,840	590	215	156
MIN	75	91	105	100	99	99	290	1,150	620	187	119	110
CFSM	.12	.16	.18	.16	.14	.16	.90	2.24	1.67	.43	.19	.17
IN.	.13	.18	.21	.18	.15	.19	1.00	2.58	1.87	.49	.22	.18
AC-FT	5,520	7,650	8,640	7,560	6,430	7,840	41,790	107,500	77,620	20,510	9,270	7,680

CAL YR 1963: TOTAL 122,967 MEAN 337 MAX 1,170 MIN 66 CFSM .43 IN 5.86 AC-FT 243,900
WAT YR 1964: TOTAL 155,265 MEAN 424 MAX 3,060 MIN 75 CFSM .54 IN 7.40 AC-FT 308,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	193	140	362	380	300	540	450	3,250	1,180	439	172	133
2	175	145	416	380	280	527	500	2,640	1,120	432	167	128
3	232	156	400	400	290	519	550	2,110	1,180	424	164	128
4	196	150	358	420	297	495	600	1,840	1,140	436	167	131
5	172	150	315	450	311	483	650	1,640	1,050	424	169	131
6	161	150	286	440	344	483	700	1,440	1,040	408	175	128
7	156	145	259	420	333	487	750	1,310	1,040	393	164	126
8	150	143	245	400	333	499	800	1,220	920	370	158	121
9	156	143	238	380	329	511	900	1,210	866	355	150	135
10	172	150	235	360	280	519	1,100	1,270	872	344	148	140
11	175	158	235	350	250	540	1,150	1,450	884	333	145	131
12	161	158	196	380	300	535	1,200	1,760	1,010	315	153	131
13	156	158	222	400	310	523	1,400	1,980	896	308	161	128
14	150	153	225	362	290	515	1,530	1,980	770	297	150	133
15	164	145	195	351	270	519	1,710	1,910	702	290	145	199
16	175	140	150	340	280	527	1,960	1,820	674	280	138	209
17	178	133	130	318	283	450	1,950	1,690	800	269	133	178
18	167	140	200	297	322	350	1,730	1,460	1,330	259	128	161
19	158	138	300	245	381	400	1,650	1,290	1,190	245	128	156
20	158	133	400	222	479	450	2,730	1,290	956	238	145	153
21	161	133	600	218	507	450	4,530	1,290	860	235	143	153
22	158	131	800	215	503	400	4,500	1,240	770	238	143	156
23	156	131	1,200	200	475	350	3,680	1,250	685	228	161	153
24	153	193	1,330	200	475	330	3,330	1,290	652	218	164	150
25	148	373	1,010	220	439	370	3,080	1,330	646	212	153	145
26	150	294	700	220	428	400	2,910	1,360	620	205	164	140
27	146	252	600	240	507	420	2,880	1,360	553	202	153	138
28	145	222	550	270	571	400	2,980	1,480	503	202	150	133
29	148	222	500	262	------	390	3,220	1,550	487	190	148	131
30	145	245	450	276	------	390	3,480	1,560	459	181	143	131
31	143	------	400	358	------	410	------	1,320	------	175	135	------
TOTAL	5,058	5,124	13,507	9,974	10,167	14,182	58,600	49,590	25,855	9,145	4,717	4,310
MEAN	163	171	436	322	363	457	1,953	1,600	862	295	152	144
MAX	232	373	1,330	450	571	540	4,530	3,250	1,330	439	175	209
MIN	143	131	130	200	250	330	450	1,210	459	175	128	121
CFSM	.21	.22	.56	.41	.47	.59	2.50	2.05	1.10	.38	.20	.18
IN.	.24	.24	.64	.48	.48	.68	2.79	2.36	1.23	.44	.22	.21
AC-FT	10,030	10,160	26,790	19,780	20,170	28,130	116,200	98,360	51,280	18,140	9,360	8,550

CAL YR 1964: TOTAL 167,957 MEAN 459 MAX 3,060 MIN 99 CFSM .59 IN 8.01 AC-FT 333,100
WAT YR 1965: TOTAL 210,229 MEAN 576 MAX 4,530 MIN 121 CFSM .74 IN 10.02 AC-FT 417,000

12-3025. Granite Creek near Libby, Mont.

Location.--Lat 48°18'10", long 115°35'25", in NW¼SE¼ sec.5, T.29 N., R.31 W., at Glacier Silver Lead mine, 2.5 miles upstream from Cherry Creek and 7 miles southwest of Libby.
Drainage area.--23.6 sq mi.
Records available.--January to December 1933, August 1936 to November 1943. Annual maximum, water year 1959. July 1960 to September 1965. Monthly discharge only for August 1936, published in WSP 1316.
Gage.--Water-stage recorder. Concrete control since Sept. 9, 1938. Altitude of gage is 2,780 ft (from topographic map). Prior to Sept. 16, 1960, staff gages at same datum within 25 ft of present site. Crest-stage gage July 2, 1959, to Sept. 15, 1960.
Average discharge.--12 years (1936-43, 1960-65), 67.8 cfs (49,090 acre-ft per year).
Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (400 cfs), July 1960 to September 1965

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
June 3, 1960	-	* a 793	4.53	Nov. 20, 1962	1000	* 460	3.90	Apr. 20, 1965	1530	422	3.76
								May 30, 1965	0200	418	3.75
May 26, 1961	2200	* 808	4.45	May 20, 1964	2100	555	4.04	June 6, 1965	2100	400	3.71
June 6, 1961	2000	710	4.30	June 1, 1964	2100	480	3.89	June 12, 1965	0530	422	3.76
June 12, 1961	0300	484	3.94	June 8, 1964	1830	* 627	4.17	June 18, 1965	1100	* 426	3.77
May 28, 1962	1100	* 690	4.27	Dec. 23, 1964	-	-	b 3.85				

a Not previously published; prior to beginning of record.
b Backwater from ice.

Annual minimum discharge, July 1960 to September 1965

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1960	Sept. 30, 1960	a 8.9	1.98	1963	Sept. 22, 1963	10	1.98
1961	Oct. 5, 1960	7.0	1.92	1964	Mar. 23, 1964	5.5	1.82
1962	Jan. 22, 1962	b 7.0	-	1965	Dec. 17, 1964	b 10	-

a Not previously published.
b Minimum daily.

1933, 1936-43, 1959-65: Maximum discharge observed, 1,960 cfs Apr. 18, 1938, from rating curve extended above 730 cfs; no flow Jan. 4, 1933 (creek blocked by snow slide).
Flood in May to June 1948 reached a stage of 5.65 ft, from floodmarks (discharge, 1,520 cfs, by slope-area measurement of peak flow).
Remarks.--Records good. No regulation or diversion.
Revisions (water years).--WSP 1246: 1933.

DISCHARGE, IN CUBIC FEET PER SECOND, 1960

DAY	JULY	AUG.	SEPT.	DAY	JULY	AUG.	SEPT.	DAY	JULY	AUG.	SEPT.	DAY	JULY	AUG.	SEPT.	DAY	JULY	AUG.	SEPT.
1	-	52	23	7	-	35	26	13	-	29	16	19	-	21	12	25	-	19	11
2	-	59	22	8	-	33	24	14	-	28	15	20	-	20	12	26	45	20	11
3	-	52	22	9	-	32	21	15	-	27	14	21	-	19	12	27	45	25	10
4	-	45	24	10	-	31	20	16	-	25	14	22	-	18	11	28	45	28	10
5	-	39	30	11	-	30	18	17	-	23	14	23	-	18	11	29	45	28	9.2
6	-	37	28	12	-	30	17	18	-	22	13	24	-	18	10	30	46	28	9.2
																31	47	25	-
TOTAL																	-	916	489.4
MEAN																	-	29.5	16.3
MAX																	-	59	30
MIN																	-	18	9.2
CFSM																	-	1.25	.691
IN.																	-	1.44	.77
AC-FT																	-	1,820	971

Note.--Results of discharge measurements made prior to daily record, 427 cfs June 4, 112 cfs July 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.6	36	28	12	40	59	60	158	496	91	25	30
2	8.2	30	28	12	40	54	94	247	520	91	24	42
3	8.2	26	26	12	34	50	210	202	496	94	25	31
4	7.5	23	26	12	33	46	215	172	526	93	25	23
5	7.0	21	22	16	32	44	158	150	514	101	26	19
6	7.2	19	21	26	32	42	121	134	496	110	27	17
7	9.6	19	21	19	33	39	103	118	466	93	25	15
8	20	17	20	18	32	36	94	110	315	88	23	15
9	17	16	20	17	34	35	85	116	295	77	22	13
10	15	16	18	17	63	34	76	155	255	72	20	15
11	14	20	18	17	76	33	70	178	259	70	18	17
12	15	18	18	17	80	32	71	164	400	68	17	17
13	15	17	18	17	72	34	74	166	315	68	17	15
14	13	17	18	20	64	36	65	178	319	68	17	13
15	12	17	16	35	59	38	62	196	339	67	18	12
16	12	17	16	55	55	43	59	225	355	64	20	11
17	14	17	18	50	51	45	82	243	339	59	19	10
18	15	28	17	41	45	45	97	232	347	52	18	11
19	14	24	18	36	43	47	97	283	323	47	17	11
20	14	24	17	33	46	51	91	360	283	45	17	11
21	14	31	16	30	142	48	85	444	239	44	17	13
22	17	25	16	30	212	47	78	427	196	45	17	12
23	20	22	15	28	136	46	74	460	190	47	17	11
24	33	38	15	26	103	45	71	444	196	47	17	11
25	34	86	15	25	89	45	72	432	193	42	19	10
26	34	55	14	23	76	46	74	629	184	38	18	11
27	37	43	14	22	65	46	74	526	158	34	17	10
28	35	37	13	25	59	45	74	347	131	32	16	12
29	33	33	13	27	------	46	80	335	114	30	15	15
30	27	30	13	30	------	51	116	380	97	27	14	13
31	25	------	13	37	------	55	------	454	------	26	16	------
TOTAL	555.3	822	561	785	1,846	1,363	2,782	8,665	9,356	1,936	603	466
MEAN	17.9	27.4	18.1	25.3	65.9	44.0	92.7	280	312	62.5	19.5	15.5
MAX	37	86	28	55	212	59	215	629	526	110	27	42
MIN	7.0	16	13	12	32	32	59	110	97	26	14	10
CFSM	.76	1.16	.77	1.07	2.79	1.86	3.93	11.8	13.2	2.65	.82	.66
IN.	.88	1.30	.88	1.24	2.91	2.15	4.38	13.7	14.7	3.05	.95	.73
AC-FT	1,100	1,630	1,110	1,560	3,660	2,700	5,520	17,190	18,560	3,840	1,200	924

CAL YR 1960: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1961: TOTAL 29,740.3 MEAN 81.5 MAX 629 MIN 7.0 CFSM 3.45 IN 46.87 AC-FT 58,990

12-3025. Granite Creek near Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	24	22	18	17	16	33	94	212	123	38	12
2	11	21	19	17	26	16	40	118	212	105	37	12
3	11	20	18	28	52	15	47	152	255	86	36	12
4	11	20	18	30	64	16	58	161	184	77	37	12
5	11	18	19	27	53	17	71	139	147	71	56	11
6	16	18	17	26	46	17	103	123	123	71	58	11
7	18	17	15	25	40	16	205	118	126	65	47	12
8	17	16	13	24	37	15	147	112	172	68	42	12
9	15	16	10	20	34	15	108	126	271	72	38	12
10	24	18	9.0	18	35	16	89	150	247	78	34	14
11	32	20	10	22	34	15	77	158	225	78	31	44
12	30	19	12	21	33	14	74	158	222	72	30	34
13	58	18	15	18	33	14	80	158	218	65	31	26
14	62	17	16	16	33	14	107	147	215	64	30	24
15	52	17	16	15	33	13	175	141	228	62	27	26
16	48	17	14	14	31	13	181	152	259	56	26	22
17	58	13	13	14	30	13	164	181	271	52	26	19
18	43	16	14	13	29	14	190	202	251	47	26	18
19	36	17	13	11	29	15	267	225	232	43	24	16
20	34	16	15	10	28	16	315	218	222	42	22	15
21	31	13	17	9.0	24	16	251	225	212	42	21	14
22	28	16	15	7.0	24	16	205	263	202	45	22	14
23	28	16	14	9.0	21	16	222	287	187	48	21	14
24	28	15	28	10	17	16	311	327	178	51	19	14
25	25	14	27	12	17	19	311	323	184	51	18	14
26	28	13	22	14	12	24	215	299	184	51	18	14
27	28	12	19	18	13	28	166	299	152	50	17	13
28	26	16	18	17	15	26	155	538	126	47	18	17
29	23	15	18	18	------	26	116	365	121	47	17	34
30	22	16	20	18	------	26	101	263	126	44	15	30
31	22	------	19	18	------	28	------	232	------	40	13	------
TOTAL	888	504	515.0	537.0	860	541	4,584	6,454	5,964	1,913	895	542
MEAN	28.6	16.8	16.6	17.3	30.7	17.5	153	208	199	61.7	28.9	18.1
MAX	62	24	28	30	64	28	315	538	271	123	58	44
MIN	11	12	9.0	7.0	12	13	33	94	121	40	13	11
CFSM	1.21	.71	.70	.73	1.30	.74	6.47	8.82	8.42	2.61	1.22	.77
IN.	1.40	.79	.81	.85	1.36	.85	7.22	10.2	9.40	3.01	1.41	.85
AC-FT	1,760	1,000	1,020	1,070	1,710	1,070	9,090	12,800	11,830	3,790	1,780	1,080

CAL YR 1961: TOTAL 29,709.0 MEAN 81.4 MAX 629 MIN 9.0 CFSM 3.45 IN 46.82 AC-FT 58,930
WAT YR 1962: TOTAL 24,197.0 MEAN 66.3 MAX 538 MIN 7.0 CFSM 2.81 IN 38.13 AC-FT 47,990

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	31	68	37	18	44	53	161	251	99	27	14
2	24	30	63	39	18	42	47	131	232	93	25	15
3	21	29	59	43	45	40	44	107	228	94	24	17
4	19	28	53	40	112	38	42	93	235	97	24	17
5	18	34	50	38	232	38	45	89	323	94	24	15
6	16	36	56	35	175	35	64	123	275	89	24	15
7	16	33	52	34	187	34	68	187	222	88	26	14
8	22	37	52	33	150	33	65	172	209	88	27	14
9	24	55	50	30	116	32	62	139	295	77	26	14
10	25	59	50	22	97	31	59	123	287	70	26	14
11	24	54	48	15	86	31	55	114	255	74	27	14
12	46	52	46	16	77	30	52	123	259	70	27	14
13	108	46	44	20	70	29	53	134	243	63	29	15
14	85	41	43	25	64	28	64	150	243	59	30	15
15	65	38	56	28	59	28	94	166	232	55	28	15
16	51	37	91	26	55	26	93	184	225	51	25	23
17	44	34	89	25	53	26	83	209	215	46	22	21
18	40	33	85	22	50	26	74	232	199	50	20	18
19	40	36	77	21	48	25	67	235	193	47	18	15
20	40	307	70	24	47	25	64	247	166	46	18	13
21	77	196	67	24	44	25	59	275	134	45	18	11
22	89	121	62	24	42	26	56	287	114	43	17	11
23	71	93	54	22	41	30	54	295	99	40	16	17
24	58	77	41	22	40	33	52	319	88	36	18	19
25	50	93	35	20	39	31	51	327	91	35	18	18
26	44	166	38	18	45	31	55	311	88	34	17	17
27	40	128	40	18	46	35	72	283	93	31	16	15
28	37	99	42	17	44	46	99	271	91	31	15	14
29	36	82	41	17	------	48	121	299	123	30	14	14
30	34	74	39	17	------	58	164	323	118	29	13	14
31	33	------	37	17	------	58	------	303	------	28	13	------
TOTAL	1,324	2,179	1,698	789	2,100	1,062	2,031	6,412	5,826	1,832	672	462
MEAN	42.7	72.6	54.8	25.5	75.0	34.3	67.7	207	194	59.1	21.7	15.4
MAX	108	307	91	43	232	58	164	327	323	99	30	23
MIN	16	28	35	15	18	25	42	89	88	28	13	11
CFSM	1.81	3.08	2.32	1.08	3.18	1.45	2.87	8.76	8.23	2.50	.92	.65
IN.	2.09	3.43	2.68	1.24	3.31	1.67	3.20	10.1	9.18	2.89	1.06	.73
AC-FT	2,630	4,320	3,370	1,560	4,170	2,110	4,030	12,720	11,560	3,630	1,330	916

CAL YR 1962: TOTAL 27,491.0 MEAN 75.3 MAX 538 MIN 7.0 CFSM 3.19 IN 43.32 AC-FT 54,530
WAT YR 1963: TOTAL 26,387 MEAN 72.3 MAX 327 MIN 11 CFSM 3.06 IN 41.58 AC-FT 52,340

12-3025. Granite Creek near Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	14	36	18	14	13	40	91	395	168	52	28
2	12	17	33	22	13	13	42	91	395	168	90	31
3	11	15	28	19	13	12	41	86	400	165	64	33
4	10	15	23	18	13	12	43	85	364	150	51	30
5	11	17	26	17	14	12	41	91	342	139	53	26
6	11	18	27	17	13	13	40	88	372	130	47	23
7	11	19	25	17	13	12	40	88	359	132	43	21
8	10	18	24	18	12	12	45	103	485	143	40	20
9	9.2	17	23	17	12	12	53	141	454	158	36	19
10	8.2	16	15	17	13	12	62	202	364	130	34	17
11	8.2	14	12	16	14	12	67	181	326	111	31	16
12	7.5	14	17	15	13	13	63	181	334	109	30	15
13	7.2	14	19	16	13	13	55	259	330	113	30	14
14	7.2	17	20	14	13	12	52	239	330	109	30	13
15	7.0	31	19	14	13	14	86	205	314	139	28	12
16	7.0	30	18	15	13	14	89	232	326	130	25	12
17	7.0	30	17	16	13	14	74	395	278	92	24	14
18	6.8	30	17	16	13	15	67	390	238	94	26	22
19	6.8	28	16	17	13	15	62	418	223	85	29	18
20	6.8	30	16	17	12	14	62	472	208	71	26	23
21	8.2	25	16	17	12	14	63	444	202	65	23	26
22	26	24	15	16	12	13	65	286	223	59	21	23
23	58	24	15	15	12	10	65	217	260	51	20	20
24	43	23	15	15	12	11	64	187	270	47	20	18
25	37	22	16	16	11	13	65	170	246	44	20	18
26	28	34	15	16	12	14	72	170	242	44	19	18
27	24	77	15	15	12	13	71	181	235	44	20	16
28	20	55	14	15	12	13	67	263	181	42	27	16
29	18	45	14	14	12	14	70	310	160	47	26	14
30	17	39	13	14	------	18	82	350	162	55	30	76
31	16	------	14	14	------	27	------	377	------	58	30	------
TOTAL	473.1	772	593	503	367	419	1,808	6,993	9,018	3,092	1,045	652
MEAN	15.3	25.7	19.1	16.2	12.7	13.5	60.3	226	301	99.7	33.7	21.7
MAX	58	77	36	22	14	27	89	472	485	168	90	76
MIN	6.8	14	12	14	11	10	40	85	160	42	19	12
CFSM	.65	1.09	.81	.69	.54	.57	2.55	9.56	12.7	4.23	1.43	.92
IN.	.75	1.22	.93	.79	.58	.66	2.85	11.0	14.2	4.87	1.65	1.03
AC-FT	938	1,530	1,180	998	728	831	3,590	13,870	17,890	6,130	2,070	1,290

CAL YR 1963: TOTAL 23,024.1 MEAN 63.1 MAX 327 MIN 6.8 CFSM 2.67 IN 36.28 AC-FT 45,670
WAT YR 1964: TOTAL 25,735.1 MEAN 70.3 MAX 485 MIN 6.8 CFSM 2.98 IN 40.55 AC-FT 51,040

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	115	30	73	43	26	40	20	298	242	109	44	20
2	83	47	76	40	26	38	24	226	270	122	46	17
3	83	44	66	39	24	35	26	178	338	132	52	17
4	66	40	56	35	24	33	26	152	318	143	50	17
5	56	42	50	33	30	34	27	132	302	143	46	17
6	52	39	43	34	38	34	29	118	338	146	41	16
7	48	35	40	30	34	36	30	113	310	139	35	14
8	48	32	38	30	32	38	32	115	256	135	33	13
9	78	34	35	28	30	39	36	137	270	122	35	14
10	98	40	34	26	28	39	44	187	306	107	36	13
11	74	38	30	26	26	40	48	256	338	96	34	12
12	59	34	26	24	26	38	55	318	382	85	36	12
13	51	32	28	23	25	35	73	354	263	78	41	12
14	46	30	27	23	24	35	94	338	205	74	32	19
15	47	27	26	23	23	36	113	298	196	78	27	88
16	47	25	16	23	22	36	143	318	214	80	23	65
17	43	26	10	22	25	32	128	263	286	76	23	43
18	38	24	14	21	30	31	111	211	408	74	22	33
19	34	23	22	20	39	30	115	193	314	66	23	29
20	34	23	26	20	51	30	346	223	256	60	40	28
21	35	22	32	20	44	28	400	199	242	55	39	34
22	33	22	50	20	41	25	310	184	214	52	32	55
23	31	21	180	20	36	24	246	187	196	46	32	46
24	30	53	150	21	34	23	223	208	208	42	35	39
25	28	66	111	20	31	23	220	229	211	44	36	32
26	28	53	107	20	30	21	242	252	187	48	46	28
27	26	47	113	21	44	20	270	282	155	52	41	25
28	26	41	75	21	44	20	322	346	135	52	34	23
29	28	35	65	22	------	20	359	372	118	50	30	21
30	29	59	51	24	------	19	350	372	107	46	26	20
31	30	------	47	30	------	19	------	270	------	44	23	------
TOTAL	1,524	1,084	1,717	802	887	951	4,462	7,329	7,585	2,596	1,093	822
MEAN	49.2	36.1	55.4	25.9	31.7	30.7	149	236	253	83.7	35.3	27.4
MAX	115	66	180	43	51	40	400	372	408	146	52	88
MIN	26	21	10	20	22	19	20	113	107	42	22	12
CFSM	2.08	1.53	2.35	1.10	1.34	1.30	6.30	10.0	10.7	3.55	1.49	1.16
IN.	2.40	1.71	2.71	1.26	1.40	1.50	7.03	11.5	12.0	4.09	1.72	1.30
AC-FT	3,020	2,150	3,410	1,590	1,760	1,890	8,850	14,540	15,040	5,150	2,170	1,630

CAL YR 1964: TOTAL 28,222 MEAN 77.1 MAX 485 MIN 10 CFSM 3.27 IN 44.47 AC-FT 55,980
WAT YR 1965: TOTAL 30,852 MEAN 84.5 MAX 408 MIN 10 CFSM 3.58 IN 48.62 AC-FT 61,190

12-3030. Kootenai River at Libby, Mont.

Location.--Lat 48°24'00", long 115°33'10", in SE¼SW¼ sec.34, T.31 N., R.31 W., on right bank 1,800 ft downstream from highway bridge at Libby, 0.8 mile downstream from Libby Creek, and at mile 204.3.

Drainage area.--10,240 sq mi, approximately.

Records available.--October 1910 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Digital water-stage recorder. Datum of gage is 2,041.54 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 28, 1931, staff, chain, and wire-weight gages 1,800 ft upstream at different datum. Apr. 28, 1931, to Sept. 22, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--55 years, 12,020 cfs (8,702,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 29, 1961	96,000	18.23	Jan. 30, 1961	1,860	0.67
1962	June 19, 1962	50,000	12.17	Jan. 21, 1962	a 1,900	-
1963	June 1, 1963	53,600	12.68	Jan. 12, 1963	a 1,600	-
1964	June 9, 1964	77,800	15.90	Dec. 11, 1963	a 2,500	-
1965	June 20, 1965	71,000	15.00	Dec. 19, 20, 1964	a 1,700	-

a Minimum daily.

1910-65: Maximum discharge, 121,000 cfs June 21, 1916 (gage height, 20.7 ft, present datum, derived from gage-relation study); minimum observed, 895 cfs Jan. 11, 1930 (discharge measurement).

Remarks.--Records excellent except those for winter periods and those for periods of no gage-height record, which are fair. Diversions for irrigation of about 14,500 acres from tributaries above station in Canada and the United States.

Revisions (water years).--WSP 1042: 1933. WSP 1246: 1912(M), 1915(M), 1916, 1918-19(M), 1924-27(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,280	5,550	3,540	2,660	3,020	4,670	5,940	11,000	78,000	25,800	12,600	7,190
2	5,180	5,300	3,580	2,540	3,780	4,590	6,550	14,000	78,200	23,800	12,000	7,700
3	5,050	5,050	3,760	2,240	3,870	4,400	8,500	18,000	81,300	21,800	11,200	8,190
4	5,080	5,050	4,030	2,060	3,690	4,150	11,100	19,200	83,900	20,900	10,900	8,080
5	4,950	4,900	3,980	2,390	3,740	3,850	11,300	19,000	86,300	20,500	10,600	7,570
6	4,880	4,700	2,920	3,860	3,720	3,760	10,300	18,400	88,400	20,500	10,400	7,160
7	4,860	4,570	2,310	3,670	3,670	3,720	9,220	17,900	91,600	20,300	10,400	7,030
8	4,830	4,330	2,400	3,630	3,610	3,690	8,440	17,100	91,700	20,200	10,300	7,080
9	5,030	4,330	2,450	3,610	3,630	3,650	7,870	17,400	86,400	20,000	9,920	7,000
10	5,120	4,100	2,520	3,580	3,850	3,630	7,490	21,000	77,500	19,200	9,620	6,920
11	5,250	4,200	2,640	3,540	4,740	3,610	7,140	24,800	64,300	17,900	9,530	6,870
12	5,200	4,400	2,960	3,540	5,400	3,560	6,980	25,800	58,600	17,100	9,180	7,080
13	5,200	4,600	3,060	3,520	4,860	3,540	7,190	24,700	59,600	16,600	8,710	7,220
14	5,120	4,330	3,410	3,520	4,570	3,650	7,600	24,200	60,300	16,200	8,430	6,950
15	5,000	4,330	3,340	3,580	4,240	3,870	7,410	24,700	59,800	16,000	8,330	6,680
16	4,950	4,330	2,960	4,010	4,150	4,080	7,000	26,300	60,800	16,200	8,080	6,470
17	4,790	4,280	2,900	4,690	3,960	4,280	6,950	28,300	62,600	16,500	8,080	6,240
18	4,790	4,330	3,430	4,910	3,630	4,380	7,710	28,700	64,000	16,900	8,330	6,140
19	4,760	4,350	3,100	4,280	3,470	4,450	8,950	30,000	62,800	16,500	9,380	6,130
20	4,570	4,500	3,060	3,300	3,390	4,470	9,380	34,700	60,500	15,400	10,000	6,020
21	4,570	4,670	3,410	3,170	4,170	4,640	9,060	44,100	57,500	14,400	9,440	6,140
22	4,570	4,930	3,540	2,920	7,410	4,740	8,570	55,800	52,000	13,800	9,010	6,240
23	4,570	4,740	3,690	2,620	7,630	4,740	8,140	64,200	44,800	13,800	8,490	6,290
24	4,570	4,590	3,720	2,620	6,680	4,760	7,840	71,200	39,500	14,200	8,160	6,040
25	5,050	5,250	3,780	2,390	6,070	4,830	7,760	77,200	37,200	14,200	8,030	5,940
26	5,300	5,600	3,690	2,240	5,680	4,860	8,080	79,700	35,600	13,900	8,030	5,940
27	5,550	5,380	3,580	2,110	5,220	4,980	8,410	84,200	34,600	13,300	8,080	5,790
28	5,810	4,860	3,190	2,160	4,830	5,150	8,730	92,000	32,800	12,400	7,950	5,740
29	5,750	4,350	2,730	2,000	------	5,050	8,710	93,800	29,200	12,000	7,680	5,690
30	5,650	3,630	2,750	1,920	------	5,120	9,490	86,800	26,700	12,400	7,350	5,740
31	5,550	------	2,760	2,350	------	5,520	------	81,600	-------	12,800	7,140	-------
TOTAL	156,830	139,530	99,190	95,630	126,680	134,390	247,810	1,275.8M	1,846.5M	525,500	285,350	199,270
MEAN	5,059	4,651	3,200	3,085	4,524	4,335	8,260	41,150	61,550	16,950	9,205	6,642
MAX	5,810	5,600	4,030	4,910	7,630	5,520	11,300	93,800	91,700	25,800	12,600	8,190
MIN	4,570	3,630	2,310	1,920	3,020	3,540	5,940	11,000	26,700	12,000	7,140	5,690
CFSM	.49	.45	.31	.30	.44	.42	.81	4.02	6.01	1.66	.90	.65
IN.	.57	.51	.36	.35	.46	.49	.90	4.63	6.71	1.91	1.04	.72
AC-FT	311,100	276,800	196,700	189,700	251,300	266,600	491,500	2,531M	3,662M	1,042M	566,000	395,200

CAL YR 1960: TOTAL 4,570,430 MEAN 12,490 MAX 63,500 MIN 2,260 CFSM 1.22 IN 16.60 AC-FT 9,065,000
WAT YR 1961: TOTAL 5,132,480 MEAN 14,060 MAX 93,800 MIN 1,920 CFSM 1.37 IN 18.64 AC-FT 10,180,000

M Expressed in thousands.

12-3030. Kootenai River at Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,670	6,190	4,310	3,710	3,660	2,950	4,380	15,700	42,200	26,400	12,800	6,710
2	5,620	6,090	4,510	3,670	3,840	2,760	4,680	14,700	37,700	27,300	12,100	6,400
3	5,520	5,940	4,510	3,840	4,330	2,810	5,040	14,900	35,900	26,400	11,900	6,270
4	5,450	5,740	4,400	4,150	5,020	2,800	5,640	15,700	36,000	24,000	11,700	6,240
5	5,210	5,450	4,420	4,130	5,550	2,820	6,370	16,200	34,400	21,200	11,700	6,220
6	5,240	5,280	4,260	4,070	5,430	2,920	7,330	15,100	30,800	19,200	11,600	5,960
7	5,480	5,160	3,960	3,960	5,020	3,020	10,500	14,600	27,400	18,300	11,400	5,840
8	6,120	5,040	3,670	3,920	4,790	3,210	11,300	14,200	25,300	18,400	11,000	5,720
9	6,680	5,020	3,220	3,730	4,630	3,240	9,710	14,200	25,900	18,300	10,600	5,860
10	6,580	4,970	2,660	3,530	4,650	3,170	8,620	14,700	33,400	18,600	10,600	6,060
11	6,600	4,930	2,300	3,260	4,680	3,030	7,840	15,300	41,200	19,400	10,700	6,220
12	6,580	5,190	2,050	3,000	4,740	3,190	7,410	15,900	40,400	20,200	10,100	6,340
13	6,600	5,190	2,150	2,800	4,610	3,140	7,380	16,300	38,000	20,500	9,530	6,290
14	6,630	5,090	2,250	2,560	4,630	3,050	7,950	17,300	37,000	20,400	9,180	6,160
15	6,710	4,930	2,350	2,420	4,630	3,140	9,590	17,600	37,000	19,900	9,270	6,060
16	6,810	4,770	2,430	2,300	4,560	3,150	12,200	18,100	38,500	18,900	9,240	5,920
17	7,270	4,440	2,540	2,290	4,380	3,170	13,200	19,000	44,100	17,600	8,850	5,820
18	8,410	3,900	2,550	2,100	4,310	3,240	13,800	21,000	48,200	16,400	8,540	5,890
19	9,560	3,640	2,380	2,000	4,240	3,400	15,700	23,500	49,600	16,000	8,380	5,740
20	9,650	4,030	2,380	1,950	4,090	3,510	20,000	27,000	47,500	15,200	8,460	5,600
21	9,070	3,960	3,530	1,900	3,820	3,510	22,700	31,000	45,100	14,200	8,350	5,500
22	8,460	3,960	3,880	1,950	3,530	3,530	22,200	33,100	43,300	13,300	8,030	5,480
23	8,030	3,940	3,940	2,050	3,260	3,580	21,400	34,900	40,800	13,300	8,000	5,380
24	7,620	3,920	4,260	2,200	2,860	3,550	22,300	36,800	37,400	13,700	8,330	5,380
25	7,270	3,980	4,580	2,500	2,780	3,640	25,600	39,400	35,800	13,800	8,000	5,400
26	7,030	3,600	4,440	2,810	2,820	3,880	27,000	40,600	37,000	14,200	7,540	5,430
27	6,980	3,770	4,260	3,260	2,690	4,220	24,900	41,000	38,200	14,500	7,270	5,400
28	6,980	3,820	3,880	3,530	2,810	4,330	22,500	44,300	37,300	14,500	7,270	5,380
29	6,870	3,960	3,670	3,750	------	4,290	20,000	48,400	31,600	14,300	7,190	5,400
30	6,630	4,150	3,480	3,750	------	4,200	17,600	49,400	27,300	14,000	7,080	5,520
31	6,400	------	3,670	3,570	------	4,240	------	47,300	------	13,800	6,980	------
TOTAL	213,730	140,050	106,890	94,660	116,360	104,690	414,840	787,200	1,124.3M	556,200	291,690	175,590
MEAN	6,895	4,668	3,448	3,054	4,156	3,377	13,830	25,390	37,480	17,940	9,409	5,853
MAX	9,650	6,190	4,580	4,150	5,550	4,330	27,000	49,400	49,600	27,300	12,800	6,710
MIN	5,210	3,600	2,050	1,900	2,690	2,760	4,380	14,200	25,300	13,300	6,980	5,380
CFSM	.67	.46	.34	.30	.41	.33	1.35	2.48	3.66	1.75	.92	.57
IN.	.78	.51	.39	.34	.42	.38	1.51	2.86	4.08	2.02	1.06	.64
AC-FT	423,900	277,800	212,000	187,800	230,800	207,600	822,800	1,561M	2,230M	1,103M	578,600	348,300

CAL YR 1961: TOTAL 5,197,600 MEAN 14,240 MAX 93,800 MIN 1,920 CFSM 1.39 IN 18.88 AC-FT 10,310,000
WAT YR 1962: TOTAL 4,126,200 MEAN 11,300 MAX 49,600 MIN 1,900 CFSM 1.10 IN 14.99 AC-FT 8,184,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,640	5,070	5,450	4,350	2,500	4,600	6,090	15,600	53,100	37,300	13,500	6,980
2	5,620	5,020	5,310	4,470	2,600	4,600	5,670	16,500	50,800	36,200	13,000	6,790
3	5,480	4,970	5,120	4,610	2,700	4,400	5,400	15,800	45,700	36,200	12,600	6,810
4	5,330	4,930	4,930	4,700	3,200	4,300	5,160	14,300	42,300	38,600	12,300	6,750
5	5,210	4,900	4,740	4,700	4,200	4,100	5,120	13,000	42,200	39,500	11,800	6,730
6	5,160	4,930	4,650	4,440	6,600	4,000	5,480	12,700	43,000	38,600	11,500	6,600
7	5,070	4,930	4,790	4,240	7,700	3,900	6,320	14,700	45,600	36,600	11,300	6,470
8	5,000	4,930	4,840	4,110	7,300	3,900	7,080	18,100	46,600	34,800	11,200	6,370
9	4,970	5,020	4,770	4,070	7,000	3,900	7,060	18,500	45,400	35,900	11,100	6,270
10	4,950	5,160	4,770	3,150	6,600	3,900	6,920	17,100	45,100	35,800	11,100	6,320
11	4,950	5,210	4,720	1,900	6,300	3,860	6,680	15,900	43,600	31,700	10,900	6,400
12	5,160	5,070	4,630	1,600	6,000	3,800	6,580	15,400	41,300	28,000	10,700	6,680
13	5,550	5,160	4,560	1,700	5,700	3,770	6,450	15,400	41,700	25,700	10,500	6,840
14	5,690	5,020	4,470	1,900	5,400	3,750	6,600	15,600	43,800	24,100	10,600	6,920
15	5,640	4,880	4,400	2,700	5,210	3,710	7,520	16,200	45,200	23,100	11,300	7,030
16	5,400	4,740	4,740	2,800	5,120	3,710	9,070	17,300	45,300	24,500	11,500	7,380
17	5,190	4,650	5,210	2,800	4,970	3,690	10,000	18,600	45,100	26,000	11,100	7,490
18	5,020	4,540	5,450	2,800	4,950	3,670	10,000	20,500	45,000	25,300	10,400	7,190
19	4,900	4,470	5,360	2,700	4,860	3,690	9,380	22,000	44,000	23,600	9,680	6,950
20	4,840	5,690	5,160	2,700	4,880	3,670	8,820	23,000	42,800	22,300	9,300	6,730
21	4,840	6,270	4,970	2,600	4,700	3,710	8,300	24,800	41,300	21,100	8,960	6,470
22	4,880	6,370	4,950	2,600	4,580	3,750	7,890	28,500	38,200	20,100	8,850	6,240
23	5,140	6,040	4,860	2,600	4,500	3,860	7,540	33,200	36,200	19,100	8,650	6,150
24	5,470	5,640	4,220	2,500	4,400	4,090	7,350	38,700	32,500	18,200	8,330	6,140
25	6,660	5,360	3,550	2,500	4,400	4,380	7,160	45,100	28,700	17,200	7,980	6,190
26	6,190	6,020	3,140	2,500	4,500	4,440	7,140	49,000	27,600	16,200	7,730	6,450
27	5,890	7,680	3,190	2,400	4,700	4,440	7,490	50,800	27,700	15,900	7,600	6,340
28	5,600	7,330	3,770	2,400	4,900	4,860	8,790	49,800	26,600	15,200	7,570	6,120
29	5,400	6,450	3,940	2,300	------	5,330	10,700	46,700	25,600	14,400	7,410	5,960
30	5,310	5,840	3,960	2,300	------	6,020	13,200	46,100	30,500	14,300	7,250	5,760
31	5,190	------	4,110	2,400	------	6,470	------	49,600	------	14,200	7,060	------
TOTAL	166,340	162,290	142,730	93,540	140,470	130,270	226,960	798,500	1,212.5M	809,700	312,970	197,600
MEAN	5,366	5,410	4,604	3,017	5,017	4,202	7,565	25,760	40,420	26,120	10,100	6,587
MAX	6,660	7,680	5,450	4,700	7,700	6,470	13,200	50,800	53,100	39,500	13,500	7,490
MIN	4,840	4,470	3,140	1,600	2,500	3,670	5,120	12,700	25,600	14,200	7,060	5,760
CFSM	.52	.53	.45	.29	.49	.41	.74	2.52	3.95	2.55	.99	.64
IN.	.60	.59	.52	.34	.51	.47	.82	2.90	4.40	2.94	1.14	.72
AC-FT	329,900	321,900	283,100	185,500	278,600	258,400	450,200	1,584M	2,405M	1,606M	620,800	391,900

CAL YR 1962: TOTAL 4,136,890 MEAN 11,330 MAX 49,600 MIN 1,900 CFSM 1.11 IN 15.02 AC-FT 8,205,000
WAT YR 1963: TOTAL 4,393,870 MEAN 12,040 MAX 53,100 MIN 1,600 CFSM 1.18 IN 15.96 AC-FT 8,715,000

M Expressed in thousands.
Note.--No gage-height record Jan. 11 to Feb. 14.

12-3030. Kootenai River at Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,600	4,950	4,680	3,150	2,760	2,580	3,330	9,380	39,400	31,900	15,000	7,650
2	5,620	4,810	4,110	3,510	2,750	2,620	3,860	10,300	43,200	30,500	15,500	7,730
3	5,600	4,840	4,000	3,550	2,630	2,620	4,200	11,100	48,200	32,400	14,300	7,730
4	5,550	4,740	4,030	3,480	2,660	2,630	4,380	12,300	53,000	34,000	12,400	7,870
5	5,450	4,740	4,150	3,420	2,630	2,620	4,470	13,400	57,100	33,900	12,100	7,890
6	5,400	4,720	4,220	3,260	2,650	2,650	4,470	14,200	58,200	34,700	12,200	7,620
7	5,330	4,740	4,490	3,190	2,720	2,630	4,420	14,800	60,400	34,400	12,400	7,410
8	5,240	4,770	3,800	3,000	2,700	2,550	4,470	14,900	65,800	32,500	11,800	7,270
9	5,140	4,740	3,500	2,950	2,560	2,520	4,740	16,300	76,200	32,500	11,100	7,190
10	5,070	4,580	2,700	2,950	2,630	2,560	5,240	19,500	74,400	35,000	10,800	7,080
11	4,970	4,510	2,500	2,860	2,690	2,580	5,840	22,500	64,600	35,000	11,000	7,060
12	4,880	4,440	2,650	2,800	2,810	2,590	6,140	22,400	62,300	30,800	11,000	6,980
13	4,740	4,350	2,800	2,680	2,720	2,620	6,040	23,100	63,700	28,200	10,400	6,870
14	4,770	4,290	2,900	2,760	2,720	2,630	5,690	24,100	65,200	28,200	10,100	6,730
15	4,740	4,350	3,000	2,870	2,650	2,680	6,140	23,900	64,800	28,300	10,200	6,550
16	4,680	4,610	3,100	2,970	2,620	2,720	7,410	23,400	64,300	27,000	10,200	6,470
17	4,630	4,810	2,900	3,170	2,680	2,780	7,300	25,600	63,200	25,400	9,740	6,400
18	4,580	4,810	2,700	3,100	2,700	2,890	6,730	31,600	60,100	23,400	9,300	6,400
19	4,560	4,790	2,900	3,080	2,720	2,970	6,290	36,500	56,200	20,700	9,100	6,760
20	4,490	4,770	3,020	3,020	2,690	2,970	6,060	41,800	51,800	19,600	8,990	8,140
21	4,540	4,510	3,100	2,950	2,660	2,950	6,120	51,000	48,400	18,500	9,130	8,730
22	4,580	4,090	3,140	2,940	2,630	2,920	6,320	55,800	46,100	17,500	8,930	8,430
23	4,930	3,790	3,210	2,900	2,590	2,860	6,580	47,000	44,500	16,400	8,570	8,190
24	5,990	4,030	3,220	2,810	2,590	2,740	6,630	36,800	45,100	16,100	8,270	7,950
25	6,340	4,240	3,300	2,690	2,590	2,690	6,600	31,700	47,600	15,500	8,080	7,760
26	6,240	4,420	3,310	2,750	2,580	2,680	7,000	27,900	47,500	14,300	8,000	7,760
27	5,840	5,210	3,330	2,820	2,560	2,700	7,840	25,800	45,000	13,600	7,890	8,460
28	5,570	7,140	3,240	2,810	2,560	2,760	8,240	26,900	43,600	13,300	7,840	9,410
29	5,380	6,370	3,140	2,780	2,560	2,810	8,330	30,000	42,200	13,100	7,870	9,070
30	5,190	5,600	3,080	2,760	-------	2,900	8,710	33,500	36,800	13,300	7,760	8,850
31	5,040	-------	3,140	2,760	-------	3,020	-------	37,000	-------	13,800	7,730	-------
TOTAL	160,680	142,760	103,360	92,740	77,010	84,440	179,590	814,480	1,638.9M	763,800	317,700	228,410
MEAN	5,183	4,759	3,334	2,992	2,656	2,724	5,986	26,270	54,630	24,640	10,250	7,614
MAX	6,340	7,140	4,680	3,550	2,810	3,020	8,710	55,800	76,200	35,000	15,500	9,410
MIN	4,490	3,790	2,500	2,680	2,560	2,520	3,330	9,380	36,800	13,100	7,730	6,400
CFSM	.51	.46	.33	.29	.26	.27	.58	2.57	5.33	2.41	1.00	.74
IN.	.58	.52	.38	.34	.28	.31	.65	2.96	5.95	2.77	1.15	.83
AC-FT	318,700	283,200	205,000	183,900	152,700	167,500	356,200	1,615M	3,251M	1,515M	630,100	453,000

CAL YR 1963: TOTAL 4,329,310 MEAN 11,860 MAX 53,100 MIN 1,600 CFSM 1.16 IN 15.72 AC-FT 8,587,000
WAT YR 1964: TOTAL 4,603,870 MEAN 12,580 MAX 76,200 MIN 2,500 CFSM 1.23 IN 16.72 AC-FT 9,132,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,220	6,170	4,730	4,000	3,790	5,380	3,800	32,600	50,400	31,400	13,400	8,450
2	9,730	6,180	5,280	4,000	3,640	5,050	4,000	29,600	43,000	30,400	13,000	8,090
3	9,870	6,150	5,200	4,100	3,480	4,810	4,300	25,800	41,200	31,700	12,800	7,950
4	9,660	6,170	5,250	4,100	3,390	4,510	4,600	22,700	46,900	33,900	12,500	8,190
5	9,190	6,200	5,300	4,000	3,530	4,480	4,960	20,500	49,500	35,300	13,300	8,330
6	8,650	6,400	5,220	4,000	3,870	4,460	5,340	18,300	48,400	35,400	15,800	8,330
7	8,360	6,390	5,130	4,000	4,220	4,520	5,580	16,300	51,600	35,100	16,900	8,090
8	8,290	6,210	5,070	4,000	4,170	4,590	5,870	15,700	50,500	35,200	15,400	7,840
9	8,490	6,110	4,920	4,000	4,100	4,640	6,470	16,100	44,800	35,000	13,900	7,620
10	8,830	6,240	4,860	4,000	4,010	4,790	7,060	17,400	44,300	32,900	12,800	7,630
11	9,100	6,440	4,810	3,900	3,730	4,900	7,670	20,100	50,500	29,500	12,200	7,520
12	9,330	6,400	4,530	3,800	3,640	5,000	8,630	24,700	59,100	26,600	12,000	7,520
13	9,250	6,200	4,140	3,800	3,660	5,100	9,050	31,300	64,400	24,200	11,800	7,500
14	8,970	5,960	3,920	3,900	3,640	5,100	10,100	36,300	62,700	22,400	11,600	7,470
15	8,800	5,690	4,180	3,960	3,640	5,100	11,700	37,600	55,400	21,300	11,500	7,790
16	8,800	5,370	3,760	3,980	3,560	5,000	13,900	38,600	47,600	21,000	10,900	7,820
17	8,790	5,060	2,500	4,070	3,640	4,600	13,700	38,500	45,300	21,500	10,200	7,730
18	8,570	4,970	2,200	4,130	3,850	4,400	12,700	34,500	52,200	21,100	9,670	7,510
19	8,170	5,010	1,700	4,110	4,280	4,100	11,900	29,800	67,700	20,600	9,310	7,320
20	7,870	5,130	1,700	4,100	4,750	3,900	15,000	28,000	69,500	20,300	9,090	7,260
21	7,650	5,190	2,000	4,040	5,070	3,900	20,000	28,200	60,400	18,700	8,950	7,210
22	7,490	5,200	3,200	3,970	4,960	4,000	20,900	26,600	49,400	17,300	8,820	7,300
23	7,330	5,140	4,200	3,930	4,390	3,900	19,500	25,300	42,400	16,200	8,780	7,480
24	7,160	5,280	4,900	3,780	4,090	3,710	18,600	24,900	38,400	16,000	8,850	7,910
25	6,990	5,650	4,300	3,630	4,410	3,620	18,600	25,100	38,100	15,500	8,930	8,010
26	6,840	5,630	4,100	3,510	4,450	3,610	19,600	25,500	39,600	15,000	8,960	7,860
27	6,730	5,400	4,000	3,400	4,790	3,530	20,500	28,000	39,500	14,600	8,580	7,840
28	6,620	5,200	3,800	3,530	5,250	3,450	22,500	30,400	39,600	14,500	9,040	7,960
29	6,460	4,970	3,900	3,520	-------	3,440	26,800	37,000	38,700	14,600	8,960	7,770
30	6,310	4,770	4,000	3,600	-------	3,460	31,700	48,500	34,300	14,400	8,980	7,560
31	6,230	-------	4,000	3,730	-------	3,600	-------	55,200	-------	13,900	8,560	-------
TOTAL	253,750	170,880	126,800	120,590	114,000	134,650	385,030	889,100	1,465.4M	735,500	346,680	232,860
MEAN	8,185	5,696	4,090	3,890	4,071	4,344	12,830	28,680	48,850	23,730	11,180	7,762
MAX	9,870	6,440	5,300	4,130	5,250	5,380	31,700	55,200	69,500	35,400	16,900	8,450
MIN	6,230	4,770	1,700	3,400	3,390	3,440	3,800	15,700	34,300	13,900	8,780	7,210
CFSM	.80	.56	.40	.38	.40	.42	1.25	2.80	4.77	2.32	1.09	.76
IN.	.92	.62	.46	.44	.41	.49	1.40	3.23	5.32	2.67	1.26	.85
AC-FT	503,300	338,900	251,500	239,200	226,100	267,100	763,700	1,764M	2,907M	1,459M	687,600	461,900

CAL YR 1964: TOTAL 4,748,500 MEAN 12,970 MAX 76,200 MIN 1,700 CFSM 1.27 IN 17.25 AC-FT 9,419,000
WAT YR 1965: TOTAL 4,975,240 MEAN 13,630 MAX 69,500 MIN 1,700 CFSM 1.33 IN 18.07 AC-FT 9,868,000

M Expressed in thousands.

12-3031. Flower Creek near Libby, Mont.

Location.--Lat 48°20'40", long 115°35'15", in SE¼ sec.20, T.30 N., R.31 W., on left bank half a mile downstream from South Fork, 3½ miles southwest of Libby, and 4½ miles upstream from mouth.

Drainage area.--14.9 sq mi.

Records available.--September 1960 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,750 ft (from topographic map).

Average discharge.--5 years, 27.7 cfs (20,050 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (200 cfs), September 1960 to September 1965

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Sept.5,6,1960	-	a b 12	-	Feb. 5, 1963	-	-	c 5.71	May 30, 1965	0600	* 219	3.73
				May 30, 1963	2400	* 156	3.33	June 12, 1965	0700	209	3.68
May 27, 1961	0030	* 305	3.97					June 18, 1965	1300	202	3.64
June 4, 1961	2200	254	3.72	May 21, 1964	0030	* 214	3.69				
May 28, 1962	1400	* 296	4.12	Dec. 23, 1964	-	-	c 5.33				

a Not previously published.
b Maximum daily.
c Backwater from ice.

Annual minimum discharge, September 1960 to September 1965

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1960	Sept.30, 1960	a b 6.1	-	1963	Sept.12, 13, 1963	4.8	1.79
1961	Jan. 3, 1961	4.5	1.61	1964	Mar. 24, 1964	b 4.0	-
1962	Jan. 26, 1962	3.8	1.64	1965	Dec. 17, 1964	b 4.0	-

a Not previously published.
b Minimum daily.

1960-65: Maximum discharge, 305 cfs May 27, 1961 (gage height, 3.97 ft); maximum gage height, 5.71 ft Feb. 5, 1963 (backwater from ice); minimum discharge, 3.8 cfs Jan. 26, 1962; minimum gage height, 1.61 ft Jan. 3, 1961.

Remarks.--Records good except those for winter periods and those for periods of no gage-height record, which are poor. No regulation or diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, SEPTEMBER 1960

DAY	SEPT.	DAY	SEPT.	DAY	SEPT.	DAY	SEPT.	DAY	SEPT.	DAY	SEPT.	DAY	SEPT.	DAY	SEPT.
1	9.8	5	12	9	11	13	9.7	17	7.9	21	7.4	25	7.4	29	6.4
2	9.4	6	12	10	10	14	9.2	18	7.6	22	7.4	26	7.1	30	6.1
3	9.4	7	11	11	10	15	8.6	19	7.6	23	7.4	27	6.8		
4	10	8	11	12	10	16	8.2	20	7.4	24	7.1	28	6.6		

TOTAL	261.5
MEAN	8.72
MAX	12
MIN	6.1
CFSM	.585
IN	.65
AC-FT	519

Note.--Results of discharge measurements, in cubic feet per second, are as follows:

July 6, 1960..... 39 Aug. 3, 1960..... 14 Aug. 30, 1960.... 12
26..... 16 23..... 7.6

12-3031. Flower Creek near Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.9	11	7.5	4.9	6.8	13	20	45	205	35	12	11
2	5.7	8.8	7.0	4.9	6.1	12	28	86	209	34	12	12
3	5.5	7.9	6.8	4.9	5.9	12	61	68	202	33	11	9.4
4	5.5	6.6	6.5	5.3	5.7	11	61	56	211	32	11	8.5
5	5.5	7.1	5.8	5.5	5.7	11	39	46	205	33	10	7.9
6	5.5	6.8	5.8	7.9	5.9	10	31	40	200	34	9.8	7.6
7	6.8	6.8	5.8	6.1	6.1	10	26	35	198	31	9.8	7.1
8	8.2	6.4	5.7	6.1	5.7	9.4	24	34	147	29	9.4	6.8
9	6.6	8.2	5.6	6.1	6.1	9.1	22	35	136	27	9.4	6.6
10	6.6	6.4	5.5	5.9	12	8.8	20	47	117	26	9.4	8.2
11	6.4	7.4	5.5	5.9	13	8.2	19	58	118	24	8.5	8.2
12	6.8	6.6	5.5	5.9	13	8.5	19	50	179	23	8.2	7.1
13	6.6	6.4	5.5	5.7	12	8.8	19	50	151	22	7.9	6.8
14	6.4	6.6	5.5	5.9	12	9.1	18	54	154	22	7.9	6.4
15	6.4	6.6	5.3	8.2	11	9.4	16	61	167	20	7.9	6.1
16	6.6	6.6	5.3	9.8	11	11	16	74	172	20	8.5	5.9
17	6.4	6.6	5.7	8.5	10	11	24	77	165	19	7.6	5.5
18	6.4	8.5	5.7	7.9	9.8	11	29	69	170	18	7.6	6.4
19	6.4	7.6	5.9	7.1	9.1	12	28	90	154	18	7.4	6.4
20	6.4	7.9	5.7	6.8	9.1	13	24	131	131	17	7.4	5.9
21	6.6	10	5.7	6.4	20	14	22	154	112	16	7.4	6.8
22	6.6	8.8	5.5	6.1	30	14	22	152	90	16	7.1	6.4
23	6.6	8.2	5.5	6.0	22	13	20	163	83	16	6.8	6.1
24	9.4	12	5.5	5.6	18	13	20	167	82	16	6.6	5.9
25	8.5	22	5.5	5.5	17	13	20	170	77	15	6.6	6.1
26	8.5	14	5.3	5.2	15	14	21	235	71	14	6.4	6.4
27	9.4	12	5.3	5.0	14	14	21	216	59	14	5.9	6.1
28	9.4	10	5.3	5.4	13	14	21	138	50	14	5.7	6.8
29	9.1	9.0	5.3	5.8	------	14	23	129	44	13	5.5	7.6
30	8.2	8.0	5.1	6.2	------	16	34	156	39	13	5.5	6.6
31	8.2	------	5.1	6.8	------	19	------	183	------	12	7.1	------
TOTAL	217.1	260.8	176.7	193.3	325.0	366.3	768	3,069	4,098	676	253.3	215.0
MEAN	7.00	8.69	5.70	6.24	11.6	11.8	25.6	99.0	137	21.8	8.17	7.17
MAX	9.4	22	7.5	9.8	30	19	61	235	211	35	12	12
MIN	5.5	6.4	5.1	4.9	5.7	8.2	16	34	39	12	5.5	5.9
CFSM	.47	.58	.38	.42	.78	.79	1.72	6.64	9.17	1.46	.55	.48
IN.	.54	.65	.44	.48	.81	.91	1.92	7.66	10.2	1.69	.63	.54
AC-FT	431	517	350	383	645	727	1,520	6,090	8,130	1,340	502	426

CAL YR 1960: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1961: TOTAL 10,618.5 MEAN 29.1 MAX 235 MIN 4.9 CFSM 1.95 IN 26.50 AC-FT 21,060

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.5	10	7.7	5.9	4.2	5.5	8.9	38	87	51	14	7.9
2	6.5	9.8	7.7	5.9	5.6	5.4	11	47	87	44	13	7.9
3	6.3	10	7.7	7.1	8.6	5.4	15	57	104	39	14	7.7
4	6.3	9.8	7.3	6.7	8.1	5.4	19	60	78	36	14	7.7
5	6.5	11	7.1	6.1	7.1	5.3	26	49	61	34	17	7.5
6	8.9	11	7.1	6.1	6.7	5.1	38	43	52	33	15	7.3
7	8.1	9.3	7.0	5.9	6.5	4.9	114	43	52	31	15	8.1
8	7.9	9.3	7.0	5.7	6.3	4.9	67	40	70	30	15	7.9
9	7.7	9.3	6.5	5.5	6.1	4.9	44	47	117	30	14	7.7
10	10	9.8	6.0	5.0	6.3	4.9	36	51	117	30	13	8.4
11	13	9.3	5.5	5.0	6.3	4.9	33	56	109	29	13	15
12	14	9.1	6.5	5.3	6.3	4.8	31	54	104	28	12	11
13	17	9.1	7.9	5.3	6.5	4.5	34	51	102	26	12	10
14	17	8.9	7.1	5.1	6.7	4.5	45	48	91	25	12	10
15	15	8.0	6.7	4.9	6.7	4.5	84	45	104	24	11	9.8
16	16	7.5	6.3	4.8	6.9	4.5	87	48	124	23	11	9.1
17	16	7.0	6.3	4.8	6.7	4.5	73	57	134	22	10	8.9
18	14	7.0	6.3	4.8	6.7	4.5	85	70	124	20	9.5	8.6
19	14	7.5	6.3	4.6	6.5	4.6	127	84	114	19	9.3	8.4
20	13	8.0	6.5	4.6	6.3	4.6	158	85	110	18	9.1	8.1
21	12	7.5	6.7	4.6	6.7	4.8	125	88	107	17	9.1	7.9
22	11	8.0	6.7	4.5	5.9	4.8	104	110	98	17	8.9	7.7
23	11	8.0	6.7	4.5	5.5	4.6	106	117	91	16	8.9	7.5
24	11	7.5	7.1	4.2	5.5	4.6	149	133	85	16	8.6	7.5
25	10	7.3	7.7	4.2	5.0	5.4	140	124	88	15	8.1	7.3
26	12	7.1	7.1	4.4	5.0	6.3	102	120	85	15	8.1	7.3
27	12	7.1	6.7	4.5	5.0	7.1	87	120	68	15	7.9	7.3
28	11	7.9	6.7	4.4	5.5	7.1	69	226	56	15	8.9	8.1
29	10	7.3	6.5	4.2	------	6.9	52	169	52	15	8.9	10
30	10	7.3	6.5	4.2	------	6.7	43	112	52	14	8.4	8.9
31	10	------	6.1	4.2	------	7.3	------	94	------	14	8.4	------
TOTAL	343.7	255.7	211.0	157.0	175.2	163.2	2,112.9	2,486	2,723	761	347.1	256.5
MEAN	11.1	8.52	6.81	5.06	6.26	5.26	70.4	80.2	90.8	24.5	11.2	8.55
MAX	17	11	7.9	7.1	8.6	7.3	158	226	134	51	17	15
MIN	6.3	7.0	5.5	4.2	4.2	4.5	8.9	38	52	14	7.9	7.3
CFSM	.74	.57	.46	.34	.42	.35	4.73	5.38	6.09	1.65	.75	.57
IN.	.86	.64	.53	.39	.44	.41	5.27	6.20	6.80	1.90	.87	.64
AC-FT	682	507	419	311	348	324	4,190	4,930	5,400	1,510	688	509

CAL YR 1961: TOTAL 10,774.3 MEAN 29.5 MAX 235 MIN 4.9 CFSM 1.98 IN 26.89 AC-FT 21,370
WAT YR 1962: TOTAL 9,992.3 MEAN 27.4 MAX 226 MIN 4.2 CFSM 1.84 IN 24.94 AC-FT 19,820

12-3031. Flower Creek near Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.6	15	22	13	6.9	14	22	51	107	33	12	6.3
2	8.4	14	20	13	6.9	14	19	43	98	31	12	6.7
3	8.1	14	19	14	15	13	18	37	96	31	11	6.3
4	7.9	13	18	13	30	14	17	33	99	31	11	6.1
5	7.9	15	17	12	65	13	18	31	127	30	10	5.9
6	7.7	15	17	12	62	12	28	48	112	29	10	5.6
7	7.9	14	16	11	63	12	30	69	94	27	9.8	5.4
8	9.3	15	16	11	52	12	27	63	90	26	9.5	5.3
9	9.5	17	15	10	40	11	24	47	127	25	9.5	5.3
10	9.3	17	15	6.0	34	11	24	40	127	24	9.3	5.3
11	9.5	16	14	5.0	31	11	22	38	106	25	9.3	5.1
12	16	15	14	6.0	28	10	20	39	107	22	8.9	4.9
13	30	15	14	8.0	25	10	21	43	107	21	8.9	5.3
14	24	14	14	8.0	22	10	27	48	106	20	8.6	7.1
15	20	14	16	11	19	10	38	57	99	18	8.1	5.9
16	17	13	22	11	18	9.8	34	66	94	18	7.9	7.7
17	15	13	22	9.0	17	9.8	31	72	88	16	7.9	6.5
18	15	12	22	8.6	16	9.5	28	82	78	16	7.5	6.1
19	15	13	21	8.4	16	9.8	25	82	74	15	7.3	5.9
20	15	63	19	8.1	15	9.8	22	87	64	15	7.3	5.6
21	23	46	19	8.1	15	9.8	20	102	51	15	7.5	5.6
22	28	34	17	7.9	15	10	18	114	44	14	6.9	5.7
23	25	30	14	7.7	14	12	18	114	38	14	7.1	6.9
24	21	25	9.0	7.5	11	13	17	127	34	13	8.4	6.3
25	19	28	9.0	7.5	14	12	17	129	33	13	7.3	5.7
26	18	39	11	7.3	14	12	18	122	32	13	7.1	5.4
27	16	34	11	7.1	14	14	24	110	33	13	6.7	5.3
28	15	28	12	7.1	14	22	34	104	31	13	6.7	5.3
29	15	24	14	6.9	------	22	43	112	40	13	6.5	5.3
30	15	24	13	6.9	------	25	55	124	38	12	6.1	5.1
31	15	------	13	6.7	------	25	------	131	------	12	6.1	------
TOTAL	471.1	649	495.0	278.8	692.8	402.5	759	2,365	2,374	618	262.2	174.9
MEAN	15.2	21.6	16.0	8.99	24.7	13.0	25.3	76.3	79.1	19.9	8.46	5.83
MAX	30	63	22	14	65	25	55	131	127	33	12	7.7
MIN	7.7	12	9.0	5.0	6.9	9.5	17	31	31	12	6.1	4.9
CFSM	1.02	1.45	1.07	.60	1.66	.87	1.70	5.12	5.31	1.34	.57	.39
IN.	1.18	1.62	1.24	.70	1.73	1.00	1.89	5.90	5.93	1.54	.65	.44
AC-FT	934	1,290	982	553	1,370	798	1,510	4,690	4,710	1,230	520	347

CAL YR 1962: TOTAL 10,797.0 MEAN 29.6 MAX 226 MIN 4.2 CFSM 1.99 IN 26.95 AC-FT 21,420
WAT YR 1963: TOTAL 9,542.3 MEAN 26.1 MAX 131 MIN 4.9 CFSM 1.75 IN 23.82 AC-FT 18,930

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.8	6.3	11	6.6	6.0	4.4	13	28	142	62	14	11
2	4.6	7.8	10	6.3	5.8	4.6	14	28	150	63	20	11
3	4.6	6.6	9.5	5.8	5.8	4.6	13	27	152	62	16	11
4	4.6	6.6	9.0	5.8	5.6	4.6	13	27	143	56	16	10
5	5.8	6.9	9.5	5.8	5.6	4.8	13	31	142	51	16	9.9
6	5.6	7.5	9.6	6.0	5.4	4.8	12	30	150	48	15	9.6
7	5.0	7.8	9.5	6.3	5.2	4.8	12	30	145	46	14	9.3
8	5.0	7.5	8.5	6.0	5.0	4.8	14	35	167	46	14	9.0
9	4.8	7.5	7.5	6.3	5.0	4.8	16	46	162	47	14	8.7
10	4.8	7.2	6.0	6.0	5.2	4.8	18	63	143	41	14	8.4
11	4.8	6.6	6.0	6.3	5.4	4.8	18	55	131	35	13	8.1
12	4.8	6.3	7.0	6.0	5.2	5.0	17	54	136	33	13	7.8
13	4.6	6.6	7.0	5.8	5.0	5.2	16	86	133	31	12	7.8
14	4.6	9.0	6.6	5.8	5.0	5.0	15	84	133	29	12	7.5
15	4.6	13	6.3	5.6	5.0	5.2	24	68	125	33	11	7.2
16	4.6	10	6.3	5.8	4.8	5.0	24	79	125	29	11	6.9
17	4.6	10	6.0	6.0	5.0	5.2	20	126	114	26	10	7.8
18	4.2	10	6.3	6.3	4.8	5.2	17	120	104	27	11	8.1
19	4.2	11	6.3	6.9	5.0	5.2	17	140	97	24	11	7.2
20	4.2	11	6.3	7.5	4.8	5.2	18	175	90	22	10	8.1
21	5.2	9.9	6.0	7.5	4.8	5.0	18	166	90	22	9.9	8.1
22	12	10	6.0	7.2	4.6	4.8	20	109	100	20	9.3	7.8
23	16	9.9	6.0	6.9	4.6	4.5	20	76	112	19	9.0	7.8
24	13	9.6	5.8	6.6	4.6	4.0	20	63	120	18	8.7	7.5
25	12	9.3	5.8	6.9	4.6	4.5	22	54	112	17	8.4	7.5
26	9.6	13	5.8	7.2	4.6	4.5	24	54	110	16	8.7	7.5
27	8.7	20	5.8	6.9	4.4	4.8	24	55	108	16	8.4	7.2
28	8.1	15	5.8	6.6	4.4	4.8	22	86	82	15	9.9	6.9
29	7.8	12	5.6	6.3	4.4	5.0	24	102	66	15	9.3	6.9
30	7.2	11	5.4	6.3	------	5.6	27	117	61	15	11	15
31	6.9	------	5.6	6.0	------	8.4	------	130	------	14	11	------
TOTAL	201.3	284.9	217.8	197.3	145.6	153.9	545	2,344	3,645	998	370.6	256.6
MEAN.	6.49	9.50	7.03	6.36	5.02	4.96	18.2	75.6	122	32.2	12.0	8.55
MAX	16	20	11	7.5	6.0	8.4	27	175	167	63	20	15
MIN	4.2	6.3	5.4	5.6	4.4	4.0	12	27	61	14	8.4	6.3
CFSM	.44	.64	.47	.43	.34	.33	1.22	5.07	8.15	2.16	.80	.57
IN.	.50	.71	.54	.49	.36	.38	1.36	5.85	9.10	2.49	.93	.64
AC-FT	399	565	432	391	289	305	1,080	4,650	7,230	1,980	735	509

CAL YR 1963: TOTAL 8,631.2 MEAN 23.6 MAX 131 MIN 4.2 CFSM 1.59 IN 21.54 AC-FT 17,120
WAT YR 1964: TOTAL 9,360.0 MEAN 25.6 MAX 175 MIN 4.0 CFSM 1.72 IN 23.36 AC-FT 18,570

12-3031. Flower Creek near Libby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	11	14	12	9.1	11	7.7	110	99	39	15	9.8
2	15	13	14	12	8.9	11	8.9	78	107	40	14	9.5
3	15	12	13	12	8.6	10	9.1	58	147	43	15	10
4	14	12	13	11	8.6	9.8	9.5	47	142	50	15	10
5	14	13	12	11	9.5	9.5	9.8	41	125	52	15	10
6	13	12	11	11	10	10	10	38	149	49	14	9.5
7	13	12	11	11	9.5	10	11	35	145	46	14	9.3
8	13	12	11	11	9.5	11	11	35	122	43	13	9.3
9	15	12	10	10	9.8	11	12	43	124	40	13	9.3
10	19	13	10	9.8	9.3	11	14	58	140	38	13	9.3
11	18	13	9.5	9.5	8.5	11	15	91	154	34	12	9.1
12	16	12	7.5	9.3	8.5	11	16	117	183	31	13	8.9
13	15	12	8.0	9.1	8.9	10	21	134	125	30	12	9.3
14	14	11	7.5	8.9	8.9	10	28	120	98	29	12	11
15	14	11	7.0	9.1	8.6	10	34	112	88	28	12	17
16	14	11	5.5	8.9	8.6	11	42	115	93	27	11	14
17	13	11	4.0	8.9	8.6	11	34	101	124	26	11	13
18	13	11	5.0	8.9	8.9	10	28	80	179	25	11	12
19	13	11	6.5	8.6	9.1	10	27	70	133	23	10	12
20	12	10	7.5	8.4	10	10	114	87	109	22	14	13
21	12	10	9.0	8.4	9.8	9.3	142	75	94	22	12	14
22	12	9.5	15	8.4	9.8	8.9	106	68	84	21	12	18
23	12	9.5	50	8.1	9.5	8.4	78	67	70	20	12	17
24	11	14	40	8.4	9.0	8.4	69	70	70	19	11	15
25	11	13	30	8.4	8.9	8.4	68	84	69	18	11	14
26	11	12	30	8.1	8.9	7.9	74	91	68	18	11	13
27	11	12	30	8.4	11	7.7	84	107	57	17	11	13
28	11	11	20	8.4	11	7.7	109	134	49	17	11	12
29	11	10	15	8.9	------	7.5	134	149	43	16	11	12
30	11	15	13	9.1	------	7.5	131	179	40	16	11	12
31	11	------	13	9.8	------	7.5	------	118	------	15	10	------
TOTAL	414	351.0	452.0	294.8	259.3	297.5	1,457.0	2,712	3,230	914	382	355.3
MEAN	13.4	11.7	14.6	9.51	9.26	9.60	48.6	87.5	108	29.5	12.3	11.8
MAX	19	15	50	12	11	11	142	179	183	52	15	18
MIN	11	9.5	4.0	8.1	8.5	7.5	7.7	35	40	15	10	8.9
CFSM	.90	.79	.98	.64	.62	.64	3.26	5.87	7.23	1.98	.83	.79
IN.	1.03	.88	1.13	.74	.65	.74	3.64	6.77	8.06	2.28	.95	.89
AC-FT	821	696	897	585	514	590	2,890	5,380	6,410	1,810	758	705

CAL YR 1964: TOTAL 9,873.0 MEAN 27.0 MAX 175 MIN 4.0 CFSM 1.81 IN 24.64 AC-FT 19,580
WAT YR 1965: TOTAL 11,118.9 MEAN 30.5 MAX 183 MIN 4.0 CFSM 2.04 IN 27.75 AC-FT 22,050

12-3042. Yaak River near Yaak, Mont.

Location.--Lat 48°49'40", long 115°48'40", in NE¼ sec.1, T.35 N., R.33 W., on right bank 300 ft upstream from Whitetail Creek, 4½ miles west of Yaak, and at 28.4 mile.

Drainage area.--493 sq mi.

Records available.--April 1957 to September 1962 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 2,895 ft (river-profile survey).

Average discharge.--5 years, 536 cfs (388,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-62 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	5,280	11.12	Dec. 6, 1960	60	-
1962	Apr. 25, 1962	2,760	7.81	Jan. 21, 1962	35	-

1957-62: Maximum discharge, 5,280 cfs May 27, 1961 (gage height, 11.12 ft); minimum daily, 35 cfs Jan. 21, 1962.
Flood in May 1956 reached a discharge of 6,650 cfs at site 4½ miles upstream.

Remarks.--Records good except those for winter periods, which are poor. No known regulation or diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	76	114	80	70	90	229	856	2,420	3,410	385	124	97
2	75	126	85	70	95	233	1,030	3,340	3,320	362	118	134
3	74	113	90	70	95	209	1,450	3,580	3,170	348	114	126
4	72	99	85	70	90	193	1,810	2,920	3,020	335	110	112
5	70	85	70	75	90	180	1,420	2,480	2,930	325	106	98
6	70	80	60	90	90	185	1,080	2,260	2,850	358	100	89
7	73	79	70	90	90	178	900	2,100	2,560	348	99	86
8	83	79	70	90	90	169	816	2,000	2,080	322	97	85
9	89	73	70	85	90	166	740	2,450	1,740	290	94	83
10	85	81	70	80	110	162	693	3,510	1,620	272	94	84
11	81	97	70	75	125	158	686	3,740	1,420	250	94	91
12	82	98	75	75	130	152	792	3,380	1,610	240	93	90
13	86	90	75	75	130	152	992	3,100	1,540	233	90	84
14	84	81	75	75	125	164	880	3,140	1,380	221	89	79
15	81	93	75	85	120	181	772	3,600	1,330	211	86	76
16	81	91	70	110	120	211	700	3,790	1,290	204	84	73
17	80	90	72	115	115	235	848	3,520	1,210	198	86	71
18	80	105	75	110	110	252	1,230	3,240	1,130	191	92	70
19	81	112	80	105	110	278	1,230	3,410	1,050	186	92	68
20	79	110	80	95	110	325	1,050	3,980	944	180	84	71
21	76	125	80	90	180	350	924	4,600	832	178	83	81
22	76	115	80	90	350	342	880	5,010	720	169	81	83
23	80	100	80	90	445	335	864	5,000	651	168	78	80
24	86	110	80	85	355	350	860	4,960	620	180	75	76
25	108	160	75	85	312	375	912	4,640	570	170	76	75
26	108	150	75	80	275	427	964	4,560	532	158	80	75
27	110	115	75	75	265	490	988	5,100	484	150	76	74
28	112	95	75	75	235	500	984	4,600	436	141	72	75
29	109	90	75	75	------	536	1,040	3,540	418	139	70	83
30	101	85	75	80	------	623	1,770	3,160	430	135	69	86
31	95	------	75	85	------	724	------	3,330	------	131	73	------
TOTAL	2,643	3,041	2,342	2,620	4,542	9,064	30,161	110,460	45,297	7,178	2,779	2,555
MEAN	85.3	101	75.5	84.5	162	292	1,005	3,563	1,510	232	89.6	85.2
MAX	112	160	90	115	445	724	1,810	5,100	3,410	385	124	134
MIN	70	73	60	70	90	152	686	2,000	418	131	69	68
CFSM	.17	.21	.15	.17	.33	.59	2.04	7.23	3.06	.47	.18	.17
IN.	.20	.23	.18	.20	.34	.68	2.28	8.33	3.42	.54	.21	.19
AC-FT	5,240	6,030	4,650	5,200	9,010	17,980	59,820	219,100	89,850	14,240	5,510	5,070

CAL YR 1960: TOTAL 214,756 MEAN 587 MAX 4,330 MIN 60 CFSM 1.19 IN 16.20 AC-FT 426,000
WAT YR 1961: TOTAL 222,682 MEAN 610 MAX 5,100 MIN 60 CFSM 1.24 IN 16.80 AC-FT 441,700

12-3042. Yaak River near Yaak, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	84	101	100	75	70	65	181	1,050	1,280	320	110	69
2	81	95	97	75	75	70	219	1,060	1,200	298	112	66
3	79	79	92	80	80	65	272	1,220	1,200	275	112	65
4	76	89	89	80	85	65	348	1,520	1,100	268	118	67
5	74	83	92	75	85	70	484	1,340	980	262	127	68
6	79	79	80	75	80	75	634	1,170	896	278	137	66
7	93	83	76	70	85	75	932	1,200	832	258	126	63
8	97	81	65	65	85	70	856	1,180	816	240	123	59
9	90	81	55	55	90	70	693	1,280	988	225	122	60
10	94	89	45	50	95	71	602	1,440	1,030	225	115	64
11	121	106	40	60	95	71	539	1,510	940	219	110	121
12	121	101	55	65	95	71	546	1,500	880	209	106	177
13	126	88	65	70	95	70	634	1,530	856	198	101	124
14	151	93	70	65	95	70	860	1,710	868	189	97	108
15	135	81	70	65	95	70	1,380	1,620	848	183	92	103
16	126	60	65	60	95	70	1,570	1,560	932	180	84	99
17	139	57	65	60	90	70	1,340	1,610	912	174	85	89
18	138	60	70	50	90	71	1,440	1,720	844	166	83	82
19	118	67	75	45	85	73	1,940	1,940	752	160	82	76
20	110	72	80	40	80	76	2,330	2,090	696	154	83	73
21	104	72	85	35	75	81	2,260	2,130	651	150	81	71
22	97	79	85	45	75	80	1,960	2,130	598	148	82	69
23	99	78	80	55	70	79	1,900	2,090	546	141	82	68
24	103	80	85	65	65	81	2,270	2,170	508	135	80	66
25	98	76	80	75	65	98	2,670	2,170	478	134	75	65
26	100	75	70	80	60	119	2,200	1,990	457	132	73	65
27	122	75	65	80	55	131	1,720	1,870	398	128	72	64
28	121	79	70	80	60	134	1,700	1,970	368	123	75	69
29	106	84	75	75	------	134	1,400	2,000	348	118	80	91
30	98	91	80	70	------	141	1,170	1,680	332	114	78	110
31	103	------	80	70	------	156	------	1,460	------	112	72	------
TOTAL	3,283	2,434	2,301	2,010	2,270	2,642	37,050	50,910	23,534	5,916	2,975	2,437
MEAN	106	81.1	74.2	64.8	81.1	85.2	1,235	1,642	784	191	96.0	81.2
MAX	151	106	100	80	95	156	2,670	2,170	1,280	320	137	177
MIN	74	57	40	35	55	65	181	1,050	332	112	72	59
CFSM	.21	.16	.15	.13	.16	.17	2.51	3.33	1.59	.39	.19	.16
IN.	.25	.18	.17	.15	.17	.20	2.79	3.84	1.78	.45	.22	.18
AC-FT	6,510	4,830	4,560	3,990	4,500	5,240	73,490	101,000	46,680	11,730	5,900	4,830

CAL YR 1961: TOTAL 222,674 MEAN 610 MAX 5,100 MIN 40 CFSM 1.24 IN 16.80 AC-FT 441,700
WAT YR 1962: TOTAL 137,762 MEAN 377 MAX 2,670 MIN 35 CFSM .77 IN 10.39 AC-FT 273,200

12-3045. Yaak River near Troy, Mont.

Location.--Lat 48°33'45", long 115°58'05", in N½SE¼SE¼ sec.5, T.32 N., R.34 W., on right bank 400 ft upstream from bridge on U.S. Highway 2, a quarter of a mile upstream from mouth, and 7½ miles northwest of Troy.

Drainage area.--766 sq mi.

Records available.--October 1910 to September 1916 (fragmentary record), March 1956 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,850 ft (river-profile map). Oct. 15, 1910, to Sept. 30, 1916, staff gage at several sites within 11 miles of present site at various datums.

Average discharge.--9 years, 923 cfs (668,200 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (5,000 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 2, 1961	1100	5,940	7.73	May 24, 1963	2330	* 4,750	7.18	Apr. 21, 1965	0030	5,650	7.58
May 27, 1961	0200	* 9,780	8.93					Apr. 30, 1965	0100	* 6,750	7.97
June 1, 1961	2300	6,990	8.08	May 20, 1964	2400	* 8,400	8.50	May 14, 1965	2400	5,980	7.70
				June 1, 1964	2330	5,060	7.35	May 29, 1965	2400	5,730	7.61
Apr. 25, 1962	0100	* 5,230	7.37								

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Dec. 6, 1960	a 115	-	1964	Oct. 20, 1963	114	2.99
1962	Jan. 21, 1962	a 90	-	1965	Dec. 17, 1964	a 100	-
1963	Sept.12, 1963	123	3.02				

a Minimum daily.

1956-65: Maximum discharge, 12,100 cfs May 21, 1956 (gage height, 9.70 ft in gage well, 10.8 ft from outside gage); minimum daily, 80 cfs Jan. 19, 1957, Jan. 2, 1958.
Flood in May to June 1948 reached a stage of 11.0 ft, from floodmarks (discharge, 12,500 cfs). Flood in May 1954 reached a stage of 11.4 ft, from floodmarks (discharge, 13,400 cfs).

Remarks.--Records excellent except those for winter periods, which are poor. Records of water temperatures for the water years 1963-65 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	125	259	180	150	200	618	1,510	4,170	6,310	740	224	198
2	123	262	190	150	210	606	1,990	5,600	6,200	679	217	256
3	121	238	200	150	220	552	2,800	5,480	6,020	644	210	234
4	121	210	190	150	230	500	3,340	4,610	5,860	624	204	198
5	119	189	150	160	240	455	2,600	4,040	5,630	612	195	178
6	119	173	115	170	240	490	2,030	3,710	5,160	658	189	166
7	128	170	130	170	245	455	1,710	3,420	4,820	644	186	158
8	158	163	140	170	240	430	1,540	3,200	3,810	600	180	154
9	161	161	150	170	240	420	1,380	3,490	3,450	540	173	154
10	149	170	150	165	250	405	1,290	5,110	3,050	500	173	149
11	142	192	150	165	260	390	1,300	5,420	2,730	470	173	163
12	166	192	160	165	270	380	1,350	4,890	3,270	450	168	161
13	173	183	160	165	270	375	1,680	4,640	2,930	430	166	154
14	156	183	160	165	260	405	1,560	4,820	2,760	410	166	146
15	149	175	160	180	250	460	1,340	5,350	2,700	390	158	139
16	144	183	150	220	250	534	1,230	5,680	2,600	370	158	137
17	146	180	160	230	250	594	1,400	5,350	2,460	360	163	142
18	144	231	160	225	240	600	1,970	5,080	2,290	356	166	142
19	144	224	170	210	230	637	1,990	5,580	2,080	356	163	137
20	142	248	170	200	230	740	1,760	6,620	1,840	340	158	137
21	139	324	170	190	400	780	1,550	7,620	1,610	324	154	151
22	146	276	170	190	1,000	756	1,460	7,950	1,400	308	149	154
23	161	242	170	190	1,360	716	1,420	8,280	1,240	304	144	154
24	192	304	170	180	1,070	724	1,420	7,980	1,160	328	144	146
25	248	552	160	180	932	780	1,540	7,770	1,080	316	149	142
26	224	425	160	180	788	852	1,620	8,430	1,000	288	146	144
27	262	300	160	170	716	977	1,690	8,850	914	273	144	139
28	238	250	160	170	644	977	1,740	7,410	828	256	142	139
29	234	200	160	170	------	1,010	1,890	6,260	796	245	134	161
30	207	190	160	180	------	1,140	3,360	5,680	812	242	130	156
31	195	------	160	190	------	1,330	------	6,180	------	238	137	------
TOTAL	5,076	7,049	4,995	5,520	11,735	20,088	53,460	178,670	86,810	13,295	5,163	4,784
MEAN	164	235	161	178	419	648	1,782	5,764	2,894	429	167	160
MAX	262	552	200	230	1,360	1,330	3,360	8,850	6,310	740	224	256
MIN	119	161	115	150	200	375	1,230	3,200	796	238	130	137
CFSM	.21	.31	.21	.23	.55	.85	2.33	7.52	3.78	.56	.22	.21
IN.	.25	.34	.24	.27	.57	.98	2.60	8.67	4.21	.65	.25	.23
AC-FT	10,070	13,980	9,910	10,950	23,280	39,840	106,000	354,400	172,200	26,370	10,240	9,500

CAL YR 1960: TOTAL 386,000 MEAN 1,055 MAX 7,230 MIN 115 CFSM 1.38 IN 18.74 AC-FT 765,600
WAT YR 1961: TOTAL 396,650 MEAN 1,087 MAX 8,850 MIN 115 CFSM 1.42 IN 19.26 AC-FT 786,700

12-3045. Yaak River near Troy, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	154	173	198	150	160	150	380	1,970	2,670	528	175	128
2	146	163	186	156	170	150	470	2,000	2,540	500	170	123
3	144	156	175	175	170	140	582	2,350	2,710	470	173	117
4	139	151	163	217	170	140	724	2,860	2,320	450	189	117
5	134	146	170	192	160	140	995	2,530	2,040	445	210	119
6	139	151	156	180	160	140	1,300	2,240	1,860	455	210	117
7	156	154	150	173	170	150	2,070	2,290	1,800	445	204	117
8	166	146	140	163	170	150	1,810	2,280	1,820	410	201	119
9	156	149	120	140	180	163	1,430	2,460	2,290	390	189	114
10	173	154	110	120	190	163	1,200	2,760	2,280	380	180	121
11	231	180	100	140	200	163	1,060	2,930	2,040	365	170	312
12	238	178	120	150	200	163	1,060	2,910	1,910	348	166	324
13	288	166	130	160	200	163	1,180	3,000	1,860	336	158	252
14	284	158	140	160	210	154	1,640	3,210	1,840	316	151	210
15	262	146	150	150	210	154	2,650	3,070	1,780	304	146	204
16	231	130	150	140	210	151	2,980	3,030	1,980	296	142	180
17	259	132	150	130	200	151	2,540	3,210	1,850	292	137	168
18	252	134	160	120	200	151	2,760	3,490	1,680	276	132	156
19	220	149	170	110	190	161	3,770	4,110	1,480	262	132	146
20	198	180	170	100	180	163	4,370	4,150	1,350	252	132	142
21	186	166	170	90	160	166	4,090	4,170	1,240	245	132	137
22	175	238	180	100	150	168	3,630	4,370	1,130	238	134	134
23	175	252	180	120	150	166	3,630	4,460	1,020	231	137	130
24	178	262	170	130	140	168	4,410	4,640	932	214	132	128
25	170	259	170	140	140	207	4,800	4,500	860	210	128	125
26	183	266	160	150	130	259	3,880	4,130	804	210	123	123
27	224	262	150	150	130	296	3,160	4,040	724	207	123	125
28	210	207	150	150	140	296	3,030	4,460	651	201	144	139
29	189	204	150	150	------	288	2,530	4,220	600	186	149	220
30	178	186	160	140	------	292	2,170	3,470	558	180	144	217
31	173	------	160	150	------	320	------	3,020	------	175	134	------
TOTAL	6,011	5,398	4,808	4,496	4,840	5,686	70,301	102,330	48,619	9,817	4,847	4,764
MEAN	194	180	155	145	173	183	2,343	3,301	1,621	317	156	159
MAX	288	266	198	217	210	320	4,800	4,640	2,710	528	210	324
MIN	134	130	100	90	130	140	380	1,970	558	175	123	114
CFSM	.25	.23	.20	.19	.23	.24	3.06	4.31	2.12	.41	.20	.21
IN.	.29	.26	.23	.22	.23	.28	3.41	4.97	2.36	.48	.24	.23
AC-FT	11,920	10,710	9,540	8,920	9,600	11,280	139,400	203,000	96,430	19,470	9,610	9,450

CAL YR 1961: TOTAL 395,747 MEAN 1,084 MAX 8,850 MIN 100 CFSM 1.42 IN 19.21 AC-FT 785,000
WAT YR 1962: TOTAL 271,917 MEAN 745 MAX 4,800 MIN 90 CFSM .97 IN 13.20 AC-FT 539,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	208	208	549	480	280	560	1,190	2,890	2,540	1,300	299	166
2	181	205	500	544	320	544	1,040	2,550	2,270	1,090	291	160
3	169	139	465	666	420	510	948	2,290	2,190	948	279	160
4	157	199	425	720	626	480	932	2,020	2,090	862	275	160
5	151	208	387	646	1,120	490	972	1,920	2,340	776	261	151
6	148	216	430	584	1,190	480	1,610	2,640	2,640	706	258	151
7	151	212	445	544	1,300	455	2,060	3,500	2,270	652	247	140
8	169	219	445	522	1,230	445	1,900	3,640	1,950	640	236	134
9	187	279	440	495	1,050	440	1,690	3,230	2,070	672	233	132
10	247	369	445	260	900	440	1,540	2,830	2,130	620	236	132
11	244	360	445	150	797	440	1,470	2,680	1,850	646	261	129
12	333	378	440	180	727	420	1,420	2,730	1,720	633	258	126
13	516	356	430	260	672	410	1,460	2,840	1,580	590	244	154
14	460	324	420	330	659	415	1,750	2,860	1,480	538	258	190
15	364	291	485	350	640	410	2,500	2,960	1,360	495	250	169
16	299	272	870	360	602	405	2,640	3,140	1,260	505	230	193
17	261	261	862	340	578	356	2,220	3,230	1,180	510	212	193
18	247	250	783	260	572	405	1,910	3,360	1,080	516	202	184
19	240	247	727	180	544	400	1,690	3,440	988	510	199	169
20	233	500	666	180	549	396	1,540	3,520	900	510	193	160
21	250	762	672	200	538	410	1,420	3,740	818	500	193	151
22	287	566	706	220	516	430	1,370	3,910	885	470	193	151
23	307	455	584	200	500	505	1,300	3,980	1,040	450	193	181
24	272	382	420	190	490	640	1,260	4,200	900	425	212	181
25	250	445	382	220	480	672	1,260	4,260	825	410	219	175
26	240	1,420	445	210	522	666	1,360	4,000	769	400	212	160
27	233	1,280	460	210	578	741	1,680	3,580	720	382	199	151
28	226	862	485	220	578	1,210	2,270	3,340	699	364	193	145
29	219	659	485	190	------	1,380	2,540	3,100	916	342	187	140
30	216	572	470	190	------	1,440	2,860	3,080	1,480	328	181	137
31	212	------	470	230	------	1,370	------	2,930	------	311	169	------
TOTAL	7,677	12,956	16,238	10,331	18,978	18,405	49,802	98,390	44,940	18,101	7,073	4,725
MEAN	248	432	524	333	678	594	1,660	3,174	1,498	584	228	158
MAX	516	1,420	870	720	1,300	1,440	2,860	4,260	2,640	1,300	299	193
MIN	148	199	382	150	280	396	932	1,920	699	311	169	126
CFSM	.32	.56	.68	.44	.88	.78	2.17	4.14	1.96	.76	.30	.21
IN.	.37	.63	.79	.50	.92	.89	2.42	4.78	2.18	.88	.34	.23
AC-FT	15,230	25,700	32,210	20,490	37,640	36,510	98,780	195,200	89,140	35,900	14,030	9,370

CAL YR 1962: TOTAL 292,571 MEAN 802 MAX 4,800 MIN 90 CFSM 1.05 IN 14.20 AC-FT 580,300
WAT YR 1963: TOTAL 307,616 MEAN 843 MAX 4,260 MIN 126 CFSM 1.10 IN 14.94 AC-FT 610,100

12-3045. Yaak River near Troy, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	132	199	295	226	187	166	369	2,230	4,460	825	303	202
2	129	212	258	351	181	163	485	2,260	4,580	797	295	212
3	126	222	247	320	178	154	522	2,400	4,650	783	275	208
4	126	219	244	291	178	166	590	2,320	4,310	741	268	196
5	132	212	283	261	187	160	590	2,520	3,950	685	291	187
6	140	226	299	254	178	163	590	2,670	4,060	666	283	178
7	140	240	244	247	172	145	626	2,500	3,910	620	261	172
8	140	240	233	196	175	148	748	2,750	4,200	590	247	175
9	137	230	244	219	190	166	972	3,480	3,980	602	240	187
10	134	216	196	254	184	157	1,250	4,460	3,480	584	250	184
11	132	202	178	247	193	160	1,370	4,510	3,080	516	240	175
12	129	193	200	219	175	160	1,340	4,370	2,750	475	230	172
13	126	190	210	219	184	151	1,180	4,650	2,610	450	226	166
14	126	199	220	216	166	151	1,100	4,750	2,550	430	222	163
15	123	338	230	230	187	157	1,190	4,370	2,400	435	212	160
16	123	351	240	226	181	163	1,430	4,420	2,330	425	202	157
17	121	333	230	219	181	175	1,320	5,700	2,130	392	193	154
18	118	315	220	216	172	187	1,180	6,370	1,890	378	205	208
19	116	295	220	205	184	187	1,150	6,720	1,690	374	212	187
20	116	320	230	205	157	181	1,270	7,440	1,600	356	208	190
21	137	279	240	202	169	181	1,310	7,410	1,490	333	199	187
22	236	236	247	199	172	175	1,500	6,010	1,460	320	190	187
23	620	247	230	193	178	130	1,600	4,560	1,410	303	184	181
24	485	254	216	190	181	125	1,610	3,800	1,380	295	178	172
25	470	250	219	193	175	150	1,760	3,360	1,280	283	169	169
26	364	291	219	193	181	170	2,040	3,140	1,190	272	172	172
27	283	706	205	187	166	172	2,040	3,070	1,160	261	184	169
28	247	652	202	187	175	175	1,810	3,720	1,030	254	202	169
29	233	450	199	181	172	175	1,840	4,200	924	261	202	160
30	219	346	196	187	------	199	2,080	4,370	862	303	212	190
31	205	-------	193	184	------	258	------	4,350	------	328	208	------
TOTAL	6,065	8,663	7,087	6,917	5,159	5,170	36,862	128,880	76,796	14,337	6,963	5,389
MEAN	196	289	229	223	178	167	1,229	4,157	2,560	462	225	180
MAX	620	706	299	351	193	258	2,080	7,440	4,650	825	303	212
MIN	116	190	178	181	157	125	369	2,230	862	254	169	154
CFSM	.26	.38	.30	.29	.23	.22	1.60	5.43	3.34	.60	.29	.23
IN.	.29	.42	.34	.34	.25	.25	1.79	6.26	3.73	.70	.34	.26
AC-FT	12,030	17,180	14,060	13,720	10,230	10,250	73,110	255,600	152,300	28,440	13,810	10,690

CAL YR 1963: TOTAL 292,560 MEAN 802 MAX 4,260 MIN 116 CFSM 1.05 IN 14.20 AC-FT 580,300
WAT YR 1964: TOTAL 308,288 MEAN 842 MAX 7,440 MIN 116 CFSM 1.10 IN 14.97 AC-FT 611,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	338	193	356	260	280	500	333	5,760	3,700	1,000	250	208
2	328	222	382	270	270	470	378	4,650	3,540	932	240	196
3	351	233	346	280	280	455	440	3,760	3,800	878	258	202
4	328	226	311	290	303	445	510	3,210	3,600	840	272	236
5	268	247	283	300	387	435	554	2,830	3,320	862	287	250
6	244	268	264	290	554	440	713	2,500	3,340	811	342	236
7	230	254	250	280	505	450	755	2,360	3,140	748	315	219
8	226	233	250	270	445	475	783	2,320	2,750	720	279	205
9	233	250	244	260	392	480	818	2,600	2,640	678	250	199
10	247	342	250	260	324	480	1,020	3,100	2,640	614	233	193
11	247	360	222	270	291	505	1,190	3,950	2,700	578	222	187
12	230	328	163	280	320	505	1,480	4,840	2,780	544	233	187
13	219	291	222	290	307	500	1,910	5,620	2,430	544	275	184
14	212	258	216	290	303	495	2,320	5,670	2,030	527	261	205
15	216	219	208	300	268	505	2,600	5,410	1,810	490	236	254
16	216	187	132	310	287	516	2,800	5,340	1,730	460	219	254
17	212	199	100	310	279	380	2,460	4,920	1,940	435	208	236
18	205	212	120	310	303	320	2,060	4,090	2,680	410	199	226
19	199	222	170	310	342	340	1,960	3,540	2,610	392	196	219
20	196	222	230	300	396	360	3,890	3,700	2,190	378	216	233
21	196	212	240	290	405	380	5,410	3,780	1,850	378	226	244
22	196	205	260	270	392	360	4,840	3,540	1,620	374	219	247
23	193	205	260	260	338	340	4,130	3,460	1,460	369	244	261
24	190	264	240	240	356	280	3,930	3,760	1,370	374	268	258
25	187	346	210	230	356	290	3,950	3,980	1,310	328	279	240
26	184	299	180	220	356	290	4,220	3,980	1,400	311	258	222
27	184	268	200	220	490	300	4,460	4,150	1,250	303	236	212
28	184	233	220	230	578	300	5,160	4,680	1,120	291	226	208
29	190	184	240	240	------	303	6,180	5,080	1,120	279	226	205
30	190	254	250	260	-------	307	6,400	5,130	1,080	268	226	202
31	193	-------	260	290	------	315	------	4,350	------	261	219	------
TOTAL	7,032	7,436	7,279	8,480	10,107	12,521	77,654	126,060	68,950	16,377	7,618	6,628
MEAN	227	248	235	274	361	404	2,588	4,066	2,298	528	246	221
MAX	351	360	382	310	578	516	6,400	5,760	3,800	1,000	342	261
MIN	184	184	100	220	268	280	333	2,320	1,080	261	196	184
CFSM	.30	.32	.31	.36	.47	.53	3.38	5.31	3.00	.69	.32	.29
IN.	.34	.36	.35	.41	.49	.61	3.77	6.12	3.35	.80	.37	.32
AC-FT	13,950	14,750	14,440	16,820	20,050	24,840	154,000	250,000	136,800	32,480	15,110	13,150

CAL YR 1964: TOTAL 308,220 MEAN 842 MAX 7,440 MIN 100 CFSM 1.10 IN 14.96 AC-FT 611,300
WAT YR 1965: TOTAL 356,142 MEAN 976 MAX 6,400 MIN 100 CFSM 1.27 IN 17.29 AC-FT 706,400

12-3050. Kootenai River at Leonia, Idaho

Location.--Lat 48°37', long 116°03', in NW¼NW¼ sec. 20, T.33 N., R.34 W., on right bank at Leonia, 450 ft east of Montana-Idaho State line, half a mile upstream from Boulder Creek, and at mile 171.6.

Drainage area.--11,740 sq mi, approximately.

Records available.--March 1928 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,700.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Nov. 13, 1928, chain gage on bridge 250 ft upstream at datum 0.41 ft lower.

Average discharge.--37 years, 13,880 cfs (10,050,000 acre-ft per year); 15-year base period (1947-62), 15,680 cfs.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 29, 1961	106,000	120.53	Jan. 4, 1961	a 2,750	b 100.45
1962	May 30, 1962	56,300	113.78	Dec. 12, 1961	a 2,400	c 100.78
1963	June 1, 1963	58,000	114.20	Jan. 13, 1963	1,800	99.91
1964	June 9, 1964	85,900	117.91	Dec. 11, 1963	a 2,900	d 99.78
1965	June 19, 1965	73,800	116.30	Dec. 20, 1964	1,830	99.85

a Minimum daily.
b Occurred Jan. 5, 30, 1961.
c Occurred Dec. 12, 1961.
d Occurred Dec. 11, 1963.

1928-65: Maximum discharge, 123,000 cfs May 28, 1948 (gage height, 123.40 ft); minimum, 996 cfs Dec. 9, 1936; minimum gage height, 97.56 ft Dec. 10, 1929.
Floods in June 1894 and 1916 reached stages of 124.6 and 121.6 ft, respectively, from information by Great Northern Railway.

Remarks.--Records excellent except those for winter periods in 1961-62, Jan. 14 to Feb. 11, 1963, and January 1965, which are good. Diversions above station for irrigation of about 14,600 acres. Records of water temperatures for the water years 1962-63, 1965 are published in reports of the Geological Survey.

Corrections.--WSP 1736: 1936, 1941.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,540	5,920	4,000	3,400	3,940	6,910	8,770	17,800	90,300	28,100	13,300	7,640
2	5,410	5,920	3,800	3,400	4,290	6,800	9,910	23,000	89,900	26,400	12,700	7,910
3	5,370	5,770	3,950	3,050	4,720	6,500	12,900	27,200	92,400	24,400	12,000	8,240
4	5,280	5,590	4,050	2,750	4,480	6,120	17,300	27,500	94,800	22,900	11,500	8,270
5	5,280	5,430	4,200	3,400	4,610	5,700	17,000	26,800	97,100	22,500	11,100	7,880
6	5,200	5,260	3,600	4,060	4,720	5,570	14,900	25,600	98,100	22,500	10,900	7,550
7	5,130	5,110	3,200	4,480	4,660	5,410	13,100	24,600	101,000	22,400	10,800	7,310
8	5,200	4,950	3,150	4,310	4,650	5,240	11,800	23,500	99,600	22,100	10,800	7,250
9	5,260	4,830	3,150	4,260	4,720	5,200	10,900	24,300	94,200	21,800	10,500	7,250
10	5,320	4,850	2,950	4,220	5,130	5,110	10,200	29,000	85,200	21,200	10,200	7,170
11	5,370	4,850	3,100	4,170	6,370	5,050	9,680	33,600	71,600	19,900	10,000	7,080
12	5,430	4,890	3,300	4,200	7,490	5,010	9,550	34,200	66,200	18,800	9,780	7,140
13	5,500	4,890	3,770	4,170	7,050	4,950	10,100	33,000	65,600	18,100	9,360	7,280
14	5,410	4,950	3,750	4,190	6,610	5,030	10,300	32,700	66,500	17,600	9,050	7,170
15	5,300	4,870	3,700	4,360	6,220	5,260	9,970	33,700	66,100	17,300	8,830	6,940
16	5,220	4,890	3,300	4,950	6,060	5,570	9,490	35,500	66,500	17,200	8,670	6,830
17	5,150	4,870	3,450	5,500	5,820	5,870	9,520	37,300	68,000	17,500	8,550	6,640
18	5,050	4,990	3,650	5,890	5,570	6,040	10,700	37,500	69,300	17,900	8,610	6,500
19	5,030	5,010	4,000	5,200	5,300	6,160	12,100	39,400	68,000	18,000	9,230	6,420
20	5,010	5,170	3,720	4,800	5,200	6,370	12,500	46,000	65,300	16,800	10,100	6,370
21	5,010	5,590	3,840	4,350	6,640	6,550	12,000	57,200	62,100	15,600	9,940	6,420
22	5,010	5,540	4,040	4,000	12,500	6,660	11,400	68,200	56,800	14,900	9,330	6,500
23	5,030	5,540	4,270	3,700	12,000	6,610	10,700	76,700	49,300	14,600	8,920	6,500
24	5,130	5,540	4,360	3,500	10,400	6,660	10,400	83,200	43,000	15,200	8,490	6,400
25	5,450	6,990	4,310	3,500	9,230	6,740	10,400	88,900	40,100	15,200	8,360	6,320
26	5,640	6,940	4,100	3,200	8,490	6,880	10,800	93,700	38,300	14,800	8,240	6,290
27	5,870	6,300	4,050	3,000	7,880	7,140	11,100	99,300	36,900	14,200	8,240	6,240
28	6,020	5,450	3,900	2,900	7,220	7,280	11,700	103,000	35,300	13,400	8,240	6,160
29	6,220	4,900	3,600	2,800	------	7,370	11,900	105,000	31,900	12,700	8,030	6,160
30	6,040	4,400	3,300	3,100	------	7,460	14,500	98,200	29,300	12,800	7,760	6,140
31	5,920	------	3,400	3,500	------	8,030	------	93,900	------	13,300	7,580	------
TOTAL	166,800	160,200	114,960	122,310	181,970	191,250	345,590	1,579.5M	2,038.7M	570,100	299,110	207,970
MEAN	5,381	5,340	3,708	3,945	6,499	6,169	11,520	50,950	67,960	18,390	9,649	6,932
MAX	6,220	6,990	4,360	5,890	12,500	8,030	17,300	105,000	101,000	28,100	13,300	8,270
MIN	5,010	4,400	2,950	2,750	3,940	4,950	8,770	17,800	29,300	12,700	7,580	6,140
CFSM	.46	.45	.32	.34	.55	.53	.98	4.34	5.79	1.57	.82	.59
IN.	.53	.51	.36	.39	.58	.61	1.09	5.00	6.46	1.81	.95	.66
AC-FT	330,800	317,800	228,000	242,600	360,900	379,300	685,500	3,133M	4,044M	1,131M	593,300	412,500

CAL YR 1960: TOTAL 5,305,770 MEAN 14,500 MAX 70,900 MIN 2,900 CFSM 1.23 IN 16.81 AC-FT 10,520,000
WAT YR 1961: TOTAL 5,978,460 MEAN 16,380 MAX 105,000 MIN 2,750 CFSM 1.40 IN 18.94 AC-FT 11,860,000

M Expressed in thousands.

12-3050. Kootenai River at Leonia, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,140	6,870	4,850	4,310	5,000	3,000	4,950	20,000	47,600	27,900	13,800	7,370
2	6,120	6,730	5,020	4,330	5,000	3,100	5,280	18,800	42,600	28,500	13,100	7,100
3	6,060	6,590	5,080	4,400	5,000	3,200	5,760	19,400	40,800	28,100	12,700	6,840
4	6,010	6,450	5,000	4,780	5,760	3,200	6,530	21,000	39,800	25,900	12,500	6,810
5	5,930	6,220	4,950	4,760	6,450	3,300	7,550	21,300	38,100	23,200	12,400	6,750
6	5,900	6,010	4,880	4,660	6,470	3,400	9,080	19,900	34,700	21,200	12,500	6,590
7	6,010	5,900	4,610	4,570	5,610	3,440	13,900	19,100	31,600	20,100	12,200	6,420
8	6,360	5,820	4,300	4,380	5,050	3,520	14,800	18,600	29,500	19,900	11,900	6,310
9	6,870	5,710	3,800	4,100	4,600	3,590	12,700	18,800	30,300	19,900	11,500	6,220
10	7,040	5,680	3,200	3,900	4,500	3,550	10,800	19,800	36,300	19,800	11,300	6,500
11	7,100	5,660	2,800	3,700	4,500	3,500	9,720	20,600	45,000	20,400	11,400	6,900
12	7,160	5,660	2,400	3,500	4,600	3,480	9,140	21,200	44,600	21,000	11,000	7,100
13	7,250	5,760	2,500	3,300	4,830	3,500	9,140	21,900	42,100	21,300	10,400	7,040
14	7,280	5,680	2,700	3,200	4,900	3,460	9,650	23,100	40,800	21,300	10,000	6,840
15	7,250	5,580	3,000	3,100	5,020	3,500	11,800	23,200	41,000	21,000	9,960	6,700
16	7,310	5,420	3,300	3,000	5,080	3,520	16,600	23,500	42,000	20,100	10,000	6,530
17	7,640	5,100	3,500	3,100	5,000	3,530	17,800	24,700	47,500	18,800	9,620	6,360
18	8,360	4,700	3,900	2,800	4,900	3,570	18,600	26,800	51,500	17,600	9,310	6,310
19	9,580	4,500	4,000	2,600	4,810	3,670	21,700	29,900	53,400	17,000	9,080	6,250
20	10,100	4,300	4,130	2,600	4,660	3,790	26,600	33,000	51,700	16,400	9,110	6,090
21	9,680	4,300	4,220	2,600	4,360	3,870	29,500	37,000	48,900	15,400	9,050	5,950
22	9,050	4,400	4,640	2,600	4,000	3,890	29,000	39,800	46,400	14,500	8,720	5,840
23	8,620	4,610	4,490	2,700	3,700	3,940	28,400	41,600	43,300	14,200	8,620	5,740
24	8,330	4,520	4,590	2,900	3,200	3,960	30,300	44,100	39,500	14,400	8,850	5,660
25	7,950	4,490	5,050	3,200	3,100	4,090	34,300	46,600	37,700	14,600	8,620	5,660
26	7,760	4,400	5,020	4,000	3,100	4,330	34,200	47,700	38,700	14,900	8,200	5,710
27	7,760	4,400	4,600	4,600	3,000	4,710	31,500	47,800	39,500	15,100	7,920	5,660
28	7,640	4,400	4,000	4,800	3,000	4,950	28,800	52,300	38,900	15,100	7,860	5,660
29	7,490	4,420	3,800	5,100	------	4,930	25,600	55,900	33,900	14,800	7,760	5,790
30	7,280	4,640	4,100	5,200	------	4,850	22,500	55,700	29,400	14,700	7,700	5,900
31	7,070	------	4,200	5,100	------	4,850	------	52,900	------	14,400	7,580	------
TOTAL	230,100	158,920	126,630	117,890	129,200	117,190	536,200	966,000	1,227.1M	591,500	314,660	190,600
MEAN	7,423	5,297	4,085	3,803	4,614	3,780	17,870	31,160	40,900	19,080	10,150	6,353
MAX	10,100	6,870	5,080	5,200	6,470	4,950	34,300	55,900	53,400	28,500	13,800	7,370
MIN	5,900	4,300	2,400	2,600	3,000	3,000	4,950	18,600	29,400	14,200	7,580	5,660
CFSM	.63	.45	.35	.32	.39	.32	1.52	2.65	3.48	1.63	.86	.54
IN.	.73	.50	.40	.37	.41	.37	1.70	3.06	3.89	1.87	1.00	.60
AC-FT	456,400	315,200	251,200	233,800	256,300	232,400	1,064M	1,916M	2,434M	1,173M	624,100	378,000

CAL YR 1961: TOTAL 6,052,150 MEAN 16,580 MAX 105,000 MIN 2,400 CFSM 1.41 IN 19.17 AC-FT 12,000,000
WAT YR 1962: TOTAL 4,705,990 MEAN 12,890 MAX 55,900 MIN 2,400 CFSM 1.10 IN 14.91 AC-FT 9,334,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,090	5,660	7,370	5,710	2,900	6,170	9,110	20,500	57,500	38,400	14,600	7,510
2	6,060	5,580	6,960	6,140	3,000	5,930	8,270	21,600	56,000	37,800	14,100	7,440
3	5,900	5,450	6,750	6,560	3,300	5,680	7,640	20,800	50,800	37,000	13,800	7,360
4	5,710	5,400	6,360	6,840	4,400	5,420	7,160	18,900	46,700	38,800	13,400	7,310
5	5,550	5,380	6,090	6,730	6,000	5,220	7,010	17,200	46,600	40,100	12,900	7,240
6	5,450	5,400	5,950	6,420	8,500	5,100	8,330	17,400	47,600	35,200	12,500	7,110
7	5,380	5,400	6,010	6,120	9,100	5,000	10,100	20,400	49,200	37,500	12,300	6,940
8	5,350	5,380	6,090	5,870	9,700	4,930	10,800	24,200	50,300	35,400	12,100	6,820
9	5,350	5,610	6,170	5,630	9,300	4,850	10,600	24,900	49,700	35,900	12,000	6,720
10	5,420	5,980	6,140	4,830	8,900	4,810	10,000	23,100	49,600	36,200	12,000	6,680
11	5,400	6,120	6,090	3,530	8,500	4,780	9,580	21,500	47,900	32,700	12,000	6,650
12	5,820	6,010	6,030	2,420	8,010	4,710	9,210	20,700	45,100	29,100	11,800	6,800
13	6,530	5,980	5,900	2,060	7,400	4,640	9,050	21,000	44,800	26,700	11,600	7,040
14	6,840	5,840	5,760	2,400	7,220	4,570	9,310	21,200	46,700	25,100	11,600	7,410
15	6,640	5,610	5,740	3,200	6,980	4,520	11,200	21,900	48,100	23,900	11,900	7,410
16	6,310	5,380	6,640	3,300	6,780	4,450	13,500	23,500	48,400	24,600	12,300	7,640
17	5,930	5,220	7,370	3,300	6,530	4,420	14,300	24,900	47,900	26,100	12,000	8,010
18	5,630	5,050	7,730	3,300	6,360	4,380	14,000	27,000	47,500	25,800	11,500	7,770
19	5,480	4,980	7,670	3,200	6,140	4,330	12,900	28,600	46,400	24,300	10,900	7,460
20	5,350	6,220	7,340	3,200	6,200	4,330	11,900	29,700	44,900	23,000	10,400	7,240
21	5,300	8,270	7,040	3,100	6,200	4,310	11,000	31,700	43,500	21,900	10,100	6,990
22	5,450	7,980	6,980	3,100	5,980	4,360	10,400	35,200	40,400	20,900	9,860	6,750
23	5,550	7,520	6,730	3,000	5,870	4,520	9,720	39,400	38,400	20,100	9,590	6,650
24	6,530	6,960	5,930	3,000	5,740	5,020	9,310	45,000	34,800	19,300	9,400	6,580
25	7,460	6,780	4,800	3,000	5,740	5,380	9,010	51,900	31,000	18,400	8,940	6,530
26	7,130	9,790	4,300	2,900	5,820	5,630	8,910	55,700	29,400	17,400	8,590	6,680
27	6,700	11,000	4,380	2,900	6,090	5,760	9,550	57,600	29,400	16,900	8,320	6,750
28	6,390	10,500	4,590	2,900	6,330	6,840	11,500	56,100	28,600	16,300	8,210	6,510
29	6,140	8,950	5,220	2,900	------	8,040	14,200	53,100	27,700	15,600	8,060	6,350
30	5,900	7,980	5,280	2,900	------	8,980	17,700	52,000	31,200	15,200	7,870	6,020
31	5,760	------	5,380	2,900	------	9,760	------	54,900	------	15,200	7,720	------
TOTAL	184,500	197,380	190,790	123,360	182,990	166,840	315,270	981,600	1,306.1M	834,800	342,360	210,370
MEAN	5,952	6,579	6,155	3,979	6,535	5,382	10,510	31,660	43,540	26,930	11,040	7,012
MAX	7,460	11,000	7,730	6,840	9,700	9,760	17,700	57,600	57,500	40,100	14,600	8,010
MIN	5,300	4,980	4,300	2,060	2,900	4,310	7,010	17,200	27,700	15,200	7,720	6,020
CFSM	.51	.56	.52	.34	.56	.46	.90	2.70	3.71	2.29	.94	.60
IN.	.58	.63	.60	.39	.58	.53	1.00	3.11	4.14	2.64	1.08	.67
AC-FT	366,000	391,500	378,400	244,700	363,000	330,900	625,300	1,947M	2,591M	1,656M	679,100	417,300

CAL YR 1962: TOTAL 4,763,010 MEAN 13,050 MAX 55,900 MIN 2,600 CFSM 1.11 IN 15.09 AC-FT 9,447,000
WAT YR 1963: TOTAL 5,036,360 MEAN 13,800 MAX 57,600 MIN 2,060 CFSM 1.18 IN 15.95 AC-FT 9,989,000

M Expressed in thousands.

12-3050. Kootenai River at Leonia, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,920	5,330	5,840	4,490	3,780	3,060	4,350	13,300	48,700	34,600	15,200	8,050
2	5,820	5,240	4,990	5,140	3,600	3,090	5,520	14,300	52,800	32,700	16,100	8,080
3	5,760	5,120	4,630	5,240	3,500	3,120	6,200	15,400	57,600	34,000	15,200	8,020
4	5,740	5,120	4,610	5,180	3,420	3,120	6,510	16,200	62,000	35,600	13,800	8,110
5	5,660	5,040	4,720	4,680	3,480	3,130	6,600	17,700	65,500	35,400	12,900	8,140
6	5,560	5,100	4,470	4,630	3,530	3,160	6,580	18,800	67,300	36,100	12,600	7,990
7	5,460	5,180	4,590	4,440	3,450	3,120	6,530	19,300	68,800	36,200	12,900	7,780
8	5,330	5,180	4,320	4,030	3,320	3,030	6,700	19,800	73,300	34,400	12,400	7,530
9	5,200	5,140	3,930	3,570	3,370	2,940	7,310	22,000	83,500	33,900	11,700	7,570
10	5,080	5,040	3,050	3,720	3,410	2,940	8,260	26,600	82,900	36,000	11,400	7,450
11	4,930	4,750	2,900	3,480	3,490	3,010	9,160	29,800	73,900	36,800	11,400	7,370
12	4,860	4,680	3,100	3,450	3,600	3,110	9,530	29,800	68,700	33,000	11,500	7,310
13	4,680	4,520	3,260	3,400	3,560	3,100	9,200	30,900	69,700	30,000	11,100	7,250
14	4,590	4,450	3,460	3,230	3,440	3,120	8,500	32,500	71,000	29,500	10,700	7,100
15	4,630	4,700	3,630	3,530	3,270	3,130	8,650	31,800	70,900	29,700	10,600	6,930
16	4,500	4,930	3,810	3,780	3,230	3,210	10,400	31,400	70,300	28,700	10,700	6,820
17	4,440	5,390	3,660	3,980	3,210	3,320	10,600	35,500	68,800	27,100	10,300	6,730
18	4,370	5,480	3,370	3,880	3,280	3,570	9,630	42,600	65,600	25,100	9,920	6,760
19	4,320	5,410	3,700	3,870	3,270	3,700	8,870	49,200	61,500	22,300	9,640	6,840
20	4,220	5,500	3,920	3,870	3,240	3,700	8,620	56,400	57,100	20,800	9,440	7,630
21	4,270	5,240	4,030	3,700	3,180	3,630	8,590	65,000	53,000	19,700	9,440	8,500
22	4,610	4,610	4,150	3,560	3,130	3,570	9,130	67,600	50,200	18,600	9,410	8,410
23	5,620	4,060	4,370	3,630	3,090	3,390	9,760	58,100	48,400	17,700	9,030	8,200
24	6,330	3,990	4,440	3,490	3,110	3,120	9,820	46,100	48,500	16,900	8,680	7,960
25	7,160	4,280	4,500	3,330	3,060	3,010	9,990	38,600	50,700	16,300	8,470	7,750
26	7,010	4,770	4,520	3,270	3,020	3,090	10,600	34,300	51,000	15,200	8,350	7,660
27	6,600	6,350	4,570	3,630	2,980	2,990	11,400	31,800	48,700	14,300	8,260	7,900
28	6,280	8,900	4,520	3,620	2,990	3,070	11,700	33,400	46,600	13,800	8,200	8,960
29	6,020	8,410	4,570	3,630	3,010	3,150	11,700	37,200	45,400	13,600	8,230	8,930
30	5,760	7,260	4,440	3,630	-------	3,330	12,200	41,300	40,000	13,700	8,170	8,710
31	5,520	-------	4,300	3,700	-------	3,620	-------	45,800	-------	14,200	8,110	-------
TOTAL	166,250	159,170	128,370	120,780	96,020	99,650	262,610	1,052.5M	1,822.4M	805,900	333,850	232,540
MEAN	5,363	5,306	4,141	3,896	3,311	3,215	8,754	33,950	60,750	26,000	10,770	7,751
MAX	7,160	8,900	5,840	5,240	3,780	3,700	12,200	67,600	83,500	36,800	16,100	8,960
MIN	4,220	3,990	2,900	3,230	2,980	2,940	4,350	13,300	40,000	13,600	8,110	6,730
CFSM	.46	.45	.35	.33	.28	.27	.75	2.89	5.17	2.21	.92	.66
IN.	.53	.50	.41	.38	.30	.32	.83	3.33	5.77	2.55	1.06	.74
AC-FT	329,800	315,700	254,600	239,600	190,500	197,700	520,900	2,088M	3,615M	1,598M	662,200	461,200

CAL YR 1963: TOTAL 4,917,480 MEAN 13,470 MAX 57,600 MIN 2,060 CFSM 1.15 IN 15.58 AC-FT 9,754,000
WAT YR 1964: TOTAL 5,280,040 MEAN 14,430 MAX 83,500 MIN 2,900 CFSM 1.23 IN 16.73 AC-FT 10,470,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,260	6,570	5,740	4,700	4,620	6,490	4,450	43,700	57,800	33,500	13,800	8,980
2	9,540	6,590	6,140	4,700	4,530	6,190	4,720	39,200	50,500	32,000	13,400	8,520
3	9,800	6,620	6,290	4,800	4,260	5,830	5,180	33,800	48,000	32,800	13,300	8,400
4	9,730	6,570	6,120	4,800	4,050	5,600	5,490	29,700	52,300	34,700	13,200	8,460
5	9,320	6,620	6,070	4,700	4,380	5,460	5,830	26,600	55,500	36,200	13,400	8,610
6	8,820	6,700	6,000	4,700	4,880	5,400	6,290	23,800	54,500	36,400	15,200	8,520
7	8,460	6,800	5,860	4,700	5,220	5,440	6,720	21,700	57,100	36,200	17,000	8,520
8	8,310	6,670	5,760	4,700	5,380	5,530	7,050	20,400	56,200	36,000	16,000	8,250
9	8,400	6,590	5,670	4,700	5,290	5,600	7,270	20,400	50,500	36,100	14,400	8,020
10	8,700	6,720	5,580	4,600	5,070	5,620	7,960	22,300	49,300	34,400	13,300	7,900
11	8,920	6,880	5,510	4,600	4,840	5,740	8,640	26,600	54,500	31,300	12,600	7,870
12	9,130	6,940	5,290	4,500	4,550	5,830	9,510	32,500	63,000	28,400	12,300	7,810
13	9,190	6,800	4,940	4,500	4,570	5,860	11,100	40,400	68,000	26,000	12,200	7,810
14	8,980	6,540	4,700	4,500	4,490	5,860	13,000	46,300	66,600	23,900	12,000	7,840
15	8,760	6,320	4,680	4,600	4,360	5,860	15,200	47,500	60,100	22,500	11,800	8,160
16	8,670	6,020	4,740	4,700	4,280	5,880	18,400	48,000	52,100	21,800	11,400	8,310
17	8,670	5,710	4,490	4,700	4,340	5,580	18,500	47,700	49,400	22,300	10,700	8,190
18	8,580	5,530	2,850	4,700	4,550	5,240	16,600	42,700	56,200	22,000	10,200	8,020
19	8,310	5,490	2,680	4,700	5,010	5,050	15,400	36,900	70,300	21,300	9,860	7,810
20	7,990	5,530	1,950	4,600	5,640	4,900	22,400	35,200	72,700	21,100	9,760	7,720
21	7,780	5,620	1,980	4,600	6,140	4,940	31,100	35,200	65,000	19,800	9,480	7,670
22	7,640	5,600	2,200	4,500	6,170	4,900	31,300	33,500	54,000	18,300	9,290	7,670
23	7,520	5,600	3,500	4,400	5,460	4,800	28,500	31,900	46,400	17,000	9,290	7,780
24	7,380	5,830	4,700	4,300	4,980	4,620	27,000	31,900	41,500	16,500	9,260	8,100
25	7,240	6,320	5,500	4,100	5,160	4,510	26,700	32,400	40,200	16,200	9,320	8,370
26	7,100	6,340	4,900	4,090	5,290	4,450	27,400	32,800	41,700	15,700	9,350	8,310
27	7,020	6,120	4,700	4,090	5,810	4,450	28,800	33,800	41,600	15,200	9,320	8,130
28	6,940	5,830	4,600	4,210	6,520	4,280	32,100	37,600	41,000	15,000	9,350	8,190
29	6,830	5,600	4,700	4,190	-------	4,230	38,000	45,100	40,800	15,100	9,320	8,160
30	6,700	5,490	4,700	4,260	-------	4,260	43,400	56,600	36,600	14,900	9,260	7,930
31	6,620	-------	4,700	4,490	-------	4,340	-------	62,100	-------	14,400	9,290	-------
TOTAL	256,310	186,560	147,240	140,430	139,840	162,740	524,010	1,118.3M	1,593.4M	767,000	358,350	244,030
MEAN	8,268	6,219	4,750	4,530	4,994	5,250	17,470	36,070	53,110	24,740	11,560	8,134
MAX	9,800	6,940	6,290	4,800	6,520	6,490	43,400	62,100	72,700	36,400	17,000	8,980
MIN	6,620	5,490	1,950	4,090	4,050	4,230	4,450	20,400	36,600	14,400	9,260	7,670
CFSM	.70	.53	.40	.39	.43	.45	1.49	3.07	4.52	2.11	.98	.69
IN.	.81	.59	.47	.44	.44	.52	1.66	3.54	5.05	2.43	1.14	.77
AC-FT	508,400	370,000	292,000	278,500	277,400	322,800	1,039M	2,218M	3,160M	1,521M	710,800	484,000

CAL YR 1964: TOTAL 5,416,360 MEAN 14,800 MAX 83,500 MIN 1,950 CFSM 1.26 IN 17.16 AC-FT 10,740,000
WAT YR 1965: TOTAL 5,638,210 MEAN 15,450 MAX 72,700 MIN 1,950 CFSM 1.32 IN 17.86 AC-FT 11,180,000

M Expressed in thousands.

12-3055. Boulder Creek near Leonia, Idaho

Location.--Lat 48°36', long 116°06', in NE¼ sec.32, T.61 N., R.3 E., on right bank three-quarters of a mile downstream from McGinty Creek, three-quarters of a mile upstream from building of the Idamont Lead-Zinc Mines Co., 2½ miles southwest of Leonia, and at mile 2.8.

Drainage area.--53 sq mi, approximately.

Records available.--April 1928 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Altitude of gage is 2,600 ft (from topographic map). Prior to Nov. 20, 1928, staff gage at site 1 mile downstream at different datum. Nov. 20, 1928, to Nov. 29, 1933, and Oct. 13, 1934, to Sept. 27, 1946, water-stage recorder and Dec. 30, 1933, to Oct. 12, 1934, staff gage, at site a quarter of a mile upstream at different datum.

Average discharge.--37 years, 116 cfs (83,980 acre-ft per year); 15-year base period (1947-62), 135 cfs.

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (800 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 1, 1961	2100	-	a 6.19	Nov. 26, 1962	0500	* 952	5.11	Jan. 9, 1965	-	-	a 5.74
May 26, 1961	2030	* 1,410	5.70	Feb. 5, 1963	-	-	a 7.33	Apr. 20, 1965	1930	858	4.94
June 1, 1961	1900	1,070	5.27					Apr. 28, 1965	2100	* 1,050	5.21
				May 20, 1964	1800	* 1,350	5.62	May 16, 1965	1430	963	5.09
Apr. 24, 1962	2100	990	5.16	June 1, 1964	1800	1,060	5.23	May 30, 1965	0100	1,030	5.18
May 28, 1962	1000	* 1,120	5.34								

a Backwater from ice jam.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Aug. 30, 1961	9.2	2.75	1964	Oct. 19, 20, 1963	9.6	2.75
1962	Sept. 6, 1962	5.8	2.74	1965	Sept.10-13, 1965	15	2.95
1963	Sept.11, 12, 1963	9.6	2.75				

1928-65: Maximum discharge, 2,700 cfs Oct. 19, 1947 (gage height, 7.85 ft), from rating curve extended above 970 cfs on basis of contracted-opening measurement of peak flow; minimum, 2 cfs Aug. 25, Sept. 5, 1931.

Remarks.--Records good except those for winter periods and those for periods of no gage-height record, which are poor. No regulation.

Revisions (water years).--WSP 1736: 1936(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	75	60	26	110	110	200	430	885	70	18	32
2	11	49	54	26	90	100	240	646	960	67	17	30
3	10	41	51	26	78	90	300	424	863	64	16	17
4	10	36	47	26	64	83	292	400	892	59	16	15
5	9.6	32	40	28	62	78	229	339	842	75	15	13
6	11	32	35	37	65	78	195	302	758	70	16	13
7	15	29	40	35	70	73	178	273	758	62	16	13
8	40	25	37	33	66	70	165	259	564	55	15	13
9	20	25	35	31	66	75	147	318	577	50	15	12
10	17	27	34	30	110	75	136	430	486	46	15	13
11	16	33	34	30	112	72	133	454	466	41	14	15
12	27	28	37	30	116	72	171	436	544	40	14	13
13	24	26	40	30	100	84	174	480	454	38	13	12
14	18	27	43	34	91	110	144	551	448	36	13	12
15	17	25	35	84	89	112	128	590	442	34	13	11
16	17	26	30	150	84	120	125	611	430	32	14	11
17	17	24	32	110	80	116	171	660	383	31	14	11
18	16	76	35	89	73	110	185	674	366	31	13	11
19	16	49	39	67	71	110	168	765	313	29	13	11
20	16	54	45	54	82	120	147	885	254	27	12	11
21	18	98	40	52	200	118	141	952	205	26	13	14
22	24	57	37	50	250	110	141	900	178	24	12	14
23	25	47	35	47	200	112	138	952	162	29	11	14
24	57	176	33	47	160	114	144	878	150	29	11	13
25	44	328	31	47	140	115	156	878	136	24	11	13
26	68	133	30	46	120	140	156	1,100	119	22	11	13
27	65	95	29	45	110	150	162	885	103	21	11	12
28	66	82	28	45	100	143	205	737	90	20	11	13
29	57	71	27	45	------	155	237	702	86	19	10	16
30	41	63	26	50	------	167	406	751	79	19	9.7	14
31	38	------	26	95	------	180	------	849	------	18	18	------
TOTAL	841.6	1,889	1,145	1,545	2,959	3,362	5,514	19,511	12,993	1,208	420.7	425
MEAN	27.1	63.0	36.9	49.8	106	108	184	629	433	39.0	13.6	14.2
MAX	68	328	60	150	250	180	406	1,100	960	75	18	32
MIN	9.6	24	26	26	62	70	125	259	79	18	9.7	11
CFSM	.51	1.19	.70	.94	1.99	2.05	3.47	11.9	8.17	.74	.26	.27
IN.	.59	1.33	.80	1.08	2.08	2.36	3.87	13.7	9.12	.85	.30	.30
AC-FT	1,670	3,750	2,270	3,060	5,870	6,670	10,940	38,700	25,770	2,400	834	843

CAL YR 1960: TOTAL 47,348.6 MEAN 129 MAX 970 MIN 9.6 CFSM 2.44 IN 33.22 AC-FT 93,910
WAT YR 1961: TOTAL 51,813.3 MEAN 142 MAX 1,100 MIN 9.6 CFSM 2.68 IN 36.36 AC-FT 102,800

Note.--No gage-height record Feb. 21 to Apr. 3.

12-3055. Boulder Creek near Leonia, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	14	19	21	21	23	46	234	418	58	14	8.5
2	13	13	18	21	25	22	59	282	430	53	14	7.9
3	13	12	18	38	38	21	76	425	492	50	16	7.4
4	12	12	17	37	35	20	90	473	345	48	20	7.4
5	12	11	17	34	33	19	119	372	295	45	23	6.8
6	14	11	15	31	31	18	174	335	282	42	20	6.3
7	14	12	13	29	30	18	282	315	286	41	18	7.9
8	14	14	13	28	30	17	189	290	362	39	20	11
9	14	14	12	27	30	17	145	340	430	36	17	9.7
10	27	14	12	26	32	17	122	394	372	35	16	13
11	26	14	11	26	32	16	117	424	325	33	14	56
12	31	14	11	27	32	16	122	424	295	31	14	26
13	56	14	12	28	32	15	148	436	272	30	13	17
14	32	13	13	28	36	15	214	406	264	28	12	23
15	26	12	14	27	37	15	372	412	277	28	12	17
16	25	11	15	26	36	15	340	454	290	27	12	14
17	31	11	16	26	33	16	300	506	259	26	11	13
18	23	11	17	25	32	16	378	584	218	24	11	12
19	21	12	18	24	32	17	538	639	196	23	11	12
20	20	12	19	23	31	18	584	604	178	22	10	11
21	19	12	22	22	28	18	492	667	157	21	10	10
22	18	13	20	21	30	18	454	674	137	20	12	10
23	19	14	19	19	29	17	551	702	122	19	11	9.7
24	19	14	40	18	29	18	723	807	110	18	9.7	9.7
25	18	14	33	18	29	26	716	730	105	18	8.5	9.7
26	34	14	28	20	28	32	492	667	94	17	7.9	9.7
27	34	15	24	25	27	36	400	709	80	16	10	9.0
28	26	16	22	24	25	33	362	938	73	14	14	18
29	22	17	23	24	------	33	286	653	68	14	14	41
30	19	18	25	22	------	33	246	512	62	14	11	20
31	16	------	23	21	------	38	------	448	------	14	9.0	------
TOTAL	682	398	579	786	863	653	9,137	15,856	7,294	904	415.1	433.7
MEAN	22.0	13.3	18.7	25.4	30.8	21.1	305	511	243	29.2	13.4	14.5
MAX	56	18	40	38	38	38	723	938	492	58	23	56
MIN	12	11	11	18	21	15	46	234	62	14	7.9	6.3
CFSM	.42	.25	.35	.48	.58	.40	5.75	9.65	4.59	.55	.25	.27
IN.	.48	.28	.41	.55	.61	.46	6.41	11.1	5.12	.63	.29	.30
AC-FT	1,350	789	1,150	1,560	1,710	1,300	18,120	31,450	14,470	1,790	823	860

CAL YR 1961: TOTAL 49,596.7 MEAN 136 MAX 1,100 MIN 9.7 CFSM 2.56 IN 34.80 AC-FT 98,370
WAT YR 1962: TOTAL 38,000.8 MEAN 104 MAX 938 MIN 6.3 CFSM 1.96 IN 26.67 AC-FT 75,370

Note.--No gage-height record Nov. 5 to Dec. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	28	129	92	39	84	102	338	354	106	22	12
2	15	27	122	112	40	82	95	268	296	91	21	16
3	14	26	108	145	45	78	89	229	301	82	20	14
4	12	26	96	119	60	80	89	202	277	73	19	13
5	12	31	92	108	90	78	106	209	291	66	18	12
6	12	31	108	98	160	75	194	382	254	61	18	11
7	16	28	96	92	170	73	177	511	220	63	16	11
8	34	38	94	86	170	71	152	426	202	58	16	11
9	45	103	92	80	160	69	138	365	259	52	15	11
10	48	103	90	56	145	68	128	332	229	58	18	11
11	38	86	86	40	133	68	126	326	202	58	18	10
12	74	90	82	31	120	65	126	360	183	55	16	10
13	132	74	80	30	116	63	135	376	164	49	16	16
14	71	64	78	35	108	61	168	398	150	42	28	30
15	53	58	151	43	104	61	286	420	135	40	18	18
16	45	53	218	46	100	60	216	459	126	39	16	20
17	40	49	178	46	97	60	183	472	114	40	15	22
18	38	46	163	46	93	58	161	504	102	41	14	18
19	36	81	148	46	89	57	150	511	95	34	14	16
20	39	218	135	45	87	57	140	504	87	31	14	14
21	50	129	129	44	85	58	135	564	82	30	16	14
22	48	101	117	43	84	61	138	571	97	30	15	15
23	41	88	98	42	82	75	130	571	93	28	14	20
24	38	80	88	41	80	84	126	620	82	27	18	16
25	36	298	80	40	80	78	128	592	85	26	16	14
26	34	723	82	40	91	78	142	524	78	28	16	13
27	33	335	84	39	89	85	183	485	71	25	15	13
28	32	218	86	39	85	124	229	452	68	23	14	13
29	31	172	86	39	------	116	272	433	141	23	13	12
30	31	151	86	39	------	122	343	452	138	24	13	12
31	30	------	84	39	------	114	------	398	------	23	12	------
TOTAL	1,195	3,555	3,366	1,841	2,802	2,363	4,787	13,254	4,976	1,426	514	438
MEAN	38.5	119	109	59.4	100	76.2	160	428	166	46.0	16.6	14.6
MAX	132	723	218	145	170	124	343	620	354	106	28	30
MIN	12	26	78	30	39	57	89	202	68	23	12	10
CFSM	.73	2.24	2.05	1.12	1.89	1.44	3.01	8.07	3.13	.87	.31	.28
IN.	.84	2.49	2.36	1.29	1.97	1.66	3.36	9.30	3.49	1.00	.36	.31
AC-FT	2,370	7,050	6,680	3,650	5,560	4,690	9,490	26,290	9,870	2,830	1,020	869

CAL YR 1962: TOTAL 44,457.8 MEAN 122 MAX 938 MIN 6.3 CFSM 2.30 IN 31.20 AC-FT 88,180
WAT YR 1963: TOTAL 40,517 MEAN 111 MAX 723 MIN 10 CFSM 2.09 IN 28.43 AC-FT 80,360

12-3055. Boulder Creek near Leonia, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	25	76	47	27	24	66	155	851	116	29	23
2	11	36	72	48	26	25	69	150	830	110	32	24
3	11	30	69	41	27	25	68	142	795	104	27	22
4	11	30	66	38	27	25	69	140	669	98	29	20
5	12	31	63	35	28	25	65	164	711	93	32	18
6	13	34	61	38	27	26	66	152	837	85	25	18
7	13	36	56	34	27	25	73	177	760	78	24	18
8	12	33	51	32	27	25	89	259	774	76	22	18
9	11	31	42	33	28	25	108	392	711	73	23	18
10	11	30	32	34	29	25	124	478	564	65	23	17
11	12	28	30	34	29	26	122	440	492	57	22	16
12	12	27	34	32	26	25	108	478	459	52	20	16
13	12	27	37	32	26	24	97	634	498	48	20	16
14	12	46	38	31	27	25	95	537	466	51	21	15
15	12	84	38	31	27	26	108	524	409	65	18	14
16	12	58	37	31	27	27	110	620	387	51	16	14
17	12	58	37	30	26	27	98	921	321	45	16	22
18	11	54	36	29	26	27	95	935	291	45	18	31
19	10	51	36	28	26	27	97	1,010	291	41	20	21
20	11	57	35	29	26	27	106	1,160	282	39	18	23
21	21	47	35	29	26	28	114	963	268	36	18	21
22	84	44	34	29	26	27	126	676	272	35	17	20
23	114	42	33	29	26	25	120	530	268	33	16	19
24	66	42	32	28	25	26	122	478	237	30	14	18
25	68	47	32	30	25	26	138	459	205	28	14	18
26	42	139	31	27	25	25	155	452	183	27	14	18
27	35	220	30	27	25	24	145	518	164	24	14	17
28	34	124	30	27	25	24	138	697	135	24	16	16
29	32	98	29	26	24	26	145	795	122	30	15	16
30	28	85	29	26	------	32	161	802	118	35	28	79
31	26	------	30	26	------	47	------	816	------	30	22	------
TOTAL	783	1,694	1,291	991	766	821	3,197	16,654	13,370	1,724	643	620
MEAN	25.3	56.5	41.6	32.0	26.4	26.5	107	537	446	55.6	20.7	20.9
MAX	114	220	76	48	29	47	161	1,160	851	116	32	79
MIN	10	25	29	26	24	24	65	140	118	24	14	14
CFSM	.48	1.07	.79	.60	.50	.50	2.01	10.1	8.41	1.05	.39	.39
IN.	.55	1.19	.91	.70	.54	.58	2.24	11.7	9.38	1.21	.45	.44
AC-FT	1,550	3,360	2,560	1,970	1,520	1,630	6,340	33,030	26,520	3,420	1,280	1,240

CAL YR 1963: TOTAL 36,169 MEAN 99.1 MAX 620 MIN 10 CFSM 1.87 IN 25.38 AC-FT 71,740
WAT YR 1964: TOTAL 42,560 MEAN 116 MAX 1,160 MIN 10 CFSM 2.19 IN 29.86 AC-FT 84,420

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	63	26	164	36	31	57	37	648	508	78	20	17
2	52	49	150	36	30	55	42	508	564	73	19	16
3	48	40	104	36	30	51	44	422	585	67	25	21
4	40	36	85	36	29	48	44	361	480	69	24	21
5	36	58	78	36	45	46	48	306	467	62	39	20
6	33	48	69	36	46	48	52	275	487	55	29	18
7	32	42	63	35	41	49	54	260	403	51	24	17
8	31	39	60	35	40	51	57	270	350	48	21	16
9	36	60	57	35	36	51	62	322	361	44	20	16
10	44	89	55	35	33	52	78	397	367	41	19	16
11	38	76	49	34	31	54	89	550	373	37	18	15
12	35	61	57	34	31	54	107	690	350	35	24	15
13	33	55	53	33	31	54	142	732	255	35	24	16
14	31	47	47	32	31	54	179	725	215	32	20	26
15	30	44	41	32	32	54	219	669	202	30	18	44
16	30	40	33	31	30	54	280	858	224	28	18	26
17	30	40	27	31	33	51	215	627	300	27	17	23
18	28	41	29	31	42	47	176	501	409	26	16	21
19	28	38	31	30	54	43	219	454	367	24	16	21
20	27	35	33	30	60	42	718	620	255	25	34	21
21	27	35	36	30	55	42	697	501	210	25	22	19
22	26	34	44	29	49	42	557	460	179	27	20	19
23	25	35	59	29	45	37	494	460	158	24	24	18
24	24	82	49	29	42	35	487	508	145	24	24	18
25	24	73	43	28	42	34	487	550	132	23	21	18
26	24	57	39	28	42	34	494	557	113	24	24	17
27	24	49	37	28	69	34	557	641	98	24	21	17
28	24	45	36	28	65	34	781	746	102	22	21	18
29	24	68	37	29	------	34	851	823	96	22	22	17
30	24	135	37	30	------	35	781	760	84	21	20	17
31	24	------	37	31	------	35	------	550	------	20	18	------
TOTAL	995	1,577	1,739	993	1,145	1,411	9,048	16,751	8,839	1,143	682	584
MEAN	32.1	52.6	56.1	32.0	40.9	45.5	302	540	295	36.9	22.0	19.5
MAX	63	135	164	36	69	57	851	856	585	78	39	44
MIN	24	26	27	28	29	34	37	260	84	20	16	15
CFSM	.61	.99	1.06	.60	.77	.86	5.69	10.2	5.56	.70	.42	.37
IN.	.70	1.11	1.22	.70	.80	.99	6.35	11.8	6.20	.80	.48	.41
AC-FT	1,970	3,130	3,450	1,970	2,270	2,800	17,950	33,230	17,530	2,270	1,350	1,160

CAL YR 1964: TOTAL 43,103 MEAN 118 MAX 1,160 MIN 14 CFSM 2.22 IN 30.25 AC-FT 85,490
WAT YR 1965: TOTAL 44,907 MEAN 123 MAX 858 MIN 15 CFSM 2.32 IN 31.51 AC-FT 89,070

12-3065. Moyie River at Eastport, Idaho

(International gaging station)

Location.--Lat 49°00', long 116°11', SE¼ sec.10, T.65 N., R.2 E., on left bank at Eastport, 1,000 ft downstream from international boundary and at mile 25.0.

Drainage area.--570 sq mi, approximately.

Records available.--January to December 1915, March to December 1916, August 1929 to September 1965 in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1736.

Gage.--Water-stage recorder. Datum of gage is 2,620.06 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. January 1915 to December 1916 staff gage at site 0.2 mile upstream at different datum.

Average discharge.--36 years (1929-65), 704 cfs (509,700 acre-ft per year); 15-year base period (1947-62), 806 cfs.

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum dischage (*) and peak discharges above base (2,900 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 2, 1961	0830	3,830	7.49	May 25, 1962	0100	* 3,940	7.59	June 8, 1964	2400	4,490	7.67
May 27, 1961	0200	* 8,450	10.44								
				May 24, 1963	2300	* 4,400	7.82	Apr. 30, 1965	0100	4,740	7.83
Apr. 25, 1962	0300	3,700	7.43					May 16, 1965	1900	* 4,860	7.98
				May 21, 1964	0100	* 6,940	8.80	May 30, 1965	0300	4,720	7.83

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Sept.17-20, 1961	58	3.58	1964	(a)	68	3.57
1962	Sept. 7, 1962	58	3.55	1965	Dec. 18, 1964	b 85	-
1963	Oct. 3-5, 1962	77	3.62				

a Oct. 14, 15, 17-20, 1963.
b Minimum daily.

1915-16, 1929-65: Maximum discharge observed, 10,600 cfs June 19, 1916; maximum gage height, 10.55 ft May 20, 1954; minimum discharge, 23 cfs Nov. 7, 1936 (gage height, 3.20 ft).

Remarks.--Records excellent except those for winter periods, which are fair. No regulation or diversion above station.

Cooperation.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

Corrections.--In WSP 1316, the yearly runoff for calendar year 1950 is listed in error; it should be 695,600 acre-ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	79	166	160	109	400	350	966	2,360	5,760	757	167	121
2	74	162	159	111	340	340	1,360	3,620	5,830	705	160	127
3	72	148	148	109	270	319	1,770	3,360	5,740	662	153	105
4	72	136	140	117	220	304	1,890	3,090	5,690	614	146	91
5	69	136	115	126	175	290	1,490	2,840	5,640	600	140	85
6	69	132	100	114	170	290	1,270	2,660	5,370	600	140	85
7	79	132	110	100	159	275	1,140	2,530	5,120	553	133	82
8	97	123	100	97	152	266	1,070	2,550	4,370	508	130	79
9	95	117	96	100	159	266	993	3,190	4,120	472	121	77
10	86	132	96	103	177	261	958	3,770	3,710	436	121	77
11	84	136	98	100	184	248	924	4,060	3,350	403	121	82
12	89	129	140	100	188	243	1,030	3,620	3,520	376	118	79
13	89	120	190	100	184	243	1,180	3,620	3,190	360	111	74
14	82	129	170	109	180	270	1,060	3,830	3,050	339	108	68
15	82	126	150	142	188	290	966	4,190	2,980	314	108	66
16	79	126	140	230	180	310	916	4,310	2,870	300	102	63
17	79	126	180	248	173	330	1,240	4,060	2,730	285	105	61
18	82	145	250	213	170	358	1,550	4,060	2,570	272	105	58
19	82	145	270	180	170	387	1,440	4,560	2,380	258	99	58
20	82	162	270	140	180	400	1,290	5,440	2,140	249	96	63
21	84	196	240	130	324	415	1,180	6,050	1,920	240	93	71
22	86	170	220	135	545	430	1,150	6,500	1,680	228	96	71
23	95	170	190	135	498	450	1,100	6,790	1,510	240	91	68
24	123	180	170	135	447	468	1,120	6,720	1,370	244	88	68
25	139	213	150	145	442	485	1,220	6,450	1,220	228	85	66
26	120	200	129	130	398	504	1,270	7,400	1,120	220	85	66
27	152	180	120	120	376	530	1,260	8,050	1,000	208	79	66
28	145	170	110	115	371	600	1,200	6,930	913	200	77	64
29	148	150	115	130	------	680	1,230	6,240	872	193	71	77
30	142	150	120	240	------	750	2,030	5,760	833	185	68	79
31	142	------	111	410	------	842	------	5,840	------	178	74	------
TOTAL	2,998	4,507	4,757	4,473	7,420	12,194	37,263	144,450	92,568	11,427	3,397	2,299
MEAN	96.7	150	153	144	265	393	1,242	4,660	3,086	369	110	76.6
MAX	152	213	270	410	545	842	2,030	8,050	5,830	757	167	127
MIN	69	117	96	97	152	243	916	2,360	833	178	68	58
CFSM	.17	.26	.27	.25	.46	.69	2.18	8.17	5.41	.65	.19	.13
IN.	.20	.29	.31	.29	.48	.80	2.43	9.42	6.04	.75	.22	.15
AC-FT	5,950	8,940	9,440	8,870	14,720	24,190	73,910	286,500	183,600	22,670	6,740	4,560

CAL YR 1960: TOTAL 273,059 MEAN 746 MAX 5,640 MIN 69 CFSM 1.31 IN 17.82 AC-FT 541,600
WAT YR 1961: TOTAL 327,753 MEAN 898 MAX 8,050 MIN 58 CFSM 1.58 IN 21.38 AC-FT 650,100

12-3065. Moyie River at Eastport, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	77	143	124	140	110	75	220	1,630	2,720	573	137	71
2	71	127	118	130	115	75	262	1,580	2,560	521	133	68
3	71	130	118	125	140	75	329	1,790	2,570	490	140	66
4	71	130	118	120	170	76	381	2,170	2,340	466	143	66
5	71	126	118	115	163	77	448	1,890	2,130	431	153	66
6	77	124	116	114	178	78	534	1,750	1,910	414	146	63
7	93	124	114	111	143	80	779	1,700	1,770	381	137	61
8	85	121	110	105	140	82	691	1,610	1,720	350	140	63
9	85	118	100	110	137	82	600	1,710	2,010	334	137	63
10	93	127	90	90	130	82	528	1,950	2,060	314	133	66
11	130	140	90	100	130	82	508	2,110	2,010	295	127	141
12	114	124	96	100	127	82	534	2,150	1,930	272	121	124
13	146	124	104	100	127	83	614	2,310	1,910	254	114	96
14	150	124	110	100	133	84	818	2,370	1,890	232	108	91
15	137	110	116	100	137	85	1,340	2,310	1,840	220	102	93
16	137	100	123	96	137	87	1,520	2,390	1,890	204	99	85
17	170	94	125	100	130	91	1,400	2,600	1,830	193	96	82
18	156	94	127	90	127	96	1,630	2,800	1,710	182	93	79
19	143	113	130	90	124	96	2,220	3,220	1,590	170	91	77
20	143	96	140	88	121	102	2,560	3,370	1,480	160	88	77
21	140	96	150	90	115	102	2,660	3,430	1,360	156	85	74
22	140	120	150	90	105	99	2,610	3,490	1,240	150	85	74
23	146	105	160	92	100	99	2,770	3,560	1,130	146	85	71
24	146	110	190	95	95	99	3,280	3,760	1,040	143	79	71
25	137	110	180	100	92	114	3,460	3,760	971	140	77	71
26	150	105	170	110	85	137	3,000	3,540	905	140	74	68
27	156	120	150	120	78	150	2,690	3,490	818	143	74	68
28	153	130	130	130	76	153	2,440	3,840	749	140	77	74
29	143	140	140	125	------	153	2,090	3,650	684	137	79	105
30	150	130	150	120	------	163	1,810	3,260	627	137	77	99
31	146	------	150	115	------	185	------	2,980	------	137	74	------
TOTAL	3,827	3,555	4,007	3,311	3,465	3,124	44,726	82,170	49,394	8,025	3,304	2,373
MEAN	123	119	129	107	124	101	1,491	2,651	1,646	259	107	79.1
MAX	170	143	190	140	178	185	3,460	3,840	2,720	573	153	141
MIN	71	94	90	88	76	75	220	1,580	627	137	74	61
CFSM	.22	.21	.23	.19	.22	.18	2.62	4.65	2.89	.45	.19	.14
IN.	.25	.23	.26	.22	.23	.20	2.92	5.36	3.22	.52	.22	.15
AC-FT	7,590	7,050	7,950	6,570	6,870	6,200	88,710	163,000	97,970	15,920	6,550	4,710

CAL YR 1961: TOTAL 326,880 MEAN 896 MAX 8,050 MIN 58 CFSM 1.57 IN 21.33 AC-FT 648,400
WAT YR 1962: TOTAL 211,281 MEAN 579 MAX 3,840 MIN 61 CFSM 1.02 IN 13.79 AC-FT 419,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	88	140	314	280	150	365	540	2,430	3,080	1,260	224	96
2	82	146	300	295	155	355	508	2,190	2,870	1,120	216	105
3	79	140	280	319	170	334	484	2,000	2,730	1,030	208	99
4	77	137	258	319	230	324	478	1,820	2,580	946	200	96
5	77	140	254	305	300	329	580	1,730	2,570	856	193	93
6	79	140	258	280	460	319	1,050	2,410	2,910	794	182	91
7	82	133	254	272	500	310	1,080	3,210	2,670	742	174	88
8	85	137	254	258	520	300	988	3,150	2,500	705	170	85
9	88	150	249	240	510	295	913	2,790	2,670	655	163	82
10	99	163	249	210	480	295	864	2,580	2,630	627	163	82
11	99	160	254	160	460	295	833	2,500	2,440	648	167	85
12	127	170	249	120	440	280	825	2,580	2,280	607	160	85
13	189	167	240	105	420	280	880	2,570	2,100	560	156	93
14	163	160	236	130	400	276	1,090	2,570	1,960	521	163	127
15	140	156	249	160	395	276	1,670	2,690	1,810	502	153	105
16	127	153	386	170	385	272	1,660	2,830	1,660	508	146	102
17	118	150	386	170	375	262	1,550	2,980	1,510	478	143	106
18	118	143	376	165	365	254	1,290	3,160	1,380	448	140	99
19	114	146	365	160	355	249	1,170	3,220	1,250	454	137	93
20	114	280	350	160	344	254	1,080	3,320	1,140	420	130	91
21	127	262	355	155	339	258	1,010	3,560	1,030	386	127	91
22	143	232	339	155	344	272	980	3,720	1,090	365	124	88
23	140	216	310	155	329	324	929	3,980	1,090	344	121	96
24	137	208	280	150	324	381	905	4,070	971	324	121	96
25	137	249	250	150	319	376	913	4,180	929	310	121	93
26	137	670	230	145	355	381	1,000	4,070	872	300	114	88
27	140	454	215	145	376	414	1,310	3,880	802	290	118	85
28	140	381	235	145	370	540	1,820	3,710	757	276	108	88
29	140	339	272	145	------	560	2,040	3,530	962	258	102	85
30	140	329	280	145	------	607	2,410	3,430	1,480	249	102	85
31	140	------	276	145	------	580	------	3,330	------	232	99	------
TOTAL	3,666	6,451	8,803	5,913	10,170	10,617	32,850	94,190	54,723	17,215	4,645	2,800
MEAN	118	215	284	191	363	342	1,095	3,038	1,824	555	150	93.3
MAX	189	670	386	319	520	607	2,410	4,180	3,080	1,260	224	127
MIN	77	133	215	105	150	249	478	1,730	757	232	99	82
CFSM	.21	.38	.50	.33	.64	.60	1.92	5.33	3.20	.97	.26	.16
IN.	.24	.42	.57	.39	.66	.69	2.14	6.15	3.57	1.12	.30	.18
AC-FT	7,270	12,800	17,460	11,730	20,170	21,060	65,160	186,800	108,500	34,150	9,210	5,550

CAL YR 1962: TOTAL 218,812 MEAN 599 MAX 3,840 MIN 61 CFSM 1.05 IN 14.28 AC-FT 434,000
WAT YR 1963: TOTAL 252,043 MEAN 691 MAX 4,180 MIN 77 CFSM 1.21 IN 16.44 AC-FT 499,900

12-3065. Moyie River at Eastport, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	85	163	315	182	143	118	236	1,470	4,050	928	196	111
2	79	170	285	212	140	114	290	1,560	4,200	877	191	111
3	79	174	270	189	140	114	314	1,610	4,270	836	183	108
4	79	170	275	182	137	114	350	1,620	4,220	780	151	105
5	79	163	310	185	137	124	339	1,860	4,090	742	208	102
6	79	163	285	185	135	121	334	1,900	4,200	690	191	96
7	79	167	245	175	130	118	355	1,860	4,070	638	179	93
8	79	170	245	170	135	116	408	2,120	4,420	602	172	96
9	77	167	235	170	135	115	515	2,650	4,230	595	164	96
10	74	160	200	170	130	114	600	3,270	3,950	547	179	93
11	74	156	193	170	135	118	648	3,250	3,640	508	164	90
12	74	156	200	165	135	121	634	3,350	3,380	476	156	87
13	74	156	210	160	130	118	593	3,610	3,230	445	153	87
14	68	163	230	156	125	118	586	3,710	3,080	416	149	84
15	68	244	235	156	120	118	772	3,610	2,940	387	142	81
16	71	212	225	163	120	118	877	3,830	2,840	364	131	78
17	68	208	200	153	120	124	780	4,700	2,620	343	128	81
18	68	216	200	156	120	127	728	4,940	2,400	332	128	102
19	68	216	210	156	120	127	720	5,350	2,180	316	128	93
20	68	228	215	174	125	124	788	6,090	2,030	296	126	93
21	79	200	210	160	135	124	820	6,250	1,860	281	121	96
22	124	210	205	156	140	127	928	5,060	1,770	262	111	96
23	232	208	193	153	140	125	936	4,270	1,660	253	108	93
24	174	204	189	153	124	125	972	3,760	1,600	239	105	90
25	174	204	185	167	125	130	1,090	3,330	1,480	225	105	87
26	167	258	185	150	137	130	1,250	3,110	1,400	217	111	90
27	163	508	178	146	130	125	1,230	2,990	1,330	204	114	90
28	163	403	170	146	125	121	1,160	3,440	1,210	196	111	90
29	163	355	167	143	124	121	1,240	3,730	1,100	196	111	90
30	163	334	163	146	------	137	1,430	3,920	1,010	217	111	102
31	163	------	163	143	------	170	------	3,920	------	208	111	------
TOTAL	3,255	6,506	6,791	5,092	3,792	3,816	21,923	106,140	84,460	13,616	4,480	2,811
MEAN	105	217	219	164	131	123	731	3,424	2,815	439	145	93.7
MAX	232	508	315	212	143	170	1,430	6,250	4,420	928	208	111
MIN	68	156	163	143	120	114	236	1,470	1,010	196	105	78
CFSM	.18	.38	.38	.29	.23	.22	1.28	6.01	4.94	.77	.25	.16
IN.	.21	.42	.44	.33	.25	.25	1.43	6.93	5.51	.89	.29	.18
AC-FT	6,460	12,900	13,470	10,100	7,520	7,570	43,480	210,500	167,500	27,010	8,890	5,580

CAL YR 1963: TOTAL 249,675 MEAN 684 MAX 4,180 MIN 68 CFSM 1.20 IN 16.29 AC-FT 495,200
WAT YR 1964: TOTAL 262,682 MEAN 718 MAX 6,250 MIN 68 CFSM 1.26 IN 17.14 AC-FT 521,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	172	142	175	115	110	208	164	4,180	3,590	936	175	111
2	142	156	183	115	110	212	179	3,470	3,440	852	172	108
3	179	156	168	115	110	212	196	3,060	3,580	796	172	128
4	164	164	160	115	120	187	217	2,720	3,390	750	172	160
5	160	208	153	115	140	187	266	2,430	3,220	735	221	153
6	160	196	149	115	160	196	301	2,160	3,190	668	239	145
7	160	179	145	110	150	204	316	2,040	3,040	638	200	138
8	160	175	149	110	138	221	321	2,010	2,760	638	191	131
9	164	187	145	110	142	221	353	2,260	2,620	588	183	128
10	172	208	149	110	135	230	452	2,720	2,610	547	175	125
11	168	212	156	110	130	243	514	3,280	2,570	514	168	121
12	164	200	160	110	125	248	690	3,930	2,590	489	164	121
13	164	191	160	110	120	253	954	4,460	2,370	470	168	121
14	164	172	140	110	120	253	1,150	4,420	2,120	445	160	128
15	164	160	120	110	119	257	1,340	4,510	1,950	421	153	138
16	172	156	105	110	120	257	1,530	4,610	1,810	392	145	138
17	168	156	93	110	128	255	1,370	4,360	1,910	359	138	131
18	160	160	85	111	142	250	1,220	3,850	2,510	337	135	125
19	156	160	86	108	160	243	1,210	3,510	2,510	311	131	125
20	156	153	95	108	179	239	1,780	3,520	2,380	301	135	125
21	156	149	105	108	191	200	2,430	3,430	2,180	291	138	125
22	153	145	115	105	183	191	2,410	3,220	1,950	286	138	131
23	153	145	120	105	175	183	2,310	3,170	1,730	281	142	138
24	149	168	135	100	160	170	2,480	3,250	1,560	262	164	135
25	145	175	160	100	164	165	2,690	3,280	1,420	248	149	131
26	142	164	145	105	164	160	2,960	3,330	1,340	239	138	128
27	145	156	135	105	217	155	3,200	3,510	1,190	225	135	128
28	145	145	130	105	221	155	3,850	3,900	1,100	212	128	128
29	142	135	125	105	------	153	4,530	4,340	1,050	204	131	125
30	142	155	120	108	------	153	4,510	4,360	1,020	196	125	121
31	142	------	115	115	------	153	------	3,900	------	183	118	------
TOTAL	4,883	5,028	4,181	3,388	4,133	6,414	45,893	107,190	68,700	13,814	4,903	3,890
MEAN	158	168	135	109	148	207	1,530	3,458	2,290	446	158	130
MAX	179	212	183	115	221	257	4,530	4,610	3,590	936	239	160
MIN	142	135	85	100	110	153	164	2,010	1,020	183	118	108
CFSM	.28	.29	.24	.19	.26	.36	2.68	6.07	4.02	.78	.28	.23
IN.	.32	.33	.27	.22	.27	.42	2.99	6.99	4.48	.90	.32	.25
AC-FT	9,690	9,970	8,290	6,720	8,200	12,720	91,030	212,600	136,300	27,400	9,720	7,720

CAL YR 1964: TOTAL 260,222 MEAN 711 MAX 6,250 MIN 78 CFSM 1.25 IN 16.98 AC-FT 516,100
WAT YR 1965: TOTAL 272,417 MEAN 746 MAX 4,610 MIN 85 CFSM 1.31 IN 17.77 AC-FT 540,300

12-3075. Moyie River at Eileen, Idaho

Location.--Lat 48°46'27", long 116°09'26" (revised), in NE¼NE¼ sec.35, T.63 N., R.2 E., on right bank an eighth of a mile downstream from Skin Creek, a quarter of a mile southeast of Eileen, and at mile 5.0.

Drainage area.--755 sq mi.

Records available.--October 1925 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,124.5 ft above mean sea level (river-profile survey). Prior to June 1, 1928, staff gage and June 1, 1928, to Sept. 30, 1944, water-stage recorder, at same site at datum 1.0 ft higher.

Average discharge.--40 years, 874 cfs (632,700 acre-ft per year); 15-year base period (1947-62), 1,017 cfs.

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (3,500 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 2, 1961	1100	* 5,420	5.48	May 8, 1963	0100	* 4,170	5.20	Apr. 30, 1965	0230	* 6,440	5.65
May 27, 1961	1230	* 10,100	6.66	May 25, 1963	0200	* 5,380	5.58	May 15, 1965	0400	6,120	5.56
								May 30, 1965	0200	5,900	5.50
Apr. 25, 1962	0600	4,800	5.21	May 21, 1964	0500	* 8,140	6.28				
May 25, 1962	0130	* 5,420	5.39	June 4, 1964	0300	5,590	5.42				

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	(a)	108	b 1.77	1964	Oct. 20, 1963	88	1.79
1962	Sept. 7, 1962	102	1.76	1965	Dec. 17, 1964	c 40	1.44
1963	Sept.10, 1963	97	1.82				

a Oct. 5, 6, 1960, Aug. 30, Sept. 18, 1961.
b Occurred Aug. 30, Sept. 18, 1961.
c Result of freezeup.

1925-65: Maximum discharge, 11,000 cfs May 20, 1954 (gage height, 6.99 ft); minimum, 40 cfs Nov. 27, 1936, Dec. 17, 1964, both the result of freezeup; minimum gage height, 0.50 ft Feb. 22, 1944, present datum.
Flood of June 19, 1916, about 12,000 cfs.

Remarks.--Records excellent except those for winter periods in 1962-65 and those for periods of no gage-height record, which are fair. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	118	225	250	206	664	592	1,300	3,090	7,110	950	245	175
2	118	225	245	189	600	568	1,850	4,930	7,220	870	240	193
3	114	206	235	197	485	520	2,300	4,640	7,140	820	225	163
4	111	193	225	189	387	492	2,530	4,170	7,070	761	215	148
5	108	184	190	260	287	464	2,080	3,810	7,030	743	206	137
6	111	175	150	298	255	471	1,780	3,580	6,700	752	202	137
7	121	175	165	230	265	450	1,600	3,340	6,410	716	193	137
8	141	175	155	184	255	430	1,510	3,340	5,420	672	189	133
9	141	163	150	171	265	420	1,410	4,290	5,040	608	180	130
10	130	175	150	171	309	410	1,330	5,280	4,420	568	180	133
11	127	184	155	167	338	390	1,270	5,870	3,920	536	175	133
12	141	180	220	167	356	380	1,370	5,170	4,120	506	167	133
13	141	171	300	167	350	380	1,540	5,070	3,700	478	163	127
14	130	175	270	171	332	395	1,430	5,480	3,520	450	156	124
15	127	175	230	240	338	420	1,300	5,840	3,450	422	152	118
16	124	175	220	429	326	450	1,230	6,120	3,290	401	152	118
17	141	175	280	415	314	465	1,500	5,840	3,140	394	156	114
18	137	230	400	362	309	480	1,930	5,840	2,930	380	152	111
19	133	211	429	292	298	505	1,860	6,440	2,720	362	144	111
20	130	265	422	230	320	510	1,670	7,600	2,440	350	141	118
21	127	344	368	215	652	530	1,540	8,500	2,190	338	137	133
22	130	282	344	220	1,010	550	1,500	8,830	1,950	320	133	130
23	137	255	298	220	900	580	1,440	9,320	1,760	332	130	127
24	160	332	276	220	810	620	1,440	9,280	1,590	344	127	124
25	197	443	260	240	780	645	1,560	8,910	1,450	320	124	118
26	180	362	245	210	689	660	1,650	9,650	1,320	309	124	114
27	193	292	215	200	632	700	1,670	9,680	1,200	292	124	111
28	197	276	197	190	584	780	1,650	8,340	1,120	282	118	114
29	202	240	215	210	------	900	1,670	7,600	1,060	265	114	121
30	193	240	225	400	------	980	2,660	6,920	1,020	265	111	127
31	193	------	211	600	------	1,120	------	7,110	------	255	124	------
TOTAL	4,453	6,903	7,695	7,660	13,110	17,257	49,570	193,880	111,450	15,061	4,999	3,912
MEAN	144	230	248	247	468	557	1,652	6,254	3,715	486	161	130
MAX	202	443	429	600	1,010	1,120	2,660	9,680	7,220	950	245	193
MIN	108	163	150	167	255	380	1,230	3,090	1,020	255	111	111
CFSM	.19	.30	.33	.33	.62	.74	2.19	8.28	4.92	.64	.21	.17
IN.	.22	.34	.38	.38	.65	.85	2.44	9.55	5.49	.74	.25	.19
AC-FT	8,830	13,690	15,260	15,190	26,000	34,230	98,320	384,600	221,100	29,870	9,920	7,760

CAL YR 1960: TOTAL 356,403 MEAN 974 MAX 7,410 MIN 108 CFSM 1.29 IN 17.56 AC-FT 706,900
WAT YR 1961: TOTAL 435,950 MEAN 1,194 MAX 9,680 MIN 108 CFSM 1.58 IN 21.47 AC-FT 864,700

Note.--No gage-height record Mar. 7 to Apr. 2.

12-3075. Moyie River at Eileen, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	124	206	202	240	170	120	298	1,920	3,270	707	185	114
2	118	193	193	240	180	120	356	1,850	3,010	648	185	111
3	118	180	189	280	190	120	457	2,100	3,070	608	185	108
4	118	189	184	240	230	120	544	2,640	2,730	576	190	108
5	118	175	193	193	230	120	656	2,320	2,460	544	200	105
6	121	175	180	184	250	120	770	2,130	2,240	528	190	105
7	144	175	170	175	230	125	1,050	2,080	2,080	506	180	102
8	137	171	160	167	220	125	992	2,020	2,020	478	180	105
9	133	167	150	160	210	125	860	2,110	2,360	450	180	105
10	156	175	140	145	200	127	752	2,410	2,410	436	170	118
11	189	189	140	160	200	127	716	2,580	2,340	415	165	193
12	184	180	150	155	200	124	743	2,620	2,240	387	160	220
13	202	171	160	155	200	124	840	2,810	2,220	374	156	163
14	225	171	170	155	210	121	1,080	2,950	2,190	350	148	152
15	206	152	185	155	210	124	1,670	2,850	2,110	338	144	148
16	197	140	200	150	210	121	1,950	2,890	2,160	326	141	144
17	220	135	205	155	210	127	1,790	3,180	2,060	314	137	137
18	225	135	210	140	200	130	1,990	3,450	1,930	304	137	133
19	202	160	215	140	200	133	2,680	4,230	1,820	292	133	130
20	197	135	230	140	190	144	3,050	4,420	1,690	276	130	127
21	193	135	240	140	180	144	3,120	4,480	1,590	265	127	124
22	193	170	240	140	180	141	3,030	4,670	1,470	260	124	127
23	206	148	260	145	160	137	3,180	4,770	1,350	250	124	124
24	202	153	310	150	150	152	3,920	5,170	1,240	235	121	121
25	202	153	300	158	150	189	4,480	5,140	1,160	230	114	121
26	220	146	270	175	140	225	3,620	4,740	1,080	220	111	118
27	240	165	240	190	130	240	3,160	4,640	970	211	118	118
28	225	180	210	205	120	235	2,680	5,280	890	202	124	130
29	215	190	225	195	------	225	2,440	5,000	830	193	124	167
30	206	202	240	190	------	240	2,110	4,230	761	190	121	167
31	206	------	240	180	------	260	------	3,700	------	190	118	------
TOTAL	5,642	5,016	6,401	5,397	5,350	4,685	54,984	105,380	57,751	11,303	4,622	3,945
MEAN	182	167	206	174	191	151	1,833	3,399	1,925	365	149	132
MAX	240	206	310	280	250	260	4,480	5,280	3,270	707	200	220
MIN	118	135	140	140	120	120	298	1,850	761	130	111	102
CFSM	.24	.22	.27	.23	.25	.20	2.43	4.50	2.55	.48	.20	.17
IN.	.28	.25	.32	.27	.26	.23	2.71	5.19	2.84	.56	.23	.19
AC-FT	11,190	9,950	12,700	10,700	10,610	9,290	109,100	209,000	114,500	22,420	9,170	7,820

CAL YR 1961: TOTAL 433,958 MEAN 1,189 MAX 9,680 MIN 111 CFSM 1.57 IN 21.38 AC-FT 860,700
WAT YR 1962: TOTAL 270,476 MEAN 741 MAX 5,280 MIN 102 CFSM .98 IN 13.32 AC-FT 536,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	152	180	387	408	220	464	790	2,830	3,400	1,490	282	114
2	141	180	362	443	225	450	716	2,570	3,120	1,310	276	127
3	137	175	344	492	250	429	689	2,390	2,970	1,190	265	124
4	133	171	314	492	320	408	664	2,170	2,790	1,080	255	118
5	130	175	314	464	460	408	780	2,060	2,830	981	240	111
6	127	171	320	436	640	387	1,530	2,830	3,220	910	230	108
7	130	167	320	415	680	380	1,630	3,700	2,910	860	235	102
8	141	171	332	394	710	374	1,490	3,840	2,680	810	211	100
9	152	197	338	380	690	368	1,360	3,380	2,910	761	202	100
10	167	215	350	330	660	368	1,270	3,070	2,890	734	206	100
11	167	225	350	250	610	368	1,240	2,930	2,600	770	211	100
12	206	240	344	180	580	356	1,190	2,970	2,420	725	202	100
13	292	235	338	160	560	350	1,240	2,970	2,220	664	202	105
14	287	230	338	190	550	344	1,480	2,950	2,060	624	215	133
15	220	225	368	240	530	338	2,060	3,070	1,890	592	193	133
16	197	225	536	250	510	332	2,130	3,270	1,750	600	175	124
17	189	215	584	250	500	326	1,890	3,430	1,620	568	171	127
18	175	215	576	245	492	320	1,720	3,650	1,510	552	167	124
19	175	220	560	240	485	320	1,590	3,860	1,390	536	163	118
20	167	380	536	235	478	320	1,480	4,140	1,270	499	160	114
21	175	401	528	230	457	326	1,380	4,120	1,180	471	156	114
22	202	320	513	230	443	344	1,330	4,350	1,240	443	148	111
23	202	304	464	225	429	415	1,260	4,510	1,270	422	141	118
24	193	298	410	225	422	492	1,210	4,870	1,110	394	152	121
25	189	408	360	220	422	499	1,210	5,100	1,050	380	148	118
26	189	970	340	220	457	499	1,310	4,870	981	368	141	108
27	189	761	320	215	492	560	1,590	4,510	910	356	137	105
28	184	544	350	215	478	752	2,080	4,260	860	338	130	105
29	184	443	387	215	------	820	2,360	3,940	1,150	320	127	105
30	180	422	401	215	------	910	2,790	3,840	1,680	304	124	102
31	180	------	401	215	------	880	------	3,700	------	292	121	------
TOTAL	5,552	9,083	12,385	8,919	13,750	13,907	43,459	110,150	59,881	20,344	5,786	3,383
MEAN	179	303	400	288	491	449	1,449	3,553	1,996	656	187	113
MAX	292	970	584	492	710	910	2,790	5,100	3,400	1,490	282	133
MIN	127	167	314	160	220	320	664	2,060	860	292	121	100
CFSM	.24	.40	.53	.38	.65	.59	1.92	4.71	2.64	.87	.25	.15
IN.	.27	.45	.61	.44	.68	.69	2.14	5.43	2.95	1.00	.29	.17
AC-FT	11,010	18,020	24,570	17,690	27,270	27,580	86,200	218,500	118,800	40,350	11,480	6,720

CAL YR 1962: TOTAL 280,437 MEAN 768 MAX 5,280 MIN 102 CFSM 1.02 IN 13.81 AC-FT 556,200
WAT YR 1963: TOTAL 306,605 MEAN 840 MAX 5,100 MIN 100 CFSM 1.11 IN 15.10 AC-FT 608,100

12-3075. Moyie River at Eileen, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	100	184	401	255	193	171	368	1,790	5,100	1,060	240	156
2	100	193	368	292	184	160	464	1,880	5,310	1,000	230	156
3	100	197	344	265	189	152	506	1,960	5,420	960	225	156
4	97	193	350	255	184	156	560	1,920	5,210	900	235	148
5	100	197	394	240	189	167	536	2,130	4,970	850	255	144
6	100	202	374	250	175	163	528	2,210	5,210	780	240	137
7	100	206	314	235	171	152	576	2,140	5,040	725	220	133
8	100	211	314	220	180	152	656	2,410	5,450	690	206	137
9	97	202	304	220	175	163	820	3,050	5,140	672	202	141
10	97	197	255	225	170	156	960	3,920	4,670	616	211	133
11	95	189	250	220	170	167	1,000	3,970	4,200	576	206	130
12	95	189	277	220	171	171	970	4,120	3,840	544	197	127
13	95	189	290	215	170	163	890	4,510	3,650	506	193	124
14	93	197	314	211	163	160	860	4,770	3,450	478	189	124
15	90	287	320	211	160	163	1,010	4,480	3,290	457	180	121
16	93	282	314	220	160	167	1,170	4,700	3,140	429	171	121
17	93	276	276	225	155	184	1,060	5,980	2,890	401	163	130
18	93	276	270	292	155	189	980	6,080	2,620	387	167	148
19	90	298	287	220	160	184	970	5,900	2,410	374	171	141
20	90	326	298	235	160	184	1,060	7,300	2,220	344	167	133
21	100	260	292	215	175	184	1,080	7,490	2,040	320	160	141
22	130	276	282	220	164	184	1,210	6,260	1,920	304	152	137
23	287	282	265	206	184	180	1,240	5,210	1,830	287	148	130
24	255	276	250	202	175	184	1,270	4,570	1,750	270	141	127
25	225	270	245	225	163	190	1,410	3,970	1,640	260	137	127
26	211	314	240	206	180	180	1,580	3,650	1,550	250	144	127
27	202	624	230	202	171	180	1,550	3,500	1,490	240	156	127
28	197	544	230	202	167	175	1,450	4,090	1,350	230	156	127
29	197	478	220	197	171	184	1,530	4,570	1,250	235	156	127
30	193	429	215	202	------	206	1,720	4,870	1,150	265	160	133
31	189	------	215	197	------	260	------	4,870	------	255	160	------
TOTAL	4,104	8,244	8,998	7,000	5,004	5,431	29,984	128,270	99,200	15,655	5,738	4,043
MEAN	132	275	290	226	173	175	999	4,138	3,307	505	185	135
MAX	287	624	401	292	193	260	1,720	7,490	5,450	1,060	255	156
MIN	90	184	215	197	155	152	368	1,790	1,150	230	137	121
CFSM	.18	.36	.38	.30	.23	.23	1.32	5.48	4.38	.67	.25	.18
IN.	.20	.41	.44	.34	.25	.27	1.48	6.32	4.89	.77	.28	.20
AC-FT	8,140	16,350	17,850	13,880	9,930	10,770	59,470	254,400	196,800	31,050	11,380	8,020

CAL YR 1963: TOTAL 300,931 MEAN 824 MAX 5,100 MIN 90 CFSM 1.09 IN 14.82 AC-FT 596,900
WAT YR 1964: TOTAL 321,671 MEAN 879 MAX 7,490 MIN 90 CFSM 1.16 IN 15.84 AC-FT 638,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	184	180	260	180	160	356	276	5,590	4,260	1,120	211	144
2	193	189	270	180	165	344	309	4,450	4,090	1,040	206	137
3	206	197	250	180	170	326	326	3,750	4,320	960	215	156
4	206	197	235	180	170	320	356	3,270	4,030	910	215	193
5	197	235	225	180	190	314	415	2,910	3,780	880	265	189
6	197	250	215	180	230	320	478	2,570	3,730	810	304	175
7	193	235	211	180	206	344	499	2,420	3,480	761	260	171
8	197	225	211	175	190	356	513	2,390	3,160	752	235	163
9	202	255	211	175	200	362	568	2,620	2,990	698	225	160
10	206	292	215	170	190	374	725	3,180	2,970	656	215	156
11	202	287	206	170	175	401	820	4,000	2,930	624	206	156
12	197	265	211	170	175	415	1,040	4,970	2,930	584	211	152
13	197	250	230	165	175	415	1,320	5,870	2,660	576	215	152
14	193	230	215	165	175	415	1,590	5,870	2,410	544	206	163
15	202	211	190	165	171	422	1,830	5,760	2,210	506	193	180
16	206	206	160	165	193	422	2,050	5,730	2,060	478	189	180
17	211	202	130	165	193	374	1,890	5,450	2,140	443	180	167
18	202	202	120	165	215	344	1,670	4,600	2,810	415	171	160
19	197	206	120	160	240	338	1,650	4,120	2,750	387	171	160
20	193	197	130	160	282	332	2,340	4,170	2,580	368	184	163
21	193	193	150	163	270	338	3,240	4,060	2,370	362	184	163
22	193	189	160	160	250	314	3,180	3,780	2,130	356	175	167
23	189	193	170	152	240	292	2,970	3,680	1,920	344	184	175
24	184	250	190	150	240	280	3,090	3,840	1,750	326	197	167
25	180	245	230	155	245	260	3,240	3,890	1,630	309	193	163
26	184	230	210	155	255	255	3,680	3,940	1,550	287	180	163
27	184	211	190	155	401	250	4,030	4,140	1,410	270	171	160
28	184	197	180	160	401	245	4,870	4,800	1,310	255	163	156
29	180	180	180	160	------	245	6,160	5,450	1,270	245	167	156
30	180	211	180	163	------	245	6,050	5,520	1,230	230	160	148
31	180	------	180	171	------	255	------	4,740	------	225	148	------
TOTAL	6,012	6,610	6,035	5,174	6,167	10,273	61,175	131,530	78,860	16,721	6,199	4,895
MEAN	194	220	195	167	220	331	2,039	4,243	2,629	539	200	163
MAX	211	292	270	180	401	422	6,160	5,870	4,320	1,120	304	193
MIN	180	180	120	150	160	245	276	2,390	1,230	225	148	137
CFSM	.26	.29	.26	.22	.29	.44	2.70	5.62	3.48	.71	.26	.22
IN.	.30	.33	.30	.25	.30	.51	3.01	6.48	3.88	.82	.31	.24
AC-FT	11,920	13,110	11,970	10,260	12,230	20,380	121,300	260,900	156,400	33,170	12,300	9,710

CAL YR 1964: TOTAL 318,982 MEAN 872 MAX 7,490 MIN 120 CFSM 1.15 IN 15.71 AC-FT 632,700
WAT YR 1965: TOTAL 339,651 MEAN 931 MAX 6,160 MIN 120 CFSM 1.23 IN 16.73 AC-FT 673,700

12-3095. Kootenai River at Bonners Ferry, Idaho

Location.--Lat 48°42'00", long 116°18'45", in NE¼ sec.27, T.62 N., R.1 E., on left bank 43 ft downstream from highway bridge at Bonners Ferry and at mile 152.8.

Drainage area.--13,000 sq mi, approximately.

Records available.--May to October 1904, October 1927 to September 1965 (elevations only prior to March 1928 and October 1960 to September 1965). Gage heights collected in this vicinity since 1904 are contained in reports of U.S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,743.00 ft above mean sea level with respect to Geological Survey bench mark V-3-1929 at elevation 1,777.08 ft. Gage heights have been reduced to elevations above mean sea level. Datum of 1929, supplementary adjustment of 1947, is 0.02 ft higher. May 1 to Oct. 15, 1904, staff gage on railroad bridge three-quarters of a mile downstream at different datum. Oct. 1, 1927, to Nov. 30, 1929, staff gage near left bank. Dec. 1, 1929, to June 12, 1933, chain or wire-weight gages on old highway bridge 40 ft downstream. June 13, 1933, to Sept. 30, 1960, Mar. 12 to Apr. 4, 1962, Mar. 4-28, Apr. 4, 5, 1963, Jan. 29 to Apr. 13, 1964, and Mar. 5 to Apr. 9, 1965, wire-weight gage near right bank on downstream side of highway bridge at Bonners Ferry. Datum of gages Oct. 1, 1927, to Jan. 2, 1931, was about 0.23 ft lower.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum observed	
	Date	Elevation	Date	Elevation
1961	May 29, 1961	1,780.13	Mar. 13, 1961	1,743.67
1962	May 30, 1962	1,767.04	Mar. 24, 1962	1,742.60
1963	June 2, 1963	1,767.78	Mar. 22, 1963	1,743.15
1964	June 10, 1964	1,774.94	Mar. 27, 28, 1964	1,741.95
1965	June 20, 1965	1,771.31	Mar. 31, 1965	1,742.65

1927-65: Maximum elevation, 1,780.13 ft May 29, 1961; minimum observed, 1,741.14 ft Dec. 5, 1929, Dec. 29, 1930, datum then in use.
Flood in June 1894 reached a stage of 1,777.2 ft, present datum.

Remarks.--Elevations affected by backwater from Kootenay Lake and occasionally by dike failures during floods.

Revisions (water years).--WSP 1716: 1959 (maximum elevation).

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.87	46.99	46.43	46.38	47.24	45.47	45.77	50.84	78.60	60.40	49.72	46.70
2	46.77	47.00	46.38	46.36	47.18	45.41	46.56	53.24	78.37	59.56	49.49	46.94
3	46.73	46.99	46.35	46.19	47.11	45.21	47.99	55.52	78.61	58.44	49.19	47.09
4	46.75	46.90	46.50	46.22	46.79	44.94	50.07	56.01	79.14	57.48	48.94	47.23
5	46.73	46.84	46.57	46.30	46.53	44.69	50.41	56.00	79.61	56.87	48.75	47.18
6	46.68	46.79	46.65	46.56	46.28	44.49	49.69	55.70	79.80	56.47	48.55	47.05
7	46.60	46.73	46.53	46.77	46.05	44.31	48.76	55.33	79.45	56.14	48.45	46.99
8	46.66	46.66	46.65	46.60	45.93	44.17	48.02	54.93	79.75	55.75	48.37	46.97
9	46.88	46.61	46.77	46.62	45.75	44.08	47.53	55.14	79.51	55.40	48.28	46.94
10	46.88	46.63	46.61	46.62	45.69	43.92	47.13	56.73	77.26	55.03	48.08	46.90
11	46.81	46.63	46.75	46.60	45.96	43.83	46.79	58.84	75.94	54.42	47.96	46.94
12	46.84	46.67	46.83	46.49	46.35	43.75	46.67	59.47	74.32	53.77	47.87	46.93
13	46.88	46.66	46.89	46.40	46.26	43.69	47.05	59.28	73.42	53.28	47.62	47.03
14	46.82	46.64	46.98	46.36	45.92	43.78	47.17	59.29	73.12	52.88	47.40	47.04
15	46.77	46.64	46.93	46.25	45.64	43.90	46.99	59.74	72.92	52.58	47.23	46.96
16	46.73	46.66	46.95	46.54	45.51	44.01	46.70	60.44	72.79	52.45	47.07	46.87
17	46.71	46.62	47.10	46.73	45.33	44.24	46.65	61.15	72.85	52.44	47.02	46.77
18	46.69	46.68	47.10	46.72	45.06	44.30	47.36	61.47	73.00	52.59	47.05	46.77
19	46.69	46.59	47.21	46.54	44.86	44.31	47.91	61.99	72.94	52.40	47.26	46.65
20	46.69	46.70	47.02	46.46	44.74	44.36	48.21	63.72	72.50	51.88	47.66	46.72
21	46.68	47.04	46.97	46.48	45.32	44.50	48.10	66.39	71.81	51.35	47.71	46.71
22	46.73	46.92	46.91	46.50	48.15	44.58	47.84	69.15	70.79	51.02	47.44	46.75
23	46.80	46.89	46.85	46.70	48.47	44.55	47.49	71.77	69.36	50.77	47.25	46.80
24	46.77	46.96	46.81	46.80	47.73	44.57	47.27	73.75	69.71	50.84	47.06	46.74
25	46.98	47.52	46.79	46.77	47.18	44.55	47.22	75.53	66.30	50.89	46.99	46.75
26	46.92	47.52	46.75	46.46	46.62	44.62	47.48	77.12	65.26	50.69	46.89	46.80
27	47.00	47.28	46.74	46.64	46.16	44.78	47.66	78.18	64.33	50.47	46.85	46.75
28	47.05	47.05	46.66	46.69	45.68	44.86	48.03	79.30	63.60	50.12	46.89	46.73
29	47.12	46.82	46.51	46.75	------	44.98	48.21	79.99	62.54	49.76	46.77	46.80
30	47.00	46.60	46.41	46.87	------	45.11	49.22	79.68	61.33	49.67	46.63	46.85
31	46.92	------	46.41	47.01	------	45.40	------	79.09	------	49.78	46.51	------
MAX	47.12	47.52	47.21	47.01	48.47	45.47	50.41	79.99	79.80	60.40	49.72	47.23
MIN	46.60	46.59	46.35	46.19	44.74	43.69	45.77	50.84	61.33	49.67	46.51	46.65

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3095. Kootenai River at Bonners Ferry, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.90	47.49	47.15	47.08	47.00	45.25	43.15	53.47	65.61	58.78	50.47	46.38
2	46.89	47.44	47.18	47.04	46.82	45.16	43.32	52.73	64.32	58.51	50.05	46.33
3	46.89	47.40	47.13	47.08	46.76	44.94	43.75	52.72	63.53	58.37	49.77	46.24
4	46.89	47.36	47.02	47.27	47.00	44.93	44.17	53.47	63.05	57.65	49.57	46.26
5	46.84	47.27	47.00	47.26	47.10	44.92	45.00	53.64	62.49	56.58	49.49	46.27
6	46.93	47.18	46.97	47.20	47.13	44.75	45.71	53.17	61.50	55.53	49.49	46.26
7	47.00	47.13	46.86	47.15	46.94	-	47.64	52.76	60.34	54.79	49.36	46.44
8	47.13	47.11	47.09	47.06	46.63	-	48.82	52.49	59.42	54.38	49.20	46.21
9	47.37	47.07	46.96	46.85	46.35	-	48.29	52.41	59.43	54.17	49.01	46.19
10	47.54	47.02	46.90	46.61	46.22	-	47.37	52.74	60.55	54.00	48.81	46.33
11	47.59	47.02	46.98	46.60	46.07	-	46.74	53.12	62.81	54.02	48.77	46.61
12	47.63	47.17	46.64	46.65	45.91	43.63	46.37	53.40	63.61	54.19	48.62	46.79
13	47.71	47.18	47.06	46.75	45.89	43.15	46.27	53.68	63.32	54.32	48.33	46.80
14	47.72	47.23	47.08	46.79	45.76	43.08	46.69	54.16	62.93	54.35	48.06	46.77
15	47.70	47.13	46.99	46.88	45.76	43.00	48.13	54.32	62.90	54.24	47.97	46.77
16	47.73	46.98	47.00	46.86	45.59	42.94	49.86	54.44	63.18	53.95	47.92	46.76
17	47.92	46.91	47.09	46.85	45.30	42.90	50.55	54.86	64.14	53.46	47.68	46.74
18	48.09	47.16	47.19	46.73	45.06	42.79	50.93	55.65	65.24	52.97	47.55	46.74
19	48.37	47.32	47.19	46.98	44.94	42.73	52.19	56.95	65.91	52.54	47.43	46.74
20	48.56	47.20	47.18	47.15	44.80	42.76	54.31	58.20	65.92	52.25	47.37	46.66
21	48.49	47.28	47.25	47.22	-	42.75	55.84	59.50	65.37	51.79	47.39	46.59
22	48.29	47.75	47.29	47.18	-	42.66	56.14	60.72	64.82	51.28	47.28	46.55
23	48.09	47.57	47.28	47.33	44.66	42.63	56.05	61.55	64.21	51.01	47.07	46.63
24	48.03	47.63	47.35	47.27	45.62	42.60	56.68	62.55	63.28	50.96	47.07	46.64
25	47.89	47.60	47.56	47.32	-	42.77	58.18	63.55	62.51	50.96	46.99	46.63
26	47.77	47.62	47.57	47.39	45.51	43.00	58.62	64.12	62.40	50.99	46.67	46.66
27	47.76	47.60	47.35	47.48	45.40	43.20	58.09	64.38	62.56	51.02	46.67	46.63
28	47.76	47.60	47.20	47.40	45.18	43.41	57.19	65.33	62.57	51.04	46.67	46.67
29	47.69	47.35	47.13	47.32	------	43.33	55.95	66.68	61.50	51.01	46.50	46.78
30	47.59	47.21	47.10	47.31	------	43.13	54.59	66.98	59.89	50.89	46.48	46.90
31	47.49	------	47.05	47.15	------	43.00	------	66.66	------	50.75	46.44	------
MAX	48.56	47.75	47.57	47.48	47.13	-	58.62	66.98	65.92	58.78	50.47	46.90
MIN	46.84	46.91	46.64	46.60	-	42.60	43.15	52.41	59.42	50.75	46.44	46.19

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	47.03	47.13	47.82	46.99	47.27	45.22	45.66	51.66	67.45	60.40	50.53	45.66
2	47.08	47.12	47.59	47.24	47.20	45.07	45.21	52.41	67.67	60.98	50.20	45.64
3	46.94	47.11	47.50	47.48	47.43	44.92	44.90	52.38	66.91	60.62	49.98	45.65
4	47.03	47.06	47.38	47.61	47.82	44.80	44.80	51.82	65.65	60.81	49.75	45.67
5	47.02	47.05	47.32	47.53	48.60	44.65	44.75	51.14	65.07	61.14	49.43	45.71
6	46.96	47.06	47.29	47.40	49.60	44.50	45.32	51.21	65.29	61.09	49.19	45.72
7	46.91	47.07	47.32	47.23	49.82	44.40	46.30	52.62	65.48	60.76	48.87	45.71
8	46.90	47.04	47.35	47.07	50.37	44.35	46.65	54.28	65.92	60.15	48.84	45.69
9	46.91	47.17	47.33	47.00	50.10	44.25	46.62	54.84	65.92	60.04	48.74	45.75
10	47.05	47.27	47.33	47.16	49.64	44.25	46.38	54.41	65.98	60.24	48.62	45.80
11	47.02	47.23	47.33	46.71	49.29	44.05	46.15	53.80	65.66	59.72	48.55	45.89
12	47.15	47.28	47.32	46.36	48.77	43.95	45.95	53.40	65.00	58.60	48.47	45.98
13	47.39	47.22	47.23	46.42	48.38	43.90	45.88	53.42	64.60	57.55	48.42	46.06
14	47.59	47.20	47.18	46.78	48.19	43.70	46.08	53.50	64.82	56.74	48.32	46.37
15	47.44	47.17	47.20	46.79	48.03	43.65	46.93	53.77	65.07	56.11	48.36	46.52
16	47.31	47.08	47.61	46.90	47.82	43.55	48.09	54.33	65.16	55.97	48.57	46.66
17	47.19	46.99	47.82	46.88	47.67	43.45	48.58	55.00	65.04	56.37	48.47	46.90
18	47.11	46.92	47.90	46.93	47.56	43.40	48.55	55.81	64.88	56.42	48.18	46.94
19	47.09	46.83	47.86	46.87	47.43	43.30	48.26	56.61	64.63	55.87	47.77	46.90
20	47.02	47.42	47.76	46.92	47.26	43.25	47.81	57.24	64.26	55.23	47.44	46.85
21	47.01	48.11	47.66	47.03	46.92	43.25	47.39	58.05	63.90	54.65	47.21	46.80
22	47.25	47.92	47.65	47.02	46.24	43.15	47.03	59.31	63.30	54.09	47.07	46.75
23	47.24	47.74	47.53	47.04	45.88	43.25	46.77	60.74	62.63	53.65	46.93	46.73
24	47.38	47.46	47.27	47.03	45.38	43.55	46.53	62.43	61.76	53.23	46.73	46.75
25	47.67	47.40	47.40	46.97	45.27	43.70	46.42	64.54	60.44	52.77	46.49	46.85
26	47.58	48.84	47.47	46.92	45.21	43.85	46.41	66.02	59.29	52.28	46.29	46.92
27	47.41	49.32	47.35	46.83	45.28	43.85	46.70	66.89	58.84	51.88	46.11	47.02
28	47.28	48.98	47.47	46.86	45.28	44.25	47.60	67.19	58.45	51.60	46.04	47.02
29	47.24	48.35	47.38	47.07	------	44.95	48.78	66.84	57.90	51.19	45.96	46.96
30	47.20	48.00	47.22	47.21	------	45.36	50.26	66.46	58.63	50.82	45.89	46.88
31	47.17	------	47.04	47.17	------	45.81	------	66.79	------	50.74	45.80	------
MAX	47.67	49.32	47.90	47.61	50.37	45.81	50.26	67.19	67.67	61.14	50.53	47.02
MIN	46.90	46.83	47.04	46.36	45.21	43.15	44.75	51.14	57.90	50.74	45.80	45.64

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3095. Kootenai River at Bonners Ferry, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.82	46.89	46.85	46.74	44.60	42.90	42.55	48.54	64.87	62.48	51.28	46.79
2	46.83	46.81	46.86	46.96	44.50	42.90	43.20	49.01	66.07	61.24	51.63	46.80
3	46.77	46.85	47.03	46.95	44.35	42.95	43.65	49.63	67.33	60.97	51.54	46.95
4	46.82	46.87	47.23	46.92	44.15	42.90	43.85	49.87	68.57	61.22	50.99	47.12
5	46.82	46.82	47.32	46.77	44.10	42.90	44.00	50.53	69.53	61.16	50.55	47.24
6	46.79	46.88	47.49	46.66	44.05	42.85	44.00	51.20	70.50	61.12	50.30	47.34
7	46.77	46.86	47.67	46.55	44.00	42.85	43.95	51.54	71.09	61.19	50.27	47.37
8	46.71	46.90	47.76	46.48	44.00	42.75	44.00	51.87	71.97	60.75	50.02	47.39
9	46.70	46.86	47.68	46.42	43.95	42.65	44.35	52.79	73.72	60.33	49.67	47.52
10	46.72	46.79	47.29	46.36	43.85	42.55	44.95	54.55	74.83	60.61	49.49	47.62
11	46.72	46.70	47.18	46.27	43.85	42.50	45.45	56.25	74.02	61.02	49.37	47.58
12	46.69	46.62	47.48	46.13	43.90	42.50	45.90	56.92	72.57	60.33	49.32	47.54
13	46.62	46.54	47.50	46.00	43.90	42.50	45.80	57.29	72.09	59.25	49.07	47.50
14	46.58	46.46	47.42	45.90	43.75	42.45	45.30	58.07	72.21	58.71	48.87	47.40
15	46.60	46.48	47.50	45.92	43.65	42.50	45.40	58.20	72.31	58.58	48.66	47.30
16	46.60	46.50	47.60	45.92	43.55	42.45	46.13	58.21	72.24	58.36	48.67	47.22
17	46.60	46.53	47.56	46.03	43.50	42.45	46.45	59.33	72.02	57.85	48.50	47.18
18	46.59	46.64	47.40	46.09	43.50	42.55	46.15	61.55	71.46	57.13	48.21	47.38
19	46.62	46.64	47.35	45.81	43.55	42.70	45.83	63.58	70.51	56.12	48.02	47.38
20	46.56	47.00	47.46	46.02	43.40	42.65	45.78	65.79	69.44	55.30	47.92	47.65
21	46.52	46.63	47.53	45.93	43.35	42.50	45.85	68.20	68.28	54.63	47.87	48.01
22	46.59	46.41	47.58	45.83	43.30	42.50	46.09	69.48	67.31	54.02	47.82	48.06
23	47.05	46.27	47.55	45.82	43.25	42.35	46.55	68.64	66.61	53.54	47.65	47.99
24	47.10	46.24	47.56	45.47	43.30	42.20	46.65	65.92	66.26	53.06	47.41	47.84
25	47.38	46.22	47.54	45.74	43.15	42.10	46.73	63.37	66.36	52.62	47.20	47.80
26	47.38	46.26	47.52	45.27	43.10	42.05	47.08	61.55	66.52	52.10	47.15	47.72
27	47.29	46.91	47.47	45.08	43.05	41.95	47.48	60.36	66.10	51.56	47.02	47.79
28	47.15	47.59	47.37	44.90	43.00	41.95	47.74	60.35	65.49	51.19	46.99	47.17
29	47.03	47.57	47.22	44.90	42.95	42.00	47.78	61.42	65.06	50.95	46.93	48.23
30	47.03	47.20	46.97	44.90	------	42.10	48.02	62.65	64.05	50.94	46.88	48.09
31	46.96	------	46.77	44.85	------	42.30	------	63.86	------	50.97	46.84	------
MAX	47.38	47.59	47.76	46.96	44.60	42.95	48.02	69.48	74.83	62.48	-51.63	48.23
MIN	46.52	46.22	46.77	44.85	42.95	41.95	42.55	48.54	64.05	50.94	46.84	46.79

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48.23	47.02	46.99	47.71	46.46	45.66	42.85	62.14	67.77	60.56	50.39	47.11
2	48.27	47.05	47.15	47.73	46.50	45.42	42.85	61.28	66.45	59.73	50.11	47.03
3	48.42	47.14	47.24	47.79	46.37	45.13	43.10	59.67	65.57	59.51	49.98	47.09
4	48.41	47.10	47.14	47.81	46.27	44.87	43.50	58.13	65.87	59.83	49.91	47.23
5	48.23	47.22	47.11	47.83	46.23	44.85	43.70	56.81	66.78	60.23	50.04	47.42
6	48.03	47.22	47.06	47.82	46.34	44.70	44.05	55.75	66.98	60.36	50.51	47.55
7	47.85	47.24	46.98	47.82	46.42	44.65	44.40	54.80	67.34	60.29	51.23	47.57
8	47.76	47.23	46.91	47.76	46.38	44.60	44.65	54.19	67.48	60.24	51.13	47.56
9	47.84	47.21	46.88	47.69	46.34	44.60	44.85	54.00	66.60	60.31	50.53	47.56
10	47.99	47.26	46.89	47.64	46.16	44.55	45.09	54.42	65.79	60.01	49.99	47.57
11	48.10	47.23	46.88	47.56	46.08	44.50	45.56	55.76	66.32	59.18	49.58	47.58
12	48.19	47.31	46.73	47.43	45.90	44.60	46.05	58.02	67.98	58.17	49.36	47.56
13	48.19	47.28	46.51	47.35	45.74	44.60	46.89	60.61	69.49	57.20	49.20	47.59
14	48.01	47.21	46.56	47.26	45.60	44.55	47.99	62.61	69.86	56.36	49.13	47.61
15	47.97	47.08	46.73	47.19	45.49	44.45	49.15	63.65	69.13	55.63	49.00	47.81
16	47.96	46.96	47.50	47.14	45.29	44.50	50.52	64.01	67.45	55.12	48.85	47.92
17	47.95	46.84	47.33	47.10	45.24	44.30	51.03	64.35	66.19	54.96	48.52	47.83
18	47.91	46.76	46.66	47.04	45.21	43.95	50.45	63.52	66.81	54.79	48.19	47.75
19	47.78	46.74	46.61	46.98	45.27	43.80	49.91	61.88	69.29	54.49	47.93	47.65
20	47.64	46.74	46.72	46.91	45.54	43.75	51.53	60.85	71.08	54.25	47.79	47.64
21	47.54	46.78	46.79	46.90	45.71	43.65	55.44	60.71	70.70	53.83	47.65	47.67
22	47.47	46.79	46.88	46.84	45.74	43.60	56.75	60.30	68.52	53.20	47.51	47.66
23	47.42	46.75	47.27	46.74	45.49	43.40	56.15	59.69	66.15	52.68	47.43	47.70
24	47.36	46.95	47.95	46.91	45.33	43.40	55.57	59.54	64.33	52.29	47.36	47.79
25	47.32	47.18	48.12	46.77	45.03	43.15	55.45	59.62	63.32	52.01	47.37	47.89
26	47.29	47.08	47.81	46.67	44.99	43.05	55.76	59.77	63.17	51.65	47.32	47.93
27	47.28	47.00	47.61	46.57	45.29	43.00	56.36	60.07	63.09	51.38	47.25	47.76
28	47.24	46.92	47.52	46.46	45.77	42.85	57.45	61.14	62.82	51.18	47.24	47.76
29	47.20	46.79	47.62	46.44	------	42.75	59.53	62.97	62.63	51.07	47.26	47.75
30	47.12	46.81	47.66	46.40	------	42.65	61.36	65.63	61.75	50.94	47.19	47.66
31	47.07	------	47.69	46.36	------	42.70	------	67.55	------	50.70	47.21	------
MAX	48.42	47.31	48.12	47.83	46.50	45.66	61.36	67.55	71.08	60.56	51.23	47.93
MIN	47.07	46.74	46.51	46.36	44.99	42.65	42.85	54.00	61.75	50.70	47.19	47.03

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3100. Kootenai River near Bonners Ferry, Idaho

Location.--Lat 48°41'55", long 116°20'40", in NW¼ sec.28, T.62 N., R.1 E., on left bank 1.6 miles downstream from highway bridge at Bonners Ferry and at mile 151.2.

Drainage area.--13,000 sq mi, approximately.

Records available.--May 1928 to September 1965 (elevations only, fragmentary prior to May 1929).

Gage.--Water-stage recorder. Datum of gage is 1,700.00 ft above mean sea level, levels by Topographic Division in 1928. Gage readings have been reduced to elevations above mean sea level. Datum of 1929, supplementary adjustment of 1947, is 0.02 ft higher at Bonners Ferry. May 17 to July 20, 1928, water-stage recorder at same site at datum 43.42 ft higher. July 21 to Oct. 22, 1928, and for elevations below 1,742 ft prior to Jan. 2, 1931, staff gage at same site and datum.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	May 29, 1961	1,779.37	Mar. 12, 1961	1,743.03
1962	May 30, 1962	1,766.38	Mar. 24, 1962	1,741.80
1963	June 2, 1963	1,767.12	Mar. 22, 1963	1,742.49
1964	June 10, 1964	1,774.21	Mar. 27, 28, 1964	a 1,741.30
1965	June 20, 1965	1,770.82	Mar. 30, 1965	1,741.82

a Minimum daily.

1928-65: Maximum elevation, 1,779.37 ft May 29, 1961; minimum, 1,740.16 ft Mar. 29, 1944.

Remarks.--Elevations affected by backwater from Kootenay Lake and occasionally by dike failures during floods.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.76	46.85	46.35	46.21	45.49	44.99	44.76	50.22	77.84	60.08	49.25	46.24
2	46.67	46.88	46.30	46.18	45.59	44.94	45.48	52.39	77.62	59.22	49.03	46.49
3	46.62	46.88	46.26	46.04	45.72	44.73	46.93	54.75	77.83	58.18	48.73	46.63
4	46.65	46.79	46.40	45.98	45.57	44.46	49.09	55.26	78.33	57.20	48.48	46.77
5	46.64	46.73	46.40	46.09	45.52	44.16	49.53	55.28	78.76	56.55	48.29	46.77
6	46.59	46.69	46.30	46.32	45.46	43.98	48.78	54.96	78.94	56.12	48.09	46.66
7	46.50	46.62	46.19	46.53	45.38	43.76	47.86	54.63	78.58	55.76	47.99	46.61
8	46.54	46.58	46.13	46.40	45.33	43.63	47.09	54.21	78.87	55.39	47.91	46.59
9	46.79	46.52	46.15	46.44	45.25	43.47	46.57	54.40	78.72	55.00	47.84	46.56
10	46.78	46.54	46.05	46.46	45.34	43.31	46.15	55.95	76.70	54.60	47.62	46.52
11	46.69	46.53	46.11	46.44	45.73	43.27	45.78	58.04	75.38	54.00	47.51	46.56
12	46.72	46.59	46.19	46.37	46.04	43.13	45.64	58.67	73.87	53.37	47.41	46.53
13	46.78	46.57	46.27	46.29	45.97	43.10	46.01	58.54	72.94	52.87	47.17	46.64
14	46.71	46.55	46.41	46.28	45.64	43.19	46.19	58.52	72.62	52.45	46.96	46.66
15	46.66	46.55	46.34	46.18	45.37	43.30	46.00	58.98	72.41	52.16	46.76	46.59
16	46.65	46.56	46.18	46.47	45.25	43.32	45.71	59.67	72.24	52.00	46.58	46.50
17	46.62	46.53	46.20	46.64	45.06	43.51	45.59	60.38	72.32	51.96	46.58	46.42
18	46.61	46.58	46.23	46.61	44.79	43.54	46.32	60.72	72.43	52.09	46.63	46.43
19	46.61	46.49	46.33	46.43	44.57	43.54	46.91	61.21	72.42	51.91	46.80	46.30
20	46.62	46.58	46.27	46.26	44.42	43.49	47.25	62.83	71.94	51.40	47.20	46.39
21	46.60	46.93	46.32	46.02	44.93	43.67	47.15	65.52	71.31	50.89	47.22	46.38
22	46.64	46.80	46.36	45.89	47.65	43.73	46.92	68.34	70.33	50.55	46.95	46.43
23	46.71	46.76	46.37	45.73	47.99	43.66	46.52	70.88	68.95	50.29	46.76	46.47
24	46.70	46.82	46.39	45.62	47.26	43.64	46.26	72.96	67.31	50.34	46.62	46.40
25	46.87	47.32	46.41	45.57	46.72	43.64	46.22	74.61	65.90	50.40	46.53	46.43
26	46.80	47.35	46.44	45.43	46.15	43.67	46.49	76.22	64.83	50.21	46.41	46.48
27	46.87	47.11	46.45	45.38	45.67	43.87	47.69	77.32	64.00	50.00	46.35	46.44
28	46.91	46.89	46.41	45.30	45.20	43.93	47.06	78.44	63.22	49.65	46.40	46.42
29	47.00	46.69	46.30	45.32	------	43.98	47.28	79.13	62.19	49.30	46.30	46.48
30	46.87	46.50	46.23	45.28	------	44.06	48.31	78.82	60.97	49.21	46.18	46.55
31	46.81	------	46.24	45.36	------	44.34	------	78.23	------	49.29	46.04	------
MAX	47.00	47.35	46.45	46.64	47.99	44.99	49.53	79.13	78.94	60.08	49.25	46.77
MIN	46.50	46.49	46.05	45.28	44.42	43.10	44.76	50.22	60.97	49.21	46.04	46.24

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3100. Kootenai River near Bonners Ferry, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.59	47.18	46.84	46.36	45.60	43.73	42.17	52.95	65.09	58.50	50.08	46.00
2	46.60	47.14	46.90	46.35	45.57	43.73	42.39	52.23	63.80	58.13	49.70	45.95
3	46.60	47.10	46.87	46.41	45.63	43.63	42.76	52.20	63.00	57.99	49.44	45.87
4	46.60	47.07	46.76	46.61	45.99	43.65	43.19	52.92	62.54	57.28	49.23	45.89
5	46.55	46.99	46.74	46.61	46.10	43.59	43.82	53.10	62.02	56.21	49.12	45.92
6	46.66	46.91	46.71	46.61	46.15	43.50	44.60	52.63	61.10	55.17	49.13	45.91
7	46.72	46.86	46.63	46.59	46.03	43.44	46.58	52.21	59.96	54.33	49.00	46.12
8	46.83	46.84	46.59	46.51	45.80	43.38	48.00	51.92	59.06	54.02	48.84	45.89
9	47.03	46.80	46.37	46.23	45.66	43.37	47.52	51.83	58.97	53.81	48.67	45.86
10	47.20	46.75	46.21	45.97	45.55	43.20	46.58	52.18	59.95	53.65	48.47	45.98
11	47.25	46.76	46.04	45.91	45.47	43.05	45.90	52.56	62.15	53.65	48.40	46.24
12	47.30	46.91	45.88	45.88	45.37	42.95	45.49	52.82	63.01	53.79	48.27	46.44
13	47.36	46.92	45.95	45.89	45.36	42.87	45.39	53.10	62.78	53.91	48.00	46.47
14	47.37	46.97	45.95	45.86	45.29	42.77	45.82	53.58	62.40	53.94	47.73	46.45
15	47.34	46.87	45.89	45.87	45.34	42.66	47.19	53.75	62.35	53.83	47.62	46.47
16	47.39	46.73	45.90	45.74	45.21	42.52	49.11	53.88	62.60	53.57	47.59	46.45
17	47.57	46.65	45.89	45.63	45.03	42.39	49.85	54.27	63.55	53.09	47.35	46.45
18	47.71	46.57	46.05	45.52	44.86	42.27	50.23	55.01	64.67	52.64	47.22	46.44
19	47.95	46.62	46.06	45.39	44.74	42.19	51.53	56.30	65.32	52.19	47.08	46.45
20	48.14	46.63	46.03	45.28	44.64	42.13	53.60	57.55	65.37	51.92	47.01	46.37
21	48.06	46.60	46.08	45.15	44.42	42.08	55.16	58.82	64.85	51.46	47.03	46.30
22	47.87	46.75	46.16	45.08	44.31	42.00	55.51	60.07	64.31	50.99	46.92	46.28
23	47.69	46.73	46.19	45.08	44.11	41.89	55.41	60.90	63.70	50.69	46.72	46.36
24	47.63	46.74	46.31	45.08	43.99	41.84	56.01	61.90	62.84	50.58	46.69	46.37
25	47.52	46.77	46.56	45.14	43.89	42.03	57.50	62.91	62.08	50.58	46.60	46.36
26	47.39	46.69	46.63	45.27	43.77	42.23	57.97	63.48	61.89	50.60	46.32	46.38
27	47.40	46.64	46.53	45.45	43.70	42.43	57.46	63.72	62.05	50.65	46.14	46.37
28	47.40	46.73	46.42	45.57	43.70	42.53	56.62	64.64	62.08	50.66	46.12	46.41
29	47.34	46.75	46.34	45.66	------	42.38	55.41	66.01	61.18	50.62	46.12	46.53
30	47.25	46.80	46.33	45.71	------	42.18	54.09	66.32	59.61	50.50	46.08	46.63
31	47.16	------	46.31	45.66	------	42.09	------	66.07	------	50.34	46.05	------
MAX	48.14	47.18	46.90	46.61	46.15	43.73	57.97	66.32	65.37	58.50	50.08	46.63
MIN	46.55	46.57	45.88	45.06	43.70	41.84	42.17	51.83	58.97	50.34	46.05	45.86

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.77	46.91	47.56	46.76	44.93	44.79	44.93	51.08	66.81	59.97	50.22	45.46
2	46.82	46.90	47.33	47.01	44.85	44.68	44.41	51.83	67.00	60.52	49.89	45.41
3	46.68	46.90	47.23	47.27	44.98	44.49	43.96	51.83	66.24	60.20	49.66	45.40
4	46.79	46.86	47.15	47.34	45.27	44.30	43.66	51.26	65.13	60.34	49.43	45.42
5	46.78	46.85	47.08	47.26	46.30	44.12	43.58	50.60	64.69	60.66	49.11	45.44
6	46.70	46.86	47.06	47.12	47.40	44.00	44.38	50.65	64.92	60.62	48.88	45.45
7	46.66	46.86	47.09	46.96	47.98	43.89	45.53	51.96	65.11	60.30	48.66	45.46
8	46.65	46.84	47.11	46.80	48.33	43.80	45.96	53.70	65.40	59.72	48.54	45.46
9	46.67	46.95	47.09	46.77	48.28	43.69	45.97	54.38	65.42	59.60	48.44	45.48
10	46.82	47.02	47.09	46.48	47.97	43.68	45.72	53.96	65.48	59.80	48.31	45.53
11	46.78	46.99	47.10	46.07	47.68	43.55	45.48	53.31	65.18	59.28	48.24	45.65
12	46.87	47.06	47.11	45.78	47.27	43.39	45.27	52.95	64.54	58.18	48.18	45.74
13	47.10	46.99	46.99	45.70	47.00	43.25	45.19	52.97	64.14	57.18	48.15	45.82
14	47.31	46.97	46.96	45.79	46.84	43.13	45.38	53.01	64.30	56.38	48.02	46.12
15	47.17	46.90	46.99	45.87	46.70	43.05	46.24	53.26	64.54	55.78	48.03	46.30
16	47.06	46.88	47.38	45.95	46.60	42.98	47.48	53.88	64.66	55.62	48.24	46.44
17	46.94	46.78	47.56	45.93	46.47	42.91	48.00	54.52	64.53	56.00	48.14	46.70
18	46.88	46.72	47.63	45.90	46.37	42.76	48.00	55.30	64.36	56.04	47.85	46.73
19	46.86	46.63	47.58	45.74	46.25	42.69	47.72	56.08	64.14	55.50	47.45	46.69
20	46.79	47.15	47.47	45.62	46.12	42.68	47.30	56.70	63.76	54.87	47.12	46.67
21	46.77	47.81	47.39	45.55	46.02	42.63	46.84	57.53	63.37	54.28	46.90	46.61
22	47.03	47.64	47.37	45.51	45.81	42.53	46.46	58.72	62.74	53.75	46.73	46.58
23	47.01	47.45	47.25	45.40	45.46	42.63	46.18	60.13	62.12	53.34	46.58	46.60
24	47.10	47.22	46.98	45.38	45.19	42.78	45.96	61.80	61.18	52.91	46.36	46.66
25	47.37	47.12	46.75	45.43	45.02	42.96	45.85	63.85	59.92	52.47	46.14	46.71
26	47.29	48.49	46.75	45.33	44.90	43.02	45.83	65.33	58.92	51.99	45.91	46.78
27	47.13	48.96	46.70	45.27	44.90	42.98	46.12	66.22	58.50	51.58	45.72	46.88
28	47.02	48.63	46.86	45.27	44.86	43.41	47.04	66.51	58.04	51.28	45.66	46.88
29	47.01	48.02	46.39	45.15	------	44.10	48.22	66.18	57.52	50.87	45.57	46.84
30	46.98	47.71	46.94	45.01	------	44.53	49.69	65.82	58.23	50.50	45.52	46.76
31	46.94	------	46.82	44.95	------	45.02	------	66.18	------	50.43	45.47	------
MAX	47.37	48.96	47.63	47.34	48.33	45.02	49.69	66.51	67.00	60.66	50.22	46.88
MIN	46.65	46.63	46.70	44.95	44.85	42.53	43.58	50.60	57.52	50.43	45.47	45.40

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3100. Kootenai River near Bonners Ferry, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.73	46.72	46.57	46.22	44.34	42.58	41.85	48.00	64.32	62.02	50.87	46.33
2	46.72	46.65	46.42	46.42	44.31	42.58	42.30	48.45	65.50	60.86	51.19	46.34
3	46.69	46.69	46.34	46.44	44.18	42.54	42.64	49.05	66.77	60.56	51.11	46.50
4	46.72	46.70	46.29	46.47	44.04	42.51	42.86	49.30	68.00	60.75	50.59	46.69
5	46.72	46.67	46.41	46.37	43.93	42.53	43.00	49.98	68.98	60.69	50.16	46.82
6	46.70	46.71	46.53	46.36	43.89	42.50	42.99	50.65	69.96	60.66	49.92	46.95
7	46.68	46.69	46.49	46.32	43.84	42.45	42.92	50.99	70.55	60.68	49.87	47.00
8	46.62	46.73	46.46	46.12	43.74	42.32	42.97	51.32	71.43	60.28	49.64	47.06
9	46.61	46.69	46.37	46.06	43.74	42.18	43.22	52.24	73.08	59.85	49.29	47.20
10	46.63	46.61	46.09	46.01	43.69	42.10	43.71	54.00	74.13	60.09	49.12	47.30
11	46.65	46.54	45.87	45.91	43.66	42.05	44.26	55.70	73.37	60.51	48.98	47.28
12	46.62	46.45	45.94	45.78	43.65	42.05	44.69	56.37	71.97	59.88	48.92	47.25
13	46.54	46.37	46.09	45.64	43.60	42.05	44.62	56.74	71.53	58.82	48.67	47.21
14	46.51	46.29	46.12	45.52	43.52	41.95	44.38	57.52	71.66	58.27	48.47	47.11
15	46.52	46.30	46.22	45.48	43.41	42.00	44.45	57.65	71.74	58.14	48.32	47.01
16	46.51	46.30	46.32	45.48	43.30	41.90	45.28	57.67	71.70	57.93	48.28	46.93
17	46.50	46.30	46.28	45.47	43.23	41.90	45.78	58.72	71.49	57.40	48.13	46.90
18	46.49	46.41	46.21	45.45	43.21	41.95	45.52	60.90	70.94	56.73	47.83	47.10
19	46.52	46.43	46.16	45.38	43.19	41.95	45.30	62.92	70.01	55.74	47.65	47.11
20	46.46	46.81	46.25	45.28	43.16	41.80	45.15	65.16	68.96	54.92	47.54	47.33
21	46.39	46.39	46.32	45.20	43.10	41.75	45.19	67.59	67.80	54.24	47.47	47.65
22	46.47	46.20	46.39	45.07	43.05	41.65	45.42	68.87	66.86	53.63	47.43	47.73
23	46.87	46.08	46.42	44.95	42.95	41.60	45.98	68.12	66.18	53.15	47.26	47.68
24	46.92	46.05	46.49	44.85	42.93	41.45	46.08	65.48	65.79	52.67	47.00	47.53
25	47.16	46.00	46.49	44.76	42.87	41.40	46.18	62.87	65.89	52.23	46.78	47.49
26	47.17	46.03	46.54	44.64	42.80	41.40	46.55	61.12	66.04	51.73	46.71	47.41
27	47.09	46.67	46.54	44.58	42.76	41.30	47.00	59.90	65.64	51.21	46.59	47.47
28	46.95	47.29	46.51	44.55	42.69	41.30	47.21	59.88	65.04	50.83	46.57	47.81
29	46.86	47.19	46.44	44.45	42.62	41.35	47.26	60.88	64.61	50.59	46.48	47.87
30	46.85	46.86	46.31	44.39	------	41.45	47.50	62.09	63.59	50.57	46.42	47.74
31	46.79	------	46.19	44.36	------	41.60	------	63.30	------	50.61	46.38	------
MAX	47.17	47.29	46.57	46.47	44.34	42.58	47.50	68.87	74.13	62.02	51.19	47.87
MIN	46.39	46.00	45.87	44.36	42.62	41.30	41.85	48.00	63.59	50.57	46.38	46.33

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48.06	46.94	46.92	46.88	45.91	45.40	41.91	61.60	67.42	60.32	50.13	46.81
2	48.08	46.96	47.08	46.94	45.82	45.18	41.99	60.96	66.13	59.44	49.85	46.75
3	48.24	47.05	47.17	47.01	45.69	44.87	42.22	59.43	65.23	59.18	49.70	46.91
4	48.24	47.00	47.08	47.07	45.57	44.60	42.50	57.86	65.48	59.46	49.63	46.99
5	48.05	47.14	47.05	47.10	45.66	44.36	42.72	56.55	66.35	59.84	49.75	47.20
6	47.85	47.12	46.99	47.10	45.86	44.20	42.98	55.49	66.60	60.04	50.18	47.32
7	47.70	47.14	46.92	47.12	45.96	44.11	43.34	54.55	66.93	59.99	50.89	47.38
8	47.82	47.14	46.85	47.07	45.97	44.06	43.64	53.85	67.08	59.91	50.80	47.39
9	47.67	47.11	46.83	47.02	45.97	44.00	43.82	53.64	66.26	59.97	50.22	47.42
10	47.79	47.15	46.83	46.99	45.75	43.93	44.16	54.10	65.48	59.64	49.72	47.43
11	47.91	47.11	46.83	46.94	45.50	43.92	44.75	55.39	65.98	58.85	49.33	47.46
12	47.99	47.19	46.72	46.86	45.42	43.94	45.33	57.50	67.58	57.86	49.10	47.44
13	47.99	47.17	46.50	46.78	45.32	43.90	46.23	60.07	69.02	56.90	48.92	47.45
14	47.82	47.11	46.56	46.72	45.29	43.85	47.36	62.02	69.46	56.08	48.89	47.48
15	47.79	46.99	46.64	46.67	45.16	43.76	48.52	63.19	68.76	55.36	48.77	47.66
16	47.78	46.89	46.57	46.62	45.07	43.79	49.90	63.59	67.15	54.85	48.63	47.75
17	47.78	46.77	46.09	46.56	45.05	43.54	50.51	63.93	65.88	54.64	48.31	47.66
18	47.74	46.71	45.87	46.51	45.08	43.24	50.00	63.14	66.42	54.45	48.00	47.59
19	47.62	46.70	45.82	46.48	45.16	43.07	49.41	61.56	68.76	54.16	47.75	47.50
20	47.48	46.70	45.86	46.43	45.28	42.94	50.85	60.50	70.60	53.90	47.58	47.48
21	47.40	46.73	45.90	46.45	45.49	42.85	54.84	60.37	70.27	53.48	47.45	47.53
22	47.35	46.74	45.91	46.41	45.53	42.83	56.16	59.97	68.17	52.87	47.31	47.53
23	47.30	46.73	46.15	46.29	45.26	42.66	55.67	59.34	65.82	52.35	47.20	47.56
24	47.25	46.88	46.72	46.21	44.92	42.43	55.12	59.18	64.03	51.96	47.12	47.63
25	47.20	47.09	47.10	46.08	44.81	42.30	55.00	59.27	63.02	51.71	47.12	47.71
26	47.18	46.99	46.86	45.94	44.77	42.19	55.29	59.44	62.83	51.40	47.03	47.77
27	47.17	46.91	46.73	45.91	44.92	42.12	55.91	59.70	62.75	51.11	46.94	47.60
28	47.13	46.85	46.73	45.88	45.43	42.03	57.01	60.76	62.49	50.91	46.91	47.59
29	47.10	46.74	46.78	45.90	------	41.89	59.06	62.57	62.32	50.80	46.95	47.59
30	47.01	46.75	46.84	45.86	------	41.84	60.84	65.26	61.48	50.66	46.88	47.50
31	46.98	------	46.88	45.91	------	41.84	------	67.16	------	50.42	46.89	------
MAX	48.24	47.19	47.17	47.12	45.97	45.40	60.84	67.16	70.60	60.32	50.89	47.77
MIN	46.98	46.70	45.82	45.86	44.77	41.84	41.91	53.64	61.48	50.42	46.88	46.75

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3110. Deep Creek at Moravia, Idaho

Location.--Lat 48°38', long 116°24', in sec.18, T.61 N., R.1 E., on left bank 50 ft downstream from highway bridge, 1 mile downstream from Ruby Creek, 1 mile southwest of Moravia, and at mile 6.2.

Drainage area.--133 sq mi.

Records available.--May 1928 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Altitude of gage is 1,800 ft (from topographic map). May 1928 to Sept. 19, 1959, staff gages 50 ft upstream. Prior to Aug. 2, 1949, at datum 2.00 ft higher.

Average discharge.--37 years, 144 cfs (104,300 acre-ft per year); 15-year base period (1947-62), 171 cfs.

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (500 cfs, revised), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 21, 1961	2000	930	6.90	May 4, 1962	0200	620	6.13	May 21, 1964	0100	* 1,210	7.09
Apr. 3, 1961	2200	674	6.37	May 28, 1962	1600	743	6.36	June 1, 1964	2400	699	6.22
May 2, 1961	1900	951	6.82								
May 27, 1961	0100	* 1,040	6.94	Nov. 26, 1962	0900	* 988	6.76	Apr. 29, 1965	0400	* 1,070	7.45
				Jan. 21, 1963	-	-	a 7.47	May 13, 1965	0200	820	6.88
Apr. 7, 1962	0500	672	6.23	Apr. 6, 1963	0830	610	6.10				
Apr. 25, 1962	0100	* 856	6.56	May 7, 1963	2100	630	6.13				

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Nov. 9, 1960	8.8	3.93	1963	Sept. 9, 1963	14	3.90
1962	Oct. 4, 5, 1961, Sept. 6, 7, 1962	14	-	1964	Oct. 13, 1963	17	3.94
				1965	Aug. 10, 1965	18	3.98

1928-65: Maximum discharge, 1,670 cfs May 18, 1954 (gage height, 7.40 ft, from graph based on gage readings); minimum observed, 5 cfs Aug. 14, 22, 1940.

Remarks.--Records good except those for winter periods, which are poor. Small diversions above station for irrigation. Occasional regulation above station at migratory waterfowl refuge near Elmira.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	35	60	35	157	261	430	702	605	68	23	25
2	18	31	59	34	153	245	494	904	590	65	22	32
3	18	28	59	34	134	218	610	764	553	61	21	19
4	18	26	60	34	114	199	600	680	526	60	21	17
5	18	24	44	40	106	189	508	690	486	57	21	16
6	18	25	40	55	112	189	430	685	430	57	21	15
7	22	25	41	52	128	177	390	641	426	59	21	14
8	31	23	38	59	118	170	376	585	333	50	19	14
9	25	23	36	66	134	179	353	646	353	46	19	14
10	22	28	35	80	226	177	333	820	308	44	20	14
11	22	36	36	73	242	175	327	865	278	42	18	15
12	24	32	38	66	330	175	390	776	287	39	19	14
13	25	30	41	65	284	204	430	758	253	38	18	13
14	23	35	44	79	240	267	376	788	248	36	18	13
15	22	34	36	149	234	275	343	782	245	34	18	13
16	22	35	33	216	245	299	330	806	231	33	18	13
17	22	36	37	164	218	287	394	858	211	32	20	13
18	22	104	42	132	191	267	430	826	196	33	19	13
19	22	74	50	110	179	264	404	839	177	31	18	12
20	22	108	60	90	245	293	360	858	153	30	18	12
21	22	187	60	88	652	284	337	904	134	28	19	13
22	22	101	57	86	729	267	333	800	122	26	18	13
23	23	79	53	84	465	270	340	839	110	33	18	13
24	31	179	46	82	386	273	350	758	101	36	17	13
25	31	321	42	85	360	278	366	734	91	30	17	13
26	29	175	38	80	296	337	370	872	84	27	17	13
27	35	118	36	77	270	360	400	770	77	26	17	13
28	39	91	36	74	242	346	450	562	73	25	17	15
29	36	71	36	76	------	353	500	540	83	24	16	23
30	29	69	36	80	------	373	660	540	79	24	16	24
31	27	------	35	170	------	404	------	590	------	23	18	------
TOTAL	738	2,186	1,364	2,615	7,190	8,055	12,414	23,222	7,843	1,217	582	464
MEAN	24.5	72.9	44.0	84.4	257	260	414	749	261	39.3	18.8	15.5
MAX	39	321	60	216	729	404	660	904	605	68	23	32
MIN	18	23	33	34	106	170	327	540	73	23	16	12
CFSM	.18	.55	.33	.63	1.93	1.95	3.11	5.63	1.97	.30	.14	.12
IN.	.21	.61	.38	.73	2.01	2.25	3.47	6.49	2.19	.34	.16	.13
AC-FT	1,500	4,340	2,710	5,190	14,260	15,980	24,620	46,060	15,560	2,410	1,150	920

CAL YR 1960: TOTAL 60,496 MEAN 165 MAX 1,100 MIN 14 CFSM 1.24 IN 16.92 AC-FT 120,000
WAT YR 1961: TOTAL 67,910 MEAN 186 MAX 904 MIN 12 CFSM 1.40 IN 18.99 AC-FT 134,700

12-3110. Deep Creek at Moravia, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	32	58	42	54	56	149	384	341	55	18	17
2	17	26	59	42	54	55	173	397	333	52	18	16
3	15	28	56	48	62	53	206	478	350	50	22	16
4	14	27	52	49	82	52	242	565	282	49	26	15
5	14	23	60	45	80	51	290	474	258	49	30	15
6	15	27	44	42	71	50	383	428	246	52	27	14
7	15	25	40	42	59	48	580	464	227	52	25	18
8	16	25	37	40	59	47	451	438	236	52	34	22
9	29	25	33	35	60	47	370	487	299	48	32	19
10	39	28	29	30	93	47	325	496	258	44	30	22
11	36	34	27	29	104	47	296	492	227	41	26	82
12	36	27	29	32	103	46	296	474	212	39	25	47
13	60	27	31	34	101	44	350	478	198	35	22	34
14	40	29	33	34	128	43	438	482	190	30	21	39
15	34	25	35	34	136	43	590	474	190	30	20	37
16	31	24	37	33	126	46	565	492	193	31	20	30
17	32	23	40	33	120	49	523	500	180	29	20	28
18	28	24	38	26	114	54	585	514	165	28	18	26
19	25	28	38	21	104	61	721	570	165	26	17	25
20	25	25	40	23	95	52	748	532	139	25	17	25
21	24	26	42	24	86	54	677	514	122	25	17	24
22	25	29	40	25	81	52	620	510	112	24	20	23
23	31	30	39	26	66	53	666	496	99	23	19	22
24	35	30	45	28	68	84	770	605	90	22	17	22
25	32	30	50	32	65	140	721	555	85	23	16	21
26	40	30	45	38	61	166	565	496	77	22	16	24
27	60	34	40	45	59	189	532	482	71	21	17	22
28	46	42	37	54	58	164	580	645	65	20	20	28
29	38	48	39	60	------	142	469	536	63	19	18	53
30	35	54	41	58	------	134	402	424	61	18	17	36
31	32	------	42	56	------	134	------	374	------	18	17	------
TOTAL	940	885	1,276	1,160	2,349	2,303	14,283	15,256	5,534	1,052	662	822
MEAN	30.3	29.5	41.2	37.4	83.9	74.3	476	492	184	33.9	21.4	27.4
MAX	60	54	60	60	136	189	770	645	350	55	34	82
MIN	14	23	27	21	54	43	149	374	61	18	16	14
CFSM	.23	.22	.31	.28	.63	.56	3.58	3.70	1.39	.26	.16	.21
IN.	.26	.25	.36	.32	.66	.64	3.99	4.27	1.55	.29	.19	.23
AC-FT	1,860	1,760	2,530	2,300	4,660	4,570	28,330	30,260	10,980	2,090	1,310	1,630

CAL YR 1961: TOTAL 66,703 MEAN 183 MAX 904 MIN 12 CFSM 1.37 IN 18.65 AC-FT 132,300
WAT YR 1962: TOTAL 46,522 MEAN 127 MAX 770 MIN 14 CFSM .96 IN 13.01 AC-FT 92,270

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	31	45	195	239	102	153	325	354	230	78	22	17
2	30	44	180	341	106	146	275	333	207	71	22	17
3	28	42	165	442	115	139	246	314	198	63	21	18
4	27	42	148	362	130	130	242	292	190	58	20	17
5	26	47	139	296	150	130	282	303	204	54	20	16
6	26	48	175	258	165	128	580	442	201	50	19	16
7	28	44	172	233	170	126	546	595	165	48	18	15
8	40	48	175	215	175	124	492	565	150	44	18	15
9	49	75	170	188	175	122	433	482	155	43	17	15
10	61	90	172	116	175	120	384	442	148	48	18	15
11	55	93	165	100	170	120	354	415	135	50	20	15
12	99	102	160	82	160	116	329	415	130	48	18	15
13	135	88	153	80	158	114	329	406	120	43	18	17
14	95	77	150	92	153	112	366	406	112	40	22	26
15	72	68	251	110	150	112	469	415	102	39	19	22
16	59	62	337	115	146	108	428	428	97	41	17	20
17	53	58	307	115	144	106	374	428	93	39	17	23
18	50	55	289	114	144	104	345	442	85	38	16	22
19	48	66	268	113	146	104	307	433	77	35	16	21
20	48	122	249	112	148	112	289	433	71	34	16	20
21	52	95	236	109	141	114	272	456	68	33	17	20
22	53	82	215	106	139	122	272	451	72	31	17	21
23	53	75	185	105	139	155	272	442	77	30	16	25
24	50	72	155	102	137	218	258	456	71	29	20	21
25	49	242	140	101	133	190	249	415	71	29	21	20
26	49	813	135	100	162	185	265	370	66	30	18	20
27	48	388	140	99	165	198	289	337	63	27	17	19
28	47	258	150	98	158	345	310	307	62	25	17	18
29	47	201	167	98	------	341	333	299	82	24	16	18
30	45	195	230	98	------	420	366	299	102	22	16	18
31	45	------	233	98	------	406	------	268	------	22	16	------
TOTAL	1,598	3,737	6,006	4,837	4,156	5,120	10,281	12,443	3,604	1,266	565	562
MEAN	51.5	125	194	156	148	165	343	401	120	40.8	18.2	18.7
MAX	135	813	337	442	175	420	580	595	230	78	22	26
MIN	26	42	135	80	102	104	242	268	62	22	16	15
CFSM	.39	.94	1.46	1.17	1.12	1.24	2.58	3.02	.90	.31	.14	.14
IN.	.45	1.04	1.68	1.35	1.16	1.43	2.87	3.48	1.01	.35	.16	.16
AC-FT	3,170	7,410	11,910	9,590	8,240	10,160	20,390	24,680	7,150	2,510	1,120	1,110

CAL YR 1962: TOTAL 54,762 MEAN 150 MAX 813 MIN 14 CFSM 1.13 IN 15.31 AC-FT 108,600
WAT YR 1963: TOTAL 54,175 MEAN 148 MAX 813 MIN 15 CFSM 1.12 IN 15.15 AC-FT 107,500

12-3110. Deep Creek at Moravia, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	24	63	63	53	52	172	469	600	85	35	30
2	18	29	62	78	50	53	210	451	570	82	34	31
3	18	28	60	65	49	52	210	478	514	80	33	30
4	18	28	59	59	50	52	218	456	474	74	36	27
5	20	30	58	57	52	55	201	478	469	71	39	26
6	21	36	57	58	47	53	204	446	496	68	33	25
7	22	53	56	53	47	52	230	460	464	63	31	25
8	21	53	55	50	49	50	272	555	498	61	31	25
9	53	49	54	51	52	52	337	694	446	59	29	25
10	40	43	53	54	54	50	402	787	392	57	29	25
11	20	40	50	55	58	62	415	743	350	54	26	23
12	18	36	52	55	55	77	362	770	314	49	25	23
13	18	35	53	55	54	65	310	832	285	47	27	23
14	20	42	54	55	54	63	285	809	258	47	27	22
15	20	83	54	55	52	72	307	738	239	49	26	22
16	20	61	53	62	50	80	337	782	239	47	25	22
17	20	66	52	61	50	92	289	982	218	43	23	25
18	20	63	52	62	49	102	268	994	201	42	23	38
19	20	66	51	57	50	97	272	1,040	193	42	28	29
20	20	92	51	55	49	90	299	1,090	190	39	25	32
21	25	65	50	54	54	88	322	976	175	36	23	33
22	43	59	49	53	54	85	442	699	170	35	22	31
23	83	62	48	50	57	68	469	570	160	34	21	30
24	62	69	47	48	52	74	460	518	150	32	20	28
25	72	68	52	49	50	77	492	492	139	31	20	27
26	49	102	50	50	57	68	528	478	126	30	21	26
27	36	144	48	48	54	66	500	464	114	29	22	25
28	28	95	48	49	53	75	438	555	104	28	25	25
29	28	72	45	48	48	92	446	595	97	33	24	26
30	25	66	44	49	------	99	487	595	92	41	35	36
31	24	------	45	49	------	122	------	575	------	40	32	------
TOTAL	920	1,759	1,625	1,706	1,503	2,235	10,184	20,571	8,735	1,528	650	815
MEAN	29.7	58.6	52.4	55.0	51.8	72.1	339	664	291	49.3	27.4	27.2
MAX	83	144	63	78	58	122	528	1,090	600	85	39	38
MIN	18	24	44	48	47	50	172	446	92	28	20	22
CFSM	.02	.04	.03	.04	.03	.05	2.55	4.99	2.19	.37	.21	.20
IN.	.26	.49	.45	.48	.42	.62	2.85	5.75	2.44	.43	.24	.23
AC-FT	1,820	3,490	3,220	3,380	2,980	4,430	20,200	40,800	17,330	3,030	1,690	1,620

CAL YR 1963: TOTAL 47,138 MEAN 129 MAX 595 MIN 15 CFSM .97 IN 13.18 AC-FT 93,500
WAT YR 1964: TOTAL 52,431 MEAN 143 MAX 1,090 MIN 18 CFSM 1.08 IN 14.66 AC-FT 104,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	43	29	146	57	77	218	137	856	370	74	25	28
2	38	33	141	58	74	177	153	699	388	65	25	25
3	38	32	124	58	71	160	160	610	406	59	30	30
4	33	33	106	57	68	148	170	555	358	58	28	34
5	30	45	90	57	95	141	188	505	337	57	52	31
6	30	39	78	56	110	144	201	456	350	50	41	28
7	30	36	71	54	92	148	201	446	325	47	30	26
8	29	35	71	54	93	150	201	460	255	44	26	25
9	32	54	72	54	93	153	230	510	252	41	25	25
10	37	86	77	54	78	160	318	560	249	39	22	24
11	34	71	66	54	72	175	345	615	236	37	21	23
12	32	57	82	54	75	180	392	688	224	36	25	24
13	31	54	75	54	77	180	469	721	185	35	32	25
14	30	48	66	54	75	182	532	655	165	33	25	36
15	30	44	58	54	74	185	595	635	167	32	24	65
16	30	39	46	55	78	180	699	694	160	31	22	43
17	30	43	40	57	106	150	615	565	201	31	22	35
18	29	42	44	60	137	144	505	496	242	31	22	31
19	29	39	48	62	155	137	532	464	278	30	22	30
20	29	38	52	61	170	128	820	530	198	31	38	30
21	29	38	56	61	148	124	952	496	170	34	31	29
22	29	37	70	60	125	120	946	482	146	35	27	28
23	28	40	90	60	110	112	814	478	128	33	39	26
24	28	97	72	60	105	102	760	492	120	31	86	25
25	29	90	63	60	102	98	732	496	110	30	85	25
26	28	74	58	61	116	94	738	478	101	28	74	25
27	28	63	57	62	342	92	754	487	92	27	58	24
28	28	53	56	59	299	92	862	535	90	28	54	27
29	29	50	56	71	------	93	1,010	560	86	30	59	26
30	29	85	56	71	------	101	964	500	83	29	54	25
31	29	------	57	78	------	116	------	388	------	27	37	------
TOTAL	958	1,524	2,244	1,827	3,217	4,384	15,995	17,112	6,472	1,193	1,161	878
MEAN	30.9	50.8	72.4	58.9	115	141	533	552	216	38.5	37.5	29.3
MAX	43	97	146	78	342	218	1,010	856	406	74	86	65
MIN	28	29	40	54	68	92	137	388	83	27	21	23
CFSM	.03	.04	.04	.04	.08	.10	.38	.40	.15	.03	.03	.02
IN.	.03	.04	.06	.04	.08	.10	.38	.41	.15	.03	.03	.02
AC-FT	1,900	3,020	4,450	3,620	6,380	8,700	31,730	33,940	12,840	2,370	2,300	1,740

CAL YR 1964: TOTAL 52,853 MEAN 144 MAX 1,090 MIN 20 CFSM 1.09 IN 14.78 AC-FT 104,800
WAT YR 1965: TOTAL 56,965 MEAN 156 MAX 1,010 MIN 21 CFSM 1.17 IN 15.93 AC-FT 113,000

12-3140. Kootenai River at Klockmann Ranch, near Bonners Ferry, Idaho

Location.--Lat 48°47'40", long 116°22'50", in SE¼ sec.19, T.63 N., R.1 E., on right bank 0.3 mile downstream from dike of drainage district No. 5, 8 miles north of Bonners Ferry, and at mile 139.7.

Drainage area.--13,300 sq mi, approximately.

Records available.--May to July, September to November 1928, April to September, December 1929, April 1930 to September 1965 (elevations only, fragmentary prior to April 1930).

Gage.--Water-stage recorder. Datum of gage is 1,700.00 ft above mean sea level, levels by Topographic Division in 1928. Gage readings have been reduced to elevations above mean sea level. Datum of 1929, supplementary adjustment of 1947, is about 0.03 ft higher. Prior to Sept. 12, 1928, several staff gages within 300 ft at different datums.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	June 7, 1961	1,776.41	Mar. 20, 1961	1,742.42
1962	May 30, 1962	1,764.27	Mar. 31, 1962	1,741.26
1963	June 2, 1963	1,765.08	Mar. 22, 1963	1,741.88
1964	June 10, 1964	1,771.54	Mar. 28, 1964	1,740.58
1965	June 20, 1965	1,768.39	Mar. 30, 31, 1965	1,740.97

1928-65: Maximum elevation, 1,776.41 ft June 7, 1961; minimum, 1,738.76 ft Apr. 1, 1944.

Remarks.--Elevations affected by backwater from Kootenay Lake and occasionally by dike failures during floods.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.40	46.44	46.09	45.98	45.09	44.17	43.27	48.38	75.20	58.88	48.17	45.59
2	46.32	46.47	46.04	45.96	45.13	44.12	43.84	50.40	75.02	58.08	48.00	45.80
3	46.28	46.50	46.03	45.88	45.21	43.93	45.02	52.69	75.20	57.06	47.75	45.92
4	46.31	46.42	46.12	45.81	45.09	43.70	47.07	53.31	75.62	56.09	47.51	46.04
5	46.29	46.38	46.11	45.87	45.04	43.44	47.65	53.36	76.04	55.44	47.35	46.12
6	46.26	46.36	46.02	46.03	44.98	43.32	47.05	53.07	76.13	54.99	47.22	46.05
7	46.20	46.32	45.96	46.16	44.92	43.14	46.21	52.75	75.82	54.62	47.12	46.04
8	46.26	46.29	45.93	46.08	44.86	42.96	45.52	52.40	76.10	54.21	47.03	46.01
9	46.45	46.24	45.93	46.12	44.79	42.82	45.01	52.56	75.99	53.81	46.97	45.98
10	46.44	46.25	45.88	46.14	44.86	42.69	44.62	53.97	73.85	53.42	46.75	45.95
11	46.37	46.27	45.90	46.11	45.11	42.60	44.33	56.02	73.28	52.81	46.66	45.99
12	46.40	46.29	45.94	46.04	45.40	42.47	44.19	56.72	72.02	52.20	46.55	45.98
13	46.42	46.29	46.00	45.97	45.31	42.44	44.46	56.64	71.13	51.72	46.36	46.07
14	46.37	46.28	46.12	45.96	45.03	42.46	44.62	56.64	70.74	51.30	46.17	46.11
15	46.34	46.27	46.07	45.93	44.83	42.50	44.49	57.08	70.52	51.00	46.02	46.07
16	46.30	46.28	45.95	46.15	44.70	42.50	44.23	57.76	70.34	50.81	45.86	45.99
17	46.28	46.25	45.96	46.24	44.52	42.59	44.14	58.48	70.36	50.77	45.81	45.94
18	46.27	46.31	45.97	46.19	44.29	42.59	44.70	58.82	70.44	50.89	45.87	45.97
19	46.29	46.23	46.04	46.04	44.08	42.56	45.23	59.30	70.41	50.69	45.97	45.86
20	46.30	46.30	45.99	45.86	43.95	42.48	45.57	60.81	70.07	50.24	46.27	45.93
21	46.30	46.55	46.03	45.67	44.26	42.60	45.50	63.23	69.51	49.76	46.32	45.92
22	46.34	46.44	46.06	45.55	46.26	42.64	45.30	65.90	68.70	49.46	46.09	45.93
23	46.39	46.42	46.07	45.42	46.71	42.59	44.93	68.26	67.47	49.25	45.95	45.99
24	46.39	46.49	46.08	45.33	46.12	42.52	44.70	70.20	65.97	49.25	45.86	45.95
25	46.50	46.82	46.10	45.30	45.67	42.49	44.65	71.80	64.64	49.27	45.80	45.99
26	46.43	46.85	46.12	45.19	45.17	42.50	44.85	73.31	63.62	49.08	45.69	46.04
27	46.49	46.66	46.15	45.12	44.74	42.62	45.06	74.50	62.71	48.86	45.63	46.02
28	46.51	46.48	46.13	45.07	44.38	42.66	45.43	75.41	61.92	48.63	45.64	46.02
29	46.54	46.33	46.04	45.07	------	42.68	45.64	76.05	60.95	48.33	45.57	46.09
30	46.44	46.20	46.00	45.05	------	42.72	46.52	75.92	59.83	48.20	45.48	46.14
31	46.39	------	46.00	45.09	------	42.93	------	75.54	------	48.23	45.42	------
MAX	46.54	46.85	46.15	46.24	46.71	44.17	47.65	76.05	76.13	58.88	48.17	46.14
MIN	46.20	46.20	45.88	45.05	43.95	42.44	43.27	48.38	59.83	48.20	45.42	45.59

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3140. Kootenai River at Klockmann Ranch, near Bonners Ferry, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.18	46.75	46.46	46.01	45.13	43.35	41.33	51.50	63.17	57.17	49.08	45.34
2	46.20	46.71	46.52	45.98	45.10	43.34	41.50	50.80	62.02	56.82	48.73	45.35
3	46.22	46.68	46.54	46.06	45.13	43.24	41.76	50.70	61.28	56.67	48.50	45.27
4	46.22	46.66	46.48	46.18	45.42	43.27	42.09	51.40	60.82	56.02	48.32	45.32
5	46.22	46.61	46.45	46.18	45.50	43.20	42.57	51.50	60.31	55.07	48.20	45.35
6	46.31	46.56	46.42	46.19	45.52	43.09	43.17	51.00	59.47	54.14	48.16	45.37
7	46.36	46.53	46.36	46.17	45.40	43.02	44.71	50.64	58.35	53.42	48.04	45.57
8	46.43	46.51	46.27	46.12	45.21	42.94	46.15	50.35	57.50	52.98	47.90	45.38
9	46.59	46.48	46.12	45.93	45.05	42.88	45.86	50.24	57.44	52.74	47.73	45.35
10	46.74	46.45	46.00	45.76	44.98	42.72	45.10	50.50	58.31	52.47	47.54	45.45
11	46.79	46.47	45.86	45.69	44.91	42.58	44.49	50.82	60.30	52.41	47.46	45.66
12	46.80	46.58	45.73	45.66	44.80	42.50	44.12	51.10	61.16	52.50	47.34	45.84
13	46.85	46.58	45.76	45.65	44.78	42.41	44.01	51.33	60.99	52.62	47.12	45.88
14	46.85	46.62	45.74	45.61	44.73	42.33	44.30	51.76	60.64	52.63	46.88	45.89
15	46.85	46.55	45.68	45.62	44.76	42.26	45.36	51.94	60.60	52.55	46.75	45.94
16	46.89	46.43	45.66	45.50	44.66	42.14	47.15	52.04	60.84	52.32	46.71	45.95
17	47.05	46.36	45.72	45.41	44.53	41.99	47.97	52.42	61.67	51.93	46.51	45.97
18	47.12	46.27	45.75	45.31	44.40	41.86	48.36	53.11	62.71	51.51	46.40	45.96
19	47.23	46.29	45.75	45.21	44.31	41.77	49.53	54.30	63.34	51.11	46.30	45.99
20	47.36	46.33	45.73	45.15	44.21	41.66	51.40	55.51	63.43	50.85	46.21	45.92
21	47.32	46.29	45.76	45.05	44.07	41.58	53.03	56.71	63.00	50.45	46.25	45.87
22	47.23	46.40	45.82	44.96	43.92	41.47	53.48	58.02	62.52	50.01	46.17	45.86
23	47.07	46.39	45.83	44.91	43.74	41.38	53.41	58.91	61.98	49.74	45.95	45.95
24	47.04	46.40	45.93	44.87	43.63	41.34	53.92	59.82	61.20	49.61	45.89	45.97
25	46.94	46.45	46.11	44.85	43.56	41.47	55.27	60.80	60.48	49.58	45.79	45.97
26	46.85	46.37	46.17	44.93	43.42	41.61	55.86	61.40	60.32	49.58	45.59	45.98
27	46.85	46.34	46.10	45.05	43.32	41.72	55.49	61.69	60.42	49.59	45.45	45.99
28	46.85	46.39	46.04	45.12	43.30	41.74	54.70	62.53	60.42	49.60	45.42	46.02
29	46.80	46.42	45.99	45.18	------	41.58	53.50	63.82	59.60	49.57	45.41	46.14
30	46.75	46.44	45.99	45.21	------	41.38	52.40	64.22	58.18	49.44	45.39	46.24
31	46.69	------	45.97	45.18	------	41.29	------	64.02	------	49.30	45.37	------
MAX	47.36	46.75	46.54	46.19	45.52	43.35	55.86	64.22	63.43	57.17	49.08	46.24
MIN	46.18	46.27	45.66	44.85	43.30	41.29	41.33	50.24	57.44	49.30	45.37	45.27

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.37	46.55	47.03	46.41	44.60	44.12	43.56	49.22	64.75	58.20	49.16	44.52
2	46.43	46.54	46.82	46.56	44.53	44.01	43.10	50.01	64.99	58.80	48.85	44.48
3	46.35	46.54	46.76	46.75	44.60	43.84	42.72	50.07	64.42	58.47	48.62	44.53
4	46.41	46.52	46.70	46.84	44.78	43.66	42.44	49.60	63.39	58.58	48.39	44.59
5	46.42	46.55	46.66	46.77	45.49	43.51	42.35	48.99	62.92	58.87	48.10	44.66
6	46.37	46.54	46.64	46.66	46.51	43.39	42.94	49.02	63.09	58.87	47.88	44.70
7	46.33	46.52	46.67	46.54	46.93	43.29	43.93	50.26	63.24	58.59	47.68	44.73
8	46.32	46.49	46.69	46.42	47.29	43.19	44.33	51.98	63.52	58.07	47.54	44.75
9	46.33	46.58	46.67	46.36	47.22	43.09	44.37	52.59	63.55	57.92	47.43	44.83
10	46.46	46.64	46.68	46.06	46.92	43.06	44.18	52.27	63.59	58.10	47.31	44.92
11	46.42	46.59	46.69	45.86	46.63	42.90	43.96	51.69	63.38	57.69	47.22	45.03
12	46.50	46.64	46.67	45.67	46.23	42.74	43.78	51.35	62.82	56.71	47.18	45.12
13	46.67	46.59	46.61	45.58	45.93	42.62	43.71	51.32	62.41	55.80	47.17	45.18
14	46.84	46.57	46.58	45.60	45.76	42.49	43.83	51.39	62.54	55.06	47.07	45.44
15	46.72	46.52	46.61	45.63	45.65	42.43	44.50	51.60	62.78	54.53	47.05	45.64
16	46.63	46.51	46.90	45.65	45.54	42.36	45.63	52.08	62.89	54.31	47.19	45.79
17	46.55	46.44	47.02	45.63	45.43	42.30	46.21	52.67	62.80	54.57	47.11	46.00
18	46.52	46.41	47.05	45.61	45.33	42.18	46.28	53.47	62.66	54.63	46.86	46.08
19	46.50	46.37	47.02	45.50	45.20	42.11	46.04	54.26	62.43	54.15	46.51	46.08
20	46.47	46.77	46.95	45.42	45.10	42.08	45.69	54.87	62.08	53.58	46.20	46.07
21	46.47	47.21	46.93	45.35	44.98	41.99	45.32	55.62	61.72	53.05	45.99	46.06
22	46.67	47.06	46.87	45.22	44.83	41.89	45.02	56.72	61.16	52.56	45.83	46.06
23	46.65	46.91	46.78	45.12	44.65	41.93	44.81	58.16	60.56	52.14	45.68	46.10
24	46.66	46.73	46.59	45.09	44.47	42.00	44.62	59.77	59.70	51.76	45.47	46.16
25	46.85	46.68	46.34	45.11	44.33	42.10	44.53	61.70	58.57	51.33	45.25	46.22
26	46.82	47.73	46.35	45.01	44.22	42.13	44.51	63.14	57.62	50.88	45.07	46.29
27	46.68	48.12	46.32	44.95	44.23	42.06	44.74	64.03	57.17	50.51	44.89	46.39
28	46.60	47.83	46.44	44.94	44.19	42.33	45.45	64.40	56.72	50.24	44.80	46.41
29	46.60	47.33	46.54	44.83	------	42.83	46.53	64.18	56.24	49.78	44.74	46.39
30	46.59	47.13	46.54	44.69	------	43.18	47.88	63.87	56.76	49.43	44.70	46.35
31	46.57	------	46.47	44.64	------	43.58	------	64.20	------	49.32	44.65	------
MAX	46.85	48.12	47.05	46.84	47.29	44.12	47.88	64.40	64.99	58.87	49.16	46.41
MIN	46.32	46.37	46.32	44.64	44.19	41.89	42.35	48.99	56.24	49.32	44.65	44.48

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3140. Kootenai River at Klockmann Ranch, near Bonners Ferry, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.32	46.37	46.16	45.85	43.76	42.15	41.03	46.30	62.20	60.59	49.77	45.58
2	46.29	46.34	45.95	45.99	43.71	42.14	41.37	46.72	63.28	59.44	50.04	45.62
3	46.27	46.36	45.89	46.00	43.62	42.08	41.67	47.25	64.42	59.11	49.98	45.79
4	46.31	46.37	45.84	46.01	43.49	42.03	41.80	47.52	65.57	59.23	49.57	45.99
5	46.32	46.34	45.94	45.95	43.46	42.02	41.87	48.12	66.45	59.15	49.20	46.14
6	46.29	46.39	46.06	45.94	43.42	41.96	41.77	48.77	67.44	59.04	48.98	46.29
7	46.27	46.38	46.05	45.93	43.36	41.88	41.73	49.12	68.06	59.06	48.88	46.39
8	46.22	46.38	46.07	45.78	43.27	41.77	41.82	49.46	68.80	58.71	48.68	46.48
9	46.22	46.35	45.99	45.73	43.28	41.68	42.10	50.35	70.29	58.32	48.39	46.63
10	46.25	46.28	45.81	45.65	43.22	41.59	42.56	51.99	71.46	58.47	48.23	46.76
11	46.28	46.23	45.64	45.57	43.26	41.51	43.07	53.65	70.96	58.84	48.07	46.75
12	46.27	46.14	45.68	45.45	43.20	41.52	43.36	54.37	69.78	58.30	47.99	46.71
13	46.20	46.06	45.78	45.32	43.15	41.48	43.33	54.72	69.28	57.35	47.81	46.67
14	46.17	46.00	45.81	45.20	43.02	41.39	43.17	55.52	69.34	56.83	47.60	46.60
15	46.17	45.99	45.88	45.12	42.93	41.41	43.24	55.65	69.45	56.68	47.44	46.52
16	46.17	46.00	45.96	45.07	42.85	41.34	43.82	55.65	69.46	56.49	47.37	46.45
17	46.17	45.96	45.93	45.05	42.82	41.34	44.22	56.62	69.29	56.00	47.23	46.45
18	46.21	46.05	45.89	44.97	42.78	41.39	44.04	58.66	68.83	55.38	46.96	46.65
19	46.20	46.06	45.85	44.84	42.81	41.38	43.81	60.54	68.04	54.52	46.81	46.63
20	46.15	46.39	45.91	44.75	42.72	41.25	43.78	62.62	67.09	53.73	46.72	46.78
21	46.14	46.07	45.96	44.68	42.66	41.20	43.86	64.94	66.05	53.10	46.63	47.03
22	46.16	45.91	46.00	44.55	42.62	41.11	44.05	66.21	65.17	52.55	46.58	47.10
23	46.46	45.79	46.03	44.45	42.54	40.97	44.52	65.76	64.48	52.07	46.42	47.05
24	46.46	45.75	46.08	44.36	42.55	40.86	44.66	63.45	64.11	51.61	46.22	46.94
25	46.63	45.72	46.09	44.27	42.43	40.74	44.75	61.01	64.12	51.17	46.04	46.91
26	46.64	45.70	46.13	44.14	42.39	40.70	45.05	59.27	64.25	50.70	46.00	46.84
27	46.59	46.08	46.12	44.07	42.32	40.62	45.44	58.12	63.94	50.21	45.88	46.89
28	46.50	46.51	46.10	43.97	42.25	40.60	45.66	58.02	63.35	49.84	45.80	47.13
29	46.44	46.56	46.04	43.87	42.17	40.63	45.70	58.94	62.88	49.60	45.74	47.19
30	46.45	46.33	45.93	43.82	------	40.68	45.88	60.12	62.01	49.59	45.68	47.09
31	46.40	------	45.83	43.77	------	40.80	------	61.26	------	49.59	45.63	------
MAX	46.64	46.56	46.16	46.01	43.76	42.15	45.88	66.21	71.46	60.59	50.04	47.19
MIN	46.14	45.70	45.64	43.77	42.17	40.60	41.03	46.30	62.01	49.59	45.63	45.58

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	47.34	46.49	46.52	46.42	45.38	44.69	41.06	59.45	65.10	58.73	49.04	45.94
2	47.32	46.55	46.63	46.46	45.30	44.46	41.15	58.85	64.04	57.89	48.79	45.95
3	47.44	46.58	46.71	46.54	45.19	44.18	41.33	57.45	63.28	57.58	48.65	46.05
4	47.43	46.54	46.65	46.59	45.09	43.93	41.54	56.03	63.47	57.74	48.57	46.22
5	47.28	46.67	46.62	46.62	45.15	43.70	41.73	54.82	64.23	58.12	48.66	46.42
6	47.13	46.65	46.59	46.62	45.27	43.54	41.93	53.89	64.52	58.28	48.97	46.56
7	47.01	46.66	46.53	46.63	45.31	43.44	42.21	53.02	64.80	58.22	49.54	46.64
8	46.96	46.67	46.48	46.61	45.28	43.36	42.45	52.38	64.97	58.18	49.52	46.69
9	47.02	46.64	46.47	46.57	45.29	43.28	42.60	52.12	64.32	58.19	49.07	46.76
10	47.11	46.67	46.48	46.54	45.11	43.20	42.85	52.51	63.64	57.91	48.63	46.80
11	47.20	46.63	46.50	46.49	44.89	43.17	43.37	53.67	64.06	57.20	48.29	46.85
12	47.26	46.68	46.40	46.42	44.79	43.15	43.84	55.57	65.40	56.32	48.07	46.83
13	47.27	46.68	46.25	46.36	44.68	43.10	44.54	57.97	66.68	55.47	47.90	46.84
14	47.15	46.65	46.28	46.30	44.66	43.03	45.50	59.85	67.12	54.69	47.86	46.87
15	47.11	46.56	46.34	46.22	44.51	42.96	46.58	60.98	66.61	54.02	47.75	47.00
16	47.10	46.50	46.26	46.15	44.45	42.93	47.85	61.37	65.24	53.51	47.63	47.08
17	47.09	46.41	45.92	46.08	44.44	42.69	48.56	61.73	64.09	53.28	47.37	47.03
18	47.06	46.37	45.75	46.01	44.46	42.45	48.16	61.09	64.51	53.10	47.10	46.99
19	46.96	46.35	45.69	45.97	44.51	42.29	47.65	59.70	66.41	52.78	46.86	46.92
20	46.86	46.36	45.72	45.94	44.70	42.17	48.71	58.66	68.12	52.52	46.69	46.91
21	46.76	46.37	45.73	45.96	44.84	42.12	52.55	58.50	68.01	52.15	46.58	46.94
22	46.76	46.38	45.75	45.92	44.87	42.07	54.07	58.14	66.78	51.62	46.46	46.95
23	46.73	46.39	45.90	45.83	44.59	41.88	53.70	57.56	64.16	51.14	46.34	46.96
24	46.71	46.52	46.20	45.75	44.29	41.67	53.16	57.39	62.46	50.76	46.26	47.00
25	46.69	46.64	46.43	45.64	44.23	41.54	53.02	57.44	61.47	50.54	46.23	47.12
26	46.67	46.56	46.30	45.52	44.22	41.40	53.30	57.58	61.22	50.26	46.16	47.09
27	46.67	46.50	46.26	45.49	44.40	41.32	53.88	57.83	61.09	49.99	46.08	46.95
28	46.63	46.46	46.28	45.44	44.77	41.20	54.95	58.86	60.80	49.77	46.04	46.93
29	46.62	46.37	46.32	45.44	------	41.05	56.92	60.59	60.60	49.64	46.04	46.95
30	46.55	46.39	46.38	45.39	------	40.99	58.65	62.97	59.84	49.51	45.97	46.90
31	46.52	------	46.42	45.41	------	41.00	------	64.74	------	49.30	45.97	------
MAX	47.44	46.68	46.71	46.63	45.38	44.69	58.65	64.74	68.12	58.73	49.54	47.12
MIN	46.52	46.35	45.69	45.39	44.22	40.99	41.06	52.12	59.84	49.30	45.97	45.94

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3168. Mission Creek near Copeland, Idaho

Location (revised).--Lat 48°55'54", long 116°20'00", in SW¼NE¼NE¼ sec.4, T.64 N., R.1 E., on left bank 0.1 mile upstream from bridge crossing, 3.2 miles northeast of Copeland, at mile 6.0, and 17 miles north of Bonners Ferry.

Drainage area.--23 sq mi, approximately.

Records available.--September 1958 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is about 2,800 ft (from topographic map).

Average discharge.--7 years, 38.8 cfs (28,090 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (170 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 2, 1961	0430	410	4.95	May 19, 1962	0300	185	3.77	June 1, 1964	2100	280	4.22
May 10, 1961	2130	347	4.63	May 7, 1963	-	* 212	3.90	Apr. 29, 1965	2000	284	4.29
May 26, 1961	1930	* 528	5.52	May 23, 1963	2100	181	3.70	May 12, 1965	2100	* 288	4.31
Apr. 24, 1962	2100	* 202	3.88	May 20, 1964	1900	* 495	5.22	May 29, 1965	2200	227	3.98

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Sept.18, 20, 1961	3.5	1.95	1964	Oct. 17, 18, 19, 20, 1963	4.4	1.97
1962	Nov. 15, 16, 1961	a 2.2	1.83				
1963	Oct. 6, 1962	3.7	1.97	1965	Dec. 12, 1964	4.1	1.87

a Minimum recorded.

1958-65: Maximum discharge, 528 cfs May 26, 1961 (gage height, 5.52 ft); minimum, 2.2 cfs Sept. 2, 1958, Nov. 15, 16, 1962.

Remarks.--Records good except those for winter periods and those for periods of no gage-height record, which are poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.0	8.7	7.0	5.5	27	27	66	217	320	38	8.0	11
2	4.0	8.0	7.0	5.0	23	26	88	345	322	35	7.3	8.0
3	4.0	6.8	6.5	5.0	21	25	112	253	311	32	7.0	5.5
4	3.8	5.7	6.3	5.0	19	24	105	221	297	30	6.8	5.0
5	3.8	5.5	3.8	5.2	18	24	85	197	284	29	6.8	5.0
6	3.8	5.7	4.0	6.0	22	23	71	183	257	28	7.0	4.7
7	4.7	5.5	6.0	5.5	25	22	64	160	248	29	6.5	4.5
8	8.4	5.0	5.0	5.2	22	22	61	154	207	24	6.3	4.4
9	5.2	5.0	4.5	5.2	23	23	56	186	200	22	6.3	4.2
10	4.7	5.2	4.5	5.2	26	23	52	266	175	21	6.0	4.5
11	4.7	5.5	4.5	5.2	26	24	50	271	156	19	6.0	4.5
12	6.5	5.0	7.0	5.2	28	25	54	223	160	18	5.7	4.2
13	5.7	5.0	10	5.2	20	30	61	219	164	17	5.5	4.0
14	5.2	5.0	12	5.7	17	36	54	282	151	16	5.5	4.0
15	5.0	5.0	9.0	11	16	38	50	284	144	15	5.2	3.8
16	5.0	5.0	5.0	22	14	42	48	290	140	15	5.7	3.7
17	5.0	5.2	4.0	25	12	40	69	284	130	14	7.0	3.7
18	4.7	7.3	4.0	17	10	38	86	284	118	14	5.7	3.5
19	4.5	6.0	7.0	12	10	38	79	314	108	13	5.2	3.7
20	4.5	7.7	10	10	13	42	69	386	97	12	5.0	4.0
21	4.5	8.0	8.0	9.0	29	41	64	366	84	11	5.0	5.0
22	5.5	6.5	7.0	8.0	40	38	66	352	75	11	4.5	4.5
23	5.2	6.3	7.0	8.0	35	39	65	378	65	13	4.4	4.5
24	6.8	9.1	6.5	8.0	32	39	74	352	60	13	4.2	4.7
25	6.8	16	6.5	8.0	30	40	90	360	54	13	4.4	4.5
26	5.7	9.8	6.0	8.0	28	46	97	439	49	11	4.4	4.4
27	6.3	9.8	6.0	7.0	26	51	90	434	45	9.8	4.4	4.2
28	6.8	7.0	6.0	6.0	25	48	89	335	42	9.5	4.2	4.4
29	7.3	5.7	6.0	6.0	------	50	97	292	48	9.1	4.0	5.2
30	6.0	7.7	6.0	10	------	52	225	282	43	9.5	3.8	5.2
31	6.3	------	6.0	25	------	56	------	305	------	8.7	4.7	------
TOTAL	164.4	203.7	198.1	274.1	637	1,092	2,337	8,914	4,554	559.6	172.5	142.5
MEAN	5.30	6.79	6.39	8.84	22.8	35.2	77.9	288	152	18.1	5.56	4.75
MAX	8.4	16	12	25	40	56	225	439	322	38	8.0	11
MIN	3.8	5.0	3.8	5.0	10	22	48	154	42	8.7	3.8	3.5
CFSM	.23	.30	.28	.38	.99	1.53	3.39	12.5	6.60	.78	.24	.21
IN.	.27	.33	.32	.44	1.03	1.77	3.78	14.4	7.36	.90	.28	.23
AC-FT	326	404	393	544	1,260	2,170	4,640	17,680	9,030	1,110	342	283

CAL YR 1960: TOTAL 14,421.3 MEAN 39.4 MAX 332 MIN 3.8 CFSM 1.71 IN 23.32 AC-FT 28,600
WAT YR 1961: TOTAL 19,248.9 MEAN 52.7 MAX 439 MIN 3.5 CFSM 2.29 IN 31.12 AC-FT 38,180

Note.--No gage-height record Feb. 23 to Mar. 30.

12-3168. Mission Creek near Copeland, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.0	5.0	5.7	5.7	5.0	4.2	12	72	106	20	6.0	4.5
2	4.7	4.0	5.2	5.5	5.5	4.2	13	77	97	19	5.7	4.4
3	4.5	4.5	5.0	7.4	7.0	4.2	20	94	99	19	7.7	4.2
4	4.5	4.3	4.7	6.6	6.3	4.1	29	110	92	18	8.4	4.2
5	4.3	4.2	4.7	6.3	5.5	4.0	34	93	85	17	10	4.0
6	5.0	4.3	4.6	5.7	5.5	4.0	44	85	79	16	8.7	4.0
7	5.0	4.3	4.2	6.0	5.2	3.9	53	93	72	15	8.0	4.2
8	5.2	4.2	4.0	5.7	5.2	3.8	46	90	69	13	7.7	4.7
9	7.0	4.2	3.5	5.2	5.2	3.8	39	99	70	12	7.0	4.4
10	9.0	4.3	3.0	5.0	6.5	3.8	34	112	69	12	6.8	4.4
11	8.5	4.8	3.0	5.4	5.7	3.6	33	115	66	11	6.5	14
12	9.0	5.0	3.2	5.6	5.5	3.4	37	116	63	9.8	6.0	8.0
13	12	4.8	3.7	5.6	5.5	3.2	49	125	63	9.5	5.7	6.0
14	10	4.5	4.5	5.6	6.3	3.2	77	126	61	9.5	5.5	6.0
15	8.5	2.6	5.2	5.4	6.0	3.2	112	122	58	9.1	5.5	5.7
16	7.5	2.5	6.0	5.0	6.0	3.2	103	125	56	9.1	5.2	5.0
17	7.6	2.6	6.4	5.4	6.0	3.2	97	137	56	8.7	5.2	4.7
18	7.0	2.7	6.8	5.0	6.0	3.3	116	144	51	8.4	5.2	4.5
19	6.0	3.2	6.8	4.7	5.7	3.4	148	178	48	8.0	5.2	4.4
20	6.0	3.0	6.5	5.0	5.4	3.5	156	172	44	7.7	5.2	4.2
21	6.0	3.0	7.0	5.0	5.0	3.5	149	165	42	7.7	5.2	4.2
22	5.8	3.5	6.8	5.0	4.7	3.5	148	167	38	7.3	5.0	4.0
23	6.0	3.8	6.5	5.0	4.4	3.4	162	167	36	7.0	4.7	3.8
24	6.0	3.9	9.0	5.4	4.3	3.3	183	172	33	7.0	4.7	3.8
25	5.6	4.0	8.0	6.0	4.2	3.4	168	168	30	7.0	4.7	3.7
26	8.0	3.9	7.0	6.2	4.2	3.5	138	159	29	7.0	5.0	3.7
27	9.0	4.5	6.0	6.0	4.2	3.7	122	152	27	6.8	6.0	3.7
28	8.0	5.8	5.6	5.6	4.2	3.5	112	156	26	6.5	6.5	4.4
29	7.0	6.6	5.6	5.2	------	6.5	93	149	24	6.3	6.5	8.0
30	6.0	6.2	6.0	5.0	------	6.5	79	132	22	6.3	5.2	5.0
31	5.4	------	5.7	5.0	------	7.3	------	118	------	6.0	4.7	------
TOTAL	209.1	124.2	169.9	171.2	150.2	121.3	2,608	3,990	1,709	326.7	189.4	149.8
MEAN	6.75	4.14	5.48	5.52	5.36	3.91	86.9	129	57.0	10.5	6.11	4.99
MAX	12	6.6	9.0	7.4	7.0	7.3	183	178	106	20	10	14
MIN	4.3	2.5	3.0	4.7	4.2	3.2	12	72	22	6.0	4.7	3.7
CFSM	.29	.18	.24	.24	.23	.17	3.78	5.60	2.48	.46	.27	.22
IN.	.34	.20	.27	.28	.24	.20	4.22	6.45	2.76	.53	.31	.24
AC-FT	415	246	337	340	298	241	5,170	7,910	3,390	648	376	297

CAL YR 1961: TOTAL 19,185.9 MEAN 52.6 MAX 439 MIN 2.5 CFSM 2.29 IN 31.02 AC-FT 38,050
WAT YR 1962: TOTAL 9,918.8 MEAN 27.2 MAX 183 MIN 2.5 CFSM 1.18 IN 16.04 AC-FT 19,670

Note.--No gage-height record Oct. 3 to Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.4	4.5	15	16	8.2	15	30	119	101	88	14	6.3
2	4.0	4.4	13	17	8.4	14	28	106	92	76	14	14
3	3.8	4.3	12	24	8.7	14	26	97	89	68	13	8.7
4	3.8	4.2	11	20	9.1	14	26	89	82	60	12	7.3
5	3.8	4.7	11	19	9.4	14	42	89	84	54	11	7.0
6	3.8	4.9	11	17	10	14	86	126	99	50	11	6.5
7	4.4	4.6	11	17	10	13	84	190	89	46	10	6.3
8	5.0	6.0	11	17	11	13	72	180	81	47	9.8	6.0
9	5.2	9.0	11	15	11	13	62	170	110	43	9.8	6.0
10	6.8	8.8	11	10	11	13	54	160	99	45	10	6.0
11	6.1	8.6	11	7.5	11	13	50	150	90	47	9.8	6.8
12	10	8.4	11	6.0	11	13	50	140	82	44	9.5	6.0
13	19	8.4	10	5.7	11	13	57	140	76	39	9.1	6.4
14	12	7.3	10	6.4	11	12	75	140	70	36	8.7	14
15	9.2	6.5	15	8.0	11	12	112	150	64	37	8.0	8.4
16	7.8	6.3	24	8.6	12	12	99	155	60	36	7.7	7.5
17	7.0	6.3	21	8.7	13	12	84	160	54	34	7.3	9.1
18	6.5	5.7	20	8.7	14	12	74	160	49	32	7.3	8.0
19	6.1	6.0	20	8.6	14	12	66	165	46	30	7.3	7.3
20	6.8	22	19	8.5	14	12	61	170	43	28	7.3	6.8
21	8.0	14	19	8.4	14	13	57	170	40	26	7.7	6.5
22	9.0	11	18	8.4	14	16	56	170	57	24	7.3	6.5
23	7.8	9.8	17	8.2	14	22	52	172	51	22	7.0	7.3
24	7.0	9.1	16	8.2	13	24	50	173	44	22	9.5	6.8
25	6.2	15	15	8.0	14	23	52	170	42	22	8.0	6.3
26	5.8	44	15	8.0	15	24	61	156	40	20	7.7	6.0
27	5.4	26	15	8.0	15	28	79	143	37	19	7.3	5.7
28	5.2	20	15	8.0	15	37	97	132	36	18	7.0	5.5
29	5.0	17	16	8.0	------	37	112	120	89	17	6.8	5.2
30	4.8	16	16	8.0	------	39	124	118	110	16	6.8	5.2
31	4.6	------	16	8.0	------	35	------	112	------	15	6.5	------
TOTAL	204.3	322.8	456	337.9	332.8	558	1,978	4,492	2,106	1,161	278.2	219.4
MEAN	6.59	10.8	14.7	10.9	11.9	18.0	65.9	145	70.2	37.5	8.97	7.31
MAX	19	44	24	24	15	39	124	190	110	88	14	14
MIN	3.8	4.2	10	5.7	8.2	12	26	89	36	15	6.5	5.2
CFSM	.29	.47	.64	.47	.52	.78	2.87	6.30	3.05	1.63	.39	.32
IN.	.33	.52	.74	.55	.54	.90	3.20	7.26	3.41	1.88	.45	.35
AC-FT	405	640	904	670	660	1,110	3,920	8,910	4,180	2,300	552	435

CAL YR 1962: TOTAL 10,398.7 MEAN 28.5 MAX 183 MIN 3.2 CFSM 1.24 IN 16.81 AC-FT 20,630
WAT YR 1963: TOTAL 12,446.4 MEAN 34.1 MAX 190 MIN 3.8 CFSM 1.48 IN 20.13 AC-FT 24,690

Note.--No gage-height record Oct. 11 to Nov. 11, May 7-22.

12-3168. Mission Creek near Copeland, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.2	5.5	12	9.8	6.3	7.3	18	84	254	44	12	8.0
2	5.5	6.5	11	9.8	6.0	6.8	20	83	260	43	12	8.5
3	5.2	6.0	10	7.3	6.0	6.5	21	82	251	39	11	7.7
4	5.2	6.0	9.4	6.8	6.3	6.8	21	77	238	38	9.7	7.4
5	5.5	6.3	9.0	6.5	6.3	7.7	21	92	233	36	12	6.7
6	6.0	6.5	8.4	6.4	5.9	6.5	21	90	244	34	11	6.4
7	5.7	6.5	7.8	6.3	5.7	6.5	25	84	240	30	10	6.4
8	5.5	6.3	7.3	6.2	5.7	6.4	30	110	231	28	9.3	6.4
9	5.2	6.0	6.8	6.2	5.9	6.4	40	142	206	26	10	6.4
10	5.2	5.7	6.3	6.3	6.3	6.5	47	183	190	25	10	6.2
11	5.2	5.2	5.9	6.2	6.8	6.8	45	183	172	23	9.0	6.0
12	5.0	5.2	6.2	6.5	6.4	6.8	41	185	159	22	8.7	5.8
13	5.0	5.2	6.5	6.6	6.2	6.3	36	206	148	20	8.7	5.8
14	5.0	9.4	6.6	6.6	6.7	6.3	34	206	138	20	8.7	5.8
15	4.7	14	6.6	6.8	6.8	6.3	38	204	130	19	8.2	5.8
16	4.7	9.1	6.6	7.3	6.5	6.3	42	233	143	18	8.0	5.8
17	4.4	8.7	6.5	7.0	7.0	7.3	38	290	130	18	7.7	6.9
18	4.5	8.0	6.4	6.8	6.8	7.3	36	310	119	17	8.2	8.0
19	4.4	8.7	6.4	6.5	6.8	7.1	39	369	108	16	8.5	6.4
20	4.4	7.7	6.4	7.0	6.8	6.8	47	422	98	16	8.2	6.7
21	5.7	7.5	6.3	6.8	6.8	7.0	49	376	89	15	7.4	6.4
22	6.3	7.0	6.3	6.5	7.3	6.7	53	278	82	14	7.4	6.0
23	12	7.0	6.2	6.3	7.2	6.3	54	218	76	14	7.2	5.8
24	8.7	6.8	6.1	6.0	6.8	6.4	57	196	72	14	6.9	5.8
25	8.4	7.3	6.0	6.8	7.1	6.4	69	180	69	13	6.7	5.6
26	6.5	19	5.8	6.0	7.0	6.3	80	174	64	13	7.4	5.6
27	6.0	25	5.7	6.0	7.7	6.5	72	178	62	12	7.4	5.4
28	5.7	16	5.7	6.0	7.0	6.8	67	217	56	11	8.5	5.2
29	5.7	15	5.7	6.0	7.0	7.4	77	244	52	14	7.7	5.2
30	5.7	13	5.7	6.0	------	10	90	253	47	14	8.2	6.7
31	5.7	------	5.7	6.0	------	14	------	251	------	12	8.0	------
TOTAL	177.9	266.1	217.3	207.3	191.1	218.5	1,328	6,200	4,361	678	273.7	190.8
MEAN	5.74	8.87	7.01	6.69	6.59	7.05	44.3	200	145	21.9	8.83	6.36
MAX	12	25	12	9.8	7.7	14	90	422	260	44	12	8.5
MIN	4.4	5.2	5.7	6.0	5.7	6.3	18	77	47	11	6.7	5.2
CFSM	.25	.39	.30	.29	.29	.31	1.92	8.70	6.32	.95	.38	.28
IN.	.29	.43	.35	.34	.31	.35	2.15	10.0	7.05	1.10	.44	.31
AC-FT	353	528	431	411	379	433	2,630	12,300	8,650	1,340	543	378

CAL YR 1963: TOTAL 12,124.6 MEAN 33.2 MAX 190 MIN 4.4 CFSM 1.44 IN 19.60 AC-FT 24,050
WAT YR 1964: TOTAL 14,309.7 MEAN 39.1 MAX 422 MIN 4.4 CFSM 1.70 IN 23.14 AC-FT 28,380

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.9	6.0	17	6.1	5.6	7.6	9.0	213	159	31	8.5	6.7
2	6.2	6.4	14	6.1	5.6	6.9	10	170	148	29	8.2	6.4
3	6.2	6.4	12	6.1	5.2	6.8	10	146	148	28	11	12
4	5.6	7.2	10	6.2	4.9	6.8	12	127	140	28	10	11
5	5.6	10	9.3	6.2	6.6	6.8	13	111	132	26	18	8.7
6	5.4	8.5	9.0	6.2	6.8	7.0	15	98	129	24	12	7.7
7	5.0	7.4	8.2	6.0	6.2	7.2	16	102	119	23	10	7.2
8	5.2	7.2	8.2	5.9	5.8	8.0	16	113	106	22	9.0	6.9
9	5.6	8.7	8.2	5.8	6.0	8.5	20	135	97	20	8.2	6.9
10	5.8	11	8.2	5.9	5.8	9.0	28	170	92	19	8.0	6.7
11	5.4	10	7.0	5.9	5.6	10	32	204	92	18	8.0	6.4
12	5.2	8.5	5.9	5.9	5.4	10	45	240	95	18	8.7	6.4
13	5.2	8.0	6.4	6.0	5.2	11	61	253	83	17	9.0	6.9
14	5.4	6.9	7.0	6.0	5.2	11	80	249	74	16	8.2	8.0
15	5.4	7.7	6.0	6.0	5.4	12	97	238	68	15	7.7	9.0
16	5.6	7.2	5.0	6.0	5.6	11	114	229	62	14	7.4	8.0
17	5.6	8.0	4.4	6.2	6.2	10	92	191	70	13	7.2	7.7
18	5.6	7.4	4.8	6.0	6.7	9.2	73	172	89	12	6.9	7.7
19	5.6	7.2	5.2	5.9	9.3	9.0	83	158	82	12	6.9	7.4
20	5.8	6.9	5.5	5.9	9.0	8.8	156	180	72	12	8.2	7.7
21	5.8	6.9	6.0	5.8	8.2	9.0	186	172	63	13	7.4	7.7
22	5.6	6.9	7.4	5.8	7.2	8.2	161	161	55	14	7.2	8.0
23	5.6	7.4	9.6	5.7	6.4	7.4	142	159	50	12	8.2	7.2
24	5.6	10	7.6	5.7	6.0	7.0	153	166	47	11	9.7	6.9
25	5.6	9.0	6.6	5.6	6.2	6.8	158	166	44	11	8.0	6.8
26	5.6	8.0	6.2	5.9	6.4	6.7	172	166	42	10	8.7	6.9
27	5.6	7.2	6.0	5.9	10	6.7	188	172	38	10	8.0	7.0
28	5.8	6.5	6.0	5.8	8.2	6.8	231	191	39	10	7.7	6.8
29	5.8	5.8	6.0	5.6	------	7.2	254	209	38	9.7	8.0	6.6
30	6.0	9.3	6.0	5.6	------	7.4	238	211	35	9.0	7.4	6.6
31	6.0	------	6.0	5.5	------	8.0	------	183	------	8.7	7.2	------
TOTAL	175.3	233.6	234.7	183.2	180.7	257.8	2,865.0	5,455	2,508	515.4	268.6	225.9
MEAN	5.65	7.79	7.57	5.91	6.45	8.32	95.5	176	83.6	16.6	8.66	7.53
MAX	6.9	11	17	6.2	10	12	254	253	159	31	18	12
MIN	5.0	5.8	4.4	5.5	4.9	6.7	9.0	98	35	8.7	6.9	6.4
CFSM	.25	.34	.33	.26	.28	.36	4.15	7.65	3.63	.72	.38	.33
IN.	.28	.38	.38	.30	.29	.42	4.63	8.82	4.06	.83	.43	.37
AC-FT	348	463	466	363	358	511	5,680	10,820	4,970	1,020	533	448

CAL YR 1964: TOTAL 14,292.0 MEAN 39.0 MAX 422 MIN 4.4 CFSM 1.70 IN 23.11 AC-FT 28,350
WAT YR 1965: TOTAL 13,103.2 MEAN 35.9 MAX 254 MIN 4.4 CFSM 1.56 IN 21.19 AC-FT 25,990

12-3185. Kootenai River near Copeland, Idaho

(International gaging station)

Location.--Lat 48°54'43", long 116°24'59", in NW¼NW¼SW¼ sec. 12, T.64 N., R.1 W., on right bank at Andrews Ranch, three-quarters of a mile downstream from Mission Creek, 1½ miles northwest of Copeland, and at mile 123.2.

Drainage area.--13,400 sq mi, approximately.

Records available.--October 1927 to September 1965 (elevation record only prior to May 1929). Published as "at Copeland" 1927-29. April 1925 to September 1927 (gage heights only) in reports of Department of Northern Affairs and National Resources, Canada.

Gage.--Water-stage recorder. Datum of gage is 1,700.00 ft above mean sea level, referred to bench mark T-10-1914, elevation, 1,791.49 ft (datum of 1929, supplementary adjustment of 1947, is about 0.04 ft higher). Prior to Nov. 20, 1929, staff or recording gage at site three-quarters of a mile upstream; datum 40.77 ft higher prior to Apr. 18, 1929. Gage readings have been reduced to elevations above mean sea level.

Average discharge.--36 years (1929-65), 15,580 cfs (11,280,000 acre-ft per year); 15-year base period (1947-62), 17,560 cfs.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum daily			Minimum daily		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1961	May 29, 1961	114,000	a 1,772.55	Jan. 4, 1961	3,050	b 1,741.43
1962	May 30, 1962	61,900	1,760.87	Dec. 12, 1961	2,800	c 1,740.60
1963	May 27, June 2	61,800	d 1,761.88	Jan. 13, 1963	2,400	e 1,741.18
1964	June 10, 1964	91,500	1,767.53	Mar. 11, 1964	2,940	f 1,740.29
1965	June 20, 1965	75,400	g 1,764.66	Dec. 20, 1964	2,000	h 1,740.41

a Occurred June 6, 1961. b Occurred Mar. 26, 1961. c Occurred Mar. 31, 1962. d Occurred June 2, 1963. e Occurred Apr. 5, 1963. f Occurred Mar. 28, 1964. g Occurred June 21, 1965. h Occurred Mar. 30, 31, 1965.

1929-65: Maximum daily discharge, 124,000 cfs May 30, 1948; maximum elevation, 1,772.55 ft June 6, 1961; minimum daily discharge, 1,350 cfs Feb. 8, 1936; minimum elevation, 1,738.52 ft Apr. 2, 3, 1944.

Remarks.--Records excellent except those for winter periods in 1962-65, which are good. Stage-discharge relation affected by backwater from Kootenay Lake and occasionally by dike failures during floods. Discharge computed from slope conveyance of reach between stations at Klockmann Ranch and at Porthill, and discharge measurements made at station near Copeland.

Cooperation.--This station is maintained by the United States under agreement with Canada.

Revisions (water years).--WSP 1316: 1934-37(M), 1940-47(M), 1949(M).

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.21	46.24	45.96	45.89	44.88	43.54	41.79	45.91	71.15	57.35	47.04	45.05
2	46.16	46.25	45.92	45.89	44.87	43.45	42.16	47.63	71.11	56.58	46.88	45.22
3	46.11	46.30	45.90	45.81	44.91	43.31	42.99	49.70	71.30	55.67	46.71	45.31
4	46.14	46.23	45.98	45.74	44.83	43.12	44.46	50.33	71.68	54.76	46.53	45.43
5	46.13	46.21	45.96	45.78	44.78	42.92	45.11	50.48	72.07	54.08	46.42	45.53
6	46.12	46.21	45.90	45.89	44.73	42.83	44.76	50.32	72.35	53.58	46.30	45.55
7	46.07	46.18	45.88	45.96	44.67	42.67	44.17	50.11	71.94	53.18	46.22	45.56
8	46.13	46.16	45.86	45.89	44.61	42.53	43.67	49.85	71.95	52.76	46.14	45.53
9	46.28	46.11	45.86	45.96	44.53	42.39	43.35	50.00	71.77	52.33	46.08	45.49
10	46.26	46.12	45.82	45.98	44.56	42.25	43.10	51.20	70.25	51.94	45.95	45.46
11	46.21	46.15	45.83	45.95	44.67	42.17	42.89	52.91	70.23	51.42	45.89	45.52
12	46.24	46.16	45.85	45.87	44.84	42.03	42.77	53.61	70.23	50.84	45.77	45.54
13	46.25	46.15	45.89	45.80	44.80	41.99	42.95	53.62	68.42	50.42	45.64	45.60
14	46.20	46.14	46.00	45.80	44.57	41.98	43.09	53.67	67.92	50.03	45.46	45.64
15	46.18	46.14	45.95	45.74	44.41	41.96	42.99	54.08	67.65	49.73	45.33	45.63
16	46.15	46.15	45.86	45.93	44.29	41.91	42.79	54.66	67.48	49.54	45.22	45.60
17	46.14	46.11	45.87	45.97	44.14	41.92	42.72	55.35	67.43	49.43	45.17	45.57
18	46.14	46.16	45.85	45.92	43.93	41.88	43.10	55.75	67.46	49.45	45.19	45.61
19	46.16	46.08	45.90	45.80	43.75	41.79	43.43	56.21	67.44	49.23	45.25	45.53
20	46.17	46.13	45.87	45.66	43.63	41.70	43.67	57.47	67.21	48.86	45.42	45.58
21	46.18	46.34	45.90	45.51	43.78	41.75	43.67	59.63	66.73	48.48	45.45	45.57
22	46.23	46.23	45.91	45.39	44.97	41.75	43.52	61.85	66.03	48.25	45.29	45.58
23	46.27	46.22	45.92	45.28	45.34	41.66	43.33	63.99	65.04	48.04	45.21	45.63
24	46.28	46.27	45.92	45.23	44.97	41.57	43.16	65.81	63.82	48.02	45.17	45.64
25	46.33	46.45	45.96	45.20	44.69	41.51	43.10	67.32	62.63	48.02	45.13	45.69
26	46.27	46.48	45.99	45.12	44.27	41.46	43.24	68.83	61.72	47.84	45.05	45.76
27	46.29	46.34	46.01	45.06	43.92	41.51	43.36	70.17	60.83	47.71	45.00	45.74
28	46.30	46.24	45.99	45.01	43.66	41.53	43.61	70.84	60.11	47.52	45.01	45.76
29	46.30	46.14	45.93	44.99	------	41.51	43.78	71.34	59.23	47.25	44.96	45.83
30	46.22	46.05	45.91	44.97	------	41.51	44.44	71.47	58.28	47.14	44.92	45.89
31	46.18	------	45.91	44.97	------	41.59	------	71.33	------	47.13	44.88	------
MAX	46.33	46.48	46.01	45.98	45.34	43.54	45.11	71.47	72.35	57.35	47.04	45.89
MIN	46.07	46.05	45.82	44.97	43.63	41.46	41.79	45.91	58.28	47.13	44.88	45.05

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3185. Kootenai River near Copeland, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.94	46.43	46.24	45.81	44.85	43.13	40.63	49.38	60.15	55.44	48.02	44.90
2	45.97	46.41	46.27	45.79	44.80	43.10	40.69	48.84	59.23	55.06	47.75	44.95
3	45.99	46.38	46.30	45.86	44.83	43.06	40.80	48.71	58.63	54.86	47.54	44.95
4	46.01	46.40	46.26	45.94	45.03	43.05	41.03	49.09	58.24	54.32	47.37	45.00
5	46.03	46.36	46.25	45.93	45.06	42.96	41.31	49.24	57.79	53.52	47.27	45.00
6	46.11	46.33	46.24	45.94	45.03	42.84	41.67	48.96	57.09	52.74	47.15	45.05
7	46.14	46.31	46.21	45.94	44.94	42.74	42.85	48.62	56.23	52.11	47.05	45.25
8	46.18	46.29	46.13	45.89	44.78	42.65	43.83	48.37	55.48	51.67	46.95	45.10
9	46.28	46.28	46.01	45.77	44.65	42.56	43.79	48.24	55.45	51.47	46.85	45.10
10	46.43	46.25	45.91	45.64	44.56	42.41	43.28	48.41	56.08	51.12	46.65	45.15
11	46.45	46.29	45.80	45.58	44.49	42.29	42.87	48.66	57.48	50.99	46.60	45.30
12	46.46	46.38	45.68	45.55	44.39	42.21	42.63	48.84	58.27	51.02	46.50	45.45
13	46.49	46.36	45.66	45.52	44.35	42.12	42.55	49.03	58.19	51.09	46.40	45.50
14	46.48	46.41	45.62	45.47	44.31	42.05	42.74	49.35	57.95	51.11	46.20	45.55
15	46.48	46.32	45.57	45.48	44.31	41.94	43.51	49.54	57.94	51.02	46.05	45.60
16	46.53	46.24	45.54	45.37	44.25	41.87	44.85	49.64	58.18	50.84	45.95	45.65
17	46.67	46.20	45.58	45.29	44.15	41.73	45.59	49.94	58.83	50.57	45.80	45.68
18	46.64	46.14	45.59	45.21	44.11	41.60	45.94	50.54	59.71	50.25	45.75	45.68
19	46.62	46.14	45.58	45.10	43.99	41.45	46.89	51.58	60.29	49.91	45.65	45.69
20	46.67	46.17	45.57	45.01	43.90	41.33	48.55	52.65	60.49	49.66	45.55	45.65
21	46.68	46.13	45.59	44.91	43.80	41.21	49.93	53.70	60.23	49.34	45.60	45.61
22	46.63	46.21	45.62	44.84	43.68	41.09	50.49	54.80	59.88	49.00	45.50	45.58
23	46.53	46.21	45.63	44.78	43.53	41.00	50.51	55.57	59.47	48.74	45.30	45.73
24	46.52	46.22	45.71	44.74	43.44	40.97	51.03	56.51	58.86	48.62	45.20	45.76
25	46.47	46.26	45.85	44.71	43.36	41.04	52.24	57.44	58.28	48.54	45.15	45.76
26	46.42	46.21	45.91	44.74	43.28	41.12	52.83	58.07	58.09	48.50	45.00	45.77
27	46.41	46.18	45.87	44.79	43.21	41.14	52.59	58.43	58.12	48.48	44.90	45.78
28	46.42	46.23	45.83	44.83	43.16	41.06	51.99	59.19	58.09	48.46	44.85	45.82
29	46.41	46.24	45.80	44.88	------	40.90	51.16	60.38	57.49	48.44	44.90	45.91
30	46.38	46.23	45.80	44.88	------	40.70	50.21	60.82	56.38	48.33	44.85	46.02
31	46.34	------	45.78	44.85	------	40.62	------	60.76	------	48.20	44.85	------
MAX	46.68	46.43	46.30	45.94	45.06	43.13	52.83	60.82	60.49	55.44	48.02	46.02
MIN	45.94	46.13	45.54	44.71	43.16	40.62	40.63	48.24	55.45	48.20	44.85	44.90

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.14	46.33	46.62	46.20	44.50	43.57	42.05	46.75	61.56	55.76	48.13	43.95
2	46.20	46.33	46.45	46.30	44.40	43.50	41.75	47.49	61.81	56.26	47.86	43.94
3	46.14	46.33	46.41	46.46	44.45	43.35	41.48	47.63	61.39	56.04	47.64	44.01
4	46.22	46.33	46.40	46.50	44.51	43.20	41.30	47.36	60.66	56.08	47.43	44.08
5	46.23	46.35	46.38	46.44	44.90	43.06	41.21	46.93	60.28	56.28	47.18	44.16
6	46.18	46.34	46.38	46.36	45.51	42.95	41.54	47.02	60.38	56.33	46.99	44.22
7	46.15	46.32	46.41	46.27	45.83	42.86	42.16	48.07	60.50	56.13	46.79	44.26
8	46.14	46.31	46.40	46.17	46.00	42.76	42.48	49.29	60.71	55.75	46.67	44.30
9	46.15	46.37	46.39	46.10	45.93	42.67	42.56	49.89	60.77	55.61	46.58	44.41
10	46.27	46.39	46.41	45.87	45.69	42.61	42.47	49.70	60.80	55.72	46.45	44.51
11	46.23	46.34	46.41	45.74	45.50	42.49	42.34	49.29	60.65	55.48	46.35	44.61
12	46.28	46.37	46.40	45.56	45.23	42.33	42.24	49.03	60.23	54.73	46.32	44.68
13	46.39	46.34	46.35	45.49	45.01	42.20	42.22	49.04	59.89	54.00	46.33	44.73
14	46.51	46.34	46.34	45.48	44.87	42.10	42.32	49.11	59.93	53.41	46.21	44.96
15	46.43	46.31	46.36	45.47	44.78	42.05	42.77	49.31	60.12	52.94	46.17	45.17
16	46.36	46.31	46.54	45.48	44.70	41.96	43.62	49.71	60.21	52.66	46.23	45.31
17	46.32	46.27	46.59	45.45	44.61	41.89	44.10	50.25	60.17	52.75	46.15	45.50
18	46.31	46.23	46.60	45.35	44.54	41.78	44.20	50.93	60.03	52.74	45.94	45.60
19	46.31	46.24	46.58	45.29	44.45	41.71	44.11	51.64	59.86	52.37	45.66	45.63
20	46.28	46.56	46.55	45.23	44.36	41.66	43.89	52.23	59.62	51.90	45.40	45.66
21	46.29	46.76	46.57	45.19	44.28	41.57	43.66	52.92	59.30	51.45	45.22	45.69
22	46.49	46.64	46.50	45.11	44.19	41.46	43.46	53.97	58.86	51.02	45.06	45.72
23	46.45	46.53	46.43	45.04	44.08	41.43	43.35	55.19	58.32	50.67	44.92	45.78
24	46.40	46.40	46.32	44.99	43.93	41.40	43.22	56.54	57.59	50.36	44.70	45.86
25	46.52	46.38	46.18	44.99	43.81	41.41	43.16	58.36	56.71	49.99	44.54	45.92
26	46.48	47.11	46.18	44.90	43.72	41.41	43.16	59.69	55.86	49.62	44.36	45.99
27	46.38	47.31	46.15	44.84	43.69	41.30	43.31	60.54	55.38	49.26	44.21	46.07
28	46.32	47.09	46.25	44.80	43.62	41.38	43.78	60.99	54.95	48.99	44.14	46.12
29	46.35	46.76	46.33	44.71	------	41.67	44.58	60.97	54.52	48.68	44.09	46.12
30	46.35	46.68	46.34	44.60	------	41.80	45.63	60.80	54.80	48.37	44.07	46.09
31	46.34	------	46.26	44.53	------	42.05	------	61.11	------	48.23	44.05	------
MAX	46.52	47.31	46.62	46.50	46.00	43.57	45.63	61.11	61.81	56.33	48.13	46.12
MIN	46.14	46.23	46.15	44.53	43.62	41.30	41.21	46.75	54.52	48.23	44.05	43.94

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3185. Kootenai River near Copeland, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.09	46.15	45.86	45.66	43.46	42.00	40.55	44.34	59.07	58.69	48.68	45.05
2	46.08	46.15	45.75	45.75	43.42	41.97	40.68	44.65	60.01	57.70	48.80	45.10
3	46.06	46.17	45.68	45.73	43.33	41.90	40.82	45.05	61.01	57.21	48.82	45.28
4	46.10	46.18	45.63	45.76	43.22	41.87	40.88	45.27	62.03	57.14	48.55	45.45
5	46.10	46.15	45.69	45.72	43.20	41.85	40.88	45.74	62.79	57.08	48.28	45.66
6	46.10	46.19	45.82	45.73	43.14	41.79	40.77	46.31	63.65	56.91	48.07	45.80
7	46.07	46.18	45.82	45.73	43.09	41.70	40.72	46.64	64.26	56.88	47.93	45.95
8	46.04	46.18	45.85	45.62	43.03	41.60	40.76	46.96	65.07	56.63	47.75	46.11
9	46.04	46.14	45.80	45.57	43.02	41.51	40.93	47.67	66.27	56.31	47.51	46.25
10	46.07	46.08	45.69	45.51	42.98	41.41	41.19	49.06	67.41	56.31	47.38	46.38
11	46.12	46.04	45.58	45.42	42.99	41.34	41.58	50.53	67.25	56.57	47.23	46.38
12	46.10	45.97	45.60	45.31	42.91	41.31	41.78	51.24	66.33	56.36	47.11	46.36
13	46.05	45.90	45.67	45.17	42.88	41.27	41.80	51.62	65.89	55.63	46.97	46.34
14	46.03	45.83	45.70	45.07	42.78	41.18	41.75	52.36	65.93	55.12	46.80	46.30
15	46.04	45.81	45.74	44.95	42.72	41.17	41.87	52.57	66.07	54.90	46.65	46.25
16	46.05	45.80	45.81	44.88	42.65	41.09	42.23	52.65	66.12	54.74	46.56	46.20
17	46.05	45.75	45.79	44.83	42.63	41.05	42.56	53.49	65.99	54.36	46.45	46.20
18	46.09	45.80	45.74	44.75	42.58	41.05	42.52	55.25	65.62	53.86	46.30	46.35
19	46.08	45.82	45.72	44.62	42.61	41.03	42.41	56.96	65.03	53.17	46.14	46.35
20	46.04	46.08	45.76	44.53	42.52	40.93	42.44	58.88	64.38	52.48	46.05	46.40
21	46.03	45.81	45.80	44.45	42.48	40.90	42.54	60.98	63.46	51.90	45.96	46.46
22	46.04	45.72	45.82	44.33	42.44	40.79	42.68	62.11	62.66	51.37	45.92	46.55
23	46.23	45.63	45.83	44.23	42.36	40.66	43.04	62.11	62.03	50.94	45.82	46.50
24	46.19	45.59	45.88	44.12	42.36	40.60	43.16	60.41	61.63	50.51	45.68	46.48
25	46.28	45.54	45.88	44.05	42.27	40.51	43.24	58.40	61.49	50.08	45.53	46.53
26	46.29	45.50	45.91	43.93	42.23	40.45	43.50	56.91	61.52	49.66	45.45	46.50
27	46.28	45.76	45.91	43.82	42.14	40.39	43.75	55.85	61.37	49.23	45.38	46.52
28	46.25	45.97	45.88	43.71	42.10	40.31	43.92	55.71	60.89	48.88	45.30	46.58
29	46.21	46.03	45.83	43.60	42.03	40.33	43.86	56.38	60.44	48.64	45.22	46.60
30	46.23	45.91	45.75	43.54	------	40.36	44.07	57.33	59.82	48.62	45.16	46.54
31	46.20	------	45.65	43.50	------	40.43	------	58.25	------	48.59	45.11	------
MAX	46.29	46.19	45.91	45.76	43.46	42.00	44.07	62.11	67.41	58.69	48.82	46.60
MIN	46.03	45.50	45.58	43.50	42.03	40.31	40.55	44.34	59.07	48.59	45.11	45.05

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.66	46.19	46.28	46.14	45.09	44.11	40.46	55.92	61.55	56.68	47.95	45.22
2	46.61	46.25	46.35	46.20	45.02	43.93	40.51	55.66	60.89	55.97	47.74	45.30
3	46.74	46.26	46.41	46.28	44.93	43.71	40.60	54.59	60.31	55.59	47.60	45.43
4	46.72	46.24	46.39	46.32	44.84	43.48	40.73	53.42	60.38	55.62	47.53	45.61
5	46.65	46.35	46.36	46.34	44.85	43.26	40.86	52.44	61.01	55.81	47.61	45.80
6	46.57	46.31	46.33	46.35	44.92	43.11	40.98	51.67	61.36	55.93	47.76	45.96
7	46.50	46.33	46.28	46.35	44.88	42.99	41.18	50.96	61.58	55.89	48.12	46.08
8	46.48	46.34	46.24	46.30	44.83	42.87	41.36	50.42	61.77	55.89	48.15	46.18
9	46.51	46.32	46.25	46.28	44.84	42.75	41.44	50.17	61.40	55.89	47.85	46.29
10	46.54	46.32	46.26	46.27	44.69	42.66	41.67	50.36	60.86	55.71	47.55	46.35
11	46.58	46.29	46.30	46.22	44.54	42.60	41.98	51.20	61.10	55.18	47.29	46.41
12	46.64	46.32	46.21	46.16	44.45	42.53	42.32	52.70	61.13	54.48	47.10	46.41
13	46.67	46.34	46.13	46.10	44.37	42.48	42.79	54.74	63.15	53.81	46.95	46.42
14	46.65	46.34	46.14	46.04	44.35	42.39	43.45	56.45	63.61	53.14	46.90	46.44
15	46.60	46.28	46.20	45.98	44.19	42.32	44.26	57.55	63.37	52.59	46.82	46.50
16	46.57	46.25	46.12	45.87	44.14	42.21	45.26	58.00	62.37	52.11	46.71	46.56
17	46.54	46.19	45.86	45.78	44.11	42.03	45.99	58.37	61.43	51.83	46.52	46.58
18	46.51	46.17	45.75	45.69	44.10	41.85	45.80	57.97	61.60	51.62	46.31	46.57
19	46.47	46.15	45.68	45.65	44.09	41.72	45.43	56.89	62.94	51.32	46.11	46.54
20	46.41	46.15	45.68	45.63	44.22	41.61	46.07	56.00	64.37	51.06	45.93	46.52
21	46.36	46.16	45.68	45.64	44.27	41.55	49.13	55.79	64.48	50.72	45.85	46.53
22	46.33	46.17	45.70	45.62	44.30	41.48	50.69	55.53	63.29	50.27	45.76	46.54
23	46.32	46.18	45.80	45.54	44.10	41.31	50.57	55.06	61.56	49.90	45.61	46.55
24	46.31	46.28	45.91	45.46	43.90	41.15	50.21	54.91	60.15	49.56	45.54	46.56
25	46.33	46.36	46.07	45.38	43.82	40.98	50.13	54.96	59.23	49.33	45.49	46.56
26	46.32	46.28	46.02	45.28	43.80	40.85	50.39	55.07	58.87	49.07	45.42	46.59
27	46.32	46.25	46.01	45.25	43.93	40.75	50.91	55.30	58.71	48.85	45.34	46.55
28	46.29	46.23	46.03	45.19	44.17	40.66	51.80	56.08	58.43	48.64	45.29	46.49
29	46.28	46.18	46.07	45.19	------	40.52	53.51	57.52	58.18	48.51	45.28	46.49
30	46.23	46.19	46.12	45.13	------	40.44	55.07	59.52	57.59	48.36	45.23	46.49
31	46.21	------	46.16	45.13	------	40.43	------	61.12	------	48.17	45.21	------
MAX	46.74	46.36	46.41	46.35	45.09	44.11	55.07	61.12	64.48	56.68	48.15	46.59
MIN	46.21	46.15	45.68	45.13	43.80	40.43	40.46	50.17	57.59	48.17	45.21	45.22

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3185. Kootenai River near Copeland, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,820	6,230	4,370	3,680	4,990	7,730	10,800	21,900	106,000	31,500	14,200	8,210
2	5,610	6,460	4,210	3,670	5,410	7,780	12,100	26,700	104,000	30,100	13,200	8,590
3	5,560	6,420	4,290	3,280	5,970	7,400	14,700	32,300	105,000	27,700	13,100	8,930
4	6,190	6,100	4,350	3,050	5,630	7,050	19,600	33,500	106,000	25,500	12,400	8,950
5	5,360	6,020	4,560	3,680	5,490	6,530	20,500	33,200	108,000	24,400	12,100	8,850
6	5,400	5,790	4,030	4,260	5,420	6,300	18,700	32,000	107,000	24,500	11,800	8,290
7	5,050	5,610	3,570	4,990	5,470	6,070	16,600	30,800	105,000	24,500	11,600	7,970
8	5,100	5,380	3,480	4,750	5,360	5,800	14,900	29,400	109,000	23,800	11,500	8,100
9	5,810	5,230	3,510	4,640	5,500	5,600	13,600	29,700	100,000	23,500	11,400	8,010
10	5,870	5,260	3,280	4,700	5,930	5,630	12,700	33,900	84,400	23,100	10,800	8,010
11	5,560	5,170	3,470	4,690	7,170	5,590	12,000	39,800	87,900	21,700	10,700	7,940
12	5,580	5,220	3,670	4,830	8,400	5,540	11,700	41,300	80,400	20,500	10,500	7,660
13	5,810	5,180	4,270	4,630	8,110	5,570	12,400	40,600	75,800	19,600	9,990	7,930
14	5,720	5,260	4,120	4,670	7,410	5,710	12,800	40,100	74,400	18,800	9,640	7,800
15	5,510	5,100	4,080	5,010	6,840	6,100	12,500	41,100	73,600	18,400	9,420	7,520
16	5,410	5,170	3,640	5,650	6,690	6,310	11,900	43,000	73,100	18,100	9,080	7,210
17	5,330	5,200	3,800	6,210	6,390	6,820	11,800	45,000	73,700	18,600	8,810	7,060
18	5,170	5,250	4,020	6,360	6,100	6,980	13,100	45,500	74,800	19,500	9,080	6,900
19	5,180	5,180	4,350	5,790	5,800	7,270	14,500	46,900	74,700	19,300	9,520	6,670
20	5,220	5,300	4,080	5,200	5,680	7,350	15,300	52,000	73,300	18,200	10,700	6,770
21	5,150	6,070	4,220	4,680	6,920	7,640	14,900	60,700	70,500	17,000	10,900	6,770
22	5,100	5,840	4,450	4,400	13,100	7,910	14,500	71,100	67,000	16,100	10,200	6,770
23	5,280	5,720	4,530	4,100	14,100	7,560	13,600	81,100	61,000	15,800	9,800	6,980
24	5,220	5,790	4,590	3,800	12,300	8,100	13,000	89,300	53,700	16,000	9,420	6,550
25	6,010	7,410	4,430	3,800	11,000	8,170	12,900	95,900	48,300	16,200	9,240	6,470
26	5,900	7,380	4,310	3,600	10,000	8,420	13,500	102,000	45,000	15,800	8,970	6,460
27	6,190	6,850	4,260	3,300	9,190	8,770	14,100	106,000	42,300	15,200	8,820	6,370
28	6,480	6,000	4,250	3,200	8,360	9,000	14,900	111,000	40,400	14,600	8,940	6,230
29	6,730	5,280	3,950	3,200	------	9,140	15,300	114,000	37,400	13,900	8,730	6,190
30	6,490	4,750	3,650	3,600	------	9,370	17,400	111,000	33,900	13,700	8,280	6,160
31	6,340	------	3,710	4,170	------	9,900	------	109,000	------	14,100	8,040	------
TOTAL	175,150	171,620	125,500	135,590	208,730	223,510	426,300	1,789.8M	2,295.6M	619,700	320,880	222,320
MEAN	5,650	5,721	4,048	4,374	7,455	7,210	14,210	57,740	76,520	19,990	10,350	7,411
MAX	6,730	7,410	4,590	6,360	14,100	9,900	20,500	114,000	109,000	31,500	14,200	8,950
MIN	5,050	4,750	3,280	3,050	4,990	5,540	10,800	21,900	33,900	13,700	8,040	6,160
CFSM	.42	.43	.30	.33	.56	.54	1.06	4.31	5.71	1.49	.77	.55
IN.	.49	.48	.35	.38	.58	.62	1.18	4.97	6.37	1.72	.89	.62
AC-FT	347,400	340,400	248,900	268,900	414,000	443,300	845,600	3,550M	4,553M	1,229M	636,500	441,000

CAL YR 1960: TOTAL 5,996,400 MEAN 16,380 MAX 76,000 MIN 3,280 CFSM 1.22 IN 16.64 AC-FT 11,890,000
WAT YR 1961: TOTAL 6,714,700 MEAN 18,400 MAX 114,000 MIN 3,050 CFSM 1.37 IN 18.64 AC-FT 13,320,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,160	7,260	5,200	4,700	6,050	3,400	5,880	24,000	55,900	30,200	14,400	7,560
2	6,120	7,070	5,400	4,700	5,940	3,500	6,320	22,000	50,700	30,000	13,400	7,430
3	6,040	6,840	5,500	4,800	5,960	3,600	6,990	23,000	47,600	30,300	13,100	6,930
4	5,980	6,570	5,400	5,100	6,790	3,600	7,800	25,000	45,900	28,600	12,900	6,920
5	5,880	6,420	5,300	5,100	7,270	3,600	9,060	25,000	44,300	25,800	12,700	6,890
6	5,850	6,240	5,200	5,000	7,300	3,700	10,500	24,000	41,100	23,100	13,000	6,760
7	6,000	6,100	5,000	4,900	6,500	3,800	14,100	22,900	37,000	21,500	12,700	6,910
8	6,250	6,020	4,700	4,700	5,700	3,900	17,200	22,400	34,100	20,800	12,500	6,510
9	7,000	5,820	4,200	4,500	5,400	3,900	16,000	22,400	33,800	20,900	12,100	6,360
10	7,190	5,740	3,600	4,100	5,200	3,800	14,100	23,500	37,600	20,700	11,900	6,650
11	7,390	5,690	3,200	3,900	5,200	3,800	12,600	24,600	46,200	21,000	12,000	7,110
12	7,480	5,860	2,800	3,700	5,300	3,800	11,600	25,500	49,100	21,600	11,700	7,460
13	7,650	6,060	2,900	3,600	5,500	3,800	11,300	26,300	48,000	22,200	11,100	7,290
14	7,650	6,080	3,000	3,500	5,600	3,800	12,100	27,700	46,400	22,200	10,400	7,060
15	7,650	6,170	3,300	3,400	5,700	3,800	14,500	28,200	45,900	22,200	10,200	6,990
16	7,670	5,580	3,600	3,300	5,800	3,900	18,600	28,500	46,400	21,300	10,400	6,710
17	7,880	5,300	3,800	3,400	5,700	3,900	20,200	29,600	49,700	19,900	10,100	6,670
18	8,650	4,880	4,200	3,100	5,600	4,000	21,000	31,300	53,700	18,700	9,630	6,570
19	9,800	4,800	4,400	2,900	5,500	4,100	23,800	34,600	55,700	17,600	9,480	6,690
20	10,500	4,600	4,500	2,900	5,300	4,100	28,400	37,800	55,200	17,200	9,420	6,430
21	10,100	4,600	4,600	2,900	5,000	4,200	32,500	41,200	52,800	16,100	9,350	6,330
22	9,660	4,800	5,000	2,900	4,500	4,300	33,200	45,200	50,300	14,900	9,260	5,980
23	9,110	5,000	5,000	3,000	4,100	4,400	32,500	47,900	48,000	14,400	9,020	6,020
24	8,840	4,900	4,900	3,200	3,800	4,470	33,600	49,900	44,600	14,300	9,120	5,960
25	8,480	4,800	5,400	3,500	3,600	4,800	37,300	52,800	41,600	14,600	8,960	5,900
26	8,130	4,700	5,400	4,400	3,500	5,200	38,600	54,300	41,400	14,900	8,540	5,910
27	8,130	4,700	5,000	5,000	3,400	5,620	37,000	54,100	42,200	15,100	8,310	5,910
28	8,120	4,700	4,500	5,400	3,400	5,910	34,000	56,800	42,400	15,200	8,130	5,810
29	7,790	4,800	4,200	5,700	------	5,970	30,000	61,000	38,800	15,200	8,010	6,030
30	7,640	5,100	4,500	6,000	------	5,900	27,000	61,900	33,500	14,900	7,950	6,070
31	7,280	------	4,600	6,250	------	5,790	------	60,200	------	14,900	7,770	------
TOTAL	238,070	167,200	138,300	129,550	148,610	132,360	617,750	1,113.6M	1,359.9M	620,300	327,550	197,820
MEAN	7,680	5,573	4,461	4,179	5,308	4,270	20,590	35,920	45,330	20,010	10,570	6,594
MAX	10,500	7,260	5,500	6,250	7,300	5,970	38,600	61,900	55,900	30,300	14,400	7,560
MIN	5,850	4,600	2,800	2,900	3,400	3,400	5,880	22,000	33,500	14,300	7,770	5,810
CFSM	.57	.42	.33	.31	.40	.32	1.54	2.68	3.38	1.49	.79	.49
IN.	.66	.46	.38	.36	.41	.37	1.71	3.09	3.77	1.72	.91	.55
AC-FT	472,200	331,600	274,300	257,000	294,800	262,500	1,225M	2,209M	2,697M	1,230M	649,700	392,400

CAL YR 1961: TOTAL 6,786,000 MEAN 18,590 MAX 114,000 MIN 2,800 CFSM 1.39 IN 18.83 AC-FT 13,460,000
WAT YR 1962: TOTAL 5,191,010 MEAN 14,220 MAX 61,900 MIN 2,800 CFSM 1.06 IN 14.41 AC-FT 10,300,000

M Expressed in thousands.

12-3185. Kootenai River near Copeland, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,190	6,010	8,090	5,890	3,400	7,070	11,300	22,700	61,500	38,500	15,100	7,670
2	6,280	5,840	7,620	6,370	3,600	6,880	10,300	24,400	61,800	40,900	14,500	7,390
3	6,060	5,970	7,260	6,330	4,000	6,590	9,520	24,300	59,500	39,400	14,100	7,420
4	5,890	5,740	6,910	7,280	4,800	6,360	8,940	22,500	55,000	40,400	13,800	7,360
5	5,840	5,810	6,650	7,060	6,600	6,130	8,860	20,600	53,100	41,500	13,200	7,320
6	5,760	5,710	6,550	6,650	9,200	6,010	10,400	20,400	52,900	41,400	12,800	7,210
7	5,670	5,710	6,570	6,350	10,800	5,800	12,600	23,400	52,900	40,300	12,400	7,090
8	5,670	5,660	6,740	6,020	11,300	5,840	13,400	28,400	54,200	37,800	12,100	6,910
9	5,540	5,960	6,670	5,930	10,800	5,720	13,300	29,900	54,000	37,300	12,100	6,670
10	5,860	6,420	6,640	4,990	10,300	5,920	12,700	28,500	54,200	38,300	12,100	6,830
11	5,770	6,340	6,670	3,600	9,800	5,700	12,100	26,500	53,300	36,400	11,900	6,970
12	6,190	6,420	6,640	2,600	9,100	5,560	11,600	25,600	50,700	32,700	11,800	7,100
13	6,770	6,300	6,530	2,400	8,600	5,590	11,300	25,300	49,100	29,600	11,700	7,220
14	7,470	6,170	6,370	3,100	8,300	5,350	11,600	25,400	49,900	27,200	11,700	7,550
15	6,990	5,870	6,400	3,800	8,100	5,300	13,100	25,900	50,900	25,700	11,800	7,620
16	6,650	5,610	7,470	3,900	7,700	5,300	15,500	27,000	51,200	25,700	12,500	7,790
17	6,270	5,440	8,020	3,900	7,500	5,260	16,800	27,800	50,800	27,400	12,500	8,140
18	6,010	5,440	8,210	3,800	7,300	5,260	16,800	30,700	50,200	28,000	12,000	8,100
19	5,870	5,040	8,090	3,800	7,200	5,240	15,900	32,900	49,300	26,500	11,300	7,810
20	5,720	6,160	7,800	3,700	7,200	5,410	14,900	34,300	47,900	24,800	10,600	7,490
21	5,530	8,420	7,490	3,600	7,100	5,310	13,900	36,000	46,400	23,500	10,300	7,130
22	5,810	8,180	7,540	3,600	6,900	5,310	13,100	38,900	44,200	22,400	10,100	6,910
23	6,060	7,740	7,160	3,500	6,700	5,680	12,500	43,300	42,000	21,200	9,880	6,700
24	6,670	7,140	6,400	3,500	6,600	6,160	12,000	47,800	39,000	20,300	9,660	6,660
25	7,500	6,810	5,090	3,400	6,700	6,650	11,700	54,200	34,900	19,400	9,110	6,540
26	7,480	10,700	4,500	3,400	6,960	6,880	11,600	58,900	32,000	18,300	8,840	6,620
27	7,010	12,100	5,000	3,300	7,150	7,010	12,200	61,800	31,400	17,700	8,500	6,820
28	6,670	11,400	5,380	3,300	7,230	7,980	14,000	61,700	30,500	17,300	8,380	6,550
29	6,420	9,580	5,810	3,300	-------	9,380	16,400	60,300	29,200	16,200	8,260	6,450
30	6,320	8,480	5,810	3,300	-------	10,400	19,700	58,800	32,000	15,600	8,090	6,270
31	6,140	-------	5,900	3,300	-------	11,400	-------	59,300	-------	15,500	7,920	-------
TOTAL	194,080	208,170	207,980	135,570	210,940	198,450	388,020	1,107.5M	1,424.0M	887,200	349,040	214,510
MEAN	6,261	6,939	6,709	4,373	7,534	6,402	12,930	35,730	47,470	28,620	11,260	7,150
MAX	7,500	12,100	8,210	7,280	11,300	11,400	19,700	61,800	61,800	41,500	15,100	8,140
MIN	5,530	5,040	4,500	2,400	3,400	5,240	8,860	20,400	29,200	15,500	7,920	6,270
CFSM	.47	.52	.50	.33	.56	.48	.97	2.67	3.54	2.14	.84	.53
IN.	.54	.58	.58	.38	.59	.55	1.08	3.07	3.95	2.46	.97	.60
AC-FT	385,000	412,900	412,500	268,900	418,400	393,600	769,600	2,197M	2,824M	1,760M	692,300	425,500

CAL YR 1962: TOTAL 5,257,670 MEAN 14,400 MAX 61,900 MIN 2,900 CFSM 1.08 IN 14.59 AC-FT 10,430,000
WAT YR 1963: TOTAL 5,525,460 MEAN 15,140 MAX 61,800 MIN 2,400 CFSM 1.13 IN 15.34 AC-FT 10,960,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,980	5,870	6,400	4,720	4,300	3,120	4,410	16,200	53,000	40,000	15,700	8,510
2	5,900	5,610	5,150	5,200	4,200	3,240	5,450	17,300	56,800	35,700	16,800	8,110
3	5,830	5,540	4,960	5,640	4,000	3,220	6,340	18,700	60,800	35,700	16,700	8,130
4	5,780	5,480	5,040	5,240	3,900	3,160	6,840	19,300	65,300	37,200	15,400	8,230
5	5,920	5,410	5,290	5,070	3,950	3,210	7,170	20,800	68,900	37,500	14,100	8,150
6	5,700	5,560	5,390	4,950	4,000	3,280	7,170	22,200	72,700	37,500	13,700	8,000
7	5,770	5,560	5,330	4,790	3,900	3,260	7,180	23,000	74,900	38,100	13,800	7,660
8	5,560	5,610	5,330	4,300	3,800	3,120	7,400	23,700	78,400	37,000	13,700	7,560
9	5,490	5,610	4,780	4,290	3,850	3,000	8,110	26,100	86,300	35,500	12,900	7,500
10	5,380	5,510	3,940	4,120	3,900	3,020	9,190	30,400	91,500	36,400	12,500	7,570
11	5,330	5,380	3,220	4,120	4,000	2,940	10,200	34,900	87,400	38,100	12,400	7,400
12	5,330	5,150	3,440	3,810	4,100	3,160	10,800	36,500	80,000	35,700	12,500	7,320
13	5,040	5,060	3,870	3,750	4,000	3,200	10,500	37,200	77,200	32,000	12,200	7,260
14	4,970	5,040	3,870	3,620	3,900	3,100	10,000	39,200	77,300	30,500	11,700	7,170
15	4,910	5,100	4,030	3,930	3,800	3,230	9,980	38,900	77,500	30,600	11,500	6,890
16	4,720	5,410	4,290	4,230	3,630	3,310	11,400	38,600	77,100	30,000	11,700	6,850
17	4,720	5,390	4,290	4,460	3,550	3,510	12,200	41,300	76,000	28,500	11,400	6,570
18	4,800	5,740	4,150	4,500	3,600	3,770	11,500	47,600	73,300	26,800	10,700	6,790
19	4,730	5,610	3,950	4,450	3,660	3,980	10,800	53,300	69,100	24,300	10,200	7,000
20	4,590	6,350	4,280	4,420	3,640	3,740	10,600	59,900	64,200	22,100	10,100	7,490
21	4,590	5,870	4,360	4,420	3,520	3,580	10,700	68,500	59,500	20,800	9,980	8,640
22	4,650	5,200	4,560	4,280	3,470	3,720	11,000	73,800	56,000	19,800	9,950	8,750
23	6,040	4,790	4,820	4,190	3,420	3,490	12,000	70,500	53,400	18,900	9,540	8,630
24	6,340	4,650	4,930	4,160	3,470	3,240	12,300	58,900	52,300	18,300	9,290	8,270
25	7,260	4,880	4,930	3,960	3,290	3,110	12,400	48,500	53,200	17,600	8,830	7,970
26	7,190	5,180	5,070	3,880	3,180	3,070	13,000	42,100	54,400	16,700	8,860	7,750
27	6,860	6,680	5,100	4,150	3,270	3,100	14,000	37,800	53,100	15,600	8,900	7,950
28	6,330	8,550	5,090	4,200	3,190	3,230	14,400	37,800	50,800	15,100	8,620	9,060
29	6,110	8,640	5,010	4,200	3,130	3,250	14,600	41,500	49,300	14,700	8,720	9,290
30	5,970	7,530	4,790	4,200	-------	3,390	15,100	45,700	45,600	14,600	8,690	8,900
31	5,760	-------	4,630	4,300	-------	3,780	-------	49,800	-------	15,000	8,630	-------
TOTAL	173,550	171,960	144,290	135,550	107,620	102,530	306,740	1,220.0M	1,995.3M	856,300	359,710	235,370
MEAN	5,598	5,732	4,655	4,373	3,711	3,307	10,220	39,350	66,510	27,620	11,600	7,846
MAX	7,260	8,640	6,400	5,640	4,300	3,980	15,100	73,800	91,500	40,000	16,800	9,290
MIN	4,590	4,650	3,220	3,620	3,130	2,940	4,410	16,200	45,600	14,600	8,620	6,570
CFSM	.42	.43	.35	.33	.28	.25	.76	2.94	4.96	2.06	.87	.59
IN.	.48	.48	.40	.38	.30	.28	.85	3.39	5.54	2.38	1.00	.65
AC-FT	344,200	341,100	286,200	268,900	213,500	203,400	608,400	2,420M	3,958M	1,698M	713,500	466,800

CAL YR 1963: TOTAL 5,405,030 MEAN 14,810 MAX 61,800 MIN 2,400 CFSM 1.11 IN 15.00 AC-FT 10,720,000
WAT YR 1964: TOTAL 5,808,920 MEAN 15,870 MAX 91,500 MIN 2,940 CFSM 1.18 IN 16.12 AC-FT 11,520,000

M Expressed in thousands.

12-3185. Kootenai River near Copeland, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,680	6,640	6,280	4,960	4,900	7,600	5,490	50,100	65,900	36,600	14,800	9,420
2	9,930	6,680	6,650	4,770	4,700	7,300	5,690	46,900	59,600	34,100	14,200	8,710
3	10,400	6,910	6,970	4,940	4,600	7,100	6,220	41,500	55,700	33,500	14,000	8,510
4	10,400	6,720	6,550	4,950	4,300	6,660	6,720	36,700	56,900	34,800	13,900	8,460
5	9,900	6,950	6,550	5,050	4,700	6,500	7,100	32,700	60,100	36,800	14,100	8,730
6	9,330	7,100	6,600	4,960	5,000	6,470	7,660	29,800	60,300	37,600	15,200	8,710
7	8,840	7,100	6,510	5,030	5,300	6,420	8,140	27,400	61,400	37,400	12,200	8,470
8	8,610	7,120	6,200	5,120	5,700	6,500	8,630	26,000	61,900	37,100	17,200	8,130
9	8,700	7,030	6,130	5,050	5,700	6,580	9,030	25,600	58,000	37,300	15,700	8,040
10	8,990	7,260	6,040	4,800	5,500	6,680	9,660	27,100	54,600	36,100	14,300	7,870
11	9,250	7,290	5,990	4,820	5,200	6,780	10,700	30,600	56,600	33,400	13,400	7,990
12	9,520	7,520	5,620	4,730	5,000	6,980	11,600	36,800	62,800	30,400	13,100	7,790
13	9,660	7,280	4,810	4,650	4,800	7,030	13,300	44,800	68,700	27,600	12,700	7,750
14	9,300	7,030	5,070	4,730	4,700	7,050	15,500	51,000	70,400	25,400	12,700	7,950
15	9,130	6,680	5,350	4,770	4,600	6,940	17,900	54,200	66,900	23,700	12,400	8,370
16	9,030	6,330	5,140	4,930	4,600	7,310	21,000	54,900	59,700	22,600	12,300	8,590
17	9,200	5,950	3,890	4,980	4,600	6,900	22,400	55,800	54,200	22,700	11,600	8,290
18	9,000	5,740	3,000	4,980	4,800	6,410	20,900	52,600	56,600	22,500	11,000	8,060
19	8,680	5,740	2,700	4,990	5,100	6,230	19,500	46,980	66,900	22,000	10,500	7,770
20	8,390	5,800	2,000	4,830	5,800	6,080	22,700	43,100	75,400	21,800	10,400	7,670
21	7,870	5,870	2,100	4,960	7,000	6,030	33,000	42,800	73,700	20,900	10,100	7,760
22	7,940	5,870	2,500	4,760	7,000	6,100	36,500	41,500	64,200	19,600	9,860	7,690
23	7,750	5,930	4,000	4,650	6,380	5,910	34,700	39,300	54,300	18,300	9,790	7,690
24	7,680	6,150	5,000	4,560	5,800	5,600	32,800	38,700	47,100	17,600	9,800	8,160
25	7,380	6,720	5,700	4,500	5,900	5,550	32,000	38,800	43,600	17,300	9,920	8,760
26	7,260	6,680	5,100	4,400	6,100	5,480	32,700	39,300	43,900	16,900	9,830	8,750
27	7,290	6,330	4,900	4,300	6,500	5,560	34,100	39,900	43,800	16,200	9,830	8,270
28	7,190	6,250	4,900	4,300	7,500	5,460	36,900	42,300	43,400	15,800	9,800	8,240
29	7,100	5,870	4,900	4,400	------	5,300	42,900	49,500	43,300	15,800	9,920	8,270
30	6,890	5,800	4,900	4,500	------	5,280	48,100	58,400	40,500	15,700	9,760	7,950
31	6,820	------	4,900	4,600	------	5,320	------	65,400	------	15,300	9,730	------
TOTAL	267,110	196,340	156,950	147,970	151,700	197,050	613,540	1,311.4M	1,730.4M	802,800	379,040	246,820
MEAN	8,616	6,545	5,063	4,773	5,418	6,356	20,450	42,300	57,680	25,900	12,230	8,227
MAX	10,400	7,520	6,970	5,120	7,500	7,600	48,100	65,400	75,400	37,600	17,200	9,420
MIN	6,820	5,740	2,000	4,300	4,300	5,280	5,490	25,600	40,500	15,300	9,730	7,670
CFSM	.64	.49	.38	.36	.40	.47	1.53	3.16	4.30	1.93	.91	.61
IN.	.74	.54	.44	.41	.42	.55	1.70	3.64	4.80	2.23	1.05	.69
AC-FT	529,800	389,400	311,300	293,500	300,900	390,800	1,217M	2,601M	3,432M	1,592M	751,800	489,600

CAL YR 1964: TOTAL 5,939,520 MEAN 16,230 MAX 91,500 MIN 2,000 CFSM 1.21 IN 16.48 AC-FT 11,780,000
WAT YR 1965: TOTAL 6,201,120 MEAN 16,990 MAX 75,400 MIN 2,000 CFSM 1.27 IN 17.21 AC-FT 12,300,000

M Expressed in thousands.

12-3215. Boundary Creek near Porthill, Idaho

(International gaging station)

Location.--Lat 48°59'50", long 116°34'05", in SW¼ sec.11, T.65 N., R.2 W., on left bank near mouth of canyon, 0.2 mile south of international boundary, 3 miles west of Porthill, and at mile 3.5.
Drainage area.--97 sq mi, approximately.
Records available.--May 1928 to September 1965 (no winter records 1929-30).
Gage.--Water-stage recorder. Altitude of gage is 1,770 ft (from topographic map). Prior to Apr. 24, 1929, staff gage at site 140 ft upstream at different datum.
Average discharge.--35 years (1930-65), 192 cfs (139,000 acre-ft per year); 15-year base period, (1947-62), 217 cfs.
Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (1,300 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 26, 1961	2300	* 3,170	5.69	Feb. 5, 1963	-	-	a 4.65	June 6, 1964	1200	1,830	4.43
June 4, 1961	1930	2,510	5.14	May 24, 1963	2130	* 1,660	4.27	Dec. 27, 1964	-	-	a 5.31
May 29, 1962	0400	* 1,400	4.02	May 20, 1964	2100	* 1,970	4.57	May 29, 1965	2100	* 1,780	4.43

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Sept.17, 18, 1961	17	0.63	1964	Oct. 20, 1963	14	0.63
1962	Nov. 2, 1961	7.6	.44	1965	Oct. 27,Dec.17,1964	29	a .85
1963	Sept. 8-10, 1963	16	.63				

a Occurred Oct. 27, 1964.

1928-65: Maximum discharge, 3,280 cfs June 23, 1955 (gage height, 5.80 ft), from rating curve extended above 2,000 cfs; minimum, 5 cfs sometime between Nov. 10 and Dec. 3, 1936; minimum gage height, 0.24 ft Nov. 22, 1952.
Remarks.--Records good except those for winter periods and those for periods of no gage-height record, which are poor. No regulation or diversion above station.
Cooperation.--This station is maintained by the United States under agreement with Canada.
Revisions (water years).--WSP 1736: 1930(M), 1943(M), 1945(M), 1950(M), 1953(M). Revised figures of discharge, in cubic feet per second, for the high-water period in water year 1946, superseding those published in WSP 1062 and 1316, are given herewith:

Apr. 26, 1946..... 736 cfs

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff in Inches	Runoff in Acre-feet
April 1946.....	8,021	736	73	267	2.75	3.08	15,910
Water year 1945-46.....	81,735	1,610	17	224	2.31	31.35	162,120

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	75	38	28	70	96	154	618	1,080	256	43	90
2	19	65	38	28	45	88	200	978	2,060	244	40	57
3	19	56	37	27	39	82	259	788	2,080	222	37	36
4	19	36	35	27	36	78	271	640	2,130	207	36	30
5	19	41	34	27	36	82	232	535	2,060	209	34	27
6	21	38	36	27	39	78	203	472	1,940	195	37	26
7	34	39	38	28	55	72	185	450	2,020	188	34	25
8	96	29	36	28	59	69	180	472	1,360	164	32	24
9	54	35	34	28	60	69	171	555	1,350	147	31	22
10	39	46	33	29	59	68	163	736	1,200	137	31	24
11	35	43	33	28	61	67	163	736	1,120	127	29	24
12	40	39	36	28	62	65	189	634	1,280	120	28	21
13	39	33	38	28	60	65	207	634	1,160	109	27	19
14	34	39	36	28	56	69	182	774	1,200	101	25	19
15	33	37	33	35	52	79	171	858	1,340	96	25	19
16	34	36	31	60	54	93	165	956	1,360	90	25	18
17	34	38	33	55	50	94	205	1,110	1,280	90	32	17
18	34	40	35	45	49	90	234	1,110	1,330	81	29	18
19	33	39	37	38	48	90	220	1,250	1,160	75	25	18
20	32	36	36	34	51	100	203	1,560	959	70	24	18
21	34	30	34	32	100	98	189	1,670	774	66	25	21
22	64	40	32	32	124	93	187	1,560	660	63	23	21
23	69	43	30	33	144	93	187	1,810	630	79	22	23
24	120	44	29	34	169	93	200	1,670	600	82	21	22
25	98	47	29	35	144	93	227	1,700	556	75	21	22
26	96	46	28	34	117	100	254	2,440	495	62	21	22
27	115	41	28	33	108	101	280	2,270	406	57	20	20
28	96	42	28	33	98	101	341	1,460	341	52	19	21
29	86	40	28	33	------	108	374	1,420	333	50	19	39
30	67	38	28	36	------	119	575	1,530	291	51	18	31
31	61	------	28	90	------	134	------	1,740	------	47	57	------
TOTAL	1,593	1,251	1,029	1,081	2,045	2,727	6,771	35,136	35,455	3,612	890	794
MEAN	51.4	41.7	33.2	34.9	73.0	88.0	226	1,133	1,182	117	28.7	26.5
MAX	120	75	38	90	169	134	575	2,440	2,130	256	57	90
MIN	19	29	28	27	36	65	154	450	291	47	18	17
CFSM	.53	.43	.34	.36	.75	.91	2.33	11.7	12.2	1.20	.30	.27
IN.	.61	.48	.39	.41	.78	1.05	2.60	13.5	13.6	1.38	.34	.30
AC-FT	3,160	2,480	2,040	2,140	4,060	5,410	13,430	69,690	70,320	7,160	1,770	1,570

CAL YR 1960: TOTAL 67,136 MEAN 183 MAX 1,430 MIN 19 CFSM 1.89 IN 25.74 AC-FT 133,200
WAT YR 1961: TOTAL 92,384 MEAN 253 MAX 2,440 MIN 17 CFSM 2.61 IN 35.42 AC-FT 183,200

12-3215. Boundary Creek near Porthill, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	39	34	25	21	23	45	277	710	216	36	21
2	25	14	31	25	23	22	56	280	723	193	37	20
3	24	36	30	26	29	21	67	360	940	174	49	19
4	23	34	29	27	32	21	71	420	704	162	66	18
5	22	33	30	25	25	21	95	348	588	154	87	18
6	29	36	28	24	28	21	106	320	526	152	67	18
7	33	34	27	24	29	21	134	306	512	147	63	22
8	30	37	25	23	28	21	132	300	650	136	81	25
9	29	38	21	21	28	21	123	330	924	136	64	21
10	63	37	19	17	29	21	114	399	804	149	56	23
11	56	38	19	16	29	20	120	446	704	125	52	90
12	64	30	21	17	29	19	118	451	704	113	46	50
13	114	34	22	18	29	19	139	460	742	104	45	35
14	82	31	23	19	30	19	180	451	729	96	39	36
15	68	21	24	19	32	19	327	460	804	90	36	36
16	78	20	26	19	31	19	338	516	870	90	34	30
17	85	19	27	19	30	20	316	599	832	85	32	24
18	60	21	27	16	29	21	375	729	736	79	30	23
19	53	24	26	12	29	21	512	940	667	74	29	23
20	47	22	27	12	28	22	557	862	621	68	29	23
21	42	21	28	13	22	22	502	885	557	64	28	21
22	39	25	27	14	30	22	488	924	488	60	27	21
23	41	25	27	15	29	23	562	972	446	57	27	20
24	42	26	28	19	29	23	742	1,190	429	56	25	20
25	36	27	27	23	30	28	710	1,130	438	53	24	19
26	51	27	25	24	30	35	531	1,060	379	50	23	19
27	53	30	24	23	29	36	446	1,100	303	47	25	19
28	35	35	24	22	26	35	383	1,200	262	44	29	31
29	36	36	25	21	------	33	330	1,200	250	41	27	116
30	41	37	26	21	------	34	293	878	242	39	25	62
31	43	------	26	22	------	38	------	783	------	37	23	------
TOTAL	1,471	887	803	621	793	741	8,912	20,576	18,284	3,091	1,261	923
MEAN	47.5	29.6	25.9	20.0	28.3	23.9	297	664	609	99.7	40.7	30.8
MAX	114	39	34	27	32	38	742	1,200	940	216	87	116
MIN	22	14	19	12	21	19	45	277	242	37	23	18
CFSM	.49	.30	.27	.21	.29	.25	3.06	6.84	6.28	1.03	.42	.32
IN.	.56	.34	.31	.24	.30	.28	3.42	7.89	7.01	1.19	.48	.35
AC-FT	2,920	1,760	1,590	1,230	1,570	1,470	17,680	40,810	36,270	6,130	2,500	1,830

CAL YR 1961: TOTAL 91,672 MEAN 251 MAX 2,440 MIN 14 CFSM 2.59 IN 35.15 AC-FT 181,800
WAT YR 1962: TOTAL 58,363 MEAN 160 MAX 1,200 MIN 12 CFSM 1.65 IN 22.38 AC-FT 115,800

Note.--No gage-height record Dec. 22 to Jan. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44	64	147	125	86	85	106	497	885	268	47	20
2	37	63	143	121	95	85	101	408	790	229	45	25
3	33	60	132	130	110	74	101	345	769	209	44	23
4	31	59	123	127	120	81	101	309	790	189	42	21
5	29	71	123	120	140	98	127	323	916	174	41	19
6	29	70	121	114	160	95	189	684	811	162	39	18
7	33	62	120	109	165	84	184	948	749	152	37	17
8	43	64	118	108	170	81	166	691	679	170	35	16
9	62	82	123	103	170	82	156	567	749	152	35	16
10	74	98	123	75	160	84	150	516	704	149	35	19
11	67	85	118	50	150	81	145	497	679	150	37	22
12	114	84	113	46	140	76	147	521	650	139	34	19
13	224	76	108	45	130	72	162	552	626	125	33	50
14	130	70	114	50	125	75	204	567	594	116	33	71
15	96	66	196	70	120	71	341	621	567	118	30	35
16	79	64	262	95	120	72	300	685	531	114	29	37
17	70	63	207	100	120	68	250	723	469	113	27	44
18	66	57	184	96	120	70	224	825	420	111	26	34
19	64	67	172	94	115	68	207	885	375	98	26	26
20	70	174	162	92	110	70	198	948	316	90	27	25
21	120	125	160	88	105	72	189	1,090	271	82	31	23
22	134	106	120	84	98	82	189	1,230	306	79	27	23
23	101	88	110	80	90	91	184	1,280	290	72	25	37
24	91	96	108	80	92	95	182	1,400	250	68	31	32
25	84	256	105	80	94	91	191	1,330	277	67	31	27
26	78	466	105	78	92	96	224	1,240	256	68	28	24
27	75	237	110	78	90	108	290	1,160	221	64	25	22
28	72	189	115	78	88	127	348	1,120	204	58	24	21
29	71	162	120	78	------	123	404	1,120	352	54	23	21
30	68	156	125	78	------	125	460	1,160	394	51	21	20
31	67	------	127	80	------	116	------	1,040	------	48	20	------
TOTAL	2,356	3,380	4,214	2,752	3,375	2,698	6,220	25,282	15,890	3,739	988	809
MEAN	76.0	113	136	88.8	121	87.0	207	816	530	121	31.9	27.0
MAX	224	466	262	130	170	127	460	1,400	916	268	47	71
MIN	29	57	105	45	86	68	101	309	204	48	20	16
CFSM	.78	1.16	1.40	.92	1.24	.90	2.14	8.41	5.46	1.24	.33	.28
IN.	.90	1.30	1.62	1.06	1.29	1.03	2.38	9.69	6.09	1.43	.38	.31
AC-FT	4,670	6,700	8,360	5,460	6,690	5,350	12,340	50,150	31,520	7,420	1,960	1,600

CAL YR 1962: TOTAL 65,152 MEAN 178 MAX 1,200 MIN 12 CFSM 1.84 IN 24.98 AC-FT 129,200
WAT YR 1963: TOTAL 71,703 MEAN 196 MAX 1,400 MIN 16 CFSM 2.03 IN 27.49 AC-FT 142,200

12-3215. Boundary Creek near Porthill, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	34	90	54	39	30	66	202	1,340	356	64	40
2	19	43	87	56	36	30	68	200	1,520	352	74	38
3	18	38	83	51	39	29	67	207	1,500	323	62	40
4	18	38	79	50	39	29	68	226	1,330	286	78	36
5	19	36	75	44	38	31	66	250	1,390	271	78	32
6	21	35	71	50	36	30	67	240	1,630	245	63	29
7	22	40	67	46	35	29	71	248	1,460	231	57	28
8	21	39	63	43	35	29	78	330	1,430	226	52	29
9	19	38	58	43	36	29	96	464	1,340	262	52	39
10	19	37	53	46	37	29	111	572	1,220	191	64	31
11	18	34	47	47	37	30	116	541	1,150	170	52	27
12	18	34	52	47	34	30	106	546	1,120	156	46	25
13	25	35	55	47	33	30	98	610	1,130	145	44	24
14	24	109	56	46	34	29	100	626	1,120	136	43	24
15	18	193	55	46	34	30	114	610	1,110	132	39	23
16	17	111	54	46	34	32	113	723	1,100	128	36	22
17	16	96	54	47	33	33	103	1,140	892	114	35	71
18	16	87	53	47	33	32	101	1,170	862	106	37	116
19	16	76	53	46	32	31	109	1,360	818	95	54	66
20	16	71	53	45	32	32	127	1,680	717	88	41	74
21	38	68	53	47	33	32	128	1,460	650	84	37	60
22	57	74	52	46	32	31	149	1,020	638	78	33	68
23	141	68	52	45	33	29	147	797	697	74	30	59
24	81	68	51	44	31	30	152	749	667	70	29	52
25	79	68	50	43	30	30	168	673	604	66	27	47
26	54	136	50	40	32	29	187	667	567	60	31	43
27	44	256	48	39	31	29	178	704	599	57	29	41
28	43	149	47	39	29	30	170	964	429	54	39	38
29	42	103	46	39	29	32	184	1,200	364	67	34	37
30	38	95	44	39	------	37	207	1,250	352	82	54	101
31	36	------	46	39	------	51	------	1,300	------	72	51	------
TOTAL	1,032	2,309	1,797	1,407	986	964	3,515	22,729	29,746	4,777	1,465	1,360
MEAN	33.3	77.0	58.0	45.4	34.0	31.1	117	733	992	154	47.3	45.3
MAX	141	256	90	56	39	51	207	1,680	1,630	356	78	116
MIN	16	34	44	39	29	29	66	200	352	54	27	22
CFSM	.34	.79	.60	.47	.35	.32	1.21	7.56	10.2	1.59	.49	.47
IN.	.40	.89	.69	.54	.38	.37	1.35	8.71	11.4	1.83	.56	.52
AC-FT	2,050	4,580	3,560	2,790	1,960	1,910	6,970	45,080	59,000	9,480	2,910	2,700

CAL YR 1963: TOTAL 66,891 MEAN 183 MAX 1,400 MIN 16 CFSM 1.89 IN 25.65 AC-FT 132,700
WAT YR 1964: TOTAL 72,087 MEAN 197 MAX 1,680 MIN 16 CFSM 2.03 IN 27.64 AC-FT 143,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	104	48	76	40	34	47	50	712	865	234	43	42
2	84	94	67	40	34	46	55	570	978	224	41	38
3	99	68	62	41	37	47	61	504	1,130	212	49	53
4	76	82	58	41	38	47	62	455	1,020	203	53	61
5	67	142	55	41	40	48	67	413	1,030	189	93	56
6	62	102	54	40	41	50	72	378	1,120	169	73	47
7	58	83	53	39	38	53	72	378	928	156	56	42
8	55	76	52	39	38	55	70	409	837	146	50	39
9	72	77	52	38	38	55	73	486	942	131	45	38
10	78	82	52	39	35	57	83	624	1,030	120	42	36
11	68	82	48	39	35	61	92	795	1,030	113	39	35
12	62	69	48	40	37	62	116	1,020	956	106	39	34
13	57	67	54	39	36	61	152	1,110	760	107	42	37
14	55	57	48	39	36	62	191	1,070	624	94	38	51
15	56	52	43	39	35	63	227	1,030	646	86	37	76
16	54	58	34	40	35	62	257	1,200	658	78	34	55
17	54	51	29	41	36	57	240	956	893	73	34	49
18	51	64	32	40	39	56	214	802	879	68	32	47
19	50	59	34	40	46	55	210	742	700	64	31	43
20	50	56	37	39	49	54	280	809	575	64	58	42
21	49	54	39	38	46	54	386	788	504	68	47	41
22	47	51	45	38	43	51	393	754	442	89	38	40
23	45	53	65	37	40	49	359	795	421	73	47	38
24	45	58	55	37	40	48	382	886	413	64	79	37
25	44	61	47	37	42	47	421	928	382	58	57	36
26	43	57	41	36	44	47	486	970	344	62	62	37
27	41	52	40	38	53	46	560	1,110	296	64	57	35
28	44	51	40	38	51	45	767	1,340	274	54	55	34
29	43	42	40	38	------	45	921	1,530	259	51	57	34
30	46	74	40	38	------	45	844	1,310	257	48	51	34
31	45	------	40	38	------	46	------	978	------	46	46	------
TOTAL	1,804	2,022	1,480	1,207	1,116	1,621	8,163	25,852	21,193	3,314	1,525	1,287
MEAN	58.2	67.4	47.7	38.9	39.9	52.3	272	834	706	107	49.2	42.9
MAX	104	142	76	41	53	63	921	1,530	1,130	234	93	76
MIN	41	42	29	36	34	45	50	378	257	46	31	34
CFSM	.60	.69	.49	.40	.41	.54	2.81	8.60	7.28	1.10	.51	.44
IN.	.69	.78	.57	.46	.43	.62	3.13	9.91	8.13	1.27	.58	.49
AC-FT	3,580	4,010	2,940	2,390	2,210	3,220	16,190	51,280	42,040	6,570	3,020	2,550

CAL YR 1964: TOTAL 72,255 MEAN 197 MAX 1,680 MIN 22 CFSM 2.04 IN 27.70 AC-FT 143,300
WAT YR 1965: TOTAL 70,584 MEAN 193 MAX 1,530 MIN 29 CFSM 1.99 IN 27.06 AC-FT 140,000

12-3220. Kootenai River at Porthill, Idaho

(International gaging station)

Location.--Lat 49°00'00", long 116°30'10", in SW¼ sec.8, T.65 N., R.1 W., on right bank 300 ft south of international boundary at Porthill and at mile 105.63.

Drainage area.--13,700 sq mi, approximately.

Records available.--May to July 1904 and October 1927 to March 1928 (elevations only) and April 1928 to September 1965 in reports of Geological Survey. October 1924 to September 1927 (gage heights only) in reports of Department of Northern Affairs and National Resources, Canada.

Gage.--Water-stage recorder. Datum of gage is 1,700.00 ft above mean sea level, referred to bench mark "10-M-1928", elevation, 1,767.68 ft. Gage readings have been reduced to elevations above mean sea level. Datum of 1929, supplementary adjustment of 1947, and datum of Geodetic Survey of Canada, Pub. 24, 1951 edition, are 0.03 ft higher. Prior to May 17, 1928, staff gages at approximately same site. Datum of gages prior to July 28, 1928, 38.34 ft higher, except in 1904 when different datum was used.

Average discharge.--37 years (1928-65), 15,930 cfs (11,530,000 acre-ft per year); 15-year base period (1947-62), 18,100 cfs.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum daily			Minimum daily		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1961	May 29, 1961	117,000	a 1,767.61	Jan. 4, 1961	3,140	b 1,740.86
1962	May 30, 1962	63,700	c 1,757.65	Dec. 12, 1961	2,890	d 1,740.25
1963	May 28, 1963	64,000	e 1,758.60	Jan. 13, 1963	2,550	f 1,740.59
1964	June 10, 1964	93,400	g 1,762.96	Mar. 11, 1964	3,050	h 1,740.04
1965	June 20, 1965	75,400	i 1,760.91	Dec. 20, 1964	2,090	j 1,740.09

a Occurred June 7, 1961. b Occurred Mar. 30, 1961. c Occurred June 20, 1962. d Occurred Mar. 31, 1962. e Occurred June 2, 1963. f Occurred Apr. 5, 1963. g Occurred June 11, 1964. h Occurred Mar. 28, 1964. i Occurred June 21, 1965. j Occurred Mar. 30, 31, 1965.

1928-65: Maximum daily discharge, 125,000 cfs June 1, 1948; maximum elevation, 1,767.61 ft June 7, 1961; minimum daily discharge, 1,380 cfs Feb. 8, 1936; minimum elevation, 1,738.21 ft Apr. 3, 1944.

Maximum elevation known, 1,772.7 ft in June 1894, present datum.

Remarks.--Records excellent except those for winter periods in 1962-65, which are good. Elevations affected by backwater from Kootenay Lake and occasionally by dike failures during floods. Daily discharge represents entire flow passing international boundary, and is computed by adding tributary inflow for intervening area to flow at station near Copeland and correcting for channel storage between stations near Copeland and at Porthill. Boundary dike of Reclamation Farm and U.S. Forest Service roadway dike (south side of Boundary Creek) remained intact and flow of river was confined during water years 1961-65 to main channel on which gage is located. Records of water temperatures for the water years 1963-65 are published in reports of the Geological Survey.

Cooperation.--This station is maintained by the United States under agreement with Canada.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.93	45.97	45.73	45.70	44.63	43.12	41.03	44.25	66.19	56.09	46.36	44.64
2	45.88	45.98	45.70	45.68	44.61	43.05	41.31	45.61	66.28	55.35	46.25	44.79
3	45.85	46.02	45.67	45.64	44.61	42.92	41.87	47.25	66.47	54.50	46.10	44.86
4	45.79	45.98	45.75	45.57	44.54	42.75	42.93	47.87	66.78	53.69	45.96	44.99
5	45.88	45.95	45.71	45.59	44.51	42.58	43.44	48.08	67.13	53.07	45.85	45.10
6	45.85	45.95	45.68	45.68	44.46	42.50	43.28	48.04	67.46	52.52	45.76	45.13
7	45.83	45.93	45.67	45.72	44.39	42.35	42.88	47.93	67.19	52.08	45.68	45.19
8	45.89	45.92	45.65	45.67	44.34	42.21	42.57	47.83	67.17	51.71	45.60	45.13
9	46.00	45.88	45.64	45.73	44.25	42.10	42.35	48.00	67.39	51.28	45.56	45.11
10	45.98	45.88	45.61	45.74	44.25	41.95	42.18	48.83	66.29	50.88	45.43	45.08
11	45.95	45.91	45.62	45.71	44.29	41.86	42.03	50.23	66.23	50.41	45.36	45.14
12	45.98	45.92	45.63	45.62	44.37	41.73	41.95	50.91	65.64	49.91	45.27	45.18
13	45.98	45.92	45.62	45.58	44.33	41.69	42.07	50.99	65.07	49.50	45.15	45.23
14	45.94	45.90	45.76	45.56	44.16	41.67	42.17	51.12	64.70	49.14	45.00	45.30
15	45.93	45.90	45.72	45.49	44.06	41.62	42.10	51.52	64.50	48.87	44.88	45.30
16	45.91	45.90	45.65	45.63	43.95	41.56	41.97	52.06	64.34	48.69	44.77	45.27
17	45.90	45.86	45.64	45.64	43.81	41.53	41.90	52.66	64.27	48.53	44.77	45.25
18	45.91	45.91	45.63	45.57	43.62	41.48	42.17	53.03	64.21	48.47	44.78	45.30
19	45.93	45.83	45.66	45.50	43.45	41.38	42.37	53.43	64.19	48.27	44.80	45.22
20	45.94	45.88	45.64	45.39	43.33	41.25	42.57	54.50	64.00	47.96	44.89	45.28
21	45.95	46.04	45.66	45.27	43.42	41.30	42.59	56.22	63.67	47.65	44.89	45.27
22	46.00	45.95	45.67	45.16	44.23	41.27	42.50	58.05	63.12	47.48	44.78	45.28
23	46.03	45.94	45.67	45.07	44.50	41.19	42.34	59.77	62.46	47.30	44.72	45.31
24	46.04	46.00	45.67	45.02	44.27	41.07	42.23	61.13	61.59	47.24	44.70	45.33
25	46.06	46.10	45.72	44.97	44.07	41.00	42.20	62.26	60.68	47.22	44.67	45.39
26	46.00	46.13	45.75	44.91	43.73	40.93	42.28	63.56	59.86	47.10	44.60	45.45
27	46.02	46.01	45.79	44.86	43.43	40.95	42.38	64.81	59.14	46.98	44.56	45.44
28	46.01	45.94	45.77	44.81	43.22	40.92	42.57	65.30	58.46	46.82	44.55	45.46
29	46.01	45.87	45.72	44.79	------	40.89	42.72	65.70	57.71	46.62	44.51	45.54
30	45.94	45.80	45.72	44.77	------	40.87	43.18	66.07	56.89	46.50	44.50	45.60
31	45.91	------	45.71	44.75	------	40.94	------	66.17	------	46.44	44.49	------
MAX	46.06	46.13	45.79	45.74	44.63	43.12	43.44	66.17	67.46	56.09	46.36	45.60
MIN	45.79	45.80	45.61	44.75	43.22	40.87	41.03	44.25	56.89	46.44	44.49	44.64

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3220. Kootenai River at Porthill, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.84	46.09	45.97	45.66	44.52	42.87	40.29	47.92	57.09	54.07	47.30	44.53
2	45.67	46.08	45.99	45.54	44.51	42.83	40.36	47.53	56.50	53.66	47.10	44.57
3	45.70	46.07	46.02	45.59	44.54	42.80	40.46	47.38	56.10	53.42	46.90	44.57
4	45.71	46.10	45.98	45.64	44.70	42.79	40.58	47.64	55.81	52.93	46.72	44.63
5	45.73	46.07	45.98	45.62	44.70	42.70	40.75	47.72	55.44	52.29	46.63	44.67
6	45.83	46.04	45.96	45.65	44.65	42.58	40.97	47.49	54.94	51.66	46.54	44.71
7	45.86	46.03	45.95	45.65	44.56	42.47	41.65	47.22	54.29	51.09	46.46	44.90
8	45.90	46.02	45.90	45.61	44.43	42.38	42.51	47.01	53.76	50.68	46.35	44.76
9	45.96	46.01	45.80	45.53	44.31	42.27	42.57	46.88	53.72	50.37	46.24	44.76
10	46.09	45.99	45.74	45.48	44.22	42.13	42.25	46.96	54.10	50.09	46.07	44.82
11	46.11	46.02	45.64	45.40	44.14	42.02	42.00	47.13	54.98	49.95	45.97	44.97
12	46.11	46.11	45.55	45.37	44.05	41.93	41.84	47.28	55.58	49.93	45.90	45.10
13	46.13	46.09	45.51	45.33	44.00	41.84	41.81	47.41	55.60	49.95	45.79	45.17
14	46.13	46.13	45.46	45.28	43.95	41.78	41.93	47.67	55.44	49.98	45.65	45.22
15	46.13	46.04	45.40	45.28	43.93	41.70	42.49	47.81	55.49	49.87	45.55	45.29
16	46.17	45.99	45.36	45.18	43.87	41.60	43.48	47.89	55.72	49.76	45.47	45.34
17	46.31	45.95	45.39	45.11	43.78	41.47	44.09	48.11	56.21	49.57	45.33	45.37
18	46.25	45.91	45.38	45.05	43.71	41.32	44.39	48.60	56.88	49.32	45.29	45.38
19	46.16	45.91	45.37	44.95	43.63	41.19	45.15	49.41	57.38	49.07	45.22	45.39
20	46.18	45.94	45.35	44.84	43.56	41.08	46.40	50.28	57.61	48.83	45.13	45.35
21	46.21	45.90	45.37	44.76	43.48	40.93	47.56	51.12	57.50	48.58	45.18	45.32
22	46.19	45.97	45.37	44.64	43.39	40.80	48.05	52.02	57.32	48.30	45.11	45.36
23	46.11	45.97	45.37	44.58	43.27	40.71	48.21	52.67	57.03	48.09	44.92	45.45
24	46.13	45.98	45.43	44.53	43.18	40.69	48.66	53.54	56.63	47.95	44.82	45.48
25	46.09	46.01	45.53	44.48	43.10	40.75	49.64	54.38	56.23	47.86	44.74	45.49
26	46.05	45.96	45.58	44.50	43.02	40.80	50.17	54.94	56.04	47.79	44.61	45.50
27	46.05	45.94	45.57	44.53	42.95	40.82	50.10	55.33	56.03	47.78	44.50	45.51
28	46.08	45.98	45.55	44.57	42.90	40.74	49.72	55.98	55.97	47.74	44.50	45.55
29	46.06	45.99	45.55	44.58	------	40.55	49.16	56.97	55.58	47.72	44.52	45.65
30	46.03	45.97	45.55	44.57	------	40.34	48.50	57.38	54.76	47.62	44.51	45.75
31	46.02	------	45.54	44.55	------	40.27	------	57.44	------	47.46	44.52	------
MAX	46.31	46.13	46.02	45.65	44.70	42.87	50.17	57.44	57.61	54.07	47.30	45.75
MIN	45.64	45.90	45.35	44.48	42.90	40.27	40.29	46.88	53.72	47.46	44.50	44.53

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.87	46.07	46.23	45.91	44.26	43.21	41.26	45.10	58.30	53.73	47.36	43.53
2	45.92	46.07	46.09	46.00	44.17	43.13	41.05	45.69	58.60	54.06	47.12	43.55
3	45.87	46.06	46.08	46.12	44.22	43.01	40.84	45.86	58.20	53.90	46.94	43.60
4	45.95	46.06	46.07	46.16	44.23	42.86	40.69	45.76	57.60	53.86	46.72	43.67
5	45.97	46.08	46.06	46.12	44.49	42.74	40.60	45.51	57.30	54.01	46.51	43.76
6	45.93	46.08	46.06	46.06	44.92	42.64	40.79	45.63	57.60	54.04	46.35	43.83
7	45.90	46.06	46.09	45.98	45.14	42.57	41.24	46.45	57.82	53.91	46.19	43.89
8	45.89	46.03	46.08	45.90	45.22	42.46	41.50	47.38	57.96	53.71	46.08	43.95
9	45.91	46.09	46.07	45.85	45.13	42.37	41.59	47.82	58.05	53.60	45.96	44.05
10	46.01	46.08	46.09	45.66	44.94	42.29	41.56	47.78	58.06	53.64	45.83	44.15
11	45.98	46.04	46.09	45.55	44.78	42.17	41.48	47.54	57.95	53.50	45.76	44.25
12	46.01	46.07	46.08	45.40	44.61	42.02	41.45	47.37	57.68	53.00	45.74	44.32
13	46.10	46.04	46.03	45.30	44.45	41.89	41.44	47.38	57.43	52.45	45.75	44.36
14	46.18	46.04	46.02	45.27	44.33	41.79	41.52	47.46	57.46	51.99	45.64	44.58
15	46.12	46.03	46.04	45.26	44.25	41.74	41.85	47.60	57.59	51.63	45.58	44.79
16	46.08	46.05	46.19	45.24	44.18	41.66	42.47	47.96	57.67	51.36	45.58	44.92
17	46.05	46.00	46.23	45.20	44.11	41.60	42.84	48.37	57.63	51.31	45.50	45.08
18	46.05	45.97	46.23	45.11	44.04	41.47	42.94	48.91	57.54	51.26	45.32	45.18
19	46.05	45.98	46.22	45.05	43.96	41.40	42.94	49.47	57.42	50.97	45.06	45.24
20	46.04	46.25	46.19	45.00	43.87	41.33	42.82	49.99	57.22	50.60	44.85	45.29
21	46.06	46.37	46.22	44.96	43.78	41.25	42.71	50.60	56.99	50.22	44.68	45.34
22	46.24	46.25	46.15	44.87	43.69	41.14	42.56	51.45	56.66	49.85	44.54	45.38
23	46.18	46.16	46.11	44.82	43.59	41.09	42.50	52.46	56.26	49.58	44.40	45.46
24	46.11	46.06	46.02	44.77	43.48	41.03	42.41	53.75	55.70	49.29	44.19	45.53
25	46.18	46.06	45.94	44.76	43.39	41.02	42.40	55.18	55.00	48.98	44.04	45.61
26	46.15	46.54	45.93	44.67	43.35	40.99	42.40	56.34	54.34	48.66	43.89	45.67
27	46.07	46.69	45.91	44.62	43.32	40.87	42.52	57.08	53.86	48.33	43.76	45.75
28	46.03	46.51	46.01	44.57	43.26	40.89	42.84	57.70	53.45	48.11	43.68	45.81
29	46.07	46.29	46.06	44.48	------	41.03	43.44	57.65	53.10	47.86	43.64	45.81
30	46.07	46.27	46.06	44.37	------	41.10	44.23	57.50	53.23	47.58	43.63	45.79
31	46.07	------	45.97	44.31	------	41.24	------	57.90	------	47.46	43.62	------
MAX	46.24	46.69	46.23	46.16	45.22	43.21	44.23	57.90	58.60	54.06	47.36	45.81
MIN	45.87	45.97	45.91	44.31	43.26	40.87	40.60	45.10	53.10	47.46	43.62	43.53

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3220. Kootenai River at Porthill, Idaho--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.80	45.87	45.56	45.39	43.18	41.75	40.24	43.17	56.34	56.70	47.88	44.54
2	45.78	45.87	45.52	45.47	43.13	41.72	40.33	43.39	57.14	55.98	47.97	44.67
3	45.77	45.90	45.47	45.42	43.04	41.66	40.41	43.64	57.98	55.56	47.92	44.86
4	45.82	45.92	45.41	45.47	42.93	41.62	40.41	43.82	58.81	55.41	47.70	45.06
5	45.81	45.90	45.47	45.45	42.91	41.60	40.39	44.14	59.41	55.25	47.55	45.24
6	45.81	45.93	45.58	45.46	42.85	41.53	40.27	44.62	60.15	55.09	47.38	45.43
7	45.78	45.92	45.57	45.46	42.81	41.45	40.22	44.88	60.66	54.99	47.23	45.57
8	45.75	45.91	45.58	45.37	42.76	41.35	40.27	45.14	61.10	54.77	47.03	45.72
9	45.76	45.88	45.56	45.32	42.73	41.28	40.37	45.71	61.93	54.56	46.84	45.90
10	45.81	45.82	45.47	45.26	42.70	41.18	40.56	46.74	62.75	54.56	46.75	46.03
11	45.85	45.79	45.38	45.17	42.73	41.11	40.85	47.88	62.83	54.71	46.58	46.04
12	45.84	45.72	45.40	45.08	42.63	41.08	41.00	48.56	62.37	54.48	46.46	46.01
13	45.80	45.65	45.45	44.95	42.60	41.03	41.07	48.94	62.12	53.97	46.32	45.98
14	45.78	45.59	45.48	44.84	42.51	40.95	41.07	49.60	62.20	53.60	46.18	45.92
15	45.79	45.57	45.53	44.71	42.45	40.94	41.19	49.91	62.33	53.40	46.03	45.88
16	45.81	45.54	45.58	44.61	42.39	40.86	41.42	50.03	62.43	53.26	45.92	45.81
17	45.81	45.50	45.55	44.56	42.37	40.81	41.68	50.77	62.39	52.93	45.81	45.85
18	45.84	45.55	45.52	44.47	42.32	40.81	41.70	52.24	62.17	52.49	45.65	46.03
19	45.84	45.58	45.51	44.34	42.34	40.75	41.66	53.72	61.75	51.92	45.59	45.98
20	45.81	45.79	45.53	44.25	42.25	40.66	41.72	55.38	61.25	51.36	45.50	46.06
21	45.80	45.55	45.57	44.17	42.21	40.64	41.79	57.11	60.60	50.85	45.42	46.13
22	45.81	45.48	45.58	44.06	42.18	40.51	41.94	57.96	60.00	50.39	45.37	46.19
23	45.94	45.41	45.58	43.97	42.11	40.41	42.21	57.98	59.53	49.98	45.28	46.16
24	45.89	45.38	45.61	43.88	42.11	40.35	42.30	56.99	59.21	49.56	45.10	46.10
25	45.94	45.32	45.62	43.81	42.01	40.25	42.37	55.63	59.05	49.18	44.99	46.12
26	45.96	45.26	45.65	43.69	41.99	40.21	42.60	54.57	59.00	48.79	44.94	46.08
27	45.96	45.44	45.63	43.54	41.90	40.12	42.79	53.88	58.81	48.42	44.80	46.10
28	45.94	45.57	45.61	43.43	41.84	40.07	42.91	53.73	58.45	48.11	44.77	46.16
29	45.91	45.61	45.56	43.33	41.77	40.09	42.92	54.22	58.07	47.90	44.67	46.19
30	45.94	45.56	45.47	43.26	------	40.11	42.97	54.93	57.55	47.90	44.61	46.15
31	45.92	------	45.39	43.21	------	40.15	------	55.64	------	47.82	44.57	------
MAX	45.96	45.93	45.65	45.47	43.18	41.75	42.97	57.98	62.83	56.70	47.97	46.19
MIN	45.75	45.26	45.38	43.21	41.77	40.07	40.22	43.17	56.34	47.82	44.57	44.54

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.28	45.88	45.97	45.83	44.81	43.56	40.15	52.80	58.00	54.88	47.21	44.76
2	46.21	45.94	46.03	45.89	44.73	43.37	40.19	52.74	57.72	54.29	47.03	44.92
3	46.26	45.94	46.07	45.96	44.66	43.22	40.25	52.02	57.40	53.98	46.91	45.07
4	46.25	45.92	46.07	46.01	44.56	43.07	40.34	51.22	57.44	53.92	46.85	45.27
5	46.17	46.03	46.04	46.02	44.55	42.83	40.45	50.53	57.91	54.00	46.92	45.44
6	46.11	45.98	46.00	46.04	44.60	42.70	40.50	49.97	58.27	54.04	47.02	45.59
7	46.07	45.99	45.95	46.04	44.54	42.60	40.68	49.40	58.47	54.00	47.23	45.73
8	46.06	46.00	45.94	46.00	44.47	42.49	40.81	48.90	58.61	54.01	47.22	45.85
9	46.11	45.98	45.94	45.98	44.47	42.38	40.86	48.66	58.41	54.00	47.02	45.94
10	46.16	45.98	45.96	45.98	44.35	42.27	40.96	48.80	58.11	53.86	46.81	46.02
11	46.21	45.93	45.99	45.93	44.22	42.20	41.25	49.48	58.32	53.52	46.62	46.05
12	46.23	45.95	45.93	45.87	44.15	42.13	41.52	50.55	59.04	52.96	46.44	46.06
13	46.21	45.99	45.88	45.82	44.06	42.07	41.84	52.04	59.76	52.43	46.30	46.08
14	46.14	45.99	45.88	45.75	44.02	41.98	42.32	53.36	60.10	51.89	46.27	46.08
15	46.13	45.95	45.91	45.66	43.88	41.93	42.93	54.32	60.00	51.42	46.19	46.15
16	46.13	45.94	45.85	45.57	43.83	41.80	43.63	54.79	59.39	51.00	46.09	46.20
17	46.10	45.90	45.65	45.49	43.80	41.63	44.22	55.14	58.80	50.70	45.93	46.20
18	46.09	45.89	45.56	45.41	43.76	41.48	44.18	54.88	58.93	50.51	45.75	46.19
19	46.04	45.87	45.47	45.37	43.72	41.35	43.96	54.14	59.70	50.22	45.58	46.16
20	45.99	45.87	45.48	45.36	43.81	41.25	44.34	53.51	60.64	49.93	45.41	46.17
21	45.98	45.87	45.47	45.37	43.81	41.21	46.65	53.36	60.80	49.65	45.35	46.19
22	45.96	45.88	45.49	45.35	43.83	41.14	47.98	53.16	60.07	49.29	45.25	46.21
23	45.96	45.88	45.56	45.28	43.69	40.97	48.03	52.82	58.86	48.98	45.13	46.22
24	45.95	45.99	45.60	45.21	43.53	40.81	47.82	52.72	57.88	48.67	45.04	46.19
25	45.98	46.03	45.68	45.11	43.44	40.68	47.86	52.76	57.18	48.46	44.98	46.20
26	45.98	45.95	45.69	45.02	43.40	40.54	48.12	52.85	56.80	48.21	44.92	46.18
27	45.97	45.94	45.70	45.00	43.48	40.43	48.57	53.06	56.62	48.05	44.82	46.11
28	45.95	45.91	45.73	44.95	43.63	40.32	49.37	53.70	56.32	47.85	44.79	46.10
29	45.95	45.87	45.76	44.93	------	40.19	50.73	54.79	56.06	47.70	44.76	46.11
30	45.91	45.90	45.81	44.87	------	40.13	52.03	56.34	55.58	47.56	44.71	46.11
31	45.89	------	45.85	44.86	------	40.13	------	57.53	------	47.39	44.72	------
MAX	46.28	46.03	46.07	46.04	44.81	43.56	52.03	57.53	60.80	54.88	47.23	46.22
MIN	45.89	45.87	45.47	44.86	43.40	40.13	40.15	48.66	55.58	47.39	44.71	44.76

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3220. Kootenai River at Porthill, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,860	6,400	4,500	3,750	5,230	8,050	11,100	22,800	111,000	33,400	14,400	8,370
2	5,660	6,620	4,320	3,750	5,530	8,060	12,500	28,400	109,000	31,700	13,400	8,650
3	5,620	6,540	4,400	3,370	6,060	7,690	15,000	33,300	110,000	29,400	13,300	8,980
4	6,240	6,220	4,390	3,140	5,760	7,350	19,700	34,800	111,000	26,900	12,600	8,950
5	5,380	6,130	4,650	3,730	5,600	6,850	20,800	34,500	113,000	25,500	12,200	8,850
6	5,460	5,880	4,140	4,270	5,540	6,560	19,400	33,300	111,000	25,500	12,000	8,340
7	5,150	5,720	3,670	5,020	5,650	6,340	17,400	32,100	106,000	25,300	11,700	8,010
8	5,330	5,460	3,580	4,850	5,540	6,060	15,600	30,700	106,000	24,500	11,600	8,180
9	5,880	5,340	3,600	4,670	5,700	5,850	14,200	31,100	105,000	24,200	11,500	8,080
10	5,980	5,380	3,370	4,760	6,080	5,880	13,300	35,300	88,400	23,700	10,900	8,080
11	5,660	5,260	3,550	4,770	7,290	5,810	12,500	40,800	91,400	22,300	10,800	7,960
12	5,660	5,310	3,750	4,940	8,500	5,780	12,300	42,500	84,800	21,100	10,600	7,690
13	5,900	5,260	4,350	4,720	8,290	5,760	12,900	42,200	80,900	20,100	10,100	7,940
14	5,830	5,370	4,140	4,740	7,660	5,900	13,200	42,100	78,400	19,300	9,790	7,820
15	5,590	5,190	4,180	5,130	7,040	6,330	13,000	43,100	77,400	18,800	9,550	7,570
16	5,510	5,260	3,760	5,720	6,890	6,590	12,400	45,400	77,000	18,400	9,190	7,260
17	5,420	5,310	3,880	6,340	6,590	7,090	12,400	47,800	77,200	18,900	8,900	7,110
18	5,250	5,320	4,120	6,500	6,330	7,240	13,600	48,000	78,200	19,700	9,140	6,910
19	5,250	5,320	4,420	5,330	6,020	7,560	15,000	49,700	77,800	19,600	9,560	6,750
20	5,280	5,370	4,180	5,350	5,870	7,670	15,700	54,900	76,400	18,600	10,700	6,780
21	5,230	6,040	4,290	4,820	7,130	7,890	15,400	63,000	73,400	17,400	11,000	6,820
22	5,240	5,990	4,520	4,530	12,900	8,170	15,100	72,700	70,000	16,300	10,300	6,810
23	5,450	5,830	4,600	4,230	14,300	8,260	14,200	83,300	64,400	16,100	9,890	7,010
24	5,540	5,870	4,660	3,910	12,900	8,400	13,600	91,500	57,400	16,200	9,480	6,590
25	6,260	7,450	4,480	3,900	11,500	8,450	13,500	98,500	51,700	16,400	9,310	6,490
26	6,190	7,480	4,360	3,710	10,500	8,720	14,100	106,000	48,000	16,000	9,060	6,480
27	6,490	7,020	4,310	3,410	9,650	9,030	14,800	110,000	44,900	15,400	8,880	6,420
28	6,740	6,150	4,330	3,300	8,750	9,280	15,700	114,000	42,600	14,800	8,980	6,260
29	6,960	5,430	4,050	3,290	------	9,440	16,200	117,000	39,600	14,200	8,790	6,250
30	6,710	4,890	3,720	3,700	------	9,700	18,300	115,000	36,000	13,900	8,330	6,200
31	6,520	------	3,780	4,420	------	10,200	------	113,000	------	14,200	8,200	------
TOTAL	179,260	174,810	128,050	138,670	214,800	231,960	442,900	1,856.8M	2,397.9M	637,800	324,150	223,610
MEAN	5,783	5,827	4,131	4,473	7,671	7,483	14,760	59,900	79,930	20,570	10,460	7,454
MAX	6,960	7,480	4,660	6,500	14,300	10,200	20,800	117,000	113,000	33,400	14,400	8,980
MIN	5,150	4,890	3,370	3,140	5,230	5,760	11,100	22,800	36,000	13,900	8,200	6,200
CFSM	.42	.43	.30	.33	.56	.55	1.08	4.37	5.83	1.50	.76	.54
IN.	.49	.47	.35	.38	.58	.63	1.20	5.04	6.51	1.73	.88	.61
AC-FT	355,600	346,700	254,000	275,000	426,000	460,100	878,500	3,683M	4,756M	1,265M	642,900	443,500

CAL YR 1960: TOTAL 6,169,870 MEAN 16,860 MAX 77,500 MIN 3,370 CFSM 1.23 IN 16.75 AC-FT 12,240,000
WAT YR 1961: TOTAL 6,950,710 MEAN 19,040 MAX 117,000 MIN 3,140 CFSM 1.39 IN 18.87 AC-FT 13,790,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,200	7,310	5,280	4,750	6,110	3,470	5,990	25,400	58,300	31,500	14,600	7,590
2	6,160	7,110	5,460	4,760	6,000	3,570	6,430	23,000	53,400	30,800	13,600	7,450
3	6,080	6,930	5,550	4,840	6,020	3,660	7,120	24,100	50,500	30,900	13,300	6,970
4	6,020	6,640	5,490	5,120	6,770	3,650	7,910	26,000	48,100	29,400	13,200	6,930
5	5,920	6,510	5,370	5,170	7,320	3,690	9,210	25,900	46,200	26,700	13,000	6,920
6	5,870	6,350	5,280	5,040	7,390	3,810	10,700	25,000	43,000	24,000	13,200	6,780
7	6,060	6,190	5,070	4,980	6,620	3,900	14,100	23,900	39,000	22,300	12,900	6,850
8	6,300	6,120	4,790	4,780	5,840	3,990	17,000	23,300	36,300	21,400	12,800	6,650
9	7,030	5,920	4,310	4,600	5,530	4,000	16,300	23,400	36,200	21,400	12,300	6,410
10	7,280	5,840	3,680	4,180	5,320	3,920	14,600	24,500	39,200	21,300	12,100	6,680
11	7,530	5,760	3,300	3,970	5,300	3,900	13,100	25,700	47,000	21,400	12,200	7,270
12	7,650	5,890	2,890	3,760	5,420	3,890	12,000	26,600	50,300	21,900	11,900	7,510
13	7,940	6,150	2,960	3,660	5,590	3,890	11,700	27,500	49,900	22,500	11,300	7,340
14	7,880	6,130	3,080	3,560	5,700	3,870	12,500	28,800	48,500	22,400	10,600	7,130
15	7,830	6,260	3,380	3,440	5,780	3,890	15,100	29,300	48,000	22,500	10,400	7,050
16	7,850	5,660	3,680	3,400	5,900	3,980	18,900	29,800	48,400	21,600	10,500	6,750
17	8,030	5,360	3,850	3,490	5,820	4,020	20,700	31,100	51,300	20,300	10,300	6,710
18	8,830	4,960	4,260	3,170	5,690	4,120	21,900	32,900	54,800	19,100	9,720	6,620
19	9,960	4,850	4,470	2,970	5,620	4,220	24,700	36,500	56,800	18,000	9,590	6,740
20	10,600	4,630	4,570	2,970	5,410	4,210	29,100	39,500	56,600	17,500	9,540	6,500
21	10,200	4,670	4,650	2,980	5,100	4,310	33,200	42,900	54,400	16,400	9,390	6,400
22	9,770	4,890	5,050	2,990	4,620	4,410	34,200	46,900	51,800	15,200	9,370	6,020
23	9,260	5,060	5,060	3,080	4,240	4,490	34,000	49,900	49,500	14,700	9,180	6,000
24	8,940	4,960	4,930	3,260	3,910	4,540	35,300	52,200	46,200	14,500	9,230	5,990
25	8,590	4,840	5,420	3,570	3,710	4,830	38,600	54,900	43,200	14,800	9,050	5,940
26	8,280	4,790	5,420	4,470	3,610	5,250	39,700	56,500	42,600	15,100	8,670	5,940
27	8,270	4,780	5,070	5,030	3,500	5,700	38,300	56,600	43,000	15,200	8,420	5,950
28	8,200	4,760	4,570	5,430	3,490	6,030	35,300	59,200	43,100	15,300	8,210	5,860
29	7,880	4,880	4,260	5,730	------	6,140	31,300	62,900	39,900	15,300	8,060	6,290
30	7,760	5,200	4,560	6,050	------	6,080	28,000	63,700	35,000	15,100	8,020	6,180
31	7,400	------	4,670	6,310	------	5,920	------	62,200	------	15,100	7,820	------
TOTAL	241,570	169,400	140,380	131,490	151,330	135,350	636,960	1,160.1M	1,410.5M	633,600	332,470	199,420
MEAN	7,793	5,647	4,528	4,242	5,405	4,366	21,230	37,420	47,020	20,440	10,720	6,647
MAX	10,600	7,310	5,550	6,310	7,390	6,140	39,700	63,700	58,300	31,500	14,600	7,590
MIN	5,870	4,630	2,890	2,970	3,490	3,470	5,990	23,000	35,000	14,500	7,820	5,860
CFSM	.57	.41	.33	.31	.39	.32	1.55	2.73	3.43	1.49	.78	.49
IN.	.66	.46	.38	.36	.41	.37	1.73	3.15	3.83	1.72	.90	.54
AC-FT	479,100	336,000	278,400	260,800	300,200	268,500	1,263M	2,301M	2,798M	1,257M	659,400	395,500

CAL YR 1961: TOTAL 7,019,940 MEAN 19,230 MAX 117,000 MIN 2,890 CFSM 1.40 IN 19.06 AC-FT 13,920,000
WAT YR 1962: TOTAL 5,342,570 MEAN 14,640 MAX 63,700 MIN 2,890 CFSM 1.07 IN 14.50 AC-FT 10,600,000

M Expressed in thousands.

12-3220. Kootenai River at Porthill, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,240	6,180	8,520	6,260	3,650	7,330	11,600	23,500	63,300	38,600	15,300	7,770
2	6,340	6,000	8,090	6,650	3,910	7,150	10,700	25,100	63,500	41,200	14,800	7,450
3	6,170	6,130	7,630	7,210	4,270	6,860	9,920	25,200	62,000	40,100	14,300	7,440
4	5,920	5,890	7,240	7,610	5,110	6,660	9,300	23,400	57,800	41,300	14,000	7,370
5	5,900	5,990	6,990	7,420	6,800	6,460	9,320	21,700	55,800	41,400	13,400	7,320
6	5,850	5,900	6,880	7,000	9,360	6,320	10,800	22,200	54,800	41,800	13,000	7,220
7	5,770	5,880	6,880	6,700	11,100	6,070	12,900	25,900	54,700	40,300	12,600	7,100
8	5,780	5,840	7,060	6,360	11,700	6,120	13,700	29,700	55,800	38,500	12,200	6,920
9	5,700	6,150	7,010	6,240	11,300	5,990	13,700	31,100	55,900	37,800	12,200	6,850
10	6,000	6,680	6,960	5,310	10,800	6,180	13,200	30,000	56,000	38,700	12,300	6,820
11	5,970	6,600	6,990	3,790	10,300	5,980	12,600	28,000	55,200	37,000	12,000	6,970
12	6,480	6,630	6,950	2,800	9,590	5,840	12,100	27,100	52,800	33,600	11,900	7,110
13	7,320	6,520	6,850	2,550	9,050	5,860	11,800	26,800	51,100	30,400	11,600	7,330
14	7,770	6,360	6,680	3,240	8,710	5,600	12,100	26,900	51,400	27,900	11,800	7,620
15	7,280	6,050	6,920	4,000	8,470	5,510	13,800	27,500	52,200	26,300	11,900	7,600
16	6,890	5,770	8,080	4,160	8,070	5,540	16,000	28,600	52,500	26,200	12,600	7,810
17	6,480	5,630	8,550	4,190	7,870	5,480	17,300	29,500	52,100	27,700	12,600	8,160
18	6,180	5,610	8,700	4,110	7,660	5,510	17,400	32,500	51,400	28,300	12,200	8,130
19	6,040	5,210	8,570	4,090	7,560	5,450	16,500	34,900	50,400	27,000	11,500	7,850
20	5,920	6,480	8,260	3,970	7,540	5,630	15,500	36,500	49,000	25,300	10,800	7,530
21	5,840	8,680	7,910	3,860	7,430	5,550	14,500	38,400	47,400	24,000	10,500	7,160
22	6,080	8,330	7,810	3,870	7,210	5,590	13,700	41,400	45,400	22,800	10,200	6,950
23	6,350	8,030	7,490	3,750	7,000	5,950	13,100	45,700	43,200	21,600	10,000	6,750
24	6,950	7,460	6,750	3,740	6,920	6,440	12,600	50,200	40,300	20,700	9,850	6,700
25	7,680	7,490	5,440	3,610	7,010	6,900	12,300	56,000	36,300	19,800	9,260	6,570
26	7,700	11,600	4,790	3,660	7,240	7,160	12,200	60,800	33,300	18,700	9,000	6,640
27	7,260	12,600	5,320	3,530	7,420	7,370	12,900	63,900	32,400	18,100	8,630	6,830
28	6,880	12,000	5,640	3,530	7,500	8,310	14,700	64,000	31,400	17,600	8,470	6,570
29	6,590	9,900	6,100	3,550	-------	9,620	17,100	63,200	30,500	16,500	8,340	6,500
30	6,500	9,190	6,150	3,570	-------	10,700	20,500	61,900	32,900	15,900	8,140	6,330
31	6,320	-------	6,290	3,540	-------	11,600	------	61,600	-------	15,700	7,970	-------
TOTAL	200,150	216,980	219,600	143,870	220,550	206,730	403,840	1,163.2M	1,470.8M	901,400	353,560	215,370
MEAN	6,456	7,233	7,084	4,641	7,877	6,669	13,460	37,520	49,030	29,080	11,410	7,179
MAX	7,770	12,600	8,700	7,610	11,700	11,600	20,500	64,000	63,500	41,800	15,300	8,160
MIN	5,700	5,210	4,790	2,550	3,650	5,450	9,300	21,700	30,500	15,700	7,970	6,330
CFSM	.47	.53	.52	.34	.57	.49	.98	2.74	3.58	2.12	.83	.52
IN.	.54	.59	.60	.39	.60	.56	1.10	3.16	3.99	2.45	.96	.58
AC-FT	397,000	430,400	435,600	285,400	437,500	410,000	801,000	2,307M	2,917M	1,788M	701,300	427,200

CAL YR 1962: TOTAL 5,427,950 MEAN 14,870 MAX 63,700 MIN 2,970 CFSM 1.09 IN 14.73 AC-FT 10,770,000
WAT YR 1963: TOTAL 5,716,050 MEAN 15,660 MAX 64,000 MIN 2,550 CFSM 1.14 IN 15.52 AC-FT 11,340,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,020	5,980	6,660	4,860	4,420	3,200	4,530	16,700	55,700	41,900	15,800	8,630
2	5,950	5,720	5,420	5,300	4,310	3,330	5,580	17,700	59,800	37,500	16,900	8,160
3	5,870	5,620	5,220	5,790	4,150	3,320	6,460	19,100	63,600	37,000	16,900	8,130
4	5,800	5,570	5,280	5,350	4,050	3,250	7,020	19,800	67,700	38,100	15,700	8,220
5	5,960	5,510	5,460	5,200	4,050	3,300	7,350	21,300	71,700	38,300	14,400	8,130
6	5,750	5,620	5,520	5,070	4,120	3,380	7,410	22,600	75,900	38,300	14,000	7,980
7	5,840	5,660	5,510	4,910	4,010	3,370	7,400	23,500	78,000	38,800	14,000	7,650
8	5,620	5,710	5,480	4,460	3,910	3,240	7,590	24,500	81,300	37,800	13,900	7,540
9	5,530	5,720	4,950	4,430	3,950	3,110	8,320	27,000	88,400	36,400	13,100	7,510
10	5,400	5,630	4,130	4,270	4,010	3,140	9,390	31,300	93,400	36,900	12,700	7,580
11	5,350	5,480	3,390	4,280	4,080	3,050	10,400	35,700	90,400	38,400	12,600	7,460
12	5,380	5,270	3,560	3,980	4,230	3,240	11,000	37,600	83,800	36,300	12,700	7,390
13	5,120	5,180	3,980	3,940	4,100	3,300	10,800	38,600	80,600	32,900	12,400	7,330
14	5,040	5,370	4,000	3,790	4,030	3,210	10,300	40,500	79,400	31,200	11,900	7,250
15	4,940	5,630	4,150	4,110	3,910	3,300	10,200	40,400	80,200	31,100	11,700	6,970
16	4,750	5,720	4,400	4,390	3,740	3,430	11,600	40,500	79,800	30,500	11,800	6,930
17	4,760	5,670	4,440	4,600	3,640	3,620	12,300	43,800	78,400	29,100	11,500	6,750
18	4,820	5,940	4,310	4,670	3,700	3,850	11,800	49,500	75,900	27,400	10,900	7,010
19	4,760	5,800	4,090	4,630	3,720	4,080	11,100	55,500	71,900	25,000	10,400	7,190
20	4,650	6,410	4,400	4,580	3,770	3,860	10,900	62,500	66,800	22,700	10,200	7,650
21	4,680	6,190	4,480	4,580	3,620	3,670	11,000	70,200	62,200	21,300	10,100	8,760
22	4,800	5,440	4,680	4,450	3,560	3,860	11,300	75,400	58,500	20,300	10,100	8,890
23	6,340	5,010	4,950	4,360	3,540	3,610	12,300	72,600	55,900	19,300	9,660	8,800
24	6,580	4,850	5,040	4,320	3,540	3,340	12,700	62,300	54,500	18,700	9,440	8,420
25	7,430	5,090	5,050	4,100	3,410	3,230	12,800	51,900	54,900	18,000	8,960	8,070
26	7,310	5,580	5,180	4,040	3,270	3,160	13,400	45,000	55,900	17,100	8,970	7,870
27	6,980	7,240	5,230	4,310	3,390	3,200	14,400	40,400	54,900	16,000	9,030	8,040
28	6,450	8,860	5,220	4,350	3,280	3,340	14,800	40,500	52,400	15,400	8,740	9,120
29	6,240	8,890	5,150	4,350	3,230	3,320	15,100	44,100	50,700	15,000	8,850	9,360
30	6,050	7,830	4,950	4,330	-------	3,470	15,600	48,200	47,200	14,800	8,860	9,200
31	5,860	-------	4,790	4,420	-------	3,890	------	52,400	-------	15,200	8,780	-------
TOTAL	176,030	178,190	149,070	140,220	110,740	105,670	314,850	1,271.1M	2,069.8M	876,700	364,990	237,990
MEAN	5,678	5,940	4,809	4,523	3,819	3,409	10,500	41,000	68,990	28,280	11,770	7,933
MAX	7,430	8,890	6,660	5,790	4,420	4,080	15,600	75,400	93,400	41,900	16,900	9,360
MIN	4,650	4,850	3,390	3,790	3,230	3,050	4,530	16,700	47,200	14,800	8,740	6,750
CFSM	.41	.43	.35	.33	.28	.25	.77	2.99	5.04	2.06	.86	.58
IN.	.48	.48	.40	.38	.30	.29	.85	3.45	5.62	2.38	.99	.65
AC-FT	349,200	353,400	295,700	278,100	219,600	209,600	624,500	2,521M	4,105M	1,739M	723,900	472,000

CAL YR 1963: TOTAL 5,582,610 MEAN 15,290 MAX 64,000 MIN 2,550 CFSM 1.12 IN 15.15 AC-FT 11,070,000
WAT YR 1964: TOTAL 5,995,350 MEAN 16,380 MAX 93,400 MIN 3,050 CFSM 1.20 IN 16.27 AC-FT 11,890,000

M Expressed in thousands.

12-3220. Kootenai River at Porthill, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,890	6,770	6,440	5,070	5,010	7,750	5,610	51,400	67,600	38,000	15,000	9,510
2	10,200	6,900	6,790	4,840	4,820	7,520	5,810	48,600	62,700	35,300	14,400	8,740
3	10,600	7,090	7,110	5,000	4,730	7,320	6,350	43,500	59,100	34,400	14,200	8,580
4	10,600	6,950	6,710	5,030	4,440	6,810	6,820	38,600	59,500	35,400	14,100	8,520
5	10,100	7,270	6,710	5,140	4,800	6,740	7,220	34,300	62,100	37,200	14,300	8,780
6	9,530	7,400	6,760	5,050	5,070	6,670	7,820	31,200	62,800	38,000	15,300	8,740
7	9,020	7,310	6,670	5,130	5,420	6,610	8,240	28,800	63,600	37,900	17,200	8,510
8	8,760	7,320	6,350	5,240	5,820	6,700	8,740	27,400	63,900	37,500	17,300	8,160
9	8,870	7,230	6,260	5,130	5,790	6,780	9,190	27,000	60,800	37,700	15,900	8,080
10	9,180	7,480	6,170	4,900	5,660	6,880	9,800	28,700	57,700	36,600	14,500	7,930
11	9,400	7,530	6,100	4,940	5,360	6,970	10,800	32,300	59,000	34,100	13,600	8,050
12	9,360	7,690	5,780	4,860	5,130	7,180	11,800	38,700	64,800	31,200	13,300	7,870
13	9,810	7,450	4,980	4,780	4,930	7,220	13,500	46,400	69,000	28,300	12,900	7,640
14	9,460	7,180	5,190	4,860	4,810	7,270	15,800	52,500	71,500	26,100	12,800	8,080
15	9,300	6,840	5,430	4,910	4,760	7,140	18,200	56,000	68,800	24,300	12,500	8,540
16	9,170	6,490	5,260	5,080	4,720	7,540	21,300	57,600	62,400	23,100	12,400	8,700
17	9,360	6,110	4,020	5,120	4,700	7,140	22,700	58,000	57,400	23,100	11,800	8,410
18	9,140	5,910	3,130	5,130	4,910	6,640	21,600	55,000	58,700	22,800	11,200	8,180
19	8,830	5,900	2,820	5,110	5,230	6,430	20,200	49,700	67,500	22,300	10,700	7,890
20	8,550	5,940	2,090	4,930	5,860	6,280	23,200	45,900	75,400	22,100	10,600	7,780
21	8,010	6,000	2,200	5,050	7,110	6,200	32,600	45,000	74,800	21,300	10,300	7,850
22	8,080	6,000	2,600	4,860	7,100	6,270	36,800	43,700	66,500	20,100	10,000	7,780
23	7,860	6,060	4,130	4,780	6,480	6,120	35,700	41,700	57,100	18,700	9,980	7,780
24	7,800	6,240	5,100	4,690	5,990	5,800	34,000	41,100	49,500	17,900	10,100	6,250
25	7,470	6,850	5,760	4,640	6,050	5,740	33,200	41,200	45,500	17,600	10,100	8,850
26	7,370	6,870	5,210	4,540	6,230	5,660	33,900	41,800	45,200	17,200	10,000	8,840
27	7,400	6,480	5,000	4,410	6,590	5,730	35,400	42,600	44,800	16,500	10,000	8,380
28	7,310	6,400	4,990	4,420	7,530	5,620	38,500	46,100	44,400	16,100	9,960	8,340
29	7,210	6,000	4,980	4,500	------	5,480	44,400	52,200	44,300	16,000	10,100	8,350
30	7,030	5,990	4,980	4,620	------	5,430	49,300	60,000	41,700	15,900	9,920	8,030
31	6,940	------	4,980	4,690	------	5,440	------	66,400	------	15,500	9,850	------
TOTAL	271,910	201,670	160,700	151,470	155,050	203,080	628,500	1,373.4M	1,788.1M	818,200	384,310	249,340
MEAN	8,771	6,722	5,184	4,886	5,538	6,551	20,950	44,300	59,600	26,390	12,400	8,311
MAX	10,600	7,690	7,110	5,240	7,530	7,750	49,300	66,400	75,400	38,000	17,300	9,510
MIN	6,940	5,900	2,090	4,410	4,440	5,430	5,610	27,000	41,700	15,500	9,850	7,780
CFSM	.64	.49	.38	.36	.40	.48	1.53	3.23	4.35	1.93	.90	.61
IN.	.74	.55	.44	.41	.42	.55	1.71	3.73	4.85	2.22	1.04	.68
AC-FT	539,300	400,000	318,700	300,400	307,500	402,800	1,247M	2,724M	3,547M	1,623M	762,300	494,600

CAL YR 1964: TOTAL 6,126,340 MEAN 16,740 MAX 93,400 MIN 2,090 CFSM 1.22 IN 16.63 AC-FT 12,150,000
WAT YR 1965: TOTAL 6,385,730 MEAN 17,500 MAX 75,400 MIN 2,090 CFSM 1.28 IN 17.33 AC-FT 12,670,000

M Expressed in thousands.

12-3225. Kootenay Lake at Kuskonook, British Columbia

(International gaging station)

Location.--Lat 49°17'56", long 116°39'31", on east shore of lake at Kuskonook, at mile 74.5.

Records available.--April 1936 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,735.20 ft above mean sea level, Geodetic Survey of Canada, datum of Pub. 24-A, 1961 edition, which is the same at Porthill as datum of 1929, supplementary adjustment of 1947, and 0.03 ft higher than datum in use at station Kootenai River at Porthill. Gage heights have been reduced to elevations above datum in use at station Kootenai River at Porthill. Prior to Apr. 25, 1938, staff gage at same site at datum 3.00 ft higher.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	June 9, 1961	1,762.42	Apr. 1, 1961	1,739.81
1962	June 25, 1962	a 1,753.07	Mar. 31, 1962	1,739.83
1963	June 19, 1963	1,753.61	Apr. 6, 1963	1,739.69
1964	June 17, 1964	1,757.25	Apr. 6, 1964	1,739.51
1965	June 22, 1965	1,754.89	Mar. 31, 1965	1,739.75

a Top of seiche.

1936-65: Maximum elevation, 1,762.42 ft June 9, 1961; minimum daily, 1,737.86 ft Apr. 5, 6, 1944.

Remarks.--Elevation is subject to partial regulation by Corra Linn Dam below outlet. Diversions for irrigation of about 14,600 acres above station.

Cooperation.--This station is maintained by Canada under agreement with the United States.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.70	45.66	45.52	45.53	44.37	42.54	39.85	41.11	59.28	53.83	45.33	44.21
2	45.65	45.66	45.49	45.51	44.33	42.43	39.87	41.45	59.80	53.16	45.25	44.33
3	45.62	45.69	45.49	45.48	44.29	42.34	39.98	41.91	60.29	52.61	45.18	44.39
4	45.63	45.68	45.52	45.43	44.24	42.23	40.12	42.40	60.77	51.95	45.10	44.51
5	45.64	45.69	45.52	45.43	44.21	42.12	40.31	42.88	61.29	51.34	45.03	44.64
6	45.64	45.69	45.51	45.45	44.17	42.03	40.48	43.29	61.79	50.80	44.96	44.69
7	45.64	45.68	45.51	45.46	44.10	41.93	40.59	43.56	62.25	50.35	44.92	44.75
8	45.70	45.68	45.50	45.47	44.04	41.81	40.64	43.80	62.38	49.94	44.85	44.74
9	45.73	45.66	45.49	45.51	43.97	41.69	40.68	44.01	62.40	49.51	44.81	44.70
10	45.73	45.66	45.47	45.55	43.93	41.60	40.69	44.27	62.19	49.16	44.74	44.70
11	45.72	45.69	45.45	45.49	43.87	41.48	40.67	44.64	61.84	48.79	44.68	44.77
12	45.73	45.69	45.47	45.41	43.85	41.37	40.65	45.04	61.50	48.41	44.58	44.81
13	45.73	45.70	45.50	45.36	43.80	41.29	40.66	45.40	61.13	48.07	44.50	44.86
14	45.69	45.71	45.55	45.34	43.70	41.24	40.66	45.73	60.72	47.77	44.39	44.91
15	45.69	45.69	45.53	45.29	43.62	41.16	40.65	46.05	60.40	47.51	44.32	44.91
16	45.67	45.69	45.49	45.34	43.52	41.08	40.61	46.37	60.21	47.32	44.26	44.89
17	45.66	45.66	45.48	45.29	43.40	40.98	40.61	46.73	60.13	47.11	44.25	44.90
18	45.68	45.68	45.45	45.22	43.24	40.88	40.61	47.10	60.05	46.91	44.22	44.93
19	45.69	45.64	45.46	45.16	43.12	40.78	40.61	47.49	59.98	46.73	44.22	44.90
20	45.70	45.68	45.45	45.10	43.01	40.67	40.68	47.99	59.88	46.54	44.21	44.92
21	45.74	45.74	45.46	45.01	43.04	40.63	40.71	48.65	59.67	46.38	44.19	44.93
22	45.78	45.71	45.47	44.91	43.17	40.56	40.73	49.50	59.30	46.28	44.15	44.95
23	45.81	45.71	45.47	44.83	43.21	40.47	40.72	50.51	58.83	46.15	44.14	44.97
24	45.83	45.74	45.48	44.80	43.19	40.33	40.72	51.64	58.30	46.07	44.15	45.01
25	45.81	45.74	45.50	44.76	43.09	40.26	40.72	52.70	57.72	46.00	44.15	45.08
26	45.76	45.73	45.55	44.71	42.88	40.18	40.72	53.85	57.11	45.89	44.11	45.14
27	45.73	45.65	45.58	44.66	42.70	40.11	40.75	55.25	56.48	45.83	44.06	45.14
28	45.69	45.64	45.56	44.61	42.58	40.04	40.78	56.41	55.84	45.76	44.03	45.19
29	45.66	45.61	45.54	44.60	------	39.98	40.83	57.29	55.16	45.65	44.01	45.27
30	45.62	45.58	45.54	44.58	------	39.91	40.93	58.05	54.49	45.54	44.04	45.31
31	45.62	------	45.53	44.53	------	39.86	------	58.71	------	45.43	44.09	------
MAX	45.83	45.74	45.58	45.55	44.37	42.54	40.93	58.71	62.40	53.83	45.33	45.31
MIN	45.62	45.58	45.45	44.53	42.58	39.86	39.85	41.11	54.49	45.43	44.01	44.21

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3225. Kootenay Lake at Kuskonook, British Columbia--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.36	45.72	45.75	45.29	44.21	42.65	39.86	45.21	51.35	51.88	46.34	44.09
2	45.39	45.73	45.75	45.29	44.20	42.61	39.88	45.11	51.47	51.55	46.20	44.16
3	45.42	45.77	45.76	45.34	44.23	42.59	39.89	44.98	51.54	51.19	46.06	44.20
4	45.43	45.80	45.74	45.36	44.31	42.56	39.88	44.89	51.53	50.79	45.91	44.25
5	45.48	45.78	45.72	45.34	44.30	42.46	39.88	44.81	51.42	50.37	45.81	44.30
6	45.55	45.77	45.70	45.35	44.21	42.34	39.91	44.74	51.24	49.98	45.71	44.36
7	45.59	45.75	45.69	45.37	44.12	42.21	40.06	44.66	50.97	49.59	45.62	44.46
8	45.61	45.76	45.66	45.34	44.02	42.13	40.20	44.54	50.71	49.21	45.55	44.42
9	45.66	45.76	45.61	45.33	43.91	42.01	40.36	44.43	-	48.91	45.45	44.43
10	45.74	45.77	-	45.30	43.83	41.87	40.47	44.35	50.65	48.66	45.33	44.49
11	45.74	45.81	-	-	43.72	41.77	40.61	44.30	50.72	48.51	45.21	44.58
12	45.72	45.83	-	-	43.66	41.69	40.56	44.29	-	48.45	45.14	44.69
13	45.68	45.81	-	-	43.62	41.59	40.58	44.31	50.91	48.41	45.08	44.77
14	45.67	45.82	-	45.10	43.59	41.54	40.61	44.36	51.00	48.41	45.01	44.85
15	45.70	45.75	-	45.08	43.54	41.45	40.71	44.41	51.08	48.36	44.92	44.92
16	45.75	45.73	45.16	44.99	43.47	41.35	40.90	44.48	-	48.28	44.84	45.00
17	45.81	45.71	45.19	44.93	43.40	41.22	41.10	44.57	51.79	48.18	44.75	45.04
18	45.70	45.71	45.16	44.85	43.34	41.08	41.30	44.73	51.90	48.05	44.72	45.04
19	45.53	45.72	45.15	44.70	43.30	40.96	41.59	44.99	52.39	47.87	44.65	45.05
20	45.53	45.74	45.14	-	43.25	40.82	41.92	45.33	52.64	47.67	44.58	45.02
21	45.61	45.71	45.15	44.58	43.21	40.67	42.32	45.69	52.88	47.49	44.58	45.01
22	45.59	45.76	45.14	-	43.16	40.55	42.74	46.10	53.00	47.29	44.52	45.06
23	45.59	45.74	45.13	-	43.05	40.49	43.12	46.57	53.03	47.10	44.40	45.14
24	45.64	45.76	45.18	-	42.96	40.49	43.51	47.09	53.01	46.95	44.29	45.18
25	45.63	45.75	45.24	-	42.89	40.51	43.93	47.67	52.96	46.86	44.21	45.19
26	45.64	45.73	45.29	44.27	42.81	40.51	44.40	48.27	52.93	46.77	44.11	45.22
27	45.59	45.73	45.28	44.26	42.74	40.43	44.75	48.85	52.84	46.73	44.05	45.25
28	45.60	45.75	45.28	44.26	42.69	40.27	45.07	49.44	52.69	46.69	44.04	45.29
29	45.64	45.76	45.30	44.26	------	40.07	45.23	50.07	52.48	46.66	44.04	45.38
30	45.64	45.75	45.30	44.24	------	39.91	45.27	50.65	52.21	46.58	44.05	45.48
31	45.65	------	45.30	44.22	------	39.85	------	51.06	------	46.45	44.06	------
MAX	45.81	45.83	45.76	-	44.31	42.65	45.27	51.06	53.03	51.88	46.34	45.48
MIN	45.36	45.71	45.13	44.22	42.69	39.85	39.86	44.29	-	46.45	44.04	44.09

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.59	45.77	45.75	45.61	-	42.67	40.04	41.92	52.51	50.60	46.39	43.10
2	45.63	45.77	45.65	45.66	-	42.61	39.97	42.23	52.83	50.51	46.20	43.11
3	45.66	45.77	45.68	45.74	43.95	42.51	39.90	42.49	53.06	50.48	46.00	43.18
4	45.68	45.78	45.71	45.74	43.91	42.38	39.82	42.70	53.18	50.43	45.79	43.26
5	45.69	45.79	45.73	45.69	43.98	42.28	39.77	42.86	53.25	50.45	45.66	43.35
6	45.67	45.80	45.74	45.66	44.07	42.19	39.77	43.00	53.33	50.43	45.54	43.43
7	45.65	45.77	45.73	45.61	44.10	42.15	39.80	43.21	53.39	50.51	45.41	43.50
8	45.64	45.75	45.72	45.58	44.04	42.07	39.89	43.45	53.38	50.58	45.30	43.59
9	45.69	45.77	45.71	45.53	43.93	41.96	39.99	43.68	53.41	50.63	45.19	43.69
10	45.70	45.75	45.73	45.43	43.81	41.87	40.03	43.91	53.44	50.61	45.10	43.78
11	45.69	45.73	45.75	45.35	43.76	41.75	40.10	44.05	53.43	50.56	45.02	43.90
12	45.70	45.73	45.74	-	43.69	41.63	40.16	44.12	53.43	50.43	45.00	43.96
13	45.73	45.73	45.71	45.09	43.64	41.53	40.17	44.25	53.41	50.21	45.00	44.03
14	45.77	45.72	45.72	45.01	43.55	41.45	40.17	44.33	53.43	50.01	44.93	44.20
15	45.75	45.73	45.74	45.01	43.49	41.38	40.25	44.43	53.46	49.80	44.86	44.38
16	45.73	45.75	45.75	44.98	43.44	41.32	40.42	44.57	53.50	49.59	44.77	44.55
17	45.73	45.73	45.72	44.95	43.38	41.23	40.60	44.71	53.57	49.35	44.67	44.68
18	45.74	45.70	45.71	44.87	43.35	41.15	40.75	44.90	53.59	49.16	44.53	44.79
19	45.74	45.74	45.71	44.81	43.29	41.08	40.91	45.13	53.58	48.96	44.36	44.87
20	45.75	45.85	45.71	44.75	43.22	41.00	41.04	45.46	53.57	48.75	44.19	44.94
21	45.78	45.85	45.75	44.68	43.15	40.89	41.10	45.81	53.46	48.56	44.03	45.00
22	45.91	45.77	45.69	44.59	43.08	40.81	41.14	46.29	53.29	48.31	43.89	45.06
23	45.84	45.70	45.68	44.54	43.01	40.70	41.16	46.86	53.05	48.10	43.72	45.16
24	45.74	45.70	45.66	44.47	42.95	40.61	41.19	47.50	52.70	47.89	43.56	45.23
25	45.76	45.71	45.66	44.43	42.87	40.53	41.19	48.31	52.37	47.68	43.43	45.30
26	45.74	45.81	45.65	44.36	42.84	40.44	41.18	49.19	51.96	47.43	43.29	45.35
27	45.67	45.80	45.65	44.33	42.80	40.31	41.22	49.88	51.53	47.20	43.18	45.43
28	45.67	45.71	45.71	44.23	42.73	40.27	41.27	50.53	51.15	47.00	43.15	45.50
29	45.75	45.68	45.77	-	------	40.17	41.42	51.11	50.92	46.81	43.12	45.50
30	45.76	45.77	45.77	-	------	40.10	41.65	51.61	50.76	46.61	43.13	45.52
31	45.76	------	45.65	-	------	40.09	------	52.11	------	46.48	43.12	------
MAX	45.91	45.85	45.77	45.74	-	42.67	41.65	52.11	53.59	50.63	46.39	45.52
MIN	45.59	45.68	45.65	44.23	42.73	40.09	39.77	41.92	50.76	46.48	43.12	43.10

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3225. Kootenay Lake at Kuskonook, British Columbia--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.53	45.64	45.17	45.13	42.92	41.51	39.88	41.35	50.68	53.83	46.99	44.09
2	45.52	45.64	45.23	45.17	42.84	41.46	39.87	41.36	51.11	53.45	46.93	44.24
3	45.51	45.65	45.19	45.16	42.77	41.37	39.85	41.38	51.60	53.06	46.87	44.42
4	45.55	45.66	45.13	45.19	42.69	41.33	39.78	41.43	52.13	52.77	46.80	44.61
5	45.56	45.66	45.17	45.16	42.67	41.29	39.69	41.53	52.67	52.56	46.69	44.80
6	45.55	45.68	45.26	45.18	42.59	41.31	39.59	41.67	53.21	52.38	46.56	45.00
7	45.53	45.67	45.27	45.18	42.56	41.17	39.56	41.79	53.81	52.22	46.38	45.18
8	45.50	45.64	45.29	45.13	42.51	41.08	39.57	41.96	54.36	52.10	46.21	45.37
9	45.51	45.59	45.28	45.07	42.47	41.03	39.60	42.18	54.84	52.08	46.09	45.54
10	45.58	45.56	45.23	44.97	42.42	40.93	39.66	42.46	55.33	52.03	46.00	45.67
11	45.62	45.50	45.18	44.89	42.42	40.84	39.77	42.83	55.32	51.96	45.86	45.67
12	45.60	45.45	45.12	44.82	42.35	40.81	39.84	43.20	56.20	51.87	45.73	45.65
13	45.58	45.39	45.17	44.73	42.33	40.76	39.96	43.58	56.46	51.76	45.63	45.63
14	45.56	45.33	45.25	44.60	42.24	40.69	40.07	43.96	56.68	51.58	45.52	45.59
15	45.56	45.31	45.30	44.49	42.20	40.66	40.17	44.29	56.92	51.38	45.41	45.55
16	45.59	45.28	45.32	44.40	42.14	40.58	40.29	44.63	57.09	51.21	45.31	45.51
17	45.60	45.24	45.28	44.30	42.10	40.55	40.41	45.01	57.20	50.98	45.20	45.58
18	45.61	45.24	45.26	44.21	42.04	40.51	40.53	45.53	57.18	50.66	45.09	45.70
19	45.61	45.31	45.25	44.12	42.05	40.43	40.63	46.17	57.07	50.31	45.00	45.67
20	45.61	45.31	45.25	44.05	41.96	40.38	40.73	46.93	56.87	49.93	44.92	45.69
21	45.60	45.24	45.26	43.97	41.93	40.35	40.81	47.88	56.59	49.50	44.83	45.70
22	45.63	45.21	45.29	43.86	41.89	40.26	40.95	48.80	56.24	49.11	44.77	45.74
23	45.62	45.17	45.33	43.73	41.83	40.18	41.05	49.50	55.94	48.77	44.67	45.73
24	45.60	45.11	45.33	43.62	41.83	40.10	41.12	49.99	55.66	48.40	44.55	45.68
25	45.57	45.05	45.34	43.55	41.76	40.01	41.17	50.23	55.43	48.03	44.50	45.69
26	45.58	45.02	45.36	43.43	41.72	39.96	41.25	50.18	55.21	47.72	44.47	45.69
27	45.63	45.05	45.36	43.40	41.65	39.85	41.31	50.08	55.06	47.48	44.36	45.70
28	45.65	45.05	45.34	43.19	41.59	39.84	41.38	49.95	54.89	47.25	44.29	45.71
29	45.65	45.06	45.28	43.09	41.53	39.84	41.37	49.94	54.60	47.09	44.20	45.72
30	45.65	45.13	45.21	43.03	------	39.85	41.35	50.06	54.23	47.07	44.15	45.72
31	45.65	------	45.15	42.97	------	39.87	------	50.36	------	47.04	44.09	------
MAX	45.65	45.68	45.36	45.19	42.92	41.51	41.38	50.36	57.20	53.83	46.99	45.74
MIN	45.50	45.02	45.12	42.97	41.53	39.84	39.56	41.35	50.68	47.04	44.09	44.09

Note.--Add 1,700 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45.74	45.62	45.70	45.53	44.51	42.97	39.80	45.73	50.96	51.99	46.23	44.18
2	45.70	45.67	45.73	45.60	44.46	42.86	39.80	46.23	51.35	51.65	46.11	44.40
3	45.67	45.65	45.77	45.69	44.38	42.69	39.83	46.53	51.67	51.38	46.00	44.57
4	45.64	45.66	45.79	45.77	44.33	42.51	39.88	46.70	51.93	51.16	45.95	44.76
5	45.60	45.69	45.77	45.78	44.29	42.36	39.92	46.75	52.17	51.06	45.98	44.93
6	45.61	45.68	45.74	45.79	44.30	42.25	39.98	46.70	52.49	51.02	45.97	45.10
7	45.61	45.67	45.71	45.78	44.19	42.14	40.05	46.54	52.74	51.05	45.96	45.25
8	45.63	45.65	45.70	45.72	44.12	42.04	40.11	46.35	52.93	51.07	45.94	45.38
9	45.67	45.66	45.71	45.71	44.11	41.93	40.10	46.17	53.11	51.07	45.91	45.51
10	45.71	45.66	45.74	45.70	44.03	41.85	40.14	46.02	53.28	50.98	45.85	45.61
11	45.74	45.62	45.74	45.65	43.92	41.77	40.24	46.00	53.50	50.88	45.75	45.63
12	45.73	45.61	45.72	45.60	43.85	41.70	40.36	46.13	53.78	50.66	45.62	45.64
13	45.70	45.65	45.72	45.56	43.78	41.62	40.43	46.38	54.10	50.38	45.50	45.63
14	45.67	45.67	45.71	45.49	43.71	41.53	40.51	46.84	54.33	50.06	45.45	45.66
15	45.67	45.68	45.71	45.39	43.60	41.46	40.63	47.33	54.47	49.75	45.39	45.69
16	45.63	45.68	45.64	45.28	43.55	41.32	40.78	47.88	54.53	49.42	45.30	45.72
17	45.63	45.68	-	45.18	43.49	41.20	41.01	48.35	54.50	49.15	45.19	45.73
18	45.60	45.68	-	45.09	43.42	41.09	41.21	48.65	54.51	48.90	45.05	45.74
19	45.57	45.67	-	45.05	43.37	40.99	41.37	48.83	54.59	48.65	44.91	45.73
20	45.57	45.66	45.41	45.06	43.38	40.90	41.51	48.91	54.71	48.38	44.79	45.73
21	45.58	45.66	-	45.09	43.34	40.86	41.76	48.91	54.83	48.16	44.71	45.76
22	45.59	45.67	-	45.04	43.34	40.78	42.20	48.87	54.80	47.96	44.63	45.78
23	45.60	45.66	45.33	44.99	43.24	40.64	42.65	48.81	54.58	47.73	44.50	45.77
24	45.61	45.77	45.33	44.91	43.14	40.50	42.98	48.74	54.28	47.51	44.45	45.74
25	45.63	45.73	45.33	44.85	43.05	40.36	43.29	48.71	53.93	47.30	44.38	45.71
26	45.64	45.69	45.37	44.77	43.00	40.23	43.56	48.70	53.55	47.08	44.28	45.70
27	45.64	45.67	45.32	44.75	43.04	40.12	43.85	48.77	53.27	46.94	44.19	45.66
28	45.63	45.67	45.35	44.68	43.05	40.01	44.18	48.95	52.95	46.78	44.15	45.66
29	45.63	45.66	-	44.67	------	39.90	44.63	49.32	52.63	46.61	44.11	45.68
30	45.61	45.67	-	44.61	------	39.81	45.17	49.91	52.31	46.50	44.06	45.70
31	45.62	------	-	44.57	------	39.80	------	50.47	------	46.35	44.09	------
MAX	45.74	45.77	45.79	45.79	44.51	42.97	45.17	50.47	54.83	51.99	46.23	45.78
MIN	45.57	45.61	45.32	44.57	43.00	39.80	39.80	45.73	50.96	46.35	44.06	44.18

Note.--Add 1,700 ft to obtain elevation above mean sea level.

12-3230. Columbia River at Birchbank, British Columbia

(International gaging station)

Location.--Lat 49°10'40", long 117°42'59", on right bank at Birchbank, British Columbia, 7 miles upstream from Trail, 11 miles downstream from Kootenay River, and 17 miles upstream from international boundary.

Drainage area.--34,000 sq mi, approximately.

Records available.--April 1913 to September 1965. Published as "at Trail, British Columbia" 1913-37

Gage.--Water-stage recorder. Datum of gage is 1,329.90 ft above mean sea level, 1947 international joint adjustment, published as 1,338.00 ft prior to October 1948. Prior to Oct. 1, 1937, chain or wire-weight gage on highway bridge at site 7 miles downstream at datum 16.27 ft lower.

Average discharge.--52 years, 71,000 cfs (51,402,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 9, 1961	377,000	50.05	Jan. 9, 1961	14,900	5.01
1962	June 28, 1962	240,000	38.40	Jan. 28, 1962	12,800	4.45
1963	June 22, 1963	239,000	38.32	Feb. 4, 1963	15,300	5.11
1964	June 19, 1964	293,000	43.38	Mar. 28, 1964	12,000	4.24
1965	June 21, 1965	241,000	38.55	Apr. 10, 1965	15,900	5.26

1913-65: Maximum discharge, 377,000 cfs June 9, 1961 (gage height, 50.05 ft); maximum gage height, 50.62 ft June 11, 1948; minimum discharge observed, 8,940 cfs Feb. 3, 1937 (gage height, 6.27 ft, site and datum then in use).

Remarks.--Records excellent. Many small diversions above station for irrigation of about 25,000 acres. Fluctuation at low flow caused by powerplant on Kootenay River. Flow affected by internationally controlled storage in Kootenay Lake, as well as by natural and controlled regulation in other lakes.

Cooperation.--This station is maintained by Canada under agreement with the United States.

Revisions (water years).--WSP 982: 1942. WSP 1216: 1949.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	51,000	43,800	30,700	17,600	25,800	29,900	32,000	46,300	285,000	245,000	113,000	73,700
2	49,600	44,900	29,000	19,100	22,500	30,100	32,400	50,100	295,000	233,000	110,000	73,900
3	47,800	43,800	27,000	18,700	22,400	29,500	33,500	52,600	305,000	222,000	108,000	71,800
4	46,100	42,700	25,600	18,400	22,100	28,800	34,400	55,200	317,000	211,000	106,000	67,800
5	44,300	41,700	24,400	17,700	22,300	28,200	35,400	58,700	330,000	202,000	102,000	69,400
6	43,400	42,200	24,500	18,700	23,300	28,100	36,200	61,400	344,000	193,000	103,000	70,500
7	42,200	41,500	23,800	17,800	23,900	30,600	35,500	63,800	361,000	185,000	103,000	70,300
8	43,600	40,100	22,700	17,500	24,200	26,900	36,400	66,400	372,000	177,000	101,000	68,700
9	43,600	38,900	22,800	17,600	24,700	26,300	37,100	70,000	375,000	172,000	99,100	67,500
10	42,800	37,700	21,700	19,400	25,200	27,800	37,200	73,500	375,000	168,000	96,900	64,000
11	41,400	37,300	21,200	24,400	25,300	28,600	37,400	77,300	368,000	163,000	96,500	59,500
12	41,300	37,400	22,000	23,500	26,600	27,800	37,800	81,000	360,000	158,000	95,400	57,800
13	41,800	35,900	20,500	19,900	29,200	26,200	37,900	84,900	354,000	154,000	93,300	55,200
14	41,700	35,500	21,300	21,700	32,100	24,300	38,100	89,500	348,000	150,000	91,100	54,300
15	40,600	36,000	22,100	21,900	27,400	25,600	38,400	93,700	343,000	148,000	89,500	54,600
16	40,400	35,800	20,400	24,700	29,500	27,800	38,300	97,700	342,000	147,000	88,600	52,200
17	39,000	33,600	21,800	27,400	29,200	28,500	38,900	102,000	343,000	146,000	89,500	48,000
18	37,700	35,400	21,800	26,000	29,600	29,000	39,400	107,000	345,000	145,000	90,200	48,800
19	36,700	35,100	22,700	24,900	29,200	28,800	39,500	113,000	347,000	143,000	89,400	46,800
20	35,700	33,700	20,400	25,100	25,300	27,400	40,100	120,000	347,000	140,000	88,700	45,800
21	34,800	34,800	20,600	24,800	20,700	27,400	40,200	128,000	345,000	136,000	89,300	44,700
22	35,200	34,700	20,000	24,700	25,000	30,300	40,200	139,000	339,000	134,000	89,000	42,800
23	35,700	33,000	19,200	22,600	33,000	31,300	40,100	153,000	331,000	134,000	88,100	41,100
24	39,200	33,900	19,000	20,800	36,500	29,800	40,100	167,000	321,000	133,000	87,400	37,900
25	43,900	36,500	18,700	20,300	39,800	29,600	40,500	184,000	311,000	132,000	87,900	37,600
26	44,900	37,100	17,900	20,400	38,700	29,200	41,300	203,000	301,000	130,000	86,200	37,900
27	46,600	34,600	18,200	19,400	33,400	30,700	41,600	222,000	291,000	127,000	85,100	36,100
28	47,400	31,200	19,100	20,200	30,200	31,200	42,100	239,000	280,000	124,000	83,800	35,500
29	46,500	31,700	19,300	18,700	———	31,200	42,800	253,000	267,000	122,000	81,400	35,400
30	46,100	30,800	19,200	20,400	———	31,700	44,500	266,000	256,000	119,000	78,200	33,100
31	43,500	———	17,700	25,800	———	31,600	———	276,000	———	116,000	73,300	———
TOTAL	1,314.5M	1,111.3M	675,300	660,100	777,100	894,200	1,149.3M	3,794.1M	9,898.0M	4,909.0M	2,883.9M	1,602.7M
MEAN	42,400	37,040	21,780	21,290	27,750	28,850	38,310	122,400	329,900	158,400	93,030	53,420
MAX	51,000	44,900	30,700	27,400	39,800	31,700	44,500	276,000	375,000	245,000	113,000	73,900
MIN	34,800	30,800	17,700	17,500	20,700	24,300	32,000	46,300	256,000	116,000	73,300	33,100
AC-FT	2,607M	2,204M	1,339M	1,309M	1,541M	1,774M	2,280M	7,525M	19,630M	9,737M	5,720M	3,179M

CAL YR 1960: TOTAL 27,055,900 MEAN 73,920 MAX 236,000 MIN 17,700 AC-FT 53,660,000
WAT YR 1961: TOTAL 29,669,500 MEAN 81,290 MAX 375,000 MIN 17,500 AC-FT 58,850,000

M Expressed in thousands.

12-3230. Columbia River at Birchbank, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	32,300	37,700	23,300	17,600	17,600	17,200	18,100	79,100	181,000	232,000	138,000	75,600
2	32,800	36,400	23,500	18,100	17,300	17,100	19,300	79,600	185,000	227,000	136,000	71,900
3	31,900	35,500	24,300	18,800	16,800	18,400	21,900	80,100	187,000	223,000	134,000	69,800
4	31,400	34,700	25,000	18,100	17,500	21,400	24,500	80,000	186,000	217,000	133,000	67,800
5	31,200	36,300	24,000	18,700	18,900	22,800	24,800	79,900	183,000	209,000	131,000	66,600
6	30,800	34,400	22,900	18,900	25,500	23,800	24,800	79,300	178,000	201,000	130,000	63,300
7	30,000	33,500	22,000	17,500	25,200	21,600	25,200	78,100	173,000	192,000	128,000	66,700
8	29,500	32,300	21,800	18,800	25,400	22,000	26,600	77,200	170,000	185,000	125,000	62,100
9	29,000	31,100	21,000	18,400	25,500	23,200	26,500	76,200	171,000	177,000	123,000	59,600
10	31,400	30,000	21,200	19,100	25,500	23,500	28,600	75,400	172,000	171,000	121,000	57,000
11	35,200	29,500	21,500	19,000	25,000	21,400	30,000	75,000	173,000	166,000	118,000	56,300
12	39,500	30,400	21,300	19,300	23,600	20,600	30,800	75,000	174,000	164,000	116,000	55,500
13	41,000	28,900	21,200	18,100	23,100	18,200	31,100	74,900	177,000	165,000	113,000	54,900
14	37,400	32,900	21,400	18,800	23,600	18,900	31,600	75,200	179,000	165,000	111,000	54,800
15	36,500	32,000	20,500	18,600	24,200	20,200	33,600	75,800	183,000	165,000	108,000	53,300
16	37,700	27,800	19,500	19,100	24,400	22,000	37,600	76,400	188,000	164,000	106,000	51,600
17	41,700	27,100	19,800	20,500	24,500	22,800	40,300	78,200	194,000	162,000	102,000	51,100
18	51,800	25,800	19,700	17,200	23,600	22,700	37,300	80,800	200,000	160,000	100,000	52,900
19	51,400	25,600	20,100	18,700	23,000	22,700	44,800	85,000	208,000	157,000	98,300	51,700
20	40,700	25,300	20,100	17,800	22,400	24,900	47,500	88,800	215,000	152,000	97,800	53,000
21	43,500	25,600	19,500	17,700	20,800	25,000	50,100	92,900	221,000	148,000	97,000	48,400
22	47,200	25,600	19,600	17,700	21,800	20,400	53,200	98,000	225,000	143,000	97,200	45,600
23	43,900	25,300	18,300	17,300	22,800	17,500	56,500	104,000	227,000	140,000	97,100	44,400
24	43,700	25,100	18,000	17,600	21,900	16,900	60,400	111,000	227,000	137,000	96,300	44,700
25	44,100	24,000	18,100	16,700	20,800	17,000	62,700	120,000	229,000	135,000	95,400	44,900
26	45,400	23,900	18,300	17,000	19,700	21,300	67,700	128,000	233,000	135,000	93,800	44,100
27	48,900	24,500	18,700	17,300	19,900	25,900	71,400	138,000	237,000	136,000	90,600	40,700
28	42,400	23,000	18,600	16,000	18,000	30,200	74,300	148,000	239,000	137,000	87,900	41,500
29	41,700	25,100	18,900	17,200	———	28,900	76,300	159,000	239,000	140,000	84,000	41,600
30	41,200	23,600	18,400	17,800	———	24,200	78,600	168,000	236,000	140,000	81,300	39,400
31	39,100	———	17,900	17,200	———	19,000	———	175,000	———	139,000	79,300	———
TOTAL	1,204.3M	872,900	638,400	560,600	618,300	671,700	1,256.1M	3,011.9M	5,990.0M	5,184.0M	3,369.0M	1,630.8M
MEAN	38,850	29,100	20,590	18,080	22,080	21,670	41,870	97,160	199,700	167,200	108,700	54,360
MAX	51,800	37,700	25,000	20,500	25,500	30,200	78,600	175,000	239,000	232,000	138,000	75,600
MIN	29,000	23,000	17,900	16,000	16,800	16,900	18,100	74,900	170,000	135,000	79,300	39,400
AC-FT	2,389M	1,731M	1,266M	1,112M	1,226M	1,332M	2,491M	5,974M	11,880M	10,280M	6,682M	3,235M

CAL YR 1961: TOTAL 29,284,000 MEAN 80,230 MAX 375,000 MIN 17,500 AC-FT 58,080,000
WAT YR 1962: TOTAL 25,008,000 MEAN 68,520 MAX 239,000 MIN 16,000 AC-FT 49,600,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	41,700	40,400	41,400	28,700	21,200	29,400	33,300	54,600	186,000	181,000	121,000	71,600
2	41,100	39,400	38,000	27,000	21,100	29,300	33,000	57,600	191,000	175,000	117,000	70,100
3	41,800	39,200	32,900	27,200	19,500	29,400	33,000	60,100	194,000	171,000	114,000	66,200
4	41,300	38,700	30,900	29,400	19,400	31,800	32,500	62,600	196,000	168,000	111,000	64,400
5	42,000	38,900	31,500	30,900	20,700	28,900	32,000	64,700	200,000	168,000	107,000	64,800
6	41,500	39,100	33,400	29,900	22,200	26,400	30,500	68,000	201,000	169,000	105,000	63,300
7	40,300	39,400	33,900	28,200	23,700	27,900	31,000	69,900	203,000	171,000	103,000	62,900
8	39,000	38,200	33,800	28,200	33,800	28,200	31,100	71,200	205,000	173,000	102,000	60,300
9	38,200	38,500	32,800	29,300	36,300	29,000	32,100	72,500	206,000	177,000	101,000	62,400
10	40,100	39,800	30,200	29,000	32,700	28,900	32,500	73,400	207,000	182,000	101,000	62,300
11	40,500	38,700	26,600	28,300	30,900	28,300	30,400	73,800	208,000	183,000	101,000	62,100
12	39,700	38,200	30,400	26,100	29,200	27,800	33,400	74,600	212,000	183,000	100,000	63,100
13	39,500	37,200	31,000	24,500	30,000	26,700	33,600	74,700	215,000	181,000	102,000	65,200
14	41,000	36,300	31,700	24,600	30,600	25,500	34,500	75,300	219,000	178,000	103,000	61,800
15	39,400	35,700	27,800	23,700	27,700	25,000	36,000	75,900	222,000	175,000	105,000	62,400
16	37,600	34,800	34,200	23,400	27,800	24,600	37,200	77,200	225,000	173,000	108,000	63,600
17	36,500	35,100	34,500	23,500	27,900	24,700	37,700	78,300	228,000	171,000	110,000	64,700
18	34,400	33,500	33,000	24,300	27,800	25,100	38,300	80,200	230,000	169,000	109,000	65,200
19	35,400	31,300	31,200	22,800	28,400	25,500	39,300	82,700	233,000	166,000	108,000	64,600
20	34,400	34,200	31,700	21,600	29,700	25,800	40,800	85,900	237,000	163,000	106,000	61,500
21	34,800	39,100	30,800	22,500	28,000	27,000	41,800	90,200	239,000	160,000	103,000	58,100
22	42,300	41,100	32,900	22,700	28,900	27,500	42,600	95,400	238,000	157,000	100,000	56,400
23	50,400	36,800	31,300	22,800	27,800	27,500	42,800	102,000	236,000	154,000	97,700	54,800
24	43,200	34,000	27,800	22,200	28,100	27,400	43,600	112,000	231,000	151,000	94,600	53,200
25	42,600	34,800	26,700	22,700	27,900	28,200	44,100	123,000	224,000	148,000	91,600	53,400
26	46,600	41,300	24,900	21,300	27,500	29,900	44,500	134,000	218,000	144,000	88,600	52,400
27	45,100	45,900	23,900	21,200	27,600	31,100	45,200	145,000	209,000	140,000	84,800	49,900
28	40,100	45,100	26,700	21,300	28,900	32,400	47,100	155,000	200,000	135,000	81,000	50,200
29	40,000	35,600	25,400	22,700	———	33,900	49,300	163,000	192,000	131,000	76,500	51,000
30	41,700	35,900	34,700	22,200	———	33,600	52,000	170,000	187,000	127,000	73,400	50,500
31	41,300	———	31,900	22,000	———	33,000	———	179,000	———	118,000	73,000	———
TOTAL	1,253.5M	1,136.2M	967,900	774,200	771,300	879,700	1,135.2M	2,901.8M	6,392.0M	5,042.0M	3,098.2M	1,812.4M
MEAN	40,440	37,870	31,220	24,970	27,550	28,380	37,840	93,610	213,100	162,600	99,940	60,410
MAX	50,400	45,900	41,400	30,900	36,300	33,900	52,000	179,000	239,000	183,000	121,000	71,600
MIN	34,400	31,300	23,900	21,200	19,400	24,600	30,400	54,600	186,000	118,000	73,000	49,900
AC-FT	2,486M	2,254M	1,920M	1,536M	1,530M	1,745M	2,252M	5,756M	12,680M	10,000M	6,145M	3,595M

CAL YR 1962: TOTAL 25,650,000 MEAN 70,270 MAX 239,000 MIN 16,000 AC-FT 50,880,000
WAT YR 1963: TOTAL 26,164,400 MEAN 71,680 MAX 239,000 MIN 19,400 AC-FT 51,900,000

M Expressed in thousands.

12-3230. Columbia River at Birchbank, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	50,200	33,200	25,300	21,700	20,700	17,000	18,200	42,400	151,000	245,000	145,000	68,800
2	51,900	32,800	27,000	21,300	20,500	17,800	20,600	42,100	159,000	239,000	142,000	64,000
3	48,600	31,500	28,200	20,700	20,900	18,700	21,100	43,000	168,000	234,000	141,000	61,100
4	47,000	32,500	27,800	20,900	20,700	16,900	26,300	44,100	178,000	232,000	139,000	58,800
5	48,300	32,000	25,400	20,600	19,900	17,900	26,600	45,500	190,000	232,000	139,000	55,400
6	48,300	32,000	23,500	20,900	19,000	18,400	25,000	46,300	201,000	233,000	137,000	54,300
7	47,800	31,700	24,600	20,900	18,600	18,700	20,900	47,700	212,000	235,000	133,000	52,200
8	46,200	32,800	24,500	21,400	18,000	18,700	20,900	49,400	221,000	236,000	130,000	51,700
9	42,400	32,400	26,700	23,000	18,300	18,700	21,300	52,000	228,000	241,000	127,000	51,000
10	39,800	32,200	25,900	24,800	18,200	18,600	21,700	55,100	235,000	248,000	124,000	51,800
11	39,500	31,800	22,300	24,700	19,300	18,500	22,200	57,400	242,000	253,000	121,000	56,800
12	41,100	31,500	20,800	24,500	19,300	18,600	22,000	61,100	250,000	255,000	118,000	55,600
13	39,500	31,200	20,500	24,300	18,700	18,700	22,400	64,900	258,000	254,000	116,000	54,200
14	38,800	31,100	20,400	25,100	18,700	17,900	22,200	68,400	268,000	254,000	115,000	52,600
15	37,100	31,300	21,100	25,100	18,300	18,600	23,300	71,700	278,000	254,000	113,000	51,600
16	36,100	30,700	21,500	25,100	18,600	18,400	23,100	75,600	285,000	254,000	111,000	48,400
17	35,200	30,600	23,100	24,800	18,300	18,500	24,000	81,200	290,000	253,000	109,000	45,000
18	34,200	30,200	22,600	24,800	18,200	18,700	23,600	86,200	292,000	248,000	107,000	49,900
19	33,800	30,200	21,600	24,800	17,500	18,700	24,000	91,900	292,000	241,000	106,000	54,300
20	32,800	30,400	21,500	24,800	17,600	18,500	24,600	99,700	291,000	232,000	104,000	51,800
21	32,500	29,500	20,500	23,200	17,700	17,100	23,800	108,000	287,000	223,000	102,000	52,900
22	33,800	29,100	19,700	24,600	17,100	17,600	25,600	116,000	282,000	215,000	99,400	55,800
23	40,200	30,000	21,100	23,100	17,300	17,800	28,400	123,000	276,000	205,000	97,000	57,700
24	41,200	30,100	21,100	23,300	17,400	19,500	30,900	130,000	272,000	196,000	92,600	57,300
25	40,100	29,900	20,600	24,600	17,300	19,500	32,100	134,000	268,000	187,000	86,100	58,000
26	36,700	29,700	21,300	24,500	17,200	19,600	33,000	137,000	264,000	176,000	86,700	59,000
27	35,200	30,800	22,400	24,400	17,100	17,300	33,900	137,000	262,000	166,000	86,800	59,600
28	35,300	30,400	23,700	24,000	16,900	13,600	36,300	137,000	259,000	158,000	85,900	61,100
29	35,200	29,900	23,600	22,600	16,700	14,500	41,400	139,000	256,000	150,000	83,600	62,800
30	34,400	25,900	23,600	21,300	-------	14,500	42,600	141,000	251,000	147,000	82,200	64,400
31	33,900	-------	23,300	21,100	-------	14,900	-------	145,000	-------	145,000	80,300	-------
TOTAL	1,237.1M	927,400	715,200	720,900	534,000	552,400	782,000	2,672.7M	7,366.0M	6,841.0M	3,459.6M	1,677.9M
MEAN	39,910	30,910	23,070	23,250	18,410	17,820	26,070	86,220	245,500	220,700	111,600	55,930
MAX	51,900	33,200	28,200	25,100	20,900	19,600	42,600	145,000	292,000	255,000	145,000	68,800
MIN	32,500	25,900	19,700	20,600	16,700	13,600	18,200	42,100	151,000	145,000	80,300	45,000
AC-FT	2,454M	1,839M	1,419M	1,430M	1,059M	1,096M	1,551M	5,301M	14,610M	13,570M	6,862M	3,328M

CAL YR 1963: TOTAL 25,686,500 MEAN 70,370 MAX 239,000 MIN 19,400 AC-FT 50,950,000
WAT YR 1964: TOTAL 27,486,200 MEAN 75,100 MAX 292,000 MIN 13,600 AC-FT 54,520,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	69,600	43,200	31,200	18,600	21,900	25,800	18,600	79,700	166,000	199,000	129,000	82,200
2	71,700	44,000	30,600	18,700	22,200	29,300	18,600	84,400	173,000	193,000	128,000	78,100
3	71,200	44,700	30,600	19,500	22,200	31,600	18,300	88,300	180,000	189,000	127,000	75,000
4	71,100	44,300	30,700	19,900	22,400	30,600	18,200	90,900	185,000	187,000	127,000	71,000
5	69,400	45,500	32,300	22,400	22,200	28,100	18,700	93,100	190,000	186,000	129,000	68,400
6	68,000	44,900	31,400	21,300	22,500	25,300	20,000	93,900	195,000	186,000	129,000	65,200
7	65,500	44,700	30,300	23,200	25,400	25,600	20,100	93,900	198,000	187,000	130,000	62,700
8	64,800	44,400	28,700	22,600	24,200	26,200	22,700	93,600	201,000	191,000	130,000	60,300
9	64,700	44,500	28,400	21,500	23,400	26,100	26,300	92,800	204,000	195,000	128,000	58,300
10	64,200	44,500	27,900	21,500	23,100	26,300	21,300	92,600	207,000	196,000	127,000	58,700
11	65,000	44,300	27,500	23,500	23,100	25,400	22,200	93,200	212,000	196,000	125,000	59,200
12	65,900	42,500	27,000	22,600	23,600	25,300	25,900	94,800	218,000	195,000	124,000	56,900
13	65,800	40,100	26,000	23,100	22,900	26,600	31,700	97,600	225,000	191,000	122,000	55,300
14	64,300	39,500	27,000	24,100	23,000	26,500	32,700	101,000	232,000	187,000	122,000	53,400
15	63,200	38,800	26,900	25,900	22,700	27,000	34,800	105,000	236,000	181,000	122,000	52,000
16	62,900	38,200	26,600	25,000	21,500	27,700	36,600	110,000	237,000	176,000	121,000	51,100
17	62,500	37,800	25,300	25,900	21,500	28,000	37,600	115,000	237,000	171,000	119,000	49,100
18	61,600	36,700	24,800	23,800	22,500	26,900	39,800	118,000	239,000	168,000	115,000	48,000
19	60,400	35,300	24,200	21,300	22,100	25,900	39,800	120,000	239,000	165,000	111,000	47,200
20	57,500	35,300	23,600	19,500	22,200	23,000	41,400	122,000	240,000	162,000	108,000	45,900
21	56,200	33,700	23,200	20,200	21,500	23,000	43,900	123,000	241,000	159,000	106,000	44,700
22	54,500	32,800	23,500	22,100	23,200	25,300	39,800	123,000	239,000	155,000	104,000	44,200
23	52,300	32,800	23,900	24,000	25,400	27,300	50,000	123,000	234,000	151,000	105,000	45,500
24	51,600	34,300	22,200	24,200	25,400	26,900	52,400	123,000	228,000	147,000	100,000	45,900
25	50,500	35,000	20,500	23,700	23,100	26,300	55,400	123,000	222,000	142,000	101,000	45,100
26	50,100	35,300	20,300	22,300	22,200	25,700	59,000	125,000	218,000	138,000	104,000	44,400
27	48,200	34,600	19,800	21,800	23,100	24,500	61,800	128,000	214,000	135,000	102,000	43,800
28	47,200	33,400	20,200	22,400	25,000	24,100	66,000	133,000	212,000	134,000	103,000	42,500
29	46,900	32,800	19,700	22,300	-------	23,500	71,000	140,000	208,000	132,000	102,000	40,900
30	45,300	33,200	19,700	22,500	-------	20,700	75,100	150,000	203,000	131,000	97,000	38,800
31	43,700	-------	19,800	22,400	-------	18,200	-------	158,000	-------	130,000	92,100	-------
TOTAL	1,855.8M	1,171.1M	793,800	691,800	643,500	802,700	1,119.7M	3,428.8M	6,433.0M	5,295.0M	3,589.1M	1,633.8M
MEAN	59,860	39,040	25,610	22,320	22,980	25,890	37,320	110,600	214,400	169,500	115,800	54,460
MAX	71,700	45,500	32,300	25,900	25,400	31,600	75,100	158,000	241,000	199,000	130,000	82,200
MIN	43,700	32,800	19,700	18,600	21,500	18,200	18,200	79,700	166,000	130,000	92,100	38,800
AC-FT	3,681M	2,323M	1,574M	1,372M	1,276M	1,592M	2,221M	6,801M	12,760M	10,420M	7,119M	3,241M

CAL YR 1964: TOTAL 28,427,200 MEAN 77,670 MAX 292,000 MIN 13,600 AC-FT 56,380,000
WAT YR 1965: TOTAL 27,418,100 MEAN 75,120 MAX 241,000 MIN 18,200 AC-FT 54,380,000

M Expressed in thousands.

12-3235. German Gulch Creek near Ramsay, Mont.

Location.--Lat 46°00'50", long 112°47'30", in SE¼NW¼ sec.13, T.3 N., R.10 W., half a mile upstream from mouth and 6½ miles west of Ramsay.

Drainage area.--40.6 sq mi (revised).

Records available.--April 1955 to September 1965. Monthly discharge only for some periods, published in WSP 1736.

Gage.--Water-stage recorder. Altitude of gage is 5,200 ft (by barometer). Prior to July 13, 1956, staff gage at site 300 ft upstream from mouth at different datum.

Average discharge.--10 years, 20.2 cfs (14,600 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (100 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 10, 1961	-	-	a 3.13	May 25, 1963	0230	156	2.55	May 28, 1964	1900	166	2.6
May 27, 1961	2330	* 102	2.49	May 29, 1963	2100	181	2.64	June 9, 1964	0430	* 278	2.9
				June 3, 1963	2230	* 226	2.79	June 16, 1964	2230	177	2.4
Nov. 22, 1961	-	-	a 3.23	June 10, 1963	1830	147	2.52	June 19, 1964	1030	180	2.4
May 21, 1962	1900	* 190	2.67	June 21, 1963	1530	118	2.41				
								May 31, 1965	0200	145	2.4
Feb. 3, 1963	-	-	a 3.33	Dec. 8, 1963	-	-	a 3.24	June 13, 1965	1900	194	2.6
								June 17, 1965	0600	450	3.6

a Backwater from ice.

Annual minimum daily discharge, water years 1961-65

Water year	Date	Discharge	Water year	Date	Discharg
1961	Jan. 26, 27, Mar. 3, 4, 1961	4.5	1964	Dec. 11, 1963	
1962	Dec. 9, 10, 1961	2.8	1965	Dec. 17, 1964	
1963	Dec. 25, 26, 1962	3			

1955-65: Maximum discharge, 450 cfs June 17, 1965 (gage height, 3.67 ft); minimum, 2.6 cfs Mar. 15, 1959 (gage height, 1.53 ft).

Remarks.--Records good except those for winter periods and those above 250 cfs, which are poor. Some small diversions for irrigation of hay meadows above station.

Revisions (water years).--WSP 1736: 1955-56(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.6	8.3	8.0	6.0	6.5	5.5	7.2	15	83	13	6.4	10
2	7.6	7.2	8.0	5.8	6.4	5.0	8.3	19	85	12	6.4	11
3	7.6	8.0	7.5	6.0	6.0	4.5	12	18	85	12	6.0	9.
4	7.6	7.5	6.5	6.0	5.5	4.5	12	18	81	13	5.8	8.
5	7.2	8.0	6.0	6.0	5.5	5.0	9.5	20	78	16	5.8	8.
6	7.6	8.5	5.0	6.0	5.8	5.0	9.9	16	75	15	6.0	7.
7	8.3	8.7	5.0	5.8	5.8	5.0	8.3	14	72	12	6.0	6.
8	8.0	8.0	5.5	5.8	5.8	5.0	7.6	13	62	11	5.8	6.
9	8.7	7.5	5.5	6.0	5.5	5.0	7.2	18	60	11	6.0	7.
10	8.7	8.0	5.5	5.8	10	5.0	7.6	23	56	11	6.8	10
11	9.1	8.3	5.5	6.0	15	5.0	8.0	20	54	10	6.0	9.
12	9.1	8.0	6.0	5.8	9.0	5.0	8.7	17	62	10	5.8	8.
13	8.7	7.6	6.5	5.8	8.0	5.5	8.7	17	60	9.9	5.8	8.
14	8.0	7.6	7.0	5.8	7.2	6.8	7.2	17	50	9.5	6.8	7.
15	7.6	7.5	6.5	5.8	6.8	9.1	6.8	29	43	10	6.8	6.
16	8.0	7.6	6.0	5.8	6.4	8.3	7.6	33	39	9.1	6.4	8.
17	8.0	7.6	6.0	5.8	6.0	8.0	8.7	33	36	9.1	6.0	12
18	8.0	7.6	6.5	5.8	5.5	6.8	10	33	32	8.7	5.8	11
19	8.0	7.5	6.8	5.5	5.5	7.2	10	32	28	8.3	5.8	11
20	8.0	7.5	6.8	5.0	6.0	7.2	8.7	39	25	8.3	6.0	9.
21	8.0	7.0	6.8	5.0	6.8	6.8	8.3	46	23	8.3	6.4	8.
22	8.0	7.0	6.8	5.5	6.5	6.8	8.3	57	20	8.0	6.0	8.
23	8.0	7.5	6.8	5.5	6.0	6.8	9.1	57	19	7.6	6.8	8.
24	8.0	8.5	6.8	5.5	6.0	8.0	8.7	63	18	7.6	7.2	8.
25	7.6	8.7	6.8	5.0	5.5	7.2	9.1	80	15	7.6	7.2	8.
26	7.2	8.0	6.8	4.5	5.5	6.8	9.1	83	15	7.6	7.2	8.
27	7.2	7.0	6.4	4.5	5.0	6.8	9.5	93	14	8.0	6.8	7.
28	7.2	6.5	6.0	5.0	5.5	6.4	11	94	14	7.6	6.4	7.
29	7.2	6.5	6.0	5.5	------	6.8	12	93	14	6.8	6.4	8.
30	7.0	7.0	6.4	6.0	------	6.8	14	91	13	7.2	6.8	7.
31	8.0	------	6.0	6.5	------	6.8	------	89	-------	6.8	6.4	------
TOTAL	244.8	230.2	197.7	174.8	185.0	194.4	273.1	1,290	1,331	302.0	195.8	257.
MEAN	7.90	7.67	6.38	5.64	6.61	6.27	9.10	41.6	44.4	9.74	6.32	8.5
MAX	9.1	8.7	8.0	6.5	15	9.1	14	94	85	16	7.2	1
MIN	7.0	6.5	5.0	4.5	5.0	4.5	6.8	13	13	6.8	5.8	6.
AC-FT	486	457	392	347	367	386	542	2,560	2,640	599	388	51

CAL YR 1960: TOTAL 6,300.7 MEAN 17.2 MAX 119 MIN 3.5 AC-FT 12,500
WAT YR 1961: TOTAL 4,876.3 MEAN 13.4 MAX 94 MIN 4.5 AC-FT 9,670

12-3235. German Gulch Creek near Ramsay, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.2	7.2	5.0	4.5	4.0	4.7	8.3	24	92	33	15	11
2	7.2	7.0	5.0	4.5	4.2	5.5	9.1	24	92	30	14	10
3	6.8	7.0	5.0	4.8	4.2	5.5	10	24	101	29	14	10
4	6.8	6.8	5.0	4.2	3.8	5.3	12	38	92	28	14	10
5	6.4	6.8	4.8	4.0	3.7	5.0	12	38	86	29	15	9.5
6	6.4	6.8	4.2	4.0	3.7	4.8	12	38	82	27	14	9.5
7	6.8	6.8	3.7	4.0	4.0	4.8	18	46	72	26	12	9.5
8	6.8	6.5	3.0	3.8	4.2	4.5	12	52	69	25	12	10
9	6.8	6.4	2.8	3.7	4.0	4.8	10	54	69	23	12	10
10	6.8	6.0	2.8	3.5	4.0	4.7	10	56	70	24	14	10
11	8.0	6.0	3.7	3.5	4.2	4.5	10	56	70	22	12	10
12	7.6	5.8	5.5	3.8	4.5	4.7	11	52	70	22	11	10
13	7.6	5.5	6.5	3.8	4.2	4.8	13	56	74	30	10	10
14	7.6	5.2	7.2	4.0	4.2	5.0	17	52	82	26	10	10
15	7.2	5.0	5.8	4.3	4.2	5.0	22	54	76	26	9.5	10
16	6.8	4.8	4.8	4.4	4.2	5.0	25	59	74	25	9.0	9.5
17	6.8	4.5	4.8	4.3	4.0	4.8	28	59	69	21	9.0	9.0
18	6.0	4.5	4.5	4.0	4.0	4.5	33	59	65	20	9.0	9.0
19	6.0	4.7	4.5	3.4	4.0	4.5	42	69	65	20	9.0	9.0
20	6.0	5.0	5.0	3.0	4.0	5.2	46	81	62	19	9.0	9.0
21	6.4	5.0	4.8	3.5	3.7	5.0	33	123	58	18	9.0	9.0
22	6.4	5.0	4.5	6.4	3.5	4.5	32	115	54	17	14	9.0
23	6.0	5.0	4.5	6.8	3.2	4.2	38	104	49	16	14	9.0
24	6.0	5.3	4.8	6.0	3.0	4.2	46	123	48	15	12	9.0
25	7.2	5.5	4.8	4.5	3.0	4.4	47	108	45	16	10	9.0
26	6.8	5.5	4.8	4.2	3.2	4.8	39	113	42	15	10	8.7
27	7.6	5.5	4.6	4.0	3.3	5.2	36	118	40	17	9.0	8.4
28	7.2	5.3	4.5	4.0	3.8	5.4	35	110	38	19	10	8.7
29	8.3	5.2	4.5	3.8	------	5.5	28	113	36	17	15	9.0
30	8.3	5.2	4.5	4.0	------	6.0	25	104	36	15	14	8.7
31	7.6	------	4.5	4.0	------	6.8	------	97	------	17	12	------
TOTAL	215.4	170.8	144.4	130.4	108.0	153.6	719.4	2,219	1,978	687	362.5	283.5
MEAN	6.95	5.69	4.66	4.21	3.86	4.95	24.0	71.6	65.9	22.2	11.7	9.45
MAX	8.3	7.2	7.2	6.8	4.5	6.8	47	123	101	33	15	11
MIN	6.0	4.5	2.8	3.0	3.0	4.2	8.3	24	36	15	9.0	8.4
AC-FT	427	339	286	259	214	305	1,430	4,400	3,920	1,360	719	562

CAL YR 1961: TOTAL 4,734.2 MEAN 13.0 MAX 94 MIN 2.8 AC-FT 9,390
WAT YR 1962: TOTAL 7,172.0 MEAN 19.6 MAX 123 MIN 2.8 AC-FT 14,230

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.4	8.4	7.5	6.9	6.5	6.6	10	44	118	54	16	11
2	8.4	8.4	8.0	6.9	7.0	6.9	15	34	106	49	15	12
3	8.4	8.4	8.7	6.9	22	7.0	12	31	115	44	16	12
4	8.4	8.4	9.0	6.9	60	7.5	8.4	31	161	44	15	10
5	8.4	8.4	8.5	7.0	36	7.5	9.0	41	150	41	14	9.6
6	8.7	8.4	8.0	7.0	13	7.5	10	58	137	37	14	8.9
7	8.7	8.4	7.5	7.0	9.0	7.5	11	64	123	34	14	8.9
8	9.0	8.1	7.5	7.0	8.7	7.5	12	64	104	32	14	9.6
9	10	8.1	8.4	6.5	8.7	7.0	10	64	104	34	13	9.6
10	13	8.4	8.0	5.5	8.7	6.3	9.5	58	131	37	13	8.9
11	15	8.4	8.0	5.0	8.0	6.0	9.0	60	106	31	12	8.6
12	14	8.1	8.0	5.0	8.0	6.0	10	58	92	28	14	8.6
13	12	8.1	8.0	5.5	7.5	6.5	13	60	88	27	14	8.9
14	12	8.1	8.0	6.0	7.5	6.5	19	64	90	27	12	9.6
15	11	8.1	8.0	7.0	7.0	6.9	22	70	88	27	12	10
16	10	7.5	7.5	7.0	7.0	7.0	17	74	74	26	12	12
17	10	7.0	7.5	6.6	7.2	6.5	14	82	69	26	11	10
18	10	8.0	7.8	6.3	7.2	6.6	13	90	65	26	11	9.2
19	10	10	7.5	6.6	7.2	6.6	12	104	62	24	11	9.2
20	10	11	7.8	6.3	7.2	7.2	10	101	64	22	10	8.9
21	9.5	12	7.5	6.0	7.5	8.1	12	113	92	21	10	8.9
22	9.5	9.0	6.0	6.0	7.5	9.0	12	115	76	20	10	8.6
23	9.0	9.0	5.0	6.0	6.9	9.5	11	123	65	20	10	9.2
24	9.0	10	3.5	6.0	7.2	8.4	11	139	67	19	11	8.6
25	8.7	11	3.0	6.0	7.5	8.7	12	142	60	19	10	8.2
26	8.7	10	3.0	6.0	7.2	8.4	17	131	60	18	10	7.8
27	8.7	9.0	4.0	5.8	6.9	9.5	20	128	58	18	9.6	7.5
28	8.4	8.5	9.0	5.8	6.9	13	24	110	60	18	8.9	7.8
29	8.4	8.0	12	5.8	------	10	27	131	69	18	8.9	7.8
30	8.4	7.5	10	5.7	------	10	36	156	60	17	8.9	7.5
31	8.4	------	8.4	5.8	------	10	------	134	------	16	9.2	------
TOTAL	302.1	261.7	230.6	193.8	311.0	241.7	427.9	2,674	2,714	874	368.5	277.4
MEAN	9.75	8.72	7.44	6.25	11.1	7.80	14.3	86.3	90.5	28.2	11.9	9.25
MAX	15	12	12	7.0	60	13	36	156	161	54	16	12
MIN	8.4	7.0	3.0	5.0	6.5	6.0	8.4	31	58	16	8.9	7.5
AC-FT	599	519	457	384	617	479	849	5,300	5,380	1,730	733	550

CAL YR 1962: TOTAL 7,435.8 MEAN 20.4 MAX 123 MIN 3.0 AC-FT 14,750
WAT YR 1963: TOTAL 8,877.7 MEAN 24.3 MAX 161 MIN 3.0 AC-FT 17,610

12-3235. German Gulch Creek near Ramsay, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.5	7.8	6.0	6.4	7.3	5.5	16	24	78	66	15	12
2	7.5	7.8	6.0	6.4	7.3	5.7	11	21	78	62	14	14
3	7.8	8.2	6.0	6.5	7.3	6.0	9.2	17	88	58	14	12
4	8.2	8.2	6.0	6.5	7.3	5.5	11	15	86	54	13	11
5	10	8.2	6.0	6.5	7.3	5.5	11	15	86	51	12	10
6	12	8.6	5.5	6.5	7.3	5.5	8.6	14	84	47	12	10
7	10	7.8	5.0	6.4	7.5	5.5	8.0	14	90	43	12	10
8	9.2	8.2	4.5	6.5	7.5	5.7	8.9	15	123	42	12	10
9	9.2	8.6	4.0	7.0	7.3	5.5	11	16	215	41	12	9.8
10	9.6	8.2	3.5	7.5	7.1	5.3	12	19	156	40	12	9.8
11	8.9	8.2	3.0	8.0	7.3	5.3	11	20	120	35	11	9.8
12	8.6	8.2	3.5	9.6	7.3	5.5	8.9	21	110	34	11	9.8
13	8.6	8.2	4.0	9.2	7.1	5.0	8.2	29	103	33	11	9.5
14	8.6	8.6	4.5	9.2	7.3	5.5	9.2	34	101	31	11	9.5
15	8.6	10	5.0	9.2	6.8	5.7	13	39	101	29	10	9.5
16	8.6	8.9	6.0	10	6.6	5.7	12	51	108	27	10	9.2
17	8.6	7.8	7.0	8.6	6.6	6.2	10	57	120	26	10	9.0
18	8.2	7.8	8.0	6.6	6.4	6.4	8.5	58	110	24	9.8	9.0
19	12	7.8	8.6	6.6	6.6	6.0	9.2	58	156	23	12	9.0
20	11	7.5	7.5	8.2	6.4	6.0	11	64	139	22	12	9.5
21	10	7.0	6.6	7.3	6.6	6.0	12	67	139	21	12	9.5
22	9.2	6.0	6.5	6.5	6.4	6.0	11	60	128	20	11	9.2
23	10	7.0	7.3	6.0	6.4	5.0	11	55	110	18	10	9.2
24	9.2	7.8	6.4	6.5	6.2	4.0	10	54	101	17	11	9.0
25	9.6	7.8	6.4	7.5	6.0	5.0	10	52	90	17	10	9.0
26	8.9	7.5	6.5	7.3	6.6	6.6	11	51	88	16	10	9.0
27	8.2	7.3	6.4	7.3	6.2	6.2	11	57	83	16	9.8	9.0
28	8.2	7.0	6.4	7.3	6.2	6.2	14	106	75	15	13	9.0
29	8.7	6.0	6.0	7.3	5.7	7.3	18	120	72	15	14	9.2
30	8.7	6.0	6.0	7.5	------	9.2	22	82	72	18	13	9.2
31	7.8	------	6.2	7.3	------	14	------	78	------	17	12	------
TOTAL	281.2	234.0	180.3	229.2	197.9	188.5	337.7	1,383	3,210	978	361.6	293.7
MEAN	9.07	7.80	5.82	7.39	6.82	6.08	11.3	44.6	107	31.5	11.7	9.79
MAX	12	10	8.6	10	7.5	14	22	120	215	66	15	14
MIN	7.5	6.0	3.0	6.0	5.7	4.0	8.0	14	72	15	9.8	9.0
AC-FT	558	464	358	455	393	374	670	2,740	6,370	1,940	717	583

CAL YR 1963: TOTAL 8,778.8 MEAN 24.1 MAX 161 MIN 3.0 AC-FT 17,410
WAT YR 1964: TOTAL 7,875.1 MEAN 21.5 MAX 215 MIN 3.0 AC-FT 15,620

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.5	8.5	9.8	8.5	7.4	6.5	26	66	105	77	20	12
2	9.2	9.0	9.5	8.0	7.1	6.5	23	54	99	72	20	11
3	9.2	8.8	9.5	8.0	7.5	7.0	14	46	105	66	22	11
4	9.2	8.5	9.5	9.0	7.5	8.0	11	45	107	66	23	11
5	9.2	8.8	9.0	10	7.5	9.5	10	42	109	62	22	12
6	9.2	8.5	8.5	10	7.4	10	12	39	105	56	21	22
7	9.2	8.5	8.5	10	7.5	10	16	36	121	54	20	16
8	9.2	8.5	9.0	9.5	7.3	10	24	34	107	51	18	17
9	9.0	8.5	9.0	8.5	7.2	9.5	17	34	121	50	16	16
10	9.0	8.8	9.0	8.5	6.0	9.2	12	36	125	47	16	16
11	9.0	8.5	8.5	8.2	5.0	9.2	9.8	39	154	46	16	15
12	9.0	8.0	8.5	8.0	5.0	9.2	9.8	48	170	50	17	14
13	9.0	7.0	8.5	7.8	6.0	8.5	12	66	179	43	18	14
14	8.8	6.0	7.5	8.0	6.5	8.5	13	75	145	38	16	16
15	9.0	5.0	6.0	8.0	7.0	8.0	14	74	136	34	15	18
16	9.0	5.0	4.5	7.8	8.0	7.5	17	81	201	33	14	19
17	8.8	5.0	4.0	7.8	7.8	7.0	18	77	300	37	14	16
18	8.8	6.0	4.5	7.8	9.5	7.0	14	74	229	37	14	15
19	8.8	7.5	6.5	7.8	10	8.0	18	74	188	33	14	16
20	8.8	9.0	8.5	7.5	9.2	10	35	79	162	32	15	17
21	8.8	9.0	10	7.5	8.8	10	43	83	150	30	15	18
22	8.8	9.0	10	7.5	7.5	9.5	42	83	138	27	18	25
23	8.5	9.0	10	7.4	11	7.0	38	83	132	26	18	20
24	8.5	8.5	10	7.5	9.8	6.0	36	83	130	24	15	17
25	8.5	8.0	9.5	7.3	7.8	6.0	33	88	144	24	14	17
26	8.5	8.0	9.5	7.3	7.5	6.5	31	84	125	25	14	16
27	8.5	8.0	10	7.4	8.0	7.0	31	79	110	25	14	16
28	8.5	8.5	10	7.4	7.4	8.0	41	81	99	24	13	16
29	8.5	9.5	9.0	7.5	------	9.0	56	90	94	22	12	16
30	8.5	10	8.5	7.6	------	12	67	115	82	22	12	16
31	8.5	------	8.5	7.5	------	30	------	127	------	21	12	------
TOTAL	275.0	240.9	263.3	250.5	214.2	280.1	743.6	2,115	4,172	1,254	508	481
MEAN	8.87	8.03	8.49	8.08	7.65	9.04	24.8	68.2	139	40.5	16.4	16.0
MAX	9.5	10	10	10	11	30	67	127	300	77	23	25
MIN	8.5	5.0	4.0	7.3	5.0	6.0	9.8	34	82	21	12	11
AC-FT	545	478	522	497	425	556	1,470	4,200	8,280	2,490	1,010	954

CAL YR 1964: TOTAL 7,958.8 MEAN 21.7 MAX 215 MIN 4.0 AC-FT 15,790
WAT YR 1965: TOTAL 10,797.6 MEAN 29.6 MAX 300 MIN 4.0 AC-FT 21,420

Note.--No gage-height record Dec. 6 to Jan. 10.

12-3241. Racetrack Creek below Granite Creek, near Anaconda, Mont.

Location.--Lat 46°16'40", long 112°55'00", in NW¼NE¼ sec.13, T.6 N., R.11 W., on right bank 30 ft upstream from bridge, 2 miles downstream from Granite Creek, 9½ miles upstream from mouth, and 10 miles north of Anaconda.

Drainage area.--39.5 sq mi.

Records available.--April 1914 to September 1917 (gage heights only, published as "near Anaconda"), July 1957 to September 1965. Records for July 1911 to November 1912 at site 3 miles upstream, published as "near Anaconda", not equivalent owing to inflow.

Gage.--Water-stage recorder. Altitude of gage is 5,420 ft (from topographic map). April 1914 to September 1917 at site about a quarter of a mile downstream at different datum.

Average discharge.--8 years, 58.1 cfs (42,060 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (250 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
June 12, 1961	2300	* 284	4.18	June 21, 1963	1900	* 305	4.44	June 1, 1965	0100	312	4.46
								June 12, 1965	2330	502	5.55
June 14, 1962	0330	* 256	4.26	June 9, 1964	0630	* 342	4.88	June 17, 1965	1100	* 537	5.74
				June 17, 1964	0430	312	4.69	June 25, 1965	2100	472	5.37
June 5, 1963	0200	301	4.42	June 26, 1964	0200	341	4.87				

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Mar. 4, 1961	9.5	1.95	1964	Mar. 23, 1964	7.2	1.90
1962	Feb. 23, 1962	8.9	1.98	1965	Mar. 17, 1965	8.8	1.89
1963	Dec. 24, 1962	7.2	1.94				

1957-65: Maximum discharge, 537 cfs June 17, 1965 (gage height, 5.74 ft); minimum, 7.2 cfs Dec. 24, 1962, Mar. 23, 1964.

Remarks.--Records good. No diversion above station. Some regulation by Racetrack and Fisher Lakes.

Revisions.--WSP 1316: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	30	22	21	20	20	18	27	176	74	52	40
2	28	28	25	21	20	20	21	30	206	71	52	45
3	29	27	24	18	20	18	25	28	221	68	52	44
4	28	26	23	20	19	16	23	28	215	69	53	38
5	28	25	20	22	20	20	20	30	220	76	52	35
6	28	25	16	21	20	20	18	27	230	74	50	32
7	29	27	19	21	20	19	18	26	244	56	44	31
8	28	25	19	21	20	19	18	26	240	50	44	30
9	29	22	19	21	19	19	18	29	233	50	44	30
10	30	26	18	21	24	19	18	37	228	49	47	32
11	30	25	18	21	25	18	18	34	233	50	46	35
12	30	26	20	20	23	19	19	31	266	56	45	33
13	30	25	21	20	21	19	19	31	245	64	49	31
14	30	25	22	20	21	19	18	32	206	62	51	30
15	29	25	20	20	20	20	17	34	187	62	48	28
16	30	25	18	20	20	21	18	38	173	60	48	28
17	35	25	22	21	20	20	18	42	161	59	38	31
18	36	25	24	21	20	20	20	44	149	60	36	30
19	36	24	23	18	19	20	18	43	136	67	26	32
20	35	24	23	17	20	20	18	53	123	67	24	32
21	34	24	22	18	21	18	18	67	112	66	24	32
22	35	23	22	18	21	18	18	77	102	65	24	30
23	32	24	22	18	20	20	18	91	94	64	26	31
24	31	24	22	20	19	21	18	132	87	59	28	30
25	31	24	22	18	20	20	18	173	81	55	28	30
26	30	25	22	13	19	20	19	206	76	49	31	30
27	30	22	22	16	18	20	20	218	75	50	30	29
28	30	18	21	18	20	18	21	204	80	50	33	28
29	30	20	19	21	------	18	24	204	79	55	38	30
30	28	23	22	21	------	18	28	203	76	54	35	30
31	30	------	22	21	------	18	------	187	------	49	31	------
TOTAL	948	737	654	607	569	595	582	2,432	4,954	1,860	1,229	967
MEAN	30.6	24.6	21.1	19.6	20.3	19.2	19.4	78.5	165	60.0	39.6	32.2
MAX	36	30	25	22	25	21	28	218	266	76	53	45
MIN	28	18	16	13	18	16	17	26	75	49	24	28
CFSM	.77	.62	.53	.50	.51	.49	.49	1.99	4.18	1.52	1.00	.82
IN.	.89	.69	.62	.57	.54	.56	.55	2.29	4.66	1.75	1.16	.91
AC-FT	1,880	1,460	1,300	1,200	1,130	1,180	1,150	4,820	9,830	3,690	2,440	1,920

CAL YR 1960: TOTAL 20,354 MEAN 55.6 MAX 317 MIN 16 CFSM 1.41 IN 19.16 AC-FT 40,370
WAT YR 1961: TOTAL 16,134 MEAN 44.2 MAX 266 MIN 13 CFSM 1.12 IN 15.19 AC-FT 32,000

12-3241. Racetrack Creek below Granite Creek, near Anaconda, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	22	18	17	18	16	18	44	150	110	74	52
2	28	16	18	17	18	16	18	45	154	101	73	48
3	28	19	18	18	20	16	18	47	172	92	74	44
4	27	20	18	18	18	16	18	63	152	87	78	42
5	27	16	18	18	14	16	19	61	129	88	80	38
6	28	19	17	18	17	16	20	61	116	91	74	43
7	30	20	16	18	18	16	22	76	106	82	70	43
8	28	19	15	14	18	16	18	85	101	75	69	46
9	27	20	11	13	18	16	18	97	118	72	69	43
10	27	20	11	18	18	16	18	104	152	78	72	42
11	28	20	13	19	18	15	17	108	172	78	69	46
12	28	19	15	18	18	16	18	97	178	81	68	46
13	28	17	16	18	18	16	21	96	191	93	71	46
14	28	20	17	18	17	16	24	85	233	88	71	45
15	27	18	17	18	16	16	29	89	206	81	70	42
16	26	11	18	18	17	15	30	89	196	78	68	38
17	26	14	18	18	17	15	30	87	201	77	80	34
18	23	16	18	17	17	15	34	85	208	73	82	32
19	22	16	18	15	16	15	44	96	203	75	71	30
20	22	16	18	17	16	15	55	104	188	75	65	30
21	23	15	18	18	16	15	46	116	180	74	62	30
22	22	18	17	18	16	15	43	125	174	75	65	30
23	21	20	18	18	11	15	48	119	166	75	66	30
24	21	21	18	18	15	15	59	160	162	78	67	30
25	21	20	18	18	16	16	67	160	156	78	69	28
26	22	20	17	18	15	16	65	149	152	80	65	28
27	23	19	16	18	16	17	61	144	142	81	64	27
28	21	19	18	17	16	16	56	149	126	80	69	27
29	18	18	18	17	------	16	49	148	116	77	70	28
30	21	18	18	17	------	16	45	142	111	73	61	28
31	21	------	17	18	------	16	------	140	------	78	56	------
TOTAL	771	546	521	540	468	487	1,028	3,171	4,811	2,524	2,162	1,116
MEAN	24.9	18.2	16.8	17.4	16.7	15.7	34.3	102	160	81.4	69.7	37.2
MAX	30	22	18	19	20	17	67	160	233	110	82	52
MIN	18	11	11	13	11	15	17	44	101	72	56	27
CFSM	.63	.46	.43	.44	.42	.40	.87	2.59	4.06	2.06	1.77	.94
IN.	.73	.51	.49	.51	.44	.46	.97	2.99	4.53	2.38	2.04	1.05
AC-FT	1,530	1,080	1,030	1,070	928	966	2,040	6,290	9,540	5,010	4,290	2,210

CAL YR 1961: TOTAL 15,633 MEAN 42.8 MAX 266 MIN 11 CFSM 1.08 IN 14.72 AC-FT 31,010
WAT YR 1962: TOTAL 18,145 MEAN 49.7 MAX 233 MIN 11 CFSM 1.26 IN 17.08 AC-FT 35,990

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	22	23	20	24	18	19	38	222	141	88	65
2	27	22	22	20	19	18	18	41	238	133	87	66
3	27	22	22	20	23	17	18	45	229	130	80	62
4	27	22	20	20	25	16	18	49	275	128	88	62
5	27	23	21	19	26	18	19	53	279	123	88	60
6	27	24	22	19	23	18	20	57	247	116	87	51
7	26	22	21	19	22	17	20	61	211	110	87	47
8	32	22	21	19	22	18	20	64	201	103	84	46
9	27	22	21	18	21	18	20	57	201	102	84	43
10	32	22	20	9.8	20	18	20	54	203	110	87	38
11	38	22	20	13	16	18	20	52	196	107	85	35
12	38	22	18	14	15	16	20	48	205	102	83	33
13	38	22	17	16	19	16	22	48	222	97	82	33
14	35	22	22	17	20	17	24	52	238	99	78	37
15	35	20	21	18	19	17	27	60	256	99	74	36
16	30	21	22	18	19	17	24	70	256	94	70	39
17	29	18	22	19	18	17	23	81	252	100	68	38
18	28	21	22	16	18	17	22	91	241	102	65	35
19	28	20	21	18	18	17	22	94	229	99	65	35
20	28	27	20	18	18	18	22	104	220	94	73	33
21	27	27	20	19	18	18	20	114	277	92	70	35
22	26	24	18	18	18	19	20	125	239	90	64	40
23	25	20	14	16	18	20	20	156	191	95	63	43
24	25	20	7.8	19	18	20	20	170	175	94	62	39
25	24	24	10	18	18	19	21	178	165	92	62	35
26	24	23	16	17	18	19	24	188	161	91	60	32
27	24	23	18	18	18	20	27	191	148	94	60	31
28	24	22	19	18	18	20	30	193	143	95	58	30
29	23	17	19	16	------	20	32	201	169	94	63	30
30	22	20	19	18	------	19	35	225	152	92	63	29
31	22	------	20	18	------	20	------	227	------	90	61	------
TOTAL	872	658	598.8	545.8	549	560	667	3,187	6,441	3,208	2,269	1,238
MEAN	28.1	21.9	19.3	17.6	19.6	18.1	22.2	103	215	103	73.8	41.3
MAX	38	27	23	20	26	20	35	227	279	141	88	66
MIN	22	17	7.8	9.8	15	16	18	38	143	90	58	29
CFSM	.71	.56	.49	.45	.50	.46	.56	2.60	5.44	2.62	1.87	1.04
IN.	.82	.62	.56	.51	.52	.53	.63	3.00	6.06	3.02	2.16	1.17
AC-FT	1,730	1,310	1,190	1,080	1,090	1,110	1,320	6,320	12,780	6,360	4,540	2,460

CAL YR 1962: TOTAL 18,435.8 MEAN 50.5 MAX 233 MIN 7.8 CFSM 1.28 IN 17.36 AC-FT 36,570
WAT YR 1963: TOTAL 20,813.6 MEAN 57.0 MAX 279 MIN 7.8 CFSM 1.44 IN 19.60 AC-FT 41,280

12-3241. Racetrack Creek below Granite Creek, near Anaconda, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	23	18	19	18	18	24	36	166	230	99	68
2	28	23	14	19	18	18	22	34	178	229	96	64
3	28	23	16	19	18	18	22	31	194	236	95	61
4	28	23	18	19	18	18	22	29	205	212	93	58
5	30	23	19	16	18	18	23	28	205	202	91	55
6	44	23	23	19	16	18	22	28	216	180	88	53
7	38	22	18	18	19	18	21	28	218	167	86	58
8	34	22	18	16	18	18	22	29	270	158	87	57
9	32	22	19	17	18	18	22	29	296	159	87	56
10	32	22	13	17	18	18	23	34	244	162	86	56
11	31	22	13	18	18	18	22	33	220	144	82	60
12	30	22	16	15	18	18	22	34	201	135	83	58
13	28	22	17	15	18	18	21	39	204	130	83	57
14	27	22	20	16	18	18	22	43	219	128	83	64
15	26	23	20	18	18	18	24	49	232	124	79	60
16	26	22	20	20	18	18	24	61	254	114	79	55
17	25	22	21	18	18	19	22	86	290	106	76	49
18	25	22	22	18	18	20	21	97	257	103	75	43
19	27	21	22	18	18	19	22	108	254	99	76	41
20	27	22	20	18	18	18	23	137	236	94	75	39
21	25	20	20	18	18	20	24	164	220	92	74	38
22	25	20	20	18	18	18	23	148	206	101	67	37
23	25	22	20	18	18	12	24	126	202	94	55	38
24	25	21	20	18	18	17	22	118	232	93	53	36
25	26	21	20	18	14	20	22	119	277	96	48	35
26	25	21	19	18	18	19	22	130	316	99	48	35
27	24	22	19	18	18	20	22	159	307	98	47	35
28	24	18	19	18	18	20	24	197	295	99	57	32
29	25	20	19	18	18	20	28	188	257	98	59	31
30	24	19	18	18	------	21	33	164	243	103	63	31
31	23	------	19	18	------	22	------	157	------	106	63	------
TOTAL	865	650	580	551	517	573	690	2,663	7,114	4,191	2,333	1,457
MEAN	27.9	21.7	18.7	17.8	17.8	18.5	23.0	85.9	237	135	75.3	48.6
MAX	44	23	23	20	19	22	33	197	316	236	99	65
MIN	23	18	13	15	14	12	21	28	166	92	47	31
CFSM	.71	.55	.47	.45	.45	.47	.58	2.17	6.00	3.42	1.91	1.23
IN.	.81	.61	.55	.52	.49	.54	.65	2.51	6.70	3.95	2.20	1.37
AC-FT	1,720	1,290	1,150	1,090	1,030	1,140	1,370	5,280	14,110	8,310	4,630	2,890

CAL YR 1963: TOTAL 20,779.8 MEAN 56.9 MAX 279 MIN 9.8 CFSM 1.44 IN 19.56 AC-FT 41,220
WAT YR 1964: TOTAL 22,184 MEAN 60.6 MAX 316 MIN 12 CFSM 1.53 IN 20.89 AC-FT 44,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	33	27	24	21	20	16	21	79	255	236	106	78
2	32	30	23	22	19	18	22	67	228	230	105	75
3	33	28	23	23	21	16	20	59	248	226	111	69
4	31	27	23	25	20	17	19	54	266	236	112	62
5	31	27	22	25	20	18	19	51	262	234	110	63
6	30	27	20	27	20	18	19	47	278	225	109	66
7	29	26	15	26	18	18	20	46	284	226	104	61
8	29	26	24	25	19	18	21	44	278	222	102	68
9	29	26	24	25	19	18	22	43	302	228	97	70
10	29	26	22	24	16	18	21	45	336	215	98	70
11	30	26	22	23	14	18	20	54	368	198	100	65
12	29	24	18	23	19	18	20	71	426	198	112	63
13	29	24	21	23	19	16	22	98	419	183	116	63
14	28	23	22	25	19	18	23	124	329	169	107	77
15	29	18	23	25	18	18	24	130	304	159	103	117
16	31	18	14	25	18	17	25	142	421	151	96	96
17	30	25	14	24	18	12	24	148	479	151	90	85
18	29	26	16	23	18	14	23	128	435	146	86	80
19	29	25	19	23	18	17	28	118	373	138	85	77
20	29	24	21	23	18	16	47	133	363	134	87	77
21	29	23	22	23	17	18	47	135	363	132	84	92
22	29	23	37	23	18	17	43	132	370	124	111	103
23	28	24	67	21	14	16	41	123	336	117	109	87
24	27	25	44	22	18	16	40	126	333	112	100	83
25	26	28	31	21	18	16	39	136	404	110	93	83
26	26	25	32	21	18	17	41	129	392	110	87	82
27	26	21	31	22	18	18	40	126	319	111	84	81
28	26	23	28	22	18	18	46	141	280	121	91	80
29	27	23	23	22	------	17	58	176	256	117	87	77
30	27	24	26	22	------	18	73	230	236	115	82	74
31	28	------	26	22	------	19	------	254	------	110	81	------
TOTAL	898	742	777	721	510	529	928	3,389	9,943	5,184	3,045	2,324
MEAN	29.0	24.7	25.1	23.3	18.2	17.1	30.9	109	331	167	98.2	77.5
MAX	33	30	67	27	21	19	73	254	479	236	116	117
MIN	26	18	14	21	14	12	19	43	228	110	81	61
CFSM	.73	.63	.63	.59	.46	.43	.78	2.77	8.39	4.23	2.49	1.96
IN.	.85	.70	.73	.68	.48	.50	.87	3.19	9.36	4.88	2.87	2.19
AC-FT	1,780	1,470	1,540	1,430	1,010	1,050	1,840	6,720	19,720	10,280	6,040	4,610

CAL YR 1964: TOTAL 22,506 MEAN 61.5 MAX 316 MIN 12 CFSM 1.56 IN 21.19 AC-FT 44,640
WAT YR 1965: TOTAL 28,990 MEAN 79.4 MAX 479 MIN 12 CFSM 2.01 IN 27.29 AC-FT 57,500

12-3243. Clark Fork near Garrison, Mont.

Location.--Lat 46°29'55", long 112°44'15" in SE¼SW¼ sec.28, T.9 N., R.9 W., on right abutment of bridge, 4 miles southeast of Garrison and 4½ miles upstream from Little Blackfoot River in Powell County.

Drainage area.--1,139 sq mi.

Records available.--May to November 1961 (discontinued).

Gage.--Staff gage read once daily. Altitude of gage is 4,380 ft (from topographic map).

Extremes.--Maximum discharge during period, 798 cfs June 13 (gage height, 3.70 ft, from graph based on gage readings); minimum observed, 71 cfs Aug. 8, 19, 20.

Remarks.--Records good. Numerous diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1								-	646	102	90	90
2								-	538	86	81	119
3								-	560	84	77	152
4								-	517	83	81	143
5								-	509	104	76	134
6								-	471	128	75	120
7								-	439	141	77	119
8								-	475	137	71	122
9								-	447	115	74	126
10								-	401	113	90	143
11								-	360	98	83	163
12								-	360	98	82	181
13								-	596	102	91	166
14								-	509	96	97	154
15								-	360	97	97	156
16								-	331	91	88	150
17								-	289	90	83	189
18								-	252	87	78	214
19								-	229	84	71	168
20								-	208	82	71	168
21								-	189	86	78	191
22								-	156	91	74	214
23								-	141	97	76	223
24								-	132	88	81	233
25								424	128	87	83	211
26								551	124	83	88	203
27								722	104	88	90	200
28								722	106	98	88	200
29					------			689	108	90	83	229
30					------			646	120	94	86	282
31		------			------		------	656	------	88	84	------
TOTAL								-	9,805	3,008	2,544	5,163
MEAN								-	327	97.0	82.1	172
MAX								-	646	141	97	282
MIN								-	104	82	71	9
AC-FT								-	19,450	5,970	5,050	10,24

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER TO NOVEMBER 1961

DAY	OCT.	NOV.	DAY	OCT.	NOV.	DAY	OCT.	NOV.	DAY	OCT.	NOV.	DAY	OCT.	NOV.	DAY	OCT.	NOV.
1	282	279	6	245	306	11	272	317	16	269	296	21	265	331	26	289	269
2	269	269	7	252	292	12	275	306	17	259	310	22	274	272	27	289	272
3	265	269	8	249	292	13	275	286	18	249	317	23	282	265	28	289	275
4	262	289	9	245	296	14	269	286	19	249	353	24	286	279	29	279	279
5	252	282	10	249	310	15	269	303	20	249	338	25	282	269	30	265	279
															31	272	-
TOTAL																8,277	8,786
MEAN																267	293
MAX																289	353
MIN																245	265
AC-FT																16,420	17,430

12-3246.6. Gold Creek at Goldcreek, Mont.

Location.--Lat 46°34'40", long 112°54'50", in SE¼NE¼ sec.36, T.10 N., R.11 W., on left bank at farm bridge, half a mile upstream from mouth, three-quarters of a mile southeast of Goldcreek, and 1¼ miles downstream from Griffin Creek.

Drainage area.--64.1 sq mi.

Records available.--November 1963 to September 1965.

Gage.--Staff gage read once or twice daily. Altitude of gage is 4,230 ft (from topographic map).

Extremes.--Maximum and minimum discharges for November 1963 to September 1965 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1964	June 9, 1964	488	3.15	Aug. 27, 1964	10	-
1965	June 17, 1965	308	2.60	Dec. 17, 18, 1964	8	-

1963-65: *Maximum discharge*, 488 cfs June 9, 1964 (*gage height*, 3.15 ft); *minimum daily*, 8 cfs Dec. 17, 18, 1964.

Remarks.--Records good. Diversions above station for irrigation of about 1,450 acres. Minor regulation by lakes in headwaters.

DISCHARGE, IN CUBIC FEET PER SECOND, NOVEMBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		18	18	14	14	11	39	20	42	56	27	14
2		18	18	15	14	13	31	24	41	58	24	15
3		18	18	14	14	14	29	26	50	74	24	16
4		18	18	15	14	13	39	28	63	61	23	13
5		18	18	15	14	12	32	29	58	56	22	12
6		17	20	15	14	12	21	21	67	46	22	16
7		17	17	14	14	13	22	21	99	42	22	18
8		17	13	14	14	12	21	20	259	38	22	18
9		18	15	14	14	12	28	21	395	34	22	16
10		17	16	15	14	12	21	23	212	36	22	15
11		16	15	14	14	13	23	23	177	34	21	16
12		15	18	14	14	12	19	22	156	34	25	19
13		15	14	14	14	12	19	22	126	61	24	19
14		15	15	14	13	12	21	22	126	51	24	19
15		17	15	14	14	11	23	22	126	38	22	20
16		14	18	14	14	13	21	24	137	33	21	21
17		14	19	14	14	17	19	28	185	32	21	20
18		14	15	14	13	19	18	32	148	30	21	20
19		14	15	14	14	18	17	34	137	30	21	20
20		15	16	14	14	18	16	42	137	29	18	20
21		14	15	14	14	15	18	44	126	28	16	20
22		14	18	15	14	16	18	37	116	28	16	11
23		14	15	15	13	14	18	31	106	27	17	23
24		15	15	15	14	12	18	22	97	25	17	23
25		15	15	15	15	12	18	21	80	23	16	22
26		16	15	14	16	12	18	17	80	24	16	22
27		16	15	14	15	12	17	38	97	22	10	22
28		17	15	14	13	13	16	60	88	21	13	20
29		19	15	15	14	14	17	118	88	28	12	23
30		20	15	15	———	18	18	60	72	33	13	25
31		———	15	14	———	25	———	43	———	28	14	———
TOTAL		485	499	445	406	432	655	995	3,691	1,160	608	558
MEAN		16.2	16.1	14.4	14.0	13.9	21.8	32.1	123	37.4	19.6	18.6
MAX		20	20	15	16	25	39	118	395	74	27	25
MIN		14	13	14	13	11	16	17	41	21	10	11
CFSM		.25	.25	.22	.22	.22	.34	.50	1.92	.58	.31	.29
IN.		.28	.29	.26	.24	.25	.38	.58	2.14	.67	.35	.32
AC-FT		962	990	883	805	857	1,300	1,970	7,320	2,300	1,210	1,110

12-3246.6. Gold Creek at Goldcreek, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	32	20	23	15	19	14	39	25	63	61	27	18
2	30	22	23	15	15	12	33	25	55	57	29	18
3	29	26	22	15	18	14	22	25	56	53	28	18
4	27	26	22	16	22	15	17	25	57	49	27	19
5	22	24	21	16	19	16	24	25	57	48	29	19
6	20	22	20	16	19	17	22	24	63	47	26	20
7	20	22	22	16	18	16	22	22	66	50	25	20
8	19	22	20	15	17	16	23	20	56	54	26	22
9	19	21	20	15	14	13	24	18	41	58	25	22
10	19	21	19	15	13	14	24	16	43	62	25	22
11	19	21	19	15	12	12	20	18	76	66	26	20
12	18	21	19	15	12	11	19	21	138	63	26	22
13	18	20	19	17	13	12	20	29	110	61	26	20
14	19	20	19	19	14	12	20	33	85	58	25	23
15	18	20	18	19	15	13	20	36	72	55	25	26
16	18	21	13	17	16	9.0	21	42	97	54	25	29
17	18	21	8.0	16	17	9.0	20	38	273	54	25	31
18	17	20	8.0	16	29	8.5	20	32	199	53	22	30
19	18	20	15	17	62	9.5	24	30	157	52	18	30
20	18	21	26	16	60	10	27	30	155	50	17	33
21	17	21	40	17	21	9.5	26	32	91	41	16	45
22	17	22	69	17	11	8.5	25	33	91	34	20	52
23	17	24	70	16	10	8.5	26	36	90	34	21	48
24	18	25	66	16	11	9.0	26	39	85	33	22	48
25	18	24	21	16	15	8.5	26	49	110	33	23	47
26	17	22	21	16	12	9.0	26	46	94	32	24	48
27	19	20	19	16	32	9.5	25	45	88	31	25	43
28	19	21	18	16	17	10	25	43	84	29	25	46
29	19	22	17	16	------	10	25	41	76	29	23	46
30	19	22	16	19	------	11	26	63	70	29	20	46
31	19	------	16	22	------	46	------	69	------	29	20	------
TOTAL	617	654	749.0	508	553	392.5	717	1,030	2,798	1,459	741	931
MEAN	19.9	21.8	24.2	16.4	19.8	12.7	23.9	33.2	93.3	47.1	23.9	31.0
MAX	32	26	70	22	62	46	39	69	273	66	29	52
MIN	17	20	8.0	15	10	8.5	17	16	41	29	16	18
CFSM	.31	.34	.38	.26	.31	.20	.37	.52	1.46	.73	.37	.48
IN.	.36	.38	.43	.29	.32	.23	.42	.60	1.62	.85	.43	.54
AC-FT	1,220	1,300	1,490	1,010	1,100	779	1,420	2,040	5,550	2,890	1,470	1,850

CAL YR 1964: TOTAL 10,970.0 MEAN 30.0 MAX 395 MIN 8.0 CFSM .47 IN 6.36 AC-FT 21,760
WAT YR 1965: TOTAL 11,149.5 MEAN 30.5 MAX 273 MIN 8.0 CFSM .48 IN 6.47 AC-FT 22,110

12-3250. Georgetown Lake near Southern Cross, Mont.

Location.--Lat 46°12'50", long 113°16'40", in SW¼ sec.6, T.5 N., R.13 W., at dam on Flint Creek, 2 miles west of Southern Cross, 8 miles south of Philipsburg, and at mile 38.8.

Drainage area.--50.1 sq mi.

Records available.--October 1939 to September 1965. May to July 1948 daily elevations and contents, published in WSP 1080.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by The Montana Power Co.).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	Dec. 7-12, 1960	28,540	6,428.66	Mar. 20, 1961	22,050	6,426.37
1962	July 18-22, 1962	29,670	6,429.04	Apr. 19, 1962	19,950	6,425.61
1963	July 21,22, 1963	30,030	6,429.16	Apr. 9, 10, 1963	23,080	6,426.74
1964	July 15, 16, 21,1964	30,210	6,429.22	Apr. 7, 1964	25,130	6,427.48
1965	Aug. 13, 1965	29,970	6,429.14	Apr. 26-30, 1965	22,020	6,426.36

1939-65: Maximum contents observed, 30,210 acre-ft July 15, 16, 21, 1964 (elevation, 6,429.22 ft); minimum observed, 15,990 acre-ft Apr. 28, 29, 1957 (elevation, 6,424.15 ft).

Remarks.--Reservoir is formed by masonry and concrete dam. Storage began about 1905 to store water for pumpage into Warm Springs Creek for use of reduction works of Anaconda Copper Mining Co., at Anaconda, or for release through Flint Creek for irrigation, power development, and recreation. Usable capacity, 31,040 acre-ft at elevation 6,429.5 ft. Dead storage unknown below 6,398 ft. Figures given herein represent usable contents.

Cooperation.--Records furnished by The Montana Power Co.

Revisions.--WSP 1316: Drainage area.

MONTH-END CONTENTS, IN ACRE-FEET, WATER YEARS 1961-65

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1961	27,680	28,450	27,080	25,050	23,330	22,640	24,020	26,080	27,200	26,050	24,470	24,220
1962	25,110	26,000	26,000	24,380	22,550	20,890	20,860	24,160	28,600	29,290	28,690	28,130
1963	28,390	29,320	27,710	26,220	24,880	23,300	24,050	27,470	29,970	29,850	28,870	28,690
1964	26,440	27,500	28,420	28,930	27,440	25,610	25,470	28,190	29,790	30,150	30,150	29,490
1965	29,200	29,140	29,550	29,580	26,940	23,910	22,020	25,330	29,430	29,550	29,430	29,610

12-3255. Flint Creek near Southern Cross, Mont.

Location.--Lat. 46°14'00", long 113°17'40", in SE¼NW¼ sec.36, T.6 N., R.14 W., on left wing of weir, half a mile downstream from powerplant, 2 miles downstream from Georgetown Lake, 3 miles northwest of Southern Cross, 6 miles south of Philipsburg, and at mile 36.8.

Drainage area.--52.6 sq mi.

Records available.--October 1940 to September 1965.

Gage.--Staff gage and Cippoletti weir; gage read once daily. Altitude of gage is 5,630 ft (from topographic map).

Average discharge.--25 years, 28.4 cfs (20,560 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Many days	30	0.86	Dec. 29, 1960	4.9	-
1962	June 14, 15, 1962	35	.89	Many days	3.8	-
1963	July 2, 1963	135	1.78	Jan. 13-15, 1963	3.1	-
1964	June 20, 21, 1964	a 171	2.00	Many days	4.9	-
1965	June 20, 1965	b 155	1.84	do.	28	-

a Includes estimated bypass flow of 12 cfs.
b Includes bypass flow of 25 cfs.

1940-65: Maximum discharge, 174 cfs June 13, 1942 (gage height, 1.86 ft); maximum gage height, 2.00 ft June 20, 21, 1964; probably no flow for parts of Aug. 20, 1943, May 23, 1952, Oct. 6, 1954, when generator was shut down.

Remarks.--Records good except those for periods of indefinite stage-discharge relation, which are fair. Flow regulated by Georgetown Lake (see elsewhere in this report). Flow may be augmented by transbasin diversion from Silver Lake to Georgetown Lake or reduced by pumping from Georgetown Lake to Silver Lake.

Cooperation.--Gage-height record furnished by The Montana Power Co., under general supervision of Geological Survey in connection with a Federal Power Commission project.

Revisions (water years).--WSP 1216: 1942(M). WSP 1246: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	24	9.0	13	5.2	6.5	6.5	7.2	7.9	30	27	28	26
2	24	9.0	13	5.2	6.5	6.5	7.2	8.2	28	28	28	26
3	17	9.0	13	5.4	6.5	6.5	7.2	8.2	28	28	28	27
4	10	9.3	13	6.2	6.5	6.5	7.2	8.2	28	28	28	27
5	10	9.3	13	6.2	6.5	6.5	7.2	8.2	28	28	28	27
6	10	9.3	13	6.2	6.5	6.5	7.2	7.6	28	27	28	27
7	10	9.6	14	6.2	6.5	6.5	7.2	7.6	29	27	28	27
8	10	9.6	14	6.2	6.5	6.5	7.2	8.2	29	27	30	28
9	10	9.6	14	6.2	6.5	6.5	7.2	8.6	29	27	30	28
10	10	9.6	14	6.2	6.5	6.5	7.2	9.0	28	27	30	28
11	10	10	14	6.2	6.5	6.5	7.2	9.0	28	28	30	28
12	10	10	14	6.5	6.5	6.5	6.5	7.9	28	28	30	28
13	10	10	14	6.5	6.5	6.5	6.5	7.9	28	28	30	28
14	10	10	14	6.5	6.5	6.5	6.5	7.9	28	28	30	28
15	10	10	14	6.5	6.5	6.5	6.5	7.9	28	28	30	22
16	9.6	10	14	6.5	6.5	6.5	6.5	8.6	27	27	30	17
17	9.6	10	14	6.5	6.5	6.5	6.5	9.0	28	28	30	17
18	9.6	10	14	6.5	6.5	6.5	7.2	9.0	28	28	30	15
19	9.6	11	14	6.5	6.5	6.5	7.2	9.0	28	28	29	13
20	9.6	11	14	6.5	6.5	6.5	7.2	8.6	26	29	29	13
21	9.6	10	14	6.5	6.5	6.5	7.2	8.6	26	28	29	13
22	9.3	10	14	6.5	6.5	6.5	7.2	9.0	26	28	29	13
23	9.3	11	14	6.5	6.5	7.2	7.2	16	26	28	30	13
24	9.3	11	14	6.5	6.5	7.2	7.6	30	26	28	30	13
25	9.3	11	15	6.5	6.5	7.2	7.2	30	28	28	30	13
26	9.3	11	15	6.5	6.5	7.2	6.5	29	28	29	30	13
27	9.3	12	10	6.5	6.5	7.2	6.5	29	28	29	30	13
28	9.0	12	5.4	6.5	6.5	7.2	6.5	29	28	29	29	13
29	9.3	12	4.9	6.5	------	7.2	7.6	30	26	30	29	13
30	9.0	12	5.2	6.5	------	7.2	7.9	30	27	30	26	13
31	9.0	------	5.2	6.5	------	7.2	------	30	------	30	26	------
TOTAL	334.7	307.3	390.7	195.4	182.0	207.8	211.2	437.1	831	871	902	610
MEAN	10.8	10.2	12.6	6.30	6.50	6.70	7.04	14.1	27.7	28.1	29.1	20.3
MAX	24	12	15	6.5	6.5	7.2	7.9	30	30	30	30	28
MIN	9.0	9.0	4.9	5.2	6.5	6.5	6.5	7.6	26	27	26	13
AC-FT	664	610	775	388	361	412	419	867	1,650	1,730	1,790	1,210

CAL YR 1960: TOTAL 8,398.7 MEAN 22.9 MAX 54 MIN 4.9 AC-FT 16,660
WAT YR 1961: TOTAL 5,480.2 MEAN 15.0 MAX 30 MIN 4.9 AC-FT 10,870

12-3255. Flint Creek near Southern Cross, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	4.1	4.6	4.6	5.7	5.4	6.0	6.8	6.5	31	28	28
2	13	4.1	4.3	4.6	5.4	5.2	6.0	6.8	6.5	31	28	28
3	9.4	4.1	4.6	4.9	5.7	4.9	6.2	6.8	6.5	31	28	28
4	5.7	4.1	4.9	4.9	5.7	4.9	6.2	6.8	15	31	28	28
5	5.4	4.1	4.9	4.9	5.7	4.9	6.0	6.8	33	31	28	28
6	5.4	4.1	4.9	4.9	5.7	5.4	6.0	6.5	33	31	28	28
7	5.4	4.3	4.9	4.9	5.7	5.4	6.0	6.5	34	31	28	28
8	5.4	4.3	4.9	4.9	5.4	5.4	6.0	6.8	34	31	28	28
9	5.4	4.3	4.3	5.2	5.2	5.4	5.7	6.8	34	30	28	28
10	5.4	4.3	3.8	5.2	5.2	5.4	5.7	6.8	34	30	28	28
11	5.4	4.1	3.8	4.9	5.7	5.4	5.7	6.8	34	30	28	28
12	5.2	4.3	3.8	4.6	5.7	5.4	5.7	6.8	34	30	28	28
13	4.9	4.3	3.8	4.6	5.7	5.4	6.2	7.2	34	30	28	28
14	4.6	4.6	3.8	4.6	5.7	5.4	6.2	7.6	35	30	28	27
15	4.6	4.6	3.8	4.9	5.7	5.4	6.5	7.9	35	29	28	27
16	4.6	4.3	3.8	5.2	5.4	5.4	7.2	8.2	33	29	28	27
17	4.3	4.1	3.8	5.2	5.4	5.4	7.2	9.0	31	29	28	27
18	4.1	4.3	3.8	5.4	5.4	5.7	7.2	9.0	32	29	28	27
19	4.1	4.6	4.1	5.4	5.7	5.7	7.2	9.0	32	29	28	27
20	3.8	4.6	4.6	5.4	5.7	5.7	7.9	9.0	32	28	28	27
21	3.8	4.3	4.6	5.4	5.7	5.7	7.6	9.0	32	28	28	27
22	3.8	4.1	4.3	5.4	5.7	5.4	7.6	9.0	32	28	28	27
23	3.8	3.8	4.1	5.4	5.7	5.2	7.2	9.0	32	28	28	27
24	3.8	3.8	4.1	5.4	5.7	5.2	7.2	9.0	32	28	28	27
25	3.8	3.8	4.1	5.2	5.7	5.4	7.2	8.6	32	28	28	27
26	3.8	4.3	4.1	4.9	5.4	5.7	6.8	8.6	32	28	28	27
27	3.8	4.9	4.1	4.9	5.4	6.0	6.8	8.2	31	28	28	27
28	3.8	4.9	4.1	4.9	5.4	6.0	6.8	8.2	31	28	28	27
29	3.8	4.9	4.1	5.4	------	6.0	7.2	7.9	31	28	28	27
30	3.8	4.9	4.3	5.7	------	6.0	7.2	7.6	31	28	28	27
31	3.8	------	4.6	5.7	------	6.0	------	7.2	------	28	28	------
TOTAL	160.9	129.3	131.7	157.5	156.2	169.8	198.2	240.2	884.5	909	868	823
MEAN	5.19	4.31	4.25	5.08	5.58	5.48	6.61	7.75	29.5	29.3	28.0	27.4
MAX	13	4.9	4.9	5.7	5.7	6.0	7.9	9.0	35	31	28	28
MIN	3.8	3.8	3.8	4.6	5.2	4.9	5.7	6.5	28	28	28	27
AC-FT	319	256	261	312	310	337	393	476	1,750	1,800	1,720	1,630

CAL YR 1961: TOTAL 4,869.4 MEAN 13.3 MAX 30 MIN 3.8 AC-FT 9,660
WAT YR 1962: TOTAL 4,828.3 MEAN 13.2 MAX 35 MIN 3.8 AC-FT 9,580

Note.--No gage-height record July 26 to Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	4.1	16	3.8	4.1	4.3	5.7	9.0	28	129	35	31
2	27	4.1	16	3.8	3.6	4.3	6.2	9.0	28	135	35	31
3	26	3.6	16	4.3	3.6	4.6	6.2	8.6	28	95	35	31
4	26	3.6	16	4.3	3.6	5.2	6.2	8.2	31	70	35	31
5	26	3.6	16	4.3	3.6	5.2	6.2	8.2	31	75	35	30
6	26	3.6	16	4.3	4.3	5.2	6.5	8.6	31	41	35	30
7	26	8.2	7.4	4.3	4.3	5.2	6.5	9.3	31	34	35	30
8	26	19	3.8	4.3	4.6	5.2	6.8	9.6	31	34	35	30
9	26	20	3.8	4.3	4.6	5.2	6.8	10	31	31	35	30
10	26	20	3.8	3.8	4.6	5.2	6.8	9.3	31	32	35	30
11	26	20	4.3	3.8	4.6	5.4	6.8	9.3	31	33	35	29
12	26	20	4.3	3.6	4.6	5.4	6.2	9.3	31	33	35	29
13	26	20	4.3	3.1	4.6	5.4	6.2	9.3	32	33	35	29
14	26	20	4.3	3.1	4.6	4.9	6.2	9.3	32	33	32	28
15	26	20	4.3	3.1	4.6	4.9	6.2	9.3	31	37	32	28
16	20	20	4.3	3.8	4.1	5.4	7.6	9.3	31	37	32	28
17	6.0	20	4.3	3.8	4.1	5.4	7.6	9.3	31	37	32	28
18	4.1	20	4.6	3.8	4.6	5.4	7.6	9.3	31	37	32	27
19	3.8	20	4.6	3.8	4.6	6.0	7.2	9.0	31	40	32	27
20	3.8	20	4.6	3.8	4.9	6.0	7.2	8.6	31	40	32	26
21	3.8	4.3	4.6	3.3	4.9	6.0	6.8	8.6	32	40	32	26
22	3.8	4.3	3.8	3.3	4.3	6.0	6.8	8.2	68	37	32	26
23	4.1	4.3	3.8	3.6	4.3	5.4	6.8	8.6	70	38	32	26
24	4.1	4.3	3.8	3.6	4.3	5.4	6.5	7.9	82	38	32	26
25	4.1	4.3	3.8	3.8	4.3	6.0	6.5	7.9	85	37	32	30
26	4.1	4.3	3.8	3.8	4.9	6.2	6.0	7.9	93	37	32	30
27	4.1	16	4.3	3.8	4.9	6.2	6.0	7.6	90	37	32	28
28	4.1	16	4.3	3.8	4.9	6.5	6.0	7.2	92	37	32	28
29	4.1	16	4.3	3.8	------	6.2	6.0	20	92	37	32	28
30	4.1	16	4.3	3.8	------	5.7	8.2	28	92	36	31	28
31	4.1	------	3.8	3.8	------	5.7	------	28	------	35	31	------
TOTAL	475.2	379.6	203.3	117.6	123.0	169.1	198.3	321.7	1,409	1,445	1,023	859
MEAN	15.3	12.7	6.56	3.79	4.39	5.45	6.61	10.4	47.0	46.6	33.2	28.6
MAX	28	20	16	4.3	4.9	6.5	8.2	28	93	135	35	31
MIN	3.8	3.6	3.8	3.1	3.6	4.3	5.7	7.2	28	31	31	26
AC-FT	943	753	403	233	244	335	393	638	2,790	2,870	2,040	1,700

CAL YR 1962: TOTAL 5,464.5 MEAN 15.0 MAX 35 MIN 3.6 AC-FT 10,840
WAT YR 1963: TOTAL 6,729.8 MEAN 18.4 MAX 135 MIN 3.1 AC-FT 13,350

12-3255. Flint Creek near Southern Cross, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	4.9	5.7	5.7	5.4	5.2	6.5	7.6	35	97	42	37
2	29	4.9	5.7	5.7	5.2	5.2	6.5	9.0	34	97	42	37
3	28	5.4	5.7	5.4	5.2	5.2	6.5	9.0	34	99	42	37
4	28	5.4	5.7	5.4	5.2	5.2	6.5	8.6	34	99	35	37
5	29	5.4	5.7	5.4	5.2	5.2	6.8	8.2	56	99	34	37
6	30	5.4	5.7	5.4	5.2	5.2	6.8	8.2	68	100	34	36
7	29	5.7	5.7	5.2	5.2	5.4	6.8	8.2	69	97	41	36
8	28	5.7	6.0	5.2	4.9	5.4	6.8	7.9	108	89	42	37
9	28	5.7	6.0	5.2	4.9	5.4	6.8	7.9	152	73	35	37
10	28	5.7	6.0	5.2	4.9	5.4	7.2	7.9	152	38	35	36
11	24	6.0	6.0	5.2	5.2	5.4	7.2	7.9	152	35	31	36
12	17	6.0	6.0	5.2	5.2	5.4	7.2	12	153	30	31	35
13	17	5.4	6.0	5.2	5.2	5.7	7.2	13	153	42	31	35
14	17	5.4	6.0	5.2	5.2	6.0	7.2	13	153	68	31	35
15	17	6.0	6.0	5.2	5.2	6.0	7.2	12	144	68	35	34
16	16	5.7	6.0	5.2	5.2	6.0	6.8	13	133	50	35	34
17	10	5.7	6.0	5.2	5.2	6.2	6.8	14	145	49	31	32
18	5.7	6.0	6.0	5.2	5.2	6.2	6.8	22	152	49	25	32
19	5.2	5.7	6.0	5.2	5.2	6.2	6.8	40	155	49	25	31
20	4.9	6.2	6.0	5.2	5.2	6.2	7.2	42	171	49	22	31
21	5.2	6.2	6.0	5.2	5.2	6.2	7.6	42	171	49	21	31
22	5.2	6.0	6.0	5.2	5.2	6.2	7.6	42	168	57	21	30
23	5.2	6.0	6.0	5.2	5.2	6.2	7.9	42	165	57	21	30
24	5.2	6.0	6.0	5.2	5.2	6.2	7.6	42	163	46	21	30
25	5.2	6.0	6.0	5.2	5.2	6.2	7.6	38	113	42	37	30
26	5.2	6.0	6.0	5.2	5.2	5.7	7.6	37	76	43	37	30
27	5.2	5.4	6.0	5.2	5.2	5.7	7.2	37	76	36	37	30
28	5.2	5.4	6.0	5.2	5.2	5.7	7.2	37	73	28	39	30
29	5.4	5.7	5.7	5.2	5.2	5.7	7.6	37	93	32	39	30
30	5.4	5.7	5.7	5.2	------	5.7	7.6	36	95	32	39	30
31	4.9	------	5.7	5.4	------	6.5	------	35	------	36	37	------
TOTAL	475.1	170.7	183.0	163.2	150.1	178.1	213.1	696.4	3,446	1,835	1,028	1,003
MEAN	15.3	5.69	5.90	5.26	5.18	5.75	7.10	22.5	115	59.2	33.2	33.4
MAX	30	6.2	6.0	5.7	5.4	6.5	7.9	42	171	100	42	37
MIN	4.9	4.9	5.7	5.2	4.9	5.2	6.5	7.6	34	28	21	30
AC-FT	942	339	363	324	298	353	423	1,380	6,840	3,640	2,040	1,990

CAL YR 1963: TOTAL 6,500.5 MEAN 17.8 MAX 135 MIN 3.1 AC-FT 12,890
WAT YR 1964: TOTAL 9,541.7 MEAN 26.1 MAX 171 MIN 4.9 AC-FT 18,930

Note.--Stage-discharge relation indefinite June 8-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	30	28	31	30	31	32	40	37	121	30	41
2	30	30	28	31	30	30	32	38	36	121	30	30
3	30	30	28	31	30	30	32	39	36	121	30	30
4	30	30	28	31	30	31	32	38	35	121	30	28
5	30	30	28	31	30	31	32	38	35	121	30	28
6	30	30	28	31	30	31	33	37	34	121	30	28
7	30	30	28	31	30	31	33	37	33	55	30	28
8	30	30	28	31	30	31	33	37	32	55	30	30
9	30	30	29	31	30	31	33	36	32	56	30	39
10	29	30	29	31	30	31	34	37	32	76	30	39
11	29	29	29	31	30	31	34	40	32	76	30	39
12	30	29	30	31	30	31	34	42	32	76	30	39
13	30	29	30	31	30	31	34	44	32	76	30	39
14	30	28	30	31	30	31	34	46	32	76	30	39
15	29	28	30	31	30	31	34	46	32	76	30	40
16	29	28	30	31	30	31	34	44	107	79	30	39
17	29	28	30	31	30	31	34	44	121	79	30	39
18	29	28	30	31	30	31	34	42	141	79	30	39
19	30	28	30	31	30	31	34	40	147	79	30	39
20	30	29	31	31	30	31	37	40	155	79	30	39
21	30	28	31	30	30	31	38	39	143	79	30	40
22	30	28	31	30	30	31	37	38	124	79	42	39
23	30	28	32	30	30	32	38	38	124	79	42	39
24	30	28	32	30	31	32	38	38	107	79	65	39
25	30	28	32	30	31	32	37	38	95	53	69	39
26	30	28	32	30	31	32	37	39	141	55	69	40
27	30	28	32	30	31	32	37	38	141	55	69	40
28	30	28	32	31	31	32	38	38	142	55	68	39
29	29	28	32	31	------	32	38	37	124	30	68	39
30	30	28	31	30	------	32	39	37	121	30	68	40
31	30	------	31	30	------	32	------	37	------	30	68	------
TOTAL	923	864	930	952	845	968	1,046	1,222	2,435	2,367	1,258	1,106
MEAN	29.8	28.8	30.0	30.7	30.2	31.2	34.9	39.4	81.2	76.4	40.6	36.9
MAX	30	30	32	31	31	32	39	46	155	121	69	41
MIN	29	28	28	30	30	30	32	36	32	30	30	28
AC-FT	1,830	1,710	1,840	1,890	1,680	1,920	2,070	2,420	4,830	4,690	2,500	2,190

CAL YR 1964: TOTAL 11,429.9 MEAN 31.2 MAX 171 MIN 4.9 AC-FT 22,670
WAT YR 1965: TOTAL 14,916 MEAN 40.9 MAX 155 MIN 28 AC-FT 29,590

Note.--Stage-discharge relation indefinite June 16 to July 6.

12-3295. Flint Creek at Maxville, Mont.

Location.--Lat 46°28'00", long 113°14'30", in NW¼ sec.9, T.8 N., R.13 W., on right bank 0.4 mile west of Maxville and 1 mile upstream from Boulder Creek.

Drainage area.--208 sq mi.

Records available.--August 1941 to September 1965. April 1939 to September 1941 at site half a mile upstream (above Maxville siding); records not equivalent owing to diversions.

Gage.--Water-stage recorder. Datum of gage is 4,828.44 ft above mean sea level, datum of 1929.

Average discharge.--24 years, 98.0 cfs (70,950 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 3, 1961	226	a 3.41	Jan. 23, 1961	23	1.49
1962	June 14, 1962	338	b 4.56	Feb. 25, 1962	c 15	-
1963	June 19, 1963	544	d 4.89	Jan. 11, 12, 1963	c 16	-
1964	June 18, 1964	616	5.69	Dec. 11, 1964	c 22	-
1965	June 18, 1965	526	e 4.87	Dec. 16, 1965	c 50	-

a Maximum gage height for year, 3.64 ft Sept. 1, 1961, backwater from debris.
b Maximum gage height for year, 4.65 ft Mar. 17, 1962, backwater from debris.
c Minimum daily.
d Maximum gage height for year, 8.08 ft Feb. 4, 1963, ice jam.
e Maximum gage height for year, 7.73 ft Dec. 23, 1964, ice jam.

1941-65: Maximum discharge, 1,680 cfs Mar. 28, 1943 (gage height, 6.79 ft), from rating curve extended above 600 cfs; maximum gage height, 8.08 ft Feb. 4, 1963 (backwater from ice); minimum daily discharge, 15 cfs Feb. 25, 1962.

Remarks.--Records good except those for winter periods and those for period of no gage-height record, which are poor. Diversions for irrigation of about 8,200 acres above station. During irrigation season, flow is supplemented by water from East Fork Rock Creek which is diverted in sec.5, T.4 N., R.14 W., 500 ft below Rock Creek Dam, through a canal into Trout Creek, thence into Flint Creek. Some regulation by Georgetown Lake (see elsewhere in this report).

Revisions.--WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62	63	52	34	36	35	47	63	141	96	111	52
2	62	61	53	33	40	34	47	72	166	100	108	76
3	62	60	53	33	43	32	49	68	184	100	101	68
4	61	58	50	34	45	32	47	63	163	107	93	62
5	64	56	48	36	47	34	44	73	141	138	93	58
6	64	56	44	47	50	36	42	76	132	135	92	59
7	66	57	40	51	56	38	43	68	166	123	93	59
8	64	57	40	49	47	39	42	65	150	119	91	61
9	65	58	40	46	43	39	43	62	142	110	81	61
10	65	60	41	47	71	38	43	67	119	110	77	62
11	66	62	42	45	76	37	43	74	108	102	85	65
12	71	60	44	43	55	38	43	67	120	104	100	63
13	70	59	50	39	42	40	43	62	139	104	101	62
14	68	59	52	47	43	46	41	59	110	97	108	61
15	66	56	48	48	43	55	40	63	92	98	117	61
16	65	58	44	47	43	59	41	62	84	97	114	59
17	64	60	44	50	42	49	40	68	76	94	109	59
18	63	61	48	47	40	43	41	62	71	91	105	58
19	62	58	49	41	39	43	44	59	67	88	95	60
20	62	56	50	35	42	43	40	62	68	91	78	59
21	62	58	53	32	47	40	40	74	57	94	66	63
22	61	55	58	32	51	40	42	88	55	114	55	64
23	60	55	61	29	42	50	48	98	50	123	55	66
24	59	57	59	28	40	62	50	147	47	123	56	67
25	57	60	58	26	42	50	58	156	59	122	55	68
26	57	58	57	25	39	47	61	161	67	119	56	69
27	58	56	57	25	38	47	64	163	69	133	53	67
28	59	50	53	25	38	45	78	158	75	126	50	69
29	60	50	44	26	------	50	84	159	77	113	51	66
30	58	51	40	28	------	49	70	159	90	101	52	64
31	60	------	36	32	------	47	------	163	------	110	51	------
TOTAL	1,943	1,725	1,508	1,160	1,280	1,337	1,458	2,841	3,085	3,382	2,552	1,888
MEAN	62.7	57.5	48.6	37.4	45.7	43.1	48.6	91.6	103	109	82.3	62.9
MAX	71	63	61	51	76	62	84	163	184	138	117	76
MIN	57	50	36	25	36	32	40	59	47	88	50	52
AC-FT	3,850	3,420	2,990	2,300	2,540	2,650	2,890	5,640	6,120	6,710	5,060	3,740

CAL YR 1960: TOTAL 29,840 MEAN 81.5 MAX 357 MIN 30 AC-FT 59,190
WAT YR 1961: TOTAL 24,159 MEAN 66.2 MAX 184 MIN 25 AC-FT 47,920

12-3295. Flint Creek at Maxville, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62	49	42	31	40	36	106	87	117	57	142	70
2	59	46	42	31	44	35	127	82	115	80	129	63
3	58	47	42	35	49	35	134	80	134	87	131	65
4	58	47	36	35	48	35	161	84	135	83	131	62
5	56	45	32	32	47	37	161	87	117	88	138	63
6	55	43	29	37	42	37	131	85	111	93	126	62
7	56	46	26	36	42	37	179	87	89	91	115	66
8	55	45	25	30	45	38	124	97	85	85	118	73
9	54	45	24	27	44	42	92	105	98	87	122	82
10	53	46	24	24	42	33	83	110	138	86	135	83
11	56	46	24	24	53	34	79	109	186	88	132	94
12	54	44	26	27	49	35	85	112	179	92	122	96
13	53	40	30	29	48	37	100	112	210	108	116	104
14	51	45	33	29	45	39	123	116	300	117	99	100
15	51	45	34	29	43	41	129	98	245	109	92	97
16	50	40	34	29	42	45	139	93	222	111	90	94
17	49	39	34	27	42	46	114	91	210	100	98	87
18	48	40	35	26	42	46	109	89	196	96	114	83
19	47	41	35	24	42	45	114	102	161	100	105	80
20	47	42	39	20	35	51	138	116	136	90	102	78
21	50	43	39	20	29	58	142	120	115	84	102	78
22	48	46	31	22	22	52	120	126	99	83	105	78
23	47	46	38	25	16	51	111	124	81	80	99	76
24	49	46	42	27	16	48	116	139	70	102	96	77
25	48	45	38	29	15	69	132	162	66	128	92	76
26	54	42	32	31	16	145	124	141	59	124	88	75
27	58	43	31	34	25	198	115	135	58	129	84	73
28	52	42	30	35	35	120	112	134	52	136	98	76
29	48	42	37	36	------	97	102	135	45	146	82	80
30	46	42	38	38	------	86	90	123	48	134	76	77
31	48	------	34	39	------	89	------	110	------	145	71	------
TOTAL	1,620	1,318	1,036	918	1,058	1,797	3,592	3,391	3,877	3,139	3,350	2,366
MEAN	52.3	43.9	33.4	29.6	37.8	58.0	120	109	129	101	108	78.9
MAX	62	49	42	39	53	198	179	162	300	146	142	104
MIN	46	39	24	20	15	33	79	80	45	57	71	62
AC-FT	3,210	2,610	2,050	1,820	2,100	3,560	7,120	6,730	7,690	6,230	6,640	4,690

CAL YR 1961: TOTAL 22,957 MEAN 62.9 MAX 184 MIN 24 AC-FT 45,530
WAT YR 1962: TOTAL 27,462 MEAN 75.2 MAX 300 MIN 15 AC-FT 54,470

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	76	58	59	47	34	49	63	94	128	305	136	115
2	74	57	60	48	46	49	60	94	128	303	123	118
3	71	56	61	48	80	49	58	88	115	250	108	110
4	73	55	62	45	200	51	63	82	129	198	108	91
5	73	56	67	41	400	51	60	79	143	188	111	82
6	75	55	69	41	240	51	69	80	123	161	116	80
7	76	51	69	38	179	52	76	102	111	122	118	80
8	75	55	67	40	100	50	77	114	103	100	124	85
9	74	56	62	39	77	50	74	114	118	110	127	83
10	89	60	56	20	67	47	70	103	141	115	162	78
11	96	56	52	16	58	46	65	103	149	132	181	75
12	109	55	50	16	56	46	63	104	136	126	166	75
13	97	54	50	42	54	46	69	97	142	120	170	77
14	96	54	52	42	54	46	86	93	150	116	166	83
15	93	53	56	37	54	47	100	96	145	131	134	80
16	88	58	59	37	54	47	89	100	139	112	123	91
17	84	58	58	38	54	47	84	108	122	106	123	91
18	80	60	58	30	55	47	78	116	108	108	129	84
19	79	60	58	20	56	46	72	110	102	110	124	83
20	77	77	54	20	56	46	69	102	98	99	126	84
21	74	90	54	36	55	58	63	110	286	96	124	86
22	71	70	51	37	54	65	63	121	353	92	128	92
23	69	62	44	30	53	76	62	116	188	105	129	108
24	68	63	38	27	53	83	58	120	183	136	124	91
25	66	65	36	31	52	69	56	115	196	158	124	84
26	64	67	39	30	54	68	55	112	220	164	128	81
27	63	75	47	27	53	73	61	99	169	170	118	80
28	61	64	48	29	50	83	71	98	176	177	106	79
29	59	60	48	33	------	75	72	85	371	176	109	77
30	59	59	48	32	------	68	78	84	371	153	111	75
31	58	------	48	30	------	68	------	103	------	142	104	------
TOTAL	2,367	1,819	1,680	1,047	2,398	1,749	2,084	3,142	5,043	4,581	3,980	2,598
MEAN	76.4	60.6	54.2	33.8	85.6	56.4	69.5	101	168	148	128	86.6
MAX	109	90	69	48	400	83	100	121	371	305	181	118
MIN	58	51	36	16	34	46	55	79	98	92	104	75
AC-FT	4,690	3,610	3,330	2,080	4,760	3,470	4,130	6,230	10,000	9,090	7,890	5,150

CAL YR 1962: TOTAL 29,354 MEAN 80.4 MAX 300 MIN 15 AC-FT 58,220
WAT YR 1963: TOTAL 32,488 MEAN 89.0 MAX 400 MIN 16 AC-FT 64,440

12-3295. Flint Creek at Maxville, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	77	57	36	45	39	34	52	177	122	227	143	138
2	77	57	36	46	39	35	57	180	122	220	136	118
3	76	56	36	39	39	38	78	133	143	245	124	116
4	78	58	37	39	39	41	98	116	152	232	117	112
5	92	60	38	33	40	40	159	125	134	221	113	111
6	114	58	40	32	39	38	120	136	148	176	113	119
7	98	56	38	31	38	39	75	112	180	159	108	114
8	92	56	36	30	37	37	78	114	291	144	108	112
9	92	56	32	29	40	39	129	108	385	137	107	110
10	93	56	25	28	40	40	192	124	374	132	101	102
11	93	56	22	25	38	40	141	128	336	112	100	101
12	89	55	23	23	36	40	81	122	300	102	105	103
13	83	56	39	23	33	37	67	133	290	117	113	103
14	82	55	43	28	32	38	81	138	300	130	105	102
15	82	58	46	34	34	42	151	139	356	119	105	99
16	79	56	46	35	40	41	141	150	341	115	102	97
17	78	53	44	36	39	45	78	183	438	110	102	97
18	73	53	42	36	39	50	73	189	471	108	103	99
19	74	53	46	34	39	46	73	200	385	108	115	86
20	72	56	45	32	36	40	76	216	528	106	113	86
21	69	56	45	30	40	34	82	224	442	101	106	85
22	65	52	37	28	40	26	74	183	486	101	99	88
23	67	54	46	28	38	26	76	147	388	105	97	92
24	68	54	44	28	35	28	71	122	324	107	98	99
25	70	53	45	36	29	36	67	112	333	108	103	96
26	67	54	37	37	28	40	65	106	339	105	102	97
27	63	54	42	36	32	41	64	110	319	106	102	96
28	63	46	44	39	34	42	64	130	289	113	118	101
29	62	42	40	37	34	43	79	137	246	113	136	102
30	60	39	37	39	------	44	115	128	237	131	116	101
31	58	------	46	39	------	47	------	120	------	160	126	------
TOTAL	2,406	1,625	1,213	1,035	1,066	1,207	2,757	4,442	9,199	4,270	3,436	3,082
MEAN	77.6	54.2	39.1	33.4	36.8	38.9	91.9	143	307	138	111	103
MAX	114	60	46	46	40	50	192	224	528	245	143	138
MIN	58	39	22	23	28	26	52	106	122	101	97	85
AC-FT	4,770	3,220	2,410	2,050	2,110	2,390	5,470	8,810	18,250	8,470	6,820	6,110

CAL YR 1963: TOTAL 31,866 MEAN 87.3 MAX 400 MIN 16 AC-FT 63,210
WAT YR 1964: TOTAL 35,738 MEAN 97.6 MAX 528 MIN 22 AC-FT 70,890

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	105	84	77	72	78	85	155	289	246	249	168	109
2	105	85	77	72	76	82	190	246	222	234	164	107
3	108	81	74	73	76	81	149	211	225	196	164	105
4	107	81	73	74	79	80	151	193	240	195	179	114
5	106	80	71	78	88	80	154	195	201	195	187	113
6	105	78	73	80	87	81	129	198	198	179	180	113
7	105	77	71	80	79	85	145	188	232	167	178	108
8	103	77	71	78	76	85	167	191	213	167	164	114
9	104	76	73	75	74	86	176	191	208	187	155	131
10	101	76	72	72	73	85	158	188	204	182	149	138
11	96	78	73	72	73	84	156	182	223	198	145	133
12	94	78	69	73	73	80	120	195	267	223	137	136
13	90	78	64	76	74	80	137	240	303	213	145	138
14	89	79	60	79	75	80	190	265	240	191	124	140
15	88	75	52	79	74	79	238	265	198	190	117	168
16	89	74	50	78	78	80	215	244	220	179	114	201
17	88	74	51	76	88	74	182	259	369	172	120	173
18	87	76	56	76	97	68	160	229	480	174	114	170
19	86	75	68	75	100	64	168	204	378	173	110	160
20	85	74	76	75	97	64	331	199	364	182	121	160
21	84	71	80	75	92	67	347	204	362	180	114	158
22	83	71	120	74	87	67	293	198	360	172	129	179
23	83	73	200	74	81	65	265	196	327	166	140	164
24	83	78	120	74	82	64	244	191	340	166	132	154
25	83	93	84	75	83	64	211	216	384	154	122	145
26	82	79	74	75	88	74	220	223	448	149	122	141
27	81	74	73	75	92	84	215	203	391	149	117	137
28	81	74	73	75	90	84	222	195	318	162	118	134
29	82	73	72	77	------	83	242	210	289	156	120	131
30	85	74	72	79	------	84	269	285	261	158	116	128
31	84	------	72	78	------	117	------	277	------	167	114	------
TOTAL	2,852	2,316	2,391	2,344	2,310	2,436	5,999	6,770	8,711	5,625	4,279	4,202
MEAN	92.0	77.2	77.1	75.6	82.5	78.6	200	218	290	181	138	140
MAX	108	93	200	80	100	117	347	289	480	249	187	201
MIN	81	71	50	72	73	64	120	182	198	149	110	105
AC-FT	5,660	4,590	4,740	4,650	4,580	4,830	11,900	13,430	17,280	11,160	8,490	8,330

CAL YR 1964: TOTAL 38,053 MEAN 104 MAX 528 MIN 23 AC-FT 75,480
WAT YR 1965: TOTAL 50,235 MEAN 138 MAX 480 MIN 50 AC-FT 99,640

Note.--No gage-height record Dec. 27 to Feb. 4.

12-3300. Boulder Creek at Maxville, Mont.

Location.--Lat 46°28'30", long 113°14'00", in SW¼ sec.4, T.8 N., R.13 W., on right bank an eighth of a mile upstream from mouth and three-quarters of a mile north of Maxville.

Drainage area.--71.3 sq mi.

Records available.--April 1939 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Altitude of gage is 4,750 ft (from topographic map). Apr. 15, 1939, to July 7, 1941, wire-weight gage at site 75 ft upstream at different datum. July 8-20, 1941, staff gage at site 175 ft upstream at datum 1.03 ft higher.

Average discharge.--26 years, 46.8 cfs (33,880 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (150 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 27, 1961	0430	* 349	3.16	June 1, 1963	0130	* 296	2.92	June 9, 1964	0700	* 624	3.88
June 3, 1961	0100	290	2.94	June 10, 1963	1600	266	2.82	June 17, 1964	0630	475	3.52
June 12, 1961	2230	165	2.45	June 21, 1963	2000	263	2.80				
				June 29, 1963	2200	158	2.41	May 30, 1965a	-	356	3.31
May 24, 1962	2100	284	2.85					June 12, 1965	2200	487	3.65
June 14, 1962	0200	* 338	3.05	May 21, 1964	0230	251	2.84	June 17, 1965	1230	* 561	3.82
May 25, 1963	2400	287	2.88	May 29, 1964	0100	269	2.90	June 25, 1965	1915	437	3.46

a About.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Aug. 22, 23, 1961	5.6	0.69	1964	Mar. 25, 1964b	3.0	0.73
1962	Aug. 26, 27, 1962	a 9.8	-	1965	Dec. 16, 1964	a 8	-
1963	Jan. 11, 12, 1963	a 9	-				

a Minimum daily.
b About.

1939-65: Maximum discharge, 764 cfs June 13, 1953; maximum gage height, 4.24 ft June 3, 1948; minimum discharge, 3.0 cfs about Mar. 25, 1964 (gage height, 0.73 ft).

Remarks.--Records good except those for winter periods and those for period of no gage-height record, which are poor. Diversions for irrigation of about 350 acres, all of which lies below station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	25	23	18	16	17	18	18	212	24	8.6	9.5
2	10	22	25	18	16	17	18	22	257	22	8.3	13
3	10	21	24	16	16	17	20	20	251	22	8.0	11
4	10	20	24	14	16	16	20	20	231	21	7.4	11
5	9.8	19	20	15	16	16	19	20	217	26	7.1	9.2
6	10	19	15	18	17	16	18	18	197	29	7.1	7.7
7	11	20	12	18	18	16	17	17	200	24	7.1	7.4
8	10	20	10	18	17	16	15	16	171	22	6.8	7.1
9	11	21	10	18	17	16	15	20	154	20	11	7.7
10	11	22	11	18	21	16	15	29	137	17	15	8.6
11	12	24	12	18	22	16	15	27	124	16	15	9.2
12	15	24	15	18	20	16	15	24	144	16	14	9.2
13	21	24	15	18	18	17	15	24	138	16	14	8.3
14	22	24	14	18	18	18	14	24	110	14	13	8.0
15	22	24	12	18	18	18	14	26	98	14	7.1	7.7
16	22	24	12	18	18	20	14	29	89	13	6.8	7.1
17	23	24	15	18	17	18	14	30	77	12	6.5	7.7
18	23	24	15	18	17	17	16	31	69	12	6.5	8.6
19	23	24	16	16	16	17	16	33	63	12	6.5	10
20	23	24	18	18	17	18	14	45	55	12	6.8	8.6
21	23	24	20	15	18	16	13	61	49	12	6.5	8.6
22	23	23	20	14	18	16	12	77	45	12	6.5	7.7
23	23	24	20	13	18	18	10	98	39	12	6.2	7.4
24	23	26	19	12	17	20	10	192	36	13	6.5	7.1
25	23	25	19	10	17	18	9.5	242	33	11	6.2	17
26	22	25	19	8.0	17	18	11	281	30	10	7.1	22
27	22	24	19	10	17	18	10	315	29	11	6.5	20
28	23	20	19	11	17	18	11	257	28	13	6.2	20
29	24	16	18	12	------	18	14	257	27	12	6.8	22
30	22	18	18	14	------	18	16	263	27	12	6.8	24
31	24	------	18	15	------	18	------	245	------	11	6.8	------
TOTAL	560.8	674	527	483.0	490	534	438.5	2,781	3,337	493	254.7	332.4
MEAN	18.1	22.5	17.0	15.6	17.5	17.2	14.6	89.7	111	15.9	8.22	11.1
MAX	24	26	25	18	22	20	20	315	257	29	15	24
MIN	9.8	16	10	8.0	16	16	9.5	16	27	10	6.2	7.1
AC-FT	1,110	1,340	1,050	958	972	1,060	870	5,520	6,620	978	505	659

CAL YR 1960: TOTAL 12,463.8 MEAN 34.1 MAX 278 MIN 9.8 AC-FT 24,720
WAT YR 1961: TOTAL 10,905.4 MEAN 29.9 MAX 315 MIN 6.2 AC-FT 21,630

12-3300. Boulder Creek at Maxville, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	19	22	19	16	12	16	45	204	78	24	12
2	23	19	22	19	17	12	16	43	200	70	22	12
3	24	20	22	19	18	14	22	44	237	63	22	11
4	24	19	22	19	18	14	18	61	192	62	27	11
5	22	18	22	18	16	14	20	62	150	65	29	11
6	24	20	22	18	16	15	19	59	131	63	25	10
7	24	24	20	18	16	14	22	79	119	56	22	10
8	24	24	18	16	16	14	19	86	113	52	28	16
9	23	24	16	14	16	15	18	112	138	49	27	20
10	24	24	14	12	16	15	17	110	200	45	29	16
11	27	24	14	10	16	14	16	110	223	41	29	16
12	26	24	15	12	16	14	17	93	207	40	27	17
13	26	21	17	14	16	14	20	96	237	45	26	21
14	26	20	18	14	16	14	20	84	299	44	23	22
15	24	19	18	14	15	14	24	82	278	40	17	20
16	22	18	18	13	16	13	26	84	254	38	16	19
17	24	16	18	12	16	13	25	86	242	34	16	18
18	23	16	18	11	16	13	29	86	225	31	16	18
19	22	16	18	10	16	13	37	110	204	30	14	17
20	22	16	18	10	15	14	52	131	192	28	13	17
21	25	17	19	10	14	14	49	165	178	27	12	16
22	24	18	20	11	12	14	52	192	161	26	18	16
23	24	19	20	12	12	14	57	178	144	24	24	16
24	24	20	21	15	11	13	75	239	131	24	20	16
25	22	22	20	17	10	14	92	234	116	24	11	15
26	26	22	20	17	10	15	82	217	106	23	9.8	15
27	26	22	20	16	10	16	76	202	99	23	9.8	14
28	24	22	20	16	11	15	66	202	89	24	13	15
29	14	22	20	16	------	15	56	197	82	24	16	16
30	15	22	20	16	------	14	48	185	80	22	14	16
31	18	------	19	16	------	15	------	183	------	22	13	------
TOTAL	719	607	591	454	413	434	1,106	3,857	5,231	1,237	612.6	469
MEAN	23.2	20.2	19.1	14.6	14.8	14.0	36.9	124	174	39.9	19.8	15.6
MAX	27	24	22	19	18	16	92	239	299	78	29	22
MIN	14	16	14	10	10	12	16	43	80	22	9.8	10
AC-FT	1,430	1,200	1,170	901	819	861	2,190	7,650	10,380	2,450	1,220	930

CAL YR 1961: TOTAL 11,060.6 MEAN 30.3 MAX 315 MIN 6.2 AC-FT 21,940
WAT YR 1962: TOTAL 15,730.6 MEAN 43.1 MAX 299 MIN 9.8 AC-FT 31,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	22	19	18	15	18	18	44	266	124	24	13
2	14	22	20	18	21	18	18	37	254	112	22	18
3	14	22	20	18	24	18	17	34	214	105	22	15
4	15	22	20	18	27	18	18	32	266	99	22	13
5	15	22	20	18	28	18	18	33	242	92	22	13
6	15	23	20	18	26	18	20	49	212	85	21	12
7	15	21	20	17	24	18	20	65	176	78	20	12
8	16	20	20	17	24	18	20	70	165	73	20	12
9	16	21	20	17	22	17	20	64	185	70	20	12
10	21	22	18	12	22	17	18	58	228	73	22	11
11	24	21	17	9.0	22	17	19	59	212	74	26	11
12	30	21	17	9.0	22	17	19	55	202	67	22	10
13	37	21	17	11	21	17	20	56	207	61	21	11
14	37	20	18	16	21	16	24	59	210	59	19	13
15	33	18	20	16	20	16	29	69	202	59	16	16
16	27	20	20	15	20	16	26	76	185	54	14	24
17	24	16	20	13	19	16	24	87	156	51	14	24
18	22	18	21	12	19	16	23	104	133	51	13	23
19	22	18	20	11	19	16	22	110	124	51	13	22
20	24	23	20	14	20	16	22	118	123	46	13	22
21	26	24	20	17	20	17	21	131	214	45	13	22
22	26	22	18	18	19	18	21	142	185	41	13	26
23	25	20	14	17	19	20	20	171	138	40	12	29
24	24	18	14	16	19	18	20	210	133	39	12	27
25	24	19	15	15	19	18	21	260	133	37	12	24
26	24	22	16	15	19	18	24	248	138	37	12	22
27	23	21	18	15	19	18	27	228	118	37	12	21
28	23	20	20	15	18	20	29	217	110	31	11	20
29	22	18	20	14	------	18	30	234	144	27	10	20
30	22	18	19	14	------	18	35	266	137	26	10	20
31	22	------	18	13	------	18	------	266	------	25	10	------
TOTAL	697	615	579	466.0	588	542	663	3,652	5,412	1,869	513	538
MEAN	22.5	20.5	18.7	15.0	21.0	17.5	22.1	118	180	60.3	16.5	17.9
MAX	37	24	21	18	28	20	35	266	266	124	26	29
MIN	14	16	14	9.0	15	16	17	32	110	25	10	10
AC-FT	1,380	1,220	1,150	924	1,170	1,080	1,320	7,240	10,730	3,710	1,020	1,070

CAL YR 1962: TOTAL 15,704.6 MEAN 43.0 MAX 299 MIN 9.8 AC-FT 31,150
WAT YR 1963: TOTAL 16,134.0 MEAN 44.2 MAX 266 MIN 9.0 AC-FT 32,000

12-3300. Boulder Creek at Maxville, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	20	18	19	18	16	20	35	192	185	53	37
2	19	20	19	19	18	16	20	34	231	178	51	31
3	18	20	19	19	18	16	18	30	305	197	46	27
4	18	20	19	19	18	16	18	29	308	163	44	25
5	22	22	19	19	18	16	20	29	299	154	42	24
6	31	22	18	19	18	16	19	27	312	140	41	23
7	28	22	18	18	18	16	18	27	312	127	40	22
8	24	22	17	18	18	16	18	28	506	116	39	21
9	24	22	15	17	18	16	20	29	557	109	37	20
10	24	22	11	17	18	16	20	34	406	108	37	20
11	22	21	9.0	16	17	16	20	37	315	98	36	20
12	22	22	10	16	17	16	18	41	266	93	36	19
13	22	22	12	16	17	16	18	47	260	93	37	18
14	21	22	15	16	17	16	20	51	275	90	37	18
15	21	24	17	17	17	16	22	56	293	86	33	18
16	20	23	18	18	17	16	20	72	325	79	32	17
17	20	22	18	18	17	17	19	94	429	74	31	16
18	20	22	18	18	18	17	19	105	315	72	29	16
19	21	22	18	18	17	16	19	131	312	68	29	16
20	21	22	18	18	17	16	19	183	302	66	30	17
21	21	22	18	17	17	15	20	239	272	64	29	17
22	21	22	18	17	16	14	21	192	260	60	27	17
23	21	22	19	16	16	13	22	148	242	59	26	16
24	21	22	18	17	16	12	24	126	269	58	24	16
25	22	22	18	17	14	13	24	126	312	55	20	16
26	21	22	18	18	14	14	24	129	325	53	20	16
27	20	22	18	18	14	15	25	180	308	50	20	16
28	20	19	18	18	15	15	26	254	269	49	29	16
29	21	18	18	18	15	16	28	237	223	47	35	15
30	21	18	19	18	------	16	32	192	200	92	35	15
31	20	------	19	18	------	17	------	183	------	62	37	------
TOTAL	666	643	527.0	547	488	482	631	3,125	9,200	2,905	1,062	585
MEAN	21.5	21.4	17.0	17.6	16.8	15.5	21.0	101	307	93.7	34.3	19.5
MAX	31	24	19	19	18	17	32	254	557	197	53	37
MIN	18	18	9.0	16	14	12	18	27	192	47	20	15
AC-FT	1,320	1,280	1,050	1,080	968	956	1,250	6,200	18,250	5,760	2,110	1,160

CAL YR 1963: TOTAL 16,079.0 MEAN 44.1 MAX 266 MIN 9.0 AC-FT 31,890
WAT YR 1964: TOTAL 20,861.0 MEAN 57.0 MAX 557 MIN 9.0 AC-FT 41,380

Note.--No gage-height record Dec. 23 to Jan. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	27	20	18	23	23	22	89	280	140	46	35
2	22	28	20	18	23	21	25	77	260	133	45	33
3	22	27	20	18	22	20	22	67	280	124	46	33
4	21	26	20	19	22	20	22	63	299	123	56	37
5	21	26	20	20	22	20	22	59	287	118	56	38
6	20	25	19	21	22	20	22	55	308	112	53	41
7	20	24	18	20	22	21	22	51	325	112	46	37
8	20	24	19	18	22	21	23	49	299	112	44	39
9	20	24	20	17	22	21	22	47	322	123	41	45
10	21	24	20	17	20	21	22	49	360	116	38	46
11	20	22	20	18	18	20	22	54	370	109	36	41
12	20	20	18	20	16	20	22	66	429	121	38	41
13	20	20	16	21	16	20	24	88	381	109	45	41
14	21	19	12	21	18	20	24	109	275	96	38	46
15	24	19	10	20	20	20	24	119	228	89	35	85
16	24	20	8.0	19	21	20	26	133	287	85	33	76
17	24	21	10	19	22	19	24	158	471	81	33	59
18	23	22	14	19	22	16	24	155	406	80	32	60
19	23	22	30	20	22	12	26	150	325	75	32	56
20	23	22	50	20	22	12	43	160	299	73	32	59
21	23	22	70	19	22	12	53	165	287	73	31	67
22	23	21	80	18	22	14	51	165	275	68	43	86
23	23	21	60	18	21	14	48	165	254	66	59	73
24	23	22	45	18	20	12	45	165	251	63	51	67
25	22	23	42	19	21	12	41	180	328	59	46	68
26	22	22	40	20	21	14	44	200	318	53	45	68
27	22	21	32	22	22	16	45	210	234	53	41	66
28	22	20	28	23	22	17	52	210	194	55	41	63
29	23	20	22	24	------	18	63	230	167	52	41	60
30	26	20	20	24	------	19	79	280	148	51	38	58
31	28	------	19	24	------	20	------	300	------	48	37	------
TOTAL	686	674	842.0	612	588	555	1,004	4,068	8,947	2,772	1,298	1,624
MEAN	22.1	22.5	27.2	19.7	21.0	17.9	33.5	131	298	89.4	41.9	54.1
MAX	28	28	80	24	23	23	79	300	471	140	59	86
MIN	20	19	8.0	17	16	12	22	47	148	48	31	33
AC-FT	1,360	1,340	1,670	1,210	1,170	1,100	1,990	8,070	17,750	5,500	2,570	3,220

CAL YR 1964: TOTAL 21,227.0 MEAN 58.0 MAX 557 MIN 8.0 AC-FT 42,100
WAT YR 1965: TOTAL 23,670.0 MEAN 64.8 MAX 471 MIN 8.0 AC-FT 46,950

12-3320. Middle Fork Rock Creek near Philipsburg, Mont.

Location (revised).--Lat 46°12', long 113°30', in SE¼ sec.8, T.5 N., R.15 W., on right bank a quarter of a mile upstream from East Fork, 2½ miles upstream from West Fork, and 14 miles southwest of Philipsburg.

Drainage area.--123 sq mi.

Records available.--September 1937 to September 1965. Monthly discharge only January to March 1938, published in WSP 1316.

Gage.--Digital water-stage recorder. Altitude of gage is 5,380 ft (from topographic map). Sept. 21, 1937, to May 10, 1942, wire-weight gage at site 600 ft upstream at different datum. May 11, 1942, to May 11, 1954, staff or wire-weight gages at site 400 ft downstream at different datum. May 12, 1954, to Sept. 30, 1955, wire-weight gage at site 300 ft upstream at datum 5.74 ft higher. Oct. 1, 1955, to Aug. 20, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--28 years, 122 cfs (88,320 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (450 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 30, 1961	2300	* 860	4.15	June 15, 1963	0130	555	3.67	June 17, 1964	0700	914	4.31
June 7, 1961	0530	854	4.07	June 21, 1963	2030	668	3.88	June 27, 1964	0800	866	4.21
June 3, 1962	2100	692	3.82								
June 14, 1962	0530	* 770	3.97	May 22, 1964	0100	590	3.66	May 17, 1965	0300	520	3.60
				May 29, 1964	0200	698	3.92	June 12, 1965	0630	* 1,380	4.96
June 1, 1963	0230	* 914	4.29	June 8, 1964	0800	* 1,150	4.72	June 18, 1965	0330	927	4.31

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Jan. 19, 1961	9.2	1.48	1964	Dec. 29, 1963	14	1.66
1962	Feb. 25, 26, 1962	a 8	-	1965	Feb. 11, 1965	12	1.63
1963	Dec. 25, 1962	b 4.3	1.35				

a Minimum daily.
b Result of ice jam upstream.

1937-65: Maximum discharge, 1,430 cfs June 13, 1953 (gage height, 3.92 ft, site and datum then in use); minimum, 4.3 cfs Dec. 25, 1962 (gage height, 1.35 ft), result of ice jam upstream.

Remarks.--Records good except those for winter periods and those for period of no gage-height record, which are poor. A few small diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	35	43	40	30	25	35	31	57	668	153	46	44
2	35	40	45	25	30	30	33	76	728	144	42	60
3	35	39	45	25	30	30	42	76	746	140	42	52
4	34	38	40	20	30	25	48	80	734	137	41	48
5	34	38	35	20	30	25	39	80	692	149	41	44
6	34	40	30	20	30	30	38	80	776	153	41	42
7	36	42	25	20	30	35	39	76	788	133	41	41
8	36	40	25	20	30	40	37	76	710	125	41	38
9	36	37	20	25	35	45	37	80	674	115	41	36
10	36	39	20	25	35	45	35	108	610	104	41	36
11	37	39	20	30	35	45	35	110	580	86	41	39
12	37	40	25	30	35	45	37	110	590	82	39	41
13	37	39	25	30	35	48	39	110	555	79	39	39
14	37	39	30	30	35	37	37	121	475	78	40	38
15	37	39	30	35	35	34	35	131	435	84	44	36
16	37	38	35	35	35	37	37	146	412	78	39	34
17	37	38	40	30	40	33	39	160	392	67	37	39
18	37	38	45	25	40	31	42	180	376	64	35	38
19	37	38	45	25	40	30	43	190	352	63	35	42
20	36	37	50	20	40	30	40	227	332	63	36	43
21	36	37	50	20	45	29	39	276	312	62	33	46
22	36	36	50	20	45	28	42	320	276	59	31	44
23	36	35	55	15	45	33	44	372	250	57	32	44
24	36	35	55	15	45	35	42	475	232	53	33	43
25	37	35	55	15	40	34	41	605	218	50	33	44
26	37	35	50	15	34	33	43	686	202	50	39	43
27	37	30	50	15	35	32	42	806	190	50	34	42
28	37	30	45	20	35	30	43	770	182	50	34	41
29	40	25	40	20	------	29	47	758	172	48	35	42
30	37	35	35	20	------	30	53	818	163	47	37	42
31	39	------	30	25	------	31	------	764	------	47	35	------
TOTAL	1,128	1,114	1,185	720	999	1,054	1,199	8,924	13,822	2,670	1,178	1,261
MEAN	36.4	37.1	38.2	23.2	35.7	34.0	40.0	288	461	86.1	38.0	42.0
MAX	40	43	55	35	45	48	53	818	788	153	46	60
MIN	34	25	20	15	25	25	31	57	163	47	31	34
CFSM	.30	.30	.31	.19	.29	.28	.32	2.34	3.75	.70	.31	.34
IN.	.34	.34	.36	.22	.30	.32	.36	2.70	4.18	.81	.36	.38
AC-FT	2,240	2,210	2,350	1,430	1,980	2,090	2,380	17,700	27,420	5,300	2,340	2,500

CAL YR 1960: TOTAL 35,070 MEAN 95.8 MAX 758 MIN 15 CFSM .78 IN 10.60 AC-FT 69,560
WAT YR 1961: TOTAL 35,254 MEAN 96.6 MAX 818 MIN 15 CFSM .79 IN 10.66 AC-FT 69,930

12-3320. Middle Fork Rock Creek near Philipsburg, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	41	43	38	32	45	15	58	197	480	352	88	49
2	40	39	36	34	46	17	57	192	495	328	86	48
3	41	39	34	34	45	20	57	192	620	293	84	47
4	40	42	33	34	42	22	58	224	585	262	84	44
5	40	35	33	34	32	24	59	229	470	262	90	41
6	41	36	32	34	28	25	58	244	420	256	82	39
7	41	38	28	32	28	25	70	282	384	238	76	41
8	41	41	24	20	30	24	59	340	352	224	73	44
9	41	43	21	14	32	23	53	396	388	215	72	46
10	40	34	20	14	34	20	50	416	490	204	78	44
11	47	35	21	16	36	16	50	425	560	202	76	49
12	48	34	29	24	36	15	53	388	580	194	68	50
13	46	30	33	28	36	15	59	392	644	221	66	48
14	47	26	35	28	35	16	70	348	722	213	64	48
15	46	23	36	28	35	19	85	336	620	194	60	46
16	44	21	38	28	34	21	101	336	575	180	58	46
17	44	21	38	26	31	23	102	320	615	170	58	44
18	43	22	38	22	27	24	119	320	638	158	60	43
19	42	23	38	18	24	25	149	376	632	151	58	43
20	42	24	38	13	21	24	202	396	595	137	57	43
21	50	27	38	12	17	24	190	460	575	129	54	43
22	50	29	37	14	12	23	180	540	495	125	54	57
23	48	31	35	20	11	23	194	505	460	119	57	52
24	47	33	34	27	10	23	229	535	435	115	57	49
25	43	36	34	33	8.0	26	268	540	440	101	54	48
26	48	39	33	36	8.0	34	262	515	450	97	49	47
27	53	40	29	38	10	47	259	515	435	101	49	46
28	48	40	27	40	13	60	250	500	396	102	50	48
29	40	40	27	42	------	66	227	485	368	96	54	50
30	41	39	28	44	------	59	204	485	360	90	54	49
31	43	------	30	45	------	58	------	470	------	86	50	------
TOTAL	1,366	1,003	995	864	766.0	856	3,832	11,899	15,279	5,615	2,020	1,392
MEAN	44.1	33.4	32.1	27.9	27.4	27.6	128	384	509	181	65.2	46.4
MAX	53	43	38	45	46	66	268	540	722	352	90	57
MIN	40	21	20	12	8.0	15	50	192	352	86	49	39
CFSM	.36	.27	.26	.23	.22	.22	1.04	3.12	4.14	1.47	.53	.38
IN.	.41	.30	.30	.26	.23	.26	1.16	3.60	4.62	1.70	.61	.42
AC-FT	2,710	1,990	1,970	1,710	1,520	1,700	7,600	23,600	30,310	11,140	4,010	2,760

CAL YR 1961: TOTAL 35,191 MEAN 96.4 MAX 818 MIN 15 CFSM .78 IN 10.64 AC-FT 69,800
WAT YR 1962: TOTAL 45,887.0 MEAN 126 MAX 722 MIN 8.0 CFSM 1.02 IN 13.87 AC-FT 91,020

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48	47	54	42	28	42	47	129	820	304	101	55
2	47	47	55	42	28	38	46	123	710	286	97	58
3	44	46	55	41	40	36	42	119	662	286	94	57
4	42	46	50	38	60	36	47	115	644	282	94	54
5	42	49	54	35	80	38	46	125	620	276	91	49
6	42	54	52	36	100	42	49	156	545	265	90	48
7	42	48	48	37	90	43	52	190	480	244	88	43
8	48	48	48	37	80	44	52	213	450	235	85	47
9	52	48	47	36	70	44	48	218	450	232	84	47
10	78	50	50	26	50	43	48	215	450	232	99	47
11	84	47	46	8.0	40	40	47	221	416	227	96	46
12	82	47	42	6.0	30	35	47	213	420	210	90	43
13	84	47	40	8.0	31	35	52	204	460	197	84	43
14	84	47	49	12	32	35	62	207	515	190	79	53
15	79	44	49	16	33	36	76	221	525	187	76	54
16	68	47	49	22	34	37	70	244	480	182	73	58
17	64	43	48	26	35	38	66	268	460	175	72	55
18	62	44	48	28	36	39	64	316	445	180	70	52
19	60	43	47	30	37	40	63	360	430	172	68	49
20	59	67	47	32	38	41	62	400	420	160	66	48
21	57	76	44	33	39	47	59	435	590	153	66	47
22	55	60	43	34	38	50	60	490	515	149	63	49
23	54	42	38	32	37	52	58	575	420	133	62	57
24	54	55	10	33	37	47	58	615	388	123	60	53
25	53	54	8.0	33	40	43	59	644	352	123	59	49
26	52	53	12	32	42	46	66	662	336	121	59	46
27	52	55	20	32	44	47	73	674	308	119	55	44
28	50	52	30	31	44	52	79	680	308	117	52	44
29	50	44	40	30	------	48	84	692	368	117	50	42
30	49	47	41	29	------	46	99	740	336	106	50	41
31	49	------	42	28	------	47	------	760	------	102	49	------
TOTAL	1,786	1,497	1,306.0	905.0	1,293	1,307	1,781	11,224	14,323	5,885	2,320	1,478
MEAN	57.6	49.9	42.1	29.2	46.2	42.2	59.4	362	477	190	74.8	49.3
MAX	84	76	55	42	100	52	99	760	820	304	101	58
MIN	42	42	8.0	6.0	28	35	42	115	308	102	49	41
CFSM	.47	.41	.34	.24	.38	.34	.48	2.94	3.88	1.54	.61	.40
IN.	.54	.45	.39	.27	.39	.40	.54	3.39	4.33	1.78	.70	.45
AC-FT	3,540	2,970	2,590	1,800	2,560	2,590	3,530	22,260	28,410	11,670	4,600	2,930

CAL YR 1962: TOTAL 47,112.0 MEAN 129 MAX 722 MIN 8.0 CFSM 1.05 IN 14.24 AC-FT 93,450
WAT YR 1963: TOTAL 45,105.0 MEAN 124 MAX 820 MIN 6.0 CFSM 1.00 IN 13.64 AC-FT 89,460

12-3320. Middle Fork Rock Creek near Philipsburg, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	39	40	35	33	30	35	43	103	525	530	138	85
2	39	41	37	33	29	32	42	94	565	515	127	87
3	39	42	38	33	29	30	41	87	590	515	119	82
4	38	42	42	32	31	33	42	80	626	465	111	75
5	45	42	39	31	33	35	39	78	620	450	103	72
6	72	42	38	30	30	35	36	75	704	408	100	68
7	62	42	35	28	28	34	35	72	770	376	96	66
8	52	42	32	27	29	34	35	73	1,030	360	94	62
9	50	45	23	26	30	35	37	75	1,010	348	96	60
10	51	45	21	26	32	35	40	89	806	332	92	58
11	47	43	20	25	33	36	38	94	686	308	91	58
12	45	43	21	25	32	36	36	101	610	292	91	56
13	45	43	22	26	31	37	35	121	595	285	100	55
14	43	43	26	27	30	37	36	140	620	266	94	55
15	42	48	30	28	29	38	41	164	644	252	87	55
16	42	47	32	29	30	39	45	209	698	230	82	54
17	41	45	32	30	31	40	38	285	854	215	78	52
18	40	43	31	30	32	40	38	320	740	206	75	52
19	42	42	31	30	32	39	39	380	794	209	84	52
20	43	43	32	30	32	37	41	470	698	187	87	56
21	41	43	32	28	33	33	45	570	656	176	84	58
22	40	40	32	26	33	28	45	545	610	166	78	58
23	42	42	33	26	33	21	46	460	580	159	75	58
24	42	42	33	27	32	19	42	420	650	138	73	56
25	46	41	32	28	30	18	41	404	734	129	62	55
26	45	40	32	29	28	22	41	392	796	127	58	55
27	41	42	32	30	32	30	41	420	824	127	61	55
28	42	35	32	31	35	40	43	570	776	127	72	52
29	42	38	32	31	36	43	56	662	632	125	89	52
30	41	40	33	31	------	45	85	595	565	145	80	51
31	40	------	33	31	------	44	------	530	------	152	78	------
TOTAL	1,379	1,266	973	897	905	1,060	1,262	8,678	21,006	8,320	2,755	1,810
MEAN	44.5	42.2	31.4	28.9	31.2	34.2	42.1	280	700	268	88.9	60.3
MAX	72	48	42	33	36	45	85	662	1,030	530	138	87
MIN	38	35	20	25	28	18	35	72	525	125	58	51
CFSM	.36	.34	.26	.24	.25	.28	.34	2.28	5.69	2.18	.72	.49
IN.	.42	.38	.29	.27	.27	.32	.38	2.62	6.35	2.52	.83	.55
AC-FT	2,740	2,510	1,930	1,780	1,800	2,100	2,500	17,210	41,660	16,500	5,460	3,590

CAL YR 1963: TOTAL 44,134.0 MEAN 121 MAX 820 MIN 6.0 CFSM .98 IN 13.34 AC-FT 87,540
WAT YR 1964: TOTAL 50,311 MEAN 137 MAX 1,030 MIN 18 CFSM 1.12 IN 15.21 AC-FT 99,790

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	54	45	42	41	44	28	53	364	848	490	136	72
2	51	51	37	41	41	27	52	312	830	480	134	68
3	51	50	36	41	41	28	48	277	872	470	143	68
4	50	46	35	45	42	32	43	255	941	480	171	67
5	50	45	29	52	44	39	40	230	914	490	157	66
6	50	43	25	52	46	48	39	215	969	465	140	72
7	48	43	23	52	44	51	42	197	1,020	470	127	68
8	47	43	26	52	40	51	41	187	962	465	121	82
9	47	42	37	48	35	51	41	181	990	435	115	94
10	47	41	38	46	28	50	40	179	1,070	408	105	82
11	47	43	37	42	20	48	41	192	1,150	392	98	75
12	47	41	36	42	20	45	37	221	1,280	376	101	70
13	45	34	34	44	24	40	42	292	1,200	328	127	68
14	45	30	32	47	27	41	48	376	878	304	109	75
15	45	28	30	50	28	44	50	400	734	281	100	107
16	50	28	22	52	30	43	54	435	674	266	94	117
17	48	41	16	49	40	39	55	485	854	266	91	94
18	47	51	23	47	48	30	52	430	878	258	87	89
19	46	54	48	47	50	29	58	404	800	238	103	87
20	45	50	70	47	48	30	123	435	794	234	85	89
21	45	55	78	47	44	34	154	450	782	227	84	91
22	45	55	94	47	38	34	149	425	806	206	87	111
23	45	47	200	46	32	31	145	425	788	189	101	103
24	45	46	130	45	30	26	143	435	800	176	100	96
25	43	55	80	43	34	27	143	420	878	169	96	94
26	43	45	54	41	40	32	145	400	836	161	94	91
27	43	37	53	40	39	38	154	392	698	159	87	89
28	43	39	53	41	36	48	174	412	590	159	84	87
29	43	40	52	44	------	50	218	510	515	154	82	85
30	45	46	50	46	------	51	312	758	490	147	78	82
31	50	------	44	46	------	51	------	878	------	140	75	------
TOTAL	1,450	1,314	1,564	1,423	1,033	1,216	2,736	11,572	25,841	9,483	3,312	2,539
MEAN	46.8	43.8	50.5	45.9	36.9	39.2	91.2	373	861	306	107	84.6
MAX	54	55	200	52	50	51	312	878	1,280	490	171	117
MIN	43	28	16	40	20	26	37	179	490	140	75	66
CFSM	.38	.36	.41	.37	.30	.32	.74	3.03	7.00	2.49	.87	.69
IN.	.44	.40	.47	.43	.31	.37	.83	3.50	7.81	2.87	1.00	.77
AC-FT	2,880	2,610	3,100	2,820	2,050	2,410	5,430	22,950	51,250	18,810	6,570	5,040

CAL YR 1964: TOTAL 51,021 MEAN 139 MAX 1,030 MIN 16 CFSM 1.13 IN 15.43 AC-FT 101,200
WAT YR 1965: TOTAL 63,483 MEAN 174 MAX 1,280 MIN 16 CFSM 1.41 IN 19.19 AC-FT 125,900

Note.--No gage-height record Dec. 25 to Feb. 4.

12-3325. East Fork Rock Creek Reservoir near Philipsburg, Mont.

Location.--Lat 46°08'00", long 113°23'00", in NE¼ sec.6, T.4 N., R.14 W., at dam on East Fork Rock Creek, 14 miles southwest of Philipsburg and at mile 9.7.

Drainage area.--30.3 sq mi.

Records available.--October 1939 to September 1965 (seasonal records only for most years 1946-60, 1964). Records for October 1955 to April 1956, published in WSP 1446, have been found to be unreliable and should not be used. May to August 1948 scattered daily contents, published in WSP 1080.

Gage.--Elevations determined at or near end of month by hand levels from reference points. Datum of gage is at mean sea level (levels by Montana Water Conservation Board.

Extremes.--Maximums and minimums (contents in acre-ft, elevation in feet) for March 1960 to September 1965 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1960	June 15, 1960	a 16,040	6,055.5	Aug. 31, 1960	a 5,400	6,022.5
1961	June 30, 1961	13,910	6,050.0	Aug. 31 to Sept. 14	0	-
1962	June 30, 1962	14,880	6,052.5	Oct. 16, 1961	1,520	6,003.5
1963	June 30, 1963	16,440	6,056.5	Oct. 1, 1962	5,780	6,024.0
1964	June 30, 1964	16,040	6,055.5	Oct. 1, 1963	6,450	6,026.5
1965	June 30, July 31	16,040	6,055.5	May 1, 1965	6,580	6,027.0

a Not previously published.

1939-65: Maximum contents observed, in excess of 16,000 acre-ft when reservoir was full and spilling at times in several years; no storage Sept. 1, 1955, Aug. 31 to Sept. 14, 1961.

Remarks.--Reservoir is formed by earthfill dam with concrete spillway completed in 1937; storage began in 1936. Usable contents, 16,040 acre-ft at elevation 6,055.5 ft. Dead storage unknown. Water is used for irrigation and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by Montana Water Conservation Board.

Revisions.--WSP 1316: Drainage area. See also Records available.

Corrections.--In WSP 1736, the month-end contents for May 1958 is listed in error; it should be 14,100 acre-ft.

MONTH-END CONTENTS, IN ACRE-FEET, WATER YEARS 1951-58, 1960-65

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1951	-	-	-	-	-	-	-	16,000	16,000	15,800	11,750	8,900
1952	-	-	-	-	-	-	-	14,710	13,330	9,530	6,290	4,250
1953	-	-	-	-	-	-	-	7,660	13,710	11,280	6,640	4,320
1954	-	-	-	-	-	- -	-	10,330	11,480	9,680	-	-
1955	-	-	-	-	-	-	16,000	-	-	-	0	2,620
1956	-	-	-	-	-	-	-	14,460	14,520	12,220	6,090	3,830
1957	-	-	-	-	-	-	-	-	14,900	11,120	5,780	1,690
1958	-	-	-	-	-	-	-	14,100	16,040	15,630	10,860	5,100
1960	-	-	-	-	-	10,430	10,160	14,430	14,410	9,250	5,400	4,800
1961	5,910	6,860	7,560	a 8,290	8,960	a 9,630	a 10,830	12, 150	13,910	5,400	b 0	a 761
1962	a 2,020	a 2,810	3,860	a 4,480	5,020	5,780	6,450	9,220	14,880	a 11,220	c 7,280	5,780
1963	7,000	7,860	8,750	9,370	10,010	10,650	11,310	a 12,700	16,440	14,490	7,140	6,450
1964	-	-	-	-	-	-	-	a 13,500	16,040	a 15,600	a 13,700	a 11,500
1965	a 11,810	c 12,850	c 13,200	c 12,850	c 12,150	c 10,160	c 6,580	c 7,860	16,040	16,040	c 14,800	c 13,800

a Interpolated on basis of readings made weekly or less frequently.
b Estimated.
c Figure of contents on first day of following month.
Note.--Figures prior to water year 1961 not previously published.

12-3355. Nevada Creek above reservoir, near Finn, Mont.

Location.--Lat 46°46'30", long 112°45'20", near south line of sec.20, T.12 N., R.9 W., on right bank a quarter of a mile downstream from Gallagher Creek, 2 miles upstream from Buffalo Creek, 3 miles west of Finn, and at mile 76.4.

Drainage area.--116 sq mi.

Records available.--April 1939 to September 1965.

Gage.--Digital water-stage recorder. Altitude of gage is 4,660 ft (from river-profile map). Prior to Apr. 30, 1942, wire-weight gage at site seven-eighths of a mile downstream at different datum. Apr. 30, 1942, to July 26, 1953, graphic water-stage recorder at site 1 mile downstream at different datum. July 27, 1953, to Aug. 25, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--26 years, 36.5 cfs (26,420 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (160 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 10, 1961	-	-	a 3.96	June 15, 1962	1330	271	3.62	May 29, 1964	1500	299	3.80
May 27, 1961	1300	* 193	3.22					June 9, 1964	1500	* 524	4.22
May 31, 1961	0300	173	3.04	Feb. 4, 1963	-	(*)	a 4.67				
				June 29, 1963	0930	182	3.02	Apr. 1, 1965	-	-	a 5.75
Mar. 27, 1962	-	-	a 4.32					Apr. 20, 1965	-	-	-
Apr. 4, 1962	2100	312	3.84	Apr. 4, 1964	-	-	a 4.83	Apr. 30, 1965	0030	262	3.58
Apr. 15, 1962	2300	332	3.86	Apr. 10, 1964	2000	169	2.93	May 15, 1965	1200	267	3.52
May 13, 1962	1830	171	2.90	May 5, 1964	1830	350	4.00	May 31, 1965	1100	336	3.80
May 24, 1962	2200	* 335	3.91	May 21, 1964	1400	392	4.07	June 13, 1965	1300	212	3.07

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Aug. 19, 1961	2.4	1.02	1964	Feb. 26, 1964	a 5	-
1962	Feb. 27, 1962	a 3	-	1965	Dec. 17, 1964	a 5	-
1963	Aug. 29, 1963	5.9	1.11				

a Minimum daily.

1939-65: Maximum discharge, 1,800 cfs June 2, 1953 (gage height, 6.00 ft, site and datum then in use), from rating curve extended above 400 cfs on basis of inflow-outflow study of Nevada Creek Reservoir; maximum gage height, 7.40 ft May 29, 1953, site and datum then in use (backwater from diversion dam); minimum discharge, probably less than 2 cfs at times in 1944, 1957.

Remarks.--Records good except those for winter periods and those for periods of no gage-height record, which are poor. Diversions for irrigation of about 2,900 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	20	11	6.0	12	16	17	22	110	4.8	5.9	3.8
2	10	17	11	5.0	14	15	18	28	86	4.6	5.0	4.8
3	10	17	10	5.0	16	13	21	27	75	4.0	5.0	4.6
4	10	15	10	5.0	17	15	18	29	66	4.4	5.0	4.0
5	10	15	9.0	5.0	19	15	17	49	62	7.1	5.0	4.0
6	10	15	9.0	6.0	22	16	17	49	58	12	5.0	3.6
7	10	15	8.0	8.0	24	13	16	44	46	10	5.3	3.8
8	11	14	7.0	10	26	13	15	35	39	8.4	5.3	4.0
9	11	15	6.0	11	28	14	16	29	39	7.7	5.6	4.0
10	11	16	6.0	11	30	13	16	39	35	8.0	6.5	4.2
11	12	17	5.0	10	29	14	16	45	34	9.6	5.6	5.3
12	13	16	5.0	9.0	28	12	18	36	39	8.8	5.3	5.3
13	15	15	5.0	8.0	26	15	19	33	35	8.8	4.0	5.0
14	15	15	4.0	9.0	24	19	17	33	26	9.2	3.4	5.0
15	15	15	4.0	10	21	27	16	32	17	8.8	3.0	5.0
16	15	16	4.0	11	19	30	16	41	13	8.4	3.2	5.0
17	15	16	4.0	12	18	23	17	70	14	7.4	2.8	5.3
18	16	16	5.0	11	17	18	19	48	13	7.4	2.6	5.3
19	17	15	6.0	11	17	16	20	43	12	7.7	2.6	5.3
20	18	16	7.0	10	19	15	18	40	10	8.4	2.7	5.6
21	17	15	8.0	10	24	13	17	55	8.4	9.2	2.7	7.1
22	17	15	8.0	9.0	24	13	17	74	6.5	8.4	2.7	6.2
23	17	15	9.0	8.0	20	14	18	89	5.6	11	2.7	5.9
24	17	16	8.0	8.0	19	17	17	113	4.8	10	2.8	6.5
25	16	16	8.0	7.0	18	16	15	130	5.0	10	2.8	6.8
26	16	14	8.0	6.0	17	14	17	153	5.0	8.8	3.2	6.8
27	16	12	7.0	6.0	17	14	23	173	4.8	9.2	2.8	6.8
28	16	10	7.0	5.0	17	13	22	160	5.0	9.2	2.8	6.8
29	18	10	7.0	5.0	------	14	22	130	5.6	8.8	3.0	7.1
30	16	11	6.0	6.0	------	17	22	117	5.9	8.4	3.2	7.1
31	17	------	6.0	8.0	------	18	------	152	------	8.0	3.0	------
TOTAL	437	450	218.0	251.0	582	495	537	2,118	885.6	256.5	120.5	160.0
MEAN	14.1	15.0	7.03	8.10	20.8	16.0	17.9	68.3	29.5	8.27	3.89	5.33
MAX	18	20	11	12	30	30	23	173	110	12	6.5	7.1
MIN	10	10	4.0	5.0	12	12	15	22	4.8	4.0	2.6	3.6
AC-FT	867	893	432	498	1,150	982	1,070	4,200	1,760	509	239	317

CAL YR 1960: TOTAL 14,464.1 MEAN 39.5 MAX 685 MIN 4.0 AC-FT 28,690
WAT YR 1961: TOTAL 6,510.6 MEAN 17.8 MAX 173 MIN 2.6 AC-FT 12,910

Note.--No gage-height record Dec. 6 to Jan. 9.

12-3355. Nevada Creek above reservoir, near Finn, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.1	13	12	8.0	17	6.0	11	70	133	53	23	9.2
2	6.8	13	12	8.0	17	8.0	50	65	118	42	20	5.9
3	6.8	12	12	7.0	17	8.0	184	62	132	35	17	5.9
4	6.8	11	12	7.0	15	8.0	199	59	124	30	15	5.9
5	6.5	11	12	7.5	13	8.0	200	58	106	34	17	7.4
6	7.1	11	12	8.0	10	8.0	145	60	88	37	14	7.7
7	7.1	12	12	8.0	9.0	9.0	193	62	79	36	14	5.0
8	7.1	13	11	7.5	9.0	10	105	65	71	33	14	5.6
9	6.8	13	10	6.5	9.5	10	64	64	63	28	14	5.3
10	7.1	14	9.0	5.5	10	9.5	55	75	78	23	16	5.3
11	8.4	14	8.0	5.0	11	8.0	68	95	79	24	12	6.8
12	7.4	13	6.0	6.0	11	6.0	100	95	70	26	14	5.9
13	7.7	13	6.0	7.5	11	5.0	136	134	123	38	16	6.5
14	8.4	12	7.0	8.0	11	5.0	159	130	136	39	14	6.5
15	9.2	12	8.0	8.0	11	5.0	186	99	208	37	14	6.2
16	9.2	11	8.0	7.5	10	5.0	142	106	136	43	13	5.9
17	9.6	10	8.0	7.0	10	5.0	101	119	123	35	14	5.9
18	9.2	10	8.0	6.0	9.5	5.5	100	113	102	33	17	5.9
19	9.2	10	8.0	5.0	9.0	6.0	100	127	93	34	14	6.8
20	9.6	11	9.0	4.5	8.5	6.0	124	193	84	31	13	6.8
21	10	11	9.5	4.0	7.5	6.5	106	256	72	30	9.6	7.4
22	10	11	9.5	4.0	6.0	6.5	87	202	64	26	8.0	8.4
23	10	11	9.0	7.0	6.0	7.0	80	175	61	24	8.8	8.8
24	11	12	9.0	11	5.5	8.0	90	207	55	24	8.0	8.8
25	12	13	9.0	12	5.0	8.5	102	292	55	26	7.7	8.8
26	12	13	9.0	12	3.5	9.0	98	310	49	25	8.0	9.2
27	13	13	8.0	13	3.0	9.5	97	250	40	28	7.7	8.8
28	13	13	7.5	13	3.5	10	101	209	35	25	9.2	10
29	11	13	7.0	14	------	10	84	184	31	25	10	13
30	11	12	7.0	16	------	10	78	164	35	25	8.4	13
31	13	------	7.5	17	------	10	------	146	------	24	9.2	------
TOTAL	283.1	361	282.0	260.5	268.5	236.0	3,345	4,246	2,643	973	399.6	222.6
MEAN	9.13	12.0	9.10	8.40	9.59	7.61	112	137	88.1	31.4	12.9	7.42
MAX	13	14	12	17	17	10	200	310	208	53	23	13
MIN	6.5	10	6.0	4.0	3.0	5.0	11	58	31	23	7.7	5.0
AC-FT	562	716	559	517	533	468	6,630	8,420	5,240	1,930	793	442

CAL YR 1961: TOTAL 6,331.7 MEAN 17.3 MAX 173 MIN 2.6 AC-FT 12,560
WAT YR 1962: TOTAL 13,520.3 MEAN 37.0 MAX 310 MIN 3.0 AC-FT 26,820

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	15	15	19	9.0	22	38	58	80	39	15	12
2	14	15	16	16	40	20	31	58	76	36	19	11
3	13	14	16	12	86	18	29	54	87	69	18	11
4	13	14	15	12	400	17	28	52	113	43	17	8.8
5	14	16	15	12	300	17	27	50	94	38	14	8.4
6	14	17	16	12	260	18	38	51	70	34	14	8.0
7	14	14	15	12	200	20	41	71	63	27	14	7.7
8	16	14	20	12	170	20	54	89	58	26	14	7.7
9	16	15	23	11	130	20	49	104	72	24	14	8.4
10	19	17	16	10	97	20	42	93	74	32	16	7.7
11	21	16	14	8.0	52	20	38	85	56	32	18	7.4
12	24	17	11	6.0	20	20	35	78	46	29	14	7.4
13	22	17	10	7.0	18	20	37	68	44	27	13	7.7
14	22	16	14	7.0	18	18	45	60	40	26	9.2	8.4
15	25	14	14	8.0	18	16	58	60	37	30	8.4	8.4
16	20	15	16	8.0	18	15	62	66	37	28	8.4	11
17	17	16	17	8.0	19	16	58	77	38	27	8.8	11
18	17	14	21	8.0	19	17	52	85	34	29	8.4	10
19	17	15	17	8.0	20	22	45	86	31	26	8.0	9.6
20	16	23	16	8.0	22	29	41	79	39	24	6.8	9.2
21	16	20	16	8.0	23	26	32	76	104	24	6.8	9.6
22	15	17	15	9.0	25	30	31	77	73	22	6.8	10
23	15	17	12	9.0	26	40	29	82	44	22	7.1	13
24	16	14	10	9.0	27	47	28	88	45	22	7.1	12
25	16	16	13	8.0	29	54	27	107	44	21	8.0	10
26	16	20	16	8.0	32	56	29	112	39	20	9.2	9.6
27	16	19	18	7.0	32	64	34	107	34	20	7.7	10
28	16	16	19	7.0	26	72	41	94	40	19	7.1	10
29	16	13	19	7.0	------	58	45	81	120	17	6.8	10
30	15	14	19	7.0	------	47	49	74	60	17	6.8	10
31	16	------	19	7.0	------	44	------	78	------	16	7.1	------
TOTAL	520	480	493	290.0	2,136.0	917	1,193	2,400	1,792	866	338.5	285.0
MEAN	16.8	16.0	15.9	9.35	76.3	29.6	39.8	77.4	59.7	27.9	10.9	9.50
MAX	25	23	23	19	400	72	62	112	120	69	19	13
MIN	13	13	10	6.0	9.0	15	27	50	31	16	6.8	7.4
AC-FT	1,030	952	978	575	4,240	1,820	2,370	4,760	3,550	1,720	671	565

CAL YR 1962: TOTAL 14,087.2 MEAN 38.6 MAX 310 MIN 3.0 AC-FT 27,940
WAT YR 1963: TOTAL 11,710.5 MEAN 32.1 MAX 400 MIN 6.0 AC-FT 23,230

12-3355. Nevada Creek above reservoir, near Finn, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	14	13	13	13	8.0	36	88	211	47	35	17
2	11	15	13	14	14	9.0	46	105	210	45	32	16
3	10	15	13	14	14	10	56	68	206	47	27	13
4	11	17	12	13	14	10	62	72	213	41	24	11
5	14	17	12	12	12	10	70	170	214	40	23	9.6
6	17	16	12	11	10	11	66	141	213	39	23	8.8
7	15	16	12	10	10	11	60	129	240	35	23	10
8	14	16	12	10	11	11	84	128	446	35	22	9.6
9	15	19	10	10	12	11	110	107	512	35	22	8.8
10	16	17	9.0	9.0	12	11	128	101	455	29	20	8.8
11	15	16	8.0	9.0	12	11	100	100	374	24	20	9.6
12	14	16	8.0	9.0	10	12	54	95	285	23	19	10
13	14	16	10	9.0	9.0	12	39	107	228	25	19	10
14	14	17	12	9.0	8.0	13	34	116	210	27	17	10
15	14	19	12	10	8.0	14	106	116	207	24	16	10
16	14	17	12	11	8.0	14	82	132	204	24	16	10
17	14	16	12	11	8.0	15	46	178	187	22	16	9.2
18	14	15	12	11	9.0	15	40	235	170	24	15	8.8
19	14	14	12	11	9.0	14	49	250	148	22	17	9.2
20	16	14	13	11	8.0	13	64	316	133	21	19	11
21	15	13	13	10	8.0	12	71	380	124	19	16	11
22	14	14	13	10	8.0	11	58	356	113	19	14	11
23	14	14	13	10	8.0	10	56	271	99	18	13	12
24	15	14	13	11	7.0	10	46	196	81	18	13	12
25	16	14	13	12	6.0	11	40	161	64	18	13	11
26	16	15	13	12	5.0	12	44	134	52	19	13	12
27	14	15	12	12	6.0	14	42	131	56	19	13	12
28	14	15	12	13	6.0	16	41	166	59	19	18	12
29	15	14	12	13	7.0	20	49	267	55	22	19	12
30	14	13	12	13	------	24	65	278	52	31	17	11
31	14	------	13	13	------	28	------	230	------	42	17	------
TOTAL	438	463	368.0	346.0	272.0	403.0	1,844	5,324	5,821	873	591	326.4
MEAN	14.1	15.4	11.9	11.2	9.38	13.0	61.5	172	194	28.2	19.1	10.9
MAX	17	19	13	14	14	28	128	380	512	47	35	17
MIN	10	13	8.0	9.0	5.0	8.0	34	68	52	18	13	8.8
AC-FT	869	918	730	686	540	799	3,660	10,560	11,550	1,730	1,170	647

CAL YR 1963: TOTAL 11,486.5 MEAN 31.5 MAX 400 MIN 6.0 AC-FT 22,780
WAT YR 1964: TOTAL 17,069.4 MEAN 46.6 MAX 512 MIN 5.0 AC-FT 33,860

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	16	17	7.0	16	10	300	232	274	59	19	16
2	11	17	17	6.0	14	10	190	181	226	53	20	16
3	12	16	14	6.0	12	10	140	138	211	50	20	17
4	11	16	14	7.0	15	9.0	110	116	234	49	20	18
5	11	16	14	12	17	10	96	106	222	49	22	19
6	12	15	14	14	16	13	92	98	202	40	23	20
7	12	17	12	13	16	15	92	90	195	40	21	19
8	13	16	11	12	15	15	96	78	170	44	20	18
9	14	16	12	12	14	14	96	70	151	46	19	23
10	16	16	15	10	12	13	92	64	137	48	19	27
11	15	16	14	9.0	11	11	80	69	138	43	19	22
12	14	16	13	9.0	10	10	76	108	164	48	20	22
13	14	17	12	10	10	10	78	184	189	42	23	23
14	14	17	12	14	11	11	88	246	154	36	18	35
15	15	15	11	14	11	12	96	259	137	35	17	79
16	17	17	9.0	13	9.0	11	84	250	156	31	16	42
17	17	19	5.0	12	9.0	9.0	74	259	160	31	16	31
18	17	20	6.0	12	11	7.0	74	235	155	32	16	29
19	17	14	9.0	13	14	6.0	78	188	144	29	16	29
20	17	14	38	14	14	8.0	200	168	126	27	17	34
21	16	12	40	14	13	8.0	204	175	112	27	16	34
22	16	12	36	13	11	7.0	170	184	88	24	20	40
23	16	14	24	12	9.0	6.0	151	184	86	25	23	35
24	16	17	16	12	8.0	6.0	129	164	102	25	20	31
25	16	20	12	13	9.0	6.0	115	159	132	23	19	29
26	16	16	9.0	14	13	9.0	115	155	115	23	20	28
27	16	14	8.0	14	13	11	100	140	85	23	18	27
28	16	14	7.0	14	11	12	106	150	75	23	21	28
29	16	14	6.0	14	------	12	140	210	71	22	19	27
30	16	16	7.0	15	------	13	232	291	66	20	19	27
31	16	------	7.0	15	------	15	------	320	------	20	18	------
TOTAL	456	475	441.0	369.0	344.0	319.0	3,694	5,271	4,477	1,087	594	845
MEAN	14.7	15.8	14.2	11.9	12.3	10.3	123	170	149	35.1	19.2	28.2
MAX	17	20	40	15	17	15	300	320	274	59	23	79
MIN	11	12	5.0	6.0	8.0	6.0	74	64	66	20	16	16
AC-FT	904	942	875	732	682	633	7,330	10,450	8,880	2,160	1,180	1,680

CAL YR 1964: TOTAL 17,172.4 MEAN 46.9 MAX 512 MIN 5.0 AC-FT 34,060
WAT YR 1965: TOTAL 18,372.0 MEAN 50.3 MAX 320 MIN 5.0 AC-FT 36,440

Note.--No gage-height record Feb. 23 to Mar. 28.

12-3365. Nevada Creek Reservoir near Finn, Mont.

Location.--Lat 46°48', long 112°49', in NE¼ sec.14, T.12 N., R.10 W., at dam on Nevada Creek, 7 miles west of Finn.

Drainage area.--145 sq mi.

Records available.--October 1939 to September 1965 (incomplete 1948, 1950-58, 1961-62).

Gage.--Cable gage read at or near end of month. Prior to 1961, elevations determined by hand levels from spillway. Datum of gage is at mean sea level (levels by Montana Water Conservation Board).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	May 31, 1961	11,520	4,613.0	June 30, 1961	a 6,700	4,598.0
1962	June 1, 1962	12,640	4,616.0	Nov. 16, 1961	914	4,570.5
1963	June 1, 1963	12,640	4,616.0	Oct. 1, 1962	3,880	4,587.0
1964	June 10, 1964b	13,020	4,617.0	Oct. 15, 1963	4,110	4,588.0
1965	-	-	-	-	-	-

a Probably less during late summer months.
b About.

1939-65: Maximum contents observed, 13,520 acre-ft June 3, 1953 (elevation, 4,618.3 ft); minimum observed, 914 acre-ft Nov. 16, 1961 (elevation, 4,570.5 ft).

Remarks.--Reservoir is formed by earthfill dam with concrete spillway, completed in 1938. Usable capacity, 12,640 acre-ft at elevation 4,616.0 ft. Dead storage, 12 acre-ft below elevation 4,551.5 ft. Water is used for irrigation and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by Montana Water Conservation Board.

MONTH-END CONTENTS, IN ACRE-FEET, WATER YEARS 1961-65

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1961	a 7,290	7,290	-	-	-	8,820	8,820	11,520	6,700	-	-	-
1962	-	a 940	b 1,150	b 1,500	b 1,830	b 3,420	b 9,410	b12,640	12,080	b11,450	a 8,490	3,880
1963	a 4,750	a 4,840	a 4,840	a 6,560	a 8,270	b10,480	b12,260	b12,640	b11,630	b11,520	b 6,700	a 4,990
1964	a 4,480	a 4,950	b 5,210	a 5,210	a 5,040	a 5,950	a 9,120	a12,100	b12,260	a10,650	a 7,700	a 5,100
1965	-	-	-	-	-	-	b12,640	-	-	-	-	-

a Interpolated on basis of readings made weekly or less frequently.
b Figure of contents on first day of following month.

12-3385. Blackfoot River near Ovando, Mont.

Location.--Lat 47°01'10", long 113°13'40", in SE¼NW¼ sec.34, T.15 N., R.13 W., on left bank a quarter of a mile upstream from Monture Creek and 5 miles west of Ovando.

Drainage area.--1,274 sq mi.

Records available.--September 1940 to September 1963 (discontinued). Monthly discharge only for September 1940, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 3,917.27 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Average discharge.--23 years, 855 cfs (619,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-63 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	5,610	5.43	Jan. 27, 1961	210	-
1962	May 28, 1962	5,060	5.31	Jan. 21, 22, 1962	140	-
1963	June 5, 1963	3,070	a 4.37	Jan. 12, 1963	120	-

a Maximum gage height for year, 4.46 ft Feb. 6, 1963, ice jam.

1940-63: Maximum discharge, 14,600 cfs June 4, 1953 (gage height, 8.45 ft); minimum daily, 100 cfs Jan. 20, 1954.
Floodmarks indicate stage of 10 ft reached in years just prior to 1940.

Remarks.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 15,000 acres above station.

Revisions (water years).--WSP 1216: Drainage area. WSP 1246: 1941.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	352	352	280	250	276	266	300	329	4,420	830	416	324
2	347	347	295	235	256	259	308	365	4,370	762	406	334
3	347	342	308	220	242	250	304	388	4,520	729	392	342
4	347	334	304	215	242	240	316	396	4,520	721	392	334
5	342	324	304	250	242	240	320	460	4,420	754	383	324
6	338	320	270	300	248	240	312	501	4,220	813	383	316
7	342	320	240	292	266	248	296	513	4,160	804	365	312
8	342	320	240	280	273	245	308	532	3,820	779	365	308
9	342	312	240	284	266	245	308	538	3,400	754	356	308
10	338	320	240	266	316	245	320	665	3,070	713	356	308
11	342	329	240	273	460	239	296	770	2,850	681	365	312
12	352	329	250	265	471	239	292	804	2,750	665	365	308
13	356	324	255	260	352	245	316	813	2,570	642	360	308
14	352	320	240	259	304	259	316	840	2,330	635	356	304
15	347	316	225	266	284	292	308	920	2,170	628	352	304
16	347	316	220	284	280	338	304	1,010	2,210	612	342	300
17	347	320	220	288	273	324	292	1,050	2,110	584	338	296
18	342	320	230	288	266	308	296	1,050	1,970	558	329	300
19	342	324	260	288	262	292	308	1,120	1,880	551	324	304
20	342	320	340	250	266	296	316	1,410	1,710	551	329	304
21	342	320	370	245	300	284	300	1,850	1,580	551	329	316
22	338	316	360	240	370	276	288	2,250	1,420	538	329	324
23	334	308	342	240	329	280	296	2,950	1,310	519	324	329
24	334	312	324	240	296	296	296	3,740	1,210	495	329	329
25	329	320	304	235	292	300	292	4,320	1,130	483	329	320
26	329	324	284	225	273	296	308	4,900	1,050	465	324	316
27	324	308	276	210	270	300	324	5,360	980	448	316	316
28	334	280	270	215	266	300	342	4,930	940	448	312	312
29	338	260	260	225	------	296	338	4,620	920	426	304	316
30	342	260	255	270	------	292	329	4,850	880	410	320	312
31	342	------	250	284	------	296	------	4,850	------	410	316	------
TOTAL	10,592	9,517	8,496	7,942	8,241	8,526	9,249	59,094	74,890	18,959	10,806	9,440
MEAN	342	317	274	256	294	275	308	1,906	2,496	612	349	315
MAX	356	352	370	300	471	338	342	5,360	4,520	830	416	342
MIN	324	260	220	210	242	239	288	329	880	410	304	296
CFSM	.27	.25	.22	.20	.23	.22	.24	1.50	1.96	.48	.27	.25
IN.	.31	.28	.25	.23	.24	.25	.27	1.73	2.19	.55	.32	.28
AC-FT	21,010	18,880	16,850	15,750	16,350	16,910	18,350	117,200	148,500	37,600	21,430	18,720

CAL YR 1960: TOTAL 277,200 MEAN 757 MAX 4,160 MIN 200 CFSM .59 IN 8.09 AC-FT 549,800
WAT YR 1961: TOTAL 235,752 MEAN 646 MAX 5,360 MIN 210 CFSM .51 IN 6.88 AC-FT 467,600

12-3385. Blackfoot River near Ovando, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	312	324	288	284	215	248	383	1,320	4,200	1,850	673	501
2	308	316	288	292	220	248	443	1,220	4,090	1,830	665	477
3	308	304	288	276	220	245	544	1,210	4,130	1,700	665	471
4	304	308	284	259	215	239	620	1,270	3,930	1,580	642	471
5	304	304	284	266	215	280	737	1,320	3,530	1,520	650	454
6	304	304	276	252	230	242	705	1,320	3,110	1,500	635	443
7	300	300	270	259	250	262	770	1,370	2,850	1,380	620	448
8	300	296	292	236	260	224	737	1,460	2,650	1,310	598	448
9	300	300	252	182	265	221	577	1,620	2,830	1,260	584	477
10	300	304	210	165	266	218	501	1,860	3,050	1,180	564	471
11	304	320	210	155	256	210	471	2,030	3,110	1,130	570	477
12	308	312	220	150	259	210	495	2,070	3,110	1,100	570	483
13	308	300	250	150	262	215	532	2,330	3,320	1,160	584	483
14	304	308	284	160	262	215	570	2,630	3,860	1,200	544	477
15	300	312	295	180	259	210	605	2,690	4,300	1,120	519	483
16	296	300	300	180	256	210	689	2,610	4,740	1,050	507	471
17	300	300	290	180	252	210	697	2,610	4,720	1,000	501	471
18	296	300	275	180	248	212	681	2,770	4,570	950	507	460
19	296	300	275	180	248	215	713	3,050	4,180	890	513	443
20	296	300	280	160	239	221	860	3,440	3,860	850	489	443
21	300	304	280	140	221	224	950	3,760	3,610	822	477	443
22	296	320	300	140	248	227	1,010	3,820	3,380	788	483	443
23	300	300	300	160	198	230	1,120	3,780	3,150	770	483	443
24	304	300	290	180	210	233	1,390	3,910	2,930	770	477	438
25	308	300	275	210	221	242	1,760	4,700	2,790	754	477	443
26	324	288	285	232	224	256	1,860	4,850	2,670	762	465	443
27	338	280	300	240	224	280	1,790	4,900	2,530	796	460	438
28	334	273	310	245	242	308	1,750	4,950	2,310	788	477	443
29	320	284	300	245	------	352	1,620	4,800	2,070	762	513	443
30	308	288	290	240	------	378	1,440	4,570	1,940	729	532	443
31	308	------	280	220	------	374	------	4,250	------	697	532	------
TOTAL	9,488	9,049	8,621	6,398	6,685	7,659	27,020	88,490	101,520	33,998	16,976	13,772
MEAN	306	302	278	206	239	247	901	2,855	3,384	1,097	548	459
MAX	338	324	310	292	266	378	1,860	4,950	4,740	1,850	673	501
MIN	296	273	210	140	198	210	383	1,210	1,940	697	460	438
CFSM	.24	.24	.22	.16	.19	.19	.71	2.24	2.66	.86	.43	.36
IN.	.28	.26	.25	.19	.20	.22	.79	2.58	2.96	.99	.50	.40
AC-FT	18,820	17,950	17,100	12,690	13,260	15,190	53,590	175,500	201,400	67,430	33,670	27,320

CAL YR 1961: TOTAL 234,305 MEAN 642 MAX 5,360 MIN 210 CFSM .50 IN 6.84 AC-FT 464,700
WAT YR 1962: TOTAL 329,676 MEAN 903 MAX 4,950 MIN 140 CFSM .71 IN 9.62 AC-FT 653,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	438	378	365	352	260	426	513	890	2,910	1,620	577	383
2	432	383	360	356	260	392	460	970	2,770	1,480	558	416
3	421	378	365	370	260	370	448	960	2,750	1,410	538	426
4	416	392	352	356	400	360	448	930	2,810	1,330	519	416
5	416	383	360	342	800	356	448	910	3,010	1,280	525	406
6	401	388	365	329	1,200	347	471	1,000	2,890	1,240	507	396
7	396	383	374	320	1,100	329	507	1,240	2,670	1,180	489	383
8	396	378	383	320	1,000	329	525	1,360	2,430	1,110	454	378
9	401	378	392	329	860	334	513	1,410	2,290	1,070	448	378
10	416	378	396	160	600	342	501	1,420	2,330	1,030	465	378
11	438	378	370	140	500	338	489	1,410	2,430	1,030	465	378
12	465	370	356	120	400	320	477	1,370	2,470	1,030	460	374
13	501	370	342	150	380	308	477	1,370	2,430	1,010	454	370
14	483	370	356	180	380	308	489	1,360	2,370	950	460	388
15	483	356	365	200	380	320	544	1,420	2,290	940	438	388
16	483	352	365	230	380	316	598	1,520	2,180	980	426	396
17	454	347	374	240	401	316	598	1,680	2,050	940	416	401
18	443	352	396	230	365	312	564	1,860	1,950	880	410	396
19	438	342	401	220	365	316	544	1,860	1,850	840	416	388
20	426	365	388	220	374	329	525	1,850	1,750	822	410	378
21	421	421	383	210	416	383	501	1,950	1,760	788	406	378
22	416	410	374	210	454	477	489	2,030	2,090	762	401	378
23	406	383	388	210	454	564	483	2,130	1,860	737	396	378
24	406	360	240	220	443	620	477	2,270	1,670	713	388	392
25	401	380	220	240	438	525	477	2,390	1,640	697	374	378
26	401	396	240	240	471	489	477	2,590	1,550	681	365	370
27	401	401	280	240	551	519	507	2,710	1,470	673	370	365
28	396	388	320	240	501	544	544	2,650	1,410	658	365	356
29	388	365	340	250	------	570	570	2,610	1,590	635	360	356
30	383	352	352	260	------	544	673	2,750	1,760	620	356	356
31	383	------	352	260	------	544	------	2,870	------	598	356	------
TOTAL	13,149	11,277	10,914	7,744	14,393	12,547	15,337	53,740	65,430	29,734	13,572	11,524
MEAN	424	376	352	250	514	405	511	1,734	2,181	959	438	384
MAX	501	421	401	370	1,200	620	673	2,870	3,010	1,620	577	426
MIN	383	342	220	120	260	308	448	890	1,410	598	356	356
CFSM	.33	.30	.28	.20	.40	.32	.40	1.36	1.71	.75	.34	.30
IN.	.38	.33	.32	.23	.42	.37	.45	1.57	1.91	.87	.40	.34
AC-FT	26,080	22,370	21,650	15,360	28,550	24,890	30,420	106,600	129,800	58,980	26,920	22,860

CAL YR 1962: TOTAL 337,858 MEAN 926 MAX 4,950 MIN 140 CFSM .73 IN 9.86 AC-FT 670,100
WAT YR 1963: TOTAL 259,361 MEAN 711 MAX 3,010 MIN 120 CFSM .56 IN 7.57 AC-FT 514,400

12-3398. Blackfoot River near Potomac, Mont.

Location.--Lat 46°57'10", long 113°34'00", in NE¼SW¼ sec.24, T.14 N., R.16 W., on right bank an eighth of a mile upstream from Belmont Creek, 5 miles north of Potomac, and at mile 21.3.

Drainage area.--2,046 sq mi.

Records available.--October 1956 to September 1965 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 3,533.36 ft above mean sea level, datum of 1929 (levels by Bureau of Reclamation).

Average discharge.--9 years, 1,496 cfs (1,083,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	9,180	7.75	Jan. 3, 1961	a 290	-
1962	May 25, 1962	8,350	7.05	Feb. 26, 1962	a 200	-
1963	May 27, 1963	4,640	b 5.16	Jan. 11, 1963	a 250	-
1964	June 10, 1964	17,500	11.33	Mar. 24. 1964	280	-
1965	June 13, 1965	8,980	7.48	Dec. 17, 1964	a 280	-

a Minimum daily.
b Maximum gage height for year, 5.19 ft June 1, 1963.

1956-65: Maximum discharge, 17,500 cfs June 10, 1964 (gage height, 11.33 ft); minimum daily, 200 cfs Feb. 26, 1962.

Remarks.--Records good except those for winter periods and those for period of no gage-height record, which are poor. Diversions for irrigation of about 18,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	487	512	410	320	400	487	688	1,270	7,670	1,520	650	512
2	487	521	450	300	420	487	698	1,460	7,420	1,420	660	521
3	487	521	487	290	430	487	745	1,640	7,590	1,350	650	530
4	470	504	470	300	440	420	829	1,790	7,610	1,310	631	512
5	470	496	448	320	440	430	883	2,000	7,460	1,350	612	504
6	462	487	430	380	440	450	927	2,090	7,190	1,460	602	496
7	462	487	390	420	450	470	972	2,090	7,080	1,360	584	487
8	462	487	370	440	460	462	996	2,060	6,620	1,310	574	478
9	462	470	360	450	462	462	1,020	2,060	5,880	1,240	564	487
10	462	487	360	450	521	455	1,020	2,200	5,340	1,170	564	487
11	462	496	370	440	707	455	1,010	2,440	4,910	1,140	564	504
12	470	496	380	420	798	448	996	2,490	4,690	1,120	564	496
13	478	496	390	420	631	455	996	2,510	4,480	1,080	555	487
14	478	496	390	420	555	470	1,010	2,510	4,120	1,060	546	487
15	478	487	370	460	530	512	996	2,560	3,900	1,030	546	478
16	487	487	360	460	504	593	972	2,670	3,830	984	546	478
17	487	496	350	450	496	612	949	2,820	3,720	949	538	478
18	478	496	360	402	478	584	960	2,890	3,590	916	530	478
19	487	496	380	380	470	574	996	2,980	3,420	905	521	487
20	487	487	400	360	487	564	1,030	3,300	3,230	905	512	487
21	487	487	430	350	530	555	1,030	3,880	3,010	894	512	504
22	487	487	460	350	631	546	1,030	4,400	2,760	861	504	512
23	487	470	440	350	574	555	1,060	5,120	2,540	829	504	512
24	478	487	430	340	538	602	1,060	6,170	2,380	776	504	512
25	478	496	410	340	530	622	1,040	7,060	2,200	756	504	504
26	470	512	400	330	512	622	1,090	7,990	2,060	736	512	504
27	470	504	380	310	496	640	1,140	8,830	1,930	707	504	504
28	478	470	360	320	496	640	1,170	8,530	1,820	698	496	504
29	496	420	340	320	------	650	1,170	7,890	1,770	688	487	504
30	496	400	320	330	------	660	1,200	8,110	1,610	669	496	504
31	496	------	320	360	------	678	------	8,210	------	650	487	------
TOTAL	14,826	14,638	12,215	11,582	14,426	16,647	29,683	122,020	131,830	31,843	17,023	14,938
MEAN	478	488	394	374	515	537	989	3,936	4,394	1,027	549	498
MAX	496	521	487	460	798	678	1,200	8,830	7,670	1,520	660	530
MIN	462	400	320	290	400	420	688	1,270	1,610	650	487	478
CFSM	.23	.24	.19	.18	.25	.26	.48	1.92	2.15	.50	.27	.24
IN.	.27	.27	.22	.21	.26	.30	.54	2.22	2.40	.58	.31	.27
AC-FT	29,410	29,030	24,230	22,970	28,610	33,020	58,880	242,000	261,500	63,160	33,760	29,630

CAL YR 1960: TOTAL 470,130 MEAN 1,285 MAX 6,170 MIN 320 CFSM .63 IN 8.55 AC-FT 932,500
WAT YR 1961: TOTAL 431,671 MEAN 1,183 MAX 8,830 MIN 290 CFSM .58 IN 7.85 AC-FT 856,200

Note.--No gage-height record Dec. 16 to Jan. 17.

12-3398. Blackfoot River near Potomac, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	504	555	504	440	425	360	640	3,300	6,760	2,940	1,020	669
2	504	564	521	440	440	420	698	3,010	6,530	2,860	1,010	660
3	496	546	504	455	455	460	776	2,890	6,550	2,650	984	640
4	504	546	487	462	470	490	905	2,910	6,330	2,480	960	650
5	504	521	496	448	440	510	1,030	2,960	5,540	2,360	972	640
6	504	530	478	455	440	510	1,120	2,930	4,930	2,320	960	669
7	512	530	470	455	455	510	1,270	2,980	4,440	2,170	927	678
8	504	530	450	380	462	470	1,310	3,130	4,060	2,030	905	698
9	504	530	400	310	462	400	1,170	3,330	4,030	1,920	861	698
10	504	538	340	280	470	380	1,120	3,690	4,330	1,790	840	698
11	530	546	300	300	470	330	1,120	3,940	4,480	1,710	829	707
12	530	538	320	350	487	320	1,160	4,040	4,510	1,630	818	707
13	530	521	360	390	496	330	1,220	4,280	4,730	1,580	808	707
14	530	530	380	400	496	380	1,320	4,620	5,560	1,580	787	707
15	530	538	400	390	496	390	1,480	4,670	6,280	1,520	756	707
16	521	496	420	380	487	400	1,740	4,530	7,230	1,440	745	698
17	530	480	440	350	496	410	1,850	4,440	7,120	1,360	736	688
18	521	480	440	320	487	410	2,010	4,530	6,890	1,290	736	678
19	521	480	440	290	478	410	2,200	4,930	6,260	1,250	736	660
20	521	490	440	250	455	418	2,720	5,590	5,680	1,220	716	650
21	530	500	450	220	410	425	3,100	6,740	5,390	1,180	698	650
22	530	500	450	230	340	418	3,200	6,890	5,120	1,140	688	650
23	530	500	440	250	290	418	3,400	6,800	4,730	1,130	669	650
24	538	520	450	290	260	418	3,790	7,140	4,370	1,110	669	640
25	538	530	470	330	220	432	4,530	8,090	4,150	1,110	669	631
26	555	504	462	390	200	455	4,750	8,270	4,040	1,130	660	622
27	574	496	450	430	210	496	4,570	8,170	3,850	1,170	640	622
28	574	478	450	448	280	530	4,370	8,090	3,570	1,160	669	622
29	564	487	460	432	------	555	4,010	7,910	3,300	1,140	698	640
30	555	496	487	432	------	602	3,620	7,610	3,080	1,080	688	631
31	546	------	462	425	------	612	------	7,160	------	1,040	678	------
TOTAL	16,338	15,500	13,621	11,422	11,577	13,669	66,199	159,570	153,840	50,490	24,532	19,767
MEAN	527	517	439	368	413	441	2,207	5,147	5,128	1,629	791	666
MAX	574	564	521	462	496	612	4,750	8,270	7,230	2,940	1,020	707
MIN	496	478	300	220	200	320	640	2,890	3,080	1,040	640	622
CFSM	.26	.25	.21	.18	.20	.22	1.08	2.52	2.51	.80	.39	.33
IN.	.30	.28	.25	.21	.21	.25	1.20	2.90	2.80	.92	.45	.36
AC-FT	32,410	30,740	27,020	22,660	22,960	27,110	131,300	316,500	305,100	100,100	48,660	39,600

CAL YR 1961: TOTAL 435,451 MEAN 1,193 MAX 8,830 MIN 290 CFSM .58 IN 7.92 AC-FT 863,700
WAT YR 1962: TOTAL 556,725 MEAN 1,525 MAX 8,270 MIN 200 CFSM .75 IN 10.12 AC-FT 1,104,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	622	622	602	535	440	736	1,010	2,250	4,440	2,510	840	564
2	622	622	584	538	440	688	949	2,460	4,190	2,320	818	593
3	602	622	593	521	470	660	927	2,240	4,010	2,190	798	622
4	593	622	584	504	500	631	949	2,350	3,970	2,090	776	602
5	593	622	593	496	1,000	640	972	2,250	4,190	2,000	766	593
6	593	640	584	487	2,000	631	1,020	2,270	4,100	1,920	756	564
7	574	640	593	530	1,800	612	1,070	2,570	3,740	1,800	726	546
8	574	622	593	574	1,400	602	1,120	2,860	3,440	1,690	688	530
9	584	622	612	496	960	602	1,130	2,990	3,220	1,600	669	530
10	612	622	612	400	880	612	1,130	2,990	3,130	1,530	698	512
11	640	622	593	250	800	612	1,120	2,930	3,110	1,500	688	504
12	688	622	564	280	750	593	1,120	2,820	3,100	1,500	669	496
13	707	622	538	320	730	584	1,120	2,770	3,030	1,420	678	496
14	716	631	538	380	730	564	1,160	2,700	2,990	1,350	669	512
15	707	622	564	420	730	584	1,280	2,700	2,910	1,320	650	521
16	707	612	555	440	730	584	1,410	2,860	2,910	1,280	622	530
17	688	602	564	450	730	574	1,500	3,040	2,860	1,240	612	530
18	669	602	602	450	740	574	1,500	3,230	2,740	1,220	602	530
19	678	593	612	440	750	564	1,480	3,300	2,620	1,210	602	521
20	669	622	602	430	760	584	1,420	3,320	2,570	1,180	593	496
21	660	678	574	420	750	631	1,360	3,400	2,880	1,140	584	487
22	660	698	584	420	740	726	1,310	3,590	3,160	1,110	574	487
23	650	660	500	420	707	829	1,250	3,860	2,890	1,060	574	496
24	650	602	420	420	698	938	1,220	4,130	2,620	1,020	574	504
25	640	602	320	430	650	894	1,250	4,260	2,590	996	574	496
26	640	640	360	440	707	818	1,280	4,460	2,460	984	574	478
27	631	660	430	440	776	861	1,380	4,530	2,330	960	584	470
28	631	650	480	440	745	938	1,530	4,400	2,240	938	574	487
29	631	612	520	430	------	1,020	1,680	4,280	2,410	916	564	478
30	622	584	530	430	------	984	1,870	4,370	2,700	894	546	487
31	622	------	538	430	------	1,020	------	4,440	------	872	538	------
TOTAL	19,875	18,792	16,938	13,661	23,113	21,890	37,517	100,620	93,550	43,760	20,180	15,662
MEAN	641	626	546	441	825	706	1,251	3,246	3,118	1,412	651	522
MAX	716	698	612	574	2,000	1,020	1,870	4,530	4,440	2,510	840	622
MIN	574	584	320	250	440	564	927	2,240	2,240	872	538	470
CFSM	.31	.31	.27	.22	.40	.35	.61	1.59	1.52	.69	.32	.26
IN.	.36	.34	.31	.25	.42	.40	.68	1.83	1.70	.80	.37	.28
AC-FT	39,420	37,270	33,600	27,100	45,840	43,420	74,410	199,600	185,600	86,800	40,030	31,070

CAL YR 1962: TOTAL 566,871 MEAN 1,553 MAX 8,270 MIN 200 CFSM .76 IN 10.30 AC-FT 1,124,000
WAT YR 1963: TOTAL 425,558 MEAN 1,166 MAX 4,530 MIN 250 CFSM .57 IN 7.74 AC-FT 844,100

12-3398. Blackfoot River near Potomac, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	470	504	450	420	390	400	440	1,710	6,660	3,550	1,220	726
2	470	504	450	420	390	418	470	2,120	6,470	3,360	1,200	726
3	478	504	450	420	395	410	521	2,350	6,590	3,240	1,160	738
4	478	504	450	415	395	418	564	2,330	7,190	3,100	1,120	738
5	496	512	455	405	395	425	688	2,330	7,380	3,050	1,100	738
6	521	512	460	395	395	418	745	2,330	7,460	2,920	1,050	726
7	546	512	460	390	395	425	669	2,330	7,650	2,750	1,040	714
8	546	521	455	380	400	410	622	2,250	9,290	2,560	992	714
9	538	530	445	380	405	425	660	2,200	13,700	2,430	964	714
10	530	546	430	375	410	425	766	2,280	16,300	2,280	936	702
11	538	546	400	370	410	425	861	2,440	14,800	2,180	922	702
12	521	530	410	370	405	432	798	2,570	11,800	2,060	894	714
13	512	521	435	365	400	425	736	2,810	9,940	1,980	880	702
14	512	521	450	370	395	425	688	3,060	8,850	1,960	854	690
15	512	530	465	375	390	432	736	3,370	8,320	1,920	841	678
16	504	530	470	380	400	432	829	3,760	8,230	1,860	815	666
17	496	530	465	390	410	432	808	4,480	8,280	1,800	789	666
18	496	521	460	400	410	448	756	5,270	7,560	1,780	776	654
19	496	521	460	400	410	455	756	5,880	6,760	1,740	763	654
20	496	521	460	400	415	440	787	6,640	5,980	1,700	750	654
21	496	512	465	400	415	440	883	7,790	5,360	1,650	738	654
22	504	504	470	400	405	440	916	8,110	4,920	1,620	726	666
23	504	512	470	395	400	385	972	7,540	4,540	1,560	714	666
24	504	512	460	390	400	390	1,010	6,950	4,500	1,520	714	654
25	512	512	450	390	395	400	1,060	6,040	4,690	1,440	702	642
26	512	512	430	390	390	415	1,090	5,480	4,710	1,400	702	640
27	504	512	420	390	390	410	1,130	5,250	4,550	1,360	690	640
28	504	504	405	390	390	418	1,120	5,700	4,330	1,320	690	630
29	504	470	400	390	390	410	1,180	6,440	4,070	1,290	690	630
30	512	455	390	390	------	418	1,380	6,550	3,820	1,260	702	620
31	512	------	400	390	------	425	------	6,660	------	1,240	714	------
TOTAL	15,724	15,425	13,740	12,135	11,590	13,071	24,641	135,020	224,700	63,880	26,848	20,458
MEAN	507	514	443	391	400	422	821	4,355	7,490	2,061	866	682
MAX	546	546	470	420	415	455	1,380	8,110	16,300	3,550	1,220	738
MIN	470	455	390	365	390	385	440	1,710	3,820	1,240	690	620
CFSM	.25	.25	.22	.19	.20	.21	.40	2.13	3.66	1.01	.42	.33
IN.	.29	.28	.25	.22	.21	.24	.45	2.45	4.08	1.16	.49	.37
AC-FT	31,190	30,600	27,250	24,070	22,990	25,930	48,870	267,800	445,700	126,700	53,250	40,580

CAL YR 1963: TOTAL 414,842 MEAN 1,137 MAX 4,530 MIN 250 CFSM .56 IN 7.54 AC-FT 822,800
WAT YR 1964: TOTAL 577,232 MEAN 1,577 MAX 16,300 MIN 365 CFSM .77 IN 10.49 AC-FT 1,145,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	630	575	597	570	564	553	642	6,630	8,300	4,000	1,300	867
2	630	586	619	580	564	586	1,010	6,800	7,880	3,800	1,300	880
3	642	586	619	580	564	564	1,080	6,420	7,490	3,700	1,200	854
4	642	575	608	580	564	542	964	5,760	7,640	3,600	1,200	854
5	630	586	597	590	560	531	1,050	5,090	7,490	3,500	1,200	867
6	608	575	586	590	540	531	1,120	4,800	7,370	3,400	1,100	854
7	608	564	542	590	530	542	1,280	4,500	7,390	3,300	1,100	854
8	608	564	564	595	520	553	1,460	4,300	7,160	3,200	1,050	841
9	619	564	564	595	498	564	1,530	4,100	7,390	3,100	1,080	841
10	642	564	542	590	476	586	1,530	4,000	7,750	3,000	1,040	880
11	642	564	553	580	480	608	1,480	4,000	7,950	2,900	992	894
12	630	553	476	590	490	597	1,350	4,400	8,250	2,800	964	854
13	630	564	460	600	498	575	1,400	5,000	8,800	2,600	1,020	841
14	619	550	440	619	476	564	1,560	5,400	8,010	2,500	1,010	880
15	619	540	380	608	500	564	1,660	6,260	6,950	2,300	950	1,080
16	619	540	320	608	530	575	1,780	6,720	6,140	2,200	908	1,160
17	642	550	280	608	553	520	1,800	7,090	6,340	2,100	880	1,160
18	642	575	300	597	553	530	1,820	6,900	8,030	2,100	854	1,120
19	630	542	330	575	553	540	1,880	6,600	8,120	2,000	841	1,110
20	619	542	400	553	608	550	2,190	6,200	7,660	2,000	841	1,120
21	619	542	550	542	654	560	2,840	5,800	6,990	1,900	841	1,140
22	597	520	700	542	597	550	3,390	5,600	6,590	1,800	680	1,170
23	597	553	960	540	520	530	4,000	5,400	6,060	1,700	936	1,180
24	597	564	1,000	540	540	500	4,600	5,400	5,740	1,700	950	1,160
25	586	597	940	540	575	510	4,800	5,400	5,680	1,600	908	1,120
26	597	608	840	550	553	520	4,800	5,400	5,720	1,600	880	1,100
27	597	575	760	550	564	531	4,900	5,200	5,420	1,500	867	1,060
28	597	560	700	570	564	564	5,000	5,200	4,950	1,500	854	1,050
29	608	550	640	597	------	564	5,300	5,800	4,440	1,400	841	1,050
30	586	564	600	608	------	564	5,880	6,800	4,100	1,400	841	1,040
31	575	------	580	608	------	575	------	8,300	------	1,300	854	------
TOTAL	19,107	16,892	18,047	17,985	15,188	17,143	74,096	175,270	207,800	75,500	30,482	29,881
MEAN	616	563	582	580	542	553	2,470	5,654	6,927	2,435	983	996
MAX	642	608	1,000	619	654	608	5,880	8,300	8,800	4,000	1,300	1,180
MIN	575	520	280	540	476	500	642	4,000	4,100	1,300	841	841
CFSM	.30	.28	.28	.28	.27	.27	1.21	2.76	3.39	1.19	.48	.49
IN.	.35	.31	.33	.33	.28	.31	1.35	3.19	3.78	1.37	.55	.54
AC-FT	37,900	33,500	35,800	35,670	30,120	34,000	147,000	347,600	412,200	149,800	60,460	59,270

CAL YR 1964: TOTAL 586,389 MEAN 1,602 MAX 16,300 MIN 280 CFSM .78 IN 10.66 AC-FT 1,163,000
WAT YR 1965: TOTAL 697,391 MEAN 1,911 MAX 8,800 MIN 280 CFSM .93 IN 12.68 AC-FT 1,383,000

12-3400. Blackfoot River near Bonner, Mont.

Location.--Lat 46°53'50", long 113°45'20", near center of sec.9, T.13 N., R.17 W., on right bank 5 miles northeast of Bonner, 5 miles downstream from Union Creek, and 7 miles upstream from mouth.

Drainage area.--2,290 sq mi.

Records available.--July to November 1898, March 1899 to September 1901, May 1903 to January 1905, March to October 1905, October 1939 to September 1965. Monthly discharge only for some periods, published in WSP 1316. Published as "at Bonner" 1898-99 and as Big Blackfoot River near Bonner 1903-5.

Gage.--Water-stage recorder. Datum of gage is 3,344.76 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. July 7, 1898, to June 30, 1901, and May 15, 1903, to Oct. 31, 1905, chain gage at site 7 miles downstream at different datum. Oct. 4, 1939, to Sept. 30, 1955, staff gage at site 1.3 miles downstream at datum 21.82 ft lower.

Average discharge.--29 years (1899-1901, 1903-4, 1939-65), 1,623 cfs (1,175,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	10,200	8.02	Jan. 23, 27, 28	a 420	-
1962	May 25, 1962	8,790	7.49	Jan. 23, 1962	a 240	-
1963	June 1, 1963	5,060	5.77	Jan. 11, 1963	317	1.56
1964	June 10, 1964	19,200	10.89	Mar. 24, 1964	a 360	-
1965	June 13, 1965	9,960	7.94	Dec. 17, 18, 1964	a 320	-

a Minimum daily.

1898-1901, 1903-5, 1939-65: Maximum discharge, 19,200 cfs June 10, 1964 (gage height, 10.89 ft); minimum daily determined, 200 cfs Jan. 4, 5, 1950.

Remarks.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 20,000 acres above station.

Revisions.--WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	570	560	480	430	480	545	790	1,560	8,510	1,630	702	575
2	565	560	500	420	500	555	822	1,780	8,180	1,580	702	590
3	560	560	520	420	500	540	926	1,980	8,300	1,520	684	600
4	555	550	520	430	500	510	1,030	2,090	8,300	1,470	672	585
5	545	540	500	460	500	496	1,080	2,300	8,130	1,460	654	575
6	540	535	480	480	500	535	1,080	2,410	7,870	1,620	642	560
7	545	535	460	500	500	520	1,100	2,430	7,750	1,530	630	550
8	540	530	440	520	540	505	1,120	2,400	7,250	1,460	624	550
9	535	520	430	530	575	505	1,150	2,380	6,500	1,400	618	530
10	535	530	430	540	606	505	1,140	2,590	5,920	1,350	606	530
11	545	550	440	530	870	496	1,120	2,950	5,480	1,280	612	550
12	555	550	450	530	966	492	1,100	3,020	5,250	1,220	606	555
13	550	545	460	520	755	510	1,110	3,020	5,040	1,160	600	545
14	555	540	460	520	642	540	1,120	3,060	4,620	1,150	595	540
15	550	540	450	540	590	585	1,090	3,120	4,370	1,120	600	535
16	555	535	440	550	570	678	1,080	3,250	4,260	1,080	600	530
17	555	540	430	540	555	696	1,060	3,470	4,160	1,030	590	530
18	555	545	440	530	540	666	1,080	3,570	3,960	998	575	535
19	545	550	460	510	525	660	1,140	3,670	3,760	990	565	540
20	545	545	500	480	535	666	1,160	4,030	3,550	982	565	540
21	550	550	510	470	618	648	1,160	4,660	3,300	974	565	550
22	550	540	520	460	762	630	1,160	5,240	3,040	958	555	560
23	545	525	520	460	660	648	1,210	6,020	2,770	902	555	575
24	535	540	510	460	618	708	1,230	7,140	2,550	862	555	570
25	530	560	490	460	618	727	1,210	8,110	2,370	822	560	560
26	530	580	480	440	585	720	1,260	9,050	2,200	798	565	550
27	525	560	470	420	555	734	1,390	9,860	2,050	783	560	545
28	525	525	450	420	550	734	1,440	9,500	1,910	762	550	545
29	545	500	440	440	------	734	1,430	8,720	1,860	741	550	545
30	540	470	440	440	------	741	1,470	8,870	1,740	720	555	550
31	545	------	430	460	------	762	------	9,030	------	702	555	------
TOTAL	16,920	16,210	14,550	14,910	16,715	18,991	34,258	141,280	144,950	35,054	18,567	16,595
MEAN	546	540	469	481	597	613	1,142	4,557	4,832	1,131	599	553
MAX	570	580	520	550	966	762	1,470	9,860	8,510	1,630	702	600
MIN	525	470	430	420	480	492	790	1,560	1,740	702	550	530
CFSM	.24	.24	.20	.21	.26	.27	.50	1.99	2.11	.49	.26	.24
IN.	.27	.26	.24	.24	.27	.31	.56	2.29	2.35	.57	.30	.27
AC-FT	33,560	32,150	28,860	29,570	33,150	37,670	67,950	280,200	287,500	69,530	36,830	32,920

CAL YR 1960: TOTAL 537,740 MEAN 1,469 MAX 6,660 MIN 430 CFSM .64 IN 8.73 AC-FT 1,067,000
WAT YR 1961: TOTAL 489,000 MEAN 1,340 MAX 9,860 MIN 420 CFSM .59 IN 7.94 AC-FT 969,900

12-3400. Blackfoot River near Bonner, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	550	580	570	530	540	320	910	3,890	7,230	3,360	1,150	748
2	545	600	565	520	560	380	1,010	3,590	7,030	3,270	1,130	734
3	545	580	550	500	600	440	1,140	3,460	7,100	3,060	1,110	714
4	550	580	535	500	640	488	1,350	3,520	6,920	2,840	1,080	708
5	550	555	540	520	660	496	1,630	3,550	6,300	2,700	1,090	708
6	555	560	525	530	640	496	1,830	3,540	5,620	2,660	1,080	708
7	555	555	480	540	600	488	2,500	3,670	5,150	2,510	1,050	708
8	555	550	420	500	590	488	2,190	3,870	4,800	2,340	1,020	734
9	550	550	370	400	580	488	1,870	4,200	4,820	2,230	990	727
10	555	555	300	320	580	472	1,690	4,610	5,200	2,070	966	741
11	580	570	280	260	580	452	1,610	4,860	5,310	2,000	950	748
12	575	565	300	260	575	430	1,620	4,890	5,330	1,910	934	741
13	580	555	350	260	580	420	1,740	5,240	5,700	1,860	926	755
14	570	555	380	270	585	430	1,920	5,520	6,560	1,850	894	748
15	560	560	410	280	585	440	2,180	5,520	6,990	1,790	878	741
16	560	525	430	300	575	460	2,500	5,380	7,630	1,710	846	741
17	565	496	450	300	570	472	2,640	5,310	7,460	1,640	838	727
18	560	488	480	300	570	484	2,800	5,400	7,250	1,560	838	720
19	555	480	500	290	565	488	3,140	5,960	6,770	1,480	830	708
20	560	480	520	270	545	500	3,940	6,660	6,400	1,440	814	684
21	565	470	530	260	492	510	4,400	7,460	6,040	1,390	783	684
22	560	480	540	250	460	510	4,400	7,630	5,660	1,340	769	684
23	565	500	530	240	420	505	4,420	7,460	5,270	1,300	769	684
24	575	520	520	260	350	505	4,770	7,510	4,910	1,270	755	684
25	570	580	500	340	330	530	5,400	8,460	4,660	1,250	748	678
26	585	580	490	400	320	575	5,640	8,660	4,550	1,260	741	678
27	612	555	480	490	300	648	5,440	8,480	4,370	1,280	720	678
28	612	540	490	530	300	734	5,200	8,430	4,040	1,280	748	672
29	595	535	500	550	-------	741	4,800	8,280	3,760	1,270	783	690
30	580	545	540	560	-------	790	4,320	7,890	3,520	1,220	769	684
31	575	-------	540	550	-------	838	-------	7,460	-------	1,180	762	-------
TOTAL	17,569	16,244	14,615	12,080	14,692	16,018	89,000	180,360	172,350	58,320	27,761	21,359
MEAN	567	541	471	390	525	517	2,967	5,818	5,745	1,881	896	712
MAX	612	600	570	560	660	838	5,640	8,660	7,630	3,360	1,150	755
MIN	545	470	280	240	300	320	910	3,460	3,520	1,180	720	672
CFSM	.25	.24	.21	.17	.23	.23	1.30	2.54	2.51	.82	.39	.31
IN.	.29	.26	.24	.20	.24	.26	1.45	2.93	2.80	.95	.45	.35
AC-FT	34,850	32,220	28,990	23,960	29,140	31,770	176,500	357,700	341,900	115,700	55,060	42,360

CAL YR 1961: TOTAL 489,748 MEAN 1,342 MAX 9,860 MIN 280 CFSM .59 IN 7.95 AC-FT 971,400
WAT YR 1962: TOTAL 640,368 MEAN 1,754 MAX 8,660 MIN 240 CFSM .77 IN 10.40 AC-FT 1,270,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	678	672	666	660	540	862	1,380	2,650	4,980	2,780	926	642
2	672	672	660	666	540	776	1,280	2,940	4,800	2,570	894	684
3	660	666	672	660	560	720	1,200	2,920	4,700	2,400	878	708
4	648	666	660	642	600	690	1,220	2,780	4,620	2,270	854	708
5	642	672	654	612	1,500	696	1,250	2,650	4,910	2,150	838	690
6	642	684	660	600	2,500	684	1,370	2,680	4,860	2,070	830	672
7	636	684	666	612	2,300	660	1,480	3,080	4,500	1,960	790	654
8	636	678	666	648	2,000	648	1,530	3,470	4,200	1,850	748	648
9	636	672	684	612	1,600	648	1,540	3,550	3,990	1,750	741	648
10	666	672	690	424	1,300	660	1,520	3,550	3,940	1,690	762	642
11	702	672	678	344	980	672	1,500	3,430	3,910	1,680	755	636
12	762	672	648	400	940	654	1,490	3,280	3,910	1,660	755	630
13	776	672	636	460	900	642	1,490	3,180	3,840	1,550	769	624
14	790	672	630	500	870	630	1,550	3,120	3,790	1,530	748	654
15	783	660	636	530	860	630	1,790	3,160	3,670	1,500	720	654
16	776	654	648	540	860	642	2,020	3,270	3,570	1,460	702	672
17	755	648	654	550	880	630	2,110	3,470	3,440	1,410	684	670
18	734	642	702	560	890	624	2,090	3,700	3,220	1,390	678	670
19	734	648	720	540	900	624	2,010	3,760	3,020	1,350	678	640
20	727	672	708	520	900	636	1,900	3,760	2,860	1,300	672	610
21	708	734	696	520	902	702	1,790	3,840	3,140	1,250	672	600
22	702	762	696	520	886	806	1,710	3,940	3,470	1,210	666	610
23	702	727	654	530	854	1,010	1,640	4,090	3,200	1,150	666	620
24	696	654	520	540	846	1,210	1,590	4,370	2,920	1,110	666	630
25	696	654	460	540	822	1,120	1,530	4,700	2,890	1,080	672	610
26	690	702	500	540	838	1,040	1,510	4,700	2,710	1,060	660	600
27	690	720	560	530	990	1,110	1,590	4,700	2,550	1,040	648	610
28	684	714	600	520	942	1,260	1,750	4,700	2,430	1,030	648	620
29	678	672	620	520	-------	1,430	1,920	4,710	2,610	998	642	600
30	678	654	640	530	-------	1,390	2,150	4,820	3,040	974	624	612
31	672	-------	654	540	-------	1,410	-------	4,970	-------	950	618	-------
TOTAL	21,651	20,343	19,938	16,910	29,500	25,916	48,900	113,940	109,690	48,172	22,604	19,268
MEAN	698	678	643	545	1,054	836	1,630	3,675	3,656	1,554	729	642
MAX	790	762	720	666	2,500	1,430	2,150	4,970	4,980	2,780	926	708
MIN	636	642	460	344	540	624	1,200	2,650	2,430	950	618	600
CFSM	.30	.30	.28	.24	.46	.37	.71	1.61	1.60	.68	.32	.28
IN.	.35	.33	.32	.27	.48	.42	.79	1.85	1.78	.78	.37	.31
AC-FT	42,940	40,350	39,550	33,540	58,510	51,400	96,990	226,000	217,600	95,550	44,830	38,220

CAL YR 1962: TOTAL 653,872 MEAN 1,791 MAX 8,660 MIN 240 CFSM .78 IN 10.62 AC-FT 1,297,000
WAT YR 1963: TOTAL 496,832 MEAN 1,361 MAX 4,980 MIN 344 CFSM .59 IN 8.07 AC-FT 985,500

12-3400. Blackfoot River near Bonner, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	595	550	490	520	510	468	575	2,200	7,600	3,860	1,190	886
2	595	540	490	540	510	460	612	2,640	7,460	3,630	1,180	918
3	595	540	500	540	510	456	636	2,860	7,750	3,540	1,120	894
4	590	540	510	530	510	460	734	2,880	8,350	3,410	1,080	862
5	606	540	510	520	500	464	902	2,820	8,430	3,380	1,050	830
6	636	540	520	510	500	460	974	2,800	8,480	3,200	1,010	814
7	660	550	530	500	500	460	846	2,770	8,720	3,000	982	798
8	660	560	520	500	500	448	806	2,700	10,800	2,880	982	798
9	648	570	500	490	500	456	846	2,680	16,400	2,650	966	790
10	642	590	470	480	500	456	990	2,830	18,000	2,510	942	776
11	642	570	460	460	490	456	1,090	3,060	15,200	2,370	934	762
12	636	560	470	460	470	464	1,060	3,200	12,000	2,230	918	755
13	618	560	500	460	460	460	942	3,510	10,200	2,130	918	748
14	606	560	520	470	460	456	878	3,840	9,180	2,150	910	741
15	600	580	540	480	468	460	942	4,180	8,690	2,160	902	727
16	600	570	540	500	472	460	1,060	4,610	8,640	2,130	870	720
17	590	565	530	520	476	468	1,020	5,420	8,820	2,000	854	714
18	585	560	520	520	464	488	950	6,340	8,160	1,890	838	708
19	585	560	520	520	480	500	934	7,010	7,340	1,790	830	702
20	580	555	520	520	468	492	974	8,040	6,640	1,720	830	702
21	580	555	520	520	460	496	1,090	9,260	6,100	1,630	838	702
22	570	535	520	510	472	492	1,180	9,290	5,680	1,540	822	708
23	575	540	520	510	460	400	1,310	8,400	5,290	1,470	798	708
24	575	540	520	500	450	360	1,360	7,650	5,240	1,410	776	702
25	580	540	530	500	428	380	1,340	6,750	5,420	1,360	769	690
26	575	540	530	500	432	420	1,350	6,120	5,460	1,330	765	690
27	565	540	520	500	464	484	1,380	5,840	5,350	1,280	769	684
28	560	540	510	500	456	488	1,370	6,300	5,130	1,230	790	678
29	560	500	500	500	480	484	1,420	7,120	4,680	1,210	814	672
30	560	490	500	500	------	488	1,810	7,410	4,260	1,210	838	672
31	560	------	500	510	------	520	------	7,530	------	1,240	854	------
TOTAL	18,529	16,480	15,830	15,590	13,850	14,304	31,381	158,060	249,470	67,540	28,143	22,551
MEAN	598	549	511	503	478	461	1,046	5,099	8,316	2,179	908	752
MAX	660	590	540	540	510	520	1,810	9,290	18,000	3,860	1,190	918
MIN	560	490	460	460	428	360	575	2,200	4,260	1,210	769	672
CFSM	.26	.24	.22	.22	.21	.20	.46	2.23	3.63	.95	.40	.33
IN.	.30	.27	.26	.25	.22	.23	.51	2.57	4.05	1.10	.46	.37
AC-FT	36,750	32,690	31,400	30,920	27,470	28,370	62,240	313,500	494,800	134,000	55,820	44,730

CAL YR 1963: TOTAL 485,739 MEAN 1,331 MAX 4,980 MIN 344 CFSM .58 IN 7.89 AC-FT 963,400
WAT YR 1964: TOTAL 651,728 MEAN 1,781 MAX 18,000 MIN 360 CFSM .78 IN 10.58 AC-FT 1,293,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	672	654	642	700	708	684	714	8,250	9,050	4,180	1,430	974
2	672	666	672	710	672	727	1,060	8,640	8,460	4,010	1,370	950
3	678	660	672	720	678	696	1,330	7,990	8,400	3,910	1,360	934
4	672	654	660	730	654	678	1,210	7,160	8,770	3,840	1,300	934
5	666	654	654	740	666	666	1,310	6,480	8,610	3,840	1,340	942
6	660	654	630	740	666	678	1,420	5,900	8,560	3,680	1,310	950
7	660	642	612	750	630	678	1,600	5,400	8,640	3,590	1,280	942
8	666	630	590	750	654	696	1,890	4,980	8,350	3,520	1,210	934
9	672	630	630	750	636	720	2,040	4,640	7,940	3,490	1,200	934
10	678	636	618	750	612	734	2,050	4,430	7,940	3,440	1,160	982
11	678	636	618	740	570	755	1,920	4,550	8,380	3,220	1,130	998
12	678	630	565	720	590	741	1,770	5,060	9,030	3,120	1,100	974
13	672	624	565	720	595	702	1,840	6,260	9,680	3,020	1,160	966
14	672	612	560	730	612	696	2,060	7,530	8,900	2,840	1,140	1,010
15	672	595	530	730	535	684	2,260	8,280	7,700	2,660	1,100	1,240
16	678	585	400	720	630	690	2,480	8,610	7,100	2,520	1,070	1,290
17	690	630	320	710	636	600	2,520	8,900	7,600	2,400	1,040	1,280
18	684	624	320	700	630	565	2,500	8,350	8,850	2,300	1,010	1,250
19	678	600	340	680	666	642	2,640	7,720	8,870	2,180	998	1,240
20	672	595	500	648	720	630	3,680	7,190	8,350	2,130	998	1,240
21	672	590	600	636	783	672	4,730	6,830	7,720	2,140	1,010	1,240
22	666	575	800	624	769	654	5,040	6,600	7,360	2,070	1,030	1,240
23	666	600	1,000	595	660	600	5,330	6,520	6,860	1,950	1,050	1,230
24	666	612	1,200	606	666	555	5,460	6,420	6,560	1,860	1,110	1,230
25	660	654	1,000	600	708	600	5,480	6,400	6,680	1,780	1,080	1,220
26	660	660	940	606	690	648	5,540	6,280	6,640	1,720	1,040	1,220
27	660	630	880	612	708	630	5,600	6,100	6,140	1,650	1,020	1,210
28	660	600	800	624	727	618	5,780	6,140	5,480	1,600	1,010	1,210
29	660	600	740	684	------	612	6,120	6,810	4,950	1,550	1,010	1,200
30	672	618	720	708	------	624	7,050	8,380	4,450	1,520	998	1,200
31	654	------	710	727	------	636	------	9,290	------	1,480	990	------
TOTAL	20,766	18,750	20,488	21,460	18,471	20,511	94,424	212,090	232,020	83,210	35,054	33,164
MEAN	670	625	661	692	660	662	3,147	6,842	7,734	2,684	1,131	1,105
MAX	690	666	1,200	750	783	755	7,050	9,290	9,680	4,180	1,430	1,290
MIN	654	575	320	595	535	555	714	4,430	4,450	1,480	990	934
CFSM	.29	.27	.29	.30	.29	.29	1.37	2.99	3.38	1.17	.49	.48
IN.	.34	.30	.33	.35	.30	.33	1.53	3.44	3.77	1.35	.57	.54
AC-FT	41,190	37,190	40,640	42,570	36,640	40,680	187,300	420,700	460,200	165,000	69,530	65,780

CAL YR 1964: TOTAL 660,893 MEAN 1,806 MAX 18,000 MIN 320 CFSM .79 IN 10.73 AC-FT 1,311,000
WAT YR 1965: TOTAL 810,408 MEAN 2,220 MAX 9,680 MIN 320 CFSM .97 IN 13.16 AC-FT 1,607,000

12-3405. Clark Fork above Missoula, Mont.

Location.--Lat 46°52'40", long 113°55'40", in NW¼NW¼ sec.19, T.13 N., R.18 W., on right bank 3 miles downstream from Blackfoot River, 3 miles east of Missoula, and at mile 361.6.

Drainage area.--5,999 sq mi.

Records available.--March 1929 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Digital water-stage recorder. Altitude of gage is 3,230 ft (from topographic map). Prior to May 27, 1929, staff gage and May 27, 1929, to Sept. 16, 1964, graphic water-stage recorder, at same site and datum.

Average discharge.--36 years, 2,890 cfs (2,092,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	15,800	9.06	Jan. 28, 1961	a 600	-
1962	May 26, 1962	14,200	8.65	Jan. 21, 1962	a 500	-
1963	June 5, 1963	10,400	7.23	Sept.19, 1963	466	1.71
1964	June 10, 1964	31,700	13.35	Mar. 24, 1964	260	1.27
1965	June 18, 1965	17,700	9.76	Dec. 18, 1964	a 450	-

a Minimum daily.

1929-65: Maximum discharge, 31,700 cfs June 10, 1964 (gage height, 13.35 ft); minimum, 115 cfs Oct. 25, 1943 (gage height, 0.64 ft, powerplant shutdown); minimum daily, 340 cfs Sept. 27, 1937.

Flood in June 1908 reached a discharge of 48,000 cfs (furnished by The Montana Power Co.).

Remarks.--Records excellent except those for winter periods, which are fair. Diurnal fluctuation caused by powerplant at Bonner. Diversions for irrigation of about 120,000 acres above station.

Revisions (water years).--WSP 1042: 1936. WSP 1152: 1942. WSP 1246: 1929-30, 1935, drainage area. WSP 1316: 1932-33.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,330	1,470	1,300	1,160	1,470	1,410	1,680	2,900	13,500	2,580	1,210	1,040
2	1,330	1,560	1,410	1,170	1,540	1,430	1,760	3,200	12,700	2,520	1,140	1,250
3	1,330	1,510	1,560	900	1,450	1,410	1,880	3,530	12,800	2,380	1,120	1,270
4	1,300	1,510	1,520	760	1,330	1,280	2,160	3,620	12,700	2,130	1,130	1,320
5	1,340	1,450	1,400	650	1,320	1,220	2,180	3,870	12,400	2,260	1,080	1,330
6	1,330	1,420	1,100	1,300	1,320	1,370	2,140	4,070	11,800	2,460	1,000	1,330
7	1,280	1,410	780	1,700	1,410	1,410	2,100	4,050	11,800	2,490	1,000	1,320
8	1,320	1,460	700	1,600	1,430	1,320	2,090	3,980	11,200	2,370	1,020	1,160
9	1,330	1,540	670	1,520	1,370	1,270	2,090	3,920	10,100	2,320	994	1,170
10	1,300	1,430	700	1,450	1,450	1,290	2,030	4,190	9,230	2,140	983	1,150
11	1,360	1,470	700	1,400	2,060	1,320	2,040	4,720	8,480	2,100	930	1,140
12	1,300	1,550	800	1,350	2,360	1,290	1,990	4,740	8,150	2,120	950	1,150
13	1,380	1,550	900	1,300	1,960	1,210	2,020	4,680	7,940	2,130	961	1,050
14	1,360	1,520	1,000	1,250	1,740	1,270	2,030	4,660	7,410	1,820	961	1,230
15	1,370	1,540	1,100	1,350	1,640	1,380	1,990	4,700	6,850	1,930	950	1,180
16	1,340	1,520	1,030	1,390	1,550	1,550	1,950	4,880	7,160	2,020	972	1,210
17	1,410	1,540	980	1,420	1,450	1,630	1,930	5,200	6,160	1,930	972	1,130
18	1,330	1,550	1,100	1,390	1,430	1,540	1,950	5,620	5,840	1,890	900	1,190
19	1,330	1,540	1,300	1,300	1,410	1,420	2,070	5,580	5,460	1,850	910	1,290
20	1,320	1,520	1,600	1,160	1,390	1,390	2,100	5,880	4,840	1,810	900	1,330
21	1,330	1,510	1,550	1,120	1,470	1,370	2,090	6,700	4,780	1,810	880	1,340
22	1,330	1,510	1,550	1,070	1,790	1,360	2,070	7,570	4,400	1,750	890	1,340
23	1,330	1,470	1,520	1,000	1,690	1,270	2,140	8,600	3,890	1,680	890	1,430
24	1,320	1,480	1,450	950	1,550	1,390	2,250	10,000	3,720	1,560	880	1,450
25	1,320	1,590	1,370	970	1,540	1,540	2,240	11,500	3,490	1,550	930	1,430
26	1,340	1,650	1,400	850	1,550	1,550	2,320	13,200	3,220	1,460	961	1,420
27	1,380	1,650	1,400	720	1,390	1,580	2,500	14,600	3,020	1,450	950	1,380
28	1,380	1,550	1,350	600	1,380	1,600	2,680	14,800	2,850	1,360	950	1,380
29	1,390	1,300	1,300	700	------	1,590	2,710	13,600	2,790	1,300	950	1,320
30	1,430	1,200	1,220	1,050	------	1,620	2,770	13,900	2,680	1,300	972	1,420
31	1,450	------	1,150	1,360	------	1,640	------	14,300	------	1,220	961	------
TOTAL	41,690	44,970	36,910	35,910	43,440	43,920	63,950	216,760	221,360	59,690	30,297	38,150
MEAN	1,345	1,499	1,191	1,158	1,551	1,417	2,132	6,992	7,379	1,925	977	1,272
MAX	1,450	1,650	1,600	1,700	2,360	1,640	2,770	14,800	13,500	2,580	1,210	1,450
MIN	1,280	1,200	670	600	1,320	1,210	1,680	2,900	2,680	1,220	880	1,040
AC-FT	82,690	89,200	73,210	71,230	86,160	87,110	126,800	429,900	439,100	118,400	60,090	75,670

CAL YR 1960: TOTAL 1,037,404 MEAN 2,834 MAX 11,700 MIN 670 AC-FT 2,058,000
WAT YR 1961: TOTAL 877,047 MEAN 2,403 MAX 14,800 MIN 600 AC-FT 1,740,000

12-3405. Clark Fork above Missoula, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,450	1,500	1,360	1,000	1,350	1,180	2,540	6,310	11,200	5,040	2,070	1,460
2	1,410	1,580	1,360	1,050	1,400	1,210	2,850	5,860	11,000	4,900	2,030	1,410
3	1,380	1,500	1,330	1,150	1,550	1,230	3,300	5,640	11,000	4,740	1,970	1,330
4	1,410	1,500	1,280	1,100	1,700	1,250	3,830	5,740	11,200	4,300	1,900	1,320
5	1,410	1,480	1,270	1,050	1,860	1,340	4,320	5,960	10,200	4,170	1,930	1,330
6	1,380	1,380	1,250	1,100	1,630	1,360	4,660	5,920	9,160	4,170	1,950	1,340
7	1,390	1,450	1,140	1,100	1,540	1,320	5,060	6,000	8,290	3,980	1,920	1,320
8	1,390	1,420	1,000	900	1,500	1,380	4,880	6,440	7,640	3,710	1,780	1,330
9	1,420	1,450	800	600	1,520	1,380	3,960	7,050	7,480	3,540	1,720	1,390
10	1,410	1,420	650	550	1,520	1,370	3,560	7,710	7,920	3,260	1,710	1,450
11	1,450	1,480	600	600	1,560	1,210	3,330	8,120	8,460	3,180	1,720	1,540
12	1,470	1,500	650	750	1,630	1,240	3,260	8,290	8,530	3,080	1,710	1,600
13	1,480	1,460	800	950	1,670	1,210	3,420	8,480	8,920	3,040	1,650	1,620
14	1,480	1,410	950	1,050	1,680	1,210	3,710	9,080	10,800	3,020	1,600	1,710
15	1,470	1,430	1,050	1,050	1,680	1,240	4,220	8,720	11,600	3,080	1,560	1,740
16	1,460	1,380	1,150	950	1,630	1,300	4,960	8,510	12,400	2,990	1,390	1,740
17	1,460	1,150	1,200	1,000	1,590	1,300	5,080	8,480	11,900	2,890	1,750	1,720
18	1,460	1,140	1,200	900	1,620	1,380	5,080	8,580	11,600	2,770	1,740	1,640
19	1,430	1,190	1,150	700	1,550	1,460	5,500	9,130	10,800	2,650	1,550	1,620
20	1,430	1,290	1,200	550	1,510	1,520	6,610	10,100	10,100	2,580	1,510	1,600
21	1,470	1,330	1,350	500	1,340	1,650	7,550	11,300	9,550	2,520	1,450	1,550
22	1,500	1,220	1,300	550	1,380	1,690	7,270	12,000	8,920	2,280	1,410	1,520
23	1,520	1,380	1,250	700	1,220	1,600	7,110	12,100	8,200	2,310	1,450	1,560
24	1,580	1,420	1,250	1,000	983	1,580	7,480	12,000	7,480	2,370	1,450	1,640
25	1,550	1,390	1,300	1,150	750	1,590	8,360	13,200	7,200	2,160	1,330	1,500
26	1,580	1,360	1,200	1,400	700	1,930	8,840	13,800	6,460	2,140	1,480	1,560
27	1,600	1,320	1,150	1,600	800	2,810	8,480	13,400	6,390	2,190	1,420	1,450
28	1,650	1,320	1,150	1,800	1,000	3,020	8,150	13,200	5,960	2,260	1,390	1,600
29	1,580	1,270	1,250	1,650	------	2,630	7,550	12,900	5,820	2,260	1,480	1,560
30	1,510	1,330	1,250	1,550	------	2,420	6,920	12,300	5,340	2,190	1,170	1,510
31	1,470	------	1,100	1,450	------	2,400	------	11,600	------	2,130	1,270	------
TOTAL	45,650	41,450	34,940	31,450	39,863	49,410	161,840	287,920	271,520	95,900	50,460	45,660
MEAN	1,473	1,382	1,127	1,015	1,424	1,594	5,395	9,288	9,051	3,094	1,628	1,522
MAX	1,650	1,580	1,360	1,800	1,860	3,020	8,840	13,800	12,400	5,040	2,070	1,740
MIN	1,380	1,140	600	500	700	1,180	2,540	5,640	5,340	2,130	1,170	1,320
AC-FT	90,550	82,210	69,300	62,380	79,070	98,000	321,000	571,100	538,600	190,200	100,100	90,570

CAL YR 1961: TOTAL 875,517 MEAN 2,399 MAX 14,800 MIN 600 AC-FT 1,737,000
WAT YR 1962: TOTAL 1,156,063 MEAN 3,167 MAX 13,800 MIN 500 AC-FT 2,293,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,520	1,670	1,650	1,630	1,000	2,120	2,970	4,590	9,600	6,180	1,760	1,180
2	1,480	1,640	1,710	1,630	1,100	1,960	2,770	5,180	9,350	5,660	1,590	1,360
3	1,560	1,630	1,760	1,630	1,200	1,880	2,610	5,060	9,110	5,300	1,600	1,430
4	1,520	1,630	1,760	1,620	1,500	1,670	2,580	4,880	9,320	5,040	1,620	1,480
5	1,520	1,640	1,670	1,480	4,800	1,670	2,650	4,620	10,100	4,800	1,560	1,460
6	1,510	1,680	1,690	1,330	6,300	1,740	2,790	4,640	9,920	4,600	1,520	1,430
7	1,520	1,640	1,720	1,340	6,000	1,710	3,040	5,360	9,010	4,510	1,500	1,460
8	1,520	1,640	1,720	1,330	4,800	1,600	3,180	6,180	8,240	4,170	1,470	1,380
9	1,500	1,650	1,750	1,430	3,540	1,600	3,170	6,500	7,920	3,530	1,320	1,450
10	1,630	1,640	1,750	796	2,790	1,680	3,060	6,420	7,960	3,470	1,380	1,360
11	1,880	1,640	1,710	500	2,340	1,710	2,940	6,120	7,890	3,530	1,460	1,370
12	2,040	1,650	1,630	600	2,180	1,680	2,890	5,980	7,660	3,540	1,560	1,410
13	2,180	1,640	1,540	700	2,310	1,550	2,850	5,860	7,480	3,240	1,550	1,410
14	2,200	1,630	1,510	900	2,030	1,520	2,990	5,760	7,500	3,150	1,460	1,470
15	2,220	1,630	1,600	1,100	1,990	1,580	3,490	5,760	7,250	3,220	1,420	1,520
16	2,140	1,560	1,670	1,300	1,920	1,620	3,920	5,980	7,050	3,110	1,330	1,590
17	2,070	1,580	1,680	1,200	1,860	1,560	3,960	6,290	6,850	2,960	1,290	1,760
18	2,030	1,560	1,750	1,100	1,850	1,550	3,850	6,700	6,350	2,900	1,230	1,850
19	1,950	1,550	1,790	1,000	1,820	1,550	3,690	7,000	5,940	2,650	1,220	1,830
20	1,930	1,640	1,780	1,000	1,880	1,580	3,470	7,090	5,660	2,480	1,230	1,410
21	1,820	1,920	1,750	1,000	2,020	1,710	3,310	7,250	6,270	2,540	1,220	1,590
22	1,820	2,020	1,720	1,100	2,040	2,020	3,110	7,480	7,850	2,320	1,210	1,640
23	1,780	1,920	1,640	1,000	2,060	2,480	3,010	7,820	7,250	2,260	1,180	1,750
24	1,720	1,670	1,200	900	2,100	3,200	2,920	8,290	6,540	2,160	1,230	1,720
25	1,750	1,560	800	1,000	2,090	2,870	2,820	8,800	6,330	2,140	1,190	1,750
26	1,740	1,790	900	900	2,090	2,460	2,810	9,320	6,020	2,120	1,180	1,680
27	1,740	1,850	1,000	1,000	2,360	2,480	2,940	9,620	5,700	2,090	1,250	1,590
28	1,690	1,860	1,200	1,100	2,280	2,760	3,310	9,500	5,400	1,930	1,210	1,520
29	1,620	1,780	1,400	1,100	------	3,180	3,580	9,130	5,660	1,780	1,180	1,540
30	1,630	1,670	1,500	1,000	------	3,110	3,920	9,160	6,670	1,750	1,170	1,520
31	1,670	------	1,600	1,000	------	3,080	------	9,400	------	1,820	1,160	------
TOTAL	54,900	50,580	48,550	34,716	70,250	62,880	94,600	211,740	223,850	100,950	42,250	45,910
MEAN	1,771	1,686	1,566	1,120	2,509	2,028	3,153	6,830	7,462	3,256	1,363	1,530
MAX	2,220	2,020	1,790	1,630	6,300	3,200	3,960	9,620	10,100	6,180	1,760	1,850
MIN	1,480	1,550	800	500	1,000	1,520	2,580	4,590	5,400	1,750	1,160	1,180
AC-FT	108,900	100,300	96,300	68,860	139,300	124,700	187,600	420,000	444,000	200,200	83,800	91,060

CAL YR 1962: TOTAL 1,188,053 MEAN 3,255 MAX 13,800 MIN 500 AC-FT 2,356,000
WAT YR 1963: TOTAL 1,041,176 MEAN 2,853 MAX 10,100 MIN 500 AC-FT 2,065,000

12-3405. Clark Fork above Missoula, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,510	1,360	1,150	1,510	1,360	1,270	2,430	5,040	13,200	8,080	2,770	2,140
2	1,510	1,630	1,100	1,510	1,170	1,170	2,870	5,560	13,000	7,480	2,610	2,250
3	1,480	1,380	1,000	1,380	1,250	1,180	2,550	5,800	13,400	7,300	2,460	2,250
4	1,450	1,330	950	1,300	1,240	1,220	2,540	5,700	14,200	7,000	2,310	2,190
5	1,460	1,340	1,000	1,220	1,240	1,300	3,110	5,480	14,400	6,720	2,220	2,060
6	1,600	1,360	1,150	1,230	1,180	1,190	3,170	5,660	14,500	6,590	2,060	2,020
7	1,740	1,210	1,200	1,270	1,210	1,250	2,690	5,760	15,100	5,940	2,040	2,000
8	1,720	1,210	1,050	1,230	1,140	1,130	2,380	5,600	18,900	5,440	1,990	2,030
9	1,650	1,290	1,100	1,000	1,270	1,140	2,480	5,520	27,400	4,980	1,920	1,980
10	1,630	1,410	900	1,000	1,300	1,150	2,920	5,840	30,500	4,680	1,820	1,930
11	1,620	1,390	750	1,150	1,270	1,160	3,360	6,250	27,500	4,720	1,820	1,960
12	1,580	1,410	650	1,000	1,240	1,190	3,090	6,140	21,900	4,360	1,750	1,750
13	1,510	1,390	750	950	1,270	1,220	2,630	6,420	18,500	4,280	1,740	1,890
14	1,480	1,410	900	950	1,180	1,180	2,400	6,870	16,500	4,220	1,760	1,850
15	1,470	1,470	1,100	1,000	1,130	1,180	2,400	7,390	15,700	4,340	1,810	1,820
16	1,430	1,510	1,350	1,050	1,160	1,210	2,920	8,080	15,400	4,220	1,640	1,790
17	1,460	1,500	1,250	1,210	1,220	1,300	2,850	9,400	16,000	3,920	1,620	1,760
18	1,420	1,480	1,000	1,220	1,220	1,590	2,500	10,800	16,000	3,650	1,620	1,740
19	1,370	1,460	1,000	1,210	1,280	1,760	2,370	11,400	14,500	3,540	1,590	1,730
20	1,380	1,410	1,100	1,170	1,280	1,690	2,420	12,900	13,700	3,360	1,590	1,730
21	1,380	1,430	1,350	1,240	1,230	1,540	2,680	15,000	12,800	3,200	1,620	1,740
22	1,390	1,430	1,350	1,150	1,230	1,500	2,940	15,300	12,100	3,010	1,630	1,740
23	1,390	1,430	1,250	1,150	1,240	1,130	3,220	14,200	11,300	2,820	1,580	1,770
24	1,370	1,460	1,250	1,100	1,300	715	3,260	12,600	10,800	2,840	1,510	1,710
25	1,420	1,450	1,250	1,190	1,070	706	3,220	11,300	10,800	2,790	1,480	1,700
26	1,420	1,450	1,300	1,300	1,070	1,100	3,110	10,300	10,900	2,660	1,540	1,670
27	1,390	1,450	1,250	1,220	1,050	1,210	3,080	11,200	10,900	2,550	1,510	1,660
28	1,360	1,460	1,250	1,250	1,220	1,100	3,040	10,700	10,500	2,430	1,620	1,700
29	1,360	1,300	1,200	1,220	1,170	1,140	3,130	12,600	9,750	2,360	1,670	1,710
30	1,360	1,150	1,100	1,230	------	1,190	4,170	13,500	8,800	2,340	1,720	1,720
31	1,360	------	1,000	1,290	------	1,620	------	13,300	------	2,610	1,970	------
TOTAL	45,670	41,960	34,000	36,900	35,190	38,431	85,930	281,610	458,950	134,430	56,990	55,970
MEAN	1,473	1,399	1,097	1,190	1,213	1,240	2,864	9,084	15,300	4,336	1,838	1,866
MAX	1,740	1,630	1,350	1,510	1,360	1,760	4,170	15,300	30,500	8,080	2,770	2,250
MIN	1,360	1,150	650	950	1,050	706	2,370	5,040	8,800	2,340	1,480	1,660
AC-FT	90,590	83,230	67,440	73,190	69,800	76,230	170,400	558,600	910,300	266,600	113,000	111,000

CAL YR 1963: TOTAL 1,008,776 MEAN 2,764 MAX 10,100 MIN 500 AC-FT 2,001,000
WAT YR 1964: TOTAL 1,306,031 MEAN 3,568 MAX 30,500 MIN 650 AC-FT 2,590,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,730	1,740	1,740	2,360	2,250	2,220	2,490	13,900	15,600	8,370	2,520	2,110
2	1,710	1,740	1,760	2,270	2,020	2,050	3,850	14,300	14,700	7,950	2,420	2,020
3	1,770	1,800	1,770	2,160	1,940	2,010	4,060	13,100	14,300	7,610	2,370	2,010
4	1,740	1,770	1,740	2,740	1,870	1,940	3,550	11,800	14,700	7,230	2,430	2,010
5	1,740	1,730	1,710	2,630	1,980	1,910	3,600	10,800	14,700	7,100	2,460	2,160
6	1,710	1,730	1,630	2,370	2,150	1,950	3,720	9,970	14,500	6,930	2,450	2,220
7	1,710	1,690	1,600	2,370	1,970	2,080	3,920	9,170	14,600	6,560	2,420	2,330
8	1,710	1,670	1,440	2,450	1,850	2,110	4,410	8,530	14,300	6,270	2,270	2,270
9	1,710	1,680	1,590	2,240	1,840	2,160	4,710	7,930	13,600	6,040	2,240	2,360
10	1,740	1,670	1,630	2,280	1,720	2,180	4,710	7,520	13,400	6,410	2,150	2,520
11	1,680	1,680	1,600	2,190	1,540	2,210	4,450	7,560	14,000	6,080	2,060	2,640
12	1,730	1,670	1,460	1,980	1,540	2,150	4,040	8,250	15,000	5,950	2,110	2,580
13	1,710	1,650	1,400	1,910	1,710	2,020	4,010	9,870	16,600	5,890	2,220	2,550
14	1,680	1,650	1,680	1,950	1,740	1,970	4,390	11,800	15,800	5,570	2,250	2,670
15	1,670	1,520	1,640	1,950	1,710	1,970	4,830	13,100	13,900	5,130	2,190	2,860
16	1,740	1,450	900	1,950	1,900	1,980	5,170	13,700	12,700	4,960	2,160	3,680
17	1,800	1,470	550	1,910	1,840	1,770	5,170	14,300	14,000	4,560	2,040	3,490
18	1,740	1,630	450	1,870	1,900	1,450	5,000	13,900	17,300	4,390	1,740	3,430
19	1,720	1,630	500	1,830	2,270	1,670	5,030	12,800	17,200	4,130	1,970	3,260
20	1,710	1,670	700	1,780	2,940	1,850	6,770	11,900	16,000	4,120	1,810	3,270
21	1,740	1,610	1,100	1,760	2,880	1,840	8,960	11,400	14,500	4,130	1,870	3,360
22	1,740	1,580	1,500	1,740	2,370	1,840	9,350	11,100	13,700	3,940	2,040	3,560
23	1,730	1,590	4,350	1,690	2,010	1,670	9,400	11,000	12,700	3,670	2,270	3,790
24	1,710	1,670	6,620	1,640	2,040	1,510	9,370	11,100	12,000	3,490	2,430	3,610
25	1,710	1,740	5,150	1,710	2,050	1,590	9,270	11,100	12,300	3,320	2,390	3,430
26	1,710	1,810	3,580	1,670	1,980	1,720	9,270	11,000	13,100	3,170	2,310	3,360
27	1,720	1,770	3,120	1,680	2,020	1,800	9,450	10,700	13,000	3,040	2,240	3,220
28	1,690	1,670	3,010	1,760	2,400	1,770	9,620	10,600	11,600	2,940	2,190	3,170
29	1,720	1,590	2,630	1,880	------	1,740	10,400	11,400	10,100	2,850	2,150	3,150
30	1,740	1,630	2,540	2,080	------	1,720	12,100	13,700	9,030	2,780	2,110	3,140
31	1,770	------	2,600	2,220	------	1,770	------	15,800	------	2,660	2,090	------
TOTAL	53,430	49,900	63,690	63,020	56,430	58,620	185,070	353,100	418,930	157,240	68,370	86,230
MEAN	1,724	1,663	2,055	2,033	2,015	1,891	6,169	11,390	13,960	5,072	2,205	2,874
MAX	1,800	1,810	6,620	2,740	2,940	2,220	12,100	15,800	17,300	8,370	2,520	3,790
MIN	1,670	1,450	450	1,640	1,540	1,450	2,490	7,520	9,030	2,660	1,740	2,010
AC-FT	106,000	98,980	126,300	125,000	111,900	116,300	367,100	700,400	830,900	311,900	135,600	171,000

CAL YR 1964: TOTAL 1,351,421 MEAN 3,692 MAX 30,500 MIN 450 AC-FT 2,681,000
WAT YR 1965: TOTAL 1,614,030 MEAN 4,422 MAX 17,300 MIN 450 AC-FT 3,201,000

12-3410. Rattlesnake Creek at Missoula, Mont.

Location.--Lat 46°52'20", long 113°59'00", in SW¼NE¼ sec.22, T.13 N., R.19 W., on upstream side of Vine Street Bridge in Missoula, half a mile upstream from mouth.

Drainage area.--79.7 sq mi.

Records available.--June to December 1899, January to November 1900 (gage heights and discharge measurements only), April 1958 to September 1965. Monthly discharge only for December 1899, published in WSP 1316.

Gage.--Wire-weight gage read once daily. Altitude of gage is 3,220 ft (from topographic map). June 1899 to November 1900 at or near present site at different datum.

Average discharge.--7 years, 114 cfs (82,530 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	1,770	10.10	Jan. 9, 1961	a 1.3	6.80
1962	May 29, 1962	920	9.29	Sept.26, 27, 1962	a 2.4	6.95
1963	May 26, 1963	900	b 9.30	Dec. 25, 1962	c 4	-
1964	June 8, 1964	1,830	10.15	Feb. 24, 1964	a .10	6.60
1965	May 30, 1965	980	d 9.45	Aug. 17, 18, 1965	a 7.1	7.10

a Minimum observed.
b Maximum gage height observed for year, 9.53 ft Feb. 5, 1963, ice jam.
c Minimum daily.
d Maximum gage height observed for year, 10.07 ft Dec. 18, 19, 1965, backwater from ice.

1899, 1958-65: Maximum discharge observed, 2,050 cfs June 18, 1899 (gage height, 6.25 ft, site and datum then in use); minimum observed, 0.10 cfs Feb. 24, 1964.
Maximum discharge known, 2,400 cfs June 6, 1948, by computation of flow over dam 4 miles upstream.

Remarks.--Records fair except those for winter periods, which are poor. Many small diversions above station for irrigation of about 300 acres. Diversion above station for municipal water supply for city of Missoula of about 16,000 acre-ft per year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.3	14	15	6.0	13	18	58	125	900	96	27	3.6
2	5.0	13	13	5.0	16	19	69	204	900	86	27	36
3	5.0	11	13	4.0	13	17	141	236	950	72	27	31
4	4.2	9.0	12	5.0	18	22	294	220	855	72	17	24
5	5.0	10	11	20	9.6	26	214	195	770	72	5.0	18
6	4.2	11	10	34	4.2	15	141	138	1,000	78	5.0	17
7	4.2	11	9.0	10	5.0	18	123	143	1,000	72	6.0	14
8	3.6	12	9.0	1.6	4.2	11	96	143	950	71	6.6	14
9	3.2	12	8.0	1.3	8.4	9.6	90	141	730	62	5.6	13
10	2.5	9.6	8.0	3.9	11	12	101	280	480	54	5.3	13
11	4.6	12	7.0	3.2	50	12	84	318	425	46	3.2	14
12	11	11	6.0	3.2	72	11	76	294	204	39	3.9	14
13	7.2	13	6.0	4.6	42	9.6	76	267	425	39	2.4	13
14	6.0	13	6.0	1.6	40	13	74	284	450	34	2.4	13
15	5.6	13	6.0	3.2	33	13	58	284	440	44	3.2	11
16	11	15	6.0	7.2	30	29	63	267	400	38	7.8	4.2
17	14	11	6.0	10	26	39	65	230	328	38	6.6	3.2
18	16	13	6.0	10	20	35	76	270	350	27	4.6	3.2
19	15	16	6.0	9.0	20	39	84	310	350	24	3.2	7.2
20	14	12	6.0	8.0	16	39	88	474	323	22	3.2	9.0
21	15	13	6.0	7.0	13	36	90	517	239	21	2.8	12
22	14	13	6.0	7.0	31	39	80	531	217	21	2.8	16
23	14	12	6.0	8.0	26	36	82	698	171	17	2.8	16
24	16	16	6.0	7.0	29	46	71	1,070	157	12	3.2	16
25	16	16	6.0	6.0	30	54	74	1,050	146	13	2.8	16
26	13	18	6.0	5.0	29	62	74	1,220	130	8.4	2.8	16
27	11	20	6.6	4.0	22	56	80	1,770	103	54	3.2	18
28	8.4	13	6.6	3.0	17	49	84	1,050	110	39	3.2	16
29	11	12	6.6	3.0	———	44	80	950	92	39	3.6	15
30	9.6	16	6.6	4.0	———	42	92	1,200	96	39	3.6	15
31	11	———	6.0	9.0	———	43	———	1,000	———	27	3.6	———
TOTAL	285.6	390.6	237.4	213.8	648.4	914.2	2,878	15,879	13,691	1,376.4	206.4	431.4
MEAN	9.21	13.0	7.66	6.90	23.2	29.5	95.9	512	456	44.4	6.66	14.4
MAX	16	20	15	34	72	62	294	1,770	1,000	96	27	36
MIN	2.5	9.0	6.0	1.3	4.2	9.6	58	125	92	8.4	2.4	3.2
CFSM	.12	.16	.10	.09	.29	.37	1.20	6.43	5.73	.56	.08	.18
IN.	.13	.18	.11	.10	.30	.43	1.34	7.41	6.39	.64	.10	.20
AC-FT	566	775	471	424	1,290	1,810	5,710	31,500	27,160	2,730	409	856

CAL YR 1960: TOTAL 30,101.3 MEAN 82.2 MAX 720 MIN 2.5 CFSM 1.03 IN 14.05 AC-FT 59,710
WAT YR 1961: TOTAL 37,152.2 MEAN 102 MAX 1,770 MIN 1.3 CFSM 1.28 IN 17.34 AC-FT 73,690

12-3410. Rattlesnake Creek at Missoula, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	26	16	9.0	18	6.0	63	230	486	233	24	7.2
2	18	26	16	9.0	20	7.0	63	253	474	171	22	5.0
3	16	19	15	10	26	9.0	62	214	629	157	26	7.2
4	14	21	11	11	46	10	88	230	492	157	29	6.0
5	14	19	15	11	31	11	106	305	395	146	24	3.9
6	14	12	13	9.6	39	11	108	243	336	163	22	3.6
7	17	18	11	10	33	10	174	360	346	128	22	2.5
8	16	18	9.0	7.0	17	9.6	69	360	332	152	18	6.0
9	16	16	7.0	5.0	19	13	24	332	400	141	14	6.0
10	14	19	6.0	4.0	19	12	113	445	566	120	18	6.6
11	20	16	5.0	5.0	18	10	115	498	480	152	16	5.6
12	22	16	6.0	10	22	9.0	123	395	480	52	14	8.4
13	18	18	12	12	24	7.0	123	375	425	71	13	10
14	24	18	16	13	27	6.0	143	350	440	72	7.8	13
15	22	20	18	13	21	7.0	236	365	456	60	9.6	13
16	22	11	20	12	26	8.0	380	360	517	67	6.0	7.8
17	24	10	20	11	21	9.6	341	370	517	62	6.0	6.6
18	28	10	19	10	28	10	365	346	517	62	11	4.2
19	23	10	17	10	19	11	355	474	445	58	12	4.2
20	26	11	14	10	16	13	214	474	390	52	11	3.2
21	28	13	19	9.0	14	15	395	440	385	52	5.0	2.5
22	21	16	16	6.0	12	16	395	440	370	52	7.2	6.6
23	18	16	14	4.0	10	13	380	462	375	39	8.4	6.0
24	27	17	10	4.0	8.0	14	346	480	360	27	7.2	4.2
25	17	16	11	6.0	7.0	16	580	762	360	26	4.6	2.8
26	24	15	11	14	6.0	21	440	580	332	29	3.9	2.4
27	31	14	16	18	5.0	34	385	594	332	28	5.0	2.4
28	28	14	14	21	5.0	42	395	636	198	28	6.0	3.9
29	24	13	12	21	———	40	370	920	230	34	13	5.3
30	21	16	13	20	———	40	284	714	223	26	9.6	5.3
31	24	———	9.6	18	———	40	———	517	———	24	10	———
TOTAL	647	484	411.6	332.6	557.0	480.2	7,235	13,524	12,288	2,641	405.3	171.4
MEAN	20.9	16.1	13.3	10.7	19.9	15.5	241	436	410	85.2	13.1	5.71
MAX	31	26	20	21	46	42	580	920	629	233	29	13
MIN	14	10	5.0	4.0	5.0	6.0	24	214	198	24	3.9	2.4
CFSM	.26	.20	.17	.13	.25	.19	3.03	5.47	5.14	1.07	.16	.07
IN.	.30	.23	.19	.16	.26	.22	3.38	6.31	5.73	1.23	.19	.08
AC-FT	1,280	960	816	660	1,100	952	14,350	26,820	24,370	5,240	804	340

CAL YR 1961: TOTAL 37,781.2 MEAN 104 MAX 1,770 MIN 1.3 CFSM 1.30 IN 17.63 AC-FT 74,940
WAT YR 1962: TOTAL 39,177.1 MEAN 107 MAX 920 MIN 2.4 CFSM 1.35 IN 18.28 AC-FT 77,710

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.0	23	30	26	12	33	101	336	580	207	9.0	5.3
2	5.3	24	29	23	16	31	90	370	425	186	7.8	15
3	5.3	20	30	23	34	24	69	243	341	183	6.6	16
4	5.3	16	28	24	60	21	62	174	350	183	7.2	13
5	5.0	16	27	21	340	22	80	189	375	146	6.6	12
6	5.0	20	20	15	400	26	113	174	360	163	7.2	12
7	5.3	19	27	11	320	26	138	346	294	154	6.0	11
8	4.6	17	26	10	180	22	160	328	314	125	5.6	11
9	6.0	19	27	10	100	22	133	305	314	96	5.6	12
10	11	22	24	10	80	22	133	305	328	101	5.3	8.4
11	15	19	24	11	66	21	110	288	328	101	6.6	7.8
12	36	19	21	12	60	21	96	189	305	90	5.6	6.6
13	46	19	21	14	50	20	90	198	305	125	20	6.6
14	54	18	24	16	46	20	136	256	318	78	7.8	18
15	54	18	24	16	43	20	160	355	314	180	6.6	19
16	43	18	21	14	36	22	195	346	310	63	6.0	26
17	42	18	18	13	36	18	174	360	288	60	7.8	26
18	43	14	48	12	36	18	157	395	314	63	6.6	23
19	43	17	54	11	35	18	149	390	220	56	6.0	16
20	43	16	54	10	36	19	136	395	189	55	6.0	15
21	52	44	49	10	30	24	136	498	314	49	5.6	16
22	52	44	50	11	31	28	143	504	230	43	5.6	15
23	55	38	48	12	31	46	103	474	186	38	5.6	14
24	48	27	12	12	31	52	78	636	189	30	6.0	17
25	44	35	4.0	12	28	49	76	622	198	30	6.0	16
26	42	33	5.0	12	30	54	86	900	180	28	5.3	11
27	38	36	20	11	31	48	154	636	149	28	5.6	11
28	40	31	30	10	33	130	160	456	152	28	6.6	11
29	24	31	35	10	———	138	168	510	186	27	5.3	9.6
30	26	30	35	10	———	166	341	622	201	11	5.3	7.8
31	23	———	26	10	———	141	———	666	———	11	5.6	———
TOTAL	921.8	721	891.0	422	2,231	1,322	3,927	12,466	8,557	2,738	208.4	408.1
MEAN	29.7	24.0	28.7	13.6	79.7	42.6	131	402	285	88.3	6.72	13.6
MAX	55	44	54	26	400	166	341	900	580	207	20	26
MIN	4.6	14	4.0	10	12	18	62	174	149	11	5.3	5.3
CFSM	.37	.30	.36	.17	1.00	.54	1.64	5.05	3.58	1.11	.08	.17
IN.	.43	.34	.42	.20	1.04	.62	1.83	5.82	3.99	1.28	.10	.19
AC-FT	1,830	1,430	1,770	837	4,430	2,620	7,790	24,730	16,970	5,430	413	809

CAL YR 1962: TOTAL 40,168.3 MEAN 110 MAX 920 MIN 2.4 CFSM 1.38 IN 18.74 AC-FT 79,670
WAT YR 1963: TOTAL 34,813.3 MEAN 95.4 MAX 900 MIN 4.0 CFSM 1.20 IN 16.24 AC-FT 69,050

12-3410. Rattlesnake Creek at Missoula, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.8	6.6	11	6.5	3.0	.50	28	173	690	270	64	42
2	7.8	7.8	9.6	6.0	3.0	1.0	41	200	770	278	78	121
3	7.8	9.6	6.0	5.5	2.8	.40	42	176	828	250	71	112
4	7.2	7.8	6.0	5.0	3.2	.30	50	161	855	270	44	101
5	7.2	9.6	11	4.5	3.2	.50	58	161	770	270	36	90
6	12	9.6	12	4.0	2.0	.40	58	123	770	262	44	86
7	11	6.6	11	4.0	2.0	.30	58	128	770	240	34	92
8	9.6	7.8	8.0	4.0	1.8	.30	53	135	1,590	218	30	62
9	10	12	7.5	3.5	2.5	.40	58	142	1,480	194	22	53
10	10	13	7.5	3.5	3.2	.30	58	170	900	185	24	47
11	8.4	14	8.0	3.5	1.8	.50	67	170	770	185	19	50
12	8.4	14	9.0	3.5	1.8	.40	76	185	690	197	12	38
13	8.4	14	10	3.5	1.8	.50	67	295	706	185	19	35
14	7.2	14	12	4.0	1.8	.30	58	290	706	142	24	22
15	7.2	23	12	4.5	1.8	.30	58	295	770	167	20	23
16	7.2	23	11	5.0	1.8	.50	67	340	770	167	18	12
17	6.6	20	10	5.5	1.8	.60	58	810	770	140	12	16
18	6.6	14	9.5	5.5	1.0	1.3	67	855	730	138	12	22
19	5.6	16	9.5	6.0	1.0	3.8	50	960	650	130	13	21
20	7.2	16	9.5	6.0	1.3	2.0	67	980	706	138	23	23
21	6.0	14	9.0	6.0	1.0	2.2	75	1,200	580	78	29	36
22	5.6	13	9.0	6.0	1.4	1.0	75	855	580	107	23	35
23	6.6	14	9.0	5.5	.80	1.5	86	510	615	82	12	31
24	5.3	13	9.5	5.5	.60	2.0	80	340	666	82	9.2	35
25	6.6	13	10	5.0	.80	2.5	76	315	650	80	9.2	31
26	6.6	11	9.0	4.5	.80	3.0	80	290	636	67	8.0	31
27	6.0	9.6	8.0	4.5	.70	3.5	76	375	580	60	17	31
28	6.6	11	7.5	4.0	.50	3.5	67	706	510	58	24	21
29	6.6	12	7.0	4.0	.30	3.8	75	690	390	62	38	25
30	6.6	12	7.0	3.5	———	6.5	148	510	290	69	34	25
31	7.8	———	7.0	3.0	———	11	———	492	———	78	35	———
TOTAL	233.5	381.0	282.1	145.0	49.50	55.10	1,977	13,032	22,188	4,849	857.4	1,369
MEAN	7.53	12.7	9.10	4.68	1.71	1.78	65.9	420	740	156	27.7	45.6
MAX	12	23	12	6.5	3.2	11	148	1,200	1,590	278	78	121
MIN	5.3	6.6	6.0	3.0	.30	.30	28	123	290	58	8.0	12
CFSM	.09	.16	.11	.06	.02	.02	.83	5.27	9.28	1.96	.35	.57
IN.	.11	.18	.13	.07	.02	.03	.92	6.08	10.4	2.26	.40	.64
AC-FT	463	756	560	288	98	109	3,920	25,850	44,010	9,620	1,700	2,720

CAL YR 1963: TOTAL 33,176.1 MEAN 90.9 MAX 900 MIN 5.3 CFSM 1.14 IN 15.48 AC-FT 65,800
WAT YR 1964: TOTAL 45,418.60 MEAN 124 MAX 1,590 MIN .30 CFSM 1.56 IN 21.19 AC-FT 90,090

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	33	29	22	90	29	37	38	650	608	176	38	41
2	34	29	31	80	28	36	55	538	492	173	36	46
3	34	27	36	68	28	35	76	360	682	173	34	41
4	34	24	34	56	30	31	76	375	643	176	34	48
5	24	25	28	53	30	36	82	243	608	185	35	19
6	19	24	31	48	30	36	82	188	643	182	33	18
7	19	24	24	40	30	44	92	203	608	191	35	20
8	17	24	22	36	30	52	92	203	629	191	31	20
9	17	19	28	33	30	55	99	215	566	173	29	20
10	19	24	22	31	28	55	114	212	559	170	18	31
11	18	24	25	28	24	58	114	240	580	170	18	27
12	17	24	22	26	20	58	118	438	682	173	24	44
13	18	24	22	25	20	57	121	650	629	173	24	36
14	18	23	22	28	20	53	132	714	559	132	21	52
15	18	24	22	28	20	50	188	762	538	118	20	179
16	25	22	18	28	22	50	236	608	396	84	15	176
17	27	18	12	26	22	48	232	608	636	88	7.1	128
18	27	20	12	25	23	44	179	426	658	88	7.1	112
19	25	20	400	28	23	40	167	438	666	88	12	94
20	25	20	250	28	33	38	254	438	608	90	25	92
21	31	20	295	29	35	35	517	486	615	86	22	105
22	38	17	330	27	31	31	438	444	690	82	28	258
23	31	17	380	24	28	30	390	492	538	78	57	161
24	29	16	290	27	28	29	375	444	480	73	88	164
25	25	28	290	23	31	28	262	432	370	69	73	132
26	19	22	226	29	29	28	370	414	355	69	67	128
27	28	22	161	31	29	28	340	402	365	65	65	99
28	21	23	123	27	38	28	402	486	229	60	60	101
29	24	23	138	35	———	28	510	714	218	53	65	92
30	24	22	138	36	———	29	573	980	197	46	60	76
31	29	———	99	30	———	31	———	778	———	40	57	———
TOTAL	767	678	3,553	1,123	769	1,238	6,724	14,581	16,047	3,715	1,138.2	2,560
MEAN	24.7	22.6	115	36.2	27.5	39.9	224	470	535	120	36.7	85.3
MAX	38	29	400	90	38	58	573	980	690	191	88	258
MIN	17	16	12	23	20	28	38	188	197	40	7.1	18
CFSM	.31	.28	1.44	.45	.34	.50	2.81	5.90	6.71	1.50	.46	1.07
IN.	.36	.32	1.66	.52	.36	.58	3.14	6.80	7.49	1.73	.53	1.19
AC-FT	1,520	1,340	7,050	2,230	1,530	2,460	13,340	28,920	31,830	7,370	2,260	5,080

CAL YR 1964: TOTAL 49,520.00 MEAN 135 MAX 1,590 MIN .30 CFSM 1.70 IN 23.11 AC-FT 98,220
WAT YR 1965: TOTAL 52,893.2 MEAN 145 MAX 980 MIN 7.1 CFSM 1.82 IN 24.68 AC-FT 104,900

12-3420. Painted Rocks Lake near Conner, Mont.

Location.--Lat 45°43'05", long 114°16'45", in NE¼SE¼ sec.26, T.1 S., R.22 W., at dam on West Fork Bitterroot River, 7 miles upstream from Nez Perce Creek, 23 miles south of Darby, and at mile 19.8.

Drainage area.--317 sq mi.

Records available.--June 1940 to September 1965 (incomplete 1956-58, 1960-61). Prior to December 1958, figures of contents may be total or usable. Records for August 1954, published only in WSP 1736. May to September 1948 scattered daily contents, published in WSP 1080. Prior to October 1959, published as West Fork Bitterroot River Reservoir near Conner.

Gage.--Elevations determined at or near end of month by hand levels from spillway or from staff gage on right wingwall above spillway. Prior to 1959, elevations determined by measuring from floor of control tower. Datum of gage is at mean sea level (levels by Montana Water Conservation Board).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	May 28, 1961	33,250	4,727.72	Sept. 6, 13, 1961	20,200	4,705.02
1962	May 28, 1962	32,820	4,727.1	Oct. 1, 1961	a 21,340	-
1963	May 26, 1963	33,160	4,727.6	Oct. 16, 1962	21,660	4,707.9
1964	June 11, 1964	33,090	4,727.5	Mar. 31, 1964	20,100	4,704.8
1965	June 9, 1965	33,510	4,728.1	Feb. 25, 1965	22,600	4,709.7

a Interpolated.

1940-65: Maximum contents observed, 33,580 acre-ft May 13, 1960 (elevation, 4,728.2 ft); no storage October 1940 to January 1941, March 1952, March, April, 1954.

Remarks.--Reservoir is formed by earthfill dam with concrete spillway completed in 1940. Usable capacity, 31,700 acre-ft at elevation 4,725.5 ft. Dead storage, 656 acre-ft below elevation 4,625.5 ft. Water is used for irrigation and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by Montana Water Conservation Board prior to December 1958; most monthly readings made by Geological Survey personnel thereafter.

Revisions.--WSP 1316: Drainage area.

MONTH-END CONTENTS, IN ACRE-FEET, WATER YEARS 1961-65

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1961	a 24,370	a 23,820	-	-	-	a 15,550	a 20,640	33,100	32,200	31,000	22,090	a 21,320
1962	a 21,800	a 22,530	a 22,680	a 21,990	a 22,170	a 23,200	a 32,550	a 32,790	a 32,450	a 31,980	a 30,780	a 25,460
1963	a 22,300	a 23,570	a 24,300	a 24,800	a 25,820	a 27,800	a 32,230	a 33,080	a 32,580	a 31,840	a 30,120	b 28,920
1964	a 28,580	a 26,620	a 24,240	a 22,650	a 21,630	20,100	a 25,950	a 31,220	a 32,500	a 31,540	a 30,670	a 30,260
1965	a 28,650	a 25,970	a 25,120	a 23,660	a 22,630	a 23,090	a 28,320	a 33,170	a 32,590	a 32,180	30,130	28,800

a Interpolated on basis of readings made weekly or less frequently.
b Figure of contents on first day of following month.

12-3425. West Fork Bitterroot River near Conner, Mont.

Location.--Lat 45°43'30", long 114°16'50", in SE¼NE¼NW¼ sec.26, T.1 S., R.22 W., on right bank half a mile downstream from Painted Rocks Lake (formerly West Fork Bitterroot River Reservoir), 6 miles upstream from Nez Perce Creek, 16 miles southwest of Conner, and at mile 19.2.

Drainage area.--317 sq mi.

Records available.--April 1941 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 4,580 ft (from topographic map), corrected.

Average discharge.--24 years, 292 cfs (211,400 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	1,820	4.33	Sept. 7-10, 1961	58	-
1962	May 10, 1962	1,300	3.70	Oct. 4-15, 1961	60	-
1963	May 25, 1963	1,600	4.04	Oct. 19-22, 1962	23	-
1964	June 9, 1964	3,120	5.47	Mar. 28-31, 1964	86	-
1965	May 31, 1965	2,200	4.70	Apr. 12, 13, 1965	21	-

1941-65: Maximum discharge, 4,060 cfs May 9, 1947 (gage height, 6.18 ft); minimum, 0.2 cfs Nov. 25, 1942; minimum daily, 0.6 cfs May 3-7, 1954.

Remarks.--Records excellent. Flow regulated by Painted Rocks Lake (see station 12-3420). Diversions for irrigation of about 200 acres above station.

Revisions.--WSP 1246: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	84	84	86	86	86	119	110	114	1,350	208	189	183
2	84	84	86	86	86	116	110	114	1,390	195	198	183
3	84	84	86	86	86	116	110	116	1,400	186	221	183
4	84	84	86	86	86	116	110	116	1,310	177	221	177
5	84	84	86	86	86	116	112	119	1,240	180	224	177
6	84	84	86	86	86	116	112	119	1,180	183	224	122
7	84	84	86	86	86	116	112	119	1,150	177	224	58
8	84	84	86	86	86	116	112	119	1,050	165	224	58
9	86	84	86	86	86	116	112	116	973	154	195	58
10	86	84	86	86	86	114	112	119	892	146	160	58
11	86	84	86	86	86	114	112	119	838	138	160	60
12	86	84	86	86	86	114	112	119	814	128	160	60
13	86	84	86	86	86	114	112	119	735	126	162	60
14	86	84	86	86	86	114	112	121	658	121	162	60
15	86	84	86	86	86	114	112	121	595	119	162	60
16	86	84	86	86	86	112	112	124	555	114	160	60
17	86	84	86	86	86	110	112	121	510	106	171	60
18	86	84	86	86	86	110	112	121	480	104	186	60
19	84	84	86	86	86	110	112	124	435	101	186	61
20	84	84	86	86	86	110	114	124	398	99	186	61
21	84	84	86	86	86	110	114	538	362	99	186	60
22	84	84	86	86	99	110	116	966	335	95	183	60
23	84	86	86	86	119	112	116	1,110	315	91	183	60
24	84	86	86	86	119	112	116	1,380	295	88	183	61
25	84	86	86	86	119	110	116	1,580	278	86	183	61
26	84	86	86	86	119	110	116	1,710	264	82	183	61
27	84	86	86	86	119	110	116	1,790	244	171	183	61
28	84	86	86	86	119	110	116	1,670	244	205	183	61
29	84	86	86	86	------	110	116	1,550	230	198	183	61
30	84	86	86	86	------	110	116	1,570	221	192	180	61
31	84	------	86	86	------	110	------	1,470	------	192	180	------
TOTAL	2,624	2,536	2,666	2,666	2,619	3,497	3,392	17,718	20,741	4,426	5,785	2,466
MEAN	84.6	84.5	86.0	86.0	93.5	113	113	572	691	143	187	82.2
MAX	86	86	86	86	119	119	116	1,790	1,400	208	224	183
MIN	84	84	86	86	86	110	110	114	221	82	160	58
AC-FT	5,200	5,030	5,290	5,290	5,190	6,940	6,730	35,140	41,140	8,780	11,470	4,890

CAL YR 1960: TOTAL 99,635 MEAN 272 MAX 2,230 MIN 24 AC-FT 197,600
WAT YR 1961: TOTAL 71,136 MEAN 195 MAX 1,790 MIN 58 AC-FT 141,100

12-3425. West Fork Bitterroot River near Conner, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	61	61	63	65	68	63	65	550	1,030	420	154	143
2	61	61	63	65	68	63	65	515	1,040	394	143	143
3	61	61	63	65	66	63	65	505	1,150	366	133	143
4	60	61	63	65	66	63	66	590	1,150	344	133	143
5	60	61	63	65	66	63	66	664	1,040	331	138	143
6	60	61	63	65	66	63	66	713	931	315	133	143
7	60	61	65	65	66	63	68	808	844	292	128	143
8	60	61	65	66	68	63	68	994	779	274	116	143
9	60	61	65	68	68	61	70	1,190	757	260	112	143
10	60	61	65	68	66	61	70	1,280	820	247	121	143
11	60	61	65	68	66	61	70	1,280	924	244	121	143
12	60	61	65	68	66	61	70	1,170	952	240	114	143
13	60	61	65	68	66	61	70	1,070	1,040	253	106	143
14	60	63	65	68	66	63	70	938	1,140	253	104	143
15	60	63	65	68	66	63	70	874	1,130	234	97	143
16	61	63	65	68	66	63	70	832	1,070	224	95	143
17	61	63	65	68	65	63	72	820	1,040	208	93	143
18	61	63	65	68	65	63	213	814	1,020	192	91	143
19	61	63	65	68	65	63	713	850	973	186	88	143
20	61	63	65	68	65	63	1,040	874	931	177	84	141
21	61	63	65	68	65	63	994	880	874	171	80	183
22	61	63	65	68	65	63	808	850	802	160	80	227
23	61	63	65	68	65	63	730	844	724	154	82	227
24	61	63	65	66	63	63	796	910	669	149	82	227
25	61	63	65	66	63	63	973	1,010	636	143	80	227
26	61	63	65	68	63	63	966	1,020	595	149	73	227
27	61	63	65	68	63	63	874	1,010	560	171	93	227
28	61	63	65	68	63	63	802	1,020	515	168	97	224
29	61	63	65	68	———	63	696	1,040	475	154	89	224
30	61	63	65	68	———	63	600	1,030	450	143	82	224
31	61	———	65	68	———	63	———	1,040	———	146	104	———
TOTAL	1,879	1,864	2,003	2,081	1,834	1,943	11,366	27,985	26,061	7,162	3,246	5,075
MEAN	60.6	62.1	64.6	67.1	65.5	62.7	379	903	869	231	105	169
MAX	61	63	65	68	68	63	1,040	1,280	1,150	420	154	227
MIN	60	61	63	65	63	61	65	505	450	143	73	141
AC-FT	3,730	3,700	3,970	4,130	3,640	3,850	22,540	55,510	51,690	14,210	6,440	10,070

CAL YR 1961: TOTAL 69,056 MEAN 189 MAX 1,790 MIN 58 AC-FT 137,000
WAT YR 1962: TOTAL 92,499 MEAN 253 MAX 1,280 MIN 60 AC-FT 183,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	224	66	65	66	68	70	73	416	1,370	590	152	130
2	224	66	65	66	68	70	73	480	1,270	560	146	130
3	221	66	66	66	68	70	73	455	1,280	535	143	125
4	221	66	66	66	68	72	73	425	1,430	505	133	125
5	221	66	66	66	68	72	73	416	1,450	480	131	124
6	217	66	66	66	68	72	73	485	1,340	450	133	124
7	217	66	66	66	68	72	73	605	1,210	416	131	124
8	217	65	66	66	68	72	73	730	1,110	384	128	124
9	217	65	66	66	68	72	73	762	1,070	362	133	124
10	217	65	66	66	68	72	73	702	1,050	358	168	124
11	217	65	66	66	68	72	73	674	959	353	165	124
12	214	65	66	66	68	72	73	630	898	331	149	124
13	214	65	66	66	68	72	73	605	874	307	143	124
14	214	65	66	66	68	72	73	590	868	292	131	124
15	214	65	66	66	68	73	120	620	856	284	119	124
16	214	65	66	66	68	73	170	696	826	274	110	124
17	211	65	66	66	68	73	170	814	838	264	108	124
18	134	65	66	66	68	73	170	973	762	267	116	124
19	23	65	66	66	68	73	170	1,120	708	257	124	124
20	23	66	66	66	68	73	170	1,270	686	244	126	124
21	23	66	66	66	68	73	170	1,330	820	234	138	124
22	23	66	66	68	68	73	170	1,410	796	221	149	124
23	40	66	66	68	68	73	170	1,520	735	211	145	124
24	66	65	66	68	68	73	170	1,560	718	201	145	124
25	65	65	66	68	68	75	170	1,570	702	192	140	124
26	65	65	66	68	68	75	200	1,510	691	189	140	124
27	65	65	66	68	68	75	220	1,440	642	183	135	124
28	65	65	66	68	70	75	250	1,400	610	180	135	124
29	66	65	66	68	———	75	270	1,370	674	168	135	124
30	66	65	66	68	———	75	307	1,380	642	165	130	124
31	66	———	66	68	———	75	———	1,400	———	160	130	———
TOTAL	4,484	1,961	2,044	2,066	1,906	2,257	4,089	29,358	27,885	9,617	4,211	3,734
MEAN	145	65.4	65.9	66.6	68.1	72.8	136	947	930	310	136	124
MAX	224	66	66	68	70	75	307	1,570	1,450	590	168	130
MIN	23	65	65	66	68	70	73	416	610	160	108	124
AC-FT	8,890	3,890	4,050	4,100	3,780	4,480	8,110	58,230	55,310	19,080	8,350	7,410

CAL YR 1962: TOTAL 95,242 MEAN 261 MAX 1,280 MIN 23 AC-FT 188,900
WAT YR 1963: TOTAL 93,612 MEAN 256 MAX 1,570 MIN 23 AC-FT 185,700

12-3425. West Fork Bitterroot River near Conner, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	121	91	95	95	89	91	88	174	1,930	1,020	237	131
2	121	91	95	95	89	91	88	174	2,080	952	221	131
3	121	91	95	95	89	91	88	174	2,190	910	208	131
4	121	91	97	95	89	91	88	174	2,150	832	192	131
5	121	91	97	93	89	91	88	177	2,100	802	177	131
6	121	91	97	93	89	91	89	180	2,260	730	174	128
7	121	89	97	93	89	91	89	214	2,500	658	168	128
8	121	89	99	91	89	91	89	366	2,920	605	165	128
9	121	89	99	91	89	91	89	455	3,030	560	162	128
10	121	89	99	91	89	89	89	455	2,790	530	157	128
11	121	89	99	91	91	89	89	450	2,440	485	152	128
12	121	89	101	91	91	89	89	475	2,150	460	149	128
13	121	89	101	91	91	89	89	530	1,960	435	157	126
14	121	89	101	91	91	89	89	530	1,830	412	154	124
15	114	89	101	91	91	89	89	590	1,830	384	146	124
16	93	89	101	89	91	89	91	1,000	1,850	358	162	124
17	93	89	99	89	91	89	108	1,480	1,900	340	195	124
18	93	89	99	89	91	89	121	1,680	1,800	319	195	124
19	93	89	99	89	91	88	121	1,780	1,930	303	192	124
20	93	91	99	89	91	88	124	2,040	1,920	288	183	121
21	93	91	99	89	91	88	124	2,370	1,900	270	174	121
22	93	91	99	89	93	88	124	2,210	1,770	264	174	121
23	91	91	99	88	93	88	124	1,840	1,650	257	174	121
24	91	93	97	88	93	88	124	1,530	1,590	247	177	121
25	91	93	97	88	93	88	146	1,350	1,520	240	177	121
26	91	93	97	88	93	88	171	1,290	1,590	237	154	121
27	91	93	97	88	93	88	171	1,330	1,580	227	128	119
28	91	93	97	88	93	86	171	1,920	1,380	221	131	119
29	91	95	97	88	93	86	171	2,310	1,240	217	133	116
30	91	95	97	88	------	86	171	2,200	1,020	221	131	114
31	91	------	97	89	------	86	------	2,000	------	240	131	------
TOTAL	3,278	2,722	3,043	2,803	2,635	2,756	3,392	33,448	58,800	14,024	5,230	3,736
MEAN	106	90.7	98.2	90.4	90.9	88.9	113	1,079	1,960	452	169	125
MAX	121	95	101	95	93	91	171	2,370	3,030	1,020	237	131
MIN	91	89	95	88	89	86	88	174	1,020	217	128	114
AC-FT	6,500	5,400	6,040	5,560	5,230	5,470	6,730	66,340	116,600	27,820	10,370	7,410

CAL YR 1963: TOTAL 94,166 MEAN 258 MAX 1,570 MIN 66 AC-FT 186,800
WAT YR 1964: TOTAL 135,867 MEAN 371 MAX 3,030 MIN 86 AC-FT 269,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	114	112	110	110	110	110	110	1,540	2,030	575	171	168
2	114	112	110	110	110	110	110	1,370	1,860	560	168	168
3	114	112	110	110	110	110	152	1,090	1,860	530	168	168
4	114	112	110	110	110	110	214	924	1,980	500	180	168
5	114	112	110	110	110	110	214	808	1,990	490	180	165
6	114	112	110	110	110	110	227	730	2,030	450	168	165
7	114	112	110	110	110	110	257	647	2,060	420	174	165
8	114	112	110	110	110	110	257	585	2,090	398	160	165
9	114	112	110	110	110	110	257	535	1,890	389	160	165
10	114	112	110	110	110	110	288	510	1,860	366	192	165
11	112	112	110	110	110	110	213	535	1,900	344	189	165
12	112	112	110	110	110	110	21	664	1,980	344	183	165
13	110	112	110	110	110	110	21	945	1,910	323	183	165
14	110	112	110	110	110	110	22	1,310	1,620	299	183	165
15	110	112	110	110	110	110	22	1,520	1,380	284	183	165
16	110	112	110	110	110	110	22	1,520	1,200	267	180	165
17	110	110	110	110	110	110	22	1,670	1,160	264	180	165
18	112	110	110	110	110	110	23	1,520	1,110	260	177	138
19	112	110	110	110	110	110	24	1,320	1,040	250	177	116
20	112	110	110	110	110	110	24	1,230	1,010	244	174	116
21	112	110	110	110	110	110	25	1,270	980	237	174	116
22	112	110	110	110	110	110	247	1,250	952	224	174	116
23	112	110	110	110	110	110	746	1,270	917	214	174	116
24	112	110	110	110	110	110	768	1,300	904	211	171	116
25	112	110	110	110	110	110	757	1,250	917	198	171	116
26	112	110	110	110	110	110	752	1,220	856	195	171	116
27	112	110	110	110	110	110	784	1,190	774	195	171	116
28	112	110	110	110	110	110	886	1,240	708	195	168	116
29	112	110	110	110	------	110	1,020	1,480	669	192	168	116
30	112	110	110	110	------	110	1,320	1,910	615	186	168	116
31	112	------	110	110	------	110	------	2,170	------	177	168	------
TOTAL	3,482	3,332	3,410	3,410	3,080	3,410	9,805	36,523	42,252	9,781	5,408	4,347
MEAN	112	111	110	110	110	110	327	1,178	1,408	316	174	145
MAX	114	112	110	110	110	110	1,320	2,170	2,090	575	192	168
MIN	110	110	110	110	110	110	21	510	615	177	160	116
AC-FT	6,910	6,610	6,760	6,760	6,110	6,760	19,450	72,440	83,810	19,400	10,730	8,620

CAL YR 1964: TOTAL 137,048 MEAN 374 MAX 3,030 MIN 86 AC-FT 271,800
WAT YR 1965: TOTAL 128,240 MEAN 351 MAX 2,170 MIN 21 AC-FT 254,400

12-3434. East Fork Bitterroot River near Conner, Mont.

Location.--Lat 45°53'00", long 114°03'50", in NE¼ sec.34, T.2 N., R.20 W., on right bank 10 ft downstream from private bridge, 4½ miles southeast of Conner, and 5 miles upstream from confluence with West Fork.

Drainage area.--381 sq mi.

Records available.--April 1956 to September 1965.

Gage.--Digital water-stage recorder. Datum of gage is 4,191.81 ft above mean sea level, datum of 1929, Pacific Northwest supplementary adjustment of 1947. Prior to Oct. 23, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 290 cfs (210,000 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (700 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 31, 1961	0200	* 1,720	5.55	June 4, 1963	0530	* 1,770	5.50	June 8, 1964	1030	* 3,270	6.70
				June 21, 1963	2300	1,390	5.24				
Apr. 25, 1962	0600	832	4.56					Dec. 22, 1964	2030	1,310	5.27
June 3, 1962	1600	1,410	5.27	May 21, 1964	0630	1,790	5.63	May 1, 1965	0345	1,220	5.17
June 14, 1962	0500	* 1,420	5.31	May 29, 1964	0400	2,200	5.97	May 17, 1965	0345	1,420	5.39
								June 12, 1965	0745	* 3,270	6.87

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Nov. 29, 1960	a 23	-	1964	Dec. 10, 1963	b 40	-
1962	Jan. 20, 1962	b 30	-	1965	Dec. 18, 1964	b 50	-
1963	Dec. 25, 1962	39	2.54				

a Minimum observed, result of discharge measurement.
b Minimum daily.

1956-65: Maximum discharge, 3,270 cfs June 8, 1964, June 12, 1965; minimum observed, 23 cfs Nov. 29, 1960, result of discharge measurement.

Remarks.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 2,200 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	89	103	60	45	85	78	95	165	1,400	234	82	108
2	87	99	65	40	90	76	103	248	1,470	216	78	165
3	87	95	60	40	90	70	148	234	1,480	202	76	140
4	86	91	55	45	90	54	165	230	1,410	195	78	128
5	82	71	40	45	90	87	133	223	1,310	209	76	112
6	82	78	30	45	89	80	121	209	1,390	212	76	101
7	86	108	30	55	84	73	116	192	1,390	198	76	97
8	86	97	25	65	87	63	110	183	1,230	183	73	94
9	86	78	25	70	80	74	110	195	1,150	171	70	88
10	87	70	25	75	112	71	103	265	1,050	162	71	85
11	91	75	25	70	158	60	101	265	979	155	71	85
12	95	100	30	70	133	73	106	254	965	142	70	86
13	93	95	30	70	95	76	110	248	867	135	71	90
14	93	90	30	70	89	87	103	265	749	130	80	88
15	89	85	30	70	86	89	95	297	700	130	84	88
16	89	90	30	70	87	112	99	328	643	133	78	90
17	91	90	30	65	80	99	110	359	601	126	70	92
18	93	90	35	65	76	89	128	418	556	121	68	100
19	93	90	40	60	73	89	130	431	510	114	68	96
20	93	85	40	55	76	93	112	515	460	108	68	105
21	93	75	45	55	86	87	110	643	418	110	68	100
22	91	80	45	50	103	84	121	769	382	108	66	100
23	89	95	45	50	86	112	123	860	354	103	70	95
24	89	100	45	45	76	130	116	1,050	328	97	70	90
25	89	100	45	45	89	114	114	1,270	305	95	70	88
26	89	100	45	45	73	110	112	1,500	289	93	73	90
27	91	60	45	45	70	103	112	1,620	273	93	70	88
28	91	40	45	45	82	95	116	1,530	273	91	70	88
29	101	30	45	55	------	93	133	1,530	262	89	70	93
30	82	50	40	60	------	93	150	1,600	248	89	70	91
31	95	------	40	75	------	97	------	1,530	------	87	71	------
TOTAL	2,778	2,510	1,220	1,760	2,515	2,711	3,505	19,426	23,462	4,331	2,252	2,961
MEAN	89.6	83.7	39.4	56.8	89.8	87.5	117	627	782	140	72.6	98.7
MAX	101	108	65	75	158	130	165	1,620	1,480	234	84	165
MIN	82	30	25	40	70	54	95	165	248	87	66	85
CFSM	.24	.22	.10	.15	.24	.23	.31	1.64	2.05	.37	.19	.26
IN.	.27	.25	.12	.17	.25	.26	.34	1.90	2.29	.42	.22	.29
AC-FT	5,510	4,980	2,420	3,490	4,990	5,380	6,950	38,530	46,540	8,590	4,470	5,870

CAL YR 1960: TOTAL 85,322 MEAN 233 MAX 1,630 MIN 25 CFSM .61 IN 8.33 AC-FT 169,200
WAT YR 1961: TOTAL 69,431 MEAN 190 MAX 1,620 MIN 25 CFSM .50 IN 6.78 AC-FT 137,700

12-3434. East Fork Bitterroot River near Conner, Mont --Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	91	70	86	80	75	50	126	475	1,110	485	174	93
2	90	70	86	75	80	60	142	460	1,100	455	165	87
3	86	73	86	80	82	67	150	460	1,300	426	162	86
4	82	93	76	80	80	75	171	568	1,210	404	171	87
5	81	73	87	78	75	80	206	590	1,020	400	192	84
6	82	87	82	80	63	80	209	601	916	390	165	80
7	85	91	70	82	62	75	265	720	853	354	155	80
8	95	93	65	70	63	70	216	867	797	328	145	84
9	90	91	58	58	66	67	180	979	860	314	142	93
10	85	93	50	50	72	64	162	1,010	993	297	168	93
11	85	97	35	50	80	60	152	1,030	1,070	281	158	99
12	100	91	36	54	91	60	160	944	1,070	273	145	108
13	110	70	45	57	97	62	186	965	1,220	301	135	106
14	100	99	60	57	91	65	237	874	1,310	285	130	108
15	105	93	65	57	84	72	310	846	1,160	269	118	108
16	95	60	75	55	86	77	400	853	1,100	258	112	103
17	95	59	78	53	84	80	404	853	1,140	237	110	97
18	82	58	82	50	80	85	440	853	1,100	226	112	95
19	80	60	87	43	80	85	540	937	1,050	220	110	95
20	80	62	90	30	80	85	741	951	993	212	108	91
21	80	65	90	32	76	85	637	1,010	930	202	103	91
22	90	80	80	40	78	85	551	1,090	853	183	110	121
23	85	90	80	55	71	85	568	1,060	783	177	110	103
24	88	95	82	65	65	87	688	1,220	727	168	108	97
25	95	95	85	73	57	90	804	1,270	694	162	103	97
26	95	89	83	75	50	95	741	1,220	674	186	97	97
27	85	89	80	72	40	100	694	1,220	625	209	93	95
28	80	89	80	70	42	114	649	1,200	573	202	93	101
29	78	86	82	67	------	106	556	1,150	530	180	97	114
30	80	87	84	68	------	101	505	1,120	510	168	99	112
31	77	------	85	70	------	110	------	1,100	------	168	97	------
TOTAL	2,732	2,448	2,310	1,926	2,050	2,477	11,790	28,496	28,271	8,420	3,987	2,905
MEAN	88.1	81.6	74.5	62.1	73.2	79.9	393	919	942	272	129	96.8
MAX	110	99	90	82	97	114	804	1,270	1,310	485	192	121
MIN	77	58	35	30	40	50	126	460	510	162	93	80
CFSM	.23	.21	.20	.16	.19	.21	1.03	2.41	2.47	.71	.34	.25
IN.	.27	.24	.23	.19	.20	.24	1.15	2.78	2.76	.82	.39	.28
AC-FT	5,420	4,860	4,580	3,820	4,070	4,910	23,390	56,520	56,070	16,700	7,910	5,760

CAL YR 1961: TOTAL 70,413 MEAN 193 MAX 1,620 MIN 35 CFSM .51 IN 6.87 AC-FT 139,700
WAT YR 1962: TOTAL 97,812 MEAN 268 MAX 1,310 MIN 30 CFSM .70 IN 9.55 AC-FT 194,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	106	101	130	168	70	103	138	510	1,630	783	189	128
2	99	101	121	160	80	97	126	480	1,520	727	189	142
3	97	99	130	150	130	93	114	455	1,560	674	183	145
4	97	99	116	135	185	87	135	426	1,650	649	174	133
5	95	110	126	120	460	93	135	440	1,640	613	162	123
6	95	128	123	110	430	101	158	530	1,490	584	162	118
7	93	103	118	105	380	87	177	625	1,350	540	165	112
8	99	103	118	95	320	87	177	741	1,290	505	162	112
9	112	110	118	90	220	91	168	741	1,300	480	160	112
10	158	114	95	85	195	95	165	707	1,280	480	183	110
11	180	101	108	75	180	95	165	694	1,150	475	202	106
12	186	110	108	70	170	86	162	688	1,130	440	177	101
13	192	112	118	75	160	80	168	688	1,140	413	174	101
14	186	110	130	75	150	89	216	694	1,140	400	162	123
15	174	103	145	75	140	95	314	769	1,260	404	155	133
16	150	103	133	75	130	87	281	860	1,160	377	150	145
17	140	78	133	75	125	87	248	958	1,090	359	145	150
18	133	97	133	75	121	91	237	1,060	1,000	364	148	140
19	130	95	130	75	112	89	220	1,200	944	341	142	140
20	128	209	128	75	121	91	220	1,280	944	323	138	135
21	121	269	121	75	116	97	202	1,310	1,260	281	133	133
22	118	180	118	75	112	110	195	1,420	1,180	237	130	138
23	114	118	103	75	110	135	198	1,560	993	234	130	148
24	112	108	68	75	108	130	195	1,650	986	234	128	138
25	110	145	52	75	106	112	209	1,670	958	230	123	130
26	108	150	85	75	112	118	237	1,660	937	230	121	121
27	106	148	125	75	110	128	281	1,640	860	226	121	114
28	106	118	155	75	101	145	305	1,620	818	212	116	112
29	106	121	180	70	------	140	332	1,600	709	206	114	110
30	103	103	186	70	------	133	395	1,660	867	195	110	106
31	101	------	189	70	------	142	------	1,690	------	192	112	------
TOTAL	3,855	3,646	3,843	2,773	4,754	3,214	6,273	32,026	35,436	12,408	4,660	3,759
MEAN	124	122	124	89.5	170	104	209	1,033	1,181	400	150	125
MAX	192	269	189	168	460	145	395	1,690	1,650	783	202	150
MIN	93	78	52	70	70	80	114	426	818	192	110	101
CFSM	.33	.32	.33	.23	.45	.27	.55	2.71	3.10	1.05	.39	.33
IN.	.38	.36	.38	.27	.46	.31	.61	3.13	3.46	1.21	.45	.37
AC-FT	7,650	7,230	7,620	5,500	9,430	6,370	12,440	63,520	70,290	24,610	9,240	7,460

CAL YR 1962: TOTAL 101,666 MEAN 279 MAX 1,310 MIN 30 CFSM .73 IN 9.92 AC-FT 201,700
WAT YR 1963: TOTAL 116,647 MEAN 320 MAX 1,690 MIN 52 CFSM .84 IN 11.39 AC-FT 231,400

12-3434. East Fork Bitterroot River near Conner, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	101	100	60	80	85	89	168	495	1,660	1,120	277	234
2	99	105	65	100	80	93	148	465	1,750	1,060	258	226
3	99	100	75	95	80	87	133	408	1,770	1,040	240	220
4	95	100	85	85	80	73	138	364	1,820	930	223	195
5	106	100	90	80	80	73	171	354	1,820	895	212	189
6	148	105	85	85	70	82	150	323	2,000	818	202	189
7	135	105	75	85	75	78	123	301	2,180	734	189	177
8	118	110	60	80	85	84	138	297	2,840	674	180	165
9	114	120	45	70	80	73	145	305	2,720	637	195	158
10	128	115	40	60	80	76	171	368	2,380	619	177	152
11	116	110	45	55	80	76	171	404	2,090	573	174	150
12	112	105	60	55	75	70	148	436	1,830	546	174	148
13	110	106	75	55	75	71	140	546	1,720	520	220	140
14	110	106	100	70	75	82	135	619	1,690	493	206	138
15	108	123	115	80	75	71	177	707	1,680	475	189	133
16	106	116	120	90	75	73	195	860	1,680	450	183	133
17	101	103	110	90	75	73	160	1,080	2,010	418	174	126
18	101	95	100	85	75	78	158	1,130	1,750	404	160	126
19	103	90	95	80	75	76	160	1,260	2,010	375	168	126
20	100	115	90	90	75	70	171	1,470	1,930	350	177	130
21	100	100	85	100	70	76	206	1,690	1,780	325	168	130
22	100	80	80	95	70	73	195	1,580	1,690	300	158	126
23	100	90	80	75	70	56	195	1,370	1,620	277	155	126
24	105	110	90	75	65	50	177	1,230	1,630	265	148	123
25	110	100	85	80	50	60	177	1,140	1,670	258	145	121
26	105	100	85	90	65	65	177	1,140	1,680	237	145	118
27	105	110	80	95	70	73	174	1,280	1,640	230	158	116
28	105	85	75	100	75	74	180	1,720	1,500	226	206	114
29	105	75	70	105	80	78	248	2,100	1,300	230	273	112
30	100	60	70	100	------	91	404	1,820	1,210	293	234	110
31	100	------	70	95	------	121	------	1,580	------	336	220	------
TOTAL	3,345	3,039	2,460	2,580	2,165	2,365	5,233	28,842	55,050	16,110	5,988	4,451
MEAN	108	101	79.4	83.2	74.7	76.3	174	930	1,835	520	193	148
MAX	148	123	120	105	85	121	404	2,100	2,840	1,120	277	234
MIN	95	60	40	55	50	50	123	297	1,210	226	145	110
CFSM	.28	.27	.21	.22	.20	.20	.46	2.44	4.82	1.36	.51	.39
IN.	.33	.30	.24	.25	.21	.23	.51	2.82	5.37	1.57	.58	.43
AC-FT	6,630	6,030	4,880	5,120	4,290	4,690	10,380	57,210	109,200	31,950	11,880	8,830

CAL YR 1963: TOTAL 114,147 MEAN 313 MAX 1,690 MIN 40 CFSM .82 IN 11.14 AC-FT 226,400
WAT YR 1964: TOTAL 131,628 MEAN 360 MAX 2,840 MIN 40 CFSM .94 IN 12.85 AC-FT 261,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	119	113	115	115	110	100	161	1,160	1,840	862	214	169
2	117	131	113	110	98	102	207	1,010	1,790	823	204	161
3	121	128	106	125	110	100	192	876	1,760	777	207	156
4	119	119	104	125	110	102	183	816	1,940	751	256	151
5	117	117	83	122	108	108	195	738	1,910	758	238	156
6	115	110	113	119	106	115	195	677	1,970	707	217	172
7	108	106	70	115	93	119	210	616	2,090	701	201	161
8	91	113	124	110	110	126	235	577	1,980	671	192	198
9	93	110	117	100	98	133	256	540	2,080	677	175	224
10	98	108	102	100	77	133	235	540	2,270	616	167	186
11	100	113	96	100	76	128	238	594	2,370	572	169	172
12	100	98	85	95	104	128	221	701	2,780	550	189	158
13	100	91	80	95	117	113	252	911	2,520	505	256	151
14	106	83	75	95	110	128	277	1,150	1,980	465	198	158
15	110	81	70	100	104	121	288	1,230	1,660	435	186	238
16	130	106	60	108	110	126	316	1,270	1,550	410	177	277
17	121	106	55	117	102	96	324	1,330	1,740	396	169	195
18	110	169	50	113	106	93	300	1,170	1,660	392	164	180
19	110	126	100	108	110	115	348	1,100	1,530	360	169	175
20	113	113	200	102	121	106	621	1,140	1,510	360	189	180
21	110	100	610	106	110	121	790	1,160	1,500	344	177	192
22	110	110	707	104	115	113	732	1,110	1,440	320	186	277
23	110	106	465	102	104	104	677	1,100	1,410	308	270	256
24	110	113	352	113	102	98	660	1,210	1,410	284	266	204
25	106	164	231	100	108	98	638	1,220	1,550	277	259	192
26	106	128	195	102	110	102	643	1,150	1,540	256	238	186
27	110	104	177	98	138	104	654	1,140	1,280	249	210	177
28	110	106	158	98	119	98	719	1,210	1,110	249	198	177
29	110	102	145	106	------	100	829	1,400	962	238	192	172
30	110	108	135	108	------	104	1,060	1,820	918	228	183	169
31	113	------	125	124	------	136	------	1,990	------	217	175	------
TOTAL	3,403	3,382	5,218	3,335	2,986	3,470	12,656	32,656	52,050	14,758	6,291	5,620
MEAN	110	113	168	108	107	112	422	1,053	1,735	476	203	187
MAX	130	169	707	125	138	136	1,060	1,990	2,780	862	270	277
MIN	91	81	50	95	76	93	161	540	918	217	164	151
CFSM	.29	.30	.44	.28	.28	.29	1.11	2.76	4.55	1.25	.53	.49
IN.	.33	.33	.51	.33	.29	.34	1.24	3.19	5.08	1.44	.61	.55
AC-FT	6,750	6,710	10,350	6,610	5,920	6,880	25,100	64,770	103,200	29,270	12,480	11,150

CAL YR 1964: TOTAL 134,787 MEAN 368 MAX 2,840 MIN 50 CFSM .97 IN 13.16 AC-FT 267,300
WAT YR 1965: TOTAL 145,825 MEAN 400 MAX 2,780 MIN 50 CFSM 1.05 IN 14.23 AC-FT 289,200

12-3440. Bitterroot River near Darby, Mont.

Location.--Lat 45°58'20", long 114°08'20", in E½ sec.36, T.3 N., R.21 W., on left bank 25 ft downstream from bridge on U.S. Highway 93, a quarter of a mile downstream from Chaffin Creek, 4 miles southeast of Darby, and at mile 77.2.

Drainage area.--1,049 sq mi.

Records available.--April 1937 to September 1965. Monthly discharge only for April 1937, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 3,943.14 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Aug. 2, 1939, wire-weight gage at highway bridge 25 ft upstream at same datum.

Average discharge.--28 years, 917 cfs (663,900 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	6,240	6.33	Dec. 6, 1960	136	1.10
1962	June 14, 1962	4,370	5.10	Feb. 27, 1962	a 110	-
1963	May 25, 1963	5,590	5.66	Jan. 11, 1963	72	.87
1964	June 8, 1964	9,450	7.37	Mar. 23, 1964	148	1.18
1965	June 12, 1965	7,070	6.53	Dec. 19, 1964	a 170	-

a Minimum daily.

1937-65: Maximum discharge, 11,500 cfs May 9, 1947 (gage height, 8.18 ft); minimum observed, about 71 cfs Feb. 9, 1939; minimum gage height, 0.87 ft Jan. 11, 1963.

Remarks.--Records good except those for winter periods, which are poor. Some regulation by Painted Rocks Lake (see station 12-3420). Diversions for irrigation of about 5,000 acres above station. Ditch bypassing station irrigates about 500 acres below.

Revisions.--WSP 1246: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	220	279	240	175	270	288	426	776	4,340	792	310	375
2	216	270	258	175	262	284	459	1,110	4,820	736	306	525
3	216	292	266	175	246	270	752	1,070	4,980	706	335	459
4	212	242	250	180	234	234	936	987	4,580	699	330	437
5	202	212	192	190	234	274	760	912	4,310	685	330	426
6	195	216	157	200	238	279	664	832	4,300	692	335	395
7	202	274	150	215	242	262	611	760	4,260	664	335	279
8	206	270	145	234	238	238	567	706	3,830	624	330	254
9	206	223	145	223	246	262	537	744	3,660	573	315	242
10	220	238	145	220	355	258	503	1,060	3,430	537	262	234
11	234	310	150	220	454	234	481	1,100	3,260	508	258	234
12	242	302	160	212	420	254	481	1,030	3,370	470	254	246
13	238	274	175	216	350	262	492	996	2,910	432	262	234
14	234	266	190	220	325	288	464	1,030	2,660	415	266	226
15	230	258	185	223	306	297	442	1,130	2,570	405	266	220
16	230	262	180	223	292	355	432	1,210	2,460	390	266	220
17	230	274	185	223	270	355	481	1,300	2,390	360	258	254
18	234	274	190	220	258	335	585	1,440	2,330	340	279	258
19	234	270	205	206	250	335	611	1,540	2,220	320	270	274
20	234	246	220	180	254	355	573	1,810	1,940	306	274	284
21	234	266	225	160	270	350	543	2,440	1,720	297	274	310
22	234	223	225	160	315	335	549	3,220	1,470	292	274	292
23	230	246	225	160	315	426	549	3,540	1,350	279	279	292
24	230	310	220	160	302	531	520	4,340	1,300	270	284	288
25	230	306	220	160	315	492	503	4,880	1,210	258	288	279
26	230	302	210	155	288	459	492	5,820	1,140	246	292	279
27	234	288	205	155	266	437	481	5,840	1,090	262	284	270
28	238	202	200	165	292	410	492	5,210	1,050	350	279	266
29	262	181	190	180	------	400	555	4,880	969	345	288	270
30	230	220	185	220	------	400	650	5,230	872	330	297	266
31	242	------	180	260	------	426	------	4,780	------	320	292	------
TOTAL	7,029	7,796	6,073	6,065	8,107	10,385	16,591	71,723	80,791	13,903	8,972	8,888
MEAN	227	260	196	196	290	335	553	2,314	2,693	448	289	296
MAX	262	310	266	260	454	531	936	5,840	4,980	792	335	525
MIN	195	181	145	155	234	234	426	706	872	246	254	220
AC-FT	13,940	15,460	12,050	12,030	16,080	20,600	32,910	142,300	160,200	27,580	17,800	17,630

CAL YR 1960: TOTAL 314,092 MEAN 858 MAX 6,320 MIN 145 AC-FT 623,000
WAT YR 1961: TOTAL 246,323 MEAN 675 MAX 5,840 MIN 145 AC-FT 488,600

12-3440. Bitterroot River near Darby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	262	297	238	195	226	140	400	1,680	3,370	1,710	470	266
2	254	262	234	198	242	180	464	1,570	3,420	1,520	448	270
3	250	250	238	216	266	205	503	1,560	3,900	1,340	432	270
4	246	284	220	220	302	215	567	1,890	3,560	1,240	432	270
5	242	230	238	212	297	230	699	2,090	3,080	1,210	476	266
6	254	242	220	220	284	315	752	2,180	2,720	1,210	432	266
7	297	266	192	238	279	284	1,100	2,570	2,460	1,120	400	262
8	274	266	160	210	284	242	952	3,200	2,280	1,030	375	266
9	262	279	130	180	270	226	768	3,640	2,540	987	360	274
10	262	284	120	150	288	209	657	3,870	3,020	960	390	270
11	325	297	125	145	306	206	585	3,750	3,380	928	390	288
12	335	284	160	165	297	209	579	3,350	3,420	888	360	302
13	375	226	250	180	292	209	657	3,150	3,660	936	335	306
14	464	292	254	185	288	209	856	2,820	4,100	880	315	306
15	410	284	250	185	266	198	1,200	2,660	3,760	792	292	306
16	390	192	234	180	266	209	1,550	2,600	3,560	752	279	297
17	400	154	223	160	258	216	1,500	2,580	3,700	713	274	288
18	365	192	223	145	250	220	1,670	2,640	3,730	678	279	279
19	335	238	230	130	242	230	2,540	2,900	3,560	624	279	279
20	320	242	254	130	242	246	3,680	2,900	3,370	592	262	274
21	350	230	254	160	234	254	3,150	2,910	3,240	573	242	292
22	330	246	230	246	234	238	2,530	2,910	2,960	537	246	385
23	315	266	226	262	184	230	2,400	2,920	2,680	520	250	375
24	306	274	230	274	181	223	2,850	3,480	2,670	492	242	360
25	284	266	230	284	150	250	3,370	3,780	2,630	476	230	355
26	310	254	212	262	125	292	3,120	3,500	2,570	498	220	360
27	335	250	209	262	110	360	2,790	3,380	2,290	678	212	365
28	310	242	216	246	115	350	2,500	3,460	2,010	592	238	380
29	274	238	230	226	------	325	2,180	3,460	1,810	525	234	415
30	254	242	234	220	------	320	1,850	3,340	1,740	481	234	415
31	284	------	220	220	------	340	------	3,260	------	464	226	------
TOTAL	9,674	7,569	6,684	6,306	6,778	7,580	48,419	90,000	91,190	25,946	9,854	9,307
MEAN	312	252	216	203	242	245	1,614	2,903	3,040	837	318	310
MAX	464	297	254	284	306	360	3,680	3,870	4,100	1,710	476	415
MIN	242	154	120	130	110	140	400	1,560	1,740	464	212	262
AC-FT	19,190	15,010	13,260	12,510	13,440	15,030	96,040	178,500	180,900	51,460	19,550	18,460

CAL YR 1961: TOTAL 249,352 MEAN 683 MAX 5,840 MIN 120 AC-FT 494,600
WAT YR 1962: TOTAL 319,307 MEAN 875 MAX 4,100 MIN 110 AC-FT 633,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	405	274	350	274	310	340	432	1,600	4,560	2,090	492	302
2	395	270	325	292	320	325	400	1,640	4,170	2,020	481	330
3	390	262	345	292	476	310	375	1,500	4,280	2,020	464	350
4	385	262	288	270	598	292	410	1,360	4,960	1,930	454	335
5	380	279	315	230	692	302	415	1,350	4,920	1,850	420	320
6	380	320	330	212	644	310	470	1,610	4,260	1,730	410	306
7	375	284	330	212	585	284	525	2,050	3,750	1,610	432	297
8	395	270	320	238	537	284	537	2,420	3,560	1,520	400	297
9	420	279	325	262	508	288	520	2,430	3,460	1,430	375	292
10	508	292	292	145	476	302	508	2,250	3,380	1,370	464	284
11	561	270	279	90	464	302	503	2,140	3,100	1,320	476	274
12	664	270	242	100	415	274	492	2,040	3,210	1,190	426	266
13	776	274	230	125	415	258	492	1,970	3,340	1,110	426	270
14	706	274	365	279	415	274	567	1,950	3,420	1,070	390	306
15	657	262	350	310	395	297	816	2,180	3,530	1,060	365	330
16	585	254	360	297	375	270	800	2,490	3,350	987	345	370
17	549	226	375	274	370	266	728	2,840	3,200	920	330	380
18	525	234	390	246	365	279	685	3,210	3,000	920	320	355
19	375	234	390	240	355	270	630	3,680	2,850	872	340	340
20	345	631	380	250	385	279	630	3,850	2,840	800	310	335
21	325	880	365	250	360	292	618	4,010	3,630	752	315	335
22	320	592	360	250	345	306	630	4,260	3,160	699	325	345
23	306	442	306	240	340	360	637	4,620	2,670	664	325	370
24	320	345	174	240	335	370	630	5,020	2,570	644	310	360
25	320	380	145	240	330	350	630	5,140	2,530	611	306	335
26	310	405	170	230	355	360	699	4,900	2,510	592	292	315
27	302	400	300	230	355	390	816	4,620	2,320	579	284	306
28	297	345	365	230	340	426	896	4,430	2,280	573	279	302
29	292	330	306	230	------	432	996	4,390	2,570	561	279	297
30	288	284	279	240	------	415	1,170	4,680	2,360	525	270	288
31	279	------	288	270	------	437	------	4,780	------	503	274	------
TOTAL	13,135	10,124	9,639	7,288	11,860	9,944	18,657	95,410	99,740	34,522	11,379	9,592
MEAN	424	337	311	235	424	321	622	3,078	3,325	1,114	367	320
MAX	776	880	390	310	692	437	1,170	5,140	4,960	2,090	492	380
MIN	279	226	145	90	310	258	375	1,350	2,280	503	270	266
AC-FT	26,050	20,080	19,120	14,460	23,520	19,720	37,010	189,200	197,800	68,470	22,570	19,030

CAL YR 1962: TOTAL 328,278 MEAN 899 MAX 4,100 MIN 110 AC-FT 651,100
WAT YR 1963: TOTAL 331,290 MEAN 908 MAX 5,140 MIN 90 AC-FT 657,100

12-3440. Bitterroot River near Darby, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	284	242	180	250	242	242	492	1,600	6,110	3,700	778	502
2	274	258	188	270	238	234	481	1,550	6,610	3,630	716	507
3	274	254	192	242	238	230	442	1,350	6,920	3,510	654	507
4	274	254	220	242	238	234	448	1,180	6,780	3,080	600	490
5	284	258	238	226	238	234	549	1,100	6,630	3,080	564	465
6	355	266	292	250	226	226	525	1,000	7,570	2,740	534	450
7	340	262	250	242	238	226	454	944	7,940	2,540	502	422
8	315	279	226	220	250	223	481	1,100	8,990	2,480	490	404
9	306	306	200	216	238	230	498	1,260	8,870	2,360	496	386
10	320	297	180	210	242	220	573	1,480	8,010	2,250	470	374
11	310	284	175	200	246	226	618	1,630	6,960	2,040	440	370
12	297	274	200	195	230	230	567	1,740	6,110	1,970	435	358
13	297	274	258	188	238	226	525	2,180	5,800	1,890	485	346
14	297	274	279	226	230	220	486	2,370	5,710	1,780	455	340
15	297	306	279	226	238	226	573	2,560	5,900	1,640	422	332
16	274	306	288	246	238	223	657	3,380	6,200	1,540	399	326
17	254	279	274	242	238	242	611	4,660	6,650	1,420	430	315
18	254	274	262	238	238	262	592	5,460	5,840	1,340	426	315
19	258	262	262	234	238	250	598	5,250	6,300	1,270	450	315
20	266	279	262	250	230	242	650	6,340	5,880	1,170	460	326
21	254	274	262	246	226	254	728	7,180	5,630	1,050	430	332
22	250	230	234	230	230	250	744	6,450	5,140	998	417	332
23	266	266	254	220	223	190	706	5,080	4,920	926	408	332
24	266	274	242	238	230	200	650	4,280	5,170	850	394	329
25	274	262	246	258	190	258	630	3,820	5,690	778	386	318
26	274	266	234	258	190	250	644	3,700	5,920	730	390	315
27	250	274	250	266	200	238	637	3,940	5,710	702	382	315
28	262	226	246	246	220	234	644	6,130	5,080	667	422	312
29	258	202	220	266	230	254	840	7,640	4,170	667	524	309
30	258	190	220	242	------	284	1,240	6,630	3,830	802	470	309
31	246	------	246	242	------	375	------	6,090	------	917	465	------
TOTAL	8,688	7,952	7,359	7,325	6,691	7,433	18,283	109,074	187,040	54,517	14,894	11,053
MEAN	280	265	237	236	231	240	609	3,519	6,235	1,759	480	368
MAX	355	306	292	270	250	375	1,240	7,640	8,990	3,700	778	507
MIN	246	190	175	188	190	190	442	944	3,830	667	382	309
AC-FT	17,230	15,770	14,600	14,530	13,270	14,740	36,260	216,300	371,000	108,100	29,540	21,920

CAL YR 1963: TOTAL 322,391 MEAN 883 MAX 5,140 MIN 90 AC-FT 639,500
WAT YR 1964: TOTAL 440,309 MEAN 1,203 MAX 8,990 MIN 175 AC-FT 873,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	322	309	350	358	465	382	435	5,140	5,630	2,340	570	422
2	322	332	354	346	417	374	558	4,300	5,290	2,330	540	404
3	332	343	336	408	417	374	570	3,430	5,460	2,210	552	399
4	332	326	326	412	412	378	642	2,990	5,880	2,170	612	399
5	326	322	288	404	408	386	695	2,660	5,750	2,150	594	404
6	322	318	291	399	408	399	723	2,390	5,940	2,060	540	426
7	315	312	252	378	390	422	794	2,130	6,260	2,000	502	422
8	303	318	280	350	394	440	850	1,940	5,940	1,910	485	450
9	306	312	329	336	382	465	899	1,790	5,880	2,010	450	512
10	312	312	306	340	340	465	890	1,730	6,110	1,820	445	450
11	312	315	306	336	315	460	935	1,880	6,320	1,660	445	42
12	309	303	278	343	378	445	636	2,350	6,920	1,560	455	40
13	303	303	280	343	370	412	695	3,270	6,320	1,380	534	404
14	303	280	278	343	370	426	794	4,240	5,080	1,290	480	470
15	309	258	285	343	346	412	890	4,640	4,320	1,230	450	1,020
16	343	268	244	340	358	417	998	4,580	3,950	1,200	435	998
17	329	268	210	332	374	374	1,040	4,920	4,340	1,170	417	716
18	318	326	180	332	374	350	962	4,210	4,210	1,130	404	636
19	326	329	170	343	394	390	1,090	3,700	3,920	1,050	408	570
20	332	318	180	343	426	378	2,310	3,680	3,900	1,020	445	558
21	329	306	280	354	422	404	2,920	3,760	3,830	971	430	552
22	322	291	400	354	430	390	2,550	3,610	3,780	917	445	754
23	312	309	1,270	336	404	366	2,740	3,560	3,590	834	558	826
24	309	329	1,230	362	390	346	2,670	3,780	3,610	762	600	695
25	306	450	834	343	382	343	2,540	3,680	3,950	716	558	648
26	297	386	674	336	382	354	2,510	3,510	3,710	674	558	612
27	300	326	612	346	430	354	2,590	3,430	3,050	618	512	576
28	303	312	502	346	422	340	2,920	3,680	2,700	695	480	552
29	306	312	445	430	------	340	3,350	4,620	2,460	654	460	529
30	306	326	422	465	------	340	4,510	6,150	2,370	630	445	502
31	312	------	412	512	------	382	------	6,300	------	594	430	------
TOTAL	9,778	9,519	12,604	11,313	11,000	12,108	46,706	112,050	140,470	41,755	15,239	16,780
MEAN	315	317	407	365	393	391	1,557	3,615	4,682	1,347	492	559
MAX	343	450	1,270	512	465	465	4,510	6,300	6,920	2,340	612	1,020
MIN	297	258	170	332	315	340	435	1,730	2,370	594	404	399
AC-FT	19,390	18,880	25,000	22,440	21,820	24,020	92,640	222,200	278,600	82,820	30,230	33,280

CAL YR 1964: TOTAL 448,211 MEAN 1,225 MAX 8,990 MIN 170 AC-FT 889,000
WAT YR 1965: TOTAL 439,322 MEAN 1,204 MAX 6,920 MIN 170 AC-FT 871,400

12-3445. Como Lake near Darby, Mont.

Location.--Lat 46°03'50", long 114°14'00", in NW¼ sec.32, T.4 N., R.21 W., at dam on Rock Creek, 4 miles northwest of Darby and at mile 3.6.

Drainage area.--54.6 sq mi.

Records available.--October 1939 to September 1965. April to August 1948 scattered daily gage heights and contents, published in WSP 1080.

Gage.--Staff gage read at or near end of month in winter and more often during irrigation season but only month-end figures supplied. Datum of gage is at mean sea level (U.S. Coast and Geodetic Survey datum).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	June 30, 1961	36,510	4,144.0	Sept.30, 1961	780	4,192.5
1962	July 2, 1962	36,330	4,243.8	Sept.30, 1962	a 925	-
1963	July 1, 1963	37,050	4,244.5	Sept.30, 1963	368	4,190.5
1964	July 1, 1964	37,050	4,244.5	Oct. 1, 1963	a 388	-
1965	July 1, 1965	35,610	4,243.2	Oct. 1, 1964	567	4,191.5

a Interpolated.

1939-65: Maximum contents observed, 37,050 acre-ft June 30, 1957, June 30, 1960, July 1, 1963, July 1, 1964 (elevation, 4,244.5 ft); no storage at times in several years.

Remarks.--Reservoir is formed by earthfill dam with concrete spillway completed in 1909. Usable capacity, 34,890 acre-ft at elevation 4,242.5 ft (gage height, 54.0 ft). Dead storage negligible. Water is used for irrigation and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bitterroot Irrigation District.

Revisions.--WSP 1316: Drainage area.

MONTH-END CONTENTS, IN ACRE-FEET, WATER YEARS 1961-65

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1961	1,610	2,580	3,720	4,850	7,310	10,350	12,550	23,740	36,510	20,500	2,890	780
1962	5,040	8,300	9,310	11,800	13,750	15,550	24,030	a 31,450	a 36,040	27,900	a 9,800	a 925
1963	6,100	11,080	14,950	a 16,980	b 22,810	24,180	27,770	b 36,150	b 37,050	b 27,770	6,690	368
1964	b 1,020	2,100	3,370	5,310	7,790	b 9,650	b 8,130	b 18,080	b 37,050	b 30,320	b 10,230	b 567
1965	b 1,060	b 2,520	b 9,820	b 11,990	b 15,350	b 17,170	b 24,460	b 28,700	b 35,610	31,640	b 13,010	b 8,690

a Interpolated on basis of readings made weekly or less frequently.
b Figure of contents on first day of following month.

12-3465. Skalkaho Creek near Hamilton, Mont.

Location.--Lat 46°09'50", long 113°57'00", in NE¼ sec.27, T.5 N., R.19 W., on right bank 2 miles downstream from Daly Creek, 12 miles southeast of Hamilton, and at mile 12.0.

Drainage area.--87.8 sq mi.

Records available.--December 1948 to September 1953, August 1957 to September 1965. April 1920 to September 1924 at site 3 miles downstream; records not equivalent owing to inflow.

Gage.--Water-stage recorder. Altitude of gage is 4,490 ft (from topographic map).

Average discharge.--12 years (1949-53, 1957-65), 94.4 cfs (68,340 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (400 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Dec. 11, 1960	-	-	a 4.16	June 5, 1963	0130	* 523	3.91	Dec. 23, 1964	-	-	a 4.57
May 30, 1961	1830	* 595	4.06	June 21, 1963	0300	454	3.73	June 12, 1965	1800	* 844	4.36
								June 17, 1965	2200	612	3.97
Dec. 12, 1961	-	-	a 4.25	June 8, 1964	0300	* 690	4.26				
June 3, 1962	1100	446	3.73	June 17, 1964	0300	640	4.15				
June 13, 1962	2300	* 518	3.88	June 25, 1964	2130	575	4.00				

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Jan. 20, 1961	12	1.40	1964	Mar. 23, 1964	a 15	-
1962	Feb. 21, 1962	14	1.54	1965	Dec. 17, 18, 1964	a 22	-
1963	Jan. 11, 1963	a 18	-				

a Minimum daily.

1948-53, 1957-65: Maximum discharge, 844 cfs June 12, 1965 (gage height, 4.36 ft); maximum gage height recorded, 5.18 ft Feb. 29, 1960 (backwater from ice); minimum discharge recorded, 10 cfs Apr. 2, 1953 (gage height, 1.26 ft, backwater from ice).

Flood of May 20, 1954, reached a stage of 4.65 ft, present site and datum, from floodmarks (discharge, 935 cfs).

Remarks.--Records good except those for periods of ice effect, which are poor. No diversion above station. During irrigation season, flow is supplemented by releases from Kent and Dam Creek Lakes (combined capacity, 200 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	33	37	30	22	25	25	26	46	478	124	50	67
2	33	31	30	21	25	25	29	62	518	120	51	55
3	33	30	29	20	24	24	37	56	510	115	50	49
4	32	29	27	20	24	23	37	56	482	113	48	46
5	32	28	26	22	24	24	33	54	478	113	47	42
6	32	30	24	25	24	26	30	50	482	109	46	40
7	33	34	24	25	24	24	30	48	482	106	45	38
8	33	30	24	24	24	23	29	47	460	100	44	37
9	33	29	24	23	24	23	29	52	442	96	43	37
10	33	31	25	22	33	23	28	69	428	93	43	36
11	33	31	25	22	44	22	27	68	424	92	42	38
12	35	29	25	22	33	22	29	66	420	96	40	38
13	33	29	26	22	29	22	28	68	384	93	40	37
14	32	29	28	22	28	24	27	70	374	91	43	37
15	31	28	26	22	27	25	26	76	366	88	43	35
16	32	29	24	22	27	30	27	86	358	84	39	37
17	32	29	24	22	26	26	30	95	342	82	37	43
18	32	29	26	22	25	24	33	104	326	78	37	40
19	31	28	28	21	25	24	31	113	298	76	36	41
20	30	28	28	20	25	25	30	144	269	73	35	45
21	30	27	27	18	26	24	30	178	238	70	34	44
22	30	27	26	18	29	24	31	208	210	66	33	42
23	30	28	24	18	26	31	32	258	193	65	35	41
24	30	32	24	18	25	31	31	330	180	63	34	38
25	30	31	26	18	26	28	31	392	168	60	37	39
26	29	29	25	18	24	27	31	442	159	59	38	38
27	29	28	24	18	25	26	32	460	155	58	33	37
28	30	27	22	18	25	25	33	442	148	56	31	38
29	30	27	22	20	------	25	37	474	140	55	31	39
30	29	28	22	24	------	25	42	514	133	53	32	37
31	30	------	21	25	------	26	------	474	------	52	31	------
TOTAL	975	882	786	654	746	776	926	5,602	10,045	2,599	1,228	1,231
MEAN	31.5	29.4	25.4	21.1	26.6	25.0	30.9	181	335	83.8	39.6	41.0
MAX	35	37	30	25	44	31	42	514	518	124	51	67
MIN	29	27	21	18	24	22	26	46	133	52	31	35
CFSM	.36	.33	.29	.24	.30	.29	.35	2.06	3.81	.95	.45	.47
IN.	.41	.37	.33	.28	.32	.33	.39	2.37	4.25	1.10	.52	.52
AC-FT	1,930	1,750	1,560	1,300	1,480	1,540	1,840	11,110	19,920	5,160	2,440	2,440

CAL YR 1960: TOTAL 29,812 MEAN 81.5 MAX 523 MIN 20 CFSM .93 IN 12.63 AC-FT 59,130
WAT YR 1961: TOTAL 26,450 MEAN 72.5 MAX 518 MIN 18 CFSM .83 IN 11.20 AC-FT 52,460

12-3465. Skalkaho Creek near Hamilton, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	37	33	28	18	21	23	27	92	362	216	79	47
2	36	32	28	19	22	24	27	91	366	196	75	46
3	36	31	28	19	22	25	29	93	420	180	74	45
4	36	30	27	19	22	25	30	115	384	168	78	45
5	35	30	27	18	21	25	33	113	342	164	79	44
6	43	31	26	18	20	26	32	117	306	159	71	44
7	41	33	24	18	21	27	39	146	280	150	70	44
8	37	32	23	17	21	27	32	176	283	142	68	44
9	37	31	21	16	21	25	30	208	322	136	68	44
10	37	33	18	15	22	24	29	222	370	131	74	42
11	43	31	16	16	22	22	29	222	388	125	66	51
12	38	30	17	17	22	22	30	188	388	124	64	45
13	40	33	18	18	22	22	35	190	446	122	62	46
14	41	33	20	19	22	23	41	170	464	117	60	45
15	38	30	23	19	21	24	52	170	451	112	59	44
16	38	28	25	19	21	24	60	170	442	110	58	42
17	37	27	27	18	21	23	60	178	438	106	58	41
18	37	26	24	17	21	24	73	188	433	102	63	40
19	37	26	24	17	20	24	96	222	433	99	58	39
20	37	27	24	16	20	25	135	222	433	96	56	38
21	39	28	24	15	20	24	104	232	420	93	54	40
22	37	30	22	15	20	24	92	245	397	91	54	48
23	36	32	22	16	20	24	102	252	374	90	55	41
24	35	34	22	20	20	24	135	290	374	88	52	40
25	34	35	23	22	19	24	148	302	370	86	51	39
26	37	33	22	24	18	26	131	314	342	90	50	38
27	37	33	20	24	18	28	124	318	302	92	50	39
28	35	30	21	23	21	26	115	338	269	91	52	46
29	30	28	20	22	------	24	103	338	248	84	53	47
30	33	28	20	22	------	24	96	330	235	82	51	43
31	33	------	19	22	------	25	------	330	------	79	49	------
TOTAL	1,147	918	703	578	581	757	2,069	6,582	11,082	3,721	1,911	1,297
MEAN	37.0	30.6	22.7	18.6	20.8	24.4	69.0	212	369	120	61.6	43.2
MAX	43	35	28	24	22	28	148	338	464	216	79	51
MIN	30	26	16	15	18	22	27	91	235	79	49	38
CFSM	.42	.35	.26	.21	.24	.28	.79	2.42	4.21	1.37	.70	.49
IN.	.49	.39	.30	.24	.25	.32	.88	2.79	4.69	1.58	.81	.55
AC-FT	2,280	1,820	1,390	1,150	1,150	1,500	4,100	13,060	21,980	7,380	3,790	2,570

CAL YR 1961: TOTAL 26,575 MEAN 72.8 MAX 518 MIN 16 CFSM .83 IN 11.26 AC-FT 52,710
WAT YR 1962: TOTAL 31,346 MEAN 85.9 MAX 464 MIN 15 CFSM .98 IN 13.28 AC-FT 62,170

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	43	44	34	38	21	28	25	90	435	244	109	65
2	41	44	34	40	26	27	24	83	427	236	109	66
3	40	43	34	36	34	27	24	76	445	231	108	65
4	40	43	33	33	36	27	25	74	459	226	105	61
5	39	41	32	28	32	26	26	83	454	216	100	59
6	39	41	32	27	31	26	30	106	418	206	98	57
7	39	42	31	30	30	26	29	132	406	193	95	57
8	44	42	32	36	30	25	29	138	393	186	96	57
9	47	41	32	32	30	25	27	132	393	180	105	56
10	62	41	31	23	30	24	27	125	374	183	115	54
11	61	39	30	18	28	24	27	123	362	176	100	53
12	80	37	30	19	27	24	28	122	374	168	88	52
13	74	37	30	20	27	24	31	122	385	159	84	54
14	74	35	31	23	28	24	39	132	401	159	80	60
15	63	34	34	24	31	24	57	150	406	155	77	56
16	55	34	34	24	30	23	49	168	397	148	76	62
17	51	30	34	22	30	23	46	190	370	143	74	56
18	49	33	34	20	30	23	43	223	350	138	74	53
19	48	33	33	20	30	23	42	250	340	133	74	52
20	47	52	32	20	30	23	42	276	340	126	74	51
21	46	50	31	21	29	23	40	305	427	122	72	55
22	46	40	30	22	29	25	40	340	354	118	72	61
23	46	35	26	23	28	26	40	366	308	114	72	61
24	45	37	22	22	28	25	40	397	305	112	71	54
25	45	41	20	21	28	24	40	414	292	110	68	51
26	45	40	20	20	28	25	45	414	279	106	67	48
27	45	37	21	20	28	26	47	414	261	105	66	47
28	45	34	25	20	27	30	50	406	255	102	63	46
29	44	31	32	20	------	27	56	422	282	102	62	46
30	44	35	42	20	------	27	71	449	258	102	61	46
31	44	------	40	20	------	25	------	454	------	105	62	------
TOTAL	1,531	1,166	956	762	816	779	1,139	7,176	10,950	4,804	2,577	1,661
MEAN	49.4	38.9	30.8	24.6	29.1	25.1	38.0	231	365	155	83.1	55.4
MAX	80	52	42	40	36	30	71	454	459	244	115	66
MIN	39	30	20	18	21	23	24	74	255	102	61	46
CFSM	.56	.44	.35	.28	.33	.29	.43	2.64	4.16	1.77	.95	.63
IN.	.65	.49	.40	.32	.35	.33	.48	3.04	4.64	2.03	1.09	.70
AC-FT	3,040	2,310	1,900	1,510	1,620	1,550	2,260	14,230	21,720	9,530	5,110	3,290

CAL YR 1962: TOTAL 32,231 MEAN 88.3 MAX 464 MIN 15 CFSM 1.01 IN 13.65 AC-FT 63,930
WAT YR 1963: TOTAL 34,317 MEAN 94.0 MAX 459 MIN 18 CFSM 1.07 IN 14.54 AC-FT 68,070

12-3465. Skalkaho Creek near Hamilton, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	47	40	32	30	27	24	26	72	358	422	118	77
2	47	40	31	30	27	23	22	65	381	414	111	76
3	46	40	30	30	27	24	22	57	401	401	105	70
4	46	41	30	30	27	23	23	53	406	366	102	67
5	50	40	31	31	27	21	26	51	418	347	99	62
6	62	41	31	32	26	20	23	48	464	318	96	60
7	53	40	30	29	24	20	23	48	493	292	93	59
8	51	40	27	29	25	20	24	49	601	279	90	56
9	50	40	24	28	29	20	24	52	569	267	89	54
10	50	40	22	27	26	20	27	65	493	250	86	54
11	48	39	21	27	25	20	26	67	445	228	85	53
12	46	40	24	26	23	20	25	77	418	210	89	52
13	46	40	28	26	23	20	24	96	418	198	86	51
14	45	40	33	28	22	20	25	106	435	190	83	50
15	45	46	36	30	23	20	29	120	435	183	80	48
16	44	40	37	32	23	20	30	152	483	174	76	48
17	44	40	37	33	23	20	26	196	559	168	76	47
18	44	40	36	31	23	20	27	208	488	165	81	47
19	45	38	34	29	23	19	27	250	513	157	88	46
20	44	39	31	30	23	18	31	311	449	147	84	49
21	44	36	32	30	23	17	34	354	445	142	81	46
22	43	36	33	28	23	16	32	298	435	132	76	45
23	47	38	34	27	24	15	32	252	435	132	75	45
24	44	38	34	26	23	16	31	231	449	128	71	44
25	46	37	34	30	20	18	31	228	503	123	70	43
26	43	39	32	30	21	20	31	231	513	120	70	42
27	41	39	32	29	25	21	30	264	508	116	67	41
28	42	34	32	29	26	20	34	347	449	112	83	41
29	43	35	30	29	25	20	42	358	435	112	77	40
30	42	34	29	28	------	20	67	329	431	126	71	40
31	41	------	32	27	------	23	------	329	------	142	70	------
TOTAL	1,429	1,170	959	901	706	618	874	5,362	13,830	6,561	2,628	1,553
MEAN	46.1	39.0	30.9	29.1	24.3	19.9	29.1	173	461	212	84.8	51.8
MAX	62	46	37	33	29	24	67	358	601	422	118	77
MIN	41	34	21	26	20	15	22	48	358	112	67	40
CFSM	.53	.44	.35	.33	.28	.23	.33	1.97	5.25	2.41	.97	.59
IN.	.61	.50	.41	.38	.30	.26	.37	2.27	5.86	2.78	1.11	.66
AC-FT	2,830	2,320	1,900	1,790	1,400	1,230	1,730	10,640	27,430	13,010	5,210	3,080

CAL YR 1963: TOTAL 34,222 MEAN 93.8 MAX 459 MIN 18 CFSM 1.07 IN 14.50 AC-FT 67,880
WAT YR 1964: TOTAL 36,591 MEAN 100 MAX 601 MIN 15 CFSM 1.14 IN 15.50 AC-FT 72,580

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46	33	35	43	31	30	32	292	488	343	106	62
2	42	38	35	42	30	29	35	247	488	332	104	61
3	46	33	34	42	27	29	33	216	518	325	106	60
4	41	33	34	41	27	29	34	196	538	318	114	60
5	40	33	34	40	30	30	34	178	533	311	114	61
6	40	32	33	39	30	32	34	168	564	295	104	63
7	39	31	32	37	30	30	35	155	607	288	96	59
8	38	31	32	35	30	30	37	148	602	276	94	59
9	38	31	33	34	30	30	38	143	618	276	92	61
10	39	31	34	35	28	30	38	143	668	252	89	60
11	38	32	32	35	27	30	38	154	744	233	88	56
12	38	31	31	36	27	30	39	186	778	226	96	55
13	37	30	31	35	28	30	43	247	668	206	98	53
14	36	30	31	34	34	30	47	308	569	193	86	56
15	40	30	30	34	32	30	49	336	503	183	83	93
16	42	30	25	33	33	30	54	354	473	176	81	76
17	38	31	22	33	32	26	56	366	559	172	77	63
18	36	32	22	33	30	25	55	332	569	163	76	60
19	36	34	24	33	30	26	62	311	543	159	76	57
20	36	36	26	33	30	28	123	329	523	155	76	59
21	36	34	35	33	30	30	140	325	518	150	72	75
22	35	34	45	32	30	32	133	315	498	145	80	86
23	34	35	50	32	29	34	128	311	478	138	105	74
24	34	36	50	32	29	29	128	325	478	135	88	67
25	33	36	49	31	29	30	128	332	564	130	84	66
26	33	36	48	31	28	31	130	318	493	126	80	62
27	33	34	48	31	30	30	140	329	435	125	75	60
28	33	33	47	31	30	30	157	370	401	123	72	59
29	33	33	46	34	------	29	196	431	366	117	71	57
30	34	35	45	32	------	29	264	518	347	112	70	55
31	34	------	44	34	------	30	------	498	------	110	65	------
TOTAL	1,158	988	1,117	1,080	831	918	2,460	8,881	16,131	6,293	2,718	1,895
MEAN	37.4	32.9	36.0	34.8	29.7	29.6	82.0	286	538	203	87.7	63.2
MAX	46	38	50	43	34	34	264	518	778	343	114	93
MIN	33	30	22	31	27	25	32	143	347	110	65	53
CFSM	.43	.38	.41	.40	.34	.34	.93	3.26	6.12	2.31	1.00	.72
IN.	.49	.42	.47	.46	.35	.39	1.04	3.76	6.83	2.67	1.15	.80
AC-FT	2,300	1,960	2,220	2,140	1,650	1,820	4,880	17,620	32,000	12,480	5,390	3,760

CAL YR 1964: TOTAL 36,296 MEAN 99.2 MAX 601 MIN 15 CFSM 1.13 IN 15.37 AC-FT 71,990
WAT YR 1965: TOTAL 44,470 MEAN 122 MAX 778 MIN 22 CFSM 1.39 IN 18.84 AC-FT 88,200

12-3475. Blodgett Creek near Corvallis, Mont.

Location.--Lat 46°16'10", long 114°14'10", in NW¼NW¼ sec.21, T.6 N., R.21 W., on right bank 4½ miles upstream from mouth and 7 miles southwest of Corvallis.

Drainage area.--26.4 sq mi.

Records available.--December 1946 to September 1965. Monthly discharge only for December 1946, published in WSP 1316.

Gage.--Water-stage recorder. Altitude of gage is 4,050 ft (from topographic map).

Average discharge.--18 years (1947-65), 71.9 cfs (52,050 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (450 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 26, 1961	0500	622	5.90	Nov. 20, 1962a	-	-	b 4.90	June 8, 1964	1100	604	5.17
June 3, 1961	0300	* 638	5.79	June 5, 1963	0930	* 460	4.83	June 26, 1964	0230	522	4.91
June 7, 1961	0300	542	5.37								
				May 21, 1964	0300	* 640	5.28	May 1, 1965	0300	488	4.76
Apr. 20, 1962	0700	480	5.13	May 29, 1964	0630	491	4.81	May 30, 1965	0600	* 569	4.96
May 25, 1962	0300	* 515	5.66	June 3, 1964	0430	541	4.97	June 7, 1965	0500	500	4.78
								June 12, 1965	0230	553	4.97

a About.
b Backwater from debris.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Oct. 6, 1960	2.6	2.09	1964	Oct. 4, 1963	b 5.6	2.23
1962	Jan. 21, 1962	a 4	-	1965	Nov. 21, 1964	8.8	2.29
1963	Sept.12, 13, 1963	3.8	2.15				

a Minimum daily.
b Minimum recorded.

1946-65: Maximum discharge, 836 cfs May 16, 1949 (gage height, 6.42 ft); minimum, 1.2 cfs Nov. 9, 10, 23, 25, 1952; minimum gage height, 1.93 ft Nov. 9, 10, 1952.

Remarks.--Records good except those for winter periods and those for period of no gage-height record, which are poor. Some regulation for irrigation at low flow by Blodgett Lake (capacity, 160 acre-ft).

Revisions.--WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.1	16	13	8.5	8.8	21	29	93	321	78	8.8	19
2	3.1	13	13	8.1	8.8	20	43	148	483	72	8.5	33
3	2.8	11	12	7.8	8.1	19	117	138	512	69	7.8	33
4	2.8	9.6	11	7.8	7.8	19	131	129	422	69	7.4	35
5	2.8	7.4	8.5	7.8	7.4	19	95	111	425	71	7.1	32
6	2.8	8.1	8.1	8.5	7.4	18	80	96	442	96	6.8	24
7	3.1	10	8.0	8.8	7.4	17	69	86	435	71	6.4	19
8	3.3	8.8	8.0	8.1	7.1	16	61	80	333	60	5.7	16
9	3.6	6.4	8.0	7.8	7.4	16	57	87	311	53	5.1	14
10	4.1	8.8	8.0	7.8	22	16	53	158	287	46	4.9	13
11	4.6	10	9.0	7.8	33	16	49	160	306	41	4.9	12
12	6.1	9.6	9.5	7.4	38	16	48	138	383	38	4.6	12
13	6.4	8.8	10	7.1	31	16	47	138	271	35	4.4	11
14	6.1	8.5	11	7.1	28	16	44	150	274	33	4.1	10
15	6.1	7.8	10	7.1	26	18	41	152	299	30	4.1	9.2
16	6.4	9.2	9.0	7.4	25	19	40	160	321	28	3.8	8.5
17	8.5	9.2	8.5	7.4	23	19	47	164	321	26	3.6	8.1
18	8.8	10	8.0	7.1	22	19	57	188	314	23	3.3	8.5
19	7.8	10	8.0	6.4	22	19	56	213	304	22	3.1	11
20	6.8	9.2	8.5	6.5	20	20	51	262	264	20	3.6	13
21	6.8	9.6	9.0	6.4	23	20	50	316	235	19	12	19
22	7.4	8.5	9.5	6.4	30	20	49	302	180	18	12	20
23	8.1	9.2	10	6.4	27	25	49	342	176	17	12	20
24	8.5	12	10	6.4	25	29	47	450	180	16	12	19
25	9.6	17	10	6.5	24	28	45	465	166	15	11	19
26	9.2	16	10	6.4	23	28	44	540	154	14	10	19
27	9.6	14	10	6.5	22	27	43	515	140	13	7.4	18
28	9.6	9.2	9.6	6.5	22	26	45	372	122	13	5.4	18
29	10	12	9.2	7.0	------	26	51	380	106	12	5.4	19
30	7.4	14	8.8	7.5	------	26	72	415	90	10	4.6	18
31	8.8	------	8.8	8.1	------	27	------	316	------	9.6	3.8	------
TOTAL	194.1	312.9	294.0	226.4	556.2	641	1,710	7,264	8,577	1,137.6	203.6	530.3
MEAN	6.26	10.4	9.48	7.30	19.9	20.7	57.0	234	286	36.7	6.57	17.7
MAX	10	17	13	8.8	38	29	131	540	512	96	12	35
MIN	2.8	6.4	8.0	6.4	7.1	16	29	80	90	9.6	3.1	8.1
CFSM	.24	.40	.36	.28	.75	.78	2.16	8.88	10.8	1.39	.25	.67
IN.	.27	.44	.41	.32	.78	.90	2.41	10.2	12.1	1.60	.29	.75
AC-FT	385	621	583	449	1,100	1,270	3,390	14,410	17,010	2,260	404	1,050

CAL YR 1960: TOTAL 20,033.2 MEAN 54.7 MAX 565 MIN 2.8 CFSM 2.07 IN 28.22 AC-FT 39,740
WAT YR 1961: TOTAL 21,847.1 MEAN 59.3 MAX 540 MIN 2.8 CFSM 2.25 IN 30.49 AC-FT 42,940

12-3475. Blodgett Creek near Corvallis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	29	17	12	14	12	20	80	297	164	33	10
2	19	25	17	12	16	13	23	72	278	115	31	9.6
3	20	29	17	12	22	14	27	78	340	75	28	8.8
4	20	26	16	12	23	15	33	131	209	62	28	8.5
5	22	23	16	12	22	15	45	120	133	61	33	7.8
6	33	26	16	12	20	14	49	110	96	72	26	7.8
7	41	24	16	10	20	13	71	188	74	59	24	7.4
8	33	24	16	8.5	20	13	56	246	78	54	22	7.1
9	30	24	13	7.0	20	13	48	372	206	55	21	7.1
10	29	25	11	7.0	20	12	41	358	287	54	20	6.8
11	47	25	9.0	8.0	20	12	38	292	290	53	19	12
12	38	25	9.0	9.5	20	12	37	206	283	50	18	14
13	71	24	9.5	10	20	11	44	170	326	49	17	12
14	71	25	10	10	20	11	62	131	333	47	16	18
15	61	24	11	9.5	19	11	124	108	287	46	15	14
16	59	18	12	9.0	19	11	154	120	308	45	14	12
17	60	18	13	8.0	18	12	148	140	368	45	14	11
18	47	20	13	7.0	18	12	188	162	372	45	15	10
19	40	21	14	5.5	18	13	274	233	355	43	14	10
20	37	22	16	4.5	16	13	430	194	360	42	13	9.6
21	38	22	14	4.0	16	13	260	164	323	41	12	9.2
22	35	22	14	4.5	16	13	180	142	274	41	12	11
23	32	22	14	5.0	15	13	190	186	251	40	13	12
24	31	22	14	8.0	14	13	206	385	276	39	11	10
25	29	20	13	16	14	14	375	438	299	39	11	10
26	33	19	13	14	13	16	246	314	294	41	10	9.6
27	35	19	13	14	13	20	200	274	231	43	10	9.2
28	31	18	13	13	12	19	182	306	186	43	11	11
29	29	18	13	13	------	18	126	302	158	43	14	23
30	29	18	13	13	------	18	93	255	174	40	12	24
31	29	------	13	14	------	18	------	235	------	36	11	------
TOTAL	1,147	677	418.5	304.0	498	427	3,970	6,512	7,746	1,682	548	332.5
MEAN	37.0	22.6	13.5	9.81	17.8	13.8	132	210	258	54.3	17.7	11.1
MAX	71	29	17	16	23	20	430	438	372	164	33	24
MIN	18	18	9.0	4.0	12	11	20	72	74	36	10	6.8
CFSM	1.40	.85	.51	.37	.67	.52	5.01	7.96	9.78	2.06	.67	.42
IN.	1.62	.95	.59	.43	.70	.60	5.59	9.17	10.9	2.37	.77	.47
AC-FT	2,280	1,340	830	603	988	847	7,870	12,920	15,360	3,340	1,090	660

CAL YR 1961: TOTAL 23,088.6 MEAN 63.3 MAX 540 MIN 3.1 CFSM 2.40 IN 32.53 AC-FT 45,800
WAT YR 1962: TOTAL 24,262.0 MEAN 66.5 MAX 438 MIN 4.0 CFSM 2.52 IN 34.18 AC-FT 48,120

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	32	46	31	22	29	29	138	283	124	22	5.7
2	22	31	44	30	20	28	28	98	255	137	20	7.1
3	19	30	42	29	39	28	27	71	260	148	19	7.1
4	18	28	40	27	124	28	28	57	370	142	18	6.1
5	16	28	39	26	146	28	28	65	390	172	18	5.4
6	15	29	38	24	115	25	33	141	283	131	16	4.9
7	14	29	38	22	82	24	35	206	239	126	16	4.6
8	18	28	38	20	64	23	34	200	244	115	16	4.6
9	25	28	37	20	56	22	33	150	235	103	16	4.6
10	42	28	37	20	53	22	31	124	217	100	21	4.6
11	41	27	36	14	52	22	30	110	217	93	18	4.4
12	119	25	36	9.0	50	22	29	106	255	75	16	4.1
13	210	24	36	9.0	50	22	30	110	287	68	19	3.8
14	152	23	36	10	46	22	40	120	299	65	16	8.8
15	100	22	40	12	44	20	51	146	294	64	14	11
16	59	22	50	18	43	19	50	176	269	54	13	11
17	51	22	60	20	42	18	48	220	237	51	12	13
18	50	22	70	21	41	19	46	246	226	53	11	10
19	50	22	64	20	40	18	45	269	231	48	11	8.8
20	50	200	58	20	41	18	44	269	231	46	10	8.5
21	65	170	56	20	39	18	43	290	267	43	10	7.8
22	66	135	52	17	37	18	42	311	190	41	9.6	9.6
23	52	110	49	16	34	20	41	335	142	39	9.6	11
24	46	90	45	16	33	21	41	375	122	37	9.2	16
25	44	75	39	16	31	20	41	380	126	33	9.2	12
26	40	64	29	16	31	21	44	350	128	30	8.8	10
27	38	59	30	16	30	22	47	330	138	28	7.4	8.5
28	38	54	32	15	29	30	49	314	152	25	6.8	8.1
29	37	50	33	14	------	30	53	299	202	24	6.1	7.4
30	36	48	32	16	------	30	88	326	146	24	5.7	6.8
31	35	------	31	16	------	30	------	328	------	23	5.4	------
TOTAL	1,591	1,555	1,313	580.0	1,434	717	1,208	6,660	6,935	2,262	409.8	235.3
MEAN	51.3	51.8	42.4	18.7	51.2	23.1	40.3	215	231	73.0	13.2	7.84
MAX	210	200	70	31	146	30	88	380	390	172	22	16
MIN	14	22	29	9.0	20	18	27	57	122	23	5.4	3.8
CFSM	1.94	1.96	1.60	.71	1.94	.88	1.53	8.14	8.76	2.76	.50	.30
IN.	2.24	2.19	1.85	.82	2.02	1.01	1.70	9.38	9.77	3.19	.58	.33
AC-FT	3,160	3,080	2,600	1,150	2,840	1,420	2,400	13,210	13,760	4,490	813	467

CAL YR 1962: TOTAL 26,478.5 MEAN 72.5 MAX 438 MIN 4.0 CFSM 2.75 IN 37.30 AC-FT 52,520
WAT YR 1963: TOTAL 24,900.1 MEAN 68.2 MAX 390 MIN 3.8 CFSM 2.58 IN 35.08 AC-FT 49,390

Note.--No gage-height record Nov. 29 to Jan. 6.

12-3475. Blodgett Creek near Corvallis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.4	7.8	8.5	8.8	8.8	8.8	21	108	394	263	44	51
2	6.0	8.4	9.2	9.5	9.2	8.8	20	99	451	280	54	65
3	5.8	8.1	11	8.8	8.8	8.8	20	85	476	266	39	62
4	5.6	7.8	13	8.8	8.8	8.8	22	74	427	246	32	55
5	6.4	8.1	15	8.4	9.5	8.8	27	67	418	277	28	43
6	10	8.1	14	8.4	9.2	8.8	25	62	463	210	26	35
7	10	8.1	13	7.8	9.2	8.4	25	59	436	222	23	32
8	9.5	7.8	11	8.4	9.2	8.4	26	56	513	236	22	28
9	8.4	10	10	8.8	9.2	8.4	28	60	412	215	20	26
10	8.4	10	9.2	8.4	9.2	8.4	35	91	346	190	20	25
11	8.4	8.8	10	8.1	9.5	8.4	37	105	320	170	18	22
12	7.8	9.2	11	7.0	10	8.4	33	117	280	172	19	22
13	7.0	9.2	13	6.0	9.5	8.4	32	155	307	166	22	20
14	7.0	9.5	11	6.0	9.5	8.4	31	162	351	151	19	19
15	6.7	16	11	6.5	9.2	8.4	34	188	354	138	18	18
16	6.7	15	11	7.0	9.2	8.1	39	248	400	126	16	18
17	6.4	14	10	8.0	9.2	8.4	34	348	371	107	15	17
18	6.0	13	10	9.0	9.2	10	32	320	309	100	14	18
19	6.0	13	10	9.0	9.2	9.2	33	388	312	96	18	17
20	6.0	13	9.5	8.5	9.2	8.8	38	488	248	79	19	16
21	5.8	11	9.5	8.0	9.2	8.0	45	513	226	71	18	18
22	5.8	12	8.8	7.0	9.5	8.0	45	329	201	65	16	20
23	6.0	13	9.2	6.5	9.5	8.0	44	246	256	60	14	26
24	8.4	12	8.8	7.0	9.5	8.5	41	210	346	52	14	20
25	10	11	8.8	7.0	9.5	9.0	40	201	430	47	14	15
26	10	12	8.8	7.5	8.0	9.5	39	199	412	43	16	16
27	8.8	14	8.8	8.0	8.0	9.5	36	228	371	39	20	14
28	8.8	10	8.8	8.0	8.8	9.2	37	394	307	36	28	14
29	9.2	9.0	8.4	8.8	8.8	9.5	48	448	258	33	43	13
30	9.5	8.0	8.4	8.8	------	11	88	343	261	38	37	12
31	8.4	------	8.8	8.8	------	14	------	360	------	48	54	------
TOTAL	235.2	316.9	317.5	246.6	265.6	277.1	1,055	6,751	10,656	4,242	760	777
MEAN	7.59	10.6	10.2	7.95	9.16	8.94	35.2	218	355	137	24.5	25.9
MAX	10	16	15	9.5	10	14	88	513	513	280	54	65
MIN	5.6	7.8	8.4	6.0	8.0	8.0	20	56	201	33	14	12
CFSM	.29	.40	.39	.30	.35	.34	1.33	8.25	13.5	5.18	.93	.98
IN.	.33	.45	.45	.35	.37	.39	1.49	9.51	15.0	5.98	1.07	1.09
AC-FT	467	629	630	489	527	550	2,090	13,390	21,140	8,410	1,510	1,540

CAL YR 1963: TOTAL 21,310.7 MEAN 58.4 MAX 390 MIN 3.8 CFSM 2.21 IN 30.02 AC-FT 42,270
WAT YR 1964: TOTAL 25,899.9 MEAN 70.8 MAX 513 MIN 5.6 CFSM 2.68 IN 36.49 AC-FT 51,370

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	22	20	52	28	25	22	415	334	219	39	20
2	16	26	21	48	26	24	27	274	337	226	36	18
3	36	25	20	45	24	22	27	210	391	253	35	17
4	30	24	20	42	23	22	28	180	424	236	35	16
5	26	24	18	41	23	22	30	160	380	224	36	16
6	25	22	16	45	22	24	30	150	400	217	32	18
7	23	22	14	45	22	24	32	140	439	222	28	18
8	22	20	22	39	22	27	32	130	382	215	22	16
9	22	19	19	32	21	28	35	120	391	212	23	15
10	24	18	18	32	19	28	35	120	436	190	23	16
11	28	18	17	28	19	28	35	130	448	168	21	14
12	23	17	15	29	20	28	36	150	500	160	21	14
13	21	17	17	26	19	26	39	180	374	133	23	17
14	19	16	16	26	19	26	46	230	258	126	20	50
15	23	14	16	28	18	25	60	280	226	131	18	233
16	36	13	12	27	18	24	72	300	226	129	16	140
17	30	16	10	25	18	22	76	320	343	118	14	91
18	28	17	10	23	19	20	72	300	385	105	14	75
19	27	15	12	22	22	18	88	280	357	105	14	64
20	29	14	14	20	25	20	296	290	348	103	17	62
21	30	11	20	22	26	20	298	280	340	103	16	65
22	28	10	50	24	25	20	238	260	332	88	18	102
23	25	12	250	25	23	18	199	250	290	72	36	100
24	23	15	224	25	22	15	188	260	301	64	35	79
25	22	32	129	23	21	12	176	270	334	60	27	69
26	20	22	107	23	21	12	176	250	318	55	39	56
27	20	19	90	22	25	13	184	250	236	54	32	51
28	19	19	76	22	27	14	212	266	197	51	27	46
29	19	18	67	28	------	15	277	385	176	47	26	43
30	19	19	60	28	------	16	385	513	195	44	25	40
31	25	------	54	32	------	18	------	374	------	41	23	------
TOTAL	754	556	1,454	949	617	656	3,451	7,717	10,098	4,171	791	1,581
MEAN	24.3	18.5	46.9	30.6	22.0	21.2	115	249	337	135	25.5	52.7
MAX	36	32	250	52	28	28	385	513	500	253	39	233
MIN	16	10	10	20	18	12	22	120	176	41	14	14
CFSM.	.92	.70	1.78	1.16	.83	.80	4.36	9.43	12.8	5.10	.97	2.00
IN.	1.06	.78	2.05	1.34	.87	.92	4.86	10.9	14.2	5.88	1.11	2.23
AC-FT	1,500	1,100	2,880	1,880	1,220	1,300	6,840	15,310	20,030	8,270	1,570	3,140

CAL YR 1964: TOTAL 27,794.3 MEAN 75.9 MAX 513 MIN 6.0 CFSM 2.88 IN 39.15 AC-FT 55,130
WAT YR 1965: TOTAL 32,795 MEAN 89.8 MAX 513 MIN 10 CFSM 3.40 IN 46.20 AC-FT 65,050

12-3482. Bitterroot River near Corvallis, Mont.

Location.--Lat 46°18'40", long 114°08'40", on center of south line of sec.31, T.7 N., R.20 W., on right abutment of old bridge, 20 ft downstream from present highway bridge, 1¼ miles downstream from Blodgett Creek, and 1½ miles west of Corvallis.

Drainage area.--1,711 sq mi.

Records available.--July 1959 to September 1963 (discontinued).

Gage.--Water-stage recorder with pressure recording bubbler system. Altitude of gage is 3,420 ft (from topographic map). Prior to Nov. 12, 1959, wire-weight gage at same site and datum.

Extremes.--Maximum and minimum discharges for the water years 1961-63 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 26, 1961	10,400	6.17	Aug. 20, 1961	113	1.54
1962	June 14, 18, 1962	8,160	5.58	Aug. 27, 1962	112	1.44
1963	June 5, 1963	9,780	6.16	Jan. 11, 12, 1963	a 200	-

a Minimum daily.

1959-63: Maximum discharge, 12,800 cfs June 4, 1960 (gage height, 6.90 ft); minimum, 112 cfs Aug. 27, 1962 (gage height, 1.44 ft).

Remarks.--Records fair. Some regulation by Painted Rocks and Como Lakes (see elsewhere in this report) and numerous small reservoirs on headwaters of tributary streams. Diversions for irrigation of about 60,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	198	308	444	341	437	521	617	1,380	7,520	1,340	144	179
2	192	335	423	335	409	529	642	2,090	8,880	1,120	138	786
3	192	324	437	324	402	513	1,220	2,170	9,600	1,080	135	702
4	188	324	430	291	383	451	1,990	1,910	9,040	1,120	133	600
5	182	347	377	383	371	473	1,590	1,750	8,680	1,090	132	560
6	178	318	290	395	365	497	1,350	1,550	8,640	1,110	132	494
7	172	347	270	377	371	497	1,190	1,360	8,640	1,040	133	449
8	195	395	270	359	371	458	1,080	1,220	8,000	942	131	334
9	204	365	270	341	365	451	1,020	1,120	7,600	834	129	290
10	207	353	280	347	465	465	954	1,700	6,800	714	124	274
11	228	430	290	341	730	451	930	2,110	6,640	654	119	262
12	248	473	310	341	780	444	870	1,910	7,120	540	116	270
13	258	458	340	335	664	451	894	1,790	6,160	494	116	266
14	271	444	360	335	617	465	882	1,830	5,510	467	116	246
15	262	430	340	341	572	497	834	2,010	5,370	449	116	234
16	271	430	318	341	563	521	798	2,230	5,300	412	114	215
17	271	458	389	341	529	554	834	2,390	5,230	316	114	215
18	266	437	473	341	505	554	1,020	2,690	5,200	258	114	258
19	266	395	489	330	489	529	1,090	3,030	5,060	221	114	290
20	266	377	416	296	473	521	1,040	3,510	4,640	203	114	316
21	262	371	402	280	473	529	966	4,640	4,040	188	118	391
22	258	371	383	271	563	529	930	5,540	3,270	203	116	458
23	258	365	389	271	581	563	990	5,860	2,780	185	116	476
24	258	409	365	270	554	711	954	7,000	2,630	140	119	449
25	253	458	365	260	572	720	930	7,680	2,410	133	120	419
26	253	473	371	250	545	692	918	9,200	2,230	127	125	412
27	253	465	365	248	513	644	894	9,690	2,110	127	123	426
28	253	409	365	244	513	626	870	8,800	1,990	136	122	405
29	276	353	347	335	------	599	930	8,320	1,770	148	124	412
30	286	402	359	377	------	590	1,110	8,760	1,520	148	130	412
31	266	------	335	416	------	599	------	8,360	------	147	127	------
TOTAL	7,391	11,824	11,262	10,057	14,175	16,644	30,337	123,600	164,380	16,086	3,824	11,500
MEAN	238	394	363	324	506	537	1,011	3,987	5,479	519	123	383
MAX	286	473	489	416	780	720	1,990	9,690	9,600	1,340	144	786
MIN	172	308	270	244	365	444	617	1,120	1,520	127	114	179
AC-FT	14,660	23,450	22,340	19,950	28,120	33,010	60,170	245,200	326,000	31,910	7,580	22,810

CAL YR 1960: TOTAL 502,097 MEAN 1,372 MAX 11,800 MIN 172 AC-FT 995,900
WAT YR 1961: TOTAL 421,080 MEAN 1,154 MAX 9,690 MIN 114 AC-FT 835,200

12-3482. Bitterroot River near Corvallis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	415	606	430	350	650	360	606	2,510	5,820	3,150	484	145
2	410	598	430	335	630	400	679	2,270	5,860	2,850	450	160
3	400	548	425	355	606	420	782	2,270	6,720	2,490	430	162
4	375	576	405	360	583	440	859	2,650	6,240	2,250	420	172
5	370	548	420	340	548	440	1,030	2,750	5,090	2,110	496	155
6	395	527	410	360	514	440	1,180	2,710	4,250	2,190	455	145
7	527	569	350	310	514	440	1,660	3,300	3,690	2,050	415	138
8	527	562	355	240	520	440	1,640	4,320	3,450	1,850	360	145
9	496	569	320	200	520	420	1,350	5,370	4,110	1,750	320	160
10	490	562	255	170	527	390	1,160	5,650	5,020	1,640	330	160
11	606	569	180	160	562	370	1,060	5,440	5,790	1,510	360	183
12	662	569	160	160	562	380	978	4,880	5,960	1,350	320	210
13	724	502	200	160	595	390	1,030	4,500	6,440	1,360	286	228
14	1,030	496	340	180	541	395	1,290	5,900	7,720	1,320	252	258
15	906	496	400	220	520	400	1,810	3,570	7,120	1,150	198	264
16	837	405	450	240	502	400	2,490	3,540	7,000	1,040	172	243
17	870	320	450	230	490	410	2,530	3,630	7,280	930	162	231
18	815	325	445	230	472	420	2,710	3,840	7,600	870	162	216
19	724	415	440	210	466	425	3,750	4,600	7,360	771	165	207
20	670	420	490	190	450	445	5,860	4,600	7,000	679	160	192
21	742	410	478	160	450	472	5,300	4,460	6,680	622	152	189
22	771	445	400	140	445	455	4,220	4,460	5,900	569	145	231
23	706	472	390	150	425	440	3,940	4,600	5,260	502	148	274
24	697	484	400	190	335	425	4,700	6,160	5,230	445	152	286
25	654	478	425	320	270	435	5,540	7,200	5,480	395	155	278
26	654	460	375	460	240	484	5,090	6,440	5,160	410	150	278
27	706	445	370	560	250	569	4,460	5,960	4,810	646	132	286
28	679	430	365	650	280	606	4,080	6,040	3,970	942	118	330
29	630	420	380	690	------	576	3,360	6,120	3,420	848	128	390
30	576	420	425	690	------	562	2,780	5,760	3,240	622	132	450
31	590	------	390	680	------	569	------	5,540	------	514	140	------
TOTAL	19,654	14,646	11,753	9,690	13,427	13,818	77,924	139,040	168,670	39,825	7,946	6,766
MEAN	634	488	379	313	480	446	2,597	4,485	5,622	1,285	256	226
MAX	1,030	606	490	690	650	606	5,860	7,200	7,720	3,150	496	450
MIN	370	320	160	140	240	360	606	2,270	3,240	395	118	138
AC-FT	38,980	29,050	23,310	19,220	26,630	27,410	154,600	275,800	334,600	78,990	15,760	13,420

CAL YR 1961: TOTAL 436,656 MEAN 1,196 MAX 9,690 MIN 114 AC-FT 866,100
WAT YR 1962: TOTAL 523,159 MEAN 1,433 MAX 7,720 MIN 118 AC-FT 1,038,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	478	569	826	614	470	646	679	2,050	7,520	3,570	435	255
2	496	548	826	598	510	614	638	2,250	6,880	3,330	415	294
3	460	534	918	614	700	590	548	2,030	6,960	3,540	400	306
4	415	520	662	598	1,000	527	514	1,790	8,880	3,360	390	310
5	410	520	534	514	2,200	541	527	1,680	9,240	3,300	365	282
6	390	622	583	472	2,110	548	590	2,010	8,080	2,980	340	264
7	385	590	606	466	1,830	520	733	2,730	6,920	2,800	330	255
8	395	541	583	496	1,620	496	771	3,240	6,400	2,570	325	252
9	460	534	583	460	1,510	508	742	3,120	6,160	2,350	320	252
10	697	562	562	250	1,360	520	706	2,820	5,960	2,150	360	243
11	870	541	520	200	1,200	527	688	2,590	5,400	2,150	430	237
12	1,220	520	472	200	1,080	502	654	2,430	5,540	1,890	415	228
13	1,830	541	425	250	1,070	460	646	2,270	6,040	1,710	405	216
14	1,700	541	548	270	1,120	478	706	2,310	6,240	1,570	385	228
15	1,520	534	630	300	1,030	520	1,080	2,650	6,440	1,590	335	278
16	1,290	514	646	500	942	484	1,260	3,240	6,160	1,440	310	325
17	1,150	490	715	540	906	478	1,150	3,810	5,650	1,300	294	385
18	1,090	455	815	500	870	478	1,070	4,460	5,160	1,250	278	385
19	990	466	815	470	848	478	966	5,340	4,740	1,190	274	375
20	859	942	804	460	906	472	930	5,580	4,670	1,080	278	370
21	826	2,170	782	470	859	502	882	5,820	6,280	1,000	264	365
22	870	1,510	782	470	782	520	859	6,240	5,820	906	267	360
23	804	1,180	697	480	751	598	859	6,680	4,530	815	270	385
24	760	930	472	490	733	662	837	7,640	3,970	742	274	405
25	742	930	330	490	715	606	804	8,480	3,780	724	310	395
26	706	990	315	490	688	576	848	8,200	3,660	654	286	380
27	670	990	630	480	688	590	930	7,560	3,480	590	267	365
28	654	906	848	470	646	654	1,080	7,280	3,480	555	261	350
29	622	837	733	470	------	715	1,180	7,120	4,320	534	249	325
30	606	782	638	460	------	679	1,380	7,600	4,180	496	246	306
31	590	------	606	460	------	670	------	7,880	------	466	246	------
TOTAL	24,955	22,309	19,906	14,002	29,144	17,159	25,257	138,900	172,540	52,602	10,024	9,376
MEAN	805	744	642	452	1,041	554	842	4,481	5,751	1,697	323	313
MAX	1,830	2,170	918	614	2,200	715	1,380	8,480	9,240	3,570	435	405
MIN	385	455	315	200	470	460	514	1,680	3,480	466	246	216
AC-FT	49,500	44,250	39,480	27,770	57,810	34,030	50,100	275,500	342,200	104,300	19,880	18,600

CAL YR 1962: TOTAL 544,276 MEAN 1,491 MAX 7,720 MIN 118 AC-FT 1,080,000
WAT YR 1963: TOTAL 536,174 MEAN 1,469 MAX 9,240 MIN 200 AC-FT 1,063,000

12-3485. Willow Creek near Corvallis, Mont.

Location.--Lat 46°17'40", long 113°59'40", in SW¼NE¼ sec.8, T.6 N., R.19 W., on right bank 800 ft downstream from Butterfly ranger station, half a mile downstream from Horn ditch, and 6 miles southeast of Corvallis.

Drainage area.--22.4 sq mi.

Records available.--April 1920 to May 1924 (no winter records), September 1957 to December 1965 (discontinued).

Gage.--Wire-weight gage read once daily. Crest-stage gage since July 20, 1959. Altitude of gage is 4,130 ft (from topographic map). Apr. 20, 1920, to May 3, 1924, staff gage at site 200 ft downstream at different datum.

Average discharge.--8 years (1957-65), 15.6 cfs (11,290 acre-ft per year).

Extremes.--Maximum and minimum discharges for October 1960 to December 1965 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 30, 1961	88	2.60	Jan. 4, 1961	1	-
1962	June 13, 1962a	88	2.56	Feb. 26, 1962	2	-
1963	June 21, 1963a	106	2.60	Jan. 12, 13, 1963	3.5	-
1964	June 17, 1964a	144	2.70	Dec. 11-13, 1963	5.0	-
1965	June 12, 1965a	168	2.87	Dec. 17, 1964	3	-
1966	Many days	b 13	(c)	Dec. 17, 1965	4	-

a About.
b Maximum daily.
c Maximum gage height for period, 1.64 ft Dec. 18, 1965, backwater from ice.

1920-24, 1957-65: Maximum discharge, 168 cfs June 12, 1965 (gage height, 2.87 ft, from graph based on gage readings); minimum daily, 1 cfs Jan. 4, 1961.

Remarks.--Records fair except those for winter periods and those for period of doubtful gage-height record, which are poor. One small diversion for irrigation above station. Natural flow is supplemented by releases from Gleason Lake (capacity, 160 acre-ft) during irrigation season.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.5	2.3	4.0	1.5	5.2	3.8	4.6	6.2	42	22	11	6.8
2	4.0	2.7	4.5	1.5	4.6	4.3	5.2	5.5	56	24	9.4	6.2
3	3.5	3.8	4.5	1.5	4.3	3.8	6.2	5.5	61	22	7.9	6.2
4	2.7	3.1	4.0	1.0	4.3	3.0	4.9	5.5	67	19	6.5	6.8
5	3.1	2.3	4.0	1.5	6.2	2.5	4.9	7.5	66	19	9.4	6.8
6	3.1	2.3	3.5	2.5	5.5	2.3	5.5	6.8	66	16	8.7	6.8
7	4.0	3.1	3.5	3.3	6.5	2.3	3.8	5.5	73	14	8.7	6.8
8	5.2	3.5	3.5	4.3	5.8	2.3	3.8	5.5	77	13	7.9	6.8
9	4.0	4.0	3.0	5.5	5.8	2.3	3.3	7.5	64	13	7.9	6.8
10	3.3	4.0	3.0	1.8	5.8	2.3	2.9	9.8	53	14	7.9	8.3
11	3.3	4.6	2.5	2.5	6.5	2.7	3.8	7.5	48	14	7.2	8.3
12	4.3	4.0	2.5	4.3	6.2	3.5	4.9	5.5	57	14	7.9	9.0
13	4.9	4.6	3.0	3.3	6.2	4.0	4.0	8.7	58	14	7.9	7.5
14	5.5	4.0	3.5	3.1	5.5	5.8	3.5	5.8	56	14	7.9	6.8
15	4.9	3.5	3.5	4.0	4.9	5.8	3.5	7.2	56	14	7.9	6.2
16	4.3	4.0	2.5	4.0	4.9	4.9	3.1	7.9	49	14	8.3	5.5
17	4.0	5.2	2.0	4.0	6.2	4.9	4.6	11	34	13	8.3	5.5
18	4.0	5.2	1.5	4.3	5.5	5.5	4.6	11	29	14	8.3	5.5
19	3.5	5.8	1.5	3.5	4.6	3.8	3.1	11	41	14	8.3	4.9
20	2.7	5.8	2.0	3.0	4.6	3.3	3.5	12	43	13	8.3	4.9
21	3.5	4.6	2.0	3.0	4.0	3.8	3.1	13	41	13	8.3	4.9
22	4.0	3.1	2.0	3.0	4.0	4.9	2.7	15	41	13	7.5	4.9
23	3.5	2.3	1.5	3.0	4.0	6.8	2.9	16	27	12	8.3	4.9
24	2.9	2.7	1.5	3.0	4.0	6.2	4.3	23	34	11	7.5	4.9
25	2.5	3.1	1.5	3.0	4.0	5.5	4.9	13	27	12	7.9	4.9
26	2.1	3.5	1.5	2.5	3.8	4.6	4.9	13	27	12	7.5	4.9
27	2.9	3.5	1.5	2.5	3.8	3.5	4.3	33	27	13	9.0	5.2
28	3.3	3.1	1.5	2.5	3.8	4.6	5.5	30	29	12	8.3	4.9
29	3.3	1.7	1.5	2.5	------	4.6	5.5	32	25	12	8.3	4.9
30	2.9	4.0	1.5	3.0	------	4.6	5.5	59	20	7.9	6.8	4.9
31	2.7	------	1.5	4.0	------	4.0	------	48	------	8.7	6.8	------
TOTAL	113.4	109.4	79.5	92.4	140.5	126.2	127.3	447.9	1,394	440.6	251.8	181.7
MEAN	3.66	3.65	2.56	2.98	5.02	4.07	4.24	14.4	46.5	14.2	8.12	6.06
MAX	5.5	5.8	4.5	5.5	6.5	6.8	6.2	59	77	24	11	9.0
MIN	2.1	1.7	1.5	1.0	3.8	2.3	2.7	5.5	20	7.9	6.5	4.9
AC-FT	225	217	158	183	279	250	253	888	2,760	874	499	360

CAL YR 1960: TOTAL 4,620.8 MEAN 12.6 MAX 85 MIN 1.5 AC-FT 9,170
WAT YR 1961: TOTAL 3,504.7 MEAN 9.60 MAX 77 MIN 1.0 AC-FT 6,950

12-3485. Willow Creek near Corvallis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.9	4.9	4.9	3.8	3.5	3.2	4.0	11	41	40	14	8.3
2	4.9	3.8	4.9	3.8	4.0	3.7	4.3	12	43	38	14	8.3
3	4.3	4.9	4.9	4.3	4.0	4.0	4.3	12	47	37	14	8.3
4	4.9	3.3	4.9	3.8	4.0	4.0	4.3	11	43	37	15	8.3
5	4.9	2.9	4.9	4.3	4.0	4.0	3.8	11	40	35	15	8.3
6	4.6	2.9	4.6	4.3	4.0	4.6	3.8	12	35	34	15	8.3
7	4.6	3.3	4.3	4.2	3.5	4.6	3.3	12	37	31	14	8.3
8	4.6	3.8	4.0	3.4	3.5	4.6	3.3	13	40	28	14	8.3
9	4.6	3.8	3.6	2.8	3.5	4.0	3.3	14	41	27	14	8.3
10	4.6	4.3	3.2	2.6	3.5	4.0	3.3	14	43	25	13	8.3
11	4.6	4.6	2.8	2.8	4.0	4.0	3.3	14	50	25	13	8.3
12	5.2	4.6	2.9	3.2	4.0	4.0	3.8	14	56	24	12	7.5
13	4.6	4.6	3.1	3.3	4.0	4.0	3.5	16	73	22	12	6.8
14	5.2	4.4	3.5	3.4	3.5	3.5	4.0	17	73	22	11	6.8
15	5.2	4.1	3.8	3.4	3.5	4.0	4.0	18	73	21	12	6.2
16	5.2	3.8	4.0	3.4	3.5	3.5	4.0	19	73	20	12	6.2
17	5.2	3.8	4.1	3.2	3.5	3.5	5.2	20	73	20	13	6.2
18	5.2	3.9	4.3	3.0	3.5	3.5	6.5	24	75	19	12	6.2
19	5.2	4.0	5.2	2.6	3.5	3.5	7.2	25	77	19	12	6.2
20	5.8	4.0	5.2	2.4	3.2	3.5	7.9	27	75	18	11	6.8
21	5.8	4.0	4.6	2.2	3.0	3.5	10	28	73	17	11	6.8
22	5.8	4.1	4.0	2.2	2.8	4.0	11	29	67	17	11	6.8
23	5.8	4.4	4.0	2.4	2.7	4.0	11	32	63	16	9.8	6.8
24	5.8	4.4	4.0	3.0	2.4	4.0	11	34	61	16	9.8	6.8
25	5.8	4.4	3.5	4.6	2.2	4.0	12	34	61	15	9.0	6.8
26	5.5	4.3	3.1	5.8	2.0	3.5	12	35	56	14	9.0	6.8
27	5.5	4.3	2.9	7.9	2.1	4.6	11	34	50	15	9.0	6.8
28	5.5	4.4	3.0	6.5	2.4	4.0	12	37	45	16	8.3	6.8
29	5.5	4.9	3.5	5.2	------	4.0	11	38	41	15	8.3	6.8
30	5.5	4.9	3.8	4.6	------	4.0	11	38	40	15	8.3	6.8
31	4.9	------	3.8	3.8	------	4.0	------	40	------	15	8.3	------
TOTAL	159.7	123.8	123.3	116.2	93.3	121.3	199.1	695	1,665	713	363.8	218.2
MEAN	5.15	4.13	3.98	3.75	3.33	3.91	6.64	22.4	55.5	23.0	11.7	7.27
MAX	5.8	4.9	5.2	7.9	4.0	4.6	12	40	77	40	15	8.3
MIN	4.3	2.9	2.8	2.2	2.0	3.2	3.3	11	35	14	8.3	6.2
AC-FT	317	246	245	230	185	241	395	1,380	3,300	1,410	722	433

CAL YR 1961: TOTAL 3,609.2 MEAN 9.89 MAX 77 MIN 1.0 AC-FT 7,160
WAT YR 1962: TOTAL 4,591.7 MEAN 12.6 MAX 77 MIN 2.0 AC-FT 9,110

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.8	6.2	6.8	5.5	4.7	5.3	6.2	9.3	56	61	17	16
2	6.2	5.5	6.8	5.5	6.2	5.3	6.2	10	58	57	16	16
3	6.2	5.5	6.8	5.5	7.0	5.3	6.2	10	60	55	16	15
4	6.2	5.5	6.8	5.4	7.3	5.3	6.2	10	60	51	16	15
5	5.5	5.5	6.8	5.2	8.0	5.3	6.2	10	63	47	17	14
6	5.5	5.5	6.8	5.1	8.0	5.3	6.2	11	63	43	17	12
7	5.5	5.5	6.8	5.3	7.3	4.9	6.2	12	63	41	20	12
8	5.5	5.5	6.8	5.5	7.3	4.9	6.2	12	65	37	20	12
9	6.2	5.5	6.8	5.5	6.7	4.9	6.2	11	65	35	21	12
10	6.8	5.5	6.8	5.2	5.7	4.9	6.7	11	65	34	21	12
11	7.5	5.5	6.8	4.6	5.7	4.9	7.3	13	68	33	21	12
12	8.3	5.5	6.8	3.5	5.7	4.9	8.0	14	68	32	20	12
13	9.0	6.2	6.8	3.5	5.7	4.9	8.6	15	70	31	20	12
14	9.8	6.2	6.8	3.6	5.7	4.9	8.6	16	68	29	19	12
15	9.8	6.2	6.8	3.8	5.7	4.9	9.3	16	66	27	18	12
16	8.3	6.8	6.8	4.1	5.7	4.9	8.6	17	66	27	17	12
17	7.5	6.8	6.8	4.2	5.7	4.9	7.3	18	67	27	16	12
18	7.5	6.8	6.8	4.1	5.7	4.9	6.7	20	65	26	16	12
19	6.8	6.8	6.2	3.9	5.7	5.3	6.7	21	65	24	16	12
20	6.8	6.8	6.2	3.9	5.7	5.3	6.7	22	67	24	17	12
21	6.8	6.2	6.2	3.9	5.7	5.7	6.7	24	69	23	18	12
22	6.8	6.2	5.5	3.9	5.3	6.2	6.7	27	67	21	17	12
23	6.8	6.2	5.5	4.0	5.3	6.2	6.7	29	64	21	17	12
24	6.8	5.5	5.1	4.0	5.3	6.7	7.3	31	65	21	16	10
25	6.2	5.5	4.7	3.9	5.3	6.7	7.3	37	64	20	16	10
26	6.2	5.5	4.7	3.9	5.5	6.7	8.0	38	64	20	16	10
27	6.2	6.2	4.7	3.8	5.3	6.7	8.0	41	63	18	16	9.3
28	6.2	6.2	4.9	3.8	5.3	6.7	8.0	43	63	18	16	9.3
29	6.2	6.8	5.3	3.8	------	6.2	8.0	48	64	18	16	9.3
30	6.2	7.5	5.5	3.8	------	6.0	8.6	51	62	17	16	9.3
31	6.2	------	5.5	4.1	------	6.2	------	55	------	17	16	------
TOTAL	212.3	181.1	192.4	135.8	168.2	171.2	215.6	702.3	1,933	955	541	359.2
MEAN	6.85	6.04	6.21	4.38	6.01	5.52	7.19	22.7	64.4	30.8	17.5	12.0
MAX	9.8	7.5	6.8	5.5	8.0	6.7	9.3	55	70	61	21	16
MIN	5.5	5.5	4.7	3.5	4.7	4.9	6.2	9.3	56	17	16	9.3
AC-FT	421	359	382	269	334	340	428	1,390	3,830	1,890	1,070	712

CAL YR 1962: TOTAL 4,770.7 MEAN 13.1 MAX 77 MIN 2.0 AC-FT 9,460
WAT YR 1963: TOTAL 5,767.1 MEAN 15.8 MAX 70 MIN 3.5 AC-FT 11,440

12-3485. Willow Creek near Corvallis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.0	8.0	6.6	7.0	7.0	7.3	7.5	9.7	42	94	25	14
2	8.6	7.9	6.4	7.1	7.0	7.3	7.6	11	48	89	25	14
3	9.0	7.8	6.4	7.1	7.0	7.3	7.7	14	53	83	26	14
4	9.0	7.8	6.4	7.1	7.0	7.2	7.8	14	58	78	25	14
5	9.0	7.7	6.4	7.1	7.0	7.2	7.8	16	72	80	22	15
6	9.0	7.6	6.3	7.0	7.1	7.2	7.8	16	83	78	22	15
7	9.0	7.6	6.1	6.9	7.2	7.2	7.8	16	86	72	20	15
8	9.0	7.5	5.8	6.8	7.3	7.2	7.9	16	109	70	20	14
9	9.0	7.5	5.5	6.8	7.5	7.2	7.9	17	101	66	20	14
10	9.0	7.5	5.2	6.6	7.5	7.3	7.9	18	100	64	19	13
11	9.0	7.5	5.0	6.5	7.6	7.3	7.9	18	94	59	19	14
12	9.0	7.5	5.0	6.5	7.5	7.4	7.9	19	92	56	18	14
13	9.0	7.6	5.0	6.4	7.4	7.4	8.0	21	92	54	17	13
14	9.0	7.6	5.1	6.4	7.3	7.5	8.0	23	88	52	17	13
15	9.0	7.6	5.2	6.5	7.2	7.6	8.1	24	84	48	16	12
16	8.3	7.6	5.3	6.6	7.1	7.8	8.1	26	120	43	15	12
17	8.3	7.6	5.5	6.7	7.1	7.9	8.2	30	126	42	15	10
18	8.3	7.5	5.6	6.8	7.1	7.9	8.2	32	134	36	15	10
19	8.3	7.5	5.8	6.8	7.2	7.9	8.2	34	120	35	15	10
20	8.3	7.5	6.0	6.7	7.1	7.8	8.3	37	106	35	15	10
21	8.3	7.6	6.2	6.6	7.1	7.5	8.3	38	106	32	15	10
22	8.3	7.6	6.4	6.6	7.0	7.1	8.3	33	103	30	15	10
23	8.3	7.4	6.5	6.5	7.0	6.8	8.4	33	98	31	15	10
24	8.0	7.4	6.6	6.6	7.0	6.5	8.5	33	98	31	15	9.3
25	8.0	7.6	6.5	6.8	7.0	6.4	8.6	34	96	30	15	9.3
26	8.0	7.7	6.5	6.9	7.2	6.5	8.7	34	101	30	17	9.3
27	8.0	7.7	6.5	7.0	7.3	6.6	8.8	36	101	30	16	9.3
28	8.0	7.5	6.4	7.0	7.3	6.8	8.9	41	98	28	14	8.5
29	8.0	7.2	6.4	7.0	7.3	7.0	9.1	48	96	27	14	8.5
30	8.0	6.8	6.5	7.0	------	7.2	9.2	42	95	27	14	9.7
31	8.0	------	6.8	7.0	------	7.4	------	42	------	26	14	------
TOTAL	265.0	226.9	185.9	210.4	208.4	224.7	245.4	825.7	2,800	1,556	550	353.9
MEAN	8.55	7.56	6.00	6.79	7.19	7.25	8.18	26.6	93.3	50.2	17.7	11.8
MAX	9.0	8.0	6.8	7.1	7.6	7.9	9.2	48	134	94	26	15
MIN	8.0	6.8	5.0	6.4	7.0	6.4	7.5	9.7	42	26	14	8.5
AC-FT	526	450	369	417	413	446	487	1,640	5,550	3,090	1,090	702

CAL YR 1963: TOTAL 5,859.1 MEAN 16.1 MAX 70 MIN 3.5 AC-FT 11,620
WAT YR 1964: TOTAL 7,652.3 MEAN 20.9 MAX 134 MIN 5.0 AC-FT 15,180

Note.--Doubtful gage-height record Nov. 1 to Apr. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.5	9.7	7.0	7.3	6.3	5.7	7.7	34	62	84	20	11
2	8.5	12	6.9	8.1	5.9	6.5	8.5	30	63	85	20	11
3	8.5	8.5	6.9	8.1	5.9	5.7	8.6	26	72	78	19	11
4	8.1	8.5	6.9	8.1	5.9	5.7	8.7	27	78	77	18	11
5	8.1	7.7	6.9	8.1	5.9	5.7	8.9	24	82	77	17	12
6	7.3	7.7	5.8	7.3	5.9	6.3	8.9	20	91	76	18	12
7	7.3	7.7	5.5	7.3	5.9	6.3	7.7	19	95	71	17	10
8	8.1	8.5	5.9	7.3	5.9	6.3	8.5	24	105	68	17	10
9	8.1	8.5	7.4	7.3	5.8	6.3	8.9	18	117	64	16	9.7
10	8.1	7.7	7.7	6.5	5.0	6.9	7.7	18	134	58	18	9.7
11	8.1	7.7	5.1	6.1	4.5	6.9	7.3	20	154	58	18	9.7
12	8.1	7.7	6.9	6.1	4.5	6.3	8.5	26	159	57	17	8.9
13	7.7	7.7	5.7	6.5	4.8	6.5	6.9	29	152	55	17	9.7
14	7.7	7.7	4.6	6.5	5.2	6.5	8.9	32	136	52	16	9.7
15	8.5	7.1	3.6	6.5	5.7	6.5	10	34	112	52	17	11
16	8.5	7.2	3.1	6.5	5.7	5.8	9.7	39	96	50	15	12
17	7.7	7.7	3.0	6.5	5.7	5.0	9.3	41	100	50	13	12
18	7.7	8.5	3.4	6.5	5.7	4.8	8.5	35	100	45	12	12
19	7.7	8.5	5.0	6.5	5.7	5.0	8.9	39	96	42	11	11
20	7.7	7.7	8.5	6.5	6.1	5.6	12	35	98	38	10	11
21	7.7	6.9	13	6.3	5.7	6.2	20	37	105	37	12	12
22	7.7	6.9	25	6.3	5.3	6.0	20	36	100	36	21	12
23	7.3	6.9	34	6.3	5.7	5.5	20	36	103	32	21	12
24	7.3	7.7	18	6.3	5.7	4.4	20	41	101	30	20	17
25	7.3	9.2	10	6.3	5.7	4.0	20	35	123	28	17	17
26	6.5	9.2	8.9	6.3	6.1	4.7	20	32	110	26	17	17
27	6.5	8.7	8.9	6.3	8.1	6.5	20	46	82	23	17	17
28	6.5	8.0	8.1	6.9	6.1	6.5	23	47	86	21	16	17
29	8.1	7.3	8.1	7.7	------	6.5	25	43	77	22	14	14
30	8.9	7.1	8.1	6.9	------	6.9	31	65	74	21	13	13
31	8.9	------	8.1	6.3	------	7.3	------	65	------	21	12	------
TOTAL	242.7	241.9	266.0	211.5	160.4	184.8	393.1	1,053	3,063	1,534	506	362.4
MEAN	7.83	8.06	8.58	6.82	5.73	5.96	13.1	34.0	102	49.5	16.3	12.1
MAX	8.9	12	34	8.1	8.1	7.3	31	65	159	85	21	17
MIN	6.5	6.9	3.0	6.1	4.5	4.0	6.9	18	62	21	10	8.9
AC-FT	481	480	528	420	318	367	780	2,090	6,080	3,040	1,000	719

CAL YR 1964: TOTAL 7,725.1 MEAN 21.1 MAX 134 MIN 3.0 AC-FT 15,320
WAT YR 1965: TOTAL 8,218.8 MEAN 22.5 MAX 159 MIN 3.0 AC-FT 16,300

12-3485. Willow Creek near Corvallis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER TO DECEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	12	8.9									
2	13	12	9.7									
3	13	12	9.7									
4	13	12	9.7									
5	12	12	8.9									
6	12	10	8.9									
7	12	12	8.9									
8	12	10	8.9									
9	13	10	8.1									
10	13	10	8.1									
11	13	10	8.1									
12	13	10	7.3									
13	13	10	6.5									
14	13	10	5.7									
15	13	10	4.9									
16	13	10	4.3									
17	13	10	4.0									
18	13	10	8.5									
19	12	10	12									
20	12	10	10									
21	12	10	9.3									
22	12	10	9.3									
23	12	10	8.5									
24	13	9.7	8.5									
25	13	9.7	8.5									
26	12	9.8	8.5									
27	13	9.9	8.5									
28	13	10	8.5									
29	12	10	7.7		------							
30	12	9.7	7.7		------							
31	13	-------	7.7		------		------		------			------
TOTAL	391	310.8	253.8									
MEAN	12.6	10.4	8.19									
MAX	13	12	12									
MIN	12	9.7	4.0									
AC-FT	776	616	503									

CAL YR 1965: TOTAL 8,423.8 MEAN 23.1 MAX 159 MIN 4.0 AC-FT 16,710
WAT YR 1966: TOTAL MEAN MAX MIN AC-FT

12-3505. Kootenai Creek near Stevensville, Mont.

Location.--Lat 46°32'30", long 114°10'00", in SW¼NW¼ sec.18, T.9 N., R.20 W., on left bank 3 miles upstream from mouth and 4 miles northwest of Stevensville.

Drainage area.--28.9 sq mi.

Records available.--December 1948 to September 1953, August 1957 to September 1963. Annual maximums, water years 1964-65.

Gage.--Water-stage recorder. Altitude of gage is 3,780 ft (from topographic map).

Average discharge.--10 years (1949-53, 1957-63), 78.9 cfs (57,120 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (500 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 25, 1961	2230	786	4.87	May 24, 1962	1830	606	4.43	May 29, 1963	2130	558	4.26
May 30, 1961	1330	698	4.67	June 16, 1962	2230	* 630	4.53	June 5, 1963	0430	* 562	4.29
June 4, 1961	2000	* 840	4.99	June 25, 1962	2100	530	4.29	June 14, 1963	2000	550	4.28
June 16, 1961	2030	566	4.34								
				Feb. 4, 1963	-	-	a 5.47	June 8, 1964	-	* 790	4.88
Feb. 26, 1962	-	-	a 5.31	May 25, 1963	1930	510	4.15				
								June 12, 1965	-	* 765	4.82

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Aug. 28, 1961	a 6.6	b 1.52	1964	-	-	-
1962	Jan. 21, 1962	c 4	-	1965	-	-	-
1963	Sept.12, 1963	7.1	1.55				

a Minimum recorded.
b Occurred Oct. 6, 1960.
c Minimum daily.

1948-53, 1957-65: Maximum discharge, 1,300 cfs June 17, 1950 (gage height, 5.85 ft), from rating curve extended above 500 cfs.
1948-53, 1957-63: Minimum daily discharge, 2.0 cfs Nov. 30, 1952.
Flood in May-June 1948 reached a discharge of 1,250 cfs, by slope-area measurement of peak flow at a point a quarter of a mile downstream.

Remarks.--Records good except those for winter periods and those for period of no gage-height record, which are poor. No regulation or diversion above station.

Revisions.--WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.1	23	19	12	14	26	33	100	558	104	13	44
2	8.8	18	19	12	13	25	68	147	666	102	12	50
3	8.5	17	17	11	13	22	212	128	646	109	12	46
4	8.3	16	14	11	13	22	176	113	658	111	11	51
5	7.8	15	12	11	13	20	119	100	626	108	11	40
6	7.8	15	12	13	13	20	90	88	654	106	10	29
7	8.3	15	12	13	12	19	70	74	558	98	9.8	21
8	8.8	15	12	12	12	19	61	67	432	90	9.4	17
9	8.5	15	12	12	13	18	56	74	368	79	9.2	14
10	9.3	15	12	12	38	17	51	136	362	72	9.0	13
11	9.4	16	12	12	76	17	47	140	386	66	8.8	13
12	11	15	13	12	54	16	47	128	442	60	8.6	13
13	10	14	14	12	40	17	46	136	342	56	8.4	12
14	10	14	14	12	36	17	43	159	365	50	8.2	11
15	10	13	13	13	33	18	40	156	404	45	8.0	11
16	11	15	12	13	31	21	39	159	446	40	7.8	10
17	14	15	12	14	28	21	46	159	435	35	7.6	10
18	15	16	12	13	26	21	54	166	442	32	7.4	10
19	14	15	12	12	25	22	53	207	424	30	7.2	11
20	14	15	12	11	24	25	50	276	365	28	7.0	13
21	14	15	12	11	28	25	47	316	285	26	13	16
22	16	14	13	11	43	25	46	329	204	24	13	17
23	17	14	13	10	37	28	45	418	223	22	10	20
24	20	17	12	10	34	32	43	538	218	21	7.1	20
25	18	20	12	10	33	32	42	554	209	20	9.1	20
26	19	20	12	10	31	32	43	666	194	19	8.5	22
27	19	19	13	10	28	31	42	538	178	18	7.5	20
28	18	18	12	11	27	30	43	410	159	17	7.1	20
29	18	16	12	12	------	28	49	494	138	16	8.8	23
30	15	18	12	13	------	29	74	602	119	15	7.8	20
31	16	------	12	15	------	31	------	494	------	14	7.5	------
TOTAL	392.6	483	402	366	788	726	1,875	8,072	11,506	1,633	284.8	637
MEAN	12.7	16.1	13.0	11.8	28.1	23.4	62.5	260	384	52.7	9.19	21.2
MAX	20	23	19	15	76	32	212	666	666	111	13	51
MIN	7.8	13	12	10	12	16	33	67	119	14	7.0	10
CFSM	.44	.56	.45	.41	.97	.81	2.16	9.01	13.3	1.82	.32	.73
IN.	.51	.62	.52	.47	1.01	.93	2.41	10.4	14.8	2.10	.37	.82
AC-FT	779	958	797	726	1,560	1,440	3,720	16,010	22,820	3,240	565	1,260

CAL YR 1960: TOTAL 25,474.9 MEAN 69.6 MAX 658 MIN 7.0 CFSM 2.41 IN 32.78 AC-FT 50,530
WAT YR 1961: TOTAL 27,165.4 MEAN 74.4 MAX 666 MIN 7.0 CFSM 2.58 IN 34.96 AC-FT 53,880

Note.--No gage-height record July 14 to Aug. 23.

12-3505. Kootenai Creek near Stevensville, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	26	13	10	11	15	24	115	345	229	52	11
2	21	23	13	10	13	15	28	115	332	174	43	10
3	24	25	13	10	22	14	34	125	382	132	40	10
4	25	22	12	10	25	13	40	150	226	119	39	9.4
5	25	21	13	10	22	12	55	140	174	138	39	9.1
6	34	26	13	10	21	12	59	138	143	168	33	8.8
7	36	24	12	10	20	12	93	178	123	134	30	8.3
8	31	24	13	9.0	19	12	70	212	147	136	30	8.0
9	27	22	10	7.0	18	12	60	306	267	150	27	8.0
10	27	20	8.0	6.0	20	12	54	273	319	150	24	7.8
11	39	21	5.5	7.0	20	11	50	255	322	132	23	19
12	36	20	5.0	8.0	20	11	49	189	339	113	23	19
13	68	20	7.0	8.5	19	11	55	178	362	108	22	25
14	69	19	10	8.5	19	11	81	161	355	96	22	35
15	55	19	11	8.5	18	11	132	143	358	90	20	34
16	54	17	12	8.5	17	11	140	138	432	82	19	27
17	65	15	11	8.0	17	11	140	150	522	82	18	22
18	44	15	11	7.0	17	12	168	171	446	78	19	18
19	36	15	11	6.0	16	13	226	186	404	67	16	17
20	32	16	13	4.5	15	13	345	174	414	66	15	15
21	33	16	12	4.0	15	13	202	176	386	68	14	15
22	30	16	12	6.5	14	14	171	174	339	68	14	14
23	27	16	11	9.0	14	13	181	212	316	66	14	15
24	26	16	11	9.0	13	13	270	428	358	64	12	14
25	23	16	11	10	12	15	313	410	404	61	12	14
26	31	15	11	10	11	16	207	303	372	62	11	13
27	33	13	11	10	12	20	186	282	288	65	11	13
28	30	13	10	9.7	15	20	164	382	229	62	12	15
29	27	12	10	9.7	------	19	140	348	212	54	13	23
30	25	13	11	10	------	19	128	270	237	47	13	23
31	24	------	11	11	------	20	------	264	------	51	12	------
TOTAL	1,077	556	337.5	265.4	475	426	3,865	6,746	9,553	3,112	692	480.4
MEAN	34.7	18.5	10.9	8.56	17.0	13.7	129	218	318	100	22.3	16.0
MAX	69	26	13	11	25	20	345	428	522	229	52	35
MIN	20	12	5.0	4.0	11	11	24	115	123	47	11	7.8
CFSM	1.20	.64	.38	.30	.59	.48	4.46	7.53	11.0	3.47	.77	.55
IN.	1.39	.72	.43	.34	.61	.55	4.97	8.68	12.3	4.00	.89	.62
AC-FT	2,140	1,100	669	526	942	845	7,670	13,380	18,950	6,170	1,370	953

CAL YR 1961: TOTAL 27,858.3 MEAN 76.3 MAX 666 MIN 5.0 CFSM 2.64 IN 35.85 AC-FT 55,260
WAT YR 1962: TOTAL 27,585.3 MEAN 75.6 MAX 522 MIN 4.0 CFSM 2.62 IN 35.50 AC-FT 54,710

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26	37	37	28	14	24	28	152	376	166	34	11
2	25	34	37	27	16	22	27	117	326	207	32	11
3	22	32	36	27	25	20	26	93	316	252	31	10
4	20	30	33	26	50	22	26	81	435	243	31	9.7
5	18	32	32	25	125	20	26	87	463	232	31	8.8
6	17	34	34	22	111	19	31	154	332	209	30	8.8
7	17	31	34	20	93	18	32	243	291	218	30	8.5
8	20	30	34	25	76	17	31	220	294	212	29	8.8
9	25	30	34	22	65	17	30	166	279	186	30	9.1
10	39	31	34	20	56	17	29	138	258	171	33	8.5
11	48	28	33	15	49	17	28	121	276	145	30	7.8
12	104	28	32	10	46	16	27	111	332	109	27	7.5
13	191	30	32	10	42	16	28	121	379	102	26	7.5
14	134	28	32	15	39	15	36	138	428	117	24	20
15	106	26	33	20	36	15	69	184	435	123	22	17
16	78	25	43	20	34	15	61	223	379	85	18	20
17	66	22	52	20	32	14	54	255	345	84	17	22
18	64	22	62	17	31	14	47	279	332	81	16	19
19	66	22	56	15	31	14	44	294	329	79	16	17
20	61	177	51	13	32	14	42	294	329	81	15	14
21	81	115	49	12	30	14	39	306	342	84	14	13
22	85	78	45	10	28	15	37	335	220	82	12	13
23	68	61	41	10	27	18	37	390	156	74	13	12
24	59	53	35	10	26	19	34	435	134	64	13	15
25	54	47	25	9.0	25	18	35	435	147	55	14	12
26	47	46	20	9.0	25	19	39	400	164	47	13	11
27	43	46	25	9.0	25	21	48	345	186	43	12	10
28	42	43	30	9.0	24	31	57	376	209	43	10	9.4
29	41	39	30	10	------	31	72	432	285	42	10	8.5
30	41	39	30	10	------	30	113	463	184	39	10	8.3
31	39	------	29	10	------	30	------	446	------	36	10	------
TOTAL	1,747	1,296	1,130	505.0	1,213	592	1,233	7,834	8,961	3,711	653	358.2
MEAN	56.4	43.2	36.5	16.3	43.3	19.1	41.1	253	299	120	21.1	11.9
MAX	191	177	62	28	125	31	113	463	463	252	34	22
MIN	17	22	20	9.0	14	14	26	81	134	36	10	7.5
CFSM	1.95	1.49	1.26	.56	1.50	.66	1.42	8.74	10.3	4.14	.73	.41
IN.	2.25	1.67	1.45	.65	1.56	.76	1.59	10.1	11.5	4.78	.84	.46
AC-FT	3,470	2,570	2,240	1,000	2,410	1,170	2,450	15,540	17,770	7,360	1,300	710

CAL YR 1962: TOTAL 29,787.8 MEAN 81.6 MAX 522 MIN 4.0 CFSM 2.82 IN 38.33 AC-FT 59,080
WAT YR 1963: TOTAL 29,233.2 MEAN 80.1 MAX 463 MIN 7.5 CFSM 2.77 IN 37.62 AC-FT 57,980

12-3510. Burnt Fork Creek near Stevensville, Mont.

Location.--Lat 46°27'50", long 113°56'40", in NW¼SW¼ sec.11, T.8 N., R.19 W., on right bank 150 ft upstream from county road bridge and 8 miles southeast of Stevensville.

Drainage area.--74.0 sq mi.

Records available.--May to November 1920, April 1922 to September 1924 (no winter records), April to June 1938, October 1938 to September 1962. Annual maximums, water years 1963-65. Monthly discharge only for some periods, published in WSP 1316. Records for December 1922, published in WSP 572 and 916, have been found to be unreliable and should not be used.

Gage.--Crest-stage gage since July 20, 1959. Altitude of gage is 4,270 ft (from topographic map). May 8, 1920, to Aug. 23, 1924, staff gage at site 150 ft downstream at different datum. April 1938 to Mar. 18, 1953, staff gage and Mar. 19, 1953, to Mar. 15, 1955, wire-weight gage, at site 150 ft downstream at datum 2.00 ft lower. Mar. 16, 1955, to Sept. 30, 1962, staff gage at present site and datum.

Average discharge.--24 years (1938-62), 48.3 cfs (34,970 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 3 or 4, 1961	411	a 3.62	Jan. 4, 1961	10	-
1962	June 14, 1962	303	b 3.28	Jan. 22, 1962	6	-
1963	June 5, 1963	312	3.35	-	-	-
1964	June 8, 1964	720	4.73	-	-	-
1965	June 12, 1965	530	4.19	-	-	-

a Maximum gage height observed for year, 3.76 ft Dec. 13, 1960, ice jam.
b Maximum gage height observed for year, 4.20 ft Dec. 13, 14, 15, 1961, ice jam.

1920, 1922-24, 1938-65: Maximum discharge observed, 720 cfs June 8, 1964 (gage height, 4.73 ft); maximum gage height observed, 5.10 ft Jan. 15, 16, 1960 (backwater from ice).
1920, 1922-24, 1938-62: Minimum daily discharge, 2 cfs Mar. 11, 1948.

Remarks.--Records fair except those for winter periods and those for period of no gage-height record, which are poor. Figures of daily discharge do not include diversion by Sunset Highline ditch which diverts half a mile above station for irrigation of about 2,000 acres below. During irrigation season, natural flow of stream is augmented by release from Burnt Fork Lake (capacity, 510 acre-ft).

Revisions.--See Records available.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	15	22	14	17	17	20	41	248	46	24	22
2	16	15	21	13	18	16	25	57	269	42	24	24
3	15	15	19	12	18	16	28	42	279	39	22	22
4	15	15	18	10	18	15	30	40	269	39	22	20
5	15	15	17	11	16	15	28	38	259	39	22	18
6	15	16	17	13	14	16	26	33	253	37	22	17
7	16	18	17	14	14	16	24	32	253	35	22	17
8	16	17	17	14	14	16	22	30	238	34	21	17
9	16	17	16	15	14	16	22	33	218	32	21	17
10	15	19	15	15	18	16	21	54	203	30	20	17
11	15	18	15	15	26	16	20	50	213	29	20	17
12	15	17	16	15	23	16	21	49	223	29	20	16
13	15	17	17	15	20	16	22	49	184	35	20	16
14	15	17	17	15	17	16	21	50	155	35	19	16
15	15	18	16	15	16	16	20	50	153	34	19	16
16	15	18	12	15	16	21	21	54	145	32	19	16
17	15	17	13	15	16	18	22	56	133	31	18	16
18	15	18	15	15	16	17	25	66	114	31	17	16
19	15	17	17	15	16	18	25	64	11.	29	17	17
20	14	18	18	14	16	19	22	78	99	29	17	17
21	14	18	18	14	16	18	21	90	92	28	17	17
22	14	18	18	14	16	18	22	103	77	28	16	17
23	14	16	18	14	16	19	23	121	72	27	16	18
24	14	18	18	15	16	22	24	162	65	26	18	18
25	16	19	18	15	16	20	24	184	60	26	19	17
26	15	19	18	15	16	20	25	228	55	25	21	16
27	15	19	16	14	16	20	26	228	53	25	19	16
28	15	21	16	13	17	20	29	226	50	24	17	15
29	15	22	15	13	------	20	34	223	48	26	17	16
30	15	22	15	14	------	20	37	256	48	25	17	16
31	15	------	14	16	------	20	------	274	------	24	17	------
TOTAL	466	529	519	437	472	549	730	3,061	4,642	971	600	520
MEAN	15.0	17.6	16.7	14.1	16.9	17.7	24.3	98.7	155	31.3	19.4	17.3
MAX	16	22	22	16	26	22	37	274	279	46	24	24
MIN	14	15	12	10	14	15	20	30	48	24	16	15
AC-FT	924	1,050	1,030	867	936	1,090	1,450	6,070	9,210	1,930	1,190	1,030
(†)	369	60	0	0	0	0	0	882	1,890	1,150	580	464

CAL YR 1960: TOTAL 15,361.0 MEAN 42.0 MAX 290 MIN 6.0 AC-FT 30,470
WAT YR 1961: TOTAL 13,496 MEAN 37.0 MAX 279 MIN 10 AC-FT 26,770

† Diversions, in acre-feet, by Sunset Highline ditch; total for water year 1960-61, 5,400 acre-ft.
Note.--No gage-height record June 4.

12-3510. Burnt Fork Creek near Stevensville, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	12	20	16	16	16	17	52	206	100	35	21
2	16	13	19	17	16	16	18	52	196	96	35	21
3	16	15	19	16	16	16	20	54	200	86	35	20
4	15	17	19	16	16	16	20	72	206	80	35	20
5	15	18	19	16	16	16	22	67	177	72	33	20
6	15	18	18	16	16	16	24	70	162	72	31	22
7	16	18	18	16	16	16	31	75	145	66	30	22
8	15	20	16	14	16	17	25	82	137	62	30	23
9	15	18	14	12	16	16	21	97	149	58	29	22
10	15	16	12	10	16	15	20	108	160	56	29	22
11	16	17	10	10	16	15	19	101	170	52	29	22
12	15	18	10	12	16	15	20	86	182	52	27	22
13	15	18	10	13	16	26	26	88	220	50	25	26
14	15	17	11	13	16	20	37	89	261	46	25	24
15	14	17	12	13	16	14	40	86	266	44	25	23
16	14	16	15	13	16	14	46	94	261	42	24	22
17	13	15	18	13	16	14	42	101	256	42	24	22
18	13	15	19	12	16	14	48	105	253	39	26	21
19	12	15	20	11	16	15	57	135	248	38	24	20
20	13	16	24	8.0	16	15	110	146	233	36	23	20
21	14	16	19	7.0	16	15	67	157	208	35	23	20
22	13	15	20	6.0	15	15	62	166	198	35	22	24
23	13	16	19	8.0	13	15	59	157	184	35	24	22
24	13	18	18	10	11	15	77	200	180	33	22	20
25	12	20	18	15	10	17	92	226	172	32	21	20
26	14	20	16	18	10	19	72	266	160	39	21	19
27	13	19	15	18	11	19	65	250	147	39	21	19
28	13	19	16	17	13	16	67	220	139	43	21	20
29	12	19	17	15	------	18	60	218	120	40	22	22
30	12	20	16	14	------	17	54	217	108	37	22	22
31	13	------	16	14	------	16	------	216	------	35	21	------
TOTAL	436	511	513	409.0	419	504	1,338	4,053	5,704	1,592	814	643
MEAN	14.1	17.0	16.5	13.2	15.0	16.3	44.6	131	190	51.4	26.3	21.4
MAX	16	20	24	18	16	26	110	266	266	100	35	26
MIN	12	12	10	6.0	10	14	17	52	108	32	21	19
AC-FT	865	1,010	1,020	811	831	1,000	2,650	8,040	11,310	3,160	1,610	1,280
(†)	485	22	0	0	0	0	0	907	1,560	1,690	877	472

CAL YR 1961: TOTAL 13,442 MEAN 36.8 MAX 279 MIN 10 AC-FT 26,660
WAT YR 1962: TOTAL 16,936.0 MEAN 46.4 MAX 266 MIN 6.0 AC-FT 33,590

† Diversions, in acre-feet, by Sunset Highline ditch; total for water year 1961-62, 6,010 acre-ft.

12-3512. Bitterroot River near Florence, Mont.

Location.--Lat 46°38'00", long 114°03'00", on south line of SE¼ sec.12, T.10 N., R.20 W., on downstream side of bridge on State Secondary Highway 269, 1.3 miles east of Florence and at mile 24.5.

Drainage area.--2,354 sq mi.

Records available.--September 1957 to December 1965 (discontinued).

Gage.--Wire-weight gage read once daily. Altitude of gage is 3,200 ft (from topographic map).

Average discharge.--8 years, 2,336 cfs (1,691,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for October 1960 to December 1965 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 3, 1961	a 13,600	9.50	Aug. 20, 1961	365	-
1962	June 15, 1962	11,400	b 8.30	Jan. 21, 1962	400	-
1963	June 5, 1963	13,100	8.98	Jan. 11, 1963	490	-
1964	June 9, 1964	20,300	10.82	Feb. 26, 1964	475	-
1965	June 13, 1965	17,600	10.15	Dec. 17, 1964	440	-
1966	Oct. 1, 1965	a 2,110	-	Dec. 18, 1965	599	-

a Maximum observed.
b Maximum gage height observed for year, 8.34 ft May 25, 1962.

1957-65: Maximum discharge, 20,300 cfs June 9, 1964 (gage height, 10.82 ft, from graph based on gage readings); minimum observed, 365 cfs Aug. 20, 1961.

Remarks.--Records good. Some regulation by Painted Rocks and Como Lakes (see elsewhere in this report) and numerous small reservoirs on headwaters of tributary streams. Diversions for irrigation of about 105,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	508	629	722	520	850	900	990	1,890	10,100	1,920	400	622
2	514	682	722	500	730	920	1,000	2,160	10,900	1,600	400	793
3	454	706	730	490	706	860	1,770	3,000	13,600	1,540	380	1,150
4	466	698	714	484	674	811	2,750	2,600	12,900	1,550	390	1,130
5	460	714	650	460	650	775	2,410	2,650	12,600	1,540	385	1,080
6	472	682	568	784	615	820	2,020	2,330	11,700	1,540	385	1,030
7	460	690	480	820	622	802	1,830	2,120	11,900	1,720	380	960
8	484	706	460	690	608	757	1,740	1,960	11,200	1,600	390	870
9	520	757	440	674	629	730	1,610	1,680	10,100	1,440	385	775
10	520	706	440	622	860	739	1,540	1,760	9,420	1,380	380	757
11	532	730	460	615	1,160	730	1,440	2,600	8,830	1,240	380	748
12	562	757	480	601	1,530	706	1,320	2,590	9,250	1,040	385	706
13	580	757	538	594	1,300	698	1,360	2,510	9,560	970	390	674
14	601	757	594	587	1,180	714	1,370	2,490	8,280	890	416	650
15	608	730	550	615	1,200	766	1,300	2,650	7,800	840	400	629
16	608	730	520	636	1,010	775	1,260	2,740	7,560	757	385	615
17	615	748	574	643	970	840	1,200	2,840	7,970	674	375	608
18	629	766	608	629	910	860	1,180	3,160	7,710	629	370	608
19	636	739	714	601	860	830	1,600	3,500	7,540	629	370	608
20	629	722	766	562	802	811	1,630	4,040	6,880	615	365	674
21	622	714	690	556	850	840	1,500	4,940	6,090	526	380	722
22	615	730	682	538	960	820	1,430	5,960	5,120	514	370	840
23	601	682	674	520	1,020	840	1,500	6,950	4,080	472	375	900
24	601	714	650	520	960	1,110	1,480	8,050	3,800	472	385	900
25	601	802	636	520	980	1,170	1,470	9,560	3,500	438	395	910
26	580	870	636	514	950	1,150	1,490	12,400	3,260	400	427	860
27	601	850	636	480	870	1,080	1,550	12,900	2,940	405	438	830
28	601	784	622	422	880	1,030	1,460	12,400	2,650	405	460	850
29	615	698	615	478	-------	970	1,430	10,700	2,440	395	460	840
30	625	650	580	580	-------	960	1,580	11,700	2,240	405	484	850
31	636	------	532	970	-------	940	------	12,600	-------	427	478	------
TOTAL	17,556	21,900	18,683	18,225	25,336	26,754	46,210	159,430	231,920	28,973	12,363	24,189
MEAN	566	730	603	588	905	863	1,540	5,143	7,731	935	399	806
MAX	636	870	766	970	1,530	1,170	2,750	12,900	13,600	1,920	484	1,150
MIN	454	629	440	422	608	698	990	1,680	2,240	395	365	608
AC-FT	34,820	43,440	37,060	36,150	50,250	53,070	91,660	316,200	460,000	57,470	24,520	47,980

CAL YR 1960: TOTAL 688,575 MEAN 1,881 MAX 14,700 MIN 438 AC-FT 1,366,000
WAT YR 1961: TOTAL 631,539 MEAN 1,730 MAX 13,600 MIN 365 AC-FT 1,253,000

12-3512. Bitterroot River near Florence, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	850	1,020	820	714	920	682	930	3,320	8,150	5,060	1,060	587
2	840	1,050	870	666	910	757	960	2,880	8,670	4,760	1,030	574
3	850	990	920	698	1,170	748	1,060	2,750	8,940	4,010	960	574
4	830	1,010	880	706	1,290	739	1,150	2,750	10,400	3,470	970	550
5	820	1,000	775	690	1,120	748	1,290	3,400	8,050	3,140	1,050	562
6	793	940	793	690	1,020	793	1,640	3,450	6,690	3,260	1,000	538
7	970	920	757	680	970	766	1,940	3,530	5,660	3,080	960	550
8	990	950	739	650	960	820	2,460	4,640	5,160	2,820	910	580
9	970	802	615	620	990	811	2,090	6,050	5,280	2,680	850	574
10	960	940	526	570	1,040	722	1,830	7,320	6,750	2,580	840	608
11	950	980	460	560	1,100	622	1,610	7,160	8,120	2,350	850	536
12	1,130	990	449	570	1,130	722	1,420	6,840	8,720	2,110	850	666
13	1,140	811	526	600	1,160	706	1,360	6,090	8,860	2,080	784	682
14	1,470	870	650	620	1,130	674	1,550	5,740	11,300	2,130	714	706
15	1,530	960	706	620	1,090	666	2,060	4,910	11,400	1,870	666	820
16	1,470	900	748	600	1,030	682	2,800	4,760	11,300	1,860	615	802
17	1,460	775	775	560	980	698	3,360	4,780	10,000	1,730	568	793
18	1,460	706	730	500	940	730	3,400	4,870	10,200	1,590	601	739
19	1,300	748	714	450	950	757	3,880	5,440	8,230	1,430	587	722
20	1,230	811	793	410	910	784	5,900	6,140	9,140	1,370	556	698
21	1,240	793	920	400	890	793	7,780	6,000	8,970	1,240	544	674
22	1,290	811	910	420	870	820	5,980	6,070	9,080	1,200	550	622
23	1,240	880	784	500	601	757	4,910	6,140	9,160	1,120	544	722
24	1,170	970	850	622	490	766	5,060	6,860	7,760	990	550	766
25	1,130	970	793	690	757	784	6,510	10,900	8,020	890	568	775
26	1,090	940	538	802	643	820	6,710	9,780	8,020	840	562	757
27	1,180	900	580	1,470	550	690	5,820	8,970	7,180	940	550	748
28	1,210	920	620	1,640	587	1,000	5,520	8,490	6,360	1,200	556	784
29	1,130	840	690	1,290	------	980	6,820	9,470	5,420	1,420	550	802
30	1,060	850	722	1,050	------	920	3,900	8,380	5,000	1,400	544	860
31	1,020	------	793	980	------	920	------	8,230	------	1,160	562	------
TOTAL	34,773	27,047	22,446	22,038	26,198	24,077	101,700	186,110	245,990	65,800	22,501	20,471
MEAN	1,122	902	724	711	936	777	3,390	6,004	8,200	2,123	726	682
MAX	1,530	1,050	920	1,640	1,290	1,000	7,780	10,900	11,400	5,060	1,060	860
MIN	793	706	449	400	490	622	930	2,750	5,000	840	544	538
AC-FT	68,970	53,650	44,520	43,710	51,960	47,760	201,700	369,100	487,900	130,500	44,630	40,600

CAL YR 1961: TOTAL 657,666 MEAN 1,802 MAX 13,600 MIN 365 AC-FT 1,304,000
WAT YR 1962: TOTAL 799,151 MEAN 2,189 MAX 11,400 MIN 400 AC-FT 1,585,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	930	1,230	1,480	1,160	772	1,260	1,310	2,150	10,500	5,560	578	676
2	991	1,200	1,450	1,120	900	1,230	1,300	2,880	9,810	4,960	578	763
3	980	1,140	1,590	1,140	1,260	1,180	1,200	2,710	8,970	5,080	550	853
4	930	1,130	1,490	1,110	2,890	1,100	1,140	2,520	11,400	4,940	564	853
5	920	1,120	1,390	1,040	4,100	1,080	1,140	2,320	13,000	4,600	550	871
6	920	1,170	1,390	920	4,690	1,100	1,190	2,330	12,100	4,530	520	835
7	880	1,200	1,420	900	2,990	1,070	1,310	3,120	9,980	4,150	520	808
8	900	1,140	1,370	940	2,550	1,080	1,410	4,100	8,910	3,660	538	772
9	890	1,110	1,300	900	2,290	1,010	1,410	4,330	8,570	3,340	532	790
10	1,060	1,120	1,350	508	2,230	1,020	1,370	4,060	8,460	2,990	550	709
11	1,510	1,140	1,280	490	1,890	1,040	1,320	3,630	7,970	2,960	613	684
12	1,740	1,100	1,210	502	1,600	1,040	1,280	3,400	7,230	2,660	652	652
13	2,610	1,090	1,120	508	1,470	980	1,260	3,250	8,020	2,440	692	613
14	3,100	1,090	1,140	538	1,710	980	1,280	3,240	8,970	2,140	709	636
15	2,710	1,070	1,190	772	1,590	991	1,450	3,370	9,330	2,140	652	644
16	2,400	1,070	1,200	950	1,480	1,010	2,010	3,900	9,300	2,050	606	799
17	2,120	1,040	1,420	1,000	1,430	960	2,000	4,740	9,080	1,740	606	940
18	2,000	1,000	1,560	862	1,380	960	1,890	5,580	7,830	1,630	599	980
19	1,930	970	1,600	736	1,360	960	1,750	6,530	6,600	1,540	592	991
20	1,790	1,080	1,590	700	1,410	950	1,660	7,440	6,510	1,480	564	1,040
21	1,670	3,380	1,570	710	1,360	970	1,630	7,470	8,280	1,330	550	930
22	1,720	2,880	1,550	740	1,330	980	1,540	7,880	9,890	1,240	557	920
23	1,660	2,320	1,490	760	1,280	1,040	1,470	8,570	7,280	1,110	578	920
24	1,590	1,930	1,090	760	1,280	1,110	1,440	9,420	6,180	950	620	960
25	1,510	1,720	920	760	1,260	1,140	1,370	11,200	5,740	900	676	970
26	1,480	1,760	844	750	1,230	1,080	1,320	11,100	5,540	808	736	920
27	1,430	1,840	1,010	740	1,280	1,100	1,370	9,840	5,280	781	676	900
28	1,310	1,740	1,370	730	1,240	1,190	1,560	9,190	5,280	745	652	880
29	1,290	1,610	1,390	720	------	1,310	1,670	9,110	6,000	709	652	826
30	1,290	1,510	1,270	700	------	1,290	1,830	9,500	6,860	676	660	808
31	1,240	------	1,170	684	------	1,270	------	10,100	------	620	644	------
TOTAL	47,501	42,900	41,214	24,850	50,252	33,481	43,880	178,980	248,870	74,459	18,766	24,943
MEAN	1,532	1,430	1,329	802	1,795	1,080	1,463	5,774	8,296	2,402	605	831
MAX	3,100	3,380	1,600	1,160	4,690	1,310	2,010	11,200	13,000	5,560	736	1,040
MIN	880	970	844	490	772	950	1,140	2,150	5,280	620	520	613
AC-FT	94,220	85,090	81,750	49,290	99,670	66,410	87,030	355,000	493,600	147,700	37,220	49,470

CAL YR 1962: TOTAL 846,500 MEAN 2,319 MAX 11,400 MIN 400 AC-FT 1,679,000
WAT YR 1963: TOTAL 830,096 MEAN 2,274 MAX 13,000 MIN 490 AC-FT 1,646,000

12-3512. Bitterroot River near Florence, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	844	808	700	700	692	620	862	2,640	11,700	8,120	1,760	1,760
2	718	808	692	754	684	613	1,090	3,130	12,400	8,100	1,700	1,980
3	684	781	652	772	652	606	1,080	3,120	14,300	8,150	1,570	1,900
4	684	781	652	700	644	613	1,020	2,720	14,800	7,660	1,430	2,050
5	700	781	684	684	668	636	1,010	2,490	13,200	8,000	1,320	1,960
6	772	781	754	660	628	613	1,180	2,320	14,600	7,060	1,180	1,790
7	835	790	808	700	599	592	1,160	2,160	16,300	6,310	1,070	1,740
8	862	790	754	620	644	599	1,070	2,140	17,800	6,070	1,010	1,630
9	862	799	718	532	620	599	1,090	2,060	19,600	6,070	970	1,550
10	853	826	514	606	692	599	1,140	2,400	18,600	5,660	940	1,450
11	835	862	585	652	763	592	1,260	2,810	15,400	4,920	900	1,390
12	835	853	550	585	727	644	1,360	2,920	13,400	4,460	835	1,300
13	853	826	490	514	676	652	1,310	3,190	12,000	4,240	853	1,180
14	799	844	620	490	660	599	1,200	3,930	12,100	4,200	880	1,180
15	808	853	736	538	613	613	1,140	4,280	12,300	3,850	835	1,100
16	808	920	808	644	660	644	1,280	4,890	13,300	3,720	871	1,010
17	808	910	826	676	652	660	1,370	6,380	14,300	3,380	835	970
18	772	880	781	660	628	817	1,300	8,860	14,100	3,130	862	940
19	808	853	727	644	676	790	1,260	9,500	11,600	2,910	910	920
20	799	826	754	684	684	745	1,240	11,100	13,100	2,740	960	950
21	799	835	754	718	636	718	1,350	11,700	11,300	2,360	1,020	960
22	790	826	652	526	644	745	1,450	12,600	10,500	2,120	1,040	940
23	763	790	684	550	636	690	1,650	10,900	9,700	1,930	950	900
24	763	799	700	599	636	696	1,660	8,590	10,000	1,680	930	900
25	781	808	652	676	564	557	1,500	7,350	11,400	1,490	871	890
26	781	790	692	862	475	692	1,430	6,660	12,700	1,320	871	900
27	790	781	684	790	606	684	1,430	6,580	13,400	1,260	871	862
28	772	799	684	745	636	660	1,370	8,050	12,600	1,120	930	862
29	772	745	676	700	636	652	1,330	12,800	10,400	1,080	1,200	880
30	781	709	514	684	------	684	1,770	14,300	8,440	1,210	1,450	844
31	799	------	636	660	------	745	------	12,100	------	1,540	1,590	------
TOTAL	24,530	24,454	21,133	20,325	18,731	19,969	38,362	194,670	395,340	125,860	33,414	37,686
MEAN	791	815	682	656	646	644	1,279	6,280	13,180	4,060	1,078	1,256
MAX	862	920	826	862	763	817	1,770	14,300	19,600	8,150	1,760	2,050
MIN	684	709	490	490	475	490	862	2,060	8,440	1,080	835	844
AC-FT	48,650	48,500	41,920	40,310	37,150	39,610	76,090	386,100	784,100	249,600	66,280	74,750

CAL YR 1963: TOTAL 768,598 MEAN 2,106 MAX 13,000 MIN 490 AC-FT 1,524,000
WAT YR 1964: TOTAL 954,476 MEAN 2,608 MAX 19,600 MIN 475 AC-FT 1,893,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	871	1,050	1,050	1,680	1,760	1,290	1,510	10,700	12,600	5,960	1,130	1,490
2	920	1,100	1,170	1,480	1,590	1,240	1,770	11,000	11,400	5,840	1,090	1,330
3	1,060	1,140	1,130	1,430	1,450	1,220	1,850	8,490	11,100	5,720	991	1,350
4	1,100	1,130	1,080	1,620	1,420	1,220	1,810	7,080	12,200	5,600	1,190	1,270
5	1,110	1,110	1,020	1,550	1,430	1,140	1,900	6,270	12,500	5,800	1,330	1,270
6	1,090	1,080	960	1,590	1,420	1,230	1,930	6,270	12,300	5,520	1,370	1,300
7	1,070	1,050	862	1,570	1,370	1,260	1,920	5,300	13,600	5,320	1,310	1,350
8	1,010	1,040	763	1,470	1,360	1,300	1,980	4,740	13,700	5,480	1,200	1,240
9	991	1,020	940	1,360	1,390	1,380	2,090	4,030	12,500	5,340	1,190	1,210
10	980	1,000	991	1,230	1,210	1,410	2,150	3,870	13,700	7,560	1,090	1,370
11	1,040	991	940	1,300	1,180	1,430	2,090	3,580	14,300	4,830	980	1,360
12	1,020	1,000	862	1,220	1,140	1,390	1,980	3,820	14,900	4,640	960	1,350
13	1,000	980	844	1,240	1,190	1,350	1,980	5,040	17,200	4,380	1,040	1,400
14	950	950	853	1,240	1,210	1,300	1,980	6,800	14,600	3,710	1,090	1,500
15	930	890	900	1,290	1,070	1,300	2,200	8,940	10,900	3,520	1,060	2,500
16	980	727	781	1,280	1,130	1,280	2,280	9,020	9,110	3,310	1,050	3,500
17	1,110	826	440	1,230	1,190	1,270	2,360	8,940	9,860	3,060	1,040	3,000
18	1,090	862	502	1,200	1,270	1,140	2,480	8,910	13,500	2,930	980	2,300
19	1,040	890	560	1,100	1,260	1,220	2,500	7,350	12,200	2,700	910	1,420
20	1,070	970	636	1,160	1,330	1,050	3,220	6,440	12,100	2,530	930	2,580
21	1,080	930	844	1,090	1,380	1,210	7,040	6,730	10,800	2,440	970	2,490
22	1,120	880	2,200	1,080	1,360	1,270	7,180	6,840	10,700	2,330	1,160	2,680
23	1,100	880	4,000	1,090	1,240	1,200	6,290	6,730	9,950	2,190	1,700	3,380
24	1,060	980	4,400	1,200	1,240	1,140	6,310	6,490	9,470	1,970	1,940	3,130
25	1,050	1,060	4,440	1,200	1,260	1,120	6,140	7,250	10,000	1,810	1,810	2,820
26	1,020	1,330	3,500	1,230	1,220	1,130	5,800	7,420	10,800	1,620	1,860	2,610
27	1,000	1,210	3,220	1,170	1,390	1,100	5,840	6,840	9,530	1,600	1,840	2,360
28	1,010	1,060	2,710	1,310	1,430	1,110	6,290	7,080	7,590	1,620	1,740	2,330
29	1,020	1,050	2,240	1,710	------	1,070	6,880	8,280	6,440	1,470	1,720	2,310
30	1,000	1,010	1,940	1,810	------	1,080	8,230	11,500	5,900	1,230	1,660	2,150
31	1,040	------	1,920	2,180	------	1,220	------	13,700	------	1,200	1,590	------
TOTAL	31,932	30,196	48,698	42,310	36,890	38,070	107,980	225,450	345,450	113,230	39,921	60,350
MEAN	1,030	1,007	1,571	1,365	1,318	1,228	3,599	7,273	11,520	3,653	1,288	2,012
MAX	1,120	1,330	4,440	2,180	1,760	1,430	8,230	13,700	17,200	7,560	1,940	3,500
MIN	871	727	440	1,080	1,070	1,050	1,510	3,580	5,900	1,200	910	1,210
AC-FT	63,340	59,890	96,590	83,920	73,170	75,510	214,200	447,200	685,200	224,600	79,180	119,700

CAL YR 1964: TOTAL 995,185 MEAN 2,719 MAX 19,600 MIN 440 AC-FT 1,974,000
WAT YR 1965: TOTAL 1,120,477 MEAN 3,070 MAX 17,200 MIN 440 AC-FT 2,222,000

12-3512. Bitterroot River near Florence, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER TO DECEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,110	1,120	1,020									
2	2,010	1,110	1,080									
3	1,900	1,080	1,090									
4	1,890	1,050	1,090									
5	1,800	1,090	1,080									
6	1,830	1,120	1,040									
7	1,810	1,130	1,040									
8	1,770	1,090	980									
9	1,710	1,100	960									
10	1,620	1,100	980									
11	1,630	1,100	991									
12	1,590	1,090	991									
13	1,550	1,100	970									
14	1,540	1,070	940									
15	1,490	1,180	772									
16	1,490	1,310	606									
17	1,450	1,310	606									
18	1,430	1,270	599									
19	1,390	1,320	700									
20	1,380	1,320	781									
21	1,370	1,260	826									
22	1,370	1,260	826									
23	1,320	1,200	790									
24	1,310	1,210	853									
25	1,280	1,180	853									
26	1,260	1,160	736									
27	1,230	1,120	817									
28	1,200	1,110	930									
29	1,190	1,060	920		------							
30	1,160	960	900		------							
31	1,140	------	844		------		------		------			------
TOTAL	47,220	34,580	27,611									
MEAN	1,523	1,153	891									
MAX	2,110	1,320	1,090									
MIN	1,140	960	599									
AC-FT	93,660	68,590	54,770									

CAL YR 1965: TOTAL 1,119,062 MEAN 3,066 MAX 17,200 MIN 599 AC-FT 2,220,000
WAT YR 1966: TOTAL MEAN MAX MIN AC-FT

12-3514. Eightmile Creek near Florence, Mont.

Location.--Lat 46°39'10", long 113°57'30", in SW¼SW¼ sec.2, T.10 N., R.19 W., on right bank 0.6 mile upstream from Granite Creek, 5 miles upstream from mouth, and 6 miles east of Florence.

Drainage area.--20.6 sq mi.

Records available.--September 1957 to September 1963. Annual maximums, water years 1964-65.

Gage.--Crest-stage gage. Altitude of gage is 3,800 ft (from topographic map). Prior to Oct. 1, 1963, water-stage recorder at same site and datum.

Average discharge.--6 years, 7.15 cfs (5,180 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 30, 1961	38	2.19	Jan. 4, 1961	1.5	-
1962	May 25, 1962	36	2.27	Jan. 22, 1962	1.6	-
1963	May 26, 1963	26	a 1.98	Jan. 11, 12, 1963	1.0	-
1964	June 8, 1964	104	3.60	-	-	-
1965	May 12, 1965	75	3.63	-	-	-

a Maximum gage height for year, 2.21 ft Feb. 4, 1963, ice jam.

1957-65: Maximum discharge, 104 cfs June 8, 1964 (gage height, 3.60 ft, from high watermark on outside staff gage).
1957-63: Minimum daily discharge, 1.0 cfs Jan. 11, 12, 1963.

Remarks.--Records good except those for winter periods, which are poor. No known regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	3.5	2.5	2.5	2.0	3.8	5.5	12	33	5.8	4.0	4.8
2	3.0	3.3	2.5	2.4	2.3	3.6	6.5	16	33	5.8	3.8	5.6
3	3.0	3.6	2.6	2.0	2.6	3.5	7.0	16	33	5.8	3.8	4.4
4	3.0	3.4	2.8	1.5	2.8	3.5	7.5	14	31	5.6	3.5	3.8
5	2.9	3.6	2.5	1.8	3.0	3.5	7.0	14	28	6.6	3.5	3.5
6	2.9	3.2	2.3	2.4	3.0	3.5	6.5	12	27	7.1	3.5	3.3
7	3.0	3.0	2.2	2.8	2.9	3.4	6.0	11	25	6.6	3.3	3.3
8	2.9	3.0	2.0	3.0	2.9	3.0	5.5	11	22	6.0	3.3	3.3
9	2.9	3.0	1.8	3.0	3.2	3.0	5.0	13	20	6.0	3.5	3.2
10	3.0	3.2	1.6	3.0	4.0	3.0	5.0	19	18	6.0	3.3	3.2
11	3.6	3.6	1.6	3.0	4.6	3.0	5.0	20	16	6.0	3.3	3.5
12	3.2	3.5	1.6	3.0	4.5	3.2	5.0	19	16	5.8	3.3	3.5
13	3.0	3.3	1.6	2.9	4.2	3.3	5.5	18	15	5.6	3.3	3.3
14	2.9	3.3	1.8	2.9	3.6	3.8	5.0	18	14	5.2	3.3	3.3
15	2.9	3.3	2.0	3.0	3.5	4.0	5.0	18	13	5.0	3.5	3.2
16	3.0	3.3	2.0	3.0	3.5	5.6	5.0	19	12	5.0	3.6	3.2
17	2.9	3.5	1.8	3.2	3.2	4.3	5.5	20	11	4.8	3.2	3.2
18	2.8	3.5	2.0	3.0	3.2	4.3	6.0	22	10	4.6	3.2	3.5
19	2.9	3.5	2.2	3.0	3.2	4.4	6.0	21	9.5	4.6	3.0	4.0
20	2.9	3.3	2.3	3.0	3.2	4.6	5.5	23	8.9	4.6	3.2	3.8
21	2.9	3.5	2.4	2.8	4.0	4.4	5.0	29	8.4	4.6	3.2	3.8
22	2.9	3.6	2.6	2.7	4.6	4.3	5.0	36	7.9	4.4	3.0	3.6
23	2.9	3.0	3.0	2.6	3.6	4.6	5.0	35	7.6	4.4	3.0	4.0
24	2.8	4.0	3.2	2.6	3.5	6.0	5.0	37	7.4	4.3	3.2	3.8
25	2.7	4.1	3.5	2.5	3.6	5.6	5.5	34	6.9	4.3	3.6	3.8
26	2.8	4.0	3.3	2.4	3.3	5.6	5.6	36	6.6	4.3	3.8	3.8
27	2.8	3.6	3.0	2.0	3.3	5.4	6.0	37	6.4	4.3	3.3	3.6
28	2.8	3.0	2.8	1.9	3.3	5.5	6.6	35	6.2	4.1	3.2	3.6
29	3.0	2.5	2.8	1.8	------	5.5	7.9	31	6.2	4.0	3.3	3.5
30	2.9	2.5	2.6	1.8	------	5.5	11	34	5.8	4.0	3.3	3.5
31	3.2	------	2.6	1.8	------	5.5	------	35	------	4.0	3.2	------
TOTAL	91.4	100.7	73.5	79.3	94.6	132.2	177.6	715	464.8	159.2	104.5	109.9
MEAN	2.95	3.36	2.37	2.56	3.38	4.26	5.92	23.1	15.5	5.14	3.37	3.66
MAX	3.6	4.1	3.5	3.2	4.6	6.0	11	37	33	7.1	4.0	5.6
MIN	2.7	2.5	1.6	1.5	2.0	3.0	5.0	11	5.8	4.0	3.0	3.2
AC-FT	181	200	146	157	188	262	352	1,420	922	316	207	218

CAL YR 1960: TOTAL 2,333.2 MEAN 6.37 MAX 29 MIN 1.5 AC-FT 4,630
WAT YR 1961: TOTAL 2,302.7 MEAN 6.31 MAX 37 MIN 1.5 AC-FT 4,570

12-3514. Eightmile Creek near Florence, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.4	3.6	3.2	2.9	3.2	3.2	5.3	14	32	11	5.7	4.1
2	3.4	3.6	3.2	3.1	3.2	3.5	6.9	13	31	9.6	5.5	3.9
3	3.4	3.6	3.2	3.4	3.6	3.6	8.0	13	33	9.1	5.5	3.9
4	3.3	3.6	3.0	3.2	3.7	3.7	8.9	13	32	8.9	5.9	3.7
5	3.3	3.6	3.0	3.0	3.4	4.0	12	13	29	9.6	6.1	3.7
6	3.2	3.7	2.8	3.2	3.3	4.1	11	13	26	9.1	5.7	3.6
7	3.3	3.6	2.6	3.3	3.3	4.1	11	14	24	8.4	5.3	3.6
8	3.3	3.5	2.4	3.0	3.4	3.9	8.9	16	22	8.0	5.1	3.7
9	3.3	3.4	2.2	2.4	3.4	3.4	8.0	19	22	7.7	5.1	3.9
10	3.4	3.3	2.0	1.9	3.9	3.2	7.5	20	23	7.5	5.1	3.7
11	3.6	3.6	1.8	1.9	3.7	3.3	6.9	20	22	7.5	5.0	4.4
12	3.6	3.6	1.9	2.0	3.7	3.6	7.5	19	23	7.3	5.0	4.1
13	3.6	3.6	2.1	2.1	3.7	3.4	9.3	22	26	8.2	4.8	4.1
14	3.6	3.6	2.7	2.4	3.6	3.4	13	20	29	7.7	4.6	4.2
15	3.6	3.5	3.4	2.6	3.6	3.4	18	19	29	7.5	4.6	4.1
16	3.4	3.2	3.5	2.6	3.6	3.6	19	20	29	7.3	4.4	3.9
17	3.4	3.0	3.3	2.5	3.4	3.7	17	22	27	7.3	4.4	3.9
18	3.4	3.0	3.2	2.4	3.4	3.9	19	23	26	7.1	5.3	3.9
19	3.4	3.2	3.2	2.3	3.4	3.9	22	26	24	6.9	4.8	3.7
20	3.4	3.4	3.6	2.1	3.2	4.1	28	29	22	6.9	4.4	3.7
21	3.7	3.4	3.3	1.9	3.0	4.1	24	30	20	6.7	4.2	3.6
22	3.6	3.2	3.2	1.6	2.9	3.9	21	30	19	6.5	4.4	3.7
23	3.6	3.2	3.0	1.7	2.7	3.9	20	31	17	6.5	4.6	3.9
24	3.7	3.2	3.0	1.9	2.6	3.7	23	31	16	6.5	4.4	3.9
25	3.7	3.2	3.2	2.2	2.4	4.6	28	33	15	6.3	4.2	3.9
26	4.1	3.2	3.0	2.6	2.2	5.3	25	32	14	6.3	4.1	3.9
27	4.1	3.2	2.7	2.8	2.2	5.9	23	31	13	6.5	4.2	3.9
28	3.7	3.2	2.9	3.3	2.4	5.1	22	32	12	6.5	4.8	4.1
29	3.7	3.2	2.9	3.2	------	4.8	18	33	12	6.3	5.0	4.8
30	3.7	3.2	3.0	3.2	------	4.6	16	32	11	6.1	4.4	4.6
31	3.6	------	3.0	3.2	------	5.0	------	32	------	5.9	4.2	------
TOTAL	109.5	101.4	89.5	79.9	90.1	123.9	467.2	715	680	232.7	150.8	118.1
MEAN	3.53	3.38	2.89	2.58	3.22	4.00	15.6	23.1	22.7	7.51	4.86	3.94
MAX	4.1	3.7	3.6	3.4	3.9	5.9	28	33	33	11	6.1	4.8
MIN	3.2	3.0	1.8	1.6	2.2	3.2	5.3	13	11	5.9	4.1	3.6
AC-FT	217	201	178	158	179	246	927	1,420	1,350	462	299	234

CAL YR 1961: TOTAL 2,337.5 MEAN 6.40 MAX 37 MIN 1.5 AC-FT 4,640
WAT YR 1962: TOTAL 2,958.1 MEAN 8.10 MAX 33 MIN 1.6 AC-FT 5,870

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.4	5.0	4.2	3.7	4.0	4.4	9.3	23	23	14	6.1	5.0
2	4.2	5.0	4.4	3.7	4.5	4.2	8.4	21	22	13	6.1	5.7
3	4.2	5.0	4.4	3.9	5.0	4.0	7.7	19	21	12	5.9	5.0
4	4.2	5.0	4.4	3.7	6.0	4.0	8.2	17	23	12	5.5	4.4
5	4.4	4.8	3.9	3.5	6.0	4.0	8.9	17	23	12	5.5	4.2
6	4.4	5.0	4.1	3.3	5.1	3.9	12	18	22	12	5.5	4.1
7	4.4	4.8	4.1	3.2	5.0	3.9	12	22	19	11	5.5	4.1
8	4.6	4.8	4.1	3.2	5.0	3.9	12	24	18	11	5.7	4.1
9	4.8	4.8	4.2	3.3	4.8	3.9	11	24	18	10	5.5	4.2
10	6.5	5.3	4.0	2.0	4.8	3.9	11	22	18	10	5.9	3.9
11	6.9	5.0	3.7	1.0	4.5	3.9	11	20	17	10	5.7	3.9
12	9.8	4.8	3.5	1.0	4.3	3.8	11	19	16	9.6	5.5	3.9
13	7.1	4.6	3.5	1.5	4.2	3.7	12	18	16	9.1	5.5	4.1
14	6.5	4.6	3.8	2.5	4.2	3.7	15	19	15	8.9	5.3	4.6
15	6.3	4.6	4.1	3.0	4.2	3.7	20	19	14	9.3	5.1	4.6
16	5.9	4.6	4.2	3.3	4.2	3.7	19	20	14	8.6	5.1	5.1
17	5.5	4.5	4.6	3.3	4.1	3.7	18	20	13	8.6	5.0	5.0
18	5.3	4.4	5.3	3.3	4.1	3.7	16	20	12	8.6	5.0	4.6
19	5.3	4.4	4.8	3.3	4.1	3.7	15	22	12	8.0	5.0	4.2
20	5.0	6.1	4.6	3.4	3.9	4.4	14	22	12	7.5	5.0	4.1
21	5.0	5.9	4.4	3.4	4.1	5.0	13	23	17	7.3	5.0	4.1
22	5.0	4.8	4.0	3.4	4.1	5.9	13	22	14	6.9	5.0	4.1
23	5.0	4.5	3.0	3.3	4.2	7.7	12	23	13	6.7	5.0	4.1
24	5.0	4.0	2.0	3.3	4.2	10	12	24	13	6.5	5.0	4.1
25	5.0	4.0	1.5	3.3	4.4	6.9	12	25	12	6.5	5.0	4.1
26	5.0	4.8	1.5	3.3	4.6	7.3	13	25	12	6.5	5.0	4.1
27	5.0	4.8	2.5	3.2	4.6	8.0	15	25	12	6.5	4.6	3.9
28	5.0	4.4	4.0	3.3	4.4	10	16	23	11	6.3	4.4	3.7
29	5.0	4.2	4.0	3.3	------	11	19	23	17	6.3	4.2	3.7
30	5.0	4.2	3.7	3.3	------	10	19	23	15	6.1	4.2	3.7
31	5.0	------	3.7	3.3	------	10	------	24	------	6.1	4.2	------
TOTAL	164.7	142.7	118.2	95.5	126.6	169.9	395.5	666	484	276.9	161.0	128.4
MEAN	5.31	4.76	3.81	3.08	4.52	5.48	13.2	21.5	16.1	8.93	5.19	4.28
MAX	9.8	6.1	5.3	3.9	6.0	11	20	25	23	14	6.1	5.7
MIN	4.2	4.0	1.5	1.0	3.9	3.7	7.7	17	11	6.1	4.2	3.7
AC-FT	327	283	234	189	251	337	784	1,320	960	549	319	255

CAL YR 1962: TOTAL 3,083.3 MEAN 8.45 MAX 33 MIN 1.5 AC-FT 6,120
WAT YR 1963: TOTAL 2,929.4 MEAN 8.03 MAX 25 MIN 1.0 AC-FT 5,810

12-3530. Clark Fork below Missoula, Mont.

Location.--Lat 46°52'10", long 114°07'30", in NE¼SE¼ sec.21, T.13 N., R.20 W., on right bank 1 mile downstream from Bitterroot River, 5 miles west of Missoula, and at mile 349.5.

Drainage area.--9,003 sq mi.

Records available.--October 1929 to September 1965.

Gage.--Digital water-stage recorder. Altitude of gage is 3,090 ft (from topographic map). Prior to Sept. 17, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--36 years, 5,296 cfs (3,834,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 28, 1961	29,300	8.51	Jan. 29, 1961	1,310	0.48
1962	May 25, 1962	25,800	7.84	Jan. 21, 1962	a 1,200	-
1963	June 6, 1963	24,600	7.54	Jan. 11, 1963	a 800	-
1964	June 10, 1964	50,100	11.45	Mar. 24, 1964	1,180	.30
1965	June 13, 1965	33,500	9.38	Dec. 17-19, 1964	a 1,050	-

a Minimum daily.

1929-65: Maximum discharge, 52,800 cfs May 23, 1948 (gage height, 12.08 ft); minimum, 388 cfs Jan. 18, 1933; minimum gage height, 0.30 ft about Jan. 16, 1954, Mar. 24, 1964.

Remarks.--Records excellent. Some diurnal fluctuation at low flow caused by powerplant at Bonner. Diversions for irrigation of about 235,000 acres above station. Records of water temperatures for the water years 1961-64 are published in reports of the Geological Survey.

Revisions (water years).--WSP 1042: 1931. WSP 1246: Drainage area. WSP 1316: 1932(M), 1935(M), 1946(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,900	2,360	2,220	2,000	2,530	2,530	3,000	4,980	26,600	4,690	1,570	1,610
2	1,880	2,480	2,350	2,000	2,580	2,580	3,100	5,660	25,700	4,320	1,530	1,910
3	1,870	2,480	2,550	1,750	2,430	2,530	3,500	6,680	27,300	4,060	1,480	2,350
4	1,840	2,480	2,510	1,460	2,280	2,350	5,050	6,760	27,700	3,760	1,500	2,440
5	1,860	2,440	2,360	1,420	2,180	2,200	5,140	6,930	26,800	3,820	1,460	2,480
6	1,860	2,410	2,070	1,960	2,160	2,330	4,760	6,880	25,700	4,080	1,440	2,440
7	1,830	2,380	1,710	2,650	2,250	2,430	4,430	6,620	25,700	4,160	1,420	2,410
8	1,830	2,440	1,540	2,460	2,270	2,310	4,220	6,370	24,600	4,000	1,440	2,200
9	1,900	2,530	1,520	2,300	2,220	2,200	4,080	6,090	22,100	3,800	1,420	2,100
10	1,920	2,460	1,550	2,220	2,360	2,220	3,920	6,460	20,200	3,590	1,420	2,030
11	1,990	2,410	1,550	2,140	3,310	2,220	3,780	7,660	18,600	3,350	1,400	2,020
12	2,040	2,550	1,630	2,090	4,060	2,240	3,670	7,870	18,300	3,140	1,390	1,990
13	2,100	2,610	1,710	2,060	3,710	2,180	3,690	7,720	18,200	3,030	1,400	1,870
14	2,100	2,550	1,840	2,100	3,310	2,200	3,690	7,750	16,100	2,720	1,420	1,960
15	2,130	2,550	1,910	2,190	3,050	2,380	3,590	7,930	15,000	2,560	1,430	1,930
16	2,140	2,510	1,790	2,220	2,890	2,650	3,460	8,200	14,500	2,630	1,430	1,930
17	2,220	2,550	1,750	2,270	2,730	2,800	3,400	8,660	14,100	2,530	1,430	1,830
18	2,180	2,580	1,900	2,250	2,630	2,800	3,540	9,320	13,600	2,330	1,390	1,980
19	2,270	2,580	2,270	2,130	2,550	2,700	3,820	9,660	13,100	2,240	1,360	2,000
20	2,240	2,530	2,550	1,970	2,480	2,650	3,900	10,600	11,900	2,160	1,360	2,040
21	2,240	2,500	2,440	1,880	2,510	2,650	3,840	12,400	11,000	2,090	1,360	2,180
22	2,240	2,460	2,430	1,780	2,920	2,650	3,730	14,500	9,660	2,030	1,360	2,250
23	2,200	2,410	2,380	1,720	3,030	2,600	3,820	16,500	8,320	1,950	1,370	2,460
24	2,190	2,390	2,310	1,670	2,840	2,600	3,900	19,000	7,690	1,840	1,360	2,510
25	2,180	2,610	2,250	1,690	2,780	2,800	3,880	22,100	7,130	1,820	1,400	2,510
26	2,190	2,770	2,280	1,590	2,770	3,100	3,960	25,200	6,650	1,720	1,440	2,480
27	2,220	2,770	2,280	1,420	2,580	3,100	4,180	27,900	6,150	1,700	1,450	2,440
28	2,240	2,630	2,250	1,360	2,510	3,100	4,300	28,600	5,680	1,660	1,460	2,460
29	2,240	2,300	2,160	1,510	------	3,000	4,340	26,400	5,370	1,580	1,460	2,430
30	2,300	2,140	2,070	1,780	------	2,900	4,580	26,800	5,000	1,610	1,520	2,440
31	2,330	------	1,960	2,390	------	2,900	------	28,300	------	1,560	1,510	------
TOTAL	64,670	74,860	64,090	60,430	75,920	79,900	118,270	396,500	478,450	86,530	44,380	65,580
MEAN	2,086	2,495	2,067	1,949	2,711	2,577	3,942	12,790	15,950	2,791	1,432	2,186
MAX	2,330	2,770	2,550	2,650	4,060	3,100	5,140	28,600	27,700	4,690	1,570	2,510
MIN	1,830	2,140	1,520	1,360	2,160	2,180	3,000	4,980	5,000	1,560	1,360	1,610
AC-FT	128,300	148,500	127,100	119,900	150,600	158,500	234,600	786,400	949,000	171,600	88,030	130,100

CAL YR 1960: TOTAL 1,862,610 MEAN 5,089 MAX 26,800 MIN 1,400 AC-FT 3,694,000
WAT YR 1961: TOTAL 1,609,580 MEAN 4,410 MAX 28,600 MIN 1,360 AC-FT 3,193,000

12-3530. Clark Fork below Missoula, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,500	2,700	2,460	2,060	2,500	1,970	3,730	11,000	20,800	10,600	3,330	2,190
2	2,460	2,770	2,480	1,920	2,530	2,070	4,100	10,000	21,000	10,000	3,250	2,180
3	2,460	2,660	2,460	2,070	2,720	2,090	4,650	9,590	21,300	9,280	3,140	2,090
4	2,460	2,650	2,390	2,160	3,140	2,090	5,210	9,760	22,300	8,320	3,050	2,070
5	2,460	2,650	2,380	2,100	3,050	2,160	5,840	10,400	19,800	7,720	3,100	2,040
6	2,430	2,460	2,380	2,090	2,800	2,220	6,650	10,400	17,200	7,750	3,200	2,040
7	2,480	2,530	2,270	2,200	2,680	2,240	7,480	10,800	15,300	7,480	3,200	2,030
8	2,560	2,560	2,120	2,330	2,680	2,280	7,990	12,200	14,000	6,960	3,010	2,020
9	2,600	2,560	1,860	2,030	2,720	2,310	6,850	14,100	14,000	6,570	2,890	2,120
10	2,580	2,580	1,360	1,390	2,780	2,240	6,090	16,000	15,800	6,120	2,780	2,190
11	2,630	2,650	1,230	1,320	2,900	2,040	5,640	16,700	17,400	5,890	2,770	2,330
12	2,770	2,660	1,240	1,580	3,010	2,040	5,390	16,600	18,000	5,540	2,780	2,380
13	2,850	2,610	1,310	1,990	3,060	1,990	5,440	16,000	18,600	5,390	2,680	2,460
14	3,030	2,560	1,460	2,100	3,050	1,990	5,890	16,200	21,900	5,390	2,580	2,630
15	3,200	2,580	1,810	2,140	3,010	2,000	6,960	15,000	23,400	5,350	2,480	2,720
16	3,120	2,530	2,030	1,950	2,900	2,070	8,570	14,600	24,200	5,160	2,270	2,700
17	3,050	2,160	2,180	1,960	2,800	2,100	9,450	14,500	23,800	4,930	2,530	2,700
18	3,060	2,020	2,180	1,920	2,800	2,200	9,620	14,700	23,900	4,710	2,440	2,560
19	2,960	2,140	2,140	1,550	2,700	2,250	10,600	15,800	22,900	4,430	2,410	2,510
20	2,870	2,300	2,190	1,250	2,610	2,380	13,800	17,400	21,700	4,220	2,270	2,430
21	2,870	2,240	2,440	1,200	2,430	2,550	16,400	18,400	20,600	4,020	2,190	2,360
22	2,940	2,300	2,360	1,350	2,430	2,650	14,800	19,200	19,000	3,730	2,160	2,300
23	2,940	2,500	2,250	1,550	2,160	2,550	13,600	19,500	17,300	3,630	2,200	2,350
24	2,920	2,630	2,240	1,900	1,660	2,500	14,200	20,200	15,900	3,460	2,220	2,530
25	2,900	2,610	2,300	1,970	1,530	2,500	16,300	24,400	15,700	3,270	2,120	2,390
26	2,890	2,550	2,280	2,220	1,500	2,840	17,300	25,200	14,900	3,180	2,180	2,430
27	2,990	2,460	2,020	2,600	1,570	3,730	16,000	24,000	14,200	3,250	2,270	2,310
28	3,050	2,430	1,970	3,120	1,730	4,240	15,200	23,500	12,900	3,500	2,140	2,500
29	2,890	2,360	2,090	2,940	------	3,920	13,800	23,900	11,700	3,730	2,220	2,530
30	2,780	2,390	2,270	2,700	------	3,690	12,400	22,700	10,900	3,710	2,090	2,510
31	2,680	------	2,240	2,600	------	3,610	------	21,200	------	3,440	1,990	------
TOTAL	86,380	74,800	64,390	62,260	71,450	77,510	289,950	513,950	550,400	170,730	79,940	70,600
MEAN	2,786	2,493	2,077	2,008	2,552	2,500	9,665	16,580	18,350	5,507	2,579	2,353
MAX	3,200	2,770	2,480	3,120	3,140	4,240	17,300	25,200	24,200	10,600	3,330	2,720
MIN	2,430	2,020	1,230	1,200	1,500	1,970	3,730	9,590	10,900	3,180	1,990	2,023
AC-FT	171,300	148,400	127,700	123,500	141,700	153,700	575,100	1,019M	1,092M	338,600	158,600	140,000

CAL YR 1961: TOTAL 1,631,530 MEAN 4,470 MAX 28,600 MIN 1,230 AC-FT 3,236,000
WAT YR 1962: TOTAL 2,112,360 MEAN 5,787 MAX 25,200 MIN 1,200 AC-FT 4,190,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,660	3,100	3,380	3,010	2,060	3,730	4,690	7,370	21,200	12,100	2,580	1,900
2	2,560	3,060	3,440	2,990	2,220	3,580	4,510	8,570	20,200	11,000	2,350	2,070
3	2,650	3,030	3,560	3,030	2,650	3,380	4,280	8,440	19,100	10,500	2,200	2,280
4	2,630	2,970	3,540	2,940	3,900	3,100	4,160	8,020	20,400	10,200	2,220	2,380
5	2,580	2,970	3,350	2,770	7,000	3,030	4,180	7,630	23,700	9,730	2,140	2,430
6	2,580	3,030	3,330	2,560	10,500	3,100	4,360	7,720	23,900	9,350	2,070	2,310
7	2,550	3,080	3,380	2,460	9,000	3,050	4,730	9,110	20,600	8,860	2,000	2,280
8	2,560	3,010	3,350	2,480	7,750	2,900	4,930	11,100	18,200	8,320	1,950	2,250
9	2,600	2,990	3,350	2,650	6,230	2,870	4,980	11,700	17,400	7,310	1,860	2,240
10	2,850	2,970	3,350	1,690	5,350	2,920	4,890	11,300	17,100	6,790	1,900	2,140
11	3,400	2,990	3,250	800	4,730	2,970	4,760	10,600	16,400	6,740	2,000	2,060
12	3,900	2,990	3,120	900	4,200	2,940	4,670	10,200	15,600	6,570	2,140	2,060
13	4,730	2,970	2,960	1,100	3,940	2,820	4,620	9,900	15,800	6,020	2,160	2,030
14	5,420	2,960	2,890	1,300	4,000	2,720	4,780	9,660	16,500	5,610	2,120	2,060
15	5,160	2,940	3,080	1,600	3,960	2,770	5,350	9,870	16,600	5,790	2,030	2,160
16	4,800	2,850	3,210	2,000	3,800	2,800	6,260	10,700	16,300	5,420	1,970	2,330
17	4,450	2,800	3,330	2,300	3,650	2,770	6,460	11,800	15,400	5,190	1,910	2,560
18	4,220	2,780	3,580	2,100	3,580	2,730	6,200	13,000	14,200	4,910	1,870	2,750
19	4,080	2,730	3,690	1,900	3,500	2,720	5,940	14,200	13,000	4,650	1,820	2,770
20	3,900	2,960	3,670	1,900	3,580	2,720	5,610	15,200	12,400	4,300	1,820	2,510
21	3,750	4,910	3,590	2,000	3,750	2,840	5,420	15,700	13,700	4,340	1,790	2,560
22	3,710	5,230	3,560	2,100	3,710	3,180	5,160	16,300	17,200	3,940	1,780	2,610
23	3,690	4,540	3,420	2,000	3,690	3,590	5,050	17,200	14,800	3,670	1,790	2,730
24	3,540	3,920	2,410	2,000	3,730	4,390	4,910	18,600	13,000	3,440	1,860	2,770
25	3,500	3,580	2,200	1,900	3,670	4,280	4,760	20,400	12,300	3,330	1,870	2,800
26	3,440	3,760	2,400	1,900	3,670	3,840	4,690	21,300	11,700	3,210	1,950	2,730
27	3,400	3,920	2,750	2,000	3,860	3,820	4,870	21,100	11,100	3,100	1,950	2,600
28	3,310	3,860	3,010	2,000	3,860	4,160	5,350	20,200	10,700	2,920	1,950	2,480
29	3,160	3,590	3,350	2,000	------	4,870	5,740	19,600	11,500	2,770	1,880	2,460
30	3,140	3,480	3,210	1,990	------	4,800	6,200	19,800	13,400	2,580	1,860	2,430
31	3,140	------	3,060	1,990	------	4,760	------	20,700	------	2,630	1,810	------
TOTAL	108,060	99,970	99,770	64,360	125,540	104,150	152,510	416,990	483,400	185,290	61,600	71,740
MEAN	3,486	3,332	3,218	2,076	4,484	3,360	5,084	13,450	16,110	5,977	1,987	2,391
MAX	5,420	5,230	3,690	3,030	10,500	4,870	6,460	21,300	23,900	12,100	2,580	2,800
MIN	2,550	2,730	2,200	800	2,060	2,720	4,160	7,370	10,700	2,580	1,780	1,900
AC-FT	214,300	198,300	197,900	127,700	249,000	206,600	302,500	827,100	958,800	367,500	122,200	142,300

CAL YR 1962: TOTAL 2,194,590 MEAN 6,013 MAX 25,200 MIN 1,200 AC-FT 4,353,000
WAT YR 1963: TOTAL 1,973,380 MEAN 5,407 MAX 23,900 MIN 800 AC-FT 3,914,000

12-3530. Clark Fork below Missoula, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,360	2,500	2,120	2,240	2,190	2,020	3,120	7,190	25,200	17,300	4,410	3,880
2	2,310	2,700	2,040	2,380	2,090	1,960	3,710	8,320	25,800	16,300	4,340	4,240
3	2,270	2,580	1,960	2,380	2,100	1,950	3,630	8,660	27,400	16,300	4,140	4,320
4	2,240	2,460	1,920	2,250	2,090	1,990	3,580	8,320	28,700	15,600	3,860	4,300
5	2,250	2,510	2,090	2,130	2,070	2,060	3,840	7,840	28,100	15,600	3,690	4,100
6	2,410	2,530	2,430	2,120	2,030	2,060	4,140	7,720	28,600	14,800	3,440	3,920
7	2,660	2,360	2,390	2,130	1,920	2,030	3,880	7,600	30,500	13,300	3,330	3,840
8	2,720	2,410	2,160	2,060	1,930	1,920	3,590	7,310	34,800	12,400	3,180	3,760
9	2,680	2,330	2,120	1,860	2,000	1,920	3,590	7,340	45,000	11,700	3,080	3,650
10	2,660	2,560	1,790	1,840	2,050	1,930	3,900	7,810	49,100	10,900	2,900	3,500
11	2,660	2,550	1,490	1,960	2,050	1,920	4,320	8,860	45,600	10,300	2,870	3,400
12	2,600	2,560	1,480	1,920	2,000	1,970	4,360	9,250	37,400	9,350	2,770	3,200
13	2,530	2,530	1,700	1,710	2,050	2,020	4,060	9,830	32,200	8,950	2,720	3,210
14	2,510	2,530	1,870	1,620	2,000	1,960	3,800	11,100	29,900	8,820	2,770	3,120
15	2,500	2,610	2,160	1,820	1,900	1,950	3,710	11,900	29,500	8,660	2,820	3,050
16	2,500	2,680	2,380	1,950	1,950	2,020	4,160	13,300	29,800	8,380	2,720	2,920
17	2,480	2,660	2,240	2,030	2,000	2,100	4,260	16,100	30,900	7,810	2,650	2,840
18	2,480	2,610	1,950	2,060	2,050	2,360	3,980	19,500	31,200	7,250	2,600	2,780
19	2,390	2,580	1,930	2,040	2,100	2,560	3,820	21,100	28,700	6,850	2,600	2,750
20	2,440	2,530	2,070	2,040	2,100	2,530	3,820	23,900	27,800	6,460	2,650	2,760
21	2,440	2,530	2,270	2,130	2,040	2,380	4,080	27,600	25,900	5,960	2,700	2,790
22	2,410	2,530	2,240	1,960	2,020	2,360	4,410	28,700	24,300	5,510	2,700	2,780
23	2,410	2,480	2,180	1,920	2,040	2,000	4,760	25,700	22,600	5,120	2,610	2,780
24	2,410	2,500	2,160	1,880	2,090	1,630	4,800	22,000	22,300	4,730	2,530	2,730
25	2,440	2,500	2,160	2,020	1,910	1,750	4,710	19,300	23,400	4,490	2,460	2,690
26	2,500	2,480	2,240	2,220	1,690	2,160	4,560	17,600	24,800	4,240	2,460	2,640
27	2,510	2,480	2,180	2,190	1,770	2,240	4,540	17,000	25,100	4,020	2,480	2,620
28	2,480	2,500	2,240	2,160	1,880	2,190	4,470	19,200	24,400	3,800	2,610	2,640
29	2,440	2,330	2,200	2,120	1,950	2,190	4,540	24,100	21,700	3,690	3,030	2,630
30	2,460	2,100	1,920	2,100	------	2,200	5,510	26,900	18,800	3,690	3,180	2,640
31	2,500	------	1,990	2,140	------	2,480	------	25,800	------	3,980	3,560	------
TOTAL	76,650	75,210	64,070	63,380	58,060	64,810	123,650	476,850	879,500	276,260	93,860	96,480
MEAN	2,473	2,507	2,067	2,045	2,002	2,091	4,122	15,380	29,320	8,912	3,028	3,216
MAX	2,720	2,700	2,430	2,380	2,190	2,560	5,510	28,700	49,100	17,300	4,410	4,320
MIN	2,240	2,100	1,480	1,620	1,690	1,630	3,120	7,190	18,800	3,690	2,460	2,620
AC-FT	152,000	149,200	127,100	125,700	115,200	128,500	245,300	945,800	1,744M	548,000	186,200	191,400

CAL YR 1963: TOTAL 1,881,510 MEAN 5,155 MAX 23,900 MIN 800 AC-FT 3,732,000
WAT YR 1964: TOTAL 2,348,780 MEAN 6,417 MAX 49,100 MIN 1,480 AC-FT 4,659,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,900	2,960	2,910	3,650	4,340	3,830	3,710	25,600	29,000	15,000	4,040	3,790
2	2,900	2,960	2,990	3,310	3,890	3,580	5,160	26,600	27,300	14,500	3,850	3,640
3	3,000	3,040	3,040	3,360	3,640	3,490	6,020	23,700	26,500	14,100	3,750	3,560
4	3,000	3,030	2,980	3,670	3,500	3,380	5,530	20,700	27,500	13,600	3,930	3,500
5	3,000	2,960	2,870	3,730	3,560	3,340	5,560	18,600	27,900	13,700	4,100	3,620
6	2,900	2,930	2,760	3,810	3,750	3,380	5,710	17,000	27,500	13,200	4,140	3,670
7	2,900	2,870	2,660	3,870	3,600	3,500	5,890	15,500	28,200	12,700	4,080	3,790
8	2,900	2,840	2,420	3,690	3,410	3,600	6,430	14,200	28,600	12,300	3,890	3,690
9	2,900	2,820	2,600	3,490	3,360	3,690	6,830	13,100	27,100	11,900	3,750	3,710
10	2,900	2,810	2,760	3,290	3,180	3,750	7,040	12,300	26,900	12,300	3,580	3,990
11	2,900	2,790	2,700	3,220	2,890	3,810	6,830	12,200	28,100	11,500	3,400	4,160
12	2,900	2,780	2,520	3,200	2,740	3,770	6,490	13,300	30,000	11,300	3,380	4,080
13	2,900	2,760	2,360	3,270	2,980	3,600	6,160	16,100	32,900	11,000	3,520	4,060
14	2,800	2,710	2,400	3,340	3,080	3,490	6,540	19,700	31,300	9,950	3,580	4,210
15	2,900	2,580	2,400	3,430	2,810	3,490	7,240	22,700	26,300	9,130	3,470	5,480
16	3,000	2,400	1,700	3,430	2,860	3,450	7,950	23,700	23,200	8,640	3,410	8,310
17	3,100	2,370	1,050	3,380	3,160	3,160	8,340	24,500	25,300	7,980	3,250	7,450
18	3,000	2,550	1,050	3,310	3,310	2,680	8,210	23,900	31,500	7,600	3,150	6,630
19	2,900	2,660	1,050	3,290	3,810	2,890	8,080	21,500	30,600	7,150	2,990	6,100
20	2,900	2,730	1,250	3,230	4,290	3,080	10,900	19,800	28,500	6,890	2,870	5,920
21	3,000	2,650	1,760	3,150	4,490	3,180	17,400	19,300	26,600	6,830	2,860	6,000
22	2,990	2,570	2,630	3,160	4,010	3,290	18,600	19,000	25,400	6,520	3,150	6,430
23	2,940	2,550	9,520	3,080	3,560	2,980	17,800	18,700	23,800	6,160	3,710	7,120
24	2,930	2,710	15,000	3,010	3,400	2,660	17,500	19,000	22,500	5,790	4,290	6,950
25	2,910	2,980	11,000	3,150	3,500	2,660	17,200	19,500	23,000	5,410	4,400	6,400
26	2,870	3,220	7,570	3,040	3,430	2,940	16,900	19,500	24,400	5,090	4,250	6,130
27	2,870	3,130	6,600	3,030	3,490	2,980	17,100	18,800	23,500	4,860	4,180	5,840
28	2,840	2,910	5,790	3,220	3,990	2,980	17,500	18,800	20,500	4,760	4,120	5,660
29	2,860	2,790	4,990	3,410	------	2,960	18,900	20,900	17,800	4,630	4,040	5,510
30	2,910	2,780	4,380	3,890	------	2,930	22,000	25,200	16,000	4,470	3,950	5,410
31	2,930	------	4,160	4,230	------	2,990	------	29,300	------	4,270	3,870	------
TOTAL	90,650	83,840	119,870	105,340	98,030	101,510	315,520	612,700	787,700	283,230	114,950	154,810
MEAN	2,924	2,795	3,867	3,398	3,501	3,275	10,520	19,760	26,260	9,136	3,708	5,160
MAX	3,100	3,220	15,000	4,230	4,490	3,830	22,000	29,300	32,900	15,000	4,400	8,310
MIN	2,800	2,370	1,050	3,010	2,740	2,660	3,710	12,200	16,000	4,270	2,860	3,500
AC-FT	179,800	166,300	237,800	208,900	194,400	201,300	625,800	1,215M	1,562M	561,800	228,000	307,100

CAL YR 1964: TOTAL 2,427,210 MEAN 6,632 MAX 49,100 MIN 1,050 AC-FT 4,814,000
WAT YR 1965: TOTAL 2,868,150 MEAN 7,858 MAX 32,900 MIN 1,050 AC-FT 5,689,000

M Expressed in thousands.

12-3533. Clark Fork near Alberton, Mont.

Location.--Lat 46°59'40", long 114°26'20", near southeast corner of sec.1, T.14 N., R.23 W., on right bank 0.3 mile upstream from Petty Creek, 1¾ miles east of Alberton, and at mile 320.0.

Drainage area.--9,272 sq mi.

Records available.--May 1959 to September 1963 (discontinued).

Gage.--Water-stage recorder with pressure recording bubbler system. Altitude of gage is 2,944 ft (from river-profile map).

Extremes.--Maximum and minimum discharges for the water years 1961-63 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 28, 1961	31,700	13.84	Jan. 28, 1961	1,430	4.15
1962	May 26, 1962	27,200	12.93	Jan. 21, 1962	a 1,400	-
1963	June 6, 1963	24,700	12.06	Jan. 11, 1963	a 1,000	-

a Minimum daily.

1959-63: Maximum discharge observed, 34,900 cfs June 16, 1959 (gage height, 14.90 ft); minimum daily, 1,000 cfs Jan. 11, 1963.

Remarks.--Records good. Some diurnal fluctuation at low flow caused by powerplant at Bonner. Diversions for irrigation of about 243,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,060	2,460	2,300	2,110	2,610	2,670	3,090	5,350	29,200	5,340	1,680	1,850
2	2,060	2,580	2,410	2,120	2,650	2,710	3,190	6,150	27,000	4,860	1,650	2,090
3	2,060	2,650	2,540	2,050	2,600	2,710	3,500	7,250	28,400	4,640	1,580	2,590
4	2,060	2,630	2,610	1,850	2,480	2,600	4,620	7,530	29,600	4,330	1,570	2,750
5	2,020	2,610	2,560	1,650	2,320	2,390	5,530	7,660	28,300	4,130	1,580	2,830
6	2,030	2,580	2,300	1,970	2,300	2,390	5,220	7,560	27,100	4,400	1,540	2,830
7	2,030	2,540	2,000	2,630	2,320	2,370	4,820	7,480	26,500	4,520	1,500	2,830
8	2,020	2,500	1,650	2,690	2,370	2,520	4,520	7,170	25,600	4,450	1,500	2,770
9	2,030	2,580	1,630	2,480	2,370	2,410	4,330	6,960	23,000	4,210	1,470	2,570
10	2,060	2,650	1,650	2,390	2,410	2,390	4,160	7,010	21,000	4,040	1,470	2,530
11	2,130	2,500	1,650	2,340	3,070	2,390	3,950	8,160	19,400	3,720	1,470	2,510
12	2,220	2,580	1,700	2,290	4,040	2,390	3,910	8,650	18,800	3,560	1,440	2,500
13	2,180	2,650	1,800	2,210	4,090	2,390	3,800	8,570	19,100	3,430	1,440	2,440
14	2,290	2,650	1,900	2,240	3,580	2,340	3,800	8,490	17,200	3,280	1,440	2,320
15	2,270	2,650	2,000	2,290	3,310	2,430	3,780	8,570	15,900	2,910	1,480	2,430
16	2,270	2,650	1,900	2,320	3,150	2,670	3,670	8,880	15,300	2,910	1,510	2,410
17	2,300	2,630	1,850	2,360	2,990	2,870	3,560	9,380	14,800	2,810	1,520	2,390
18	2,320	2,630	2,160	2,430	2,850	2,910	3,580	9,960	14,300	2,640	1,520	2,320
19	2,340	2,630	2,360	2,370	2,750	2,870	3,840	10,400	13,900	2,550	1,470	2,440
20	2,360	2,630	2,670	2,220	2,670	2,750	4,070	11,100	12,700	2,590	1,470	2,480
21	2,360	2,610	2,670	2,080	2,650	2,750	4,040	12,700	12,000	2,510	1,470	2,550
22	2,360	2,600	2,560	1,970	2,910	2,750	3,980	14,700	10,800	2,430	1,470	2,590
23	2,360	2,560	2,540	1,900	3,230	2,730	3,910	16,600	9,510	2,270	1,470	2,750
24	2,320	2,500	2,460	1,840	3,110	2,730	4,040	19,300	8,600	2,150	1,470	2,830
25	2,320	2,610	2,370	1,850	3,030	3,090	4,070	22,900	8,150	1,990	1,510	2,810
26	2,320	2,830	2,360	1,770	3,030	3,230	4,110	26,400	7,580	1,940	1,620	2,790
27	2,340	2,870	2,390	1,660	2,910	3,230	4,300	30,200	7,090	1,860	1,620	2,770
28	2,340	2,810	2,370	1,510	2,670	3,230	4,500	31,300	6,540	1,850	1,640	2,740
29	2,370	2,540	2,320	1,620	------	3,170	4,650	28,700	6,180	1,720	1,660	2,720
30	2,390	2,270	2,240	1,860	------	3,090	4,820	28,200	5,740	1,720	1,700	2,680
31	2,410	------	2,160	2,220	------	3,090	------	30,200	------	1,710	1,770	------
TOTAL	69,000	78,180	68,080	65,290	80,470	84,260	123,360	423,480	509,290	97,470	47,700	77,110
MEAN	2,226	2,606	2,196	2,106	2,874	2,718	4,112	13,660	16,980	3,144	1,539	2,570
MAX	2,410	2,870	2,670	2,690	4,090	3,230	5,530	31,300	29,600	5,340	1,770	2,830
MIN	2,020	2,270	1,630	1,510	2,300	2,340	3,090	5,350	5,740	1,710	1,440	1,850
AC-FT	136,900	155,100	135,000	129,500	159,600	167,100	244,700	840,000	1,010M	193,300	94,610	152,900

CAL YR 1960: TOTAL 1,973,050 MEAN 5,391 MAX 27,200 MIN 1,630 AC-FT 3,913,000
WAT YR 1961: TOTAL 1,723,690 MEAN 4,722 MAX 31,300 MIN 1,440 AC-FT 3,419,000

M Expressed in thousands.

12-3533. Clark Fork near Alberton, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,740	2,910	2,700	2,300	2,850	2,240	3,930	11,700	21,500	11,200	3,470	2,360
2	2,720	2,960	2,700	2,200	2,850	2,430	4,280	10,700	21,700	10,500	3,410	2,430
3	2,700	2,960	2,650	2,320	3,100	2,390	4,790	10,100	21,800	9,960	3,320	2,380
4	2,680	2,910	2,640	2,410	3,400	2,360	5,460	10,100	23,300	9,120	3,240	2,340
5	2,680	2,870	2,600	2,360	3,300	2,360	6,150	10,700	21,200	8,310	3,200	2,290
6	2,660	2,770	2,570	2,340	3,100	2,410	7,060	10,900	18,400	8,230	3,350	2,310
7	2,640	2,680	2,500	2,380	2,900	2,440	7,950	10,900	16,200	8,080	3,390	2,290
8	2,740	2,770	2,350	2,450	2,900	2,460	8,760	12,000	14,700	7,580	3,320	2,290
9	2,830	2,750	2,100	2,150	2,940	2,510	7,790	13,600	14,300	7,090	3,100	2,360
10	2,810	2,750	1,650	1,650	2,960	2,500	6,830	15,900	15,800	6,780	3,020	2,430
11	2,810	2,770	1,450	1,550	3,080	2,320	6,230	16,900	17,600	6,260	2,960	2,550
12	2,920	2,850	1,450	1,850	3,240	2,240	5,870	17,000	18,400	6,000	2,960	2,640
13	3,000	2,810	1,550	2,150	3,300	2,240	5,820	16,500	18,900	5,760	2,920	2,750
14	3,100	2,750	1,700	2,300	3,370	2,200	6,150	16,800	21,500	5,690	2,830	2,810
15	3,280	2,740	2,050	2,350	3,370	2,170	7,140	15,700	24,200	5,660	2,750	2,940
16	3,320	2,750	2,300	2,250	3,240	2,220	8,540	15,100	24,900	5,520	2,660	2,960
17	3,300	2,510	2,450	2,150	3,140	2,260	9,820	15,000	24,700	5,320	2,530	2,940
18	3,280	2,240	2,450	2,100	3,100	2,320	9,930	15,200	24,700	4,960	2,680	2,910
19	3,240	2,350	2,400	1,800	3,060	2,440	10,800	15,900	24,100	4,640	2,720	2,790
20	3,140	2,500	2,550	1,500	2,940	2,550	13,600	17,800	22,500	4,400	2,530	2,700
21	3,140	2,450	2,700	1,400	2,790	2,680	17,100	18,900	21,200	4,210	2,480	2,660
22	3,120	2,550	2,600	1,550	2,680	2,810	15,800	19,900	19,800	3,970	2,410	2,570
23	3,160	2,700	2,500	1,750	2,600	2,830	14,300	20,400	18,000	3,650	2,410	2,550
24	3,160	2,800	2,500	2,050	2,200	2,790	14,300	20,800	16,300	3,630	2,480	2,640
25	3,120	2,800	2,550	2,250	1,930	2,750	16,600	24,200	15,900	3,450	2,380	2,740
26	3,080	2,750	2,550	2,500	1,740	2,920	18,100	26,800	15,300	3,320	2,340	2,640
27	3,100	2,700	2,300	2,850	1,830	3,670	16,800	25,200	14,500	3,390	2,480	2,590
28	3,200	2,650	2,250	3,350	2,070	4,570	15,800	24,400	13,400	3,560	2,410	2,660
29	3,180	2,600	2,300	3,200	------	4,400	14,400	24,800	12,300	3,740	2,390	2,790
30	3,040	2,650	2,400	3,050	------	4,020	13,000	24,000	11,500	3,900	2,460	2,720
31	2,940	------	2,400	2,900	------	3,900	------	22,300	------	3,700	2,150	------
TOTAL	92,830	81,250	71,860	69,410	79,380	84,400	303,100	530,200	568,600	181,580	86,750	78,090
MEAN	2,995	2,708	2,318	2,239	2,856	2,723	10,100	17,100	18,950	5,857	2,798	2,603
MAX	3,320	2,960	2,700	3,350	3,400	4,570	18,100	26,800	24,900	11,200	3,470	2,960
MIN	2,640	2,240	1,450	1,400	1,740	2,170	3,930	10,100	11,500	3,320	2,150	2,290
AC-FT	184,100	161,200	142,500	137,700	158,600	167,400	601,200	1,052M	1,128M	360,200	172,100	154,900

CAL YR 1961: TOTAL 1,754,370 MEAN 4,806 MAX 31,300 MIN 1,440 AC-FT 3,480,000
WAT YR 1962: TOTAL 2,228,050 MEAN 6,104 MAX 26,800 MIN 1,400 AC-FT 4,419,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,890	3,370	3,520	3,160	2,300	3,900	5,320	7,500	20,900	12,900	2,640	2,220
2	2,750	3,320	3,610	3,140	2,500	3,760	5,060	8,760	20,300	11,700	2,550	2,340
3	2,850	3,260	3,700	3,140	2,900	3,580	4,760	8,920	19,000	11,100	2,320	2,550
4	2,890	3,220	3,740	3,100	4,100	3,370	4,540	8,490	19,700	10,800	2,340	2,660
5	2,830	3,180	3,610	3,000	7,400	3,300	4,520	8,100	23,300	10,400	2,320	2,720
6	2,870	3,200	3,500	2,810	11,000	3,260	4,660	8,000	24,200	10,000	2,240	2,600
7	2,830	3,300	3,540	2,640	9,600	3,300	5,060	8,950	21,300	9,480	2,200	2,590
8	2,850	3,200	3,540	2,570	8,130	3,220	5,340	10,900	18,600	9,040	2,150	2,600
9	2,870	3,180	3,520	2,770	6,460	3,120	5,390	11,900	17,700	8,100	2,150	2,480
10	3,000	3,160	3,520	1,900	5,290	3,180	5,320	11,700	17,400	7,370	2,170	2,530
11	3,470	3,160	3,450	1,000	4,640	3,260	5,140	11,100	16,900	7,190	2,190	2,310
12	4,110	3,180	3,350	1,100	4,230	3,260	5,020	10,600	15,900	7,140	2,290	2,320
13	4,790	3,180	3,180	1,300	3,950	3,180	4,940	10,400	16,100	6,670	2,360	2,310
14	5,820	3,140	3,060	1,500	3,880	3,040	4,990	10,200	16,700	6,050	2,390	2,360
15	5,820	3,140	3,160	1,800	3,900	3,060	5,560	10,200	17,000	6,070	2,360	2,380
16	5,440	3,100	3,320	2,200	3,790	3,100	6,570	10,700	16,900	5,820	2,320	2,500
17	4,990	3,020	3,470	2,500	3,580	3,080	6,930	11,700	16,200	5,460	2,200	2,680
18	4,690	3,020	3,630	2,300	3,520	3,000	6,780	12,700	14,900	5,240	2,200	2,920
19	4,540	2,960	3,830	2,100	3,450	2,980	6,460	13,800	13,700	5,020	2,200	2,980
20	4,330	3,000	3,860	2,100	3,450	2,980	6,100	14,900	13,000	4,590	2,150	3,020
21	4,180	4,350	3,740	2,200	3,650	3,060	5,820	15,500	13,600	4,490	2,090	2,700
22	3,950	5,760	3,740	2,300	3,900	3,280	5,560	16,100	17,200	4,300	2,070	2,910
23	4,110	5,040	3,670	2,200	3,670	3,670	5,390	17,000	16,100	3,810	2,090	2,980
24	3,900	4,370	3,160	2,200	3,700	4,470	5,240	18,000	13,700	3,580	2,140	3,040
25	3,790	3,810	2,600	2,100	3,700	4,790	5,060	19,700	13,000	3,410	2,200	3,040
26	3,740	3,860	2,460	2,100	3,740	4,250	4,960	21,100	12,400	3,390	2,220	3,040
27	3,670	4,110	2,620	2,200	3,930	4,090	5,090	21,200	11,900	3,180	2,260	2,890
28	3,580	4,110	3,000	2,200	4,040	4,450	5,520	20,400	11,400	3,080	2,270	2,790
29	3,430	3,930	3,370	2,100	------	5,340	6,050	19,400	11,700	2,890	2,240	2,750
30	3,390	3,760	3,370	2,100	------	5,420	6,570	19,300	13,500	2,640	2,220	2,720
31	3,370	------	3,180	2,200	------	5,390	------	20,200	------	2,680	2,190	------
TOTAL	117,740	106,390	105,020	70,030	128,400	113,140	163,720	417,420	494,200	197,590	69,730	79,930
MEAN	3,798	3,546	3,388	2,259	4,586	3,650	5,457	13,470	16,470	6,374	2,249	2,664
MAX	5,820	5,760	3,860	3,160	11,000	5,420	6,930	21,200	24,200	12,900	2,640	3,040
MIN	2,750	2,960	2,460	1,000	2,300	2,980	4,520	7,500	11,400	2,640	2,070	2,220
AC-FT	233,500	211,000	208,300	138,900	254,700	224,400	324,700	827,900	980,200	391,900	138,300	158,500

CAL YR 1962: TOTAL 2,311,260 MEAN 6,332 MAX 26,800 MIN 1,400 AC-FT 4,584,000
WAT YR 1963: TOTAL 2,063,310 MEAN 5,653 MAX 24,200 MIN 1,000 AC-FT 4,093,000

12-3540. St. Regis River near St. Regis, Mont.

Location.--Lat 47°17'50", long 115°07'20", in NE¼ sec.26, T.18 N., R.28 W., on left bank at county road bridge, 500 ft upstream from Little Joe Creek, 1¼ miles west of St. Regis, and 1.7 miles upstream from mouth.

Drainage area.--303 sq mi.

Records available.--September 1910 to September 1917 (no winter records), September 1958 to September 1965. Monthly discharge only for some periods, published in WSP 1316 and 1736.

Gage.--Water-stage recorder. Datum of gage is 2,645.00 ft above mean sea level, datum of 1929. September 1910 to September 1917 staff gage at site 2 miles upstream at different datum.

Average discharge.--7 years, 577 cfs (417,700 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (3,000 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 26, 1961	2200	* 4,680	5.92	May 24, 1963	2300	* 1,830	4.10	Dec. 23, 1964	1730	3,620	5.29
								Apr. 21, 1965	0300	* 5,090	6.46
Apr. 20, 1962	0800	* 3,220	5.03	May 21, 1964	0030	4,110	5.68	Apr. 29, 1965	2400	4,720	b 7.07
				June 1, 1964	2330	4,180	5.72				
Feb. 4, 1963	-	-	a 4.13	June 8, 1964	2200	* 5,120	6.16				

a Backwater from ice.
b Backwater from debris.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Jan. 4, 1961	60	1.91	1964	Mar. 24, 1964	52	1.73
1962	Dec. 11, 1961	a 45	-	1965	Dec. 17, 1964	a 100	
1963	Sept.30, 1963	82	1.87				

a Minimum daily.

1910-17, 1958-65: Maximum discharge observed, 7,740 cfs May 28, 1917 (gage height, 8.65 ft, site and datum then in use); minimum daily, 45 cfs Dec. 11, 1961.

Flood of about Dec. 20, 1933, reached a stage of about 14.5 ft, from information by local residents (discharge unknown). Flood of May 19, 1954, reached a discharge of about 11,000 cfs (gage height, 9.4 ft), from rating curve extended above 5,100 cfs.

Remarks.--Records good. Minor diversions for irrigation of hay meadows above station.

Revisions (water years).--WSP 1246: 1912, drainage area. WSP 1316: 1911.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	96	157	132	90	212	615	990	1,800	3,030	378	161	158
2	96	151	137	82	201	591	1,040	2,370	3,240	361	161	180
3	98	134	140	73	205	500	1,640	2,340	3,200	349	155	149
4	96	126	137	65	194	440	2,230	2,160	3,150	349	152	135
5	96	118	96	75	190	440	1,820	1,930	2,970	338	149	127
6	98	114	69	110	186	440	1,540	1,710	2,840	338	146	121
7	103	114	75	140	194	404	1,350	1,570	2,730	338	146	116
8	121	111	80	123	190	369	1,230	1,450	2,180	318	143	116
9	116	105	80	118	190	355	1,160	1,410	2,010	308	140	114
10	111	111	80	114	500	344	1,050	1,670	1,750	298	149	114
11	114	137	75	111	1,000	328	990	1,980	1,550	284	143	116
12	126	142	85	109	1,000	316	1,010	2,000	1,820	288	138	114
13	129	129	90	109	767	338	1,100	2,020	1,520	284	135	111
14	118	126	95	111	623	404	1,010	2,110	1,410	279	132	111
15	114	123	90	145	552	440	940	2,180	1,380	266	132	109
16	111	126	90	163	515	478	900	2,230	1,380	262	135	106
17	111	137	95	201	448	500	1,070	2,410	1,320	254	132	104
18	109	169	100	175	404	500	1,320	2,410	1,200	245	127	106
19	109	179	102	150	383	538	1,320	2,520	1,080	237	124	109
20	107	160	102	145	350	591	1,220	2,890	960	234	121	106
21	107	160	102	140	769	591	1,130	3,410	852	222	124	109
22	111	151	102	120	1,710	583	1,080	3,240	746	218	119	109
23	109	142	100	110	1,230	591	1,030	3,330	679	215	116	114
24	114	169	98	115	980	639	990	3,670	615	218	114	114
25	121	296	98	120	870	689	980	3,690	567	200	124	109
26	116	238	98	100	740	732	1,100	4,230	528	187	138	104
27	132	194	98	85	664	732	1,070	4,050	490	183	130	104
28	134	172	98	85	591	706	1,110	3,280	447	176	121	111
29	157	154	98	100	------	714	1,220	2,980	421	170	116	127
30	134	140	98	110	------	758	1,570	2,970	402	167	116	115
31	126	------	95	170	------	821	------	3,000	------	164	121	------
TOTAL	3,540	4,485	3,035	3,664	15,898	16,487	36,110	79,010	46,467	8,128	4,160	3,539
MEAN	114	150	97.9	118	568	532	1,204	2,549	1,549	262	134	118
MAX	157	296	140	201	1,710	821	2,230	4,230	3,240	378	161	180
MIN	96	105	69	65	186	316	890	1,410	402	164	114	104
CFSM	.38	.49	.32	.39	1.87	1.76	3.97	8.41	5.11	.87	.44	.39
IN.	.43	.55	.37	.45	1.95	2.02	4.43	9.70	5.70	1.00	.51	.43
AC-FT	7,020	8,900	6,020	7,270	31,530	32,700	71,620	156,700	92,170	16,120	8,250	7,020

CAL YR 1960: TOTAL 182,760 MEAN 499 MAX 3,180 MIN 69 CFSM 1.65 IN 22.43 AC-FT 362,500
WAT YR 1961: TOTAL 224,523 MEAN 615 MAX 4,230 MIN 65 CFSM 2.03 IN 27.56 AC-FT 445,300

12-3540. St. Regis River near St. Regis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	111	121	111	130	135	164	428	1,260	1,750	559	176	116
2	109	124	116	119	135	161	520	1,320	1,680	520	176	114
3	106	121	116	135	143	158	639	1,580	1,760	482	170	111
4	104	119	114	167	173	152	772	1,860	1,560	454	180	111
5	104	106	116	146	187	146	1,050	1,820	1,400	440	183	111
6	111	106	111	143	180	146	1,320	1,760	1,280	421	180	109
7	114	109	104	143	176	143	2,670	1,840	1,210	395	170	106
8	111	102	94	193	170	143	1,900	1,890	1,200	378	167	109
9	109	102	80	135	167	143	1,420	2,490	1,460	361	167	106
10	121	104	55	90	176	135	1,160	2,800	1,500	349	164	111
11	176	109	45	95	193	127	992	2,680	1,370	333	158	190
12	152	106	60	115	204	132	981	2,440	1,320	323	152	152
13	149	97	80	135	211	124	1,080	2,340	1,310	318	149	135
14	140	109	90	135	222	127	1,300	2,120	1,240	303	146	132
15	130	104	94	125	241	132	1,770	2,000	1,210	288	140	124
16	124	88	99	115	237	132	1,830	1,940	1,220	279	138	116
17	127	78	102	105	234	135	1,800	2,010	1,230	271	135	114
18	121	80	99	95	230	143	1,920	2,240	1,190	258	135	111
19	116	85	102	85	226	152	2,520	2,310	1,110	254	132	109
20	121	85	109	85	222	158	3,080	2,250	1,060	249	130	109
21	130	86	135	65	211	167	2,520	2,100	1,000	234	127	106
22	124	86	124	75	215	164	2,070	2,080	950	234	124	106
23	124	94	119	95	167	164	2,000	2,140	900	222	124	104
24	130	97	124	110	143	161	2,540	2,400	843	218	124	102
25	121	102	132	125	149	180	2,800	2,550	807	215	119	102
26	130	97	127	138	130	237	2,360	2,520	763	218	114	99
27	152	97	111	161	135	428	2,020	2,380	712	234	119	102
28	135	99	111	161	155	414	1,770	2,430	647	207	138	116
29	127	102	114	149	-------	361	1,520	2,300	599	197	143	152
30	121	104	143	140	-------	338	1,340	2,060	575	187	130	146
31	116	-------	146	138	-------	361	-------	1,840	-------	183	121	-------
TOTAL	3,866	3,019	3,283	3,848	5,167	5,828	50,092	65,750	34,856	9,584	4,531	3,531
MEAN	125	101	106	124	185	188	1,670	2,121	1,162	309	146	118
MAX	176	124	146	193	241	428	3,080	2,800	1,760	559	183	190
MIN	104	78	45	65	130	124	428	1,260	575	183	114	99
CFSM	.41	.33	.35	.41	.61	.62	5.51	7.00	3.83	1.02	.48	.39
IN.	.47	.37	.40	.47	.63	.72	6.15	8.07	4.28	1.18	.56	.43
AC-FT	7,670	5,990	6,510	7,630	10,250	11,560	99,360	130,400	69,140	19,010	8,990	7,000

CAL YR 1961: TOTAL 223,631 MEAN 613 MAX 4,230 MIN 45 CFSM 2.02 IN 27.45 AC-FT 443,600
WAT YR 1962: TOTAL 193,355 MEAN 530 MAX 3,080 MIN 45 CFSM 1.75 IN 23.73 AC-FT 383,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	127	152	468	366	180	575	1,020	1,230	1,180	323	140	90
2	119	149	454	372	210	543	910	1,220	1,090	303	143	102
3	114	146	414	395	330	512	816	1,120	1,020	293	140	104
4	111	143	372	389	520	482	789	1,050	992	288	138	100
5	111	155	355	361	780	475	780	1,020	1,090	275	135	100
6	109	183	384	333	843	454	910	1,070	992	262	132	100
7	109	164	366	328	825	434	970	1,240	900	258	127	100
8	132	161	361	328	798	421	950	1,340	834	254	124	90
9	152	204	361	323	754	414	910	1,290	861	245	121	90
10	190	230	361	200	712	414	870	1,220	843	241	121	90
11	190	215	349	160	655	408	834	1,170	789	258	121	80
12	349	218	338	150	599	389	798	1,170	754	241	119	80
13	408	241	328	190	567	384	789	1,180	720	234	116	110
14	349	230	323	270	551	372	825	1,190	704	222	111	180
15	318	215	328	320	520	389	1,000	1,270	679	218	109	150
16	266	207	408	290	490	378	1,060	1,300	647	211	106	200
17	234	200	482	250	468	372	992	1,350	615	204	104	140
18	218	193	567	200	447	366	940	1,460	559	204	102	110
19	204	193	575	180	447	361	880	1,580	520	200	102	100
20	193	640	559	210	528	361	825	1,580	505	187	104	92
21	190	720	551	210	490	378	772	1,590	482	183	104	90
22	187	600	559	230	475	389	754	1,630	447	176	102	88
23	183	528	512	180	468	434	754	1,620	421	176	99	92
24	180	454	361	190	468	482	729	1,750	402	170	104	97
25	173	468	355	210	454	468	720	1,720	384	164	102	92
26	170	655	460	180	535	482	729	1,550	372	164	99	88
27	167	680	440	200	599	528	789	1,420	355	158	97	86
28	164	639	414	200	567	763	834	1,320	333	152	94	84
29	158	535	389	180	-------	861	910	1,290	372	149	92	84
30	155	505	384	170	-------	1,060	1,070	1,290	355	146	90	82
31	152	-------	372	160	-------	1,150	-------	1,280	-------	143	90	-------
TOTAL	5,882	10,023	12,950	7,725	15,280	15,499	25,909	41,510	20,217	6,702	3,488	3,091
MEAN	190	334	418	249	546	500	864	1,339	674	216	113	103
MAX	408	720	575	395	843	1,150	1,070	1,750	1,180	323	143	200
MIN	109	143	323	150	180	361	720	1,020	333	143	90	80
CFSM	.63	1.10	1.38	.82	1.80	1.65	2.85	4.42	2.22	.71	.37	.34
IN.	.72	1.23	1.59	.95	1.88	1.90	3.18	5.09	2.48	.82	.43	.38
AC-FT	11,670	19,880	25,690	15,320	30,310	30,740	51,390	82,330	40,100	13,290	6,920	6,130

CAL YR 1962: TOTAL 212,042 MEAN 581 MAX 3,080 MIN 65 CFSM 1.92 IN 26.03 AC-FT 420,600
WAT YR 1963: TOTAL 168,276 MEAN 461 MAX 1,750 MIN 80 CFSM 1.52 IN 20.65 AC-FT 333,800

12-3540. St. Regis River near St. Regis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	82	90	94	94	92	86	230	940	3,660	772	234	173
2	82	90	92	106	90	84	266	950	3,240	763	245	211
3	80	90	84	104	88	86	254	880	3,160	729	222	215
4	80	98	88	99	88	90	279	789	2,910	695	215	193
5	86	92	90	94	92	88	288	729	2,600	679	215	180
6	92	99	111	97	88	88	288	671	2,800	623	204	170
7	88	109	106	94	86	84	288	663	2,820	583	197	164
8	86	114	102	84	82	78	333	712	4,150	559	190	161
9	86	124	102	82	86	86	366	900	4,420	543	187	158
10	86	119	88	84	90	84	434	1,190	3,460	498	180	155
11	86	111	82	88	94	86	460	1,290	2,130	460	176	155
12	84	106	84	84	88	88	454	1,400	2,380	434	173	152
13	84	102	90	69	90	84	395	1,620	2,220	414	197	149
14	82	102	92	84	88	86	384	1,590	2,130	408	187	146
15	82	132	90	86	86	86	615	1,590	2,010	440	173	143
16	82	130	92	88	86	92	843	1,840	2,020	428	170	140
17	82	121	92	88	88	97	671	2,560	1,820	378	164	140
18	80	127	92	90	88	111	591	2,700	1,620	361	167	149
19	80	116	90	90	94	109	591	3,000	1,430	333	190	140
20	80	119	92	88	88	104	671	3,440	1,290	313	176	164
21	82	111	92	88	82	104	780	3,750	1,220	293	167	164
22	82	109	92	84	82	109	789	2,780	1,160	279	161	152
23	99	106	92	86	82	85	738	2,040	1,140	271	158	149
24	106	109	92	86	92	75	663	1,700	1,200	262	155	143
25	155	109	92	92	76	85	631	1,520	1,180	258	152	140
26	124	111	94	88	78	94	663	1,480	1,100	245	173	138
27	109	161	94	90	82	92	671	1,470	1,060	237	170	138
28	102	149	94	90	78	94	647	2,000	950	230	237	135
29	99	119	92	90	86	99	729	2,360	861	226	207	132
30	97	99	88	90	------	121	834	2,400	816	230	190	138
31	92	------	90	90	------	164	------	2,980	------	249	180	------
TOTAL	2,817	3,364	2,865	2,767	2,510	2,919	15,846	53,934	62,957	13,193	5,812	4,687
MEAN	90.9	112	92.4	89.3	86.6	94.2	528	1,740	2,099	426	187	156
MAX	155	161	111	106	94	164	843	3,750	4,420	772	245	215
MIN	80	88	82	69	76	75	230	663	816	226	152	132
CFSM	.30	.37	.31	.29	.29	.31	1.74	5.74	6.93	1.40	.62	.52
IN.	.35	.41	.35	.34	.31	.36	1.94	6.62	7.73	1.62	.71	.58
AC-FT	5,590	6,670	5,680	5,490	4,980	5,790	31,430	107,000	124,900	26,170	11,530	9,300

CAL YR 1963: TOTAL 148,467 MEAN 407 MAX 1,750 MIN 80 CFSM 1.34 IN 18.22 AC-FT 294,500
WAT YR 1964: TOTAL 173,671 MEAN 475 MAX 4,420 MIN 69 CFSM 1.57 IN 21.32 AC-FT 344,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	193	155	293	551	434	482	344	3,320	1,840	631	218	164
2	180	158	338	475	408	475	378	2,680	1,770	607	215	161
3	183	158	328	468	384	490	384	2,790	1,790	591	218	158
4	167	158	308	414	378	482	408	1,960	1,820	575	222	164
5	158	152	288	389	372	475	468	1,730	1,750	567	211	164
6	155	149	266	428	389	490	563	1,540	1,760	528	206	161
7	152	149	249	402	366	512	583	1,410	1,750	505	197	155
8	149	146	249	372	366	535	639	1,380	1,560	498	193	155
9	152	146	249	366	361	551	671	1,400	1,480	468	187	158
10	155	146	241	344	338	559	798	1,540	1,520	447	180	161
11	155	146	234	333	279	567	834	1,820	1,540	428	180	158
12	152	146	197	328	338	551	843	2,250	1,680	402	187	161
13	149	146	207	318	338	520	950	2,660	1,430	384	190	158
14	146	140	204	318	355	520	1,110	2,720	1,240	366	176	180
15	167	135	204	323	284	528	1,300	2,620	1,120	344	170	279
16	190	127	150	318	308	551	1,450	2,540	1,060	328	180	234
17	180	116	100	308	318	454	1,410	2,320	1,400	318	183	193
18	170	132	120	303	328	389	1,290	2,000	1,820	313	173	180
19	164	130	140	298	338	428	1,400	1,820	1,520	298	170	176
20	161	127	150	293	378	414	3,520	1,880	1,320	288	193	173
21	158	127	160	284	395	447	4,760	1,830	1,210	293	180	170
22	155	124	300	275	414	428	3,980	1,820	1,110	288	180	164
23	155	124	2,600	266	384	372	3,330	1,880	1,040	279	193	161
24	155	237	2,310	258	366	303	3,030	1,890	1,020	271	183	155
25	152	551	1,380	258	378	333	2,660	1,880	981	262	176	152
26	152	344	1,070	249	378	344	2,640	1,890	920	258	183	146
27	155	279	910	303	475	323	2,670	1,880	843	246	180	143
28	161	245	772	323	520	308	2,910	2,000	780	254	187	138
29	170	226	687	384	------	303	3,430	2,320	712	241	180	135
30	164	234	623	395	------	303	3,830	2,380	671	230	176	135
31	161	------	607	468	------	308	------	2,060	------	222	170	------
TOTAL	5,016	5,353	15,934	10,812	10,370	13,745	52,563	64,210	40,457	11,750	5,835	4,992
MEAN	162	178	514	349	370	443	1,752	2,071	1,349	379	188	166
MAX	193	551	2,600	551	520	567	4,760	3,320	1,840	631	222	279
MIN	146	116	100	249	279	303	344	1,380	671	222	170	135
CFSM	.53	.59	1.70	1.15	1.22	1.46	5.78	6.84	4.45	1.25	.62	.55
IN.	.62	.66	1.96	1.33	1.27	1.69	6.45	7.88	4.97	1.44	.72	.61
AC-FT	9,950	10,620	31,600	21,450	20,570	27,260	104,300	127,400	80,250	23,310	11,570	9,900

CAL YR 1964: TOTAL 190,928 MEAN 522 MAX 4,420 MIN 69 CFSM 1.72 IN 23.43 AC-FT 378,700
WAT YR 1965: TOTAL 241,037 MEAN 660 MAX 4,760 MIN 100 CFSM 2.18 IN 29.58 AC-FT 478,100

12-3545. Clark Fork at St. Regis, Mont.

Location.--Lat 47°18'05", long 115°05'15", in center of SW¼ sec.19, T.18 N., R.27 W., on left bank at St. Regis, 0.4 mile downstream from St. Regis River and at mile 270.3.

Drainage area.--10,709 sq mi.

Records available.--October 1910 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Altitude of gage is 2,600 ft (river-profile map). Prior to Nov. 29, 1933, staff gage at same site and datum.

Average discharge.--55 years, 7,450 cfs (5,394,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 28, 1961	39,600	15.39	Jan. 28, 1961	1,570	4.23
1962	May 26, 1962	33,500	14.25	Dec. 11, 1961	1,460	3.74
1963	June 6, 1963	28,600	13.28	Jan. 12, 1963	a 1,300	-
1964	June 10, 1964	60,900	18.54	Dec. 12, 1963	1,760	4.24
1965	June 20, 1965	40,400	15.54	Dec. 18, 1964	a 1,350	-

a Minimum daily.

1910-65: Maximum discharge, 68,900 cfs May 24, 1948 (gage height, 19.96 ft, from graph based on gage readings); minimum, 1,000 cfs Dec. 17, 1940 (gage height, 3.36 ft), but may have been less during period of ice effect Feb. 19-22, 1929.

Remarks.--Records excellent. Some diurnal fluctuation at low flow caused by powerplant at Bonner. Diversions for irrigation of about 244,000 acres above station.

Revisions (water years).--WSP 1246: Drainage area. WSP 1316: 1916-17, 1920, 1929-31(M), 1933(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,500	3,080	2,840	2,540	3,190	4,080	4,880	8,580	37,800	7,150	2,470	2,320
2	2,550	3,140	2,910	2,560	3,300	4,120	5,200	10,000	36,300	6,670	2,440	2,500
3	2,560	3,190	3,050	2,420	3,340	4,040	6,320	11,000	36,900	6,300	2,390	2,730
4	2,540	3,170	3,210	2,270	3,170	3,840	8,150	11,400	37,900	5,970	2,330	3,040
5	2,500	3,170	3,140	1,950	3,010	3,660	8,800	11,200	37,000	5,670	2,320	3,120
6	2,500	3,120	2,650	2,160	2,930	3,570	8,380	10,800	35,600	5,800	2,290	3,150
7	2,520	3,070	2,300	2,670	2,930	3,610	7,730	10,500	34,400	5,930	2,260	3,120
8	2,520	3,010	1,850	3,260	3,010	3,610	7,180	10,000	32,700	5,840	2,220	3,070
9	2,520	3,070	1,830	3,100	3,000	3,480	6,850	9,790	30,000	5,560	2,220	2,900
10	2,550	3,170	1,840	2,930	3,430	3,350	6,550	10,100	27,200	5,350	2,220	2,820
11	2,640	3,140	1,860	2,830	4,600	3,320	6,240	11,200	25,200	5,060	2,210	2,780
12	2,730	3,120	1,920	2,760	5,620	3,300	6,130	12,300	24,800	4,820	2,190	2,770
13	2,750	3,230	2,000	2,700	5,770	3,320	6,130	12,300	24,300	4,600	2,170	2,730
14	2,800	3,260	2,100	2,680	5,200	3,350	5,990	12,500	22,700	4,440	2,170	2,640
15	2,780	3,210	2,200	2,760	4,780	3,480	5,840	12,600	21,100	4,080	2,200	2,690
16	2,800	3,210	2,150	2,880	4,500	3,750	5,670	13,100	20,200	3,910	2,210	2,670
17	2,810	3,210	2,100	2,960	4,250	4,060	5,730	14,000	19,600	3,860	2,190	2,640
18	2,880	3,260	2,440	3,000	4,010	4,180	6,130	14,600	18,900	3,730	2,170	2,570
19	2,830	3,340	2,660	2,940	3,840	4,200	6,370	15,500	18,000	3,520	2,130	2,620
20	2,860	3,280	2,960	2,830	3,770	4,200	6,500	16,800	16,900	3,500	2,100	2,730
21	2,840	3,250	3,170	2,670	4,080	4,180	6,440	19,000	15,500	3,430	2,110	2,780
22	2,880	3,190	3,100	2,520	5,500	4,160	6,300	21,200	14,100	3,300	2,100	2,860
23	2,860	3,160	3,050	2,390	5,370	4,160	6,170	23,600	12,500	3,210	2,080	2,960
24	2,830	3,190	3,000	2,300	5,080	4,250	6,190	27,000	11,200	3,040	2,070	3,150
25	2,830	3,460	2,890	2,290	4,820	4,560	6,210	31,300	10,500	2,920	2,070	3,180
26	2,810	3,640	2,840	2,180	4,580	4,880	6,370	35,400	9,840	2,830	2,160	3,180
27	2,890	3,620	2,860	2,180	4,420	4,880	6,480	39,000	9,240	2,730	2,170	3,120
28	2,910	3,550	2,840	2,030	4,140	4,800	6,710	39,100	8,620	2,650	2,160	3,090
29	3,000	3,340	2,810	2,070	------	4,740	6,990	37,100	8,100	2,620	2,180	3,120
30	2,960	3,000	2,750	2,200	------	4,720	7,630	36,300	7,630	2,520	2,190	3,070
31	3,000	------	2,660	2,550	------	4,780	------	37,700	------	2,530	2,220	------
TOTAL	84,950	96,850	79,980	79,580	115,640	124,630	196,260	584,970	664,730	133,540	68,410	86,120
MEAN	2,740	3,228	2,580	2,567	4,130	4,020	6,542	18,870	22,160	4,308	2,207	2,871
MAX	3,000	3,640	3,210	3,260	5,770	4,880	8,800	39,100	37,900	7,150	2,470	3,180
MIN	2,500	3,000	1,830	1,950	2,930	3,300	4,880	8,580	7,630	2,520	2,070	2,320
AC-FT	168,500	192,100	158,600	157,800	229,400	247,200	389,300	1,160M	1,318M	264,900	135,700	170,800

CAL YR 1960: TOTAL 2,470,640 MEAN 6,750 MAX 33,400 MIN 1,810 AC-FT 4,900,000
WAT YR 1961: TOTAL 2,315,660 MEAN 6,344 MAX 39,100 MIN 1,830 AC-FT 4,593,000

M Expressed in thousands.

12-3545. Clark Fork at St. Regis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3,100	3,370	3,020	2,890	3,520	2,600	4,980	15,300	27,300	13,300	4,370	2,720
2	3,120	3,380	3,100	2,680	3,450	2,760	5,350	14,200	27,100	12,600	4,250	2,890
3	3,120	3,430	3,120	2,720	3,450	2,840	5,930	13,800	27,300	12,000	4,160	2,880
4	3,070	3,330	3,100	2,820	3,860	2,820	6,690	14,200	27,700	11,100	4,060	2,820
5	3,060	3,280	3,060	2,840	4,160	2,830	7,700	14,400	26,500	10,200	4,020	2,780
6	3,060	3,250	3,010	2,820	3,840	2,880	9,160	14,700	23,300	9,870	4,060	2,760
7	3,040	3,120	3,020	2,820	3,620	2,900	11,800	15,000	20,800	9,680	4,160	2,750
8	3,060	3,130	2,880	3,020	3,540	2,900	11,900	15,900	19,100	9,160	4,080	2,740
9	3,120	3,150	2,720	2,880	3,480	2,980	10,700	18,700	18,900	8,650	3,890	2,740
10	3,200	3,150	2,190	2,460	3,540	2,960	9,290	21,700	20,200	8,250	3,820	2,830
11	3,300	3,170	1,640	1,920	3,610	2,880	8,500	23,000	21,600	7,750	3,700	3,060
12	3,330	3,200	1,590	1,850	3,770	2,730	8,050	22,900	22,800	7,460	3,640	3,150
13	3,420	3,210	1,870	2,050	3,860	2,720	8,000	22,100	23,500	7,100	3,610	3,180
14	3,500	3,180	2,050	2,400	3,930	2,680	8,520	22,000	24,000	6,920	3,540	3,250
15	3,640	3,120	2,220	2,500	3,950	2,670	9,890	21,100	27,500	6,850	3,450	3,370
16	3,770	3,100	2,620	2,500	3,890	2,690	11,400	20,100	28,000	6,690	3,330	3,400
17	3,700	3,040	2,830	2,400	3,790	2,730	12,800	20,100	29,000	6,480	3,130	3,400
18	3,660	2,760	2,950	2,300	3,700	2,780	13,500	20,500	29,000	6,170	3,300	3,400
19	3,680	2,650	2,980	2,200	3,700	2,920	14,800	21,200	28,500	5,880	3,260	3,280
20	3,620	2,700	3,070	1,900	3,590	3,060	18,400	22,800	27,000	5,600	3,170	3,230
21	3,590	2,800	3,260	1,650	3,470	3,200	21,700	23,800	26,000	5,350	3,060	3,150
22	3,550	2,820	3,330	1,600	3,300	3,330	21,200	24,900	24,500	5,120	2,980	3,120
23	3,590	2,880	3,200	1,750	3,180	3,350	19,300	26,000	22,500	4,820	2,960	3,070
24	3,610	3,070	3,150	2,190	2,730	3,260	19,600	26,800	20,500	4,700	2,980	3,070
25	3,570	3,200	3,060	2,590	2,560	3,280	22,000	29,700	19,100	4,520	2,960	3,180
26	3,550	3,170	3,040	2,890	2,370	3,610	23,200	33,100	18,900	4,350	2,860	3,100
27	3,610	3,090	2,940	3,170	2,320	4,480	22,000	32,300	17,800	4,270	2,920	3,130
28	3,640	3,000	2,760	3,520	2,450	5,480	20,600	31,500	16,500	4,370	3,000	3,100
29	3,660	2,960	2,770	4,080	------	5,390	18,900	31,600	15,100	4,480	2,960	3,300
30	3,610	2,950	2,830	3,930	------	5,040	17,000	30,700	13,900	4,640	2,960	3,330
31	3,420	------	2,960	3,680	------	4,880	------	28,600	------	4,580	2,820	------
TOTAL	105,970	92,660	86,340	81,020	96,630	101,630	402,860	692,700	693,900	222,910	107,460	92,190
MEAN	3,418	3,089	2,785	2,614	3,451	3,278	13,430	22,350	23,130	7,191	3,466	3,073
MAX	3,770	3,430	3,330	4,080	4,160	5,480	23,200	33,100	29,000	13,300	4,370	3,400
MIN	3,040	2,650	1,590	1,600	2,320	2,600	4,980	13,800	13,900	4,270	2,820	2,720
AC-FT	210,200	183,800	171,300	160,700	191,700	201,600	799,100	1,374M	1,376M	442,100	213,100	182,900

CAL YR 1961: TOTAL 2,338,850 MEAN 6,408 MAX 39,100 MIN 1,590 AC-FT 4,639,000
WAT YR 1962: TOTAL 2,776,270 MEAN 7,606 MAX 33,100 MIN 1,590 AC-FT 5,507,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3,300	3,990	4,840	4,140	2,800	5,580	7,370	9,760	25,300	15,200	3,480	2,620
2	3,380	3,930	4,780	4,100	3,000	5,420	7,100	11,000	24,700	13,600	3,430	2,760
3	3,320	3,890	4,800	4,100	3,350	5,160	6,740	11,500	23,300	12,700	3,230	2,890
4	3,370	3,820	4,780	4,120	4,500	4,960	6,460	11,100	23,300	12,300	3,120	3,040
5	3,350	3,820	4,640	3,990	5,800	4,700	6,370	10,700	26,800	11,800	3,070	3,090
6	3,300	3,880	4,540	3,800	12,000	4,640	6,670	10,600	28,400	11,400	3,000	3,090
7	3,280	3,890	4,500	3,570	15,500	4,600	7,030	13,300	25,800	10,900	2,920	3,020
8	3,320	3,880	4,540	3,470	12,200	4,520	7,340	13,900	22,800	10,400	2,830	3,000
9	3,420	3,860	4,500	3,500	9,920	4,390	7,440	15,300	21,600	9,630	2,780	2,950
10	3,570	3,880	4,500	3,000	8,580	4,350	7,340	15,200	21,100	8,800	2,770	2,950
11	3,880	3,860	4,460	1,800	7,580	4,400	7,180	14,500	20,500	8,450	2,760	2,860
12	4,800	3,840	4,350	1,300	6,830	4,400	6,990	13,800	19,500	8,380	2,800	2,770
13	5,520	3,880	4,220	1,400	6,280	4,330	6,850	13,500	19,200	8,000	2,920	2,770
14	6,460	3,840	4,060	1,600	6,040	4,200	6,870	13,200	19,600	7,420	2,950	2,840
15	6,760	3,800	4,040	2,000	5,910	4,100	7,440	13,300	20,000	7,180	2,890	2,890
16	6,390	3,750	4,310	2,500	5,770	4,140	8,350	13,800	20,000	7,030	2,830	3,000
17	5,930	3,660	4,540	3,040	5,520	4,140	8,960	14,900	19,300	6,800	2,780	3,100
18	5,540	3,610	4,800	3,210	5,350	4,060	8,900	16,300	18,100	6,440	2,730	3,300
19	5,330	3,550	5,000	2,820	5,230	4,020	8,580	17,900	16,600	6,280	2,680	3,430
20	5,140	4,390	5,080	2,600	5,290	4,010	8,220	19,300	15,500	5,860	2,630	3,470
21	4,980	5,330	5,040	2,640	5,290	4,060	7,850	20,000	15,200	5,540	2,600	3,260
22	4,820	6,800	5,000	2,820	5,370	4,220	7,540	20,800	17,900	5,500	2,590	3,260
23	4,820	6,440	4,880	2,770	5,290	4,580	7,300	21,500	19,100	5,040	2,590	3,330
24	4,720	5,770	4,370	2,680	5,270	5,180	7,130	22,800	16,400	4,780	2,590	3,400
25	4,560	5,180	3,540	2,680	5,270	5,800	6,940	24,300	15,200	4,500	2,670	3,400
26	4,500	5,310	3,200	2,780	5,330	5,580	6,800	25,800	14,400	4,390	2,680	3,430
27	4,440	5,650	3,380	2,800	5,460	5,350	6,870	26,000	13,700	4,250	2,700	3,350
28	4,330	5,540	3,790	2,900	5,620	5,880	7,220	25,200	13,000	4,100	2,720	3,230
29	4,200	5,310	4,180	2,800	------	6,690	7,900	24,300	13,100	3,860	2,690	3,150
30	4,060	5,040	4,390	2,600	------	7,440	8,650	24,100	14,700	3,660	2,640	3,120
31	4,010	------	4,230	2,700	------	7,540	------	24,800	------	3,480	2,630	------
TOTAL	138,800	133,390	137,280	90,230	180,350	152,440	222,400	532,460	584,100	237,670	87,700	92,770
MEAN	4,477	4,446	4,428	2,911	6,441	4,917	7,413	17,180	19,470	7,667	2,829	3,092
MAX	6,760	6,800	5,080	4,140	15,500	7,540	8,960	26,000	28,400	15,200	3,480	3,470
MIN	3,280	3,550	3,200	1,300	2,800	4,010	6,370	9,760	13,000	3,480	2,590	2,620
AC-FT	275,300	264,600	272,300	179,000	357,700	302,400	441,100	1,056M	1,159M	471,400	174,000	184,000

CAL YR 1962: TOTAL 2,900,770 MEAN 7,947 MAX 33,100 MIN 1,600 AC-FT 5,754,000
WAT YR 1963: TOTAL 2,589,590 MEAN 7,095 MAX 28,400 MIN 1,300 AC-FT 5,136,000

M Expressed in thousands.

12-3545. Clark Fork at St. Regis, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3,090	3,020	2,630	2,520	2,600	2,450	3,250	8,350	34,500	21,900	5,330	4,610
2	3,010	3,010	2,600	2,690	2,630	2,500	3,930	9,980	35,400	20,600	5,670	5,100
3	2,960	3,200	2,530	2,780	2,560	2,450	4,370	10,900	37,100	19,800	5,520	5,480
4	2,900	3,090	2,470	2,770	2,540	2,450	4,350	10,700	38,500	19,600	5,240	5,450
5	2,920	3,010	2,470	2,690	2,530	2,500	4,400	10,200	38,500	19,000	4,950	5,390
6	2,950	3,040	2,620	2,630	2,510	2,560	4,780	9,710	38,400	18,700	4,770	5,160
7	3,040	3,040	2,860	2,600	2,480	2,500	4,880	9,630	39,800	17,300	4,510	4,950
8	3,250	2,920	2,820	2,600	2,410	2,480	4,660	9,500	45,300	15,900	4,350	4,810
9	3,320	2,960	2,670	2,480	2,440	2,420	4,520	9,630	53,700	15,000	4,200	4,750
10	3,260	2,960	2,580	2,400	2,500	2,410	4,700	10,400	60,000	14,100	4,080	4,590
11	3,230	3,100	2,290	2,390	2,590	2,440	5,140	11,500	59,700	13,200	3,950	4,450
12	3,230	3,090	2,180	2,450	2,600	2,440	5,500	12,700	52,200	12,400	3,890	4,350
13	3,180	3,070	2,140	2,410	2,580	2,470	5,370	13,700	45,400	11,500	3,840	4,120
14	3,130	3,040	2,350	2,280	2,570	2,480	4,980	14,800	40,900	11,200	3,760	4,100
15	3,100	3,100	2,510	2,260	2,520	2,450	5,140	16,100	39,000	11,200	3,760	4,010
16	3,090	3,200	2,650	2,390	2,420	2,470	5,460	17,700	38,900	10,900	3,740	3,910
17	3,070	3,210	2,800	2,470	2,460	2,530	5,690	21,100	38,900	10,400	3,600	3,800
18	3,060	3,200	2,670	2,520	2,480	2,640	5,520	25,500	39,500	9,630	3,530	3,740
19	3,040	3,150	2,500	2,530	2,520	2,860	5,330	29,100	37,600	8,920	3,560	3,690
20	2,980	3,120	2,500	2,560	2,560	3,010	5,290	32,100	34,700	8,520	3,530	3,710
21	3,000	3,040	2,590	2,540	2,540	3,000	5,520	36,300	33,500	8,050	3,550	3,730
22	3,000	3,040	2,720	2,580	2,500	2,950	5,880	38,000	31,200	7,580	3,580	3,710
23	3,010	3,010	2,680	2,450	2,480	2,820	6,300	35,200	29,400	7,100	3,560	3,690
24	3,020	2,980	2,630	2,420	2,530	2,480	6,370	30,600	28,400	6,560	3,470	3,670
25	3,100	2,980	2,600	2,440	2,510	2,300	6,370	26,600	28,700	6,170	3,380	3,600
26	3,040	2,980	2,640	2,500	2,370	2,360	6,260	24,100	29,700	5,840	3,370	3,550
27	3,070	3,010	2,680	2,640	2,260	2,620	6,210	22,500	30,400	5,540	3,380	3,510
28	3,060	3,020	2,640	2,630	2,300	2,700	6,150	24,200	29,800	5,310	3,550	3,460
29	3,020	2,960	2,680	2,600	2,400	2,680	6,240	28,800	27,800	5,060	3,710	3,460
30	3,010	2,820	2,630	2,570	------	2,700	6,780	33,800	24,300	4,950	3,970	3,470
31	3,010	------	2,420	2,570	------	2,820	------	35,000	------	5,010	4,220	------
TOTAL	95,150	91,370	79,750	78,360	72,390	79,940	159,340	628,400	1,141.2M	356,940	125,520	126,020
MEAN	3,069	3,046	2,573	2,528	2,496	2,579	5,311	20,270	38,040	11,510	4,049	4,201
MAX	3,320	3,210	2,860	2,780	2,630	3,010	6,780	38,000	60,000	21,900	5,670	5,480
MIN	2,900	2,820	2,140	2,260	2,260	2,300	3,250	8,350	24,300	4,950	3,370	3,460
AC-FT	188,700	181,200	158,200	155,400	143,600	158,600	316,000	1,246M	2,264M	708,000	249,000	250,000

CAL YR 1963: TOTAL 2,446,390 MEAN 6,702 MAX 28,400 MIN 1,300 AC-FT 4,852,000
WAT YR 1964: TOTAL 3,034,380 MEAN 8,291 MAX 60,000 MIN 2,140 AC-FT 6,019,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3,620	3,880	3,910	5,800	5,760	5,780	4,400	35,800	38,000	19,100	5,670	4,980
2	3,640	3,890	4,140	5,200	5,670	5,520	5,390	37,800	36,400	18,300	5,460	4,900
3	3,710	3,910	4,200	5,160	5,240	5,330	7,130	34,900	35,300	17,700	5,330	4,740
4	3,780	3,970	4,180	5,290	5,030	5,180	7,490	30,300	35,600	17,100	5,270	4,700
5	3,800	3,970	4,060	5,370	4,930	5,100	7,250	26,900	36,600	16,800	5,390	4,620
6	3,820	3,890	3,950	5,410	5,060	5,030	7,440	24,300	36,300	16,400	5,480	4,700
7	3,780	3,860	3,760	5,430	5,220	5,160	7,660	22,100	36,500	15,800	5,460	4,740
8	3,730	3,820	3,640	5,290	5,010	5,310	8,020	20,400	36,700	15,400	5,330	4,780
9	3,730	3,760	3,460	5,030	4,850	5,430	8,680	19,200	35,700	14,800	5,100	4,740
10	3,730	3,740	3,600	4,810	4,750	5,580	9,290	18,300	34,800	14,600	4,980	4,820
11	3,740	3,730	3,760	4,570	4,350	5,710	9,480	18,300	35,600	14,400	4,780	5,060
12	3,730	3,710	3,580	4,530	4,200	5,710	9,290	19,800	37,900	14,000	4,640	5,180
13	3,740	3,690	3,400	4,470	4,100	5,520	9,160	23,000	39,400	13,800	4,680	5,120
14	3,690	3,650	3,290	4,570	4,310	5,310	9,370	27,200	40,000	12,900	4,760	5,200
15	3,670	3,580	3,280	4,610	4,290	5,200	10,300	30,800	36,000	11,900	4,760	5,950
16	3,730	3,420	2,800	4,670	4,050	5,220	11,400	33,000	31,000	11,000	4,640	7,800
17	3,800	3,210	1,500	4,650	4,220	5,030	12,300	33,400	31,000	10,500	4,500	9,110
18	3,880	3,210	1,350	4,570	4,450	4,450	12,200	33,100	37,700	9,920	4,370	8,250
19	3,840	3,380	1,400	4,470	4,670	4,260	12,100	30,200	39,600	9,450	4,230	7,610
20	3,820	3,470	1,500	4,430	5,140	4,410	17,100	28,100	37,300	8,960	4,200	7,250
21	3,840	3,530	1,700	4,390	6,020	4,590	26,000	26,900	34,900	8,780	4,010	7,180
22	3,890	3,420	3,000	4,310	6,020	4,710	29,500	26,500	32,700	8,580	4,040	7,300
23	3,890	3,380	11,500	4,290	5,520	4,610	28,000	26,200	31,000	8,200	4,500	7,730
24	3,880	3,550	21,000	4,270	5,030	4,200	26,500	26,300	29,000	7,780	5,080	8,250
25	3,840	4,390	17,300	4,200	4,970	3,930	25,500	26,700	28,000	7,370	5,540	7,900
26	3,840	4,270	12,300	4,240	5,030	4,030	24,800	27,000	28,900	6,990	5,560	7,460
27	3,820	4,330	10,000	4,240	5,140	4,200	24,900	26,600	29,200	6,740	5,480	7,200
28	3,820	4,160	8,820	4,270	5,450	4,180	25,600	26,500	26,500	6,480	5,420	6,940
29	3,800	3,910	7,720	4,510	------	4,140	27,300	28,600	23,300	6,320	5,310	6,760
30	3,800	3,820	6,860	4,810	------	4,120	31,500	33,100	20,700	6,130	5,230	6,600
31	3,840	------	6,360	5,370	------	4,140	------	36,900	------	5,930	5,100	------
TOTAL	117,240	112,500	171,320	147,230	138,480	151,090	455,050	858,200	1,011.6M	362,130	154,300	197,570
MEAN	3,782	3,750	5,526	4,749	4,945	4,874	15,170	27,680	33,720	11,680	4,977	6,252
MAX	3,890	4,390	21,000	5,800	6,020	5,780	31,500	37,800	40,000	19,100	5,670	9,110
MIN	3,620	3,210	1,350	4,200	4,050	3,930	4,400	18,300	20,700	5,930	4,010	4,620
AC-FT	232,500	223,100	339,800	292,000	274,700	299,700	902,600	1,702M	2,006M	718,300	306,000	372,000

CAL YR 1964: TOTAL 3,169,170 MEAN 8,659 MAX 60,000 MIN 1,350 AC-FT 6,286,000
WAT YR 1965: TOTAL 3,866,710 MEAN 10,590 MAX 40,000 MIN 1,350 AC-FT 7,670,000

M Expressed in thousands.

12-3550. Flathead River at Flathead, British Columbia

(International gaging station)

Location (revised).--Lat 49°00'05", long 114°28'30", on left bank 200 ft north of international boundary and Flathead, British Columbia, 1½ miles upstream from Sage Creek, 6½ miles northwest of Trail Creek, Mont., and at mile 216.6.

Drainage area.--450 sq mi, approximately.

Records available.--March 1929 to September 1965 (no winter records prior to 1952). Prior to October 1934, published as "near Trail Creek, Mont."

Gage (revised).--Water-stage recorder. Datum of gage is 3,966.74 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 1, 1949, staff gage and Sept. 1, 1949, to Oct. 4, 1964, water-stage recorder, at site 1,200 ft upstream at datum 9.22 ft higher.

Average discharge.--14 years (1951-65), 996 cfs (721,100 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	12,700	7.12	Jan. 4, 1961	90	-
1962	May 24, 1962	5,200	4.42	Dec. 11, 1961	83	-
1963	May 31, 1963	4,650	4.08	Jan. 12, 1963	90	-
1964	June 8, 1964	16,300	a 8.00	Mar. 23, 1964	97	-
1965	May 30, 1965	8,410	7.98	Dec. 16, 1964	96	-

a Maximum gage height for year, 8.6 ft, from outside floodmarks.

1929-65: Maximum discharge, 16,300 cfs June 8, 1964 (gage height, 8.00 ft, in gage well, 8.6 ft, from outside floodmarks, site and datum then in use), from rating curve extended above 8,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 65 cfs Apr. 9, 1929, but may have been less during periods of no winter record.

Remarks.--Records good except those for periods of ice effect and those for periods of no gage-height record, which are poor. No regulation or diversion above station.

Cooperation.--This is one of a number of stations which are maintained jointly by Canada and the United States.

Revisions (water years).--WSP 1092: 1933 (maximum gage height only).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	213	280	210	105	190	220	380	910	7,320	1,330	463	292
2	210	257	215	100	190	210	480	1,370	7,730	1,250	445	325
3	210	241	220	95	185	200	640	1,890	7,550	1,190	427	315
4	207	219	210	90	175	190	930	1,860	7,470	1,150	410	292
5	201	213	190	100	175	170	880	1,840	7,650	1,140	398	274
6	198	213	160	140	175	190	780	1,770	7,810	1,130	393	270
7	198	207	135	140	175	200	710	1,580	7,600	1,080	376	261
8	219	204	130	140	170	180	670	1,560	6,290	1,010	371	257
9	213	207	125	135	170	180	620	2,120	5,200	965	366	249
10	210	201	115	135	180	180	580	2,740	4,610	910	371	265
11	210	207	115	135	195	170	560	2,860	4,400	875	350	270
12	222	201	130	130	190	170	560	2,670	4,550	830	340	257
13	219	216	150	130	170	170	610	2,740	4,270	787	335	249
14	210	201	150	130	155	175	590	2,680	3,960	755	325	241
15	207	198	140	140	170	190	550	3,100	4,210	740	315	237
16	204	198	130	150	180	210	520	3,710	4,400	740	310	229
17	204	195	130	170	175	230	580	3,400	4,400	732	320	222
18	204	207	140	150	170	230	710	3,330	4,100	702	315	225
19	204	201	150	140	170	230	790	3,750	3,770	673	306	229
20	204	210	160	120	180	240	790	4,700	3,590	651	296	253
21	204	219	160	115	250	240	730	5,950	3,190	630	296	265
22	229	204	160	110	320	240	700	7,120	2,740	594	288	265
23	249	195	160	110	300	240	670	7,760	2,410	615	278	257
24	275	207	155	105	280	250	670	8,620	2,250	622	270	249
25	285	275	150	105	260	280	690	8,220	2,090	601	265	245
26	285	257	140	100	240	290	690	8,950	2,000	574	261	241
27	285	219	130	95	230	300	670	11,500	1,860	540	257	237
28	275	229	120	95	230	300	650	9,520	1,680	527	253	233
29	275	219	110	105	------	290	650	7,420	1,540	527	249	241
30	253	215	110	130	------	290	740	7,500	1,460	508	245	249
31	245	------	110	160	------	310	------	7,290	------	488	249	------
TOTAL	7,027	6,515	4,610	3,805	5,650	6,965	19,790	140,440	132,100	24,866	10,143	7,694
MEAN	227	217	149	123	202	225	660	4,530	4,403	802	327	256
MAX	285	280	220	170	320	310	930	11,500	7,810	1,330	463	325
MIN	198	195	110	90	155	170	380	910	1,460	488	245	222
CFSM	.50	.48	.33	.27	.45	.50	1.47	10.1	9.79	1.78	.73	.57
IN.	.58	.54	.38	.31	.47	.58	1.64	11.6	10.9	2.06	.84	.64
AC-FT	13,940	12,920	9,140	7,550	11,210	13,810	39,250	278,600	262,000	49,320	20,120	15,260

CAL YR 1960: TOTAL 337,874 MEAN 923 MAX 9,080 MIN 110 CFSM 2.05 IN 27.92 AC-FT 670,200
WAT YR 1961: TOTAL 369,605 MEAN 1,013 MAX 11,500 MIN 90 CFSM 2.25 IN 30.55 AC-FT 733,100

12-3550. Flathead River at Flathead, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	245	340	228	200	150	142	176	1,460	3,690	1,230	427	245
2	241	330	220	187	154	150	182	1,500	3,630	1,160	410	245
3	233	335	215	186	170	153	186	1,740	4,040	1,080	410	245
4	233	301	212	187	200	158	195	1,930	3,750	1,010	415	241
5	233	301	207	182	230	166	204	1,730	3,080	956	427	233
6	257	278	190	170	223	170	216	1,610	2,690	974	427	225
7	306	278	182	153	222	171	296	1,570	2,440	920	415	222
8	306	278	181	136	228	169	371	1,490	2,550	860	410	222
9	296	265	140	120	229	165	382	1,540	3,690	835	393	222
10	301	261	106	108	226	162	371	1,780	4,250	844	382	229
11	340	270	83	118	222	155	371	2,100	3,650	852	360	306
12	350	261	95	132	223	150	366	2,290	3,330	819	345	330
13	388	253	166	135	218	149	400	2,410	3,120	771	325	310
14	501	253	178	128	217	148	600	2,480	3,060	740	315	296
15	534	245	182	122	210	150	890	2,620	3,060	702	301	296
16	520	237	175	124	202	151	1,280	2,830	3,230	680	296	292
17	588	178	172	123	192	152	1,530	3,310	3,290	658	283	278
18	615	190	168	122	189	153	1,720	3,590	3,270	622	283	270
19	560	220	166	118	182	155	1,880	4,160	2,920	594	292	261
20	554	232	193	116	166	157	2,100	4,720	2,690	581	288	261
21	494	225	206	118	148	157	3,010	4,330	2,500	540	274	253
22	457	220	204	123	127	155	2,900	4,440	2,240	534	274	253
23	457	223	206	128	106	154	2,860	4,440	2,040	527	274	249
24	439	232	220	134	97	157	3,610	4,920	1,910	534	270	245
25	404	245	238	142	105	170	4,230	4,740	1,850	527	265	241
26	404	244	233	153	120	187	3,480	4,380	1,800	501	257	237
27	415	236	218	160	128	188	2,740	4,400	1,670	488	257	233
28	398	236	196	165	133	187	2,240	4,850	1,440	482	265	237
29	371	232	197	162	------	180	1,820	4,940	1,320	463	257	253
30	345	229	204	158	------	176	1,580	4,420	1,280	427	253	249
31	335	------	206	152	------	174	------	4,000	------	427	253	------
TOTAL	12,120	7,628	5,787	4,462	5,017	5,011	42,186	96,720	83,480	22,338	10,103	7,679
MEAN	391	254	187	144	179	162	1,406	3,120	2,783	721	326	256
MAX	615	340	238	200	230	188	4,230	4,940	4,250	1,230	427	330
MIN	233	178	83	108	97	142	176	1,460	1,280	427	253	222
CFSM	.87	.57	.41	.32	.40	.36	3.12	6.93	6.18	1.60	.72	.57
IN.	1.00	.63	.48	.37	.41	.41	3.49	7.99	6.90	1.85	.83	.63
AC-FT	24,040	15,130	11,480	8,850	9,950	9,940	83,670	191,800	165,600	44,310	20,040	15,230

CAL YR 1961: TOTAL 376,988 MEAN 1,033 MAX 11,500 MIN 83 CFSM 2.30 IN 31.16 AC-FT 747,700
WAT YR 1962: TOTAL 302,531 MEAN 829 MAX 4,940 MIN 83 CFSM 1.84 IN 25.00 AC-FT 600,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	249	270	371	288	105	262	507	1,810	4,060	3,600	611	286
2	241	265	345	257	112	255	447	1,720	3,480	3,780	590	291
3	233	261	330	219	120	248	411	1,540	3,190	3,580	590	291
4	233	257	301	195	195	240	399	1,360	3,210	2,930	548	291
5	233	265	325	184	360	248	408	1,250	3,290	2,420	520	280
6	229	261	320	175	480	248	549	1,300	3,290	2,080	494	275
7	229	249	310	167	570	248	654	1,690	2,990	2,000	488	270
8	237	249	301	162	615	240	648	2,060	3,030	1,930	474	265
9	241	270	296	140	585	240	624	2,210	3,130	1,720	449	275
10	249	288	288	120	540	232	609	2,020	3,520	1,530	455	280
11	237	292	283	105	495	232	588	1,960	3,370	1,430	474	260
12	278	283	278	90	450	225	582	2,040	3,130	1,410	449	245
13	330	261	265	112	405	225	609	2,130	3,010	1,300	425	230
14	335	245	261	135	375	218	696	2,220	2,780	1,200	443	302
15	320	233	278	150	360	218	918	2,620	2,650	1,140	431	296
16	292	222	350	165	345	218	1,130	2,820	2,440	1,120	425	318
17	274	222	398	150	330	218	1,080	3,250	2,440	1,050	407	335
18	270	216	382	135	322	218	978	3,480	2,100	1,010	383	308
19	270	219	360	120	308	206	888	3,290	1,980	946	377	280
20	265	427	340	128	300	208	816	3,390	1,830	914	371	270
21	278	608	310	135	285	210	750	3,780	1,680	866	377	255
22	320	494	340	112	278	217	705	4,110	1,960	842	377	255
23	355	421	237	105	270	244	681	4,130	1,990	802	359	291
24	345	376	225	112	262	277	663	4,560	1,750	788	359	280
25	330	398	225	120	255	280	651	4,560	1,710	758	335	275
26	320	534	225	128	255	284	684	4,580	1,710	750	347	260
27	306	540	229	120	262	312	795	4,330	1,720	712	341	240
28	292	469	237	120	270	501	1,010	4,220	1,510	690	324	230
29	283	427	278	120	------	564	1,270	4,150	2,240	653	318	230
30	283	393	296	112	------	561	1,560	4,420	3,450	639	302	226
31	274	------	296	105	------	582	------	4,610	------	618	291	------
TOTAL	8,631	9,915	9,280	4,486	9,509	8,679	22,310	91,610	78,640	45,208	13,134	8,190
MEAN	278	331	299	145	340	280	744	2,955	2,621	1,458	424	273
MAX	355	608	398	288	615	582	1,560	4,610	4,060	3,780	611	335
MIN	229	216	225	90	105	206	399	1,250	1,510	618	291	226
CFSM	.62	.73	.67	.32	.75	.62	1.65	6.57	5.83	3.24	.94	.61
IN.	.71	.82	.77	.37	.79	.72	1.84	7.57	6.50	3.74	1.09	.68
AC-FT	17,120	19,670	18,410	8,900	18,860	17,210	44,250	181,700	156,000	89,670	26,050	16,240

CAL YR 1962: TOTAL 304,822 MEAN 835 MAX 4,940 MIN 97 CFSM 1.86 IN 25.19 AC-FT 604,600
WAT YR 1963: TOTAL 309,592 MEAN 848 MAX 4,610 MIN 90 CFSM 1.88 IN 25.59 AC-FT 614,100

12-3550. Flathead River at Flathead, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	218	270	260	187	163	156	184	1,100	6,080	2,350	696	344
2	218	270	265	186	162	156	192	1,290	6,330	2,360	648	338
3	218	260	265	185	160	157	192	2,270	6,410	2,340	612	386
4	214	240	260	184	160	157	197	2,850	7,260	2,210	598	386
5	218	235	265	184	160	158	202	2,560	6,540	2,190	580	380
6	230	230	300	184	159	158	209	2,160	6,830	2,140	560	370
7	222	230	280	184	158	158	214	1,930	6,440	1,960	540	355
8	214	230	240	184	158	158	226	2,060	11,900	1,910	520	335
9	206	222	190	184	157	159	245	2,470	13,500	1,940	505	326
10	210	218	177	184	157	159	262	3,350	8,450	1,810	490	315
11	202	210	177	183	157	160	270	3,330	6,710	1,650	480	305
12	198	198	188	183	156	161	270	3,350	6,510	1,540	470	295
13	198	194	207	182	156	162	262	3,910	5,780	1,500	460	290
14	194	202	210	182	156	162	273	4,150	5,550	1,560	440	275
15	190	190	208	181	155	162	324	3,730	5,010	1,460	430	254
16	190	198	205	181	155	162	354	3,840	4,740	1,390	420	250
17	188	270	200	180	155	162	328	4,630	4,640	1,270	410	254
18	188	270	198	180	154	159	297	5,310	4,040	1,230	395	266
19	188	250	194	180	154	157	297	6,050	3,710	1,210	380	254
20	185	230	192	180	154	154	324	6,970	3,580	1,100	370	326
21	185	210	193	179	153	147	354	8,220	3,290	1,020	360	326
22	218	195	197	178	153	118	398	5,650	3,210	988	350	290
23	371	205	199	177	154	97	386	3,980	3,320	943	345	290
24	413	240	202	176	154	99	392	3,370	3,540	898	340	285
25	401	260	203	175	154	110	473	3,000	3,400	872	350	386
26	335	291	204	174	155	117	585	3,080	3,200	832	404	374
27	296	320	202	172	155	118	636	3,760	3,060	792	386	410
28	280	300	200	170	155	126	621	4,770	2,780	768	362	420
29	280	280	196	169	155	138	784	5,050	2,440	744	356	415
30	270	265	192	166	------	155	964	5,480	2,320	768	344	415
31	265	------	188	164	------	176	------	5,780	------	736	344	------
TOTAL	7,403	7,183	6,657	5,558	4,534	4,578	10,715	119,450	160,570	44,481	13,945	9,915
MEAN	239	239	215	179	156	148	357	3,853	5,352	1,435	450	331
MAX	413	320	300	187	163	176	964	8,220	13,500	2,360	696	420
MIN	185	190	177	164	153	97	184	1,100	2,320	736	340	250
CFSM	.53	.53	.48	.40	.35	.33	.79	8.56	11.9	3.19	1.00	.73
IN.	.61	.59	.55	.46	.37	.38	.89	9.87	13.3	3.68	1.15	.82
AC-FT	14,680	14,250	13,200	11,020	8,990	9,080	21,250	236,900	318,500	88,230	27,660	19,670

CAL YR 1963: TOTAL 303,009 MEAN 830 MAX 4,610 MIN 90 CFSM 1.84 IN 25.04 AC-FT 601,000
WAT YR 1964: TOTAL 394,989 MEAN 1,079 MAX 13,500 MIN 97 CFSM 2.40 IN 32.64 AC-FT 783,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	430	404	380	240	185	240	150	4,060	5,500	2,650	602	371
2	500	420	340	235	186	225	155	3,030	5,180	2,700	586	362
3	600	424	320	233	187	218	163	2,340	6,230	2,810	586	366
4	550	420	312	233	189	216	170	1,910	6,690	2,860	591	366
5	525	432	304	238	190	213	183	1,740	5,990	2,790	640	362
6	502	436	300	240	185	210	198	1,560	6,120	2,520	618	340
7	516	428	296	230	150	210	215	1,460	5,660	2,400	580	335
8	525	420	324	215	135	209	230	1,580	4,920	2,380	555	326
9	543	424	292	195	120	209	245	2,040	4,920	2,060	540	330
10	570	436	300	166	119	209	280	3,120	5,690	1,820	530	330
11	610	436	280	170	116	209	315	4,080	6,200	1,640	515	335
12	552	420	240	178	114	208	344	5,420	7,100	1,490	520	344
13	534	404	180	184	115	208	388	6,560	6,560	1,340	525	344
14	516	384	140	192	117	207	464	6,370	5,500	1,210	505	376
15	516	364	105	198	120	206	552	6,120	4,770	1,150	485	450
16	516	356	96	201	180	180	543	5,690	4,790	1,110	470	445
17	495	360	100	200	200	160	534	5,290	5,480	1,040	460	430
18	475	360	125	199	212	150	516	4,260	7,260	989	440	425
19	444	356	140	198	222	160	530	3,720	7,540	957	430	430
20	448	352	155	196	210	175	635	3,820	6,690	949	430	430
21	440	344	165	194	170	185	787	3,480	5,640	893	430	450
22	436	336	180	192	158	198	874	3,100	4,900	878	415	515
23	408	336	190	188	175	190	949	2,880	4,380	829	415	520
24	424	368	203	183	210	170	1,070	2,810	4,260	789	460	505
25	408	356	215	186	223	147	1,230	3,030	3,940	744	450	490
26	400	340	224	180	235	148	1,600	3,270	3,580	726	430	485
27	404	352	229	180	240	149	2,080	3,770	3,390	702	405	475
28	404	352	234	180	242	148	2,840	4,790	3,000	684	405	460
29	400	360	240	180	------	149	4,040	6,390	2,740	668	405	440
30	396	384	245	180	------	148	4,560	7,850	2,630	640	400	430
31	400	------	243	183	------	148	------	7,040	------	630	380	------
TOTAL	14,887	11,564	7,097	6,167	4,905	5,802	26,840	122,580	157,250	45,048	15,203	12,267
MEAN	480	385	229	199	175	187	895	3,954	5,242	1,453	490	409
MAX	610	436	380	240	242	240	4,560	7,850	7,540	2,860	640	520
MIN	396	336	96	166	114	147	150	1,460	2,630	630	380	326
CFSM	1.07	.86	.51	.44	.39	.42	1.99	8.79	11.6	3.23	1.09	.91
IN.	1.23	.96	.59	.51	.41	.48	2.22	10.1	13.0	3.72	1.26	1.01
AC-FT	29,530	22,940	14,080	12,230	9,730	11,510	53,240	243,100	311,900	89,350	30,150	24,330

CAL YR 1964: TOTAL 407,294 MEAN 1,113 MAX 13,500 MIN 96 CFSM 2.47 IN 33.66 AC-FT 807,900
WAT YR 1965: TOTAL 429,610 MEAN 1,177 MAX 7,850 MIN 96 CFSM 2.62 IN 35.50 AC-FT 852,100

12-3555. Flathead River near Columbia Falls, Mont.

Location.--48°29'40", long 114°07'40"; near center of W½ sec.35, T.32 N., R.20 W., on right bank 1.5 miles downstream from Canyon Creek, 3.8 miles upstream from Middle Fork, 9 miles northeast of Columbia Falls, and at mile 162.1.

Drainage area.--1,548 sq mi. At site used prior to Oct. 1, 1962, 1,553 sq mi.

Records available.--September 1910 to September 1917 (no winter records in some years), April 1929 to February 1935 (incomplete), June 1935 to September 1965. Monthly discharge only for some periods, published in WSP 1316. Published as North Fork Flathead River near Columbia Falls 1910-14.

Gage.--Water-stage recorder with pressure recording bubbler system. Datum of gage is 3,145.59 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. September 1910 to September 1917 staff gage at site 2½ miles downstream at different datum. April to August 1929 slope gage and May 1, 1930, to Sept. 30, 1962, water-stage recorder, at site 2.7 miles downstream at different datums.

Average discharge.--34 years (1910-12, 1913-15, 1935-65), 2,946 cfs (2,133,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 28, 1961	29,900	11.83	Jan. 27, 1961	a 420	-
1962	May 29, 1962	14,200	8.51	Dec. 11, 1961	262	0.97
1963	May 31, 1963	13,800	8.08	Jan. 12, 1963	a 300	-
1964	June 9, 1964	69,100	b 18.60	Mar. 24, 1964	a 350	-
1965	June 19, 1965	23,300	10.57	Dec. 17, 1964	a 300	-

a Minimum daily.
b From floodmarks.

1910-17, 1929-65: Maximum discharge, 69,100 cfs June 9, 1964 (gage height, 18.60 ft, from floodmarks), from rating curve extended above 37,000 cfs on basis of slope-area measurement of peak flow; minimum, 198 cfs Jan. 8, 1953 (gage height, 0.86 ft, site and datum then in use).

Remarks.--Records good except those for winter periods and those for periods of no gage-height record, which are poor. A few small diversions from tributaries for irrigation of hay meadows above station. No regulation.

Revisions (water years).--WSP 1216: Drainage area. WSP 1246: 1911, 1912(M), 1915-17(M), 1929(M), 1938-39(M), 1946(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	830	1,080	795	500	780	940	1,470	3,700	20,800	4,870	1,780	1,080
2	816	1,090	820	475	800	910	1,760	5,150	21,200	4,440	1,710	1,270
3	809	1,040	872	440	760	809	2,600	6,120	21,200	4,110	1,660	1,280
4	788	972	858	430	740	795	3,700	5,920	21,000	3,970	1,620	1,200
5	769	910	795	500	720	712	3,460	5,810	21,300	3,950	1,580	1,130
6	762	865	594	680	730	809	3,050	5,810	21,900	4,110	1,540	1,090
7	756	851	572	660	740	802	2,750	5,630	21,800	3,970	1,510	1,080
8	788	837	560	650	700	750	2,580	5,310	20,000	3,810	1,490	1,070
9	802	795	520	640	676	736	2,410	6,030	16,900	3,650	1,510	1,030
10	788	816	500	630	756	724	2,250	7,800	15,100	3,430	1,500	1,040
11	788	888	510	620	823	700	2,130	9,150	13,700	3,300	1,440	1,080
12	851	851	600	616	802	694	2,150	8,530	13,700	3,170	1,390	1,040
13	858	809	650	604	782	694	2,330	8,190	13,900	3,020	1,330	996
14	823	795	630	616	743	724	2,270	8,060	12,600	2,900	1,290	956
15	795	795	580	646	756	769	2,090	8,450	12,600	2,860	1,260	932
16	782	795	560	718	762	880	1,970	9,500	13,300	2,870	1,240	895
17	776	782	540	743	724	956	2,100	9,700	13,600	2,860	1,230	872
18	769	816	600	688	706	948	2,680	9,150	13,200	2,740	1,230	880
19	762	830	660	610	694	956	3,100	9,470	12,300	2,660	1,200	880
20	762	851	690	500	730	1,000	2,990	11,200	11,600	2,550	1,160	888
21	750	895	680	490	1,040	1,000	2,800	13,800	10,700	2,420	1,160	964
22	776	844	680	480	1,410	988	2,680	16,400	9,530	2,350	1,140	948
23	888	823	670	470	1,330	996	2,590	18,500	8,500	2,330	1,110	956
24	980	918	660	450	1,240	1,080	2,540	20,800	7,900	2,390	1,080	925
25	1,050	1,150	640	440	1,170	1,200	2,630	22,000	7,490	2,340	1,080	895
26	1,040	1,190	600	430	1,040	1,230	2,640	22,800	7,150	2,240	1,080	845
27	1,040	1,040	570	420	988	1,280	2,550	26,700	6,820	2,130	1,060	888
28	1,050	872	500	430	948	1,230	2,480	28,700	6,270	2,060	1,040	872
29	1,060	830	490	450	------	1,200	2,400	23,000	5,700	2,030	1,030	918
30	1,010	802	500	520	------	1,240	2,780	21,400	5,270	1,950	1,000	902
31	980	------	510	700	------	1,340	------	21,200	------	1,870	988	------
TOTAL	26,498	26,842	19,406	17,246	24,090	29,092	75,930	383,980	407,030	93,350	40,438	29,852
MEAN	855	895	626	556	860	938	2,531	12,390	13,570	3,011	1,304	995
MAX	1,060	1,190	872	743	1,410	1,340	3,700	28,700	21,900	4,870	1,780	1,280
MIN	750	782	490	420	676	694	1,470	3,700	5,270	1,870	988	872
CFSM	.55	.58	.40	.36	.56	.61	1.64	8.00	8.76	1.95	.84	.64
IN.	.64	.64	.47	.41	.58	.70	1.82	9.22	9.78	2.24	.97	.72
AC-FT	52,560	53,240	38,490	34,210	47,780	57,700	150,600	761,600	807,300	185,200	80,210	59,210

CAL YR 1960: TOTAL 1,128,136 MEAN 3,082 MAX 20,500 MIN 490 CFSM 1.99 IN 27.10 AC-FT 2,238,000
WAT YR 1961: TOTAL 1,173,754 MEAN 3,216 MAX 28,700 MIN 420 CFSM 2.08 IN 28.20 AC-FT 2,328,000

12-3555. Flathead River near Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	880	1,170	756	700	560	528	718	5,520	10,900	5,170	1,690	932
2	858	1,100	730	680	620	544	788	5,350	10,300	4,930	1,820	910
3	844	1,060	712	700	720	555	902	5,700	10,600	4,580	1,780	910
4	823	1,060	700	710	850	572	1,030	6,180	10,600	4,200	1,760	895
5	823	1,020	694	670	850	588	1,230	5,940	9,330	3,910	1,770	865
6	837	988	646	650	810	622	1,600	5,630	8,190	3,880	1,800	837
7	910	972	616	620	800	634	2,250	5,760	7,420	3,650	1,780	837
8	980	932	640	560	850	622	2,340	5,500	7,130	3,430	1,770	823
9	964	918	566	490	840	599	2,160	5,540	8,400	3,330	1,720	802
10	964	910	352	400	840	588	2,000	6,140	10,700	3,300	1,670	809
11	1,040	932	278	450	830	544	1,920	6,580	10,500	3,290	1,600	918
12	1,120	932	317	490	810	560	1,910	7,100	9,860	3,210	1,540	1,030
13	1,230	895	485	500	910	538	2,040	7,220	9,530	3,140	1,450	1,010
14	1,370	880	540	490	809	538	2,460	7,440	9,260	3,040	1,400	988
15	1,560	851	580	450	762	560	3,300	7,490	9,230	2,930	1,360	964
16	1,610	712	620	470	730	550	4,040	7,750	9,310	2,840	1,310	956
17	1,720	585	610	450	700	550	4,460	8,500	9,810	2,710	1,270	948
18	1,850	650	600	460	694	550	5,030	9,310	10,100	2,590	1,230	925
19	1,810	750	590	450	670	560	6,000	10,500	9,720	2,480	1,240	902
20	1,930	780	690	430	610	582	9,200	12,000	9,260	2,350	1,200	895
21	1,760	718	760	450	485	577	9,600	12,200	8,790	2,250	1,160	880
22	1,600	724	750	480	470	566	8,100	12,100	8,320	2,180	1,160	958
23	1,560	809	750	490	400	560	7,400	12,400	7,780	2,160	1,170	844
24	1,550	809	800	500	360	577	9,500	13,200	7,390	2,150	1,130	837
25	1,440	795	850	530	390	594	11,900	13,700	7,250	2,160	1,080	823
26	1,410	756	800	570	426	670	10,900	12,900	7,130	2,130	1,060	809
27	1,420	756	750	620	446	700	9,150	12,400	6,860	2,110	1,030	795
28	1,390	776	700	610	490	688	8,320	13,000	6,230	2,100	1,060	823
29	1,290	776	720	620	------	664	7,030	14,000	5,610	2,110	1,040	872
30	1,220	750	750	600	------	652	6,120	13,300	5,250	2,040	996	865
31	1,170	------	740	570	------	670	------	11,900	------	1,950	964	------
TOTAL	39,833	25,766	20,092	16,860	18,632	18,302	143,398	282,250	260,760	102,300	43,210	26,562
MEAN	1,285	859	648	544	665	590	4,780	9,105	8,692	2,977	1,394	885
MAX	1,850	1,170	850	710	850	700	11,900	14,000	10,900	5,170	1,890	1,030
MIN	823	585	278	400	360	528	718	5,350	5,250	1,950	964	795
CFSM	.83	.55	.42	.35	.43	.38	3.09	5.88	5.61	1.92	.90	.57
IN.	.96	.62	.48	.41	.45	.44	3.45	6.78	6.26	2.22	1.04	.64
AC-FT	79,010	51,110	39,850	33,440	36,960	36,300	284,400	559,800	517,200	183,100	85,710	52,680

CAL YR 1961: TOTAL 1,186,699 MEAN 3,251 MAX 28,700 MIN 278 CFSM 2.10 IN 28.51 AC-FT 2,354,000
WAT YR 1962: TOTAL 987,965 MEAN 2,707 MAX 14,000 MIN 278 CFSM 1.75 IN 23.74 AC-FT 1,960,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	844	1,040	1,400	1,200	350	875	1,690	6,040	12,800	10,600	1,950	1,020
2	836	1,030	1,350	1,200	375	850	1,490	5,750	11,500	10,100	1,930	1,020
3	820	1,010	1,300	1,180	400	825	1,370	5,140	10,400	9,750	1,870	1,020
4	806	989	1,200	1,120	650	800	1,330	4,540	10,400	9,060	1,810	983
5	806	989	1,150	1,100	1,200	825	1,360	4,180	10,600	8,020	1,730	972
6	792	989	1,200	1,050	1,600	825	1,830	4,330	11,600	7,270	1,690	940
7	785	980	1,180	1,020	1,900	825	2,180	5,620	10,800	6,750	1,640	924
8	785	948	1,150	980	2,050	800	2,160	6,850	10,300	6,620	1,590	916
9	820	1,060	1,120	550	1,950	800	2,080	6,440	10,500	6,160	1,580	908
10	844	1,140	1,100	400	1,800	775	2,030	5,800	11,400	5,560	1,590	948
11	844	1,150	1,100	350	1,650	775	1,960	5,420	11,900	5,120	1,660	998
12	1,020	1,150	989	300	1,500	750	1,940	5,310	11,000	4,880	1,630	989
13	1,100	1,130	964	375	1,350	750	2,030	5,340	10,500	4,540	1,580	980
14	1,230	1,090	940	450	1,250	725	2,320	5,420	10,000	4,220	1,570	1,040
15	1,280	1,050	940	500	1,200	725	3,060	5,800	9,780	4,000	1,550	1,070
16	1,200	989	1,020	550	1,150	725	3,770	6,350	9,360	3,820	1,510	1,150
17	1,130	964	1,150	500	1,100	725	3,610	7,010	8,970	3,630	1,470	1,170
18	1,080	932	1,220	450	1,080	725	3,260	7,790	8,460	3,410	1,410	1,110
19	1,070	932	1,230	400	1,020	687	2,960	8,000	7,940	3,240	1,390	1,060
20	1,040	1,330	1,220	425	1,000	694	2,720	8,160	7,500	3,070	1,340	1,020
21	1,030	1,710	1,200	450	950	701	2,500	8,860	6,960	2,940	1,330	989
22	1,080	1,710	1,180	375	925	722	2,350	9,720	7,450	2,850	1,300	964
23	1,190	1,560	1,050	350	900	813	2,270	10,300	7,890	2,740	1,260	998
24	1,240	1,400	1,000	375	875	924	2,210	11,000	6,930	2,650	1,240	1,020
25	1,250	1,350	950	400	850	932	2,170	11,800	6,420	2,540	1,220	980
26	1,230	1,600	1,050	425	850	948	2,280	12,100	6,350	2,470	1,190	956
27	1,190	1,800	1,100	400	875	1,040	2,650	12,000	6,040	2,340	1,190	924
28	1,150	1,600	1,150	400	900	1,670	3,380	11,600	5,730	2,220	1,150	908
29	1,120	1,400	1,100	400	------	1,880	4,240	11,500	6,590	2,130	1,100	892
30	1,080	1,400	1,150	375	------	1,870	5,200	12,300	10,000	2,050	1,070	876
31	1,060	------	1,200	350	------	1,940	------	13,300	------	1,980	1,040	------
TOTAL	31,752	36,422	35,053	18,400	31,700	28,921	74,400	243,770	276,070	146,730	45,580	29,751
MEAN	1,024	1,214	1,131	594	1,132	933	2,480	7,864	9,202	4,733	1,470	992
MAX	1,280	1,800	1,400	1,200	2,050	1,940	5,200	13,300	12,800	10,600	1,950	1,170
MIN	785	932	940	300	350	687	1,330	4,180	5,730	1,980	1,040	876
CFSM	.66	.78	.73	.38	.73	.60	1.60	5.08	5.94	3.06	.95	.64
IN.	.76	.88	.84	.44	.76	.69	1.79	5.86	6.63	3.53	1.10	.71
AC-FT	62,980	72,240	69,530	36,500	62,880	57,360	147,600	483,500	547,600	291,000	90,410	59,010

CAL YR 1962: TOTAL 1,005,501 MEAN 2,755 MAX 14,000 MIN 360 CFSM 1.78 IN 24.16 AC-FT 1,994,000
WAT YR 1963: TOTAL 998,549 MEAN 2,736 MAX 13,300 MIN 300 CFSM 1.77 IN 23.99 AC-FT 1,981,000

12-3555. Flathead River near Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	844	778	924	590	530	535	626	3,360	14,800	7,450	2,520	1,370
2	836	764	980	590	520	505	674	3,890	15,700	7,480	2,440	1,500
3	820	764	964	570	530	510	722	5,180	16,400	7,580	2,310	1,650
4	813	743	916	560	560	520	764	7,890	17,800	7,290	2,210	1,700
5	828	736	980	540	584	530	820	8,180	17,800	7,160	2,160	1,650
6	844	743	1,130	540	572	535	844	8,210	16,900	7,060	2,140	1,590
7	836	764	1,020	540	550	485	844	7,060	17,200	6,520	2,070	1,560
8	820	771	840	530	525	456	884	6,930	26,500	6,280	2,000	1,520
9	799	764	700	520	530	525	948	7,320	58,000	6,370	1,930	1,480
10	785	736	600	520	572	540	1,040	8,690	37,100	6,230	1,950	1,450
11	771	708	500	520	560	530	1,130	9,510	24,800	5,780	1,900	1,390
12	757	694	540	500	550	530	1,170	9,180	21,000	5,360	1,830	1,340
13	743	680	600	500	530	505	1,120	9,990	19,400	5,140	1,770	1,310
14	729	680	620	490	520	530	1,100	10,900	18,600	5,200	1,820	1,270
15	722	729	610	490	510	535	1,270	10,100	17,900	5,160	1,730	1,240
16	708	757	600	500	520	535	1,510	9,750	16,500	4,980	1,670	1,200
17	701	771	580	510	520	545	1,460	11,100	16,100	4,600	1,600	1,170
18	694	792	580	510	530	572	1,340	13,400	14,500	4,370	1,570	1,170
19	674	785	570	510	520	560	1,300	15,000	13,000	4,220	1,560	1,190
20	668	799	580	500	525	545	1,360	16,900	12,000	3,940	1,540	1,200
21	668	694	600	490	500	535	1,460	19,600	11,200	3,660	1,480	1,230
22	668	701	610	460	520	505	1,570	18,400	10,700	3,460	1,420	1,250
23	785	757	620	460	495	360	1,600	13,200	10,800	3,270	1,380	1,280
24	956	785	620	480	525	350	1,630	10,600	11,700	3,070	1,350	1,260
25	1,020	778	610	490	480	400	1,710	9,270	12,200	2,930	1,310	1,270
26	972	792	600	500	465	410	1,960	8,550	11,500	2,760	1,310	1,360
27	916	964	590	520	545	410	2,170	8,830	11,000	2,650	1,400	1,350
28	868	1,150	580	520	540	440	2,180	11,000	10,100	2,540	1,370	1,340
29	844	1,050	560	520	530	470	2,400	12,800	8,860	2,460	1,360	1,310
30	820	940	540	530	------	520	2,860	13,500	7,870	2,530	1,340	1,330
31	799	------	520	530	------	566	------	14,000	------	2,600	1,360	------
TOTAL	24,708	23,569	21,284	16,030	15,358	15,494	40,466	322,290	517,930	150,100	53,800	40,930
MEAN	797	786	687	517	530	500	1,349	10,400	17,260	4,842	1,735	1,364
MAX	1,020	1,150	1,130	590	584	572	2,860	19,600	58,000	7,580	2,520	1,700
MIN	668	680	500	460	465	350	626	3,360	7,870	2,460	1,310	1,170
CFSM	.51	.51	.44	.33	.34	.32	.87	6.72	11.2	3.13	1.12	.88
IN.	.59	.57	.51	.39	.37	.37	.97	7.74	12.4	3.61	1.29	.98
AC-FT	49,010	46,750	42,220	31,800	30,460	30,730	80,260	639,300	1,027M	297,700	106,700	81,180

CAL YR 1963: TOTAL 964,883 MEAN 2,644 MAX 13,300 MIN 300 CFSM 1.71 IN 23.18 AC-FT 1,914,000
WAT YR 1964: TOTAL 1,241,959 MEAN 3,393 MAX 58,000 MIN 350 CFSM 2.19 IN 29.84 AC-FT 2,463,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,580	1,300	1,220	980	701	908	771	11,100	14,300	6,880	2,620	1,510
2	1,890	1,320	1,260	960	674	924	792	9,540	13,200	6,830	2,540	1,460
3	2,140	1,330	1,160	930	650	892	820	8,070	14,400	7,090	2,500	1,460
4	2,040	1,310	1,090	900	708	860	806	7,060	16,800	7,370	2,580	1,520
5	1,930	1,290	1,040	950	778	844	828	6,400	15,800	7,530	2,650	1,460
6	1,830	1,290	1,010	980	820	844	892	5,750	15,700	7,320	2,700	1,400
7	1,840	1,280	964	950	764	836	980	5,250	15,900	7,290	2,540	1,350
8	1,770	1,260	932	900	757	836	1,040	5,070	13,900	7,290	2,380	1,320
9	1,830	1,250	948	850	778	836	1,080	5,380	13,000	7,060	2,250	1,310
10	2,030	1,270	964	800	729	836	1,300	6,320	14,400	6,720	2,180	1,290
11	2,110	1,300	932	700	662	844	1,440	7,790	16,500	6,350	2,130	1,270
12	2,080	1,260	780	720	722	844	1,560	10,700	19,000	5,780	2,090	1,270
13	2,000	1,230	780	740	722	828	1,840	14,300	20,100	5,380	2,160	1,230
14	1,930	1,200	760	760	743	828	2,270	15,300	16,500	4,940	2,130	1,280
15	1,910	1,120	700	790	656	828	2,770	15,100	13,700	4,700	2,040	1,520
16	1,900	1,100	320	820	722	806	2,910	14,700	12,500	4,640	1,950	1,540
17	1,840	1,050	300	836	792	668	2,700	14,200	13,500	4,520	1,870	1,470
18	1,760	1,060	310	785	806	638	2,480	12,000	18,700	4,410	1,790	1,440
19	1,660	1,060	400	764	820	771	2,440	10,600	22,800	4,260	1,710	1,420
20	1,590	1,060	500	750	868	778	3,360	10,600	20,600	4,050	1,690	1,460
21	1,560	1,030	600	750	806	828	5,560	10,800	16,900	3,820	1,760	1,480
22	1,490	1,010	700	743	757	836	6,350	9,960	14,300	3,680	1,670	1,640
23	1,450	1,010	750	694	650	771	5,940	9,330	12,300	3,530	1,640	1,720
24	1,390	1,150	800	674	729	708	5,890	8,970	11,500	3,290	1,750	1,710
25	1,370	1,170	850	729	884	764	5,870	9,120	11,000	3,090	1,790	1,690
26	1,360	1,050	890	694	932	778	6,520	9,450	10,200	2,990	1,770	1,670
27	1,350	1,020	920	715	1,020	771	7,010	9,840	9,660	2,930	1,720	1,650
28	1,320	972	950	771	1,030	778	7,940	11,300	8,880	2,900	1,720	1,610
29	1,300	884	970	743	------	785	9,590	14,300	7,920	2,850	1,700	1,570
30	1,280	1,020	990	736	------	778	11,400	17,400	7,290	2,770	1,650	1,540
31	1,280	------	1,000	757	------	757	------	17,500	------	2,680	1,590	------
TOTAL	52,810	34,656	25,790	24,871	21,680	25,003	105,249	323,200	431,250	154,540	63,260	44,260
MEAN	1,704	1,155	832	802	774	807	3,508	10,430	14,380	4,998	2,041	1,475
MAX	2,140	1,330	1,260	980	1,030	924	11,400	17,500	22,800	7,530	2,700	1,720
MIN	1,280	884	300	674	650	638	771	5,070	7,290	2,680	1,590	1,230
CFSM	1.10	.75	.54	.52	.50	.52	2.27	6.74	9.29	3.23	1.32	.95
IN.	1.27	.83	.62	.60	.52	.60	2.53	7.76	10.4	3.72	1.52	1.06
AC-FT	104,700	68,740	51,150	49,330	43,000	49,590	208,800	641,100	855,400	307,300	125,500	87,790

CAL YR 1964: TOTAL 1,285,654 MEAN 3,513 MAX 58,000 MIN 300 CFSM 2.27 IN 30.89 AC-FT 2,550,000
WAT YR 1965: TOTAL 1,306,969 MEAN 3,581 MAX 22,800 MIN 300 CFSM 2.31 IN 31.40 AC-FT 2,592,000

12-3557. Middle Fork Flathead River near Essex, Mont.

Location.--Lat 48°10'20", long 113°32'40", near center of sec.19, T.28 N., R.15 W., on right bank a quarter of a mile downstream from Spruce Park cabin, 0.9 mile (corrected) downstream from Charlie Creek, 7½ miles southeast of Essex, and at mile 50.1.

Drainage area.--408 sq mi.

Records available.--April 1957 to September 1961 (no winter records after 1958), discontinued.

Gage.--Water-stage recorder with pressure recording bubbler system. Altitude at gage is 4,070 ft (from topographic map).

Extremes.--Maximum discharge during water year 1961, 9,840 cfs May 27 (gage height, 11.16 ft); minimum not determined, probably occurred sometime during period of no gage-height record.
1957-61: Maximum discharge, 10,500 cfs June 6, 1959 (gage height,11.32 ft); minimum daily determined, 85 cfs Jan. 1, 1958.
Maximum discharge known, 57,900 cfs June 8, 1964, result of slope-area measurement.

Remarks.--Records good. No regulation or diversion above station.

Revisions (water years).--WSP 1636: 1957(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	170					250	324	855	6,640	836	282	190
2	170					235	461	1,300	6,380	788	272	222
3	165					210	888	1,340	6,230	764	262	206
4	161					210	1,240	1,370	6,140	748	256	188
5	161					180	1,020	1,370	6,050	742	250	180
6	161					210	888	1,240	5,700	794	242	172
7	161					195	803	1,090	5,460	732	239	170
8	165					185	730	990	4,720	682	233	170
9	161					180	675	990	4,050	638	230	170
10	154					175	610	1,450	3,510	600	233	170
11	154					170	575	1,940	3,360	600	228	193
12	163					170	575	2,060	3,510	565	222	190
13	165					170	600	2,180	3,130	540	214	178
14	161					175	545	2,380	2,780	510	214	170
15	154					200	510	2,820	2,950	486	209	170
16	154					247	480	3,320	2,980	467	206	162
17	154					256	550	2,900	2,950	449	203	160
18	154					256	692	2,640	2,700	436	198	158
19	156					267	708	3,210	2,530	418	196	162
20	156					291	675	4,020	2,290	410	193	178
21	154					285	642	4,900	1,950	397	193	183
22	158					267	631	5,870	1,680	376	188	180
23	163					267	605	6,170	1,470	368	183	183
24	178					294	580	7,590	1,400	372	180	178
25	195					307	590	7,680	1,310	348	180	178
26	185					304	560	8,350	1,230	336	183	193
27	185					307	555	8,880	1,150	325	183	193
28	180					288	535	6,600	1,060	317	178	190
29	185				------	285	555	5,990	981	306	172	211
30	165				------	288	664	6,870	914	302	168	203
31	160	------			------	304	------	7,920	------	288	168	------
TOTAL	5,108	-	-	-	-	7,428	19,466	116,285	97,205	15,940	6,558	5,451
MEAN	165	-	-	-	-	240	649	3,751	3,240	514	212	182
MAX	195	-	-	-	-	307	1,240	8,880	6,640	836	282	222
MIN	154	-	-	-	-	170	324	855	914	288	168	158
CFSM	.404	-	-	-	-	.588	1.59	9.19	7.94	1.26	.520	.446
IN	.47	-	-	-	-	.68	1.77	10.60	8.86	1.45	.60	.50
AC-FT	10,130	-	-	-	-	14,730	38,610	230,600	192,800	31,620	13,010	10,810

12-3570. Middle Fork Flathead River at Essex, Mont.

Location (revised).--Lat 48°16'30", long 113°36'10", in NE¼SW¼ sec.14, T.29 N., R.16 W., on right bank 0.7 mile upstream from Ole Creek, 0.7 mile southeast of Essex, 4.4 miles downstream from Bear Creek, and at mile 40.0.

Drainage area.--510 sq mi.

Records available.--October 1939 to September 1953, June 1956 to September 1964 (discontinued). Monthly discharge only for October 1939, published in WSP 1316.

Gage.--Staff gage. Datum of gage is 3,721.93 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to May 14, 1964, water-stage recorder at same site and datum.

Average discharge.--22 years, 1,067 cfs (772,500 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (4,400 cfs), water years 1961-64

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 16, 1961	0730	4,560	6.83	Apr. 25, 1962	0800	6,500	7.80	May 26, 1963	0500	* 5,320	7.20
May 27, 1961	0700	* 13,000	10.40	May 20, 1962	0600	* 6,890	8.07				
May 31, 1961	0600	10,700	9.87	June 14, 1962	0900	5,110	7.16	May 21, 1964	0800	9,970	9.40
								June 8, 1964	a1830	* 75,300	b 26.7

a About.
b From floodmark.

Annual minimum daily discharge, water years 1961-65

Water year	Date	Discharge	Water year	Date	Discharge
1961	Jan. 26, 1961	110	1963	Jan. 11, 1963	140
1962	Dec. 10, 1961	75	1964	Mar. 24, 1964	60

1939-53, 1956-64: Maximum discharge, 75,300 cfs June 8, 1964 (gage height, 26.7 ft, from floodmark), result of slope-area measurement of peak flow; minimum daily, 30 cfs Jan. 22, 1940. Flood in May 1954 reached a stage of 12.7 ft (discharge, 18,000 cfs, from rating curve extended above 12,000 cfs). Flood of May 21 or 22, 1956, reached a stage of 11.7 ft, from floodmark (discharge, 15,400 cfs, from rating curve extended above 12,000 cfs).

Remarks.--Records good except those for period of no gage-height record and those for winter periods, which are poor. No regulation or diversion above station.

Revisions (water years).--WSP 1216: Drainage area. WSP 1246: 1940, 1941(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	200	268	280	160	210	354	507	1,250	8,350	1,070	354	237
2	198	271	280	150	200	326	701	1,940	8,070	992	344	264
3	195	243	255	140	190	303	1,420	2,050	7,890	929	334	249
4	193	228	243	170	180	300	2,070	2,070	7,650	929	326	231
5	191	210	200	200	180	268	1,650	2,050	7,580	929	316	218
6	191	205	190	190	190	300	1,350	1,890	7,080	964	306	210
7	191	212	180	180	190	284	1,200	1,650	7,040	901	300	205
8	200	215	170	170	180	268	1,060	1,520	5,760	831	297	198
9	195	202	180	170	180	258	950	1,530	4,700	764	293	198
10	191	215	200	170	280	255	845	2,130	4,060	721	297	195
11	195	231	230	170	400	249	771	2,820	3,900	721	287	223
12	212	225	250	160	390	246	784	2,910	4,150	680	280	220
13	207	210	260	160	370	246	845	3,060	3,670	641	274	205
14	200	218	240	160	360	255	758	3,220	3,340	614	268	198
15	195	218	200	180	348	284	709	3,700	3,500	586	261	193
16	193	220	180	200	330	354	668	4,400	3,600	570	255	189
17	191	220	190	190	320	388	758	3,850	3,530	535	252	184
18	191	237	200	160	300	384	1,060	3,430	3,340	516	249	184
19	189	237	210	150	280	403	1,090	4,120	3,110	502	243	189
20	189	231	210	120	280	453	1,010	5,210	2,850	494	240	202
21	189	243	200	140	300	444	943	6,440	2,510	484	243	212
22	195	234	190	150	580	419	908	7,940	2,180	466	231	210
23	200	223	190	130	535	415	859	9,010	1,950	462	225	215
24	220	258	210	130	484	462	804	10,200	1,840	471	223	205
25	249	337	200	120	453	489	810	10,300	1,720	444	220	202
26	240	323	180	110	407	489	778	11,200	1,640	427	223	225
27	243	260	170	120	388	484	752	12,100	1,500	407	223	234
28	237	220	170	150	365	453	727	8,770	1,350	395	215	228
29	243	230	180	180	------	444	733	7,500	1,250	388	210	258
30	225	250	180	200	------	448	915	8,930	1,160	380	202	252
31	218	------	170	208	------	471	------	10,000	------	365	207	------
TOTAL	6,366	7,094	6,388	4,988	8,870	11,196	28,435	157,190	120,270	19,578	8,198	6,433
MEAN	205	236	206	161	317	361	948	5,071	4,009	632	264	214
MAX	249	337	280	208	580	489	2,070	12,100	8,350	1,070	354	264
MIN	189	202	170	110	180	246	507	1,250	1,160	365	202	184
CFSM	.40	.46	.40	.32	.62	.71	1.86	9.94	7.86	1.24	.52	.42
IN.	.46	.52	.47	.36	.65	.82	2.07	11.5	8.77	1.43	.60	.47
AC-FT	12,630	14,070	12,670	9,890	17,590	22,210	56,400	311,800	238,600	38,830	16,260	12,760

CAL YR 1960: TOTAL 377,698 MEAN 1,032 MAX 9,590 MIN 100 CFSM 2.02 IN 27.54 AC-FT 749,200
WAT YR 1961: TOTAL 385,006 MEAN 1,055 MAX 12,100 MIN 110 CFSM 2.07 IN 28.08 AC-FT 763,600

12-3570. Middle Fork Flathead River at Essex, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	237	330	249	189	220	230	344	2,000	5,110	1,810	448	258
2	228	297	237	210	230	210	395	1,950	4,530	1,640	435	255
3	223	297	240	207	280	230	440	2,360	5,110	1,440	423	255
4	228	300	228	210	320	240	516	3,140	4,490	1,310	427	252
5	243	293	228	202	280	260	697	3,040	3,690	1,230	484	249
6	287	293	218	202	260	270	859	2,780	3,110	1,240	476	243
7	330	274	218	198	270	280	1,210	3,140	2,880	1,140	427	249
8	313	274	190	174	280	280	1,120	3,010	3,020	1,070	411	258
9	293	293	140	130	293	270	936	3,790	4,210	1,030	395	255
10	293	293	75	90	290	250	804	4,950	4,620	992	384	255
11	334	310	85	120	280	230	715	5,040	4,280	943	373	310
12	340	300	140	170	277	210	659	4,640	4,220	901	362	310
13	344	284	200	190	271	200	691	4,620	4,150	844	348	284
14	380	293	220	190	258	210	936	4,350	4,970	873	334	268
15	415	287	230	180	252	210	1,480	4,200	4,430	797	326	261
16	453	228	240	170	246	210	1,920	4,080	4,160	739	320	252
17	520	180	200	160	243	210	2,030	4,300	4,400	697	316	246
18	507	240	170	150	234	220	2,340	4,650	4,590	674	310	240
19	462	270	190	150	225	220	3,080	5,940	4,160	630	305	234
20	440	280	210	170	210	220	4,510	6,620	3,940	597	300	240
21	399	230	200	180	202	220	4,330	5,860	3,670	570	290	234
22	384	240	180	190	180	215	3,460	5,280	3,360	555	293	225
23	380	260	220	200	170	212	3,390	5,320	3,090	530	306	220
24	376	260	260	210	160	212	4,760	5,840	2,850	520	293	218
25	348	250	220	220	180	225	6,140	6,060	2,820	520	277	218
26	354	240	180	250	190	249	4,760	5,660	2,790	507	274	212
27	369	230	170	260	200	316	3,760	5,090	2,500	512	271	207
28	351	230	180	260	210	310	3,240	5,590	2,080	592	287	207
29	316	220	200	260	------	290	2,700	6,180	1,900	560	287	220
30	310	230	210	250	------	290	2,260	5,840	1,830	502	280	225
31	320	------	198	240	------	306	------	5,130	------	471	271	------
TOTAL	10,777	8,006	6,126	5,982	6,711	7,505	64,481	140,450	111,450	26,486	10,734	7,360
MEAN	348	267	198	193	240	242	2,149	4,531	3,715	854	346	245
MAX	520	330	260	260	320	316	6,140	6,620	5,110	1,810	484	310
MIN	223	180	75	90	160	200	344	1,950	1,830	471	271	207
CFSM	.68	.52	.39	.38	.47	.47	4.21	8.88	7.28	1.68	.68	.48
IN.	.79	.58	.45	.44	.49	.55	4.70	10.2	8.13	1.93	.78	.54
AC-FT	21,380	15,880	12,150	11,870	13,310	14,890	127,900	278,600	221,100	52,530	21,290	14,600

CAL YR 1961: TOTAL 390,067 MEAN 1,069 MAX 12,100 MIN 75 CFSM 2.10 IN 28.44 AC-FT 773,700
WAT YR 1962: TOTAL 406,068 MEAN 1,113 MAX 6,620 MIN 75 CFSM 2.18 IN 29.61 AC-FT 805,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	212	419	630	470	260	388	592	3,320	4,490	1,800	388	225
2	207	399	555	471	290	376	520	2,890	3,920	1,730	380	237
3	205	391	550	471	340	337	512	2,340	3,620	1,660	369	240
4	202	376	520	448	560	340	512	1,990	3,600	1,660	358	228
5	200	395	502	427	680	369	512	1,790	3,880	1,540	351	220
6	198	419	555	415	860	351	586	2,100	4,140	1,410	340	215
7	202	395	530	399	1,050	316	674	3,460	3,600	1,300	330	210
8	220	380	516	403	980	323	663	3,660	3,280	1,200	323	205
9	237	407	512	280	880	330	641	3,210	3,130	1,100	316	202
10	261	431	502	180	780	334	619	2,720	3,290	1,040	337	202
11	258	427	471	140	710	320	602	2,480	3,320	1,030	334	205
12	373	431	453	180	670	313	597	2,250	3,220	1,010	316	205
13	476	427	415	250	641	303	619	2,210	3,050	915	310	205
14	570	407	453	280	641	287	758	2,280	3,050	852	300	246
15	570	388	494	350	614	313	1,190	2,720	2,910	831	287	249
16	516	384	630	340	565	297	1,470	3,020	2,650	771	280	246
17	471	369	790	320	535	290	1,350	3,420	2,450	715	277	258
18	448	362	824	240	507	297	1,170	3,670	2,220	680	271	234
19	453	354	804	250	484	293	1,050	3,310	2,030	646	268	220
20	440	684	764	260	480	290	943	3,340	1,840	608	264	215
21	458	1,080	745	270	448	290	852	3,630	1,730	580	261	207
22	570	908	674	200	427	300	764	3,860	1,890	555	258	210
23	630	804	570	160	415	334	739	4,000	1,670	530	258	212
24	602	668	480	180	403	365	691	4,330	1,500	507	255	218
25	565	680	440	200	388	358	674	4,750	1,410	498	252	210
26	525	764	460	210	415	369	733	5,090	1,330	484	264	202
27	498	810	480	200	415	415	1,010	4,860	1,250	462	249	195
28	480	733	490	180	395	570	1,520	4,460	1,240	444	240	193
29	458	624	470	180	------	658	1,910	4,480	1,560	427	237	189
30	440	608	480	170	------	663	2,580	4,830	1,940	411	231	187
31	427	------	480	200	------	646	------	4,900	------	399	228	------
TOTAL	12,372	15,924	17,239	8,724	15,833	11,435	27,053	105,370	79,250	27,795	9,132	6,490
MEAN	399	531	556	281	565	369	902	3,399	2,642	897	295	216
MAX	630	1,080	824	471	1,050	663	2,580	5,090	4,490	1,800	388	258
MIN	198	354	415	140	260	287	512	1,790	1,240	399	228	187
CFSM	.78	1.04	1.09	.55	1.11	.72	1.77	6.66	5.18	1.76	.58	.42
IN.	.90	1.16	1.26	.64	1.15	.83	1.97	7.68	5.78	2.03	.67	.47
AC-FT	24,540	31,580	34,190	17,300	31,400	22,680	53,660	209,000	157,200	55,130	18,110	12,870

CAL YR 1962: TOTAL 426,694 MEAN 1,169 MAX 6,620 MIN 90 CFSM 2.29 IN 31.12 AC-FT 846,300
WAT YR 1963: TOTAL 336,617 MEAN 922 MAX 5,090 MIN 140 CFSM 1.81 IN 24.55 AC-FT 667,700

12-3570. Middle Fork Flathead River at Essex, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	184	162	160	154	145	139	215	2,010	6,900	1,950	674	340
2	182	160	150	168	141	139	223	2,070	7,200	2,000	620	444
3	180	160	155	156	138	136	220	1,860	7,600	2,100	580	610
4	180	156	145	150	145	136	252	1,740	8,600	1,950	550	610
5	199	162	170	149	143	138	310	1,660	7,900	2,150	540	560
6	198	156	190	147	133	138	300	1,510	8,100	2,200	520	510
7	200	160	160	150	139	136	277	1,380	7,500	1,900	484	470
8	191	160	140	149	143	135	300	1,390	23,000	1,800	470	450
9	187	164	120	147	143	136	313	1,620	37,000	1,800	453	430
10	182	160	90	149	143	135	348	2,220	14,500	1,700	440	400
11	180	150	80	145	147	135	384	2,560	9,200	1,560	440	380
12	176	145	120	130	141	139	369	2,610	6,300	1,400	420	360
13	176	141	170	125	136	138	348	3,080	5,900	1,410	410	340
14	174	150	170	130	139	133	330	3,700	5,600	1,380	400	290
15	174	152	170	140	139	138	498	3,600	5,400	1,300	380	310
16	172	164	160	150	139	136	668	3,800	5,200	1,100	370	300
17	170	158	120	160	141	141	565	5,000	5,100	1,070	360	290
18	168	158	130	160	139	149	498	6,200	4,600	992	350	300
19	168	154	140	160	139	143	484	6,600	3,900	943	358	290
20	166	140	150	145	136	138	530	7,500	3,600	866	350	300
21	166	120	160	120	139	138	608	9,210	3,300	900	330	310
22	164	140	165	100	141	130	608	6,660	3,200	850	310	310
23	178	150	165	110	138	70	592	5,600	3,300	820	300	310
24	182	160	168	120	138	60	540	4,500	4,000	685	300	310
25	193	168	156	130	110	80	516	4,000	4,300	700	290	320
26	191	178	150	135	105	100	545	3,800	3,700	575	369	350
27	178	212	149	140	120	110	570	4,000	3,500	660	351	350
28	172	202	147	145	135	120	565	5,700	3,200	620	360	330
29	174	174	140	145	147	130	658	7,200	2,600	610	350	320
30	168	170	145	150	------	147	1,120	7,100	2,400	600	330	320
31	164	------	150	145	------	166	------	6,800	------	709	340	------
TOTAL	5,527	4,808	4,585	4,404	3,982	4,009	13,754	127,080	216,800	39,300	12,799	11,214
MEAN	178	160	148	142	137	129	458	4,099	7,227	1,268	413	374
MAX	200	212	190	168	147	166	1,120	9,210	37,000	2,200	674	610
MIN	154	120	80	100	105	60	215	1,380	2,400	575	290	290
CFSM	.35	.31	.29	.28	.27	.25	.90	8.04	14.2	2.49	.81	.73
IN.	.40	.35	.33	.32	.29	.29	1.00	9.27	15.8	2.87	.93	.82
AC-FT	10,960	9,540	9,090	8,740	7,900	7,950	27,280	252,100	430,000	77,950	25,390	22,240

CAL YR 1963: TOTAL 306,002 MEAN 838 MAX 5,090 MIN 80 CFSM 1.64 IN 22.31 AC-FT 606,900
WAT YR 1964: TOTAL 448,262 MEAN 1,225 MAX 37,000 MIN 60 CFSM 2.40 IN 32.69 AC-FT 889,100

Note.--No gage-height record May 23 to July 10.

12-3585. Middle Fork Flathead River near West Glacier, Mont.

Location.--Lat 48°29'50", long 114°00'30", in SW¼NE¼ sec.34, T.32 N., R.19 W., on left bank 0.8 mile downstream from McDonald Creek 1½ miles west of West Glacier (formerly Belton), and 3.8 miles upstream from mouth.

Drainage area.--1,128 sq mi.

Records available.--October 1939 to September 1965. Prior to October 1947, published as "near Belton."

Gage.--Water-stage recorder. Altitude of gage is 3,130 ft (from river-profile map). Prior to Nov. 22, 1950, staff gage at same site and datum.

Average discharge.--26 years, 2,911 cfs (2,107,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	27,100	10.58	Jan. 5, 1961	345	0.89
1962	May 20, 1962	13,900	6.99	Dec. 11, 1961	a 260	-
1963	May 31, 1963	12,700	6.64	Jan. 11, 1963	a 600	-
1964	June 9, 1964	b 140,000	c 36.46	Mar. 24, 1964	246	.66
1965	June 19, 1965	20,900	8.93	Dec. 16, 1964	448	1.13

a Minimum daily.
b About.
c From floodmarks.

1939-65: Maximum discharge, about 140,000 cfs June 9, 1964 (gage height, 36.46 ft, from floodmarks), from rating curve extended above 35,000 cfs on basis of flood volume-hydrographic comparison; minimum, less than 173 cfs Nov. 27, 1952 (stage below intake pipe).

Remarks.--Records excellent. No regulation or diversion above station.

Revisions.--WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	593	778	712	481	624	1,280	1,570	3,040	19,100	4,180	1,330	617
2	579	832	720	436	624	1,240	1,880	4,440	18,600	3,840	1,310	920
3	572	796	769	395	616	1,140	3,140	5,150	18,500	3,700	1,280	860
4	551	752	752	365	593	1,100	5,430	5,100	18,500	3,610	1,260	826
5	537	712	672	454	579	1,010	4,610	5,120	18,800	3,670	1,230	790
6	530	672	544	586	579	1,030	3,790	4,980	18,300	3,930	1,230	782
7	544	656	523	572	593	1,000	3,340	4,490	18,500	3,760	1,210	748
8	579	656	516	537	572	930	3,020	4,210	16,000	3,590	1,170	714
9	572	624	474	516	558	900	2,800	4,160	13,600	3,320	1,120	690
10	551	624	454	509	704	860	2,580	5,220	12,000	3,120	1,110	682
11	544	672	467	502	1,110	832	2,390	6,870	11,300	2,960	1,050	714
12	579	656	558	495	1,390	805	2,320	6,920	12,000	2,800	990	658
13	586	632	608	488	1,300	796	2,560	6,950	11,200	2,630	960	660
14	558	616	586	488	1,170	814	2,420	7,060	10,100	2,540	940	638
15	537	608	530	544	1,140	841	2,260	7,660	10,500	2,550	920	616
16	523	600	495	616	1,120	960	2,150	9,090	11,100	2,540	910	595
17	523	593	460	648	1,040	1,080	2,200	8,560	11,400	2,450	910	581
18	523	640	509	624	990	1,090	2,800	7,810	11,300	2,280	900	581
19	516	656	551	579	950	1,120	3,060	8,600	10,800	2,150	862	574
20	509	656	551	516	950	1,220	2,880	10,600	10,300	2,040	853	588
21	502	688	565	495	1,170	1,260	2,690	12,900	9,280	1,970	853	616
22	530	680	565	454	1,810	1,230	2,620	15,700	8,150	1,910	835	616
23	624	640	558	442	1,880	1,180	2,510	17,800	7,290	1,900	826	660
24	712	704	551	412	1,710	1,300	2,360	20,300	7,100	1,940	817	630
25	769	1,000	544	412	1,650	1,390	2,360	20,900	6,760	1,860	817	609
26	778	1,030	530	390	1,500	1,450	2,340	22,900	6,600	1,720	844	630
27	796	940	509	375	1,390	1,530	2,260	25,800	6,150	1,630	835	630
28	778	870	467	385	1,330	1,500	2,210	20,800	5,500	1,570	790	645
29	796	796	467	412	------	1,450	2,150	17,600	5,060	1,530	764	748
30	760	744	481	436	------	1,440	2,460	19,600	4,630	1,470	756	722
31	736	------	488	551	------	1,480	------	21,100	------	1,390	748	------
TOTAL	18,787	21,523	17,176	15,115	29,642	35,258	81,160	341,430	348,420	80,550	30,430	20,600
MEAN	606	717	554	488	1,059	1,137	2,705	11,010	11,610	2,598	982	687
MAX	796	1,030	769	648	1,880	1,530	5,430	25,800	19,100	4,180	1,330	920
MIN	502	593	454	365	558	796	1,570	3,040	4,630	1,390	748	574
CFSM	.54	.64	.49	.43	.94	1.01	2.40	9.76	10.3	2.30	.87	.61
IN.	.62	.71	.57	.50	.98	1.16	2.68	11.3	11.5	2.66	1.00	.68
AC-FT	37,260	42,690	34,070	29,980	58,790	69,930	161,000	677,200	691,100	159,800	60,360	40,860

CAL YR 1960: TOTAL 1,015,552 MEAN 2,775 MAX 20,600 MIN 418 CFSM 2.46 IN 33.48 AC-FT 2,014,000
WAT YR 1961: TOTAL 1,040,091 MEAN 2,850 MAX 25,800 MIN 365 CFSM 2.53 IN 34.29 AC-FT 2,063,000

12-3585. Middle Fork Flathead River near West Glacier, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	698	1,020	645	554	489	508	850	5,050	11,600	5,790	1,740	80
2	668	980	623	514	508	471	990	5,050	11,300	5,350	1,690	76
3	668	920	616	540	616	502	1,120	5,770	11,400	4,660	1,640	76
4	682	920	602	581	808	521	1,260	6,730	10,500	4,190	1,600	73
5	722	880	595	560	764	547	1,610	6,430	8,880	3,920	1,650	72
6	844	853	567	560	722	574	2,130	6,290	7,640	3,830	1,800	70
7	1,060	835	567	554	739	574	3,080	6,560	6,840	3,620	1,690	70
8	1,060	799	534	483	773	560	3,100	6,370	6,810	3,450	1,590	70
9	980	782	413	391	773	544	2,670	7,930	9,090	3,360	1,540	69
10	960	790	290	330	782	523	2,390	9,450	10,600	3,360	1,480	70
11	1,040	808	260	386	773	488	2,180	9,610	9,960	3,320	1,420	81
12	1,090	808	315	447	773	495	2,020	9,220	9,890	3,240	1,360	89
13	1,090	790	447	453	756	474	2,020	9,290	9,570	3,080	1,320	83
14	1,240	764	514	447	756	474	2,410	8,880	10,800	3,000	1,260	79
15	1,440	756	528	396	730	481	3,510	8,660	10,300	2,860	1,240	76
16	1,630	668	540	413	705	481	4,470	8,780	9,830	2,710	1,190	75
17	1,960	560	547	396	675	481	4,730	9,410	10,600	2,580	1,170	72
18	1,910	534	489	418	660	499	5,280	10,100	11,200	2,440	1,150	72
19	1,720	645	471	408	620	502	6,510	12,100	10,600	2,290	1,130	70
20	1,600	652	489	408	580	509	9,390	13,600	10,200	2,150	1,080	69
21	1,480	595	547	424	530	523	9,860	12,700	9,700	2,050	1,040	69
22	1,370	630	534	459	510	509	8,200	11,900	9,090	2,050	1,020	68
23	1,330	652	514	470	450	502	7,660	12,000	8,470	2,050	1,020	68
24	1,290	660	581	480	410	509	9,840	13,100	7,930	2,040	990	67
25	1,220	668	638	489	440	530	12,600	13,500	7,930	2,020	930	67
26	1,180	630	595	502	450	608	10,700	12,800	7,990	1,990	890	66
27	1,230	623	528	554	477	796	8,720	11,800	7,490	1,990	890	65
28	1,180	638	514	547	489	823	7,520	12,400	6,350	2,130	890	65
29	1,110	609	540	554	-------	769	6,430	13,600	5,840	2,200	890	70
30	1,050	609	602	534	-------	752	5,610	13,100	5,770	2,010	860	71
31	1,010	-------	581	502	-------	778	-------	12,000	-------	1,820	823	-------
TOTAL	36,512	22,078	16,226	14,754	17,758	17,303	148,860	304,180	274,170	91,550	38,983	21,80
MEAN	1,178	736	523	476	634	558	4,962	9,812	9,139	2,953	1,258	72
MAX	1,960	1,020	645	581	808	823	12,600	13,600	11,600	5,790	1,800	89
MIN	668	534	260	330	410	471	850	5,050	5,770	1,820	823	65
CFSM	1.04	.65	.46	.42	.56	.49	4.40	8.70	8.10	2.62	1.11	.6
IN.	1.20	.73	.53	.49	.59	.57	4.91	10.0	9.04	3.02	1.29	.7
AC-FT	72,420	43,790	32,180	29,260	35,220	34,320	295,300	603,300	543,800	181,600	77,320	43,25

CAL YR 1961: TOTAL 1,057,421 MEAN 2,897 MAX 25,800 MIN 260 CFSM 2.57 IN 34.86 AC-FT 2,097,000
WAT YR 1962: TOTAL 1,004,177 MEAN 2,751 MAX 13,600 MIN 260 CFSM 2.44 IN 33.11 AC-FT 1,992,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	696	1,240	1,750	1,290	648	1,120	1,960	6,840	11,700	6,920	1,560	73
2	672	1,170	1,660	1,290	672	1,100	1,850	6,450	10,400	6,670	1,500	74
3	664	1,100	1,600	1,280	720	1,050	1,740	5,450	9,700	6,590	1,440	76
4	648	1,100	1,530	1,270	940	990	1,680	4,610	9,830	6,560	1,410	74
5	632	1,110	1,430	1,230	1,500	1,000	1,660	4,210	10,300	6,260	1,370	72
6	608	1,160	1,470	1,180	1,900	990	1,810	4,280	11,500	5,950	1,350	72
7	593	1,110	1,450	1,140	2,200	950	2,080	6,210	10,200	5,610	1,340	71
8	624	1,090	1,420	1,120	2,300	920	2,150	7,290	9,510	5,300	1,330	70
9	656	1,130	1,380	740	2,200	900	2,120	6,730	9,090	4,980	1,320	70
10	680	1,190	1,370	640	2,100	890	2,050	5,950	9,640	4,440	1,300	70
11	696	1,200	1,330	600	1,950	880	1,990	5,430	9,860	4,190	1,330	71
12	880	1,220	1,270	620	1,980	850	1,950	5,000	9,640	4,100	1,280	70
13	1,230	1,180	1,230	760	1,770	832	1,950	4,850	9,510	3,810	1,240	70
14	1,610	1,090	1,170	805	1,700	814	2,130	4,980	9,670	3,600	1,230	82
15	1,650	1,090	1,220	890	1,660	796	2,880	5,660	9,570	3,430	1,190	85
16	1,530	1,080	1,380	940	1,600	796	3,680	6,180	9,090	3,200	1,150	84
17	1,410	1,040	1,740	900	1,480	778	3,600	6,870	8,690	2,980	1,100	85
18	1,290	1,010	1,890	740	1,390	760	3,260	7,580	8,200	2,800	1,060	80
19	1,240	980	1,910	700	1,340	769	2,960	7,200	7,750	2,670	1,030	75
20	1,240	1,240	1,870	720	1,320	752	2,730	7,260	7,290	2,600	1,010	72
21	1,270	2,020	1,820	740	1,260	752	2,510	7,930	6,620	2,490	980	69
22	1,600	1,990	1,800	680	1,200	760	2,340	8,530	7,150	2,440	920	68
23	1,810	1,850	1,570	620	1,160	832	2,230	8,880	7,060	2,360	890	68
24	1,700	1,660	1,320	664	1,140	930	2,100	9,640	6,260	2,210	870	69
25	1,680	1,640	1,250	672	1,110	960	2,020	10,400	6,000	2,080	890	68
26	1,560	1,880	1,300	680	1,120	990	2,010	11,400	5,820	1,980	880	66
27	1,440	2,180	1,370	664	1,180	1,090	2,310	11,300	5,530	1,870	860	65
28	1,390	2,070	1,410	656	1,150	1,500	3,280	10,500	5,280	1,800	823	65
29	1,320	1,880	1,330	656	-------	1,840	4,140	10,600	6,050	1,710	787	65
30	1,300	1,750	1,370	640	-------	2,050	5,350	11,700	7,460	1,660	769	64
31	1,240	-------	1,340	616	-------	2,130	-------	12,300	-------	1,600	744	-------
TOTAL	35,559	41,450	45,950	26,143	40,590	31,771	74,520	232,210	254,370	114,860	34,953	21,72
MEAN	1,147	1,382	1,482	843	1,450	1,025	2,484	7,491	8,479	3,705	1,128	72
MAX	1,810	2,180	1,910	1,290	2,300	2,130	5,350	12,300	11,700	6,920	1,560	85
MIN	593	980	1,170	600	648	752	1,660	4,210	5,280	1,600	744	64
CFSM	1.02	1.22	1.31	.75	1.29	.91	2.20	6.64	7.52	3.28	1.00	.6
IN.	1.17	1.37	1.51	.86	1.34	1.05	2.46	7.66	8.39	3.79	1.15	.7
AC-FT	70,530	82,210	91,140	51,850	80,510	63,020	147,800	460,600	504,500	227,800	69,330	43,10

CAL YR 1962: TOTAL 1,052,320 MEAN 2,883 MAX 13,600 MIN 330 CFSM 2.56 IN 34.69 AC-FT 2,087,000
WAT YR 1963: TOTAL 954,105 MEAN 2,614 MAX 12,300 MIN 593 CFSM 2.32 IN 31.46 AC-FT 1,892,000

12-3585. Middle Fork Flathead River near West Glacier, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	640	481	579	474	412	360	502	3,810	15,400	8,140	2,410	1,290
2	624	467	551	516	400	350	600	3,850	15,900	8,230	2,390	1,500
3	608	460	558	503	395	350	624	3,880	16,700	8,810	2,240	2,360
4	600	454	523	488	395	355	680	3,880	19,200	8,140	2,120	2,340
5	600	454	544	474	406	370	805	5,050	17,600	8,970	2,080	2,160
6	624	460	680	474	395	370	860	4,830	18,000	9,130	1,990	1,980
7	616	467	664	467	385	350	832	4,510	17,500	7,930	1,890	1,820
8	586	488	579	454	375	355	850	4,420	50,300	7,580	1,820	1,740
9	565	495	551	448	390	360	950	4,730	92,700	7,580	1,780	1,650
10	544	495	467	442	395	360	1,080	5,820	41,600	7,010	1,750	1,550
11	530	467	400	442	412	365	1,200	6,730	26,400	6,240	1,690	1,450
12	516	454	436	412	406	380	1,230	6,700	21,000	5,790	1,610	1,370
13	509	442	523	412	390	370	1,170	7,490	19,600	5,690	1,570	1,300
14	502	436	516	424	385	370	1,130	8,080	18,800	5,770	1,550	1,250
15	495	488	523	424	370	375	1,420	7,840	18,000	5,510	1,480	1,200
16	488	509	502	436	380	380	1,850	8,260	17,500	5,100	1,430	1,160
17	481	530	436	434	380	385	1,740	10,900	17,000	4,320	1,380	1,130
18	481	537	460	442	380	418	1,550	13,500	14,800	4,510	1,360	1,170
19	474	537	454	436	385	418	1,500	14,300	13,100	4,300	1,360	1,130
20	460	523	481	430	385	400	1,530	17,100	12,000	4,030	1,350	1,150
21	448	467	495	412	360	390	1,640	15,400	11,100	3,740	1,280	1,190
22	442	502	509	370	370	390	1,710	16,000	10,700	3,550	1,200	1,180
23	530	530	516	375	370	320	1,700	12,100	11,100	3,410	1,170	1,190
24	558	544	516	390	380	325	1,650	9,860	13,300	3,140	1,140	1,180
25	586	551	502	400	335	340	1,600	8,630	14,200	2,920	1,120	1,250
26	579	572	502	400	330	360	1,650	8,230	12,300	2,780	1,150	1,330
27	551	704	488	418	355	350	1,740	8,690	11,600	2,730	1,410	1,330
28	523	736	474	418	340	355	1,750	12,300	10,700	2,580	1,370	1,240
29	516	688	460	406	365	365	1,850	15,600	9,290	2,530	1,360	1,240
30	502	593	430	412	------	385	2,370	15,500	8,470	2,510	1,320	1,250
31	488	------	436	412	------	412	------	14,800	------	2,510	1,300	------
TOTAL	16,666	15,531	15,755	13,453	11,026	11,433	39,803	286,790	596,060	165,180	49,070	43,220
MEAN	538	518	508	434	380	369	1,327	9,251	19,870	5,328	1,583	1,441
MAX	640	736	680	516	412	418	2,370	19,400	92,700	9,130	2,410	2,360
MIN	442	436	400	370	330	320	502	3,810	8,470	2,510	1,120	1,130
CFSM	.48	.46	.45	.38	.34	.33	1.18	8.20	17.6	4.72	1.40	1.28
IN.	.55	.51	.52	.44	.36	.38	1.31	9.46	19.7	5.45	1.62	1.42
AC-FT	33,060	30,810	31,250	26,680	21,870	22,680	78,950	568,800	1,182M	327,600	97,330	85,730

CAL YR 1963: TOTAL 879,098 MEAN 2,408 MAX 12,300 MIN 400 CFSM 2.14 IN 28.98 AC-FT 1,744,000
WAT YR 1964: TOTAL 1,263,987 MEAN 3,454 MAX 92,700 MIN 320 CFSM 3.06 IN 41.67 AC-FT 2,507,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,440	1,380	1,220	1,150	736	1,110	696	12,500	13,500	6,130	2,370	1,300
2	1,550	1,420	1,260	1,090	696	1,070	760	10,600	12,100	6,290	2,290	1,240
3	1,820	1,450	1,230	1,050	648	1,060	832	8,560	14,000	6,810	2,230	1,220
4	1,870	1,430	1,180	1,040	672	1,040	832	7,230	16,500	7,380	2,290	1,200
5	1,800	1,390	1,140	1,010	720	1,020	870	6,450	14,900	7,350	2,240	1,170
6	1,740	1,360	1,090	1,030	760	1,020	940	5,770	15,200	7,260	2,130	1,110
7	1,740	1,320	1,060	1,010	744	1,040	1,060	5,200	15,300	7,290	1,990	1,070
8	1,740	1,280	990	950	736	1,050	1,200	4,950	13,200	6,980	1,890	1,030
9	1,730	1,260	980	920	744	1,060	1,300	5,080	12,500	6,870	1,820	1,070
10	1,890	1,250	990	890	720	1,070	1,540	6,050	13,900	6,730	1,810	1,100
11	1,910	1,220	980	870	680	1,070	1,730	7,960	16,200	6,180	1,750	1,080
12	1,960	1,170	870	823	680	1,050	1,780	11,100	18,300	5,610	1,730	1,060
13	1,910	1,150	870	805	680	1,010	1,940	14,600	17,500	5,220	1,800	1,030
14	1,840	1,110	850	787	688	990	2,440	15,400	13,600	4,880	1,730	1,080
15	1,910	1,040	796	778	648	980	3,020	15,400	11,200	4,780	1,590	1,360
16	1,960	990	495	769	680	960	3,160	14,800	11,400	4,830	1,500	1,490
17	1,910	960	488	760	712	850	2,920	14,300	13,800	4,660	1,430	1,450
18	1,820	940	523	744	787	832	2,620	11,600	17,600	4,420	1,380	1,410
19	1,710	920	579	728	870	832	2,530	10,000	20,000	4,280	1,340	1,350
20	1,660	900	624	720	1,030	814	3,660	10,000	16,500	3,900	1,340	1,340
21	1,650	880	696	712	1,030	832	6,640	10,300	14,400	3,680	1,410	1,420
22	1,620	860	778	712	1,040	814	7,610	9,570	13,600	3,530	1,350	1,840
23	1,590	841	1,150	704	940	760	7,010	9,060	12,200	3,240	1,350	1,980
24	1,550	960	1,560	712	1,010	720	6,890	8,780	11,900	2,980	1,480	1,890
25	1,490	1,160	1,650	704	1,010	752	6,540	9,130	11,700	2,860	1,590	1,890
26	1,470	1,090	1,570	680	1,010	728	6,780	9,510	11,000	2,780	1,700	1,950
27	1,420	1,040	1,560	696	1,110	712	7,060	9,730	10,200	2,770	1,680	1,910
28	1,390	1,010	1,500	696	1,190	712	7,900	11,700	8,630	2,710	1,610	1,800
29	1,370	960	1,370	704	------	704	9,700	15,200	7,380	2,650	1,600	1,690
30	1,360	1,020	1,290	704	------	688	12,200	17,900	6,540	2,560	1,510	1,600
31	1,360	------	1,240	752	------	680	------	16,000	------	2,480	1,410	------
TOTAL	52,180	33,761	32,579	25,700	22,971	28,030	114,160	324,430	404,750	150,090	53,340	42,130
MEAN	1,683	1,125	1,051	829	820	904	3,805	10,470	13,490	4,842	1,721	1,404
MAX	1,960	1,450	1,650	1,150	1,190	1,110	12,200	17,900	20,000	7,380	2,370	1,980
MIN	1,360	841	488	680	648	680	696	4,950	6,540	2,480	1,340	1,030
CFSM	1.49	1.00	.93	.73	.73	.80	3.37	9.28	12.0	4.29	1.53	1.24
IN.	1.72	1.11	1.07	.85	.76	.92	3.76	10.7	13.3	4.95	1.76	1.39
AC-FT	103,500	66,960	64,620	50,980	45,560	55,600	226,400	643,500	802,800	297,700	105,800	83,560

CAL YR 1964: TOTAL 1,334,555 MEAN 3,646 MAX 92,700 MIN 320 CFSM 3.23 IN 44.00 AC-FT 2,647,000
WAT YR 1965: TOTAL 1,284,121 MEAN 3,518 MAX 20,000 MIN 488 CFSM 3.12 IN 42.34 AC-FT 2,547,000

12-3590. South Fork Flathead River at Spotted Bear ranger station, near Hungry Horse, Mont.

Location.--Lat 47°55'20", long 113°31'25", in SE¼SW¼ sec.17, T.25 N., R.15 W., on left bank 600 ft south of Spotted Bear ranger station, 1,000 ft upstream from Spotted Bear River, 40 miles southeast of Hungry Horse, and at mile 52.9.

Drainage area.--958 sq mi.

Records available.--August 1948 to September 1957, August 1959 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 3,670 ft (from river-profile map).

Average discharge.--15 years, 1,944 cfs (1,407,000 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (7,500 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 27, 1961	0600	* 19,000	11.64	May 31, 1963	0700	* 9,680	7.77	May 1, 1965	0600	8,800	8.00
								May 15, 1965	0700	10,300	8.67
Apr. 25, 1962	0800	9,310	7.46	May 21, 1964	0830	14,600	9.86	May 30, 1965	1230	13,100	9.94
May 11, 1962	0500	7,730	6.80	June 8, 1964	2200	* 36,700	18.96	June 12, 1965	0900	* 15,600	10.98
May 29, 1962	1030	10,400	8.08	June 25, 1964	0700	11,100	8.41	June 19, 1965	0200	12,900	9.85
June 18, 1962	0630	* 11,900	8.76								

Annual minimum daily discharge, water years 1961-65

Water year	Date	Discharge	Water year	Date	Discharge
1961	Jan. 4, 1961	190	1964	Mar. 24, 1964	130
1962	Dec. 11, 12, 1961	180	1965	Dec. 16, 1964	200
1963	Jan. 11, 1963	250			

1948-57, 1959-65: Maximum discharge, 36,700 cfs June 8, 1964 (gage height, 18.96 ft in gage well, 19.5 ft from outside floodmarks), from rating curve extended above 18,000 cfs on basis of slope-area measurement of peak flow; minimum, less than 121 cfs Dec. 26, 1952 (stage below intake pipes).

Remarks.--Records good except those for winter periods, which are fair. No regulation or diversion above station.

Revisions.--WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	310	406	280	275	370	502	816	2,010	13,100	2,580	650	428
2	306	394	300	260	370	492	1,030	2,910	13,400	2,300	628	498
3	300	386	350	230	365	458	1,840	3,060	14,200	2,160	610	508
4	296	366	330	190	360	422	2,560	3,050	14,500	2,060	596	484
5	289	342	280	260	350	380	2,260	3,380	14,600	2,020	583	456
6	286	326	225	360	335	454	1,960	3,090	14,400	2,060	570	444
7	289	330	220	350	340	426	1,760	2,760	14,400	1,960	560	428
8	300	334	215	340	330	398	1,600	2,590	12,400	1,890	552	412
9	300	314	210	334	322	390	1,470	2,590	10,200	1,760	538	400
10	292	334	200	326	450	382	1,340	3,390	9,250	1,630	538	392
11	296	370	250	310	761	366	1,240	4,020	8,920	1,560	524	428
12	314	354	280	300	948	370	1,230	4,070	9,550	1,500	508	424
13	314	338	300	292	854	370	1,270	4,110	8,560	1,400	492	412
14	306	342	290	300	766	378	1,220	4,240	7,960	1,320	484	396
15	300	342	270	296	685	394	1,140	4,530	8,370	1,290	472	384
16	296	354	250	318	655	488	1,080	5,270	8,960	1,250	476	372
17	296	354	240	322	587	551	1,140	5,610	9,140	1,200	464	364
18	292	366	300	300	538	551	1,450	5,440	9,000	1,140	460	364
19	292	374	320	255	510	582	1,560	6,110	8,780	1,090	448	368
20	292	366	325	240	497	660	1,490	7,650	8,050	1,030	440	376
21	292	370	325	230	520	650	1,420	9,490	7,060	983	436	400
22	318	362	325	225	636	618	1,390	10,900	5,860	941	424	400
23	346	342	325	220	610	623	1,350	12,800	5,130	914	424	428
24	370	378	326	215	582	740	1,290	15,100	4,950	890	412	412
25	374	458	334	210	582	800	1,290	16,200	4,640	848	408	412
26	366	458	310	205	546	805	1,300	17,600	4,360	818	428	480
27	370	434	310	200	510	816	1,250	18,000	4,010	785	428	464
28	374	398	300	210	506	756	1,200	14,300	3,530	760	416	452
29	398	303	278	220	-------	725	1,240	13,100	3,160	725	400	456
30	378	290	282	235	-------	725	1,470	14,700	2,890	700	392	440
31	366	-------	278	280	-------	766	-------	14,200	-------	678	392	-------
TOTAL	9,918	10,885	8,828	8,308	14,885	17,038	42,656	236,270	263,330	42,242	15,153	12,684
MEAN	320	363	285	268	532	550	1,422	7,622	8,778	1,363	489	423
MAX	398	458	350	360	948	816	2,560	18,000	14,600	2,580	650	504
MIN	286	290	200	190	322	366	816	2,010	2,890	678	392	364
CFSM	.33	.38	.30	.28	.55	.57	1.48	7.96	9.16	1.42	.51	.44
IN.	.39	.42	.34	.32	.58	.66	1.66	9.17	10.2	1.64	.59	.49
AC-FT	19,670	21,590	17,510	16,480	29,520	33,790	84,610	468,600	522,300	83,790	30,060	25,160

CAL YR 1960: TOTAL 616,483 MEAN 1,684 MAX 15,000 MIN 200 CFSM 1.76 IN 23.93 AC-FT 1,223,000
WAT YR 1961: TOTAL 682,197 MEAN 1,869 MAX 18,000 MIN 190 CFSM 1.95 IN 26.48 AC-FT 1,353,000

12-3590. South Fork Flathead River at Spotted Bear ranger station, near Hungry Horse, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	436	552	420	339	340	340	538	3,240	8,720	5,340	1,090	504
2	424	556	420	295	380	350	637	3,030	8,650	4,930	1,040	488
3	420	529	412	388	380	360	705	3,240	9,310	4,170	1,000	473
4	432	529	400	396	360	370	836	3,970	8,390	3,610	1,010	462
5	456	508	400	360	320	390	1,060	3,970	6,820	3,300	1,030	452
6	542	488	388	376	300	400	1,240	3,900	5,700	3,320	1,000	442
7	601	480	360	364	340	390	1,690	5,070	5,190	3,130	951	442
8	588	472	346	300	360	370	1,540	5,270	5,190	2,930	912	456
9	565	480	220	280	370	350	1,340	6,520	7,330	2,880	870	448
10	552	492	190	270	380	330	1,200	7,540	9,000	2,790	846	445
11	596	512	180	280	370	320	1,080	7,480	8,760	2,690	810	488
12	596	504	180	300	360	310	1,010	6,810	8,850	2,560	774	516
13	664	484	220	320	360	310	1,070	6,810	9,380	2,400	735	496
14	780	488	240	320	350	320	1,360	6,670	11,200	2,260	710	480
15	800	496	270	300	340	340	2,160	6,210	10,200	2,120	690	473
16	824	412	280	280	340	350	2,810	5,740	10,400	1,990	670	456
17	948	340	250	260	330	376	2,870	5,840	10,800	1,870	650	445
18	941	330	220	240	320	404	3,320	6,270	11,300	1,770	636	434
19	872	360	240	220	300	408	4,550	8,400	10,400	1,680	636	428
20	812	380	320	200	280	408	7,120	9,600	9,900	1,580	614	428
21	775	370	360	220	280	404	6,550	8,980	9,570	1,510	596	420
22	725	390	320	240	270	396	5,200	8,360	8,910	1,460	587	414
23	686	420	300	280	260	392	5,050	8,140	8,280	1,440	596	406
24	668	440	340	300	240	392	6,960	8,980	7,660	1,420	569	403
25	632	450	340	320	220	400	8,890	9,660	7,770	1,390	544	396
26	619	452	320	330	230	388	7,310	9,310	8,250	1,370	528	389
27	637	456	320	330	260	460	5,950	8,540	7,480	1,330	512	386
28	614	456	350	320	320	476	5,230	9,090	6,110	1,340	536	389
29	570	436	384	310	------	464	4,380	10,100	5,460	1,270	552	410
30	547	428	416	300	------	456	3,660	9,730	5,250	1,210	552	420
31	538	------	388	290	------	472	------	8,650	------	1,130	528	------
TOTAL	19,860	13,690	9,794	9,328	8,960	11,896	97,316	215,120	250,230	72,190	22,774	13,289
MEAN	641	456	316	301	320	384	3,244	6,939	8,341	2,329	735	443
MAX	948	556	420	396	380	476	8,890	10,100	11,300	5,340	1,090	516
MIN	420	330	180	200	220	310	538	3,030	5,190	1,130	512	386
CFSM	.67	.48	.33	.31	.33	.40	3.39	7.24	8.71	2.43	.77	.46
IN.	.77	.53	.38	.36	.35	.46	3.78	8.35	9.71	2.80	.88	.52
AC-FT	39,390	27,150	19,430	18,500	17,770	23,600	193,000	426,700	496,300	143,200	45,170	26,360

CAL YR 1961: TOTAL 695,910 MEAN 1,907 MAX 18,000 MIN 180 CFSM 1.99 IN 27.02 AC-FT 1,380,000
WAT YR 1962: TOTAL 744,447 MEAN 2,040 MAX 11,300 MIN 180 CFSM 2.13 IN 28.90 AC-FT 1,477,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	393	650	610	569	320	551	882	4,520	8,760	3,130	750	409
2	385	636	592	546	330	538	834	4,090	7,710	2,920	730	492
3	377	618	582	538	420	510	792	3,420	7,370	2,930	705	528
4	369	605	556	515	600	470	786	2,920	7,060	2,990	685	484
5	365	614	533	452	1,000	502	786	2,690	7,970	2,920	660	448
6	357	641	551	393	1,500	497	870	3,250	7,990	2,730	641	421
7	357	618	538	397	2,000	452	979	5,070	6,660	2,540	628	405
8	369	596	528	456	1,800	448	1,010	5,270	5,940	2,400	614	389
9	397	628	524	430	1,500	461	1,000	4,610	5,640	2,270	614	381
10	448	655	515	280	1,200	461	979	3,960	5,520	2,110	646	373
11	474	646	502	250	1,000	452	965	3,530	5,370	1,990	632	365
12	641	641	479	260	950	434	951	3,200	5,610	1,890	614	357
13	834	636	413	300	850	425	986	3,060	5,830	1,720	650	357
14	1,060	614	461	340	800	401	1,160	3,090	6,500	1,620	685	381
15	1,150	592	510	360	750	421	1,690	3,510	6,460	1,560	628	405
16	1,090	564	556	370	700	417	1,950	3,930	6,090	1,480	592	430
17	993	551	641	360	680	401	1,840	4,640	5,630	1,390	564	430
18	930	533	700	350	650	401	1,700	5,280	5,300	1,330	546	417
19	894	520	720	330	620	397	1,560	4,800	4,930	1,250	528	397
20	852	646	710	330	600	393	1,450	4,950	4,590	1,200	510	377
21	840	780	715	340	580	393	1,340	5,630	4,320	1,150	497	365
22	888	750	710	330	580	409	1,260	6,190	4,250	1,110	479	357
23	900	710	628	310	560	484	1,200	6,680	3,500	1,080	470	365
24	882	632	434	300	560	556	1,160	7,560	3,060	1,040	474	373
25	852	641	397	310	560	551	1,140	8,230	2,950	1,000	474	369
26	810	690	582	300	560	564	1,230	8,670	2,740	958	466	357
27	774	710	660	300	550	636	1,600	8,470	2,660	924	443	345
28	740	665	660	300	551	810	2,100	7,840	2,620	882	421	338
29	715	596	650	270	------	951	2,540	8,080	3,070	858	413	331
30	690	574	636	270	------	924	3,400	9,000	3,380	822	401	324
31	670	------	600	290	------	924	------	9,290	------	786	393	------
TOTAL	21,496	18,952	17,893	11,146	22,771	16,234	40,140	165,430	159,480	52,980	17,553	11,770
MEAN	693	632	577	360	813	524	1,338	5,336	5,316	1,709	566	392
MAX	1,150	780	720	569	2,000	951	3,400	9,290	8,760	3,130	750	528
MIN	357	520	397	250	320	393	786	2,690	2,620	786	393	324
CFSM	.72	.66	.60	.38	.85	.55	1.40	5.57	5.55	1.78	.59	.41
IN.	.83	.74	.69	.43	.88	.63	1.56	6.42	6.19	2.06	.68	.46
AC-FT	42,640	37,590	35,490	22,110	45,170	32,200	79,620	328,100	316,300	105,100	34,820	23,350

CAL YR 1962: TOTAL 759,444 MEAN 2,081 MAX 11,300 MIN 200 CFSM 2.17 IN 29.48 AC-FT 1,506,000
WAT YR 1963: TOTAL 555,845 MEAN 1,523 MAX 9,290 MIN 250 CFSM 1.59 IN 21.58 AC-FT 1,103,000

12-3590. South Fork Flathead River at Spotted Bear ranger station, near Hungry Horse, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	317	254	190	278	254	170	470	2,960	9,000	5,540	1,060	660
2	310	254	195	289	251	170	417	2,970	9,990	5,260	1,050	882
3	306	251	195	275	245	170	397	2,690	11,500	5,680	1,010	1,010
4	303	248	195	263	238	175	438	2,420	13,000	5,070	951	979
5	317	254	200	251	245	170	542	2,270	11,400	5,750	912	937
6	331	254	210	251	228	160	533	2,130	11,800	5,160	888	894
7	334	257	200	254	232	150	492	1,980	11,800	4,370	852	852
8	328	260	190	245	228	155	497	1,960	25,000	4,040	834	810
9	320	269	180	228	240	160	528	2,080	29,500	3,830	804	762
10	314	269	170	225	242	160	569	2,490	18,400	3,510	774	730
11	306	260	175	220	242	165	596	2,860	12,700	3,070	756	710
12	303	251	180	215	240	165	578	3,100	10,800	2,780	735	680
13	292	251	190	210	230	160	546	3,860	10,800	2,650	720	650
14	289	251	195	220	215	170	515	4,250	11,200	2,570	705	628
15	282	272	200	240	208	190	636	4,460	11,500	2,610	680	605
16	278	292	195	250	210	200	740	5,460	12,100	2,500	660	582
17	272	289	190	245	215	195	665	8,030	12,300	2,210	636	564
18	269	289	200	245	210	190	618	8,980	11,300	2,040	628	556
19	266	282	210	240	205	180	628	9,930	9,860	1,900	618	538
20	263	289	220	240	185	185	735	12,200	8,650	1,780	614	546
21	260	282	225	220	180	180	876	13,600	7,660	1,640	596	560
22	257	269	230	225	185	160	882	10,100	7,060	1,560	578	578
23	266	266	235	230	185	140	870	7,310	7,640	1,490	560	582
24	269	275	260	235	180	130	822	6,090	9,380	1,410	556	578
25	289	269	254	240	150	150	792	5,590	10,500	1,350	538	596
26	289	272	257	245	155	180	804	5,540	9,620	1,260	578	605
27	275	292	254	250	160	200	822	6,070	8,870	1,200	587	592
28	269	289	260	250	165	215	822	8,560	8,280	1,140	582	574
29	269	238	251	255	170	230	1,010	9,290	6,660	1,090	592	564
30	263	198	212	260	------	251	1,830	8,690	5,850	1,090	592	556
31	260	------	245	254	------	317	------	8,410	------	1,080	600	------
TOTAL	8,966	7,946	6,563	7,548	6,093	5,593	20,670	176,330	344,120	86,630	22,246	20,360
MEAN	289	265	212	243	210	180	689	5,688	11,470	2,795	718	679
MAX	334	292	260	289	254	317	1,830	13,600	29,500	5,750	1,060	1,010
MIN	257	198	170	210	150	130	397	1,960	5,850	1,080	538	538
CFSM	.30	.28	.22	.25	.22	.19	.72	5.94	12.0	2.92	.75	.71
IN.	.35	.31	.25	.29	.24	.22	.80	6.85	13.4	3.36	.86	.79
AC-FT	17,780	15,760	13,020	14,970	12,090	11,090	41,000	349,700	682,600	171,800	44,120	40,380

CAL YR 1963: TOTAL 520,979 MEAN 1,427 MAX 9,290 MIN 170 CFSM 1.49 IN 20.22 AC-FT 1,033,000
WAT YR 1964: TOTAL 713,065 MEAN 1,948 MAX 29,500 MIN 130 CFSM 2.03 IN 27.68 AC-FT 1,414,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	605	654	556	780	430	440	412	8,400	9,830	4,570	1,260	920
2	632	660	575	610	410	430	483	6,630	9,200	4,860	1,200	857
3	750	648	570	660	380	420	524	5,140	10,400	5,210	1,180	822
4	750	626	542	660	410	420	515	4,400	11,700	5,610	1,200	822
5	720	616	515	620	420	420	538	3,850	10,800	5,700	1,150	801
6	709	595	491	610	420	430	575	3,400	11,500	5,530	1,090	768
7	698	570	464	590	390	430	638	3,000	12,100	5,240	1,030	744
8	698	556	440	570	400	450	726	2,760	10,600	4,760	969	720
9	692	546	461	530	400	470	780	2,810	10,400	4,660	934	794
10	709	533	458	500	380	490	878	3,270	11,800	4,460	906	899
11	726	520	454	440	340	470	885	4,220	13,500	4,080	878	920
12	720	503	416	440	390	460	878	5,950	15,000	3,820	864	927
13	698	491	419	450	350	440	998	8,360	13,500	3,610	871	920
14	682	468	412	460	380	450	1,280	9,550	9,420	3,190	843	1,010
15	732	440	320	460	340	440	1,340	9,900	7,370	2,980	794	1,640
16	744	430	200	450	380	410	1,510	9,500	7,370	2,880	750	2,070
17	726	426	220	440	400	370	1,430	9,240	8,520	2,760	720	1,810
18	709	422	280	430	410	360	1,290	7,350	11,000	2,590	698	1,610
19	682	422	390	420	410	410	1,260	6,150	12,100	2,430	670	1,470
20	660	416	450	410	430	390	2,330	6,130	10,200	2,270	720	1,400
21	654	408	520	420	410	410	3,900	6,040	9,990	2,220	787	1,450
22	648	393	560	420	380	380	3,920	5,820	9,700	2,160	738	1,820
23	632	390	1,100	400	350	360	3,700	5,610	8,680	1,970	750	1,820
24	616	440	1,550	390	400	340	3,410	5,610	9,200	1,800	920	1,700
25	605	590	1,470	410	430	360	3,760	5,820	9,440	1,670	1,080	1,630
26	595	551	1,300	400	420	380	3,730	5,720	8,560	1,580	1,050	1,610
27	575	515	1,310	420	450	370	3,660	5,910	7,330	1,540	1,010	1,550
28	600	479	1,170	410	470	380	4,220	7,260	5,980	1,490	1,070	1,460
29	621	461	1,050	420	------	380	5,310	9,990	5,080	1,430	1,130	1,350
30	626	503	969	420	------	370	7,220	12,600	4,520	1,360	1,070	1,270
31	643	------	906	450	------	380	------	11,400	------	1,310	990	------
TOTAL	20,857	15,272	20,538	15,090	11,180	12,710	62,100	201,790	294,790	99,740	29,322	37,584
MEAN	673	509	663	487	399	410	2,070	6,509	9,826	3,217	946	1,253
MAX	750	660	1,550	780	470	490	7,220	12,600	15,000	5,700	1,260	2,070
MIN	575	390	200	390	340	340	412	2,760	4,520	1,310	670	720
CFSM	.70	.53	.69	.51	.42	.43	2.16	6.79	10.3	3.36	.99	1.31
IN.	.81	.59	.80	.59	.43	.49	2.41	7.83	11.4	3.87	1.14	1.46
AC-FT	41,370	30,290	40,740	29,930	22,180	25,210	123,200	400,200	584,700	197,800	58,160	74,550

CAL YR 1964: TOTAL 746,257 MEAN 2,039 MAX 29,500 MIN 130 CFSM 2.13 IN 28.97 AC-FT 1,480,000
WAT YR 1965: TOTAL 820,973 MEAN 2,249 MAX 15,000 MIN 200 CFSM 2.35 IN 31.87 AC-FT 1,628,000

12-3598. South Fork Flathead River above Twin Creek, near Hungry Horse, Mont.

Location.--Lat 47°58'45", long 113°33'50", in SE¼SW¼SE¼ sec.25, T.26 N., R.16 W., on left bank 1,000 ft downstream from Tin Creek, a quarter of a mile upstream from Twin Creek, 36 miles southeast of Hungry Horse, and at mile 46.5.

Drainage area.--1,160 sq mi.

Records available.--October 1964 to September 1965.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 3,575 ft (from river-profile map).

Extremes.--Maximum and minimum discharges for the water year 1965 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (9,000 cfs), and annual minimum discharge

Water year	Maximum				Minimum daily		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1965	May 1, 1965	0700	11,300	11.16	Dec. 16, 1964	250	-
	May 15, 1965	0500	13,600	11.73			
	May 30, 1965	1900	15,800	12.29			
	June 7, 1965	0830	15,500	12.21			
	June 12, 1965	0630	* 18,300	12.81			
	June 19, 1965	0430	15,200	12.13			

1964-65: Maximum discharge, 18,300 cfs June 12, 1965 (gage height, 12.81 ft); minimum daily, 250 cfs Dec. 16, 1964.

Flood of June 8, 1964, reached a stage of 20.87 ft, from high-water profile (discharge, 50,900 cfs, by slope-area measurement of peak flow.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair, and those for period of ice effect, which are poor. No regulation or diversion above station. Records of water temperatures for the water year 1965 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	756	802	728	946	546	582	496	10,800	12,000	5,400	1,520	1,140
2	790	810	765	758	507	564	613	8,640	11,000	5,780	1,450	1,060
3	938	802	750	834	455	552	679	7,130	12,400	6,030	1,410	1,020
4	938	780	714	834	518	540	665	6,200	14,200	6,260	1,450	1,030
5	900	758	679	772	540	546	700	5,490	13,000	6,450	1,390	1,000
6	886	735	646	765	534	570	788	4,850	14,100	6,330	1,320	962
7	872	714	606	728	485	594	858	4,310	14,900	6,070	1,250	938
8	872	686	552	679	502	626	987	4,000	12,200	5,590	1,170	906
9	865	672	600	652	507	665	1,070	4,130	11,700	5,440	1,130	1,000
10	886	658	588	626	475	686	1,220	4,790	13,500	5,210	1,100	1,150
11	908	646	576	552	386	665	1,240	5,910	15,600	4,870	1,060	1,160
12	900	620	496	546	440	639	1,220	8,190	17,800	4,610	1,040	1,170
13	872	594	512	564	440	594	1,390	11,000	16,600	4,410	1,050	1,150
14	852	570	490	570	475	620	1,840	12,700	11,500	3,900	1,020	1,260
15	930	523	460	570	426	600	1,980	13,000	9,060	3,620	961	2,060
16	938	502	250	576	470	564	2,210	12,300	9,180	3,480	914	2,510
17	914	496	270	564	502	460	2,090	11,800	10,400	3,340	874	2,210
18	882	496	390	534	512	440	1,890	9,390	13,000	3,130	834	1,980
19	842	496	480	518	518	496	1,840	8,100	14,300	2,940	802	1,810
20	810	485	590	502	558	465	3,530	8,100	11,600	2,750	858	1,740
21	810	475	700	523	518	546	5,650	8,010	11,000	2,690	946	1,830
22	795	450	900	523	534	518	5,630	7,780	10,900	2,610	882	2,350
23	788	450	1,500	502	440	475	5,360	7,570	9,930	2,380	898	2,320
24	765	523	2,000	480	518	435	5,400	7,570	10,500	2,180	1,140	2,180
25	750	772	1,750	502	570	470	4,990	7,780	10,300	2,020	1,320	2,130
26	735	693	1,550	496	552	507	5,050	7,640	9,540	1,910	1,280	2,110
27	714	646	1,550	512	600	460	5,230	7,870	8,190	1,860	1,230	2,020
28	742	576	1,400	512	632	485	6,100	9,360	6,840	1,780	1,300	1,890
29	758	534	1,270	523	———	475	7,430	12,600	5,880	1,720	1,400	1,760
30	772	632	1,120	518	———	475	9,600	15,600	5,340	1,650	1,330	1,650
31	788	———	1,050	570	———	480	———	14,300	———	1,600	1,230	———
TOTAL	25,968	18,596	25,932	18,751	14,160	16,794	87,746	266,910	346,460	118,010	35,559	47,496
MEAN	838	620	837	605	506	542	2,925	8,610	11,550	3,807	1,147	1,583
MAX	938	810	2,000	946	632	686	9,600	15,600	17,800	6,450	1,520	2,510
MIN	714	450	250	480	386	435	496	4,000	5,340	1,600	802	906
CFSM	.72	.53	.72	.52	.44	.47	2.52	7.42	9.96	3.28	.99	1.36
IN.	.83	.60	.83	.60	.45	.54	2.81	8.56	11.1	3.78	1.14	1.52
AC-FT	51,510	36,880	51,440	37,190	28,090	33,310	174,000	529,400	687,200	234,100	70,530	94,210

CAL YR 1964: TOTAL MEAN MAX MIN CFSM IN AC-FT

WAT YR 1965: TOTAL 1,022,382 MEAN 2,801 MAX 17,800 MIN 250 CFSM 2.41 IN 32.78 AC-FT 2,028,000

12-3600. Twin Creek near Hungry Horse, Mont.

Location.--Lat 47°59'10", long 113°33'30", in E½ sec.25, T.26 N., R.16 W., on left bank 300 ft upstream from road bridge, 0.1 mile upstream from mouth, and 36 miles southeast of Hungry Horse.

Drainage area.--47.0 sq mi.

Records available.--August 1948 to September 1956, October 1964 to September 1965.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 3,610 ft (from river-profile map).

Average discharge.--9 years, 120 cfs (86,880 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water year 1965 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (480 cfs), and annual minimum discharge

Water year	Maximum				Minimum		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1965	Dec. 23, 1964	-	-	a 7.19	Aug. 19, 1965	19	1.88
	Apr. 20, 1965	1900	750	6.10			
	Apr. 29, 1965	2300	786	6.20			
	May 12, 1965	2230	* 935	6.55			
	May 29, 1965	2130	861	6.39			
	June 3, 1965	2000	761	6.13			
	June 11, 1965	2300	645	5.78			
	June 18, 1965	2200	605	5.65			

a Backwater from ice.

1948-56, 1964-65: Maximum discharge, 2,790 cfs May 19, 1954 (gage height, 8.33 ft), from rating curve extended above 1,000 cfs on basis of slope-area measurement at gage height 8.1 ft; minimum, 3.9 cfs Mar. 8, 1952, Nov. 26, 1952 (gage height, 1.77 ft), but may have been less during periods of ice effect.

Flood of June 8, 1964, reached a stage of 12.34 ft from high watermark in well, 13.1 ft from high-water profile, backwater from channel obstructions (discharge, 5,830 cfs by slope-area measurement of peak flow).

Remarks.--Records good except those for winter periods, which are fair. Records of water temperatures for the water year 1965 are published in reports of the Geological Survey.

Revisions.--WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	33	38	50	45	37	42	34	566	523	146	32	38
2	35	40	52	43	35	41	45	432	520	144	31	32
3	47	40	48	42	35	40	44	351	654	143	31	33
4	41	39	43	41	36	40	44	302	623	157	32	36
5	38	38	37	42	38	40	49	266	560	150	31	33
6	36	36	34	43	39	41	56	241	575	136	30	31
7	35	36	32	41	38	44	65	230	534	124	28	29
8	34	35	30	40	38	46	78	252	453	113	28	28
9	35	34	32	39	36	48	85	320	466	105	27	38
10	41	34	30	38	36	47	92	409	517	97	26	38
11	44	34	29	37	33	45	90	509	551	90	25	35
12	44	32	28	36	33	43	90	670	596	86	25	33
13	44	32	27	36	32	41	119	764	495	79	26	32
14	43	30	26	36	34	41	170	716	359	72	24	45
15	42	30	25	36	33	40	191	670	307	68	23	90
16	52	29	23	36	34	36	175	677	384	64	22	80
17	48	30	21	36	36	30	136	614	458	62	21	69
18	44	30	22	36	43	23	112	440	537	58	21	63
19	42	29	24	36	50	26	124	382	534	55	20	60
20	41	28	28	35	55	30	450	416	432	53	24	67
21	40	28	30	36	48	34	569	425	404	51	23	110
22	39	26	45	35	36	36	466	428	353	49	22	130
23	38	26	215	35	32	30	440	438	309	46	24	109
24	36	31	122	33	36	24	418	442	297	43	37	102
25	39	42	82	33	39	28	391	453	282	40	28	105
26	38	36	71	34	42	30	448	430	252	39	30	100
27	36	33	61	34	46	32	484	481	216	39	35	90
28	36	37	54	33	45	32	520	599	183	37	50	82
29	36	34	50	37	------	32	617	723	162	35	55	74
30	36	38	48	38	------	32	651	764	150	33	50	68
31	38	------	46	38	------	32	------	617	------	32	45	------
TOTAL	1,231	1,005	1,465	1,160	1,075	1,126	7,253	15,027	12,686	2,446	926	1,880
MEAN	39.7	33.5	47.3	37.4	38.4	36.3	242	485	423	78.9	29.9	62.7
MAX	52	42	215	45	55	48	651	764	654	157	55	130
MIN	33	26	21	33	32	23	34	230	150	32	20	28
CFSM	.84	.71	1.01	.80	.82	.77	5.14	10.3	9.00	1.68	.64	1.33
IN.	.97	.80	1.16	.92	.85	.89	5.74	11.9	10.0	1.94	.73	1.49
AC-FT	2,440	1,990	2,910	2,300	2,130	2,230	14,390	29,810	25,160	4,850	1,840	3,730

CAL YR 1964: TOTAL MEAN MAX MIN CFSM IN AC-FT

WAT YR 1965: TOTAL 47,280 MEAN 130 MAX 764 MIN 20 CFSM 2.76 IN 37.41 AC-FT 93,780

12-3606. Soldier Creek near Hungry Horse, Mont.

Location.--Lat 47°59'30", long 113°34'50", in NE¼NE¼ sec.26, T.26 N., R.16 W., on left bank 200 ft upstream from culverts on west shore road, 0.2 mile upstream from mouth, and 35 miles southeast of Hungry Horse.

Drainage area.--4.77 sq mi.

Records available.--October 1964 to September 1965.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 3,640 ft (from river-profile map).

Extremes.--Maximum and minimum discharges for the water year 1965 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (40 cfs), and annual minimum discharge

Water year	Maximum				Minimum		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1965	Dec. 23, 1964	0730	* 128	4.20	Sept. 8, 1965	3.0	a 2.30
	Apr. 20, 1965	1830	92	3.84			
	Apr. 29, 1965	2330	93	3.85			
	May 12, 1965	1800	108	4.00			
	May 16, 1965	1530	102	3.94			
	May 29, 1965	1630	62	3.52			

a Occurred Nov. 22, 1964.

1964-65: Maximum discharge, 128 cfs Dec. 23, 1964 (gage height, 4.20 ft); minimum, 3.0 cfs Sept. 8, 1965; minimum gage height, 2.30 ft Nov. 22, 1964.
Flood of June 8, 1964, reached a stage of 5.7 ft, from high-water profile (discharge, 206 cfs, by flow-through-culvert measurement).

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1965 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.2	4.2	18	11	6.4	7.0	5.8	71	49	13	4.7	3.7
2	5.0	4.6	18	10	6.0	6.6	6.6	52	46	12	4.7	3.5
3	5.2	4.4	15	9.7	6.0	6.4	6.2	38	47	11	4.9	4.3
4	4.4	4.2	13	9.1	5.8	6.2	6.4	33	46	13	4.9	4.1
5	4.1	4.2	12	8.8	6.4	6.2	6.6	28	43	11	4.9	3.9
6	4.0	4.1	10	8.8	7.3	6.4	7.6	26	41	9.9	5.1	3.5
7	3.8	4.0	9.1	8.8	6.6	6.6	11	26	39	9.0	4.7	3.3
8	3.7	4.0	8.8	8.2	6.2	6.6	11	27	34	9.0	4.5	3.1
9	3.8	4.0	8.2	8.2	6.0	6.6	12	30	31	8.6	4.3	4.7
10	4.1	4.0	7.6	7.9	5.6	6.4	14	38	29	8.3	4.3	3.7
11	3.8	4.0	7.0	7.6	5.2	6.4	13	54	28	8.0	4.3	3.5
12	3.7	3.8	6.7	7.6	5.2	6.0	14	77	28	8.6	4.7	3.3
13	3.6	3.7	6.6	7.3	5.0	5.8	17	78	27	8.0	5.3	3.5
14	3.6	3.6	6.4	7.3	5.0	5.6	21	75	25	7.6	4.7	5.5
15	4.4	3.7	5.5	7.3	5.0	5.6	24	73	24	7.0	4.5	9.3
16	4.7	3.6	5.0	7.3	4.9	5.4	24	80	24	6.7	4.1	6.1
17	4.7	3.6	4.5	7.0	6.0	4.0	20	56	25	6.7	4.1	5.3
18	4.6	3.6	5.0	6.8	6.8	3.5	17	43	34	6.7	3.9	4.9
19	4.2	3.6	5.5	6.6	7.6	4.0	22	41	29	6.4	3.9	4.9
20	4.2	3.6	5.6	6.4	9.1	4.5	67	43	27	6.1	4.9	5.8
21	4.2	3.5	5.4	6.4	7.9	5.0	74	42	25	6.4	4.5	6.7
22	4.1	3.5	9.6	6.4	7.0	4.7	58	42	23	6.7	4.3	7.0
23	4.1	3.5	83	6.0	5.5	4.6	50	43	22	6.1	4.9	6.4
24	4.0	7.0	30	6.6	6.0	4.6	44	43	21	5.5	8.0	5.8
25	4.1	12	22	6.2	6.2	4.6	41	43	20	5.5	5.1	5.5
26	4.2	7.6	20	5.8	6.4	4.4	43	42	19	5.3	5.5	5.3
27	4.1	6.6	16	5.8	8.8	4.2	48	43	18	5.3	4.7	5.1
28	4.2	6.6	15	5.6	8.2	4.2	57	46	17	5.1	5.5	4.9
29	4.6	5.6	13	6.4	———	4.1	74	52	16	5.1	5.8	4.7
30	4.4	12	12	6.2	———	4.1	78	54	15	4.9	5.1	4.5
31	4.2	———	11	6.8	———	4.6	———	52	———	4.7	4.1	———
TOTAL	130.0	146.4	414.5	229.9	178.1	164.9	893.2	1,491	872	237.2	148.9	145.8
MEAN	4.19	4.88	13.4	7.42	6.36	5.32	29.8	48.1	29.1	7.65	4.80	4.86
MAX	5.2	12	83	11	9.1	7.0	78	80	49	13	8.0	9.3
MIN	3.6	3.5	4.5	5.6	4.9	3.5	5.8	26	15	4.7	3.9	3.1
CFSM	.88	1.02	2.80	1.55	1.33	1.12	6.24	10.1	6.09	1.60	1.01	1.02
IN.	1.01	1.14	3.23	1.79	1.39	1.29	6.96	11.6	6.80	1.85	1.16	1.14
AC-FT	258	290	822	456	353	327	1,770	2,960	1,730	470	295	289

CAL YR 1964: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1965: TOTAL 5,051.9 MEAN 13.8 MAX 83 MIN 3.1 CFSM 2.90 IN 39.39 AC-FT 10,020

12-3610. Sullivan Creek near Hungry Horse, Mont.

Location.--Lat 48°01'45", long 113°42'10", in W½ sec.12, T.26 N., R.17 W., on left bank a quarter of a mile downstream from Quintonkon Creek, 1 mile upstream from Hungry Horse Reservoir flow line, and 30 miles southeast of Hungry Horse.

Drainage area.--71.3 sq mi.

Records available.--September 1948 to September 1956, August 1959 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 3,740 ft (from topographic map).

Average discharge.--14 years, 220 cfs (159,300 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (700 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Apr. 3, 1961	1900	808	3.38	June 9, 1962	2330	867	3.41	Apr. 20, 1965	2100	1,170	4.19
May 2, 1961	1700	706	3.16					Apr. 30, 1965	2200	1,360	4.40
May 26, 1961	2330	* 2,360	4.87	Feb. 5, 1963	-	-	a 4.78	May 12, 1965	2200	1,410	4.45
May 30, 1961	0300	1,670	4.32	May 1, 1963	0230	784	3.33	May 29, 1965	2230	1,630	4.67
June 7, 1961	0100	1,680	4.33	May 25, 1963	2145	* 965	3.60	June 3, 1965	2030	1,360	4.40
								June 11, 1965	2000	1,340	4.38
Apr. 7, 1962	0500	724	3.18	May 21, 1964	0130	1,690	4.46	June 18, 1965	1830	* 3,000	5.84
Apr. 25, 1962	0230	1,340	3.97	June 8, 1964	1830	* 5,020	7.21				
May 19, 1962	2330	* 1,440	4.06	June 24, 1964	2000	1,020	4.06				

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Oct. 6, 1960	28	1.01	1964	Dec. 10, 1963,	b 15	-
1962	Sept.27, 1962	24	1.02		Mar. 23, 24, 1964		
1963	Sept.30, 1963	22	a 1.03	1965	Mar. 24, 1965	b 30	-

a Occurred Oct. 5, 6, 1962.
b Minimum daily.

1948-56, 1959-65: Maximum discharge, 5,020 cfs June 8, 1964 (gage height, 7.21 ft in gage well, 8.3 ft from outside floodmarks), from rating curve extended above 1,800 cfs on basis of slope-area measurement of peak flow; minimum daily, 10 cfs Nov. 26, 1952.

Remarks.--Records good except those for winter periods, which are poor. No regulation or diversion above station. Records of water temperatures for the water year 1965 are published in reports of the Geological Survey.

Revisions.--WSP 1216: Drainage area.

Corrections.--In WSP 1736, the monthly mean for September 1959 was omitted; it should be 123 cfs.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	97	65	39	65	100	230	505	1,330	193	54	67
2	29	84	66	38	65	92	355	682	1,390	178	52	90
3	29	77	68	35	62	88	657	626	1,370	168	49	56
4	28	68	64	30	60	84	667	549	1,390	171	47	49
5	28	63	60	40	55	78	485	494	1,420	166	46	42
6	28	61	58	55	53	82	370	430	1,370	164	45	37
7	31	58	55	50	64	72	303	380	1,410	148	45	36
8	43	55	53	46	60	68	267	355	1,080	137	43	34
9	34	53	50	45	63	66	234	380	930	130	42	32
10	32	55	45	44	166	63	211	510	839	122	42	33
11	40	65	50	42	470	62	199	598	818	120	41	46
12	70	57	57	42	375	60	244	598	895	112	40	39
13	49	55	60	41	252	62	283	615	784	106	38	36
14	41	54	55	45	202	84	241	654	736	103	37	34
15	39	53	50	56	169	104	211	724	784	99	37	33
16	39	53	45	72	147	144	196	811	797	95	36	32
17	39	51	43	74	127	147	299	784	772	92	35	31
18	39	82	50	65	113	144	410	772	730	87	34	32
19	38	73	51	43	104	152	370	860	682	84	33	32
20	38	68	50	40	100	166	311	1,000	610	80	33	34
21	40	66	50	38	127	150	275	1,180	527	79	33	33
22	87	63	47	37	196	137	252	1,370	450	74	32	33
23	74	61	43	36	172	139	227	1,450	410	76	32	35
24	88	70	42	35	155	172	217	1,630	375	74	31	33
25	86	127	42	33	144	184	227	1,640	336	70	31	39
26	77	107	41	32	127	184	211	1,890	305	66	40	61
27	73	95	40	32	116	181	202	1,960	271	64	35	48
28	74	86	38	35	106	160	196	1,380	246	61	32	48
29	73	77	38	39	------	147	207	1,350	225	60	31	59
30	65	70	40	41	------	142	336	1,500	210	59	32	58
31	65	------	39	55	------	172	------	1,330	------	56	36	------
TOTAL	1,545	2,104	1,555	1,355	3,915	3,686	8,893	29,007	23,492	3,294	1,194	1,272
MEAN	49.8	70.1	50.2	43.7	140	119	296	936	783	106	38.5	42.4
MAX	88	127	68	74	470	184	667	1,960	1,420	193	54	90
MIN	28	51	38	30	53	60	196	355	210	56	31	31
CFSM	.70	.98	.70	.61	1.96	1.67	4.16	13.1	11.0	1.49	.54	.59
IN.	.81	1.10	.81	.71	2.04	1.92	4.64	15.1	12.3	1.72	.62	.66
AC-FT	3,060	4,170	3,080	2,690	7,770	7,310	17,640	57,530	46,600	6,530	2,370	2,520

CAL YR 1960: TOTAL 83,066 MEAN 227 MAX 1,690 MIN 25 CFSM 3.18 IN 43.33 AC-FT 164,800
WAT YR 1961: TOTAL 81,312 MEAN 223 MAX 1,960 MIN 28 CFSM 3.12 IN 42.41 AC-FT 161,300

12-3610. Sullivan Creek near Hungry Horse, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	56	88	50	42	35	55	120	385	938	267	55	34
2	58	88	49	40	48	60	143	440	902	238	54	33
3	55	88	49	40	60	60	162	598	902	213	52	32
4	59	80	47	45	60	65	198	748	754	198	58	31
5	64	76	47	46	55	65	323	664	620	190	64	30
6	92	73	46	47	55	60	390	632	538	183	58	29
7	97	71	46	46	60	60	648	790	516	171	52	30
8	88	71	43	40	70	50	450	736	576	162	49	31
9	80	73	40	35	73	45	328	1,010	772	150	48	30
10	94	76	35	30	76	44	256	1,080	790	143	49	33
11	128	77	30	30	71	43	219	962	736	135	46	63
12	122	74	30	35	70	40	204	853	712	135	44	38
13	246	70	30	35	68	43	228	825	694	130	42	34
14	238	73	30	40	68	41	341	766	682	118	41	33
15	207	63	35	40	64	39	510	742	654	110	39	32
16	198	55	40	35	63	39	544	748	670	104	40	30
17	193	50	40	35	60	40	554	825	724	99	38	29
18	171	55	35	30	59	46	632	909	706	94	37	29
19	150	60	35	30	56	46	832	1,220	642	88	37	29
20	141	60	40	30	54	47	1,140	1,290	610	85	36	28
21	124	55	45	25	45	44	930	1,100	566	77	36	27
22	114	65	50	25	40	43	748	1,040	516	74	36	26
23	108	65	50	30	35	43	790	1,090	483	74	35	26
24	103	60	45	30	30	41	1,080	1,180	445	71	34	26
25	94	60	45	35	30	44	1,220	1,150	435	67	33	26
26	103	55	43	40	35	63	888	1,070	415	64	32	24
27	104	50	45	40	40	146	706	1,010	370	64	32	24
28	95	50	44	40	50	110	604	1,170	314	70	60	26
29	88	50	44	35	------	95	500	1,260	292	63	44	42
30	85	52	50	35	------	90	420	1,080	280	60	38	32
31	84	------	44	35	------	97	------	938	------	58	36	------
TOTAL	3,639	1,983	1,302	1,121	1,530	1,804	16,108	28,311	18,254	3,755	1,355	937
MEAN	117	66.1	42.0	36.2	54.6	58.2	537	913	608	121	43.7	31.2
MAX	246	88	50	47	76	146	1,220	1,290	938	267	64	63
MIN	55	50	30	25	30	39	120	385	280	58	32	24
CFSM	1.65	.93	.59	.51	.77	.82	7.53	12.8	8.53	1.70	.61	.44
IN.	1.90	1.03	.68	.58	.80	.94	8.40	14.8	9.52	1.96	.71	.49
AC-FT	7,220	3,930	2,580	2,220	3,030	3,580	31,950	56,150	36,210	7,450	2,690	1,860

CAL YR 1961: TOTAL 83,032 MEAN 227 MAX 1,960 MIN 30 CFSM 3.19 IN 43.31 AC-FT 164,700
WAT YR 1962: TOTAL 80,099 MEAN 219 MAX 1,290 MIN 24 CFSM 3.08 IN 41.78 AC-FT 158,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	66	114	87	70	94	177	713	726	415	58	30
2	27	61	108	87	90	90	159	564	652	365	56	31
3	26	59	103	94	120	84	147	432	610	312	53	30
4	25	56	92	87	350	79	142	356	592	288	51	28
5	24	74	88	80	380	81	142	352	628	259	48	27
6	25	77	95	76	308	77	180	476	616	231	47	26
7	26	68	92	74	296	72	210	658	542	204	46	26
8	44	68	97	73	280	73	201	640	552	189	43	26
9	42	126	101	60	245	72	192	558	569	175	42	25
10	50	146	103	35	214	68	180	476	547	175	42	25
11	44	135	101	30	192	65	172	437	520	177	42	25
12	139	124	95	40	175	65	167	420	498	162	41	24
13	162	120	90	50	186	60	180	432	464	149	40	28
14	168	108	92	60	159	60	228	464	448	142	39	40
15	155	99	99	65	132	59	356	547	410	135	37	30
16	132	94	135	65	123	58	334	592	375	125	36	34
17	114	88	176	60	114	54	324	652	347	118	36	33
18	108	80	193	50	109	54	280	676	308	114	36	28
19	106	82	183	50	103	54	248	658	284	105	35	26
20	99	242	168	50	112	56	220	670	262	99	35	26
21	110	246	168	55	99	59	201	720	266	92	35	25
22	122	204	155	50	92	68	186	758	370	86	34	25
23	118	178	128	50	90	92	177	772	347	81	33	26
24	110	159	80	55	86	105	170	817	308	77	37	25
25	103	150	70	55	82	101	172	876	288	75	35	24
26	95	157	75	50	99	107	198	882	266	73	39	24
27	88	152	80	55	105	128	266	810	245	70	33	24
28	82	139	80	50	99	224	365	758	231	66	32	24
29	77	126	80	45	------	224	470	772	395	65	31	23
30	73	124	80	45	------	217	592	830	459	62	30	22
31	68	------	88	55	------	204	------	817	------	59	29	------
TOTAL	2,590	3,608	3,409	1,838	4,510	2,904	7,036	19,585	13,125	4,745	1,231	810
MEAN	83.5	120	110	59.3	161	93.7	235	632	438	153	39.7	27.0
MAX	168	246	193	94	380	224	592	882	726	415	58	40
MIN	24	56	70	30	70	54	142	352	231	59	29	22
CFSM	1.17	1.69	1.54	.83	2.26	1.31	3.29	8.86	6.14	2.15	.56	.38
IN.	1.35	1.88	1.78	.96	2.35	1.51	3.67	10.2	6.85	2.47	.64	.42
AC-FT	5,140	7,160	6,760	3,650	8,950	5,760	13,960	38,850	26,030	9,410	2,440	1,610

CAL YR 1962: TOTAL 82,782 MEAN 227 MAX 1,290 MIN 24 CFSM 3.18 IN 43.18 AC-FT 164,200
WAT YR 1963: TOTAL 65,391 MEAN 179 MAX 882 MIN 22 CFSM 2.51 IN 34.11 AC-FT 129,700

12-3610. Sullivan Creek near Hungry Horse, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	23	20	26	23	24	84	470	1,220	420	98	80
2	22	23	22	28	22	24	82	426	1,260	415	102	385
3	22	22	23	26	22	22	70	356	1,340	410	90	420
4	22	23	23	26	22	22	86	329	1,310	362	84	319
5	28	26	25	26	23	22	107	375	1,220	530	80	259
6	27	24	28	25	26	22	88	338	1,260	430	78	211
7	26	24	25	25	24	22	81	316	1,230	362	74	184
8	24	25	20	26	23	22	86	347	3,260	319	70	166
9	24	28	18	26	24	22	105	442	2,780	287	68	150
10	23	25	15	26	24	21	142	640	1,580	255	66	135
11	22	24	16	24	25	21	142	640	1,200	234	62	130
12	22	23	18	24	24	21	125	658	1,060	211	60	120
13	22	23	19	25	24	21	105	752	1,080	196	58	112
14	22	24	20	25	24	21	92	688	1,120	193	58	106
15	22	36	20	25	24	21	154	726	1,070	208	52	102
16	22	31	18	25	24	20	183	876	1,080	199	51	94
17	21	28	18	24	24	22	152	1,190	1,030	175	50	90
18	21	28	18	24	23	28	140	1,290	875	166	49	86
19	21	27	19	24	24	24	149	1,340	808	152	48	82
20	20	28	20	24	22	23	180	1,470	756	145	48	118
21	20	25	20	24	22	22	198	1,430	716	135	45	112
22	21	25	22	24	22	21	175	980	716	128	42	140
23	36	25	25	26	22	15	159	726	788	125	40	132
24	32	26	24	26	22	15	147	634	910	115	40	128
25	36	26	24	25	20	20	144	598	847	110	38	135
26	28	34	24	28	30	25	172	634	704	106	92	132
27	25	51	24	24	25	30	170	778	626	102	74	125
28	24	39	24	24	25	31	170	1,170	540	98	68	118
29	24	30	24	24	25	33	224	1,220	475	94	66	112
30	24	25	28	24	------	33	400	1,110	445	96	74	115
31	23	------	25	23	------	41	------	1,100	------	100	78	------
TOTAL	748	821	669	776	684	731	4,312	24,049	33,306	6,878	2,003	4,598
MEAN	24.1	27.4	21.6	25.0	23.6	23.6	144	776	1,110	222	64.6	153
MAX	36	51	28	28	30	41	400	1,470	3,260	530	102	420
MIN	20	22	15	23	20	15	70	316	445	94	38	80
CFSM	.34	.38	.30	.35	.33	.33	2.02	10.9	15.6	3.11	.91	2.15
IN.	.39	.43	.35	.40	.36	.38	2.25	12.5	17.4	3.59	1.04	2.40
AC-FT	1,480	1,630	1,330	1,540	1,360	1,450	8,550	47,700	66,060	13,640	3,970	9,120

CAL YR 1963: TOTAL 58,022 MEAN 159 MAX 882 MIN 15 CFSM 2.23 IN 30.26 AC-FT 115,100
WAT YR 1964: TOTAL 79,575 MEAN 217 MAX 3,260 MIN 15 CFSM 3.05 IN 41.51 AC-FT 157,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	122	110	275	120	72	90	58	1,200	890	348	82	132
2	122	122	291	110	68	86	82	1,000	906	353	80	120
3	138	120	244	105	65	82	76	750	1,180	353	80	122
4	128	115	199	100	67	82	78	650	1,150	376	80	128
5	122	110	169	95	70	80	86	550	1,040	348	80	122
6	115	106	150	93	80	80	96	500	1,090	323	76	115
7	108	104	132	90	72	86	110	450	1,030	299	72	108
8	104	100	125	87	72	88	120	400	836	271	68	102
9	104	98	118	84	70	90	130	450	874	259	66	120
10	130	96	110	82	70	86	152	550	1,030	238	62	110
11	122	92	104	80	60	84	148	750	1,160	220	58	104
12	120	88	98	78	65	80	150	1,100	1,220	208	60	102
13	115	86	96	76	70	76	190	1,320	970	190	70	106
14	112	78	88	76	60	76	244	1,270	692	181	58	160
15	128	76	84	80	50	74	291	1,200	590	169	54	344
16	130	72	60	78	60	65	299	1,150	674	160	50	303
17	130	68	45	76	70	50	255	1,020	836	152	48	263
18	122	68	50	74	78	40	217	759	1,920	142	47	227
19	120	68	55	72	86	50	248	668	1,760	135	43	205
20	120	66	60	70	96	55	882	724	1,140	128	58	196
21	118	62	80	72	90	65	1,020	710	954	125	54	248
22	118	60	150	72	80	55	787	738	808	120	50	291
23	115	60	350	68	70	40	638	745	724	115	70	271
24	112	112	400	60	85	30	574	738	698	110	196	252
25	112	214	300	45	82	40	535	759	638	106	145	230
26	112	160	230	35	76	60	579	724	602	102	252	208
27	106	140	190	70	100	60	644	836	508	98	196	193
28	109	122	170	68	100	60	759	1,100	430	94	199	178
29	110	110	150	72	------	55	1,010	1,370	385	92	181	160
30	112	158	140	70	------	52	1,250	1,430	353	88	172	148
31	110	------	130	80	------	48	------	1,090	------	86	150	------
TOTAL	3,646	3,041	4,843	2,438	2,084	2,065	11,708	26,701	27,088	5,989	2,957	5,368
MEAN	118	101	156	78.6	74.4	66.6	390	861	903	193	95.4	179
MAX	138	214	400	120	100	90	1,250	1,430	1,920	376	252	344
MIN	104	60	45	35	50	30	58	400	353	86	43	102
CFSM	1.65	1.42	2.19	1.10	1.04	.93	5.47	12.1	12.7	2.71	1.34	2.51
IN.	1.90	1.59	2.53	1.27	1.09	1.08	6.11	13.9	14.1	3.12	1.54	2.80
AC-FT	7,230	6,030	9,610	4,840	4,130	4,100	23,220	52,960	53,730	11,880	5,870	10,650

CAL YR 1964: TOTAL 88,867 MEAN 243 MAX 3,260 MIN 15 CFSM 3.41 IN 46.35 AC-FT 176,300
WAT YR 1965: TOTAL 97,928 MEAN 268 MAX 1,920 MIN 30 CFSM 3.76 IN 51.08 AC-FT 194,200

12-3615. Graves Creek near Hungry Horse, Mont.

Location.--Lat 48°07'50", long 113°48'35", in SE¼ sec.1, T.27 N., R.18 W., on left bank 500 ft upstream from Hungry Horse Reservoir flow line and 22 miles southeast of Hungry Horse.

Drainage area.--27.0 sq mi.

Records available.--August 1948 to September 1956, October 1964 to September 1965.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 3,600 ft (from topographic map). Prior to Oct. 1, 1951, at site 2½ miles downstream at different datum.

Average discharge.--9 years, 137 cfs (99,180 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water year 1965 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (500 cfs), and annual minimum discharge

Water year	Maximum				Minimum		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1965	Apr. 21, 1965	1100	520	3.90	Mar. 30, 31, 1965	14	2.16
	Apr. 30, 1965	2300	506	3.87			
	May 14, 1965	2400	560	3.98			
	May 30, 1965	0100	775	4.35			
	June 3, 1965	2100	754	4.32			
	June 12, 1965	2000	824	4.42			
	June 18, 1965	1300	* 3,780	6.27			

1948-56, 1964-65: Maximum discharge, 3,780 cfs June 18, 1965 (gage height, 6.27 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurement at gage height 5.83 ft; minimum daily, 4.5 cfs Nov. 26, 1952.

Flood of June 8, 1964, reached a stage of 5.83 ft from high watermark in well, 7.0 ft from high-water profile (discharge, 2,710 cfs by slope-area measurement of peak flow).

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1965 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	67	89	219	65	36	41	23	475	502	264	59	96
2	67	105	234	61	30	39	26	382	516	300	56	87
3	61	105	189	55	27	37	28	296	668	334	53	70
4	56	100	145	51	31	35	28	244	692	374	53	70
5	53	96	122	48	30	33	29	216	610	362	55	63
6	52	89	102	48	30	34	30	192	632	350	49	56
7	49	82	85	45	30	34	33	174	610	330	45	52
8	46	78	78	42	30	34	37	168	535	296	42	49
9	49	74	72	41	30	35	40	180	555	296	40	59
10	76	69	65	39	27	35	45	222	662	278	38	53
11	74	66	58	38	27	34	48	296	734	247	36	51
12	74	61	52	37	30	33	51	418	803	222	37	49
13	74	58	52	36	30	33	59	506	698	204	43	52
14	72	54	49	36	30	32	80	540	516	192	37	82
15	76	52	45	37	27	31	105	535	452	189	34	201
16	78	50	41	36	30	30	115	525	488	186	33	192
17	78	47	35	35	31	29	110	480	600	177	32	159
18	74	45	38	33	34	27	96	398	1,990	165	30	135
19	70	43	40	32	36	27	102	358	1,280	150	29	120
20	68	41	43	31	37	29	310	390	761	135	33	112
21	68	40	45	33	37	30	506	394	650	128	33	135
22	70	38	66	33	35	29	426	382	595	118	30	159
23	70	39	275	30	27	27	334	382	520	105	32	153
24	70	78	292	30	30	23	292	390	525	93	118	145
25	72	165	201	30	33	27	264	406	480	87	98	135
26	74	132	153	27	32	27	264	406	439	82	168	122
27	74	110	128	30	40	26	278	448	382	78	142	110
28	74	93	108	32	41	24	314	560	318	74	130	98
29	76	80	91	36	———	22	394	698	278	72	112	89
30	78	118	80	34	———	21	475	728	250	67	93	80
31	85	———	72	36	———	21	———	590	———	63	85	———
TOTAL	2,125	2,297	3,275	1,197	888	939	4,942	12,379	18,741	6,018	1,875	3,034
MEAN	68.5	76.6	106	38.6	31.7	30.3	165	399	625	194	60.5	101
MAX	85	165	292	65	41	41	506	728	1,990	374	168	201
MIN	46	38	35	27	27	21	23	168	250	63	29	49
CFSM	2.54	2.84	3.91	1.43	1.17	1.12	6.10	14.8	23.1	7.19	2.24	3.75
IN.	2.93	3.16	4.51	1.65	1.22	1.29	6.81	17.1	25.8	8.29	2.58	4.18
AC-FT	4,210	4,560	6,500	2,370	1,760	1,860	9,800	24,550	37,170	11,940	3,720	6,020

CAL YR 1964: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1965: TOTAL 57,710 MEAN 158 MAX 1,990 MIN 21 CFSM 5.86 IN 79.49 AC-FT 114,500

12-3616. Canyon Creek near Hungry Horse, Mont.

Location.--Lat 48°12'50", long 113°45'40", in NW¼SE¼SW¼ sec.4, T.28 N., R.17 W., on right bank 50 ft downstream from bridge on east shore road, 400 ft upstream from Hungry Horse Reservoir flow line, and 18 miles southeast of Hungry Horse.

Drainage area.--5.8 sq mi, approximately.

Records available.--October 1964 to September 1965.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 3,580 ft (from river-profile map).

Extremes.--Maximum and minimum discharges for the water year 1965 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (45 cfs), and annual minimum discharge

Water year	Maximum				Minimum		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1965	Apr. 21, 1965	1830	52	2.89	Dec. 15, 1964	1.6	1.79
	May 15, 1965	0700	86	3.08			
	May 30, 1965	0430	136	3.24			
	June 4, 1965	0130	* 140	3.25			
	June 11, 1965	0300	132	3.23			
	June 18, 1965	1400	111	3.17			

1964-65: Maximum discharge, 140 cfs June 4, 1965 (gage height, 3.25 ft); minimum, 1.6 cfs Dec. 15, 1964 (gage height, 1.79 ft).

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1965 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.1	4.5	8.0	2.9	2.3	4.5	2.3	40	48	20	5.3	3.9
2	3.7	4.7	7.8	2.6	2.2	3.9	3.3	29	53	23	5.1	3.9
3	3.5	4.5	6.3	2.6	2.1	3.3	3.1	22	102	25	5.3	4.3
4	3.1	4.3	5.3	2.5	2.1	3.1	2.9	18	105	25	5.3	4.3
5	3.1	4.1	4.5	2.5	2.4	2.8	3.5	15	83	23	5.3	4.1
6	3.1	3.9	3.7	2.9	2.6	2.9	3.7	14	93	22	5.1	3.9
7	3.3	3.7	3.3	2.8	2.4	2.9	5.1	13	72	20	4.7	3.7
8	3.3	3.7	3.1	2.5	2.3	2.9	5.7	12	58	18	4.5	3.7
9	3.5	3.7	3.1	2.4	2.2	2.9	7.0	13	70	16	4.1	4.7
10	4.1	3.5	2.9	2.4	2.1	2.8	9.0	16	102	14	4.1	4.3
11	3.7	3.5	2.8	2.3	2.1	2.8	8.2	24	114	13	3.9	4.3
12	3.9	3.3	2.5	2.3	2.1	2.6	8.5	42	102	12	4.1	4.1
13	3.9	3.1	2.5	2.2	2.1	2.5	10	72	68	11	4.3	3.9
14	4.1	2.9	2.4	2.2	2.0	2.5	13	68	40	10	3.9	5.5
15	4.3	2.8	2.2	2.2	2.0	2.5	15	77	35	9.9	3.7	7.2
16	5.1	2.6	2.2	2.3	2.0	2.4	13	62	43	9.6	3.5	6.5
17	4.5	2.6	2.4	2.2	2.6	2.2	9.6	48	58	9.3	3.5	6.8
18	4.1	2.6	2.4	2.2	3.1	2.8	8.0	36	99	8.8	3.5	6.5
19	3.9	2.5	2.3	2.2	3.1	2.9	9.9	30	72	8.2	3.5	6.3
20	3.9	2.6	2.1	2.2	3.3	2.8	32	32	51	8.0	4.1	6.3
21	3.9	2.6	2.1	2.2	2.9	2.6	41	29	45	7.8	3.9	8.2
22	4.1	2.6	4.1	2.1	2.6	2.4	30	26	44	7.5	3.5	9.9
23	4.5	2.6	15	2.1	2.6	2.2	25	26	41	7.2	4.3	9.9
24	4.3	6.3	9.9	2.2	2.5	2.2	22	26	43	6.8	5.9	9.3
25	4.3	5.5	6.5	2.1	2.4	2.2	20	28	40	6.5	4.7	9.0
26	4.3	3.7	5.5	2.1	2.4	2.1	23	31	36	6.3	5.1	9.6
27	4.1	3.1	4.7	2.1	6.5	2.0	23	41	30	6.1	4.5	9.3
28	4.3	2.9	4.1	2.0	5.7	1.9	26	81	25	5.9	4.9	8.8
29	4.3	2.6	3.5	2.2	------	1.9	34	114	20	5.7	4.7	8.2
30	4.1	6.1	3.3	2.2	------	1.9	40	105	18	5.5	4.3	7.5
31	4.3	------	3.1	2.5	------	1.9	------	59	------	5.3	4.1	------
TOTAL	121.7	107.1	133.6	72.2	74.7	81.3	456.8	1,249	1,810	376.4	136.7	187.9
MEAN	3.93	3.57	4.31	2.33	2.67	2.62	15.2	40.3	60.3	12.1	4.41	6.26
MAX	5.1	6.3	15	2.9	6.5	4.5	41	114	114	25	5.9	9.9
MIN	3.1	2.5	2.1	2.0	2.0	1.9	2.3	12	18	5.3	3.5	3.7
CFSM	.68	.62	.74	.40	.46	.45	2.63	6.95	10.4	2.09	.76	1.08
IN.	.78	.69	.86	.46	.48	.52	2.93	8.01	11.6	2.41	.88	1.20
AC-FT	241	212	265	143	148	161	906	2,480	3,590	747	271	373

CAL YR 1964: TOTAL MEAN MAX MIN CFSM IN AC-FT

WAT YR 1965: TOTAL 4,807.4 MEAN 13.2 MAX 114 MIN 1.9 CFSM 2.27 IN 30.83 AC-FT 9,540

12-3617. Goldie Creek near Hungry Horse, Mont.

Location.--Lat 48°13'30", long 113°50'30", in NE¼NW¼NE¼ sec.2, T.28 N., R.18 W., on left bank 300 ft upstream from culverts on west shore road, 2,000 ft upstream from Hungry Horse Reservoir flow line, and 15 miles southeast of Hungry Horse.

Drainage area.--3.29 sq mi.

Records available.--May to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 3,730 ft (from topographic map).

Extremes.--Maximum discharge during period May to September, 262 cfs June 18 (gage height, 3.08 ft); minimum, 1.2 cfs Aug. 18-20.

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1								80	52	18	2.7	2.6
2								60	55	19	2.6	2.3
3								35	65	20	2.7	2.7
4								30	62	20	2.7	3.0
5								25	57	19	2.6	2.7
6								18	61	18	2.4	2.3
7								18	54	17	2.2	2.0
8								20	46	16	2.0	1.9
9								25	49	15	1.9	3.4
10								32	62	13	1.8	2.6
11								50	68	12	1.7	2.6
12								76	67	11	1.9	2.4
13								89	49	9.5	2.3	3.0
14								87	38	8.8	1.7	5.2
15								80	33	8.3	1.6	8.8
16								85	36	7.6	1.6	6.8
17								65	43	7.2	1.3	5.9
18								47	147	6.3	1.3	5.3
19								41	97	5.7	1.3	5.2
20								52	80	5.3	2.4	5.5
21								48	70	5.2	1.8	7.0
22								44	58	4.8	1.4	7.6
23								44	50	4.4	1.9	7.4
24								47	48	4.1	4.8	6.8
25								48	42	3.8	3.2	6.3
26								46	36	3.6	4.1	5.7
27								52	28	3.4	3.4	5.3
28								67	22	3.3	4.1	5.0
29					———			83	19	3.2	3.8	4.6
30					———			80	18	3.0	3.2	4.3
31		———			———		———	62	———	2.8	2.8	———
TOTAL								1,636	1,612	298.3	75.2	136.2
MEAN								52.8	53.7	9.62	2.43	4.54
MAX								89	147	20	4.8	8.8
MIN								18	18	2.8	1.3	1.9
CFSM								16.0	16.3	2.92	.74	1.38
IN.								18.5	18.2	3.37	.85	1.54
AC-FT								3,240	3,200	592	149	270

12-3618.8. Wounded Buck Creek near Hungry Horse, Mont.

Location.--Lat 48°16'40", long 113°56'10", in SW¼SW¼NW¼ sec.17, T.29 N., R.18 W., on right bank 50 ft upstream from culvert on west shore road, 800 ft upstream from Hungry Horse Reservoir flow line, and 9 miles southeast of Hungry Horse.

Drainage area.--13.6 sq mi.

Records available.--October 1964 to September 1965.

Gage.--Water-stage recorder with pressure recording bubbler system. Altitude of gage is 3,580 ft (from topographic map).

Extremes.--Maximum and minimum discharges for the water year 1965 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (250 cfs), and annual minimum discharge

Water year	Maximum				Minimum daily		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1965	Apr. 20, 1965	1900	276	5.79	Mar. 24, 1965	20	-
	Apr. 30, 1965	2200	302	6.08			
	May 16, 1965	1800	309	6.16			
	May 30, 1965	0100	410	7.28			
	June 12, 1965	2000	433	7.53			
	June 18, 1965	1900	* 970	14.13			

1964-65: Maximum discharge, 970 cfs June 18, 1965 (gage height, 14.13 ft), from rating curve extended above 240 cfs on basis of flow-through-culvert measurements at gage heights 10.8 and 14.13 ft; minimum daily, 20 cfs Mar. 24, 1965.

Flood of June 8, 1964, reached a stage of 10.8 ft, from high-water profile (discharge, 706 cfs by computation of peak flow through culvert).

Remarks.--Records good except those for periods of ice effect, which are poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45	37	147	47	30	39	24	280	302	213	70	41
2	46	41	148	44	29	35	25	225	306	208	64	38
3	44	40	119	43	28	33	25	184	354	214	62	39
4	43	40	94	41	27	32	24	168	366	216	62	38
5	42	39	77	41	27	30	25	142	345	208	62	36
6	42	38	66	39	28	29	26	127	354	204	60	35
7	41	38	56	42	27	29	28	117	342	202	57	34
8	41	37	54	36	27	28	29	114	313	193	54	33
9	42	38	51	35	27	28	30	124	318	188	52	36
10	50	38	48	34	27	28	34	146	353	184	50	33
11	47	37	44	33	25	27	35	182	384	170	48	32
12	46	37	41	32	25	27	38	231	416	158	48	32
13	45	37	42	32	26	26	45	270	387	148	50	33
14	45	35	40	31	25	26	55	290	313	142	48	46
15	46	35	38	32	25	26	66	300	275	139	46	77
16	47	33	34	31	25	26	66	302	274	135	44	58
17	45	32	32	31	30	24	68	278	308	130	42	52
18	44	32	35	30	30	22	62	234	717	125	41	48
19	43	32	33	29	30	24	77	218	642	120	40	46
20	43	31	32	29	30	26	214	229	456	116	43	44
21	40	31	34	29	30	26	251	230	388	113	42	50
22	37	30	64	29	28	25	210	229	357	109	40	54
23	36	31	216	28	26	24	174	227	331	105	44	54
24	37	32	153	29	29	20	162	230	320	103	68	52
25	36	103	110	29	28	22	156	238	305	100	56	50
26	38	67	91	28	27	24	158	239	285	96	62	47
27	37	60	80	29	43	24	164	259	262	89	58	44
28	37	54	67	28	42	24	180	313	242	85	58	42
29	37	50	60	29	------	23	220	374	223	85	54	40
30	37	86	56	29	------	23	279	390	210	80	48	38
31	37	------	52	32	------	23	------	335	------	74	44	------
TOTAL	1,296	1,271	2,214	1,031	801	823	2,950	7,225	10,448	4,452	1,617	1,302
MEAN	41.8	42.4	71.4	33.3	28.6	26.5	98.3	233	348	144	52.2	43.4
MAX	50	103	216	47	43	39	279	390	717	216	70	77
MIN	36	30	32	28	25	20	24	114	210	74	40	32
CFSM	3.07	3.12	5.25	2.45	2.10	1.95	7.23	17.1	25.6	10.6	3.84	3.19
IN.	3.54	3.48	6.05	2.82	2.19	2.25	8.07	19.8	28.6	12.2	4.42	3.56
AC-FT	2,570	2,520	4,390	2,040	1,590	1,630	5,850	14,330	20,720	8,830	3,210	2,580

CAL YR 1964: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1965: TOTAL 35,430 MEAN 97.1 MAX 717 MIN 20 CFSM 7.14 IN 96.89 AC-FT 70,270

12-3619.6. Emery Creek near Hungry Horse, Mont.

Location.--Lat 48°21'30", long 113°55'35", in SE¼NE¼SW¼ sec.17, T.30 N., R.18 W., on left bank 900 ft upstream from Hungry Horse Reservoir flow line, 1,000 ft upstream from bridge on east shore road, and 6 miles southeast of Hungry Horse.

Drainage area.--26.4 sq mi.

Records available.--October 1964 to September 1965.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 3,600 ft (from topographic map).

Extremes.--Maximum and minimum discharges for the water year 1965 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (130 cfs), and annual minimum discharge

Water year	Maximum				Minimum daily		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1965	Dec. 19, 1964	-	-	a 3.90	Dec. 17, 1964	7	-
	Apr. 21, 1965	1800	245	2.61			
	Apr. 29, 1965	1700	* 371	2.89			
	May 13, 1965	2130	314	2.74			
	May 30, 1965	1100	176	2.43			
	June 19, 1965	0600	159	2.38			

a Backwater from ice.

1964-65: Maximum discharge, 371 cfs Apr. 29, 1965 (gage height, 2.89 ft); maximum gage height, 3.90 ft Dec. 19, 1964 (backwater from ice); minimum daily discharge, 7 cfs Dec. 17, 1964.
Flood of June 8, 1964, reached a stage of 3.39 ft, from high-water profile (discharge, 832 cfs by slope-area measurement of peak flow).

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1965 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.2	8.2	21	16	10	16	13	290	115	36	13	11
2	9.4	8.8	22	15	9.4	16	14	208	93	35	12	10
3	14	8.5	20	14	9.0	15	14	153	106	34	12	11
4	9.8	8.2	18	14	9.5	14	14	135	122	35	13	11
5	8.8	8.2	16	13	10	14	16	115	108	34	13	10
6	8.5	7.9	15	13	10	14	17	97	112	31	13	9.7
7	8.5	7.9	14	12	9.8	14	21	87	112	31	12	9.4
8	8.5	7.9	14	12	9.8	15	22	87	93	30	12	9.4
9	8.5	8.8	14	12	9.8	15	25	91	85	29	11	11
10	10	9.4	13	11	9.1	15	34	104	91	33	11	10
11	9.1	9.1	12	11	8.5	15	36	135	97	28	11	9.4
12	8.5	8.8	10	11	9.1	15	42	186	112	26	12	9.4
13	8.5	8.5	10	11	9.1	16	53	275	102	26	12	9.7
14	8.5	8.2	10	11	8.8	16	72	270	80	24	11	11
15	9.4	7.9	9.0	11	8.0	15	89	228	64	23	11	14
16	9.8	7.6	8.0	11	8.5	13	95	204	60	21	11	12
17	9.4	7.6	7.0	11	10	12	85	165	70	21	10	11
18	9.1	7.6	8.0	10	12	11	78	156	125	21	10	11
19	8.8	7.6	10	10	11	12	76	132	150	19	10	12
20	8.5	7.6	12	10	11	13	104	128	120	19	11	13
21	8.2	7.4	15	10	10	14	179	120	90	18	12	13
22	8.2	7.4	25	10	10	13	200	110	76	17	10	13
23	7.9	7.4	40	9.8	9.5	12	162	110	67	17	11	12
24	7.9	11	35	10	10	11	132	106	63	16	13	12
25	7.9	12	30	9.8	12	12	135	115	59	16	11	12
26	8.5	9.4	25	9.8	11	13	147	118	55	15	12	12
27	8.5	9.4	23	9.8	18	13	153	115	51	15	11	12
28	8.5	9.1	21	9.8	17	13	162	125	47	15	13	13
29	8.5	8.8	20	10	-------	12	240	162	44	14	12	13
30	8.5	11	18	9.8	-------	12	296	168	39	14	12	13
31	8.2	-------	17	11	-------	12	-------	153	-------	13	11	-------
TOTAL	274.6	257.2	532.0	348.8	289.9	423	2,726	4,648	2,608	726	359	340.0
MEAN	8.86	8.57	17.2	11.3	10.4	13.6	90.9	150	86.9	23.4	11.6	11.3
MAX	14	12	40	16	18	16	296	290	150	36	13	14
MIN	7.9	7.4	7.0	9.8	8.0	11	13	87	39	13	10	9.4
CFSM	.34	.32	.65	.43	.39	.52	3.44	5.68	3.29	.89	.44	.43
IN.	.39	.36	.75	.49	.41	.60	3.84	6.55	3.67	1.02	.51	.48
AC-FT	545	510	1,060	692	575	839	5,410	9,220	5,170	1,440	712	674

CAL YR 1964: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1965: TOTAL 13,532.5 MEAN 37.1 MAX 296 MIN 7.0 CFSM 1.40 IN 19.06 AC-FT 26,840

12-3620. Hungry Horse Reservoir near Hungry Horse, Mont.

Location.--Lat 48°20'30", long 114°00'50", in NE¼NE¼NW¼ sec.27, T.30 N., R.19 W., in block 14 of Hungry Horse Dam, 3 miles southeast of Hungry Horse and at mile 5.2.

Drainage area.--1,654 sq mi.

Records available.--September 1951 to September 1965.

Gage.--Water-stage recorder equipped with remote indicator in powerhouse. Datum of gage is at mean sea level (levels by Bureau of Reclamation). During construction and prior to May 1, 1953, various types of nonrecording gages were used.

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	(a)	3,440,000	3,560.52	Apr. 30, 1961	2,213,000	3,501.55
1962	July 23, 1962	3,440,000	3,560.51	Feb. 23, 1962	2,168,000	3,498.97
1963	June 29, 1963	3,442,000	3,560.60	May 3, 1963	2,524,000	3,518.18
1964	July 5, 1964	3,442,000	3,560.58	Apr. 22, 23, 1964	1,992,000	3,488.45
1965	(b)	3,442,000	3,560.59	Apr. 9, 1965	1,481,000	3,453.40

a Nov. 10, 1960, June 18, Aug. 31, 1961.
b Oct. 11, 1964, Aug. 20, 1965.

1951-65: Maximum contents observed, 3,461,000 acre-ft July 3, 4, 1955, Aug. 6, 1956; maximum elevation observed, 3,561.40 ft July 3, 4, 1955; minimum contents observed since normal low operating level reached in May 1952, 607,700 acre-ft Jan. 13, 1953 (elevation, 3,362.50 ft).

Remarks.--Reservoir formed by concrete dam; construction began in 1948, completed in 1952. Storage began Sept. 21, 1951. Usable capacity, 3,428,000 acre-ft between elevations 3,560 (controlled spillway elevation) and 3,196 ft. Dead storage, 40,140 acre-ft below elevation 3,196 ft. Minimum operating level, 3,336 ft for on-site power generation (usable contents, 445,900 acre-ft). Water is used for power production, flood control, and irrigation. Figures given herein represent usable contents.

Cooperation.--Daily elevations furnished by Bureau of Reclamation.

Capacity table, water years 1961-65 (elevation, in feet, and contents, in acre-feet)

3,440	1,318,000	3,480	1,859,000	3,520	2,560,000
3,460	1,567,000	3,500	2,186,000	3,540	2,974,000
				3,565	3,548,000

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	160.47	160.50	160.38	159.78	159.46	148.65	129.25	101.73	138.04	160.42	160.45	160.50
2	160.47	160.51	160.44	159.75	159.14	148.12	128.51	102.25	139.97	160.40	160.46	160.47
3	160.47	160.48	160.50	159.67	158.64	147.63	128.20	102.73	141.94	160.40	160.35	160.48
4	160.47	160.46	160.50	159.58	158.15	147.15	128.06	103.20	143.94	160.40	160.36	160.49
5	160.47	160.43	160.48	159.56	157.64	146.60	127.77	103.61	145.98	160.40	160.40	160.49
6	160.47	160.44	160.22	159.60	157.16	146.11	127.25	103.90	147.90	160.36	160.43	160.49
7	160.47	160.44	159.90	159.60	156.67	145.58	126.51	104.11	149.93	160.38	160.45	160.28
8	160.49	160.46	159.87	159.60	156.17	145.06	125.80	104.22	151.67	160.39	160.46	160.00
9	160.46	160.47	159.87	159.55	155.75	144.51	125.08	104.37	153.08	160.42	160.48	159.95
10	160.45	160.52	159.89	159.52	155.36	143.86	124.37	104.70	154.36	160.44	160.50	159.91
11	160.49	160.48	159.93	159.50	155.12	143.22	123.24	105.18	155.55	160.42	160.50	159.96
12	160.50	160.45	159.90	159.50	154.80	142.56	122.10	105.72	156.82	160.40	160.50	159.94
13	160.45	160.45	159.90	159.50	154.48	141.93	121.04	106.28	157.98	160.40	160.50	159.94
14	160.43	160.42	159.96	159.52	154.10	141.40	119.86	106.89	159.00	160.41	160.50	159.92
15	160.44	160.42	159.91	159.50	153.83	140.85	118.66	107.53	160.03	160.42	160.50	159.88
16	160.44	160.49	159.88	159.52	153.52	140.35	118.04	108.35	160.43	160.43	160.49	159.90
17	160.44	160.48	159.89	159.52	153.16	139.80	116.84	109.17	160.50	160.43	160.48	159.91
18	160.44	160.46	159.94	159.53	152.71	139.30	115.77	109.91	160.52	160.40	160.48	159.93
19	160.46	160.46	159.97	159.52	152.28	138.81	114.63	110.73	160.50	160.41	160.49	159.96
20	160.48	160.48	159.90	159.46	151.88	138.31	113.47	111.79	160.38	160.42	160.49	159.98
21	160.45	160.47	159.89	159.43	151.62	137.77	112.27	113.22	160.48	160.44	160.50	159.99
22	160.46	160.43	159.89	159.41	151.33	137.26	111.08	114.91	160.44	160.45	160.50	159.94
23	160.47	160.47	159.88	159.38	151.00	136.42	109.86	116.96	160.47	160.45	160.49	159.55
24	160.49	160.50	159.87	159.37	150.65	135.62	108.60	119.41	160.50	160.45	160.40	159.01
25	160.46	160.49	159.90	159.37	150.25	134.81	107.37	121.94	160.45	160.45	160.38	158.55
26	160.44	160.47	159.86	159.36	149.88	134.10	106.08	124.76	160.42	160.44	160.43	158.01
27	160.49	160.47	159.83	159.33	149.45	133.33	104.80	127.70	160.43	160.41	160.46	157.63
28	160.50	160.47	159.80	159.33	149.09	132.46	103.50	129.87	160.40	160.40	160.48	157.47
29	160.50	160.45	159.81	159.33	------	131.59	102.15	131.92	160.41	160.40	160.50	157.34
30	160.47	160.47	159.80	159.46	------	130.93	101.55	134.03	160.43	160.40	160.50	157.18
31	160.47	------	159.80	159.48	------	130.07	------	136.14	------	160.42	160.52	------
MAX	160.50	160.52	160.50	159.78	159.46	148.65	129.25	136.14	160.52	160.45	160.52	160.50
MIN	160.43	160.42	159.80	159.33	149.09	130.07	101.55	101.73	138.04	160.36	160.35	157.18
(†)	3,439	3,439	3,423	3,416	3,175	2,763	2,213	2,891	3,438	3,438	3,440	3,362
(‡)	0	0	-16,000	-7,000	-241,000	-412,000	-550,000	+678,000	+547,000	0	+2,000	-78,000

CAL YR 1960..... ‡ +42,000
WAT YR 1961..... ‡ -77,000

† *Contents, in thousands of acre-feet, at end of month.*
‡ Change in contents, in acre-feet.
Note.--Add 3,400 ft to obtain elevation above mean sea level.

13-3620. Hungry Horse Reservoir near Hungry Horse, Mont.--Continued

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	156.99	154.79	156.13	140.07	115.34	99.19	100.96	107.36	135.60	160.45	160.48	160.48
2	156.79	154.88	156.17	139.38	114.39	99.28	101.11	107.35	136.75	160.45	160.46	160.48
3	156.60	154.93	156.20	138.75	113.49	99.34	101.30	107.52	138.00	160.43	160.46	160.47
4	156.42	155.00	156.24	138.06	112.58	99.37	101.56	107.99	139.05	160.42	160.49	160.45
5	156.24	155.02	156.29	137.40	111.66	99.41	101.95	108.47	139.86	160.42	160.44	160.45
6	156.05	155.07	156.31	136.75	110.72	99.45	102.32	108.98	140.53	160.49	160.40	160.45
7	155.78	155.11	155.96	136.08	109.81	99.48	102.81	109.69	141.10	160.50	160.39	160.47
8	155.31	155.15	155.30	135.50	108.89	99.52	103.05	110.38	141.72	160.46	160.40	160.49
9	154.75	155.20	154.62	134.82	107.94	99.55	102.92	111.35	142.67	160.48	160.40	160.48
10	154.11	155.27	153.94	134.20	106.98	99.58	102.68	112.48	143.77	160.49	160.46	160.50
11	153.46	155.32	153.27	133.40	106.00	99.60	102.43	113.56	144.82	160.48	160.46	160.47
12	152.93	155.37	152.61	132.59	105.00	99.63	102.12	114.52	145.87	160.48	160.45	160.38
13	153.04	155.40	152.00	131.75	104.28	99.65	101.90	115.48	146.95	160.47	160.47	160.41
14	153.17	155.45	151.38	130.91	103.62	99.67	101.56	116.35	148.27	160.47	160.47	160.44
15	153.30	155.48	150.72	130.10	102.86	99.70	101.44	117.15	149.44	160.44	160.48	160.44
16	153.42	155.51	150.15	129.50	102.16	99.71	101.47	117.89	150.61	160.45	160.46	160.44
17	153.54	155.52	149.48	128.82	101.41	99.75	101.50	118.65	151.85	160.49	160.46	160.44
18	153.66	155.52	148.90	127.95	100.66	99.79	101.65	119.54	153.15	160.47	160.47	160.47
19	153.78	155.54	148.43	127.08	99.90	99.82	102.10	120.77	154.29	160.47	160.49	160.49
20	153.87	155.59	147.87	126.20	99.35	99.88	103.00	122.24	155.39	160.47	160.48	160.45
21	153.95	155.64	147.15	125.31	99.21	99.93	103.67	123.51	156.39	160.47	160.46	160.44
22	154.09	155.72	146.45	124.40	99.15	99.97	104.05	124.66	157.31	160.48	160.46	160.46
23	154.19	155.78	145.80	123.50	98.97	100.03	104.40	125.78	158.11	160.51	160.47	160.48
24	154.27	155.85	145.36	122.68	99.00	100.07	105.10	126.91	158.84	160.50	160.46	160.47
25	154.31	155.90	144.70	121.78	99.02	100.15	106.18	128.09	159.47	160.47	160.46	160.47
26	154.43	155.92	144.04	120.95	99.06	100.28	106.84	129.17	159.96	160.37	160.46	160.47
27	154.54	155.96	143.38	120.05	99.08	100.46	107.27	130.18	160.21	160.46	160.48	160.45
28	154.57	155.98	142.73	119.12	99.15	100.58	107.51	131.30	160.22	160.43	160.48	160.49
29	154.63	156.00	142.11	118.17	------	100.66	107.61	132.54	160.22	160.50	160.46	160.47
30	154.67	156.07	141.43	117.22	------	100.76	107.49	133.65	160.32	160.45	160.46	160.45
31	154.72	------	140.80	116.30	------	100.84	------	134.60	------	160.50	160.48	------
MAX	156.99	156.07	156.31	140.07	115.34	100.84	107.61	134.60	160.32	160.51	160.49	160.50
MIN	152.93	154.79	140.80	116.30	98.97	99.19	100.96	107.35	135.60	160.42	160.39	160.38
(†)	3,305	3,337	2,992	2,488	2,172	2,200	2,321	2,859	3,436	3,440	3,440	3,439
(‡)	-57,000	+32,000	-345,000	-504,000	-316,000	+28,000	+121,000	+538,000	+577,000	+4,000	0	-1,000

CAL YR 1961..... ‡ -431,000
WAT YR 1962..... ‡ +77,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 3,400 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	160.44	160.42	160.45	147.65	130.25	130.61	133.90	118.66	139.93	160.41	160.48	160.50
2	160.44	160.41	160.51	147.10	129.95	130.69	133.90	118.43	140.93	160.39	160.48	160.50
3	160.43	160.40	160.47	146.52	129.84	130.79	133.89	118.18	141.92	160.41	160.48	160.50
4	160.40	160.44	160.45	145.93	129.58	130.88	133.91	118.51	142.92	160.46	160.48	160.50
5	160.42	160.49	160.36	145.31	129.50	130.98	133.90	118.76	144.06	160.46	160.48	160.50
6	160.44	160.49	160.23	144.70	129.41	131.06	133.93	119.04	145.20	160.46	160.49	160.51
7	160.48	160.46	159.95	144.03	129.36	131.14	134.00	119.80	146.15	160.41	160.31	160.50
8	160.49	160.43	159.65	143.44	129.29	131.24	133.70	120.50	147.07	160.41	160.35	160.49
9	160.48	160.47	159.41	142.80	129.24	131.32	132.93	121.10	147.94	160.40	160.39	160.48
10	160.44	160.48	159.14	142.16	129.23	131.40	132.17	121.59	148.78	160.43	160.45	160.47
11	160.44	160.50	158.70	141.54	129.16	131.49	131.39	122.00	149.61	160.48	160.51	160.48
12	160.50	160.43	158.32	140.88	129.15	131.57	130.61	122.34	150.42	160.46	160.52	160.48
13	160.50	160.44	157.95	140.20	129.15	131.63	129.85	122.68	151.26	160.44	160.52	160.50
14	160.50	160.43	157.38	139.59	129.19	131.70	129.09	123.01	152.15	160.41	160.51	160.50
15	160.51	160.41	156.87	139.00	129.20	131.77	128.55	123.47	153.03	160.38	160.47	160.46
16	160.47	160.40	156.33	138.32	129.29	131.84	128.41	123.95	153.84	160.41	160.47	160.51
17	160.48	160.40	155.83	137.71	129.41	131.91	127.81	124.58	154.60	160.43	160.45	160.47
18	160.48	160.42	155.32	136.99	129.52	131.99	127.12	125.30	155.29	160.47	160.45	160.47
19	160.49	160.44	154.82	136.27	129.68	132.06	126.42	125.95	155.93	160.45	160.39	160.48
20	160.50	160.54	154.29	135.59	129.74	132.13	125.68	126.63	156.50	160.43	160.40	160.48
21	160.50	160.45	153.83	134.91	129.83	132.21	124.87	127.39	157.14	160.44	160.30	160.49
22	160.50	160.49	153.27	134.16	129.90	132.27	124.07	128.25	157.82	160.41	160.33	160.51
23	160.53	160.48	152.75	133.76	129.97	132.34	123.30	129.22	158.36	160.41	160.37	160.47
24	160.47	160.46	152.12	133.36	130.04	132.47	122.48	130.36	158.82	160.42	160.41	160.48
25	160.44	160.51	151.52	132.98	130.12	132.62	121.66	131.57	159.25	160.47	160.45	160.19
26	160.42	160.51	150.98	132.58	130.25	132.72	120.48	132.81	159.66	160.52	160.44	160.22
27	160.43	160.48	150.45	132.18	130.37	132.87	120.12	134.03	159.94	160.52	160.46	160.24
28	160.45	160.50	149.90	131.78	130.47	133.10	119.52	135.13	160.18	160.50	160.49	160.28
29	160.43	160.45	149.35	131.34	------	133.28	119.05	136.25	160.60	160.46	160.50	160.31
30	160.43	160.50	148.80	130.95	------	133.57	118.73	137.51	160.47	160.47	160.50	160.32
31	160.42	------	148.23	130.60	------	133.81	------	138.80	------	160.47	160.50	------
MAX	160.53	160.54	160.51	147.65	130.47	133.81	134.00	138.80	160.60	160.52	160.52	160.51
MIN	160.40	160.40	148.23	130.60	129.15	130.61	118.73	118.18	139.93	160.38	160.30	160.19
(†)	3,438	3,440	3,155	2,775	2,772	2,842	2,535	2,948	3,439	3,439	3,440	3,436
(‡)	-1,000	+2,000	-285,000	-380,000	-3,000	+70,000	-307,000	+413,000	+491,000	0	+1,000	-4,000

CAL YR 1962..... ‡ +163,000
WAT YR 1963..... ‡ -3,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 3,400 ft to obtain elevation above mean sea level.

12-3620. Hungry Horse Reservoir near Hungry Horse, Mont.--Continued

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	160.35	158.04	159.02	140.14	113.62	106.04	95.05	89.62	120.85	160.22	160.51	160.50
2	160.37	158.07	158.99	139.33	112.90	105.89	95.12	90.05	122.48	160.50	160.50	160.57
3	160.36	158.08	158.50	138.51	112.25	105.73	95.20	90.32	124.27	160.45	160.49	160.46
4	160.39	158.10	157.85	137.75	111.74	105.58	95.28	90.53	126.24	160.45	160.49	160.49
5	160.43	158.14	157.69	136.87	111.27	105.21	95.38	90.75	127.95	160.58	160.48	160.50
6	160.48	158.18	157.84	136.14	110.80	104.87	95.50	90.89	129.70	160.48	160.46	160.51
7	160.48	158.21	157.87	135.34	110.29	104.28	95.59	91.03	131.45	160.42	160.46	160.53
8	160.47	158.27	157.89	134.52	110.00	103.68	95.33	91.30	136.37	160.46	160.48	160.55
9	160.48	158.33	157.62	133.69	109.73	102.90	94.75	91.49	141.34	160.50	160.47	160.47
10	160.49	158.35	156.87	132.85	109.50	101.84	94.19	91.85	144.27	160.53	160.52	160.50
11	160.45	158.38	156.11	132.02	109.32	100.78	93.64	92.30	146.43	160.48	160.49	160.38
12	160.46	158.39	155.38	131.16	109.15	99.67	93.10	93.03	148.22	160.41	160.43	160.45
13	160.47	158.40	154.62	130.28	108.96	98.58	92.48	93.98	149.98	160.41	160.50	160.49
14	160.49	158.42	153.90	129.45	108.72	98.14	91.77	94.92	151.76	160.49	160.47	160.51
15	160.48	158.48	153.18	128.58	108.56	97.70	91.14	95.89	153.53	160.55	160.48	160.46
16	160.48	158.51	152.48	127.82	108.43	97.24	90.52	97.10	155.28	160.50	160.48	160.44
17	160.23	158.57	151.72	126.93	108.27	97.21	89.85	98.78	156.85	160.42	160.48	160.44
18	159.96	158.60	151.00	126.06	108.12	97.26	89.53	100.63	157.88	160.42	160.47	160.49
19	159.42	158.66	150.23	125.29	107.94	97.15	89.22	102.62	158.53	160.40	160.47	160.54
20	158.89	158.68	149.49	124.31	107.78	97.17	88.93	104.96	158.95	160.43	160.47	160.56
21	158.39	158.72	148.73	123.43	107.62	97.17	88.71	107.40	159.13	160.47	160.47	160.51
22	158.12	158.76	148.00	122.54	107.46	97.19	88.45	109.09	159.20	160.49	160.46	160.50
23	157.94	158.80	147.17	121.62	107.31	96.76	88.45	110.22	159.33	160.50	160.46	160.48
24	157.91	158.84	146.42	120.74	107.11	96.10	88.70	111.10	159.72	160.50	160.48	160.46
25	157.93	158.88	145.67	119.90	106.91	95.86	88.68	111.87	160.00	160.49	160.48	160.47
26	157.94	158.91	144.86	118.97	106.54	95.45	88.95	112.65	159.90	160.47	160.52	160.50
27	157.95	158.93	144.06	118.08	106.45	95.22	88.86	113.55	159.88	160.46	160.50	160.52
28	157.97	158.96	143.30	117.10	106.38	95.08	88.73	115.00	159.92	160.46	160.44	160.53
29	158.00	158.99	142.50	116.16	106.22	94.91	88.81	116.56	159.87	160.32	160.44	160.53
30	158.02	159.02	141.63	115.22	------	94.95	89.15	117.98	160.03	160.27	160.44	160.53
31	158.03	------	140.94	114.29	------	94.97	------	119.37	------	160.40	160.47	------
MAX	160.49	159.02	159.02	140.14	113.62	106.04	95.59	119.37	160.03	160.58	160.52	160.57
MIN	157.91	158.04	140.94	114.29	106.22	94.91	88.45	89.62	120.85	160.22	160.43	160.38
(†)	3,382	3,405	2,995	2,450	2,297	2,099	2,003	2,547	3,429	3,438	3,439	3,441
(‡)	-54,000	+23,000	-410,000	-545,000	-153,000	-198,000	-96,000	+544,000	+882,000	+9,000	+1,000	+2,000

CAL YR 1963..... ‡ -160,000
WAT YR 1964..... ‡ +5,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 3,400 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	160.54	160.54	159.08	151.04	131.65	109.32	59.18	60.77	105.20	154.64	160.49	160.50
2	160.54	160.55	159.10	150.88	131.07	108.47	58.47	61.18	107.00	155.32	160.48	160.50
3	160.56	160.55	159.09	150.77	130.51	107.60	57.68	61.39	109.09	156.07	160.50	160.49
4	160.55	160.53	159.03	150.42	129.94	106.74	56.90	62.16	111.29	156.85	160.51	160.49
5	160.54	160.48	159.04	150.11	129.22	105.83	56.28	62.90	113.31	157.65	160.52	160.49
6	160.55	160.52	159.14	149.78	128.28	104.47	55.44	63.53	115.45	158.36	160.52	160.49
7	160.53	160.41	159.02	149.40	127.33	102.75	54.64	64.04	117.56	159.09	160.50	160.51
8	160.53	160.49	158.72	149.06	126.40	101.00	53.90	64.50	119.39	159.62	160.48	160.46
9	160.54	160.56	158.42	148.47	125.61	99.18	53.40	65.28	121.19	160.15	160.44	160.48
10	160.56	160.54	158.10	147.82	124.81	97.15	53.75	66.24	123.23	160.46	160.46	160.50
11	160.59	160.51	157.73	147.20	124.00	95.07	54.12	67.55	125.51	160.47	160.48	160.50
12	160.55	160.40	157.62	146.50	123.17	93.00	54.47	69.39	128.09	160.47	160.55	160.52
13	160.55	160.39	157.63	145.80	122.35	90.89	54.88	71.77	130.32	160.48	160.55	160.51
14	160.57	160.43	157.28	145.06	121.54	88.72	55.44	74.30	131.92	160.48	160.54	160.53
15	160.57	160.48	156.95	144.32	120.73	86.54	56.13	76.81	133.20	160.46	160.54	160.47
16	160.57	160.37	156.43	143.59	119.92	84.32	56.49	79.18	134.49	160.46	160.54	160.52
17	160.57	160.11	155.66	142.85	119.13	82.10	56.12	81.36	136.15	160.49	160.54	160.46
18	160.57	159.98	154.93	142.10	118.29	79.78	55.66	83.01	138.40	160.49	160.55	160.49
19	160.53	159.95	154.25	141.34	117.51	77.44	55.33	84.36	140.58	160.46	160.56	160.50
20	160.52	159.92	153.57	140.58	116.63	75.08	55.67	85.85	142.32	160.45	160.59	160.50
21	160.51	159.80	152.97	139.88	115.81	72.71	56.80	87.14	143.89	160.46	160.57	160.50
22	160.51	159.73	152.65	139.12	115.02	70.23	57.51	88.44	145.40	160.48	160.55	160.51
23	160.52	159.30	152.73	138.38	114.20	67.76	58.03	89.72	146.73	160.48	160.50	160.48
24	160.53	159.00	152.58	137.68	113.35	66.00	58.49	90.92	148.10	160.48	160.50	160.49
25	160.54	158.95	152.28	136.88	112.49	64.91	58.81	92.23	149.46	160.47	160.50	160.50
26	160.55	159.01	152.12	136.18	111.68	63.95	59.00	93.48	150.68	160.47	160.50	160.53
27	160.55	158.89	151.92	135.38	110.94	63.12	58.70	94.82	151.75	160.50	160.47	160.40
28	160.55	158.88	151.62	134.64	110.13	62.34	58.59	96.48	152.62	160.52	160.54	160.17
29	160.55	158.96	151.40	133.85	------	61.57	58.92	98.62	153.33	160.53	160.48	160.17
30	160.54	159.03	151.31	133.12	------	60.70	59.77	101.18	153.98	160.51	160.52	160.08
31	160.55	------	151.15	132.33	------	60.02	------	103.32	------	160.50	160.50	------
MAX	160.59	160.56	159.14	151.04	131.65	109.32	59.77	103.32	153.98	160.53	160.59	160.53
MIN	160.51	158.88	151.15	132.33	110.13	60.02	53.40	60.77	105.20	154.64	160.44	160.08
(†)	3,441	3,406	3,222	2,811	2,370	1,567	1,564	2,245	3,288	3,440	3,440	3,430
(‡)	0	-35,000	-184,000	-411,000	-441,000	-803,000	-3,000	+681,000	+1,043,000	+152,000	0	-10,000

CAL YR 1964..... ‡ +227,000
WAT YR 1965..... ‡ -11,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 3,400 ft to obtain elevation above mean sea level.

12-3625. South Fork Flathead River near Columbia Falls, Mont.

Location.--Lat 48°21'30", long 114°02'15", in SW¼SE¼SW¼ sec.16, T.30 N., R.19 W., on right bank 1½ miles downstream from Hungry Horse Dam, 3½ miles upstream from mouth, and 7 miles east of Columbia Falls.
Drainage area.--1,663 sq mi.
Records available.--September 1910 to January 1911 (discharge measurements only), February 1911 to September 1913 (no winter records), October 1913 to August 1916 (scattered daily discharge only), April 1923 to November 1924 (no winter records), July to October 1925, May to November 1927, May 1928 to September 1965. Monthly discharge only for some periods, published in WSP 1316.
Gage.--Digital water-stage recorder. Datum of gage is 3,040.0 ft above mean sea level (levels by Bureau of Reclamation). September 1910 to September 1916 chain gage and Apr. 23, 1923, to Sept. 30, 1928, graphic water-stage recorder, at site 3 miles downstream at different datum. Oct. 1, 1928, to Sept. 30, 1952, graphic water-stage recorder at site 1½ miles downstream at different datums. Prior to Oct. 1, 1963, graphic water-stage recorder at present site and datum.
Average discharge.--37 years (1928-65), 3,507 cfs (2,539,000 acre-ft per year), adjusted for storage.
Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 16, 1961	17,000	12.96	Dec. 10, 1960	167	-
1962	Feb. 11, 1962	10,300	10.34	Sept.22, 1962	204	-
1963	Apr. 22, 1963	12,400	11.19	June 20, 1963	184	-
1964	June 25, 26, 1964	18,000	13.34	Nov. 10, 1963	187	-
1965	Mar. 9, 1965	20,400	14.23	July 1, 1965	139	-

1910-16, 1923-65: Maximum discharge observed, 46,200 cfs June 19, 1916 (gage height, 16.6 ft, site and datum then in use), from rating curve extended above 20,000 cfs; minimum observed, 7.3 cfs Sept. 24, 1951 (gage height, 0.52 ft, dam closure), site and datum then in use; minimum daily, 7.3 cfs Sept. 24, 1951.
Remarks.--Records excellent. Flow regulated since Sept. 21, 1951, by Hungry Horse Reservoir (see station 12-1320). Records of water temperatures for the water year 1965 are published in reports of the Geological Survey.
Revisions (water years).--WSP 1216: Drainage area. WSP 1316: 1923-24(M), 1926-27(M), 1932(M), 1935-36(M). WSP 1636: 1958 (adjusted runoff).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	495	848	1,930	742	1,460	6,590	11,600	4,100	3,000	4,360	654	2,420
2	498	1,110	208	760	5,010	7,180	10,700	3,170	3,050	4,080	878	1,480
3	472	1,190	254	1,340	6,810	7,220	9,650	3,170	3,020	3,760	2,460	518
4	448	1,000	1,100	1,430	6,820	7,100	8,970	2,850	2,930	3,510	469	513
5	300	705	1,260	795	6,880	7,100	8,910	4,110	2,890	4,420	491	569
6	755	325	3,380	750	6,760	7,180	10,300	4,370	3,260	3,300	500	569
7	478	734	3,930	736	6,790	7,140	11,900	4,400	1,810	3,180	513	2,780
8	730	502	690	1,190	6,770	7,140	11,300	4,430	1,180	2,800	518	4,430
9	645	562	535	1,110	6,840	7,200	11,200	4,400	1,140	2,450	408	883
10	470	838	167	750	6,820	8,360	10,500	4,970	998	2,640	310	702
11	250	1,990	167	740	6,830	8,310	15,200	4,340	990	2,790	635	778
12	1,550	1,080	778	555	6,880	8,310	15,200	3,680	1,000	2,760	815	730
13	1,240	1,030	780	562	6,920	8,010	14,900	3,490	990	2,220	545	365
14	540	1,200	465	555	6,410	7,480	15,000	3,550	1,020	1,900	745	902
15	485	211	730	890	5,920	7,420	15,200	3,490	1,780	1,900	878	879
16	478	254	765	762	5,920	7,400	9,140	3,380	10,000	1,920	604	362
17	485	1,070	377	762	5,790	7,840	15,300	3,360	13,800	1,890	657	365
18	242	1,730	365	972	6,910	7,300	15,300	3,610	14,100	1,890	532	350
19	500	1,100	1,110	775	6,870	7,200	15,300	4,310	14,800	1,600	473	318
20	260	1,110	1,420	817	6,770	7,600	15,300	4,440	14,000	1,490	509	325
21	1,380	855	830	773	5,900	8,050	15,300	4,480	9,600	1,340	500	624
22	692	1,260	612	792	6,120	7,200	14,800	4,490	9,850	1,340	523	1,540
23	635	348	640	798	6,440	11,300	15,200	3,690	7,850	1,640	706	5,230
24	1,350	1,300	700	658	6,060	11,200	15,300	3,160	7,770	1,280	1,750	7,060
25	1,050	2,230	710	590	6,380	11,200	15,300	3,070	8,090	1,350	578	6,700
26	1,120	1,020	702	590	6,090	10,700	15,300	3,120	7,330	1,640	187	6,890
27	242	1,010	755	560	6,700	10,700	15,300	2,990	6,140	1,470	185	5,320
28	708	938	615	457	5,990	11,500	15,300	2,990	6,080	1,170	240	2,970
29	1,100	868	634	575	------	11,800	15,300	2,970	4,850	1,050	573	3,000
30	1,040	233	628	578	------	8,770	10,100	2,990	4,360	898	225	2,970
31	740	------	610	863	------	11,700	------	2,990	------	768	484	------
TOTAL	21,378	28,651	27,847	24,227	175,860	263,200	398,070	114,560	167,678	68,806	19,945	62,542
MEAN	690	955	898	782	6,281	8,490	13,270	3,695	5,589	2,220	643	2,085
MAX	1,550	2,230	3,930	1,430	6,920	11,800	15,300	4,970	14,800	4,420	2,460	7,060
MIN	242	211	167	457	1,460	6,590	8,910	2,850	990	768	185	318
AC-FT	42,400	56,830	55,230	48,050	348,800	522,000	789,600	227,200	332,600	136,500	39,560	124,100
(†)	0	0	-16,000	-7,000	-241,000	-412,000	-550,000	+678,000	+547,000	0	+2,000	-78,000
MEAN ‡	690	955	638	668	1,941	1,789	4,027	14,720	14,780	2,220	676	775
CFSM ‡	.415	.574	.384	.402	1.17	1.08	2.42	8.85	8.89	1.33	.406	.466
IN ‡	.48	.64	.44	.46	1.22	1.24	2.70	10.21	9.92	1.54	.47	.52
AC-FT‡	42,400	56,830	39,230	41,050	107,800	110,000	239,600	905,200	879,600	136,500	41,560	46,100

OBSERVED

CAL YR 1960: TOTAL 1,253,078 MEAN 3,424 MAX 19,200 MIN 151 AC-FT 2,485,000
WAT YR 1961: TOTAL 1,372,764 MEAN 3,761 MAX 15,300 MIN 167 AC-FT 2,723,000

ADJUSTED ‡

CAL YR 1960: MEAN 3,482 CFSM 2.09 IN 28.49 AC-FT 2,527,000
WAT YR 1961: MEAN 3,655 CFSM 2.20 IN 29.83 AC-FT 2,646,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.

12-3625. South Fork Flathead River near Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,970	409	417	8,260	10,100	426	430	8,030	4,920	6,860	1,890	723
2	2,970	409	417	8,320	10,100	422	430	6,820	3,000	6,870	1,520	713
3	2,950	377	413	8,420	10,100	409	413	5,820	2,980	6,350	1,560	691
4	2,980	365	401	8,300	10,100	381	401	5,000	3,080	5,730	1,410	690
5	3,040	365	347	8,340	10,100	401	413	4,310	3,030	4,900	2,960	599
6	3,060	350	369	8,370	10,100	413	1,780	4,300	2,960	4,150	1,370	592
7	4,460	354	5,160	8,090	10,100	413	2,680	4,290	2,980	5,100	1,520	530
8	6,400	369	8,300	7,170	10,200	405	2,780	4,350	2,980	4,580	1,180	233
9	7,630	365	8,340	7,100	10,200	409	5,390	4,320	2,940	3,970	1,430	880
10	8,990	365	8,350	7,480	10,200	405	5,480	4,300	2,940	4,200	292	549
11	9,010	358	8,320	9,660	10,200	405	5,530	4,300	2,960	4,150	1,320	1,820
12	7,380	369	8,340	9,680	10,200	401	5,540	4,280	2,920	3,960	1,240	1,380
13	373	397	8,280	9,680	7,950	401	5,150	4,290	3,000	3,780	556	317
14	365	401	8,160	9,660	7,760	393	7,290	4,270	2,860	3,680	984	307
15	369	401	8,350	9,640	7,880	389	7,310	4,310	2,840	3,410	984	660
16	377	397	8,380	7,500	7,690	389	7,390	4,280	2,970	2,590	975	556
17	385	389	8,360	7,950	7,650	397	7,350	4,300	2,890	2,260	1,000	534
18	389	381	8,350	9,770	7,730	397	7,350	4,300	2,860	3,040	930	213
19	393	385	7,250	9,730	7,740	389	7,330	4,300	2,960	2,350	636	231
20	389	393	7,440	9,820	5,860	389	7,740	4,290	2,880	2,250	1,110	1,410
21	369	385	9,300	9,840	2,220	393	8,340	4,300	2,870	2,260	874	524
22	369	381	8,840	9,840	1,620	401	8,380	4,290	2,860	2,080	714	204
23	377	377	8,400	9,820	2,030	409	8,360	4,520	2,940	1,830	548	216
24	347	385	7,180	9,840	413	409	8,390	5,890	2,920	2,400	893	653
25	332	472	8,040	9,840	413	417	8,380	5,910	4,220	2,460	697	598
26	315	430	7,970	9,860	413	422	8,370	5,940	6,200	3,270	629	529
27	354	417	8,250	10,000	409	430	8,380	5,890	7,910	1,210	550	699
28	369	422	8,250	10,000	409	430	8,460	5,940	9,290	2,190	1,200	239
29	369	422	8,280	10,000	------	430	8,350	5,900	8,080	1,210	938	1,300
30	393	426	8,280	9,980	------	430	8,360	5,960	6,800	2,310	780	750
31	401	------	8,210	10,100	------	430	------	5,920	------	770	218	------
TOTAL	68,875	11,716	204,744	282,060	189,887	12,635	171,947	154,920	115,040	106,170	32,908	19,340
MEAN	2,222	391	6,605	9,099	6,782	408	5,732	4,997	3,835	3,425	1,062	645
MAX	9,010	472	9,300	10,100	10,200	430	8,460	8,030	9,290	6,870	2,960	1,820
MIN	315	350	347	7,100	409	381	401	4,270	2,840	770	218	204
AC-FT	136,600	23,240	406,100	559,500	376,600	25,060	341,100	307,300	228,200	210,600	65,270	38,360
(†)	-57,000	+32,000	-345,000	-504,000	-316,000	+28,000	+121,000	+538,000	+577,000	-4,000	0	-1,000
MEAN ‡	1,295	928	994	903	1,091	863	7,766	13,750	13,530	3,490	1,062	628
CFSM ‡	.779	.558	.598	.543	.656	.519	4.67	8.27	8.14	2.10	.639	.378
IN ‡	.90	.62	.69	.63	.68	.60	5.21	9.53	9.08	2.42	.74	.42
AC-FT ‡	79,600	55,240	61,100	55,500	60,600	53,060	462,100	845,300	805,200	214,600	65,270	37,360

OBSERVED

CAL YR 1961: TOTAL 1,580,223 MEAN 4,329 MAX 15,300 MIN 185 AC-FT 3,134,000
WAT YR 1962: TOTAL 1,370,242 MEAN 3,754 MAX 10,200 MIN 204 AC-FT 2,718,000

ADJUSTED ‡

CAL YR 1961: MEAN 3,734 CFSM 2.25 IN 30.49 AC-FT 2,703,000
WAT YR 1962: MEAN 3,861 CFSM 2.32 IN 31.52 AC-FT 2,795,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.

12-3625. South Fork Flathead River near Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	692	1,170	1,990	8,160	5,140	194	2,020	10,800	1,950	7,370	1,010	630
2	573	1,170	1,260	8,160	4,240	191	2,190	10,800	1,940	6,190	1,020	1,140
3	640	1,100	2,000	8,050	4,110	191	2,180	9,280	1,930	5,320	1,020	520
4	842	236	1,300	8,360	4,210	222	2,180	3,320	391	5,380	1,020	532
5	218	1,190	2,660	8,290	4,170	191	2,160	3,280	1,120	5,380	1,020	750
6	230	1,180	3,420	8,160	4,140	191	2,160	3,370	374	5,640	1,020	580
7	252	1,430	4,550	8,250	3,980	191	2,150	2,980	1,090	4,740	3,100	782
8	998	1,170	4,510	8,360	3,990	191	6,250	2,980	216	4,210	426	631
9	1,200	1,590	4,490	8,340	3,230	194	10,700	2,970	220	3,720	499	598
10	1,290	1,370	4,490	7,470	3,030	194	10,800	2,980	220	3,210	242	822
11	1,310	2,190	6,530	7,320	2,980	194	10,700	2,980	210	3,330	244	554
12	1,680	1,870	5,650	8,310	2,340	194	10,600	3,010	208	3,380	859	598
13	2,370	1,440	5,670	8,270	1,680	196	10,600	2,970	203	3,360	880	542
14	2,370	1,360	7,960	8,270	1,640	196	10,800	2,980	203	3,170	1,030	1,470
15	2,630	1,320	8,010	8,250	1,610	196	10,500	3,000	201	2,960	1,340	829
16	2,460	1,310	8,030	8,360	525	196	6,540	3,010	198	2,080	838	543
17	1,570	974	8,090	8,420	521	196	10,900	2,940	194	1,830	798	1,240
18	1,670	977	8,120	8,420	521	194	10,900	2,920	196	1,850	687	492
19	1,410	1,140	8,230	8,450	521	194	11,000	2,930	198	2,540	1,460	457
20	1,570	2,090	8,250	8,450	517	194	10,900	2,940	184	1,980	716	529
21	1,470	4,180	8,310	8,470	517	194	10,900	2,990	194	1,970	1,810	534
22	1,380	1,500	8,120	8,450	517	302	10,900	2,970	208	1,960	230	249
23	1,580	2,200	8,140	5,090	517	194	10,900	2,020	208	1,930	312	1,420
24	2,180	1,650	8,160	5,290	521	194	10,800	1,920	203	1,050	239	230
25	1,600	1,650	8,200	5,070	517	196	10,800	1,920	198	995	286	3,950
26	1,550	2,270	8,230	5,060	484	194	10,800	1,930	194	802	982	194
27	1,200	2,330	8,250	5,060	362	232	10,800	1,930	944	1,560	233	201
28	1,340	1,500	8,090	5,130	196	1,020	10,800	1,920	1,990	1,740	252	206
29	1,450	2,010	8,120	5,140	------	1,170	10,800	1,930	2,550	1,730	501	213
30	1,160	1,480	8,140	5,030	------	213	10,800	1,940	9,200	1,070	623	218
31	1,170	------	8,180	5,040	------	206	------	1,950	------	1,000	480	------
TOTAL	42,055	47,047	195,150	226,950	56,726	8,015	254,530	105,860	27,335	93,447	25,177	21,654
MEAN	1,357	1,568	6,295	7,321	2,026	259	8,484	3,415	911	3,014	812	722
MAX	2,630	4,180	8,310	8,470	5,140	1,170	11,000	10,800	9,200	7,370	3,100	3,950
MIN	218	236	1,260	5,030	196	191	2,020	1,920	184	802	230	194
AC-FT	83,410	93,320	387,100	450,100	112,500	15,900	504,900	210,000	54,220	185,300	49,940	42,950
(†)	-1,000	+2,000	-285,000	-380,000	-3,000	+70,000	-307,000	+413,000	+491,000	0	+1,000	-4,000
MEAN ‡	1,340	1,602	1,660	1,140	1,972	1,397	3,326	10,130	9,163	3,014	828	655
CFSM ‡	.806	.963	.998	.686	1.19	.840	2.00	6.09	5.51	1.81	.498	.394
IN ‡	.93	1.07	1.15	.79	1.23	.97	2.23	7.02	6.15	2.09	.57	.44
AC-FT‡	82,410	95,320	102,100	70,100	109,500	85,900	197,900	623,000	545,200	185,300	50,940	38,950

OBSERVED

CAL YR 1962: TOTAL 1,369,159 MEAN 3,751 MAX 10,200 MIN 204 AC-FT 2,716,000
WAT YR 1963: TOTAL 1,103,946 MEAN 3,025 MAX 11,000 MIN 184 AC-FT 2,190,000

ADJUSTED ‡

CAL YR 1962: MEAN 3,976 CFSM 2.39 IN 32.46 AC-FT 2,879,000
WAT YR 1963: MEAN 3,020 CFSM 1.82 IN 24.64 AC-FT 2,187,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.

12-3625. South Fork Flathead River near Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	210	196	201	9,650	7,430	2,100	369	3,560	3,000	7,330	918	1,010
2	191	194	1,140	9,460	7,430	2,080	362	4,680	2,990	6,310	1,730	2,920
3	497	194	4,860	9,640	7,270	2,110	372	4,660	3,000	10,700	1,720	4,300
4	203	194	8,320	9,660	5,310	2,200	372	4,660	3,010	9,310	1,700	2,060
5	204	193	2,320	9,640	5,270	4,060	369	4,660	3,020	10,800	1,690	1,920
6	209	189	190	9,640	5,070	4,150	369	4,650	3,030	11,000	1,690	1,910
7	226	189	189	9,640	5,570	6,070	376	4,290	3,040	9,150	1,250	1,400
8	799	189	189	9,650	3,120	6,150	3,660	3,390	3,120	7,000	1,280	1,560
9	221	188	3,620	9,670	3,070	7,820	6,680	4,500	1,640	6,410	1,300	2,430
10	230	187	9,390	9,690	3,060	10,400	6,660	4,560	641	6,410	456	921
11	1,240	187	9,460	9,710	2,120	10,500	6,680	4,590	498	6,440	1,660	2,970
12	214	345	9,430	9,720	2,100	10,600	6,700	2,340	508	6,070	1,910	283
13	225	198	9,400	9,700	2,380	10,500	7,220	1,750	509	4,900	446	733
14	234	201	9,390	9,720	2,840	4,540	8,030	1,760	514	4,180	1,260	839
15	601	199	9,350	9,710	2,030	4,570	7,980	1,770	506	4,540	1,020	1,770
16	430	198	9,410	9,790	2,020	4,590	8,030	1,770	1,080	5,210	1,000	1,320
17	3,310	198	9,480	9,770	2,080	1,130	7,860	1,790	2,880	4,740	1,020	996
18	3,760	198	9,510	9,760	2,050	434	4,590	1,810	6,010	3,870	1,020	322
19	6,790	271	9,510	9,770	2,090	1,550	4,600	1,820	8,380	3,730	997	353
20	6,880	205	9,520	9,760	2,130	405	4,500	2,180	9,660	2,650	886	1,600
21	6,870	201	9,530	9,880	2,070	401	4,680	2,940	11,600	2,440	987	2,110
22	4,060	201	9,540	9,880	2,050	398	4,680	2,960	12,100	2,450	905	1,380
23	3,010	201	9,550	9,910	2,050	3,850	2,440	2,990	12,100	2,460	879	1,360
24	1,510	201	9,570	9,900	2,060	6,100	551	2,970	12,100	2,470	663	1,470
25	192	201	9,570	9,990	2,130	3,200	2,000	2,990	14,800	2,460	917	861
26	194	201	9,600	9,870	4,080	4,170	433	2,980	17,000	2,380	1,320	852
27	194	201	9,610	10,000	1,190	2,330	3,480	3,010	14,600	2,120	1,240	836
28	194	201	9,600	10,000	1,080	1,790	3,460	3,030	13,200	1,840	1,770	1,110
29	194	201	9,580	10,000	2,070	1,960	2,450	3,030	11,700	3,690	1,010	1,150
30	199	201	9,610	10,000	------	376	2,450	3,020	7,900	2,710	1,000	1,160
31	200	------	9,640	9,960	------	366	------	3,040	------	297	914	------
TOTAL	43,491	6,123	230,279	303,140	93,220	120,900	112,403	98,150	184,136	156,067	36,558	43,906
MEAN	1,403	204	7,428	9,779	3,214	3,900	3,747	3,166	6,138	5,034	1,179	1,464
MAX	6,880	345	9,640	10,000	7,430	10,600	8,030	4,680	17,000	11,000	1,910	4,300
MIN	191	187	189	9,460	1,080	366	362	1,750	498	297	446	283
AC-FT	86,260	12,140	456,800	601,300	184,900	239,800	222,900	194,700	365,200	309,600	72,510	87,090
(†)	-54,000	+23,000	-410,000	-545,000	-153,000	-198,000	-96,000	+544,000	+882,000	+9,000	+1,000	+2,000
MEAN‡	525	591	761	916	555	680	2,133	12,010	20,960	5,182	1,196	1,497
CFSM‡	.316	.355	.458	.551	.334	.409	1.28	7.22	12.6	3.12	.719	.900
IN ‡	.36	.40	.53	.63	.36	.47	1.43	8.33	14.06	3.59	.83	1.00
AC-FT‡	32,260	35,140	46,800	56,300	31,900	41,800	126,900	738,700	1,247M	318,600	73,510	89,090

OBSERVED

CAL YR 1963: TOTAL 1,099,587 MEAN 3,013 MAX 11,000 MIN 184 AC-FT 2,181,000
WAT YR 1964: TOTAL 1,428,373 MEAN 3,903 MAX 17,000 MIN 187 AC-FT 2,833,000

ADJUSTED ‡

CAL YR 1963: MEAN 2,792 CFSM 1.68 IN 22.78 AC-FT 2,021,000
WAT YR 1964: MEAN 3,910 CFSM 2.35 IN 31.98 AC-FT 2,838,000

M Expressed in thousands.
† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.

12-3625. South Fork Flathead River near Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,400	1,400	2,830	3,310	8,380	9,640	6,840	11,900	845	139	2,140	1,580
2	1,430	1,540	2,870	2,760	7,410	9,560	6,840	11,900	255	154	1,990	1,530
3	1,580	1,270	2,850	3,290	7,420	9,540	6,840	10,100	261	159	1,850	1,580
4	1,520	1,490	2,900	5,600	7,400	9,520	6,840	4,330	151	164	1,770	1,460
5	1,160	2,050	1,470	5,550	9,240	9,980	5,640	3,160	149	162	1,780	1,450
6	1,370	623	404	5,620	11,200	14,100	7,360	3,140	159	159	1,850	1,170
7	1,580	2,670	2,960	5,730	11,200	17,500	7,360	3,040	167	156	1,860	1,160
8	1,240	306	5,360	5,670	11,200	17,500	7,010	3,130	146	1,110	1,840	1,470
9	1,240	361	5,340	8,230	9,510	18,400	5,520	1,110	149	1,560	1,820	1,760
10	1,330	1,630	5,480	8,220	9,480	20,000	433	1,020	167	3,440	1,170	1,380
11	1,310	1,610	5,550	8,380	9,490	20,000	441	1,090	273	6,430	1,020	1,400
12	1,900	2,680	3,040	9,470	9,530	20,000	449	1,110	214	6,190	1,050	1,470
13	1,300	1,290	1,430	9,490	9,540	20,000	476	1,110	203	5,540	1,070	1,760
14	1,700	292	5,410	9,530	9,560	20,000	464	1,340	180	5,300	1,170	2,200
15	1,620	324	5,740	9,560	9,550	20,000	452	1,310	172	4,960	1,180	4,780
16	1,730	2,610	8,220	9,560	9,550	20,000	2,820	1,270	169	4,480	1,120	2,450
17	1,800	3,770	9,260	9,560	9,540	20,200	6,840	1,270	178	4,330	958	4,020
18	1,700	2,620	9,400	9,590	9,530	20,000	6,820	1,360	220	4,110	908	2,390
19	1,740	1,240	9,390	9,580	9,550	20,000	6,800	1,480	211	4,060	1,320	2,440
20	1,350	1,090	9,390	9,600	9,610	20,000	6,820	1,370	192	3,520	1,280	2,940
21	1,360	2,220	9,380	9,590	9,590	20,000	6,880	1,250	180	3,420	1,620	2,940
22	1,220	1,450	7,230	9,610	9,530	20,100	6,950	1,260	294	3,160	1,220	3,590
23	1,240	6,720	4,970	9,670	9,520	20,000	6,950	1,220	159	3,070	2,660	3,830
24	1,220	6,350	6,970	9,660	9,530	14,300	6,910	1,490	156	2,790	2,610	2,930
25	1,250	3,280	6,800	9,670	9,610	8,580	6,930	1,520	151	2,790	1,960	2,810
26	1,250	927	4,910	9,700	9,620	7,880	8,340	1,070	146	2,620	2,130	2,660
27	1,380	2,980	5,560	9,700	9,600	7,340	11,900	1,150	144	1,960	2,430	4,180
28	1,400	1,410	5,830	9,710	9,630	6,460	11,900	1,320	156	1,960	738	5,640
29	1,350	367	4,850	9,740	------	6,460	11,900	1,820	151	2,260	3,380	2,580
30	1,520	2,860	3,240	9,750	------	6,460	11,900	1,300	146	2,450	1,460	3,640
31	1,360	------	3,500	9,750	------	6,440	------	1,290	------	2,190	1,790	------
TOTAL	44,550	59,430	162,534	254,850	264,520	459,960	183,625	80,230	6,144	84,793	51,144	75,190
MEAN	1,437	1,981	5,243	8,221	9,447	14,840	6,121	2,588	205	2,735	1,650	2,506
MAX	1,900	6,720	9,400	9,750	11,200	20,200	11,900	11,900	845	6,430	3,380	5,640
MIN	1,160	292	404	2,760	7,400	6,440	433	1,020	144	139	738	1,160
AC-FT	88,360	117,900	322,400	505,500	524,700	912,300	364,200	159,100	12,190	168,200	101,400	149,100
(†)	0	-35,000	-184,000	-411,000	-441,000	-803,000	-3,000	+681,000	+1,043M	+152,000	0	-10,000
MEAN ‡	1,437	1,393	2,251	1,537	1,507	1,778	6,070	13,660	17,730	5,208	1,650	2,338
CFSM‡	.86	.838	1.35	.924	.906	1.07	3.65	8.21	10.7	3.13	.992	1.41
IN ‡	1.00	.93	1.56	1.07	.94	1.23	4.07	9.47	11.9	3.61	1.14	1.57
AC-FT‡	88,360	82,900	138,400	94,500	83,700	109,300	361,200	840,100	1,055M	320,200	101,400	139,100

OBSERVED

CAL YR 1964: TOTAL 1,414,990 MEAN 3,866 MAX 17,000 MIN 283 AC-FT 2,807,000
WAT YR 1965: TOTAL 1,726,970 MEAN 4,731 MAX 20,200 MIN 139 AC-FT 3,425,000

ADJUSTED ‡

CAL YR 1964: MEAN 4,178 CFSM 2.51 IN 34.20 AC-FT 3,033,000
WAT YR 1965: MEAN 4,716 CFSM 2.84 IN 38.49 AC-FT 3,414,000

M Expressed in thousands.
† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.

12-3630. Flathead River at Columbia Falls, Mont.

Location.--Lat 48°21'50", long 114°11'10", in NW¼SE¼ sec.17, T.30 N., R.20 W., on right bank 200 ft downstream from county road bridge at Columbia Falls, 5.7 miles downstream from South Fork, and at mile 143.0.

Drainage area.--4,464 sq mi.

Records available.--May 1922 to September 1923 (fragmentary), June 1928 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Digital water-stage recorder. Datum of gage is 2,977.67 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels by Corps of Engineers). Prior to Nov. 12, 1928, wire-weight gage on bridge 200 ft upstream at datum 0.19 ft higher. Nov. 12, 1928, to Oct. 2, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--37 years (1928-65), 9,634 cfs (6,975,000 acre-ft per year), adjusted for change in contents in Hungry Horse Reservoir since Oct. 1, 1951.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	58,300	14.28	Dec. 11, 1960	1,210	-
1962	May 29, 1962	34,300	10.82	Feb. 27, 28, 1962	1,400	-
1963	June 30, 1963	29,600	9.96	Oct. 6, 7, 1962	1,680	-
1964	June 9, 1964	176,000	a 25.58	Mar. 22, 1964	1,290	-
1965	June 19, 1965	45,700	12.66	Nov. 29, 1964	2,480	-

a From floodmarks.

1922-23, 1928-65: Maximum discharge, 176,000 cfs June 9, 1964 (gage height, 25.58 ft, from floodmarks), from rating curve extended above 95,000 cfs on basis of slope-area measurement of peak flow; minimum, 798 cfs Dec. 8, 1929 (gage height, 0.08 ft).

Flood in June 1894 reached a stage of 22.7 ft, from floodmarks (discharge, 142,000 cfs, revised, from rating curve extended above 95,000 cfs on basis of slope-area measurement of peak flow in 1964).

Remarks.--Records excellent. South Fork Flathead River, which contributes about one-third of flow, completely regulated by Hungry Horse Reservoir since Sept. 21, 1951 (see station 12-3620). Records of chemical analyses and water temperatures for the water years 1963-65 are published in reports of the Geological Survey.

Revisions (water years).--WSP 1092: 1923. WSP 1216: Drainage area. WSP 1636: 1958 (adjusted runoff).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,970	2,750	3,620	1,820	2,680	8,820	14,700	11,300	44,300	14,000	4,020	4,160
2	1,990	3,120	1,890	1,810	5,700	9,540	14,400	13,000	43,500	12,900	4,050	4,220
3	1,950	3,220	2,000	2,260	8,120	9,210	15,400	15,000	44,000	12,000	5,510	2,930
4	1,880	2,950	2,920	2,370	8,060	9,090	18,100	14,600	43,600	11,500	3,500	2,790
5	1,690	2,550	2,760	2,080	8,090	8,840	17,300	15,600	44,000	12,300	3,480	2,670
6	2,020	2,070	4,560	2,220	8,000	8,970	17,600	16,000	44,500	11,800	3,420	2,640
7	1,790	2,350	5,350	2,140	8,060	9,080	18,500	15,300	43,500	11,300	3,380	4,360
8	2,080	2,080	2,430	2,380	8,000	8,840	17,100	14,700	38,900	10,600	3,350	6,280
9	2,180	2,100	1,740	2,540	8,000	8,870	16,900	15,000	33,000	9,760	3,220	3,460
10	1,930	2,150	1,260	2,030	8,220	9,980	15,200	18,300	25,500	9,510	3,010	2,640
11	1,750	4,020	1,210	2,000	8,690	10,000	19,800	21,100	27,000	9,370	3,360	2,760
12	2,750	2,740	1,990	1,760	9,140	9,940	19,700	20,400	27,200	9,090	3,260	2,670
13	3,090	2,640	2,310	1,780	9,080	9,760	19,700	19,600	27,000	8,340	3,120	2,210
14	2,050	2,800	1,940	1,730	8,540	9,200	19,700	19,400	24,800	7,780	3,030	2,490
15	1,880	1,830	2,120	2,140	7,710	8,910	19,700	20,400	25,500	7,720	3,230	2,800
16	1,890	1,800	2,030	2,190	7,780	9,260	13,400	22,400	33,600	7,750	3,020	2,090
17	1,840	2,560	1,630	2,260	7,640	9,940	19,500	22,900	35,200	7,600	3,000	2,000
18	1,700	3,170	1,640	2,380	8,460	9,400	20,400	21,300	39,100	7,320	2,820	1,960
19	1,790	3,020	2,420	2,150	8,440	9,310	21,200	23,000	38,600	6,890	2,740	1,960
20	1,700	2,760	2,690	1,920	8,510	10,000	21,300	26,800	36,900	6,450	2,640	1,930
21	2,470	2,690	2,480	1,910	7,840	10,400	20,800	31,600	30,600	6,100	2,690	2,390
22	2,180	2,940	1,960	1,820	9,280	9,540	20,300	37,100	28,800	5,880	2,640	3,070
23	2,190	2,060	2,010	1,700	9,810	13,200	20,300	40,700	24,700	6,170	2,790	6,450
24	2,980	2,780	2,020	1,580	9,380	13,700	20,200	44,800	23,400	5,900	3,870	8,810
25	3,230	4,560	2,070	1,440	9,180	13,900	20,500	46,900	23,000	5,780	2,930	8,480
26	3,030	3,740	2,540	1,460	8,770	13,600	20,300	49,500	21,800	5,890	2,420	8,630
27	2,240	2,980	2,020	1,370	9,180	13,500	20,100	55,500	19,900	5,620	2,290	7,620
28	2,520	3,220	1,840	1,280	8,410	14,300	20,100	54,800	18,500	5,150	2,240	4,830
29	3,070	2,710	1,660	1,420	------	14,600	19,900	44,800	16,300	4,930	2,520	4,940
30	2,990	1,920	1,720	1,480	------	11,600	16,200	44,500	14,800	4,630	2,180	4,950
31	2,630	------	1,820	2,010	------	14,500	------	46,300	------	4,390	2,320	------
TOTAL	69,450	82,280	70,550	59,430	228,770	329,800	558,300	862,600	949,900	254,420	96,050	119,190
MEAN	2,240	2,743	2,276	1,917	8,170	10,640	18,610	27,830	31,660	8,207	3,098	3,973
MAX	3,230	4,560	5,350	2,540	9,810	14,600	21,300	55,500	44,500	14,000	5,510	8,810
MIN	1,690	1,800	1,210	1,280	2,680	8,820	13,400	11,300	14,800	4,390	2,180	1,930
AC-FT	137,800	163,200	139,900	117,900	453,800	654,100	1,107M	1,711M	1,884M	504,600	190,500	236,400
(†)	0	0	-16,000	-7,000	-241,000	-412,000	-550,000	+678,000	+547,000	0	+2,000	-78,000
MEAN ‡	2,240	2,743	2,015	1,804	3,832	3,937	9,361	38,850	40,850	8,207	3,131	2,662
CFSM ‡	.502	.614	.451	.404	.858	.882	2.10	8.70	9.15	1.84	.701	.596
IN ‡	.58	.69	.52	.47	.89	1.02	2.34	10.03	10.21	2.12	.81	.67
AC-FT‡	137,800	163,200	123,900	110,900	212,800	242,100	557,000	2,389M	2,431M	504,600	192,500	158,400

OBSERVED

CAL YR 1960: TOTAL 3,489,870 MEAN 9,535 MAX 44,200 MIN 1,210 AC-FT 6,922,000
WAT YR 1961: TOTAL 3,680,740 MEAN 10,080 MAX 55,500 MIN 1,210 AC-FT 7,301,000

ADJUSTED ‡

CAL YR 1960: MEAN 9,593 CFSM 2.15 IN 29.24 AC-FT 6,964,000
WAT YR 1961: MEAN 9,977 CFSM 2.23 IN 30.35 AC-FT 7,223,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.
M Expressed in thousands.

12-3630. Flathead River at Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,940	2,860	2,010	9,760	11,500	1,490	2,040	19,100	28,300	18,300	5,600	2,720
2	4,870	2,780	1,990	9,760	11,500	1,420	2,240	17,500	25,200	17,700	5,440	2,600
3	4,810	2,610	1,940	9,800	11,600	1,480	2,510	17,100	25,600	16,300	5,200	2,540
4	4,770	2,580	1,890	9,960	11,800	1,500	2,760	17,800	25,400	14,500	4,990	2,510
5	4,940	2,510	1,850	9,920	11,800	1,560	3,280	17,200	22,300	13,300	6,490	2,400
6	5,060	2,430	1,790	9,860	11,700	1,640	5,370	16,500	19,900	12,300	5,660	2,310
7	6,510	2,380	5,360	9,650	11,800	1,670	7,880	16,800	18,000	12,700	5,460	2,240
8	8,320	2,330	9,370	8,570	12,000	1,660	8,470	16,600	17,500	11,900	4,610	1,940
9	9,710	2,280	9,260	8,020	12,000	1,590	9,960	17,100	20,500	11,000	5,300	2,570
10	11,200	2,280	9,010	7,540	12,000	1,620	10,000	19,900	25,000	11,200	3,780	2,210
11	11,300	2,320	8,930	10,500	12,000	1,470	9,650	21,000	24,400	11,000	4,440	3,550
12	10,900	2,320	8,910	10,700	12,000	1,480	9,570	21,000	23,500	10,600	4,400	3,550
13	3,260	2,320	9,060	10,800	10,500	1,440	9,260	21,000	22,900	10,300	3,720	2,430
14	3,190	2,270	9,060	10,800	9,500	1,430	12,100	21,100	23,400	10,100	4,020	2,210
15	3,570	2,240	9,480	10,700	9,500	1,460	14,000	20,800	23,200	9,570	3,900	2,570
16	3,820	2,030	9,650	8,820	9,120	1,470	15,800	20,900	22,900	8,500	3,810	2,400
17	4,280	1,780	9,620	8,700	9,330	1,470	16,700	22,200	24,000	8,000	3,770	2,280
18	4,500	1,700	9,400	10,600	9,230	1,480	17,600	23,700	25,000	8,400	3,640	1,950
19	4,260	1,910	8,600	10,600	9,110	1,500	20,000	26,400	24,000	7,850	3,330	1,920
20	4,110	2,070	8,460	10,600	7,400	1,540	25,300	30,100	23,000	7,010	3,660	2,890
21	3,930	1,920	10,600	10,700	3,680	1,560	28,200	30,100	22,100	6,840	3,430	2,220
22	3,630	1,870	10,200	10,800	2,920	1,530	26,200	28,900	21,100	6,700	3,130	2,050
23	3,550	2,000	9,760	10,800	3,390	1,520	25,200	29,200	19,900	6,100	2,960	1,830
24	3,440	2,070	8,610	10,900	1,480	1,530	28,000	32,100	18,900	6,780	3,300	2,280
25	3,260	2,210	9,700	11,100	1,470	1,580	32,700	33,500	19,700	6,700	2,990	2,200
26	3,150	2,030	9,620	11,200	1,430	1,730	31,100	32,300	21,800	7,700	2,840	2,120
27	3,260	1,970	9,560	11,400	1,400	1,950	27,000	30,800	22,800	5,480	2,740	2,300
28	3,230	2,030	9,660	11,500	1,400	2,000	25,000	31,600	22,500	6,640	3,240	1,820
29	3,070	2,030	9,670	11,400	------	1,930	22,500	33,900	20,200	6,000	3,300	2,850
30	2,940	1,990	9,900	11,400	------	1,890	20,700	32,900	18,200	6,860	2,910	2,640
31	2,830	------	9,760	11,400	------	1,920	------	30,600	------	5,100	2,280	------
TOTAL	154,610	66,120	242,680	318,260	232,560	49,510	471,090	749,700	671,200	301,430	124,340	72,100
MEAN	4,987	2,204	7,828	10,270	8,306	1,597	15,700	24,180	22,370	9,724	4,011	2,403
MAX	11,300	2,860	10,600	11,500	12,000	2,000	32,700	33,900	28,300	18,300	6,490	3,550
MIN	2,830	1,700	1,790	7,540	1,400	1,420	2,040	16,500	17,500	5,100	2,280	1,820
AC-FT	306,700	131,100	481,300	631,300	461,300	98,200	934,400	1,487M	1,331M	597,900	246,600	143,000
(†)	-57,000	+32,000	-345,000	-504,000	-316,000	+28,000	+121,000	+538,000	+577,000	+4,000	0	-1,000
MEAN‡	4,061	2,741	2,217	2,070	2,616	2,052	17,740	32,930	32,060	9,789	4,011	2,386
CFSM‡	.910	.614	.497	.464	.586	.460	3.97	7.38	7.18	2.19	.899	.534
IN ‡	1.05	.69	.57	.53	.61	.53	4.43	8.51	8.01	2.53	1.04	.60
AC-FT‡	249,700	163,100	136,300	127,300	145,300	126,200	1,055M	2,025M	1,908M	601,900	246,600	142,000

OBSERVED

CAL YR 1961: TOTAL 3,921,870 MEAN 10,740 MAX 55,500 MIN 1,280 AC-FT 7,779,000
WAT YR 1962: TOTAL 3,453,600 MEAN 9,462 MAX 33,900 MIN 1,400 AC-FT 6,850,000

ADJUSTED ‡

CAL YR 1961: MEAN 10,150 CFSM 2.27 IN 30.87 AC-FT 7,347,000
WAT YR 1962: MEAN 9,568 CFSM 2.14 IN 29.10 AC-FT 6,927,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.
M Expressed in thousands.

12-3630. Flathead River at Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,320	3,630	5,580	10,800	6,440	2,430	5,950	24,600	27,500	26,000	4,860	2,460
2	2,160	3,520	4,560	10,800	5,440	2,390	5,940	24,400	25,000	24,100	4,790	3,060
3	2,210	3,460	5,190	10,700	5,690	2,250	5,700	21,300	23,100	22,600	4,670	2,460
4	2,370	2,500	4,250	11,000	6,000	2,160	5,610	13,800	21,600	22,000	4,520	2,410
5	1,720	3,340	5,250	10,700	6,910	2,170	5,610	12,800	22,900	20,800	4,410	2,640
6	1,680	3,530	6,040	10,400	7,990	2,170	6,140	12,900	24,300	19,900	4,320	2,310
7	1,680	3,540	7,200	10,500	8,200	2,080	6,880	15,100	23,200	18,200	6,400	2,550
8	2,420	3,540	7,300	10,500	8,440	2,000	10,600	18,000	21,100	17,200	3,620	2,320
9	2,740	3,750	7,080	10,500	7,650	1,990	15,600	17,500	20,800	16,000	3,640	2,280
10	2,840	4,080	7,180	8,900	7,120	1,990	15,500	16,000	22,000	14,300	3,390	2,320
11	3,150	4,260	8,940	8,520	6,850	1,960	15,300	14,900	23,000	13,600	3,440	2,560
12	3,390	4,860	8,140	9,420	5,810	1,880	15,200	14,400	21,800	13,300	3,930	2,410
13	4,790	3,940	7,950	9,570	5,080	1,870	15,100	14,200	21,300	12,600	3,980	2,340
14	5,380	3,840	10,200	9,720	4,780	1,820	15,800	14,400	20,800	11,800	4,040	3,190
15	5,720	3,640	10,400	9,900	4,740	1,800	17,300	15,300	20,600	11,200	4,350	3,120
16	5,520	3,420	10,600	10,200	3,780	1,800	14,500	16,600	19,700	9,930	3,780	2,580
17	5,400	3,220	11,200	10,300	3,470	1,760	19,000	17,700	18,900	9,060	3,640	3,440
18	4,500	3,050	11,500	10,100	3,330	1,750	18,400	19,400	17,900	8,660	3,440	2,560
19	3,960	3,180	11,700	9,900	3,210	1,760	17,900	19,500	17,000	8,960	4,140	2,420
20	3,980	4,080	11,600	9,870	3,170	1,750	17,200	19,400	16,000	8,160	3,210	2,420
21	3,960	8,180	11,600	9,900	3,100	1,760	16,800	20,800	14,800	7,900	4,290	2,340
22	4,360	5,660	11,500	9,960	2,990	1,890	16,400	22,200	15,600	7,690	2,640	2,000
23	4,700	6,080	11,100	6,900	2,920	1,930	16,100	22,200	16,300	7,430	2,590	3,000
24	5,380	5,030	10,300	6,710	2,860	2,210	15,900	23,400	14,500	6,450	2,480	2,280
25	4,720	4,760	10,200	6,400	2,780	2,270	15,700	25,200	13,600	6,050	2,440	5,730
26	4,660	5,890	10,400	6,420	2,750	2,300	15,800	26,400	13,300	5,700	3,210	1,980
27	4,270	6,860	10,700	6,400	2,810	2,530	16,400	26,400	13,500	6,080	2,400	1,880
28	4,040	5,460	10,800	6,300	2,530	4,300	18,000	25,100	14,000	6,140	2,330	1,840
29	4,100	5,920	10,800	6,500	------	5,010	20,000	24,800	15,800	5,920	2,490	1,810
30	3,820	4,840	10,800	6,350	------	4,840	22,100	26,600	27,100	5,180	2,630	1,780
31	3,750	------	10,800	6,300	------	4,800	------	28,300	------	4,920	2,460	------
TOTAL	115,690	131,060	280,860	280,640	136,840	73,620	422,330	613,600	587,000	377,830	112,530	76,490
MEAN	3,732	4,369	9,060	9,053	4,887	2,375	14,080	19,790	19,570	12,190	3,630	2,550
MAX	5,720	8,180	11,700	11,000	8,440	5,010	22,100	28,300	27,500	26,000	6,400	5,730
MIN	1,680	2,500	4,250	6,300	2,530	1,750	5,610	12,800	13,300	4,920	2,330	1,780
AC-FT	229,500	260,000	557,100	556,600	271,400	146,000	837,700	1,217M	1,164M	749,400	223,200	151,700
(†)	-1,000	+2,000	-285,000	-380,000	-3,000	+70,000	-307,000	+413,000	+491,000	0	+1,000	-4,000
MEAN‡	3,716	4,403	4,425	2,872	4,833	3,513	8,919	26,510	27,810	12,190	3,646	2,482
CFSM‡	.832	.986	.991	.643	1.08	.787	2.00	5.94	6.23	2.73	.817	.556
IN ‡	.96	1.10	1.14	.74	1.13	.91	2.23	6.85	6.95	3.15	.94	.62
AC-FT‡	228,500	262,000	272,100	176,600	268,400	216,000	530,700	1,630M	1,655M	749,400	224,200	147,700

OBSERVED

CAL YR 1962: TOTAL 3,517,800 MEAN 9,638 MAX 33,900 MIN 1,400 AC-FT 6,977,000
WAT YR 1963: TOTAL 3,208,490 MEAN 8,790 MAX 28,300 MIN 1,680 AC-FT 6,364,000

ADJUSTED ‡

CAL YR 1962: MEAN 9,863 CFSM 2.21 IN 29.99 AC-FT 7,140,000
WAT YR 1963: MEAN 8,786 CFSM 1.97 IN 26.72 AC-FT 6,361,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.
M Expressed in thousands.

12-3630. Flathead River at Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,760	1,510	1,670	10,600	8,380	2,980	1,490	10,700	33,700	24,900	6,020	3,800
2	1,720	1,480	2,270	10,600	8,300	2,920	1,650	13,700	35,200	23,200	6,890	5,620
3	2,010	1,460	5,790	10,800	8,130	2,950	1,730	14,800	36,700	27,900	6,610	8,460
4	1,700	1,440	9,260	10,700	6,350	2,960	1,840	17,800	40,700	25,900	6,320	6,410
5	1,720	1,430	4,770	10,600	6,300	4,710	2,030	18,600	39,400	27,500	6,230	5,910
6	1,760	1,440	1,950	10,600	6,030	4,860	2,130	18,300	39,500	28,600	6,080	5,650
7	1,760	1,470	1,840	10,600	6,860	6,570	2,120	17,000	39,100	24,600	5,480	5,020
8	2,290	1,520	1,660	10,600	3,840	6,780	4,960	15,800	64,400	21,600	5,340	4,950
9	1,670	1,500	3,910	10,500	3,980	8,130	8,360	17,000	158,000	20,900	5,220	5,830
10	1,630	1,470	10,200	10,600	4,030	11,100	8,780	19,600	90,100	20,300	4,490	4,100
11	2,550	1,420	10,100	10,600	3,450	11,200	9,000	21,800	56,600	18,900	5,330	5,880
12	1,660	1,550	10,200	10,500	3,100	11,300	9,120	19,400	46,500	17,500	5,480	3,130
13	1,540	1,370	10,400	10,500	3,370	11,300	9,360	20,000	43,300	15,900	4,080	3,440
14	1,520	1,360	10,400	10,600	3,740	6,030	10,200	21,800	40,900	15,400	4,920	3,440
15	1,880	1,450	10,500	10,600	2,840	5,420	10,600	20,900	39,600	15,500	4,410	4,070
16	1,700	1,500	10,500	10,800	2,950	5,480	11,500	20,700	38,600	15,600	4,280	3,990
17	4,100	1,530	10,300	10,700	2,990	2,680	11,400	24,200	39,000	14,300	4,180	3,370
18	5,070	1,580	10,400	10,700	2,950	1,500	7,770	29,300	38,600	12,800	4,130	2,700
19	7,730	1,580	10,400	10,700	2,990	2,530	7,540	31,800	37,600	12,500	4,070	2,710
20	8,110	1,680	10,500	10,700	3,020	1,390	7,480	36,500	36,800	11,000	3,930	3,820
21	8,110	1,380	10,600	10,700	2,930	1,340	7,870	42,600	36,800	10,200	3,900	4,540
22	6,080	1,410	10,600	10,600	2,920	1,290	8,080	39,100	36,300	9,800	3,700	4,030
23	4,390	1,520	10,600	10,700	2,900	3,730	6,160	29,800	36,500	9,480	3,560	3,880
24	3,210	1,580	10,700	10,700	2,920	7,590	4,340	24,200	39,200	9,070	3,280	3,970
25	1,940	1,590	10,600	10,900	2,860	3,150	5,460	21,100	42,900	8,650	3,460	3,400
26	1,860	1,600	10,700	10,700	4,620	5,680	4,290	20,500	43,200	8,260	3,730	3,550
27	1,750	1,850	10,600	11,000	2,400	3,170	7,070	20,000	39,800	7,790	4,150	3,540
28	1,660	2,150	10,600	11,000	1,900	2,290	7,740	25,700	36,600	7,330	4,840	3,720
29	1,620	2,070	10,500	11,000	2,770	3,200	6,830	31,800	32,800	8,580	3,860	3,700
30	1,580	1,810	10,500	10,900	------	1,320	7,770	32,700	26,900	8,230	3,800	3,750
31	1,550	------	10,500	10,900	------	1,350	------	32,300	------	5,870	3,700	------
TOTAL	87,630	46,700	263,520	331,700	119,820	146,900	194,670	729,500	1,365.3M	488,060	145,470	130,380
MEAN	2,827	1,557	8,501	10,700	4,132	4,739	6,489	23,530	45,510	15,740	4,693	4,346
MAX	8,110	2,150	10,700	11,000	8,380	11,300	11,500	42,600	158,000	28,600	6,890	8,460
MIN	1,520	1,360	1,660	10,500	1,900	1,290	1,490	10,700	26,900	5,870	3,280	2,700
AC-FT	173,800	92,630	522,700	657,900	237,700	291,400	386,100	1,447M	2,708M	968,100	288,500	258,600
(†)	-54,000	+23,000	-410,000	-545,000	-153,000	-198,000	-96,000	+544,000	+882,000	+9,000	+1,000	+2,000
MEAN‡	1,948	1,943	1,833	1,836	1,473	1,519	4,875	32,380	60,330	15,890	4,708	4,380
CFSM‡	.436	.435	.411	.411	.330	.340	1.09	7.25	13.5	3.56	1.05	.981
IN ‡	.50	.49	.47	.47	.36	.39	1.22	8.36	15.08	4.10	1.22	1.09
AC-FT‡	119,800	115,600	112,700	112,900	84,700	93,400	290,100	1,991M	3,590M	977,100	289,500	260,600

OBSERVED

CAL YR 1963: TOTAL 3,078,730 MEAN 8,435 MAX 28,300 MIN 1,360 AC-FT 6,107,000
WAT YR 1964: TOTAL 4,049,650 MEAN 11,060 MAX 158,000 MIN 1,290 AC-FT 8,032,000

ADJUSTED ‡

CAL YR 1963: MEAN 8,213 CFSM 1.84 IN 24.98 AC-FT 5,946,000
WAT YR 1964: MEAN 11,070 CFSM 2.48 IN 33.75 AC-FT 8,037,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.
M Expressed in thousands.

12-3630. Flathead River at Columbia Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,300	4,120	5,480	5,750	10,100	11,900	8,480	37,800	30,100	13,800	7,750	4,760
2	5,110	4,300	5,710	5,090	8,960	11,700	8,630	34,000	26,300	14,000	7,420	4,520
3	5,540	4,160	5,540	5,590	8,850	11,700	8,720	28,400	28,900	14,700	7,190	4,540
4	5,680	4,360	5,450	7,720	8,900	11,600	8,720	20,200	34,400	15,600	7,190	4,460
5	5,270	4,800	4,080	7,720	10,400	11,600	7,720	17,300	31,900	15,800	7,290	4,360
6	4,930	3,430	2,860	7,470	12,600	15,200	9,450	15,600	31,700	15,400	7,320	3,990
7	5,410	5,380	4,690	7,980	12,600	18,700	9,670	14,300	32,400	15,400	7,020	3,820
8	4,930	2,920	7,570	7,750	12,600	18,700	9,590	13,800	28,000	15,800	6,720	4,040
9	4,930	2,950	7,570	10,100	11,300	19,300	8,880	12,600	26,200	16,000	6,470	4,260
10	5,310	4,180	7,490	10,100	11,100	20,900	3,670	14,200	28,600	17,000	5,800	4,060
11	5,500	4,200	7,670	10,000	10,900	20,900	4,040	17,600	33,200	19,400	5,430	3,930
12	6,280	5,270	5,200	11,100	11,000	20,900	4,320	23,500	38,200	17,900	5,360	3,990
13	5,380	3,710	3,170	11,100	11,000	20,800	4,800	30,600	39,300	16,500	5,540	4,160
14	5,590	2,770	7,020	11,100	11,100	20,800	5,800	33,200	31,600	15,400	5,520	4,690
15	5,640	2,570	7,220	11,200	11,000	20,800	7,040	33,200	25,800	14,700	5,290	7,620
16	5,750	4,420	7,020	11,200	11,000	20,700	9,090	32,100	24,300	14,200	5,020	6,130
17	5,710	6,060	9,890	11,200	11,100	20,500	12,800	31,200	27,600	13,700	4,650	7,290
18	5,450	4,800	10,100	11,200	11,200	20,300	12,300	26,200	36,300	13,300	4,420	5,540
19	5,270	3,330	10,300	11,100	11,400	20,500	12,200	22,800	44,500	12,900	4,500	5,480
20	4,820	3,110	10,400	11,100	11,600	20,500	14,100	22,600	38,700	11,900	4,840	5,800
21	4,650	4,160	10,700	11,100	11,600	20,600	19,800	23,000	32,300	11,400	5,180	6,200
22	4,540	3,340	9,360	11,100	11,500	20,600	22,300	21,200	28,900	10,900	4,690	7,240
23	4,320	7,850	7,120	11,100	11,200	20,300	21,000	20,000	25,500	10,400	5,890	7,960
24	4,220	8,770	9,530	11,100	11,300	16,000	20,600	19,600	24,300	9,640	6,230	7,020
25	4,160	5,920	9,500	11,100	11,600	10,200	20,200	20,000	23,600	9,280	5,840	6,720
26	4,120	3,530	8,090	11,100	11,700	9,590	22,200	20,400	22,100	8,960	5,990	6,520
27	4,200	4,980	8,290	11,200	11,900	8,960	26,800	21,000	20,800	8,320	6,300	7,960
28	4,180	3,670	8,530	11,200	12,100	8,140	28,700	24,300	18,500	8,190	4,630	9,310
29	4,120	2,480	7,640	11,200	------	8,110	32,400	31,500	16,300	8,290	7,040	6,200
30	4,220	4,610	5,960	11,300	------	8,140	37,200	37,800	14,700	8,350	4,840	6,870
31	4,080	------	6,060	11,300	------	8,110	-----	37,100	------	7,960	5,250	------
TOTAL	153,610	130,150	225,210	308,370	311,610	496,750	421,220	757,100	865,000	405,090	182,620	169,440
MEAN	4,955	4,338	7,265	9,947	11,130	16,020	14,040	24,420	28,830	13,070	5,891	5,648
MAX	6,280	8,770	10,700	11,300	12,600	20,900	37,200	37,800	44,500	19,400	7,750	9,310
MIN	4,080	2,480	2,860	5,090	8,850	8,110	3,670	12,600	14,700	7,960	4,420	3,820
AC-FT	304,700	258,100	446,700	611,600	618,100	985,300	835,500	1,502M	1,716M	803,500	362,200	336,100
(†)	0	-35,000	-184,000	-411,000	-441,000	-803,000	-3,000	+681,000	+1,043M	+152,000	0	-10,000
MEAN‡	4,955	3,749	4,272	3,262	3,189	2,965	13,990	35,500	46,370	15,540	5,891	5,480
CFSM‡	1.11	.840	.957	.731	.714	.664	3.13	7.95	10.4	3.48	1.32	1.23
IN ‡	1.28	.94	1.10	.84	.74	.77	3.50	9.17	11.59	4.01	1.52	1.37
AC-FT‡	304,700	223,100	262,700	200,600	177,100	182,300	832,500	2,183M	2,759M	955,500	362,200	326,100

OBSERVED

CAL YR 1964: TOTAL 4,160,770 MEAN 11,370 MAX 158,000 MIN 1,290 AC-FT 8,253,000
WAT YR 1965: TOTAL 4,426,170 MEAN 12,130 MAX 44,500 MIN 2,480 AC-FT 8,779,000

ADJUSTED ‡

CAL YR 1964: MEAN 11,680 CFSM 2.62 IN 35.61 AC-FT 8,480,000
WAT YR 1965: MEAN 12,110 CFSM 2.71 IN 36.83 AC-FT 8,769,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir, furnished by Bureau of Reclamation.
‡ Adjusted for change in reservoir contents.
M Expressed in thousands.

12-3700. Swan River near Bigfork, Mont.

Location.--Lat 48°01'30", long 113°58'40", in SE¼SW¼ sec.11, T.26 N., R.19 W., on left bank 0.2 mile downstream from Johnson Creek, 0.4 mile downstream from Swan Lake, 5 miles southeast of Bigfork, and at mile 14.0.

Drainage area.--671 sq mi.

Records available.--October 1910 to May 1911 (gage heights only), April 1922 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 3,062.6 ft above mean sea level (river-profile survey). Oct. 10, 1910, to May 22, 1911, staff gage at site 10 miles upstream at different datum. Apr. 28, 1922, to Oct. 14, 1930, staff gage at site 800 ft upstream at datum 1.9 ft higher.

Average discharge.--43 years (1922-65), 1,140 cfs (825,300 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 29, 1961	6,810	6.38	Jan. 28, 1961	343	2.16
1962	May 31, 1962	4,530	5.26	Jan. 23, 1962	354	2.18
1963	June 2, 1963	3,740	4.84	Jan. 13, 1963	377	2.22
1964	June 10, 1964	8,100	6.98	Mar. 1, 1964	300	2.08
1965	June 20, 1965	6,010	6.00	Nov. 22, 1964	497	2.41

1922-65: Maximum discharge, 8,400 cfs May 24, 1948 (gage height, 7.12 ft, from graph based on gage readings); minimum observed, 193 cfs Jan. 26-29, 1930 (gage height, 0.04 ft, site and datum then in use).

Remarks.--Records excellent. Diversions for irrigation of about 360 acres above station.

Revisions (water years).--WSP 1216: Drainage area. WSP 1246: 1923-24(M), 1930. WSP 1316: 1923.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	525	592	584	438	432	712	1,110	1,360	5,970	2,230	766	576
2	525	608	560	438	451	703	1,120	1,480	5,820	2,100	748	667
3	518	600	568	425	464	694	1,180	1,640	5,760	1,930	730	694
4	504	600	576	401	470	676	1,400	1,770	5,840	1,850	712	703
5	504	584	576	395	470	658	1,610	1,920	5,970	1,800	694	694
6	504	560	553	419	464	624	1,690	2,100	6,160	1,770	667	676
7	504	546	518	438	470	616	1,640	2,220	6,430	1,730	676	658
8	511	553	484	451	477	608	1,580	2,260	6,620	1,680	667	649
9	511	539	477	458	484	584	1,500	2,220	6,490	1,630	640	640
10	504	546	470	451	504	576	1,460	2,230	5,930	1,560	632	616
11	525	576	458	451	608	560	1,380	2,240	5,380	1,500	640	632
12	560	600	438	444	766	546	1,350	2,290	4,980	1,440	624	640
13	560	600	438	438	870	539	1,360	2,290	4,820	1,400	616	624
14	560	600	451	438	870	560	1,380	2,280	4,670	1,340	608	608
15	553	584	444	438	870	592	1,370	2,290	4,420	1,280	608	576
16	539	592	432	444	840	658	1,310	2,350	4,270	1,240	592	568
17	532	600	419	458	802	739	1,290	2,440	4,290	1,180	584	560
18	532	608	432	458	775	793	1,280	2,550	4,430	1,150	576	546
19	525	608	444	458	739	840	1,320	2,630	4,400	1,110	576	539
20	511	632	451	451	721	830	1,350	2,720	4,420	1,090	568	539
21	511	616	458	444	712	840	1,350	2,910	4,310	1,050	553	546
22	525	608	458	438	739	850	1,320	3,250	4,080	1,010	560	568
23	532	600	464	425	784	840	1,260	3,720	3,790	980	546	568
24	532	608	458	407	784	900	1,240	4,170	3,480	960	539	568
25	546	640	458	395	766	960	1,230	4,720	3,250	940	532	568
26	546	685	458	389	766	1,030	1,210	5,300	3,030	920	553	600
27	546	685	451	371	748	1,100	1,230	5,820	2,860	890	576	600
28	553	685	451	354	730	1,140	1,240	6,470	2,700	850	568	592
29	576	658	444	360	------	1,130	1,250	6,430	2,540	820	568	600
30	584	616	444	383	------	1,110	1,290	6,120	2,380	793	568	608
31	576	------	444	419	------	1,100	------	6,050	------	784	553	------
TOTAL	16,534	18,129	14,761	13,177	18,576	24,108	40,300	98,240	139,490	41,007	19,040	18,223
MEAN	533	604	476	425	663	778	1,343	3,169	4,650	1,323	614	607
MAX	584	685	584	458	870	1,140	1,690	6,470	6,620	2,230	766	703
MIN	504	539	419	354	432	539	1,110	1,360	2,380	784	532	539
CFSM	.79	.90	.71	.63	.99	1.16	2.00	4.72	6.93	1.97	.92	.91
IN.	.92	1.00	.82	.73	1.03	1.34	2.23	5.44	7.73	2.27	1.06	1.01
AC-FT	32,790	35,960	29,280	26,140	36,840	47,820	79,930	194,900	276,700	81,340	37,770	36,140

CAL YR 1960: TOTAL 475,396 MEAN 1,299 MAX 5,400 MIN 419 CFSM 1.94 IN 26.35 AC-FT 942,900
WAT YR 1961: TOTAL 461,585 MEAN 1,265 MAX 6,620 MIN 354 CFSM 1.88 IN 25.58 AC-FT 915,500

12-3700. Swan River near Bigfork, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	600	685	532	490	458	451	1,050	2,770	4,310	2,910	990	608
2	600	694	546	477	444	458	1,110	2,520	4,150	2,800	960	584
3	576	685	532	477	458	464	1,180	2,360	4,040	2,680	930	553
4	560	676	532	484	470	458	1,300	2,290	4,060	2,550	940	553
5	553	667	532	490	490	458	1,460	2,320	3,940	2,400	940	545
6	539	632	525	490	490	451	1,690	2,360	3,680	2,260	940	539
7	553	608	525	490	490	444	2,100	2,570	3,350	2,160	920	518
8	568	600	525	504	511	458	2,620	3,030	3,030	2,070	900	518
9	576	584	504	477	525	464	2,750	3,390	2,890	1,990	890	532
10	584	576	458	432	539	451	2,580	3,550	2,980	1,920	870	532
11	600	568	407	395	546	438	2,360	3,700	3,280	1,860	850	553
12	632	576	389	401	553	432	2,180	3,720	3,500	1,810	820	568
13	658	568	389	419	560	425	2,060	3,640	3,640	1,780	793	576
14	658	560	401	438	560	419	2,010	3,640	3,770	1,760	766	584
15	685	568	432	451	576	413	2,070	3,570	3,980	1,690	748	584
16	703	568	451	451	576	413	2,280	3,390	4,040	1,610	730	584
17	721	539	470	444	576	407	2,500	3,190	4,060	1,550	703	568
18	757	525	484	444	576	413	2,620	3,050	4,120	1,480	685	553
19	766	511	504	438	568	425	2,720	3,100	4,270	1,430	667	546
20	766	511	511	425	553	438	2,990	3,430	4,310	1,350	667	539
21	775	511	511	407	546	444	3,550	3,790	4,230	1,290	658	532
22	793	525	511	389	539	458	3,940	3,930	4,150	1,250	632	525
23	793	525	504	377	525	458	3,850	3,930	4,020	1,200	632	518
24	793	539	504	383	484	470	3,620	3,910	3,870	1,160	624	511
25	793	546	504	407	464	477	3,640	3,940	3,720	1,130	616	504
26	766	546	504	413	451	525	3,830	4,000	3,590	1,110	592	497
27	766	532	497	438	444	640	3,830	4,000	3,590	1,100	576	490
28	748	532	497	451	438	811	3,620	3,960	3,520	1,090	608	490
29	739	525	490	458	------	920	3,390	4,100	3,320	1,040	616	497
30	703	525	490	458	------	970	3,080	4,380	3,080	1,030	624	504
31	694	------	497	458	------	1,010	------	4,460	------	1,020	616	------
TOTAL	21,018	17,207	15,158	13,756	14,410	15,963	77,980	105,990	112,490	52,480	23,503	16,206
MEAN	678	574	489	444	515	515	2,599	3,419	3,750	1,693	758	540
MAX	793	694	546	504	576	1,010	3,940	4,460	4,310	2,910	990	608
MIN	539	511	389	377	438	407	1,050	2,290	2,890	1,020	576	490
CFSM	1.01	.85	.73	.66	.77	.77	3.87	5.10	5.59	2.52	1.13	.81
IN.	1.16	.95	.84	.76	.80	.88	4.32	5.87	6.23	2.91	1.30	.90
AC-FT	41,690	34,130	30,070	27,280	28,580	31,660	154,700	210,200	223,100	104,100	46,620	32,140

CAL YR 1961: TOTAL 465,544 MEAN 1,275 MAX 6,620 MIN 354 CFSM 1.90 IN 25.80 AC-FT 923,400
WAT YR 1962: TOTAL 486,161 MEAN 1,332 MAX 4,460 MIN 377 CFSM 1.99 IN 26.95 AC-FT 964,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	511	649	624	640	470	748	1,550	1,580	3,620	1,920	703	460
2	504	640	624	640	470	739	1,530	1,850	3,610	1,870	694	490
3	511	632	624	632	504	730	1,460	1,990	3,520	1,830	676	510
4	504	632	616	624	532	712	1,400	1,990	3,410	1,810	649	511
5	504	616	608	624	600	694	1,340	1,930	3,340	1,770	640	511
6	504	632	592	600	685	685	1,340	1,820	3,350	1,760	624	504
7	504	640	592	576	766	667	1,380	1,860	3,350	1,720	608	490
8	518	632	600	546	850	640	1,430	2,000	3,250	1,650	576	484
9	532	649	592	560	890	632	1,460	2,170	3,100	1,610	584	477
10	539	667	592	532	910	616	1,440	2,240	3,050	1,590	539	470
11	576	694	584	464	910	608	1,410	2,180	2,980	1,540	532	464
12	640	712	584	413	900	600	1,360	2,070	2,870	1,490	532	458
13	703	712	568	389	860	592	1,310	1,960	2,820	1,440	511	451
14	757	712	546	389	840	584	1,280	1,890	2,800	1,410	500	464
15	860	703	546	413	820	560	1,300	1,820	2,870	1,320	500	470
16	920	685	546	444	793	560	1,410	1,830	2,960	1,260	490	477
17	930	676	560	477	775	553	1,520	1,890	2,980	1,230	490	484
18	910	649	600	490	757	546	1,560	1,990	2,940	1,150	480	484
19	880	640	640	477	730	539	1,550	2,100	2,870	1,130	480	477
20	870	640	667	464	730	539	1,500	2,220	2,790	1,080	470	470
21	820	640	685	458	739	546	1,400	2,320	2,740	1,020	470	470
22	802	658	712	470	730	553	1,310	2,420	2,740	980	460	470
23	793	667	712	470	712	584	1,280	2,570	2,620	940	460	458
24	784	667	676	464	694	658	1,240	2,720	2,420	910	450	464
25	757	649	608	458	685	721	1,200	2,940	2,200	880	460	470
26	739	649	560	464	676	766	1,150	3,160	2,040	860	470	458
27	730	658	560	464	712	840	1,110	3,320	1,870	850	470	451
28	712	658	584	477	730	970	1,140	3,410	1,760	811	460	444
29	694	658	608	464	------	1,160	1,230	3,410	1,780	784	460	438
30	676	632	640	444	------	1,340	1,360	3,390	1,890	766	450	432
31	658	------	640	444	------	1,480	------	3,500	------	739	450	------
TOTAL	21,342	19,748	18,890	15,471	20,470	22,162	40,950	72,540	84,540	40,120	16,338	14,161
MEAN	688	658	609	499	731	715	1,365	2,340	2,818	1,294	527	472
MAX	930	712	712	640	910	1,480	1,560	3,500	3,620	1,920	703	511
MIN	504	616	546	389	470	539	1,110	1,580	1,760	739	450	432
CFSM	1.03	.98	.91	.74	1.09	1.07	2.03	3.49	4.20	1.93	.79	.70
IN.	1.18	1.09	1.05	.86	1.13	1.23	2.27	4.02	4.69	2.22	.91	.78
AC-FT	42,330	39,170	37,470	30,690	40,600	43,960	81,220	143,900	167,700	79,580	32,410	28,090

CAL YR 1962: TOTAL 492,758 MEAN 1,350 MAX 4,460 MIN 377 CFSM 2.01 IN 27.31 AC-FT 977,400
WAT YR 1963: TOTAL 386,732 MEAN 1,060 MAX 3,620 MIN 389 CFSM 1.58 IN 21.43 AC-FT 767,100

12-3700. Swan River near Bigfork, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	419	377	365	377	377	326	377	1,300	3,410	3,370	1,050	676
2	419	365	360	371	383	326	419	1,560	3,500	3,170	1,040	766
3	413	371	354	377	383	321	438	1,770	3,700	3,100	1,020	850
4	395	365	348	383	383	326	464	1,900	4,080	3,030	990	920
5	413	377	343	389	371	348	497	2,000	4,480	3,190	960	940
6	419	377	377	389	377	348	546	2,000	4,610	3,350	930	940
7	425	377	395	395	365	348	584	1,970	4,690	3,280	900	940
8	425	389	401	401	365	348	600	1,900	5,220	3,100	870	930
9	419	407	407	389	360	348	632	1,860	6,860	2,870	830	920
10	419	413	365	383	371	343	685	1,860	8,020	2,750	802	880
11	407	407	354	389	365	343	757	1,930	7,560	2,620	793	840
12	407	401	338	383	365	343	820	2,000	6,560	2,440	757	811
13	407	395	338	371	371	338	830	2,040	5,760	2,340	739	775
14	407	389	343	354	377	338	811	2,110	5,280	2,200	730	748
15	395	407	360	365	371	338	802	2,170	5,060	2,170	712	721
16	389	395	371	383	360	338	830	2,230	4,900	2,160	703	712
17	389	407	395	383	365	343	870	2,350	4,880	2,080	694	676
18	383	407	389	389	365	371	860	2,630	4,840	1,990	658	658
19	377	407	383	383	371	395	860	2,980	4,650	1,870	658	632
20	383	395	383	383	365	395	860	3,340	4,320	1,780	658	649
21	371	401	389	383	354	377	900	3,770	3,980	1,680	649	658
22	371	413	389	383	354	395	980	4,290	3,680	1,560	640	649
23	389	407	383	377	348	371	1,040	4,270	3,460	1,480	616	649
24	395	407	389	377	348	354	1,060	3,810	3,430	1,420	600	632
25	407	401	383	389	348	343	1,090	3,280	3,610	1,350	600	616
26	401	401	383	389	338	354	1,100	2,910	3,930	1,290	624	616
27	395	389	383	401	326	354	1,120	2,620	4,040	1,210	624	624
28	389	395	383	389	326	354	1,140	2,600	4,000	1,140	640	600
29	389	389	383	383	321	354	1,110	2,860	3,850	1,090	658	584
30	383	371	377	371	------	354	1,140	3,190	3,610	1,060	658	576
31	377	------	365	377	------	360	------	3,350	------	1,050	658	------
TOTAL	12,377	11,802	11,576	11,856	10,473	10,894	24,222	78,850	139,970	67,190	23,461	22,188
MEAN	399	393	373	382	361	351	807	2,544	4,666	2,167	757	740
MAX	425	413	407	401	383	395	1,140	4,290	8,020	3,370	1,050	940
MIN	371	365	338	354	321	321	377	1,300	3,410	1,050	600	576
CFSM	.60	.59	.56	.57	.54	.52	1.20	3.79	6.95	3.23	1.13	1.10
IN.	.69	.65	.64	.66	.58	.60	1.34	4.37	7.76	3.72	1.30	1.23
AC-FT	24,550	23,410	22,960	23,520	20,770	21,610	48,040	156,400	277,600	133,300	46,530	44,010

CAL YR 1963: TOTAL 362,507 MEAN 993 MAX 3,620 MIN 338 CFSM 1.48 IN 20.09 AC-FT 719,000
WAT YR 1964: TOTAL 424,859 MEAN 1,161 MAX 8,020 MIN 321 CFSM 1.73 IN 23.55 AC-FT 842,700

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	584	616	721	930	676	748	584	4,080	4,120	2,820	1,140	1,060
2	592	616	820	870	660	739	624	4,590	4,020	2,620	1,110	990
3	608	624	900	811	650	739	685	4,500	3,850	2,500	1,060	970
4	616	624	920	775	640	721	748	4,060	3,890	2,540	1,090	970
5	616	608	900	766	649	712	830	3,590	4,080	2,580	1,090	930
6	616	608	860	748	658	712	930	3,170	4,150	2,620	1,050	900
7	600	600	820	766	658	712	1,030	2,820	4,190	2,600	1,020	890
8	592	584	766	757	656	712	1,160	2,520	4,340	2,600	990	860
9	592	584	730	730	667	712	1,260	2,290	4,310	2,550	950	860
10	600	584	730	712	658	712	1,370	2,140	4,230	2,490	920	870
11	592	584	703	685	624	721	1,480	2,080	4,310	2,460	890	870
12	584	584	676	658	592	721	1,540	2,170	4,590	2,420	870	860
13	584	584	667	649	600	721	1,560	2,420	5,120	2,400	870	870
14	584	568	676	640	592	712	1,660	2,870	5,360	2,340	860	890
15	592	560	649	624	592	712	1,770	3,370	5,000	2,220	840	980
16	616	546	624	624	560	703	1,930	3,700	4,480	2,070	830	1,180
17	624	539	580	616	576	676	2,080	3,870	4,150	1,990	802	1,360
18	632	532	570	608	584	649	2,100	3,870	4,290	1,890	775	1,420
19	624	532	570	600	600	624	2,070	3,620	4,960	1,810	757	1,400
20	608	525	580	584	600	632	2,410	3,340	5,860	1,740	757	1,340
21	600	525	600	592	632	632	3,640	3,120	5,840	1,690	766	1,310
22	600	511	650	600	632	649	4,860	2,980	5,420	1,660	775	1,290
23	592	511	739	600	624	640	5,100	2,860	5,020	1,630	840	1,310
24	592	539	970	608	616	640	4,800	2,790	4,610	1,550	950	1,340
25	584	616	1,150	600	624	640	4,380	2,740	4,380	1,490	1,000	1,300
26	584	676	1,170	592	632	640	4,000	2,720	4,270	1,420	1,080	1,240
27	576	694	1,180	584	685	640	3,720	2,700	4,080	1,340	1,100	1,220
28	592	676	1,170	592	730	632	3,520	2,740	3,810	1,300	1,110	1,160
29	592	667	1,120	600	------	592	3,460	2,940	3,480	1,230	1,140	1,130
30	608	667	1,060	616	------	576	3,620	3,320	3,120	1,220	1,130	1,100
31	616	------	1,000	649	------	568	------	3,870	------	1,160	1,100	------
TOTAL	18,592	17,684	25,271	20,786	17,669	20,939	68,921	97,850	133,330	62,950	29,662	32,870
MEAN	600	589	815	671	631	675	2,297	3,156	4,444	2,031	957	1,096
MAX	632	694	1,180	930	730	748	5,100	4,590	5,860	2,820	1,140	1,420
MIN	576	511	570	584	560	568	584	2,080	3,120	1,160	757	860
CFSM	.89	.88	1.21	1.00	.94	1.01	3.42	4.70	6.62	3.03	1.43	1.63
IN.	1.03	.98	1.40	1.15	.98	1.16	3.82	5.42	7.39	3.49	1.64	1.82
AC-FT	36,880	35,080	50,120	41,230	35,050	41,530	136,700	194,100	264,500	124,900	58,830	65,200

CAL YR 1964: TOTAL 450,651 MEAN 1,231 MAX 8,020 MIN 321 CFSM 1.84 IN 24.98 AC-FT 893,900
WAT YR 1965: TOTAL 546,524 MEAN 1,497 MAX 5,860 MIN 511 CFSM 2.23 IN 30.29 AC-FT 1,084,000

12-3715 (revised). Flathead Lake at Somers, Mont.

Location.--Lat 48°04'30", long 114°13'30", in SE¼NE¼ sec.26, T.27 N., R.21 W., at steamboat dock at Somers.

Drainage area.--7,086 sq mi.

Records available.--April to August 1900, daily lake elevations only at site near Holt, 6 miles east of Somers (datum unknown). August 1908 to November 1909 (fragmentary), January 1910 to September 1965. Month-end contents only for some periods, published in WSP 1316. Published as "at Polson" prior to April 1923. Oct. 1, 1941, to Sept. 30, 1965, unpublished daily lake elevations at Polson are available in files of Helena district office.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (Somers datum). July 1 to Dec. 12, 1923, staff gage at same site and datum.

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	July 5, 1961	1,835,000	2,893.35	Feb. 1, 2, 1961	1,005,000	2,886.62
1962	July 2, 1962	1,797,000	2,893.05	Apr. 3, 1962	597,200	2,883.21
1963	Aug. 26, 1963	1,814,000	2,893.18	Apr. 7, 1963	731,300	2,884.34
1964	June 12, 1964	1,952,000	2,894.27	Apr. 8, 1964	651,600	2,883.67
1965	Aug. 24, 25, 1965	1,819,000	2,893.22	Apr. 15, 1965	814,900	2,885.04

1908-65: Maximum contents, 2,208,000 acre-ft June 19, 1933 (elevation, 2,896.26 ft); minimum, 347,000 acre-ft Dec. 5, 1936 (elevation, 2,881.07 ft).
Lake reached an elevation of 2,900 ft during flood in June 1894.

Remarks.--Natural storage in Flathead Lake increased by construction of Kerr Dam 4 miles downstream from natural lake outlet; storage began Apr. 11, 1938. Usable capacity, 1,791,000 acre-ft at controlled spillway elevation (2,893 ft). Dead storage unknown below 2,878 ft (elevation of natural outlet). Minimum operating level, 2,883 ft for on-site power generation (usable contents, 572,300 acre-ft). Water is used for power production, flood control, recreation, and irrigation. Figures given herein represent usable contents.

Capacity table, water years 1961-65 (elevation, in feet, and contents, in acre-feet)

2,885	810,100	2,889	1,294,000	2,893	1,791,000
2,887	1,051,000	2,891	1,541,000	2,894	1,917,000

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92.41	91.48	90.78	88.64	86.63	87.20	87.00	88.85	91.79	92.85	92.66	92.47
2	92.40	91.44	90.76	88.55	86.65	87.12	87.00	88.84	91.89	92.88	92.64	92.59
3	92.40	91.41	90.76	88.45	86.71	87.10	87.02	88.90	91.99	92.88	92.63	92.66
4	92.39	91.41	90.65	88.36	86.78	87.08	87.14	89.02	92.07	92.95	92.60	92.65
5	92.33	91.37	90.58	88.35	86.88	87.10	87.22	89.15	92.14	93.02	92.59	92.67
6	92.26	91.34	90.54	88.22	86.93	87.08	87.31	89.15	92.27	93.03	92.59	92.68
7	92.30	91.32	90.51	88.23	86.94	87.05	87.45	89.08	92.33	93.01	92.53	92.66
8	92.20	91.25	90.46	88.20	86.95	87.02	87.55	89.02	92.33	92.94	92.52	92.73
9	92.14	91.22	90.38	88.16	86.99	87.00	87.59	89.04	92.27	92.92	92.39	92.76
10	92.10	91.22	90.30	88.11	86.98	87.00	87.68	89.05	92.29	92.94	92.41	92.74
11	92.12	91.24	90.22	88.04	87.13	87.01	87.80	89.10	92.37	92.95	92.42	92.70
12	92.08	91.19	90.15	87.95	87.10	86.99	88.05	89.07	92.58	92.98	92.39	92.73
13	92.03	91.22	90.10	87.88	87.15	86.94	88.08	89.02	92.63	92.99	92.40	92.72
14	91.97	91.23	90.00	87.84	87.09	86.89	88.23	89.00	92.60	92.99	92.38	92.73
15	91.91	91.15	89.92	87.87	87.12	86.91	88.35	89.00	92.59	92.96	92.37	92.82
16	91.86	91.14	89.81	87.71	87.12	86.85	88.35	89.02	92.65	92.95	92.37	92.83
17	91.80	91.15	89.72	87.66	87.09	86.80	88.47	89.02	92.71	92.96	92.33	92.86
18	91.76	91.09	89.65	87.60	87.18	86.76	88.62	89.00	92.73	92.93	92.25	92.87
19	91.71	91.09	89.54	87.53	87.24	86.75	88.79	88.97	92.74	92.92	92.25	92.90
20	91.65	91.10	89.45	87.45	87.28	86.77	88.85	89.02	92.76	92.92	92.25	92.90
21	91.61	91.00	89.35	87.40	87.35	86.69	88.81	89.13	92.76	92.89	92.22	92.87
22	91.56	90.98	89.25	87.36	87.24	86.64	88.79	89.26	92.75	92.85	92.20	92.79
23	91.51	90.95	89.22	87.25	87.25	86.69	88.80	89.48	92.68	92.85	92.18	92.69
24	91.53	90.98	89.22	87.15	87.27	86.72	88.80	89.73	92.58	92.82	92.22	92.65
25	91.51	91.00	89.15	87.02	87.23	86.76	88.82	90.05	92.63	92.72	92.21	92.57
26	91.57	90.96	89.17	86.88	87.27	86.78	88.80	90.35	92.71	92.72	92.33	92.49
27	91.51	90.93	89.08	86.80	87.23	86.83	88.87	90.70	92.72	92.70	92.31	92.43
28	91.48	90.90	88.99	86.75	87.22	86.86	88.82	91.07	92.73	92.64	92.33	92.38
29	91.44	90.85	88.90	86.74	------	86.88	88.88	91.35	92.77	92.67	92.39	92.33
30	91.46	90.81	88.83	86.67	------	86.88	88.85	91.50	92.82	92.65	92.41	92.22
31	91.47	------	88.72	86.64	------	86.93	------	91.65	------	92.66	92.48	------
MAX	92.41	91.48	90.78	88.64	87.35	87.20	88.88	91.65	92.82	93.03	92.66	92.90
MIN	91.44	90.81	88.72	86.64	86.63	86.64	87.00	88.84	91.79	92.64	92.18	92.22
(†)	1,599	1,517	1,260	1,008	1,078	1,043	1,276	1,622	1,768	1,748	1,725	1,693
(‡)	-119,000	-82,000	-257,000	-252,000	+70,000	-35,000	+233,000	+346,000	+146,000	-20,000	-23,000	-32,000

CAL YR 1960..... ‡ -275,000
WAT YR 1961..... ‡ -25,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,800 ft to obtain elevation above mean sea level.

12-3715 (revised). Flathead Lake at Somers, Mont.--Continued

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92.14	91.50	90.42	89.63	88.10	84.92	83.24	87.58	89.62	92.98	92.74	92.90
2	92.05	91.47	90.40	89.63	87.98	84.89	83.23	87.58	89.58	93.01	92.70	92.85
3	91.98	91.45	90.38	89.58	87.90	84.72	83.23	87.60	89.60	92.97	92.65	92.84
4	91.92	91.43	90.35	89.55	87.71	84.58	83.25	87.54	89.57	92.95	92.69	92.87
5	91.88	91.42	90.31	89.53	87.62	84.47	83.26	87.51	89.48	92.94	92.73	92.90
6	91.79	91.40	90.23	89.54	87.51	84.34	83.34	87.50	89.39	92.90	92.68	92.92
7	91.71	91.38	90.16	89.43	87.38	84.23	83.43	87.49	89.27	92.89	92.68	92.88
8	91.69	91.35	90.11	89.47	87.26	84.14	83.53	87.56	89.17	92.90	92.70	92.83
9	91.72	91.35	90.02	89.39	87.14	84.04	83.63	87.49	89.32	92.88	92.73	92.86
10	91.68	91.25	89.96	89.31	87.03	83.93	83.75	87.54	89.53	92.88	92.72	92.94
11	91.63	91.20	89.88	89.27	86.94	83.86	83.86	87.62	89.75	92.91	92.71	92.91
12	91.63	91.20	89.82	89.24	86.85	83.78	83.98	87.66	89.88	92.93	92.74	92.90
13	91.60	91.15	89.76	89.23	86.73	83.69	84.12	87.75	89.97	92.95	92.73	92.93
14	91.62	91.15	89.70	89.10	86.64	83.63	84.30	87.81	90.14	92.98	92.68	92.95
15	91.63	91.00	89.68	89.12	86.51	83.56	84.46	87.83	90.36	92.94	92.66	92.99
16	91.65	90.95	89.63	89.02	86.42	83.50	84.65	87.87	90.59	92.93	92.66	93.02
17	91.61	90.85	89.57	88.97	86.32	83.49	84.84	87.92	90.83	92.90	92.65	93.00
18	91.60	90.70	89.54	88.92	86.22	83.48	84.98	88.06	91.08	92.92	92.67	92.94
19	91.63	90.70	89.50	88.85	86.05	83.44	85.16	88.12	91.32	92.91	92.70	92.93
20	91.64	90.65	89.52	88.80	86.02	83.45	85.38	88.23	91.55	92.87	92.69	92.88
21	91.62	90.60	89.43	88.77	85.89	83.38	85.64	88.42	91.75	92.84	92.71	92.87
22	91.64	90.60	89.44	88.72	85.69	83.37	85.92	88.52	91.93	92.86	92.71	92.88
23	91.64	90.65	89.53	88.67	85.55	83.33	86.15	88.61	92.10	92.83	92.77	92.88
24	91.63	90.65	89.58	88.67	85.44	83.31	86.39	88.77	92.25	92.78	92.80	92.85
25	91.67	90.65	89.60	88.62	85.30	83.28	86.67	88.91	92.42	92.76	92.80	92.82
26	91.68	90.60	89.56	88.55	85.19	83.47	87.00	89.05	92.58	92.80	92.85	92.80
27	91.63	90.60	89.51	88.51	85.07	83.28	87.30	89.17	92.80	92.76	92.87	92.80
28	91.58	90.55	89.50	88.46	84.97	83.25	87.44	89.26	92.91	92.75	92.90	92.81
29	91.60	90.50	89.51	88.40	------	83.25	87.50	89.38	92.91	92.77	92.88	92.82
30	91.57	90.45	89.50	88.35	------	83.24	87.56	89.49	92.92	92.78	92.93	92.80
31	91.54	------	89.59	88.23	------	83.22	------	89.57	------	92.79	92.91	------
MAX	92.14	91.50	90.42	89.63	88.10	84.92	87.56	89.57	92.92	93.01	92.91	93.02
MIN	91.54	90.45	89.43	88.23	84.97	83.22	83.23	87.49	89.17	92.75	92.65	92.80
(†)	1,608	1,473	1,367	1,200	806.5	589.3	1,119	1,364	1,781	1,765	1,780	1,766
(‡)	-85,000	-135,000	-106,000	-167,000	-393,500	-208,200	+520,700	+245,000	+417,000	-16,000	+15,000	-14,000

CAL YR 1961..... ‡ +107,000
WAT YR 1962..... ‡ +73,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,800 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92.77	92...	92.23	91.58	89.73	87.49	84.56	86.40	92.33	92.97	92.98	93.00
2	92.77	92.73	92.25	91.58	89.70	87.38	84.55	86.57	92.37	92.95	92.96	93.08
3	92.73	92.71	92.15	91.56	89.65	87.30	84.51	86.65	92.38	92.93	92.95	93.05
4	92.69	92.69	92.05	91.53	89.67	87.20	84.48	86.68	92.57	92.96	93.00	93.04
5	92.64	92.64	92.02	91.51	89.63	87.12	84.47	86.60	92.80	92.97	92.99	93.02
6	92.63	92.61	91.96	91.53	89.57	87.00	84.40	86.64	92.87	93.00	92.97	93.00
7	92.69	92.58	91.91	91.51	89.56	86.94	84.42	86.74	92.87	92.94	92.99	93.00
8	92.60	92.58	91.84	91.50	89.53	86.90	84.45	86.80	92.92	92.96	92.95	93.03
9	92.58	92.57	91.84	91.40	89.49	86.87	84.59	86.86	92.90	92.94	92.94	92.99
10	92.59	92.56	91.77	91.37	89.42	86.82	84.70	86.86	92.94	92.99	92.93	92.92
11	92.67	92.59	91.73	91.28	89.36	86.68	84.81	86.83	92.99	93.00	92.91	92.94
12	92.66	92.56	91.71	91.15	89.29	86.64	84.92	86.82	92.99	92.99	92.93	92.93
13	92.70	92.50	91.69	91.09	89.21	86.53	85.02	86.86	92.98	92.98	92.94	92.93
14	92.78	92.47	91.65	91.07	89.12	86.43	85.13	87.03	92.92	93.00	92.92	92.97
15	92.83	92.41	91.67	91.06	89.03	86.33	85.25	87.21	92.97	93.01	92.95	92.94
16	92.87	92.35	91.67	90.98	88.99	86.17	85.29	87.44	92.96	92.98	92.89	92.97
17	92.88	92.30	91.71	91.03	88.99	86.03	85.41	87.69	92.95	92.98	92.90	92.98
18	92.87	92.32	91.74	90.90	88.93	85.89	85.53	87.97	92.97	93.02	92.93	92.97
19	92.88	9[illegible]16	91.75	90.84	88.84	85.72	85.59	88.31	93.00	93.04	92.98	92.98
20	92.91	9[illegible]18	91.75	90.79	88.72	85.56	85.67	88.59	92.98	93.00	92.99	92.97
21	92.96	92.25	91.68	90.77	88.58	85.42	85.73	88.88	93.01	92.98	93.00	92.98
22	92.92	92.33	91.66	90.68	88.46	85.30	85.82	89.23	93.06	93.02	92.97	93.02
23	92.92	92.35	91.65	90.60	88.33	85.05	85.88	89.56	92.94	93.02	93.01	93.02
24	92.92	92.35	91.63	90.50	88.19	84.92	85.92	89.85	92.99	92.98	92.99	93.00
25	92.95	92.39	91.60	90.41	88.05	84.82	85.95	90.25	93.02	93.02	93.16	92.99
26	92.95	92.34	91.55	90.29	87.94	84.73	85.98	90.66	93.01	92.98	93.04	93.00
27	92.93	92.33	91.66	90.19	87.80	84.66	86.03	91.01	92.96	93.00	93.02	92.98
28	92.92	92.33	91.57	90.09	87.62	84.64	86.06	91.35	92.97	93.05	92.97	92.96
29	92.88	92.36	91.54	89.96	------	84.71	86.18	91.66	93.12	93.04	92.96	92.98
30	92.92	92.35	91.57	89.83	------	84.72	86.30	92.06	93.07	93.03	92.94	92.97
31	92.80	------	91.56	89.85	------	84.57	------	92.30	------	92.97	92.93	------
MAX	92.96	92.77	92.25	91.58	89.73	87.49	86.30	92.30	93.12	93.05	93.16	93.08
MIN	92.58	92.18	91.54	89.83	87.62	84.57	84.40	86.40	92.33	92.93	92.89	92.92
(†)	1,766	1,709	1,610	1,399	1,126	758.8	966.5	1,703	1,800	1,787	1,782	1,787
(‡)	0	-57,000	-99,000	-211,000	-273,000	-367,200	+207,700	+736,500	+97,000	-13,000	-5,000	+5,000

CAL YR 1962..... ‡ +243,000
WAT YR 1963..... ‡ +21,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,800 ft to obtain elevation above mean sea level.

12-3715 (revised). Flathead Lake at Somers, Mont.--Continued

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92.96	91.70	90.56	91.05	91.35	87.64	84.22	84.78	91.22	92.96	92.82	93.14
2	92.93	91.63	90.56	91.06	91.32	87.53	84.09	84.97	91.40	92.98	92.88	93.14
3	92.91	91.63	90.49	91.06	91.25	87.37	83.98	85.12	91.48	92.95	92.95	93.11
4	92.84	91.54	90.48	91.08	91.26	87.36	83.88	85.25	91.58	92.93	92.86	93.02
5	92.88	91.41	90.52	91.06	91.14	87.09	83.80	85.37	91.67	92.93	92.93	92.97
6	92.92	91.41	90.52	91.03	91.06	86.94	83.74	85.53	91.77	92.88	92.92	92.97
7	92.88	91.30	90.50	91.11	90.92	86.85	83.71	85.63	91.88	92.87	92.88	92.93
8	92.87	91.23	90.45	91.09	90.76	86.80	83.67	85.77	92.10	92.93	92.90	93.02
9	92.85	91.20	90.37	91.12	90.66	86.69	83.68	85.91	92.81	92.93	92.91	93.02
10	92.80	91.18	90.40	91.08	90.58	86.62	83.73	86.11	93.78	92.87	92.88	92.96
11	92.75	91.12	90.38	91.06	90.45	86.62	83.83	86.30	94.19	92.83	92.86	92.96
12	92.72	91.03	90.37	91.08	90.31	86.54	83.89	86.48	94.23	92.88	92.90	92.96
13	92.70	90.96	90.35	91.05	90.16	86.51	83.93	86.67	94.12	92.90	92.88	92.95
14	92.67	90.93	90.33	91.06	89.98	86.39	84.06	86.87	93.97	92.95	92.83	92.99
15	92.64	90.89	90.36	91.02	89.84	86.22	84.12	87.11	93.78	92.96	92.79	92.99
16	92.60	90.85	90.32	91.10	89.79	86.05	84.25	87.33	93.64	93.00	92.82	92.99
17	92.56	90.79	90.46	91.08	89.58	85.92	84.33	87.65	93.47	92.92	92.81	92.94
18	92.52	90.74	90.52	91.12	89.41	85.73	84.36	87.98	93.30	92.96	92.79	92.92
19	92.47	90.73	90.49	91.12	89.27	85.61	84.42	88.46	93.15	92.94	92.79	92.82
20	92.47	90.64	90.50	91.06	89.12	85.46	84.43	88.98	92.96	92.95	92.81	92.90
21	92.50	90.65	90.50	91.08	89.00	85.28	84.57	89.42	92.80	92.97	92.80	92.86
22	92.47	90.60	90.49	91.12	88.78	85.09	84.43	89.74	92.71	92.94	92.82	92.86
23	92.36	90.58	90.56	91.14	88.68	84.89	84.52	89.83	92.93	92.93	92.79	92.86
24	92.32	90.60	90.62	91.18	88.47	84.93	84.50	89.80	93.06	92.92	92.82	92.87
25	92.26	90.63	90.79	91.21	88.40	84.86	84.48	89.85	92.97	92.92	92.92	92.81
26	92.14	90.64	90.84	91.23	88.26	84.80	84.47	90.01	92.95	92.90	92.92	92.84
27	92.07	90.61	90.82	91.25	88.10	84.73	84.44	90.18	92.84	93.04	92.92	92.85
28	92.00	90.57	90.82	91.30	88.00	84.59	84.51	90.43	92.99	92.88	92.96	92.85
29	91.95	90.58	90.84	91.35	87.91	84.50	84.60	90.74	92.96	92.84	92.97	92.90
30	91.85	90.57	90.88	91.36	------	84.38	84.67	91.00	92.93	92.78	92.99	92.94
31	91.76	------	90.93	91.40	------	84.27	------	91.12	------	92.88	93.01	------
MAX	92.96	91.70	90.93	91.40	91.35	87.64	84.67	91.12	94.23	93.04	93.01	93.14
MIN	91.76	90.57	90.32	91.02	87.91	84.27	83.67	84.78	91.22	92.78	92.79	92.81
(†)	1,635	1,488	1,532	1,591	1,161	722.9	770.7	1,556	1,782	1,776	1,792	1,783
(‡)	-152,000	-147,000	+44,000	+59,000	-430,000	-438,100	+47,800	+785,300	+226,000	-6,000	+16,000	-9,000

CAL YR 1963..... ‡ -78,000
WAT YR 1964..... ‡ -4,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,800 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92.87	92.47	90.68	89.80	89.66	87.65	86.12	88.02	90.34	92.90	93.01	92.94
2	92.87	92.43	90.64	89.84	89.61	87.54	86.08	88.27	90.31	92.98	93.05	92.92
3	92.88	92.36	90.62	89.84	89.55	87.43	85.98	88.47	90.21	92.98	93.06	92.93
4	92.94	92.32	90.56	89.76	89.50	87.33	85.89	88.52	90.35	92.97	93.04	92.91
5	92.96	92.27	90.51	89.71	89.54	87.22	85.82	88.48	90.50	92.93	93.00	92.92
6	92.99	92.21	90.48	89.70	89.45	87.17	85.77	88.39	90.59	92.92	93.00	92.97
7	93.03	92.17	90.44	89.68	89.42	87.18	85.72	88.29	90.77	92.96	93.00	92.96
8	93.09	92.11	90.42	89.63	89.40	87.15	85.68	88.17	90.85	92.97	93.04	92.95
9	93.08	92.02	90.39	89.57	89.38	87.16	85.59	88.04	90.93	92.97	93.03	92.94
10	93.07	91.97	90.38	89.61	89.28	87.19	85.45	87.94	91.07	92.89	93.01	92.91
11	93.05	91.88	90.32	89.60	89.20	87.19	85.38	87.88	91.13	92.96	92.99	92.87
12	93.05	91.86	90.29	89.60	89.15	87.22	85.28	87.91	91.37	93.00	93.03	92.90
13	93.05	91.76	90.23	89.61	89.10	87.23	85.20	88.02	91.50	92.95	92.98	92.91
14	93.06	91.67	90.16	89.60	89.02	87.28	85.14	88.21	91.63	92.91	92.91	92.93
15	93.04	91.57	89.99	89.62	88.97	87.13	85.04	88.41	91.71	92.96	92.92	92.87
16	92.98	91.45	89.98	89.67	88.90	87.23	85.13	88.59	91.81	92.96	92.93	92.90
17	92.97	91.38	89.90	89.73	88.83	87.24	85.17	88.73	92.08	92.88	92.90	92.95
18	92.96	91.28	89.84	89.73	88.78	87.23	85.25	88.85	92.23	92.95	92.87	92.96
19	92.94	91.17	89.81	89.74	88.74	87.26	85.36	89.01	92.33	93.01	92.92	93.00
20	92.92	91.05	89.77	89.75	88.65	87.27	85.45	89.23	92.36	93.03	92.92	93.02
21	92.87	90.93	89.81	89.79	88.61	87.22	85.67	89.38	92.30	93.06	92.92	92.97
22	92.84	90.90	89.83	89.78	88.49	87.28	85.88	89.53	92.30	93.10	93.01	92.96
23	92.83	90.84	89.83	89.77	88.36	87.26	86.12	89.75	92.45	93.07	93.22	92.99
24	92.80	90.85	89.86	89.83	88.23	87.23	86.32	89.94	92.50	93.00	93.13	92.99
25	92.78	90.78	89.94	89.79	88.10	87.08	86.47	90.06	92.62	93.01	93.10	92.91
26	92.74	90.83	89.97	89.79	87.97	86.87	86.63	90.10	92.88	93.01	93.08	92.88
27	92.71	90.77	90.03	89.74	87.91	86.79	86.85	90.07	93.04	92.97	93.03	92.91
28	92.67	90.73	90.03	89.76	87.76	86.63	87.06	90.10	92.98	92.95	93.00	92.94
29	92.63	90.72	89.97	89.77	------	86.48	87.37	90.17	92.86	92.94	93.04	92.93
30	92.55	90.69	89.92	89.77	------	86.34	87.67	90.24	92.88	92.95	92.99	92.93
31	92.48	------	89.82	89.73	------	86.23	------	90.32	------	92.95	92.96	------
MAX	93.09	92.47	90.68	89.84	89.66	87.65	87.67	90.32	93.04	93.10	93.22	93.02
MIN	92.48	90.69	89.77	89.57	87.76	86.23	85.04	87.88	90.21	92.88	92.87	92.87
(†)	1,725	1,503	1,395	1,384	1,143	958.1	1,132	1,457	1,776	1,785	1,786	1,782
(‡)	-58,000	-222,000	-108,000	-11,000	-241,000	-184,900	+173,900	+325,000	+319,000	+9,000	+1,000	-4,000

CAL YR 1964..... ‡ -137,000
WAT YR 1965..... ‡ -1,000

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,800 ft to obtain elevation above mean sea level.

12-3720. Flathead River near Polson, Mont.

Location.--Lat 47°40'50", long 114°15'10", in NW¼SE¼ sec.11, T.22 N., R.21 W., on left bank 0.5 mile downstream from Kerr Dam, 4 miles west of Polson, 5.0 miles downstream from Flathead Lake, and at mile 71.5.

Drainage area.--7,096 sq mi.

Records available.--July 1907 to September 1965.

Gage.--Digital water-stage recorder. Datum of gage is 2,693.70 ft above mean sea level (levels by The Montana Power Co.). Prior to Oct. 1, 1941, staff and chain gages or graphic water-stage recorder at several sites near highway bridge at old site of Michell's ferry 6 miles downstream from present site, all at datum 2,629.20 ft above mean sea level (river-profile survey). Oct. 1, 1941, to Sept. 30, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--58 years, 11,680 cfs (8,456,000 acre-ft per year), adjusted for change in contents in Hungry Horse Reservoir and Flathead Lake since Oct. 1, 1951.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 6, 1961	55,200	16.16	Sept.17, 1961	1,010	-
1962	June 2, 1962	39,400	13.50	Aug. 25, 1962	915	-
1963	July 1, 1963	47,900	14.95	Sept.15, 1963	960	-
1964	June 12, 1964	66,800	17.99	Oct. 6, 1963	836	-
1965	June 19, 1965	56,400	16.36	Oct. 4, 1964	2,080	-

1907-65: Maximum discharge, 82,800 cfs May 29, 1928 (gage height, 17.2 ft, site and datum then in use); minimum, probably less than 5 cfs Apr. 13, 1938; minimum daily, 32 cfs Apr. 12, 1938.

Flood in June 1894 reached a stage of about 21 ft, present datum (discharge, about 110,000 cfs), from lake elevation-discharge study.

Remarks.--Records excellent. Diversions above station for irrigation of about 10,000 acres. Flathead project pumps can divert up to 12,000 acre-ft per month when required for irrigation of lands downstream from station. Flow regulated by Hungry Horse Reservoir since September 1951 (see station 12-3620) and Flathead Lake (Kerr Dam) since April 1938 (see station 12-3715).

Revisions (water years).--WSP 652: 1926. WSP 752: 1932. WSP 1182: 1948. WSP 1216: Drainage area. WSP 1246: 1928(M). WSP 1636: 1958 (adjusted runoff).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3,800	4,120	5,570	6,520	2,590	12,200	14,100	20,200	49,000	13,200	5,200	1,120
2	2,380	5,780	6,240	7,910	4,220	12,000	14,200	14,900	49,400	13,200	5,740	1,080
3	4,180	5,620	5,480	9,340	5,100	11,500	13,000	14,900	49,700	13,200	6,480	1,100
4	3,900	5,020	6,280	8,970	3,790	10,200	14,100	14,900	50,100	11,400	6,500	1,060
5	4,320	4,700	7,310	7,760	2,940	9,350	13,800	16,300	51,200	11,600	6,090	1,120
6	5,680	4,260	7,440	5,580	6,890	12,000	14,200	23,300	51,500	14,000	4,010	1,100
7	5,480	5,680	7,640	3,440	7,560	11,600	14,200	27,000	51,800	16,000	5,290	1,720
8	4,780	5,830	7,020	3,780	8,370	11,100	14,200	22,600	52,400	17,400	5,800	2,490
9	4,110	5,260	7,440	7,330	9,400	11,600	14,000	19,900	50,200	13,600	5,090	3,500
10	5,750	5,360	7,200	5,370	8,500	12,200	13,500	19,500	41,100	9,440	4,160	4,380
11	6,100	4,680	7,300	6,720	7,830	11,800	13,200	25,700	32,000	9,140	4,520	4,640
12	5,720	3,580	7,360	8,170	7,840	11,200	11,800	30,300	28,800	10,400	4,580	3,040
13	5,790	3,010	6,230	7,840	10,200	12,400	13,800	29,600	33,800	11,000	3,640	1,880
14	5,730	5,250	6,890	5,700	9,580	13,100	14,500	26,700	36,000	10,800	4,680	1,080
15	4,720	6,090	7,500	3,330	8,870	12,500	14,500	26,800	34,400	9,820	4,990	1,050
16	5,080	5,460	9,280	7,860	9,600	13,300	14,500	27,700	34,400	8,980	4,580	1,610
17	5,800	4,680	9,040	6,360	9,460	13,600	14,000	30,800	44,200	9,610	4,600	1,010
18	5,750	6,080	9,450	7,000	6,810	13,600	13,400	31,000	48,200	8,900	5,580	2,380
19	5,810	4,980	10,500	7,190	4,960	12,000	13,600	31,000	47,900	9,100	4,580	2,200
20	5,830	4,480	9,440	7,220	7,820	12,800	19,300	31,000	45,800	8,540	3,620	3,120
21	5,970	4,960	9,580	5,900	8,910	13,500	24,700	31,800	39,900	9,460	4,680	3,920
22	5,820	5,750	7,540	4,620	11,600	13,600	25,700	33,900	37,000	8,200	5,400	6,560
23	5,870	5,060	5,120	8,820	11,700	13,400	23,800	35,000	37,600	7,040	4,480	11,900
24	4,560	3,410	3,730	8,890	10,600	13,700	22,900	36,200	35,500	9,660	1,980	11,800
25	2,100	2,360	3,820	10,700	9,860	14,200	22,800	37,700	26,100	9,520	1,220	12,800
26	3,230	5,760	4,200	9,720	8,280	14,100	22,800	39,200	23,300	8,670	1,240	12,700
27	5,340	6,960	7,190	7,420	11,900	13,500	23,800	41,000	24,400	9,400	1,230	13,000
28	4,010	6,470	8,250	4,520	12,200	14,200	25,600	43,800	20,200	7,400	1,180	11,400
29	4,560	5,980	8,500	4,480	------	14,200	23,300	46,000	18,200	5,420	1,100	9,600
30	3,250	4,970	8,440	7,870	------	14,200	21,800	46,800	15,900	5,120	1,090	9,860
31	4,110	------	8,240	5,860	------	14,300	------	48,000	------	6,020	1,100	------
TOTAL	149,530	151,600	225,220	212,190	227,380	392,950	519,100	923,900	1,160.0M	315,240	124,430	144,220
MEAN	4,824	5,053	7,265	6,845	8,121	12,680	17,300	29,800	38,670	10,170	4,014	4,807
MAX	6,100	6,960	10,500	10,700	12,200	14,300	25,700	48,000	52,400	17,400	6,500	13,000
MIN	2,100	2,360	3,730	3,330	2,590	9,350	11,800	14,900	15,900	5,120	1,090	1,010
AC-FT	296,600	300,700	446,700	420,900	451,000	779,400	1,030M	1,833M	2,301M	625,300	246,800	286,100
(†)	-119,000	-82,000	-273,000	-259,000	-171,000	-447,000	-317,000	+1,024M	+693,000	-20,000	-21,000	-110,000
MEAN‡	2,888	3,675	2,825	2,633	5,042	5,406	11,980	46,460	50,320	9,844	3,672	2,959
CFSM‡	.407	.518	.398	.371	.711	.762	1.69	6.55	7.09	1.39	.517	.417
IN ‡	.47	.58	.46	.43	.74	.88	1.88	7.55	7.91	1.60	.60	.47
AC-FT‡	177,600	218,700	173,700	161,900	280,000	332,400	713,000	2,857M	2,994M	605,300	225,800	176,100

OBSERVED

CAL YR 1960: TOTAL 4,602,510 MEAN 12,580 MAX 51,300 MIN 2,100 AC-FT 9,129,000
WAT YR 1961: TOTAL 4,545,760 MEAN 12,450 MAX 52,400 MIN 1,010 AC-FT 9,016,000

ADJUSTED ‡

CAL YR 1960: MEAN 12,250 CFSM 1.73 IN 23.51 AC-FT 8,896,000
WAT YR 1961: MEAN 12,310 CFSM 1.73 IN 23.57 AC-FT 8,916,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir (furnished by Bureau of Reclamation) and Flathead Lake (furnished by The Montana Power Co.).
‡ Adjusted for change in contents.
M Expressed in thousands.

12-3720. Flathead River near Polson, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10,000	6,020	4,260	6,120	20,500	6,120	2,580	23,600	35,300	17,700	7,550	1,540
2	10,900	6,760	4,690	10,600	20,200	6,440	4,680	23,600	35,300	20,700	8,280	1,960
3	10,200	6,450	3,360	13,000	20,100	8,330	5,120	23,500	35,100	21,000	8,790	3,240
4	10,600	5,260	5,480	11,800	20,100	8,440	4,460	23,300	35,000	18,600	6,260	2,990
5	9,260	4,320	4,220	11,300	20,400	10,400	5,330	23,600	34,900	19,300	3,880	1,700
6	8,170	4,430	4,980	10,700	20,600	9,500	5,020	23,600	34,200	17,700	6,280	2,530
7	10,400	4,400	9,800	11,200	22,300	8,630	4,840	23,600	33,400	15,200	5,830	3,950
8	9,620	5,160	11,900	12,500	21,900	8,260	5,220	23,600	29,000	13,800	4,800	4,580
9	10,700	5,150	13,600	13,300	21,300	8,140	6,440	23,600	16,000	14,500	5,460	2,230
10	13,900	5,820	13,800	13,900	20,700	7,320	6,180	23,600	14,100	12,700	5,040	3,160
11	14,000	5,690	13,800	13,300	20,100	6,140	6,900	23,700	14,800	11,600	4,140	1,800
12	12,300	4,460	13,100	13,500	19,800	8,140	7,300	23,900	19,500	11,800	3,830	2,290
13	5,900	5,920	12,700	14,200	19,300	6,120	7,680	24,100	23,100	11,800	6,240	2,080
14	3,300	7,490	13,400	14,100	18,800	6,350	8,050	24,500	19,100	11,200	5,680	3,140
15	3,750	8,100	13,400	14,100	18,300	6,320	8,110	24,700	14,800	10,800	4,850	1,050
16	4,540	7,820	13,200	14,100	17,300	5,900	8,840	24,900	14,100	11,000	5,700	1,120
17	6,930	8,440	11,600	14,100	17,100	3,910	9,540	25,200	14,000	10,300	5,620	3,500
18	5,460	7,800	13,200	14,100	16,800	3,020	10,300	26,100	14,100	9,640	2,820	4,950
19	3,060	6,360	13,300	14,100	16,300	5,500	10,800	26,900	14,100	9,820	1,250	4,960
20	6,080	5,850	13,300	14,000	16,400	5,090	10,700	27,300	14,000	10,400	2,780	4,940
21	6,360	4,740	12,400	14,000	15,000	5,070	12,800	28,100	14,000	9,300	2,980	5,440
22	4,300	6,850	8,380	14,300	14,700	5,340	13,900	28,600	14,000	6,420	2,340	2,000
23	4,100	2,740	5,440	14,400	13,900	5,790	15,300	29,200	13,800	9,040	1,380	1,270
24	3,040	3,780	7,420	14,300	13,000	5,410	16,100	30,100	13,700	9,010	1,120	5,200
25	2,460	5,860	8,700	14,300	10,800	3,980	17,500	30,700	14,300	9,770	915	5,080
26	3,450	4,870	11,400	14,400	11,500	5,380	19,400	31,600	14,000	9,520	925	4,190
27	6,480	5,000	12,900	14,400	9,280	5,640	20,700	32,300	13,300	7,570	1,630	4,950
28	6,240	4,610	12,900	14,400	8,480	5,390	21,700	32,800	17,700	5,370	2,000	3,840
29	4,420	5,750	10,400	15,700	------	5,380	22,600	33,000	26,100	5,800	3,370	2,160
30	4,050	4,680	9,120	17,500	------	5,660	23,400	34,400	21,800	7,500	3,500	1,810
31	4,220	------	7,300	20,200	------	4,050	------	34,900	------	8,000	3,790	------
TOTAL	218,190	170,580	313,450	421,920	484,960	195,160	321,490	832,600	626,600	366,860	129,030	93,650
MEAN	7,038	5,686	10,110	13,610	17,320	6,295	10,720	26,860	20,890	11,830	4,162	3,122
MAX	14,000	8,440	13,800	20,200	22,300	10,400	23,400	34,900	35,300	21,000	8,790	5,440
MIN	2,460	2,740	3,360	6,120	8,480	3,020	2,580	23,300	13,300	5,370	915	1,050
AC-FT	432,800	338,300	621,700	836,900	961,900	387,100	637,700	1,651M	1,243M	727,700	255,900	185,800
(†)	-142,000	-103,000	-451,000	-671,000	-709,500	-180,200	+641,700	+783,000	+994,000	-12,000	+15,000	-15,000
MEAN‡	4,729	3,954	2,776	2,698	4,545	3,365	21,500	39,590	37,590	11,640	4,406	2,870
CFSM‡	.666	.557	.391	.380	.641	.474	3.03	5.58	5.30	1.64	.621	.404
IN ‡	.77	.62	.45	.44	.67	.55	3.38	6.43	5.91	1.89	.72	.45
AC-FT‡	290,800	235,300	170,700	165,900	252,400	206,900	1,279M	2,434M	2,237M	715,700	270,900	170,800

OBSERVED

CAL YR 1961: TOTAL 4,721,630 MEAN 12,940 MAX 52,400 MIN 1,010 AC-FT 9,365,000
WAT YR 1962: TOTAL 4,174,490 MEAN 11,440 MAX 35,300 MIN 915 AC-FT 8,280,000

ADJUSTED ‡

CAL YR 1961: MEAN 12,490 CFSM 1.76 IN 23.90 AC-FT 9,042,000
WAT YR 1962: MEAN 11,640 CFSM 1.64 IN 22.28 AC-FT 8,430,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir (furnished by Bureau of Reclamation) and Flathead Lake (furnished by The Montana Power Co.).
‡ Adjusted for change in contents.
M Expressed in thousands.

12-3720. Flathead River near Polson, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,220	6,660	8,850	8,880	14,100	12,200	10,600	17,000	31,500	36,200	6,490	2,420
2	4,560	6,820	8,500	11,300	11,600	9,590	9,900	17,600	28,500	29,400	6,160	1,160
3	4,600	6,370	10,000	12,800	9,940	8,340	9,390	18,500	26,200	26,200	4,920	2,980
4	4,590	5,960	9,940	13,600	10,600	10,200	9,140	18,900	17,600	25,900	2,860	3,860
5	4,540	9,090	10,100	13,500	9,080	9,960	9,820	18,600	12,600	22,300	6,320	4,560
6	4,710	5,800	9,620	11,100	9,600	10,000	9,740	16,000	24,100	25,900	5,800	4,100
7	1,620	6,100	11,600	11,300	11,800	6,470	9,220	11,700	28,600	25,100	6,260	2,980
8	5,280	5,640	10,000	12,800	12,000	5,790	9,240	14,900	25,800	19,700	5,310	2,060
9	4,040	5,520	9,940	12,400	11,700	6,750	9,230	19,700	25,600	18,400	6,480	4,140
10	3,580	5,320	11,600	14,700	12,400	6,500	10,500	19,900	25,600	16,800	5,580	5,090
11	3,850	4,930	11,900	14,100	12,500	9,080	10,500	20,200	25,500	15,200	3,310	3,980
12	3,230	7,340	11,000	14,600	11,700	8,920	11,000	19,800	26,700	14,900	5,360	3,890
13	2,500	6,920	10,300	14,500	12,200	8,540	11,800	13,900	28,100	15,100	3,880	4,960
14	2,540	6,910	12,000	13,900	12,600	8,830	11,700	7,010	27,700	13,200	4,660	1,330
15	4,240	8,220	11,100	13,800	11,900	11,100	11,900	6,160	23,500	13,100	4,470	960
16	4,600	10,100	11,100	14,000	7,870	13,200	12,800	4,560	23,600	12,500	4,940	3,520
17	5,010	7,100	12,100	13,600	5,840	12,200	12,700	3,460	25,100	11,700	3,290	3,600
18	5,220	5,040	11,700	14,300	8,480	13,100	13,400	3,190	22,500	8,260	1,250	2,510
19	5,100	5,600	12,700	14,500	9,930	13,300	14,100	2,170	19,400	9,130	2,090	2,640
20	4,260	7,200	11,600	14,400	11,100	12,400	15,000	4,040	20,400	11,500	2,560	3,940
21	2,790	5,920	13,600	14,000	13,100	13,400	15,200	3,800	20,000	10,400	2,220	2,120
22	5,860	2,890	13,800	14,500	12,900	13,300	15,100	4,140	15,100	7,310	3,380	1,283
23	4,730	5,200	13,400	14,500	12,400	11,700	15,300	5,190	25,800	7,600	4,230	3,300
24	5,420	6,860	13,400	14,400	11,700	11,800	15,600	6,860	16,300	8,840	2,640	3,510
25	4,700	4,820	12,200	14,200	13,300	10,900	15,700	5,340	15,700	6,540	2,090	5,040
26	5,730	8,170	13,100	14,400	12,700	9,300	16,000	4,120	14,800	7,170	3,110	3,610
27	6,310	6,320	13,600	13,900	13,500	8,080	15,900	7,820	16,300	6,500	2,820	4,280
28	5,390	6,220	12,600	14,200	14,300	7,240	16,000	7,920	16,800	4,580	2,870	3,250
29	9,400	7,300	12,000	14,600	------	6,940	16,400	8,660	20,200	7,090	3,480	1,120
30	7,770	8,160	10,700	14,600	------	8,180	16,500	4,300	28,000	6,710	3,890	3,570
31	7,270	------	12,600	14,300	------	8,280	------	18,500	------	7,160	3,190	------
TOTAL	148,660	194,500	356,650	421,680	320,840	305,590	379,380	333,940	677,600	450,390	125,910	95,760
MEAN	4,795	6,483	11,500	13,600	11,460	9,858	12,650	10,770	22,590	14,530	4,062	3,192
MAX	9,400	10,100	13,800	14,700	14,300	13,400	16,500	20,200	31,500	36,200	6,490	5,090
MIN	1,620	2,890	8,500	8,880	5,840	5,790	9,140	2,170	12,600	4,580	1,250	960
AC-FT	294,900	385,800	707,400	836,400	636,400	606,100	752,500	662,400	1,344M	893,300	249,700	189,900
(†)	-1,000	-55,000	-384,000	-591,000	-276,000	-297,200	-99,300	+1,150M	+588,000	-13,000	-4,000	+1,000
MEAN‡	4,780	5,559	5,260	3,991	6,489	5,024	10,980	29,470	32,470	14,320	3,996	3,208
CFSM‡	.674	.783	.741	.562	.914	.708	1.55	4.15	4.58	2.02	.563	.452
IN ‡	.78	.87	.85	.65	.95	.82	1.73	4.79	5.10	2.33	.65	.50
AC-FT‡	293,900	330,800	323,400	245,400	360,400	308,900	653,200	1,812M	1,932M	880,300	245,700	190,900

OBSERVED

CAL YR 1962: TOTAL 4,172,080 MEAN 11,430 MAX 35,300 MIN 915 AC-FT 8,275,000
WAT YR 1963: TOTAL 3,810,900 MEAN 10,440 MAX 36,200 MIN 960 AC-FT 7,559,000

ADJUSTED ‡

CAL YR 1962: MEAN 11,990 CFSM 1.69 IN 22.94 AC-FT 8,681,000
WAT YR 1963: MEAN 10,470 CFSM 1.48 IN 20.02 AC-FT 7,577,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir (furnished by Bureau of Reclamation) and Flathead Lake (furnished by The Montana Power Co.).
‡ Adjusted for change in contents.
M Expressed in thousands.

12-3720. Flathead River near Polson, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3,280	6,550	2,640	6,100	11,000	14,500	8,610	10,000	33,300	28,300	8,210	3,910
2	3,130	4,870	4,250	8,090	10,900	14,400	8,630	9,820	34,300	28,100	6,120	4,400
3	4,070	3,230	8,170	10,000	11,700	13,900	7,840	6,580	36,700	35,500	8,110	7,970
4	4,610	8,310	9,210	11,100	10,700	13,900	7,390	12,100	42,200	40,900	8,480	13,600
5	2,240	7,200	7,030	12,700	13,100	14,200	7,240	12,100	44,500	33,900	8,640	10,600
6	838	6,760	3,940	11,800	13,400	14,400	7,870	12,500	43,500	39,300	7,930	5,590
7	3,790	6,440	1,900	9,170	14,400	14,000	6,680	13,300	44,000	30,800	8,800	4,620
8	3,650	6,630	2,470	10,400	14,500	13,800	6,820	12,300	49,700	26,600	5,720	4,880
9	4,290	4,050	7,560	11,000	12,300	13,800	6,670	10,800	53,400	25,400	3,800	6,360
10	4,730	2,820	9,400	12,600	12,100	14,000	6,940	7,860	58,800	31,000	7,670	7,870
11	5,870	6,840	12,100	12,100	11,400	14,300	6,510	12,900	62,700	26,000	7,350	6,330
12	4,330	7,370	12,100	11,000	13,500	14,300	7,100	13,000	64,300	19,400	7,040	5,090
13	2,550	6,220	11,600	12,300	14,300	16,200	7,520	11,900	64,100	20,800	6,840	4,630
14	3,360	4,820	11,900	12,700	14,500	16,700	7,460	12,400	63,100	16,400	7,410	5,560
15	4,970	5,990	11,000	12,900	14,200	16,400	6,920	12,400	62,400	17,600	6,730	4,440
16	5,650	4,700	10,500	8,500	13,000	15,800	7,210	11,400	61,300	17,500	3,890	5,940
17	5,800	3,780	8,000	12,200	12,700	15,100	9,110	7,320	60,200	24,200	7,180	6,250
18	7,490	5,420	9,130	9,380	13,900	14,600	8,010	11,000	58,900	15,900	6,040	7,060
19	8,800	4,440	10,400	9,220	12,400	14,100	5,980	9,020	58,000	16,100	5,160	6,160
20	9,300	4,050	12,200	12,600	13,300	13,700	6,990	8,990	57,000	13,800	3,710	4,480
21	9,680	4,090	11,600	11,400	14,300	12,600	8,150	16,200	55,900	12,200	3,410	7,430
22	8,900	3,670	10,400	11,100	14,400	12,100	8,720	29,700	47,900	12,600	2,060	4,720
23	9,850	2,360	8,730	8,780	11,600	12,700	8,760	35,500	27,300	10,700	1,140	6,190
24	8,650	1,330	5,850	9,140	12,600	9,340	9,430	34,300	36,800	11,100	4,470	6,170
25	5,480	2,530	1,120	10,800	12,900	11,400	8,690	26,400	53,300	10,900	3,390	4,630
26	6,640	2,390	7,860	10,900	13,900	9,510	6,430	16,800	51,900	10,600	4,090	4,070
27	5,170	2,210	12,300	10,500	13,000	8,080	8,190	14,000	49,700	10,900	3,820	3,460
28	7,390	1,600	10,300	7,780	10,000	9,820	6,110	12,600	39,900	10,900	3,550	5,080
29	5,950	2,440	9,710	9,820	11,600	9,390	6,310	17,100	42,900	9,790	3,440	3,520
30	7,610	3,090	10,900	10,500	------	9,100	5,390	21,700	35,700	9,470	1,870	6,190
31	7,250	------	7,940	10,800	------	9,060	------	31,500	------	8,160	3,790	------
TOTAL	175,318	136,200	262,210	327,380	371,600	405,400	223,680	473,490	1,493.7M	624,820	169,860	177,200
MEAN	5,655	4,540	8,458	10,560	12,810	13,080	7,456	15,270	49,790	20,160	5,479	5,907
MAX	9,850	8,310	12,300	12,900	14,500	16,900	9,430	35,500	64,300	40,900	8,800	13,600
MIN	838	1,330	1,120	6,100	10,000	8,080	5,390	6,580	27,300	8,160	1,140	3,460
AC-FT	347,700	270,100	520,100	649,300	737,100	804,100	443,700	939,200	2,963M	1,239M	336,900	351,500
(†)	-206,000	-124,000	-366,000	-486,000	-583,000	-636,100	-48,200	+1,329M	+1,108M	+3,000	+17,000	-7,000
MEAN‡	2,305	2,455	2,506	2,656	2,679	2,732	6,647	36,894	68,420	20,200	5,756	5,790
CFSM‡	.325	.346	.353	.374	.378	.385	.937	5.20	9.64	2.85	.811	.816
IN ‡	.37	.39	.41	.43	.41	.44	1.05	5.99	10.76	3.28	.94	.91
AC-FT‡	141,700	146,100	154,100	163,300	154,100	168,000	395,500	2,268M	4,071M	1,242M	353,900	344,500

OBSERVED

CAL YR 1963: TOTAL 3,684,818 MEAN 10,100 MAX 36,200 MIN 838 AC-FT 7,309,000
WAT YR 1964: TOTAL 4,840,858 MEAN 13,230 MAX 64,300 MIN 838 AC-FT 9,602,000

ADJUSTED ‡

CAL YR 1963: MEAN 9,766 CFSM 1.37 IN 18.69 AC-FT 7,071,000
WAT YR 1964: MEAN 13,230 CFSM 1.86 IN 25.38 AC-FT 9,603,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir (furnished by Bureau of Reclamation) and Flathead Lake (furnished by The Montana Power Co.).
‡ Adjusted for change in contents.
M Expressed in thousands.

12-3720. Flathead River near Polson, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,370	6,700	8,810	6,890	14,300	20,300	16,800	26,100	40,200	19,600	6,000	7,900
2	4,370	8,210	9,360	8,140	12,700	19,800	16,400	27,900	40,000	16,300	7,790	7,370
3	3,580	8,190	9,870	8,550	13,900	20,000	16,100	29,100	39,100	19,500	9,510	6,520
4	2,080	7,700	9,280	11,400	12,700	19,600	15,700	29,600	33,900	21,900	9,790	5,620
5	4,150	7,700	8,710	11,600	12,200	19,800	15,200	29,800	33,000	26,000	9,230	3,210
6	3,500	8,640	6,260	11,800	16,800	19,800	15,000	29,600	31,600	19,800	9,380	2,470
7	3,580	8,400	10,000	11,900	16,600	19,800	14,300	29,100	31,300	18,500	8,140	5,860
8	4,130	8,260	10,100	12,700	16,000	21,300	14,100	28,500	32,900	21,000	5,340	5,470
9	6,420	10,400	10,000	12,000	15,700	22,000	14,100	27,900	29,800	21,300	8,980	6,950
10	6,580	9,160	10,900	9,030	16,300	22,000	14,100	27,100	28,300	26,700	8,960	7,370
11	7,120	9,330	10,900	11,800	16,200	22,300	13,100	26,600	36,400	21,900	7,480	6,160
12	7,080	9,330	10,400	11,900	16,100	22,500	12,900	26,400	36,700	21,200	9,560	4,250
13	6,790	9,310	8,980	12,100	16,000	22,400	12,600	26,800	39,800	22,500	8,140	6,850
14	7,250	9,610	9,770	11,800	16,000	22,500	12,300	27,800	37,900	22,900	7,330	6,540
15	7,630	9,380	11,700	11,400	15,900	22,300	12,200	28,700	30,800	15,700	5,430	7,650
16	8,980	11,400	12,300	9,160	16,000	23,400	12,000	29,200	26,900	18,200	6,720	7,040
17	6,380	11,400	13,100	8,830	16,100	22,700	11,800	30,500	22,900	24,100	5,860	6,080
18	5,620	11,600	13,900	11,700	16,000	22,500	12,200	29,400	34,600	11,400	5,900	6,620
19	7,250	12,200	13,600	11,800	15,700	22,600	12,600	22,200	48,500	11,200	6,640	4,710
20	8,500	11,400	13,400	12,200	16,300	22,600	13,000	15,400	50,200	12,300	6,220	7,900
21	7,560	11,200	13,200	12,400	16,100	22,400	13,600	20,600	49,600	13,000	4,300	8,960
22	7,100	7,830	12,700	12,500	19,700	23,200	14,700	19,900	39,500	12,100	3,050	8,830
23	6,810	11,400	10,900	13,700	22,400	22,900	16,200	14,500	27,800	13,200	6,660	9,080
24	6,930	11,400	10,200	12,400	22,300	22,600	17,100	14,400	31,000	14,700	11,000	9,610
25	5,720	11,100	5,840	12,900	22,100	22,100	18,200	18,100	25,500	11,000	10,800	9,460
26	8,670	3,550	7,790	13,700	21,500	21,500	19,100	26,500	15,100	12,200	9,980	9,480
27	7,140	7,900	7,180	14,000	20,900	20,600	20,000	29,400	18,500	13,000	9,410	9,510
28	9,110	6,500	11,000	11,300	21,000	19,400	21,200	29,600	29,600	9,820	8,110	8,910
29	7,350	5,640	11,700	10,900	------	18,800	22,700	34,600	30,700	8,930	6,120	9,480
30	9,640	8,790	11,800	14,900	------	18,100	24,400	39,800	19,500	8,930	8,190	8,590
31	9,770	------	12,300	15,100	------	17,400	------	40,900	------	9,660	7,740	------
TOTAL	201,160	273,630	325,950	360,500	473,500	659,200	463,700	836,000	991,600	518,540	237,760	214,450
MEAN	6,489	9,121	10,510	11,630	16,910	21,260	15,460	26,970	33,050	16,730	7,670	7,148
MAX	9,770	12,200	13,900	15,100	22,400	23,400	24,400	40,900	50,200	26,700	11,000	9,610
MIN	2,080	3,550	5,840	6,890	12,200	17,400	11,800	14,400	15,100	8,930	3,050	2,470
AC-FT	399,000	542,700	646,500	715,000	939,200	1,308M	919,700	1,658M	1,967M	1,029M	471,600	425,400
(†)	-58,000	-257,000	-292,000	-422,000	-682,000	-987,900	+170,900	+1,006M	+1,362M	+161,000	+1,000	-14,000
MEAN‡	5,546	4,801	5,765	4,765	4,631	5,206	18,330	43,330	55,950	19,350	7,686	6,914
CFSM	.782	.677	.812	.672	.653	.734	2.58	6.11	7.88	2.73	1.08	.974
IN ‡	.90	.75	.94	.77	.68	.85	2.88	7.04	8.80	3.14	1.25	1.09
AC-FT‡	341,000	285,700	354,500	293,000	257,200	320,100	1,091M	2,664M	3,329M	1,190M	472,600	411,400

OBSERVED

CAL YR 1964: TOTAL 5,067,870 MEAN 13,850 MAX 64,300 MIN 1,140 AC-FT 10,050,000
WAT YR 1965: TOTAL 5,555,990 MEAN 15,220 MAX 50,200 MIN 2,080 AC-FT 11,020,000

ADJUSTED ‡

CAL YR 1964: MEAN 13,970 CFSM 1.97 IN 26.80 AC-FT 10,140,000
WAT YR 1965: MEAN 15,210 CFSM 2.14 IN 29.09 AC-FT 11,010,000

† Change in contents, in acre-feet, in Hungry Horse Reservoir (furnished by Bureau of Reclamation) and Flathead Lake (furnished by The Montana Power Co.).
‡ Adjusted for change in contents.
M Expressed in thousands.

12-3725. Little Bitterroot Lake near Marion, Mont.

Location.--Lat 48°05'30", long 114°41'50", in NW¼ sec.21, T.27 N., R.24 W., at dam on Little Bitterroot River, 2 miles southwest of Marion and at mile 70.3.

Drainage area.--31.8 sq mi.

Records available.--December 1939, April 1940, September 1940 to September 1965. May to July 1948 scattered daily contents, published in WSP 1080.

Gage.--Staff gage read last day of month. Datum of gage is at mean sea level (levels by Bureau of Indian Affairs).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	May 31, 1961	24,000	3,905.88	(a)	15,300	3,903.48
1962	May 31, 1962	24,000	3,905.88	Sept.30, 1962	17,100	3,903.98
1963	May 31, 1963	19,600	3,904.68	Sept.30, 1963	12,600	3,902.68
1964	May 31, 1964	14,300	3,903.18	Sept.30, 1964	10,000	3,901.88
1965	June 30, 1965	17,700	3,904.18	Nov. 30, 1964	9,400	3,901.68

a Nov. 30, Dec. 31, 1960, Jan. 31, 1961.

1939-65: Maximum contents observed, 26,880 acre-ft May 31, 1959 (elevation, 3,906.60 ft); no storage at times in 1939-46.

Remarks.--This reservoir, 1 of 4 comprising the Camas Reservoirs group, is formed by earthfill dam; storage began in 1918. Usable capacity, 26,400 acre-ft (24,000 acre-ft prior to 1960) at elevation 3,906.48 ft. No dead storage. Water is used for irrigation and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Indian Affairs.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1961	15,600	15,300	15,300	15,300	16,700	16,700	18,800	24,000	23,700	21,000	18,800	17,400
1962	17,400	17,400	18,400	18,400	18,400	20,000	22,100	24,000	22,900	21,000	17,400	17,100
1963	16,400	17,100	17,400	18,350	19,200	19,200	19,200	19,600	16,700	14,000	12,900	12,600
1964	11,600	11,600	11,600	12,300	12,900	13,100	13,600	14,300	12,900	11,300	10,400	10,000
1965	10,400	9,400	9,700	10,700	11,300	11,600	14,600	16,700	17,700	17,400	17,100	16,700

12-3735. Hubbart Reservoir near Niarada, Mont.

Location.--Lat 47°55'40", long 114°43'50", in NE¼ sec.18, T.25 N., R.24 W., at dam on Little Bitterroot River, 9 miles northwest of Niarada and at mile 55.8.

Drainage area.--114 sq mi.

Records available.--December 1939, April 1940, September 1940 to September 1965. May to July 1948 scattered daily contents, published in WSP 1080.

Gage.--Elevations determined by measuring from crest of dam on last day of month. Datum of gage is at mean sea level (levels by Bureau of Indian Affairs).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	May 31, 1961	11,900	3,218.5	Sept.30, 1961	3,700	3,194.55
1962	May 31, 1962	10,750	3,215.9	Oct. 31, 1961	4,480	3,197.8
1963	May 31, 1963	9,370	3,212.4	Sept.30, 1963	3,030	3,191.4
1964	June 30, 1964	9,070	3,211.6	Sept.30, 1964	3,130	3,191.9
1965	June 30, 1965	12,220	3,219.2	Oct. 31, 1964	3,620	3,194.2

1939-65: Maximum contents observed, 13,050 acre-ft May 31, 1959; no storage September to December 1958.

Remarks.--This reservoir, 1 of 4 comprising the Camas Reservoirs group, is formed by concrete variable-radius dam; storage began in 1924. Usable capacity, 12,120 acre-ft at elevation 3,219.0 ft. No dead storage. Water is used for irrigation and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Indian Affairs.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1961	4,030	4,280	4,520	5,100	5,770	6,700	7,640	11,900	10,750	7,610	4,200	3,700
1962	4,480	4,670	4,980	5,100	5,400	6,240	7,500	10,750	10,580	8,430	5,250	4,670
1963	5,070	5,400	5,810	6,230	6,360	6,800	8,810	9,370	8,730	8,620	4,640	3,030
1964	3,160	3,360	3,560	3,690	3,940	4,230	5,370	6,980	9,070	7,080	3,730	3,130
1965	3,620	3,870	3,920	4,200	4,870	5,490	9,830	12,120	12,220	10,880	6,530	6,430

12-3750. Upper Dry Fork Reservoir near Lonepine, Mont.

Location.--Lat 47°45', long 114°41', in sec.16, T.23 N., R.24 W., at dam on Dry Fork Creek, 4 miles northwest of Lonepine.

Drainage area.--8.53 sq mi.

Records available.--April 1940, September 1940 to September 1965. May to July 1948 scattered daily contents, published in WSP 1080.

Gage.--Elevations determined by measuring from reference points on last day of month. Datum of gage is at mean sea level (levels by Bureau of Indian Affairs).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	May 31, 1961	2,750	2,928.3	Sept.30, 1961	875	2,919.5
1962	May 31, 1962	2,720	2,928.2	Sept.30, 1962	680	2,917.9
1963	June 30, 1963	1,900	2,925.1	Oct. 31, 1962	512	2,916.2
1964	June 30, 1964	2,090	2,925.9	Nov. 30, 1963	477	2,915.8
1965	Apr. 30, 1965	2,910	2,928.8	Oct. 31, 1964	1,720	2,924.3

1940-65: Maximum contents observed, 2,910 acre-ft Apr. 30, 1965 (elevation, 2,928.8 ft); no storage at times in 1940, 1942-43.

Remarks.--This reservoir, 1 of 4 comprising the Camas Reservoirs group, is formed by earthfill dam; storage began in 1940. Usable capacity, 2,810 acre-ft (2,700 acre-ft prior to 1960) at elevation 2,928.5 ft. No dead storage. Natural flow of Alder Creek in Thompson River basin is diverted in SW¼ sec.16, T.23 N., R.25 W., and carried by interbasin canal to upper Dry Fork Creek for storage in this reservoir. Water is used for irrigation and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Indian Affairs.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1961	1,090	1,260	1,430	1,240	1,350	1,440	1,590	2,750	2,400	1,490	940	875
1962	824	840	917	943	1,090	1,180	1,630	2,720	2,570	1,390	1,190	680
1963	512	628	638	649	739	864	1,260	1,550	1,900	1,160	739	739
1964	606	477	485	530	530	567	681	973	2,090	2,070	1,850	1,810
1965	1,720	1,780	1,880	2,000	2,070	2,380	2,910	2,490	2,840	2,270	1,810	1,740

12-3755. Dry Fork Reservoir near Lonepine, Mont.

Location.--Lat 47°42', long 114°40", in NW¼ sec.3, T.22 N., R.24 W., at dam on Dry Fork Creek, 1 mile west of Lonepine.

Drainage area.--17.8 sq mi.

Records available.--December 1939, April 1940, September 1940 to September 1965. Records published in WSP 1316 were listed in error and should not be used; published correctly in WSP 1736. May to July 1948 scattered daily contents, published in WSP 1080.

Gage.--Staff gage read at end of month. Datum of gage is at mean sea level (levels by Bureau of Indian Affairs).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	May 31, 1961	3,930	2,856.5	Oct. 31, 1960	582	2,841.5
1962	May 31, 1962	3,750	2,856.0	Aug. 31, 1962	732	2,842.8
1963	Apr. 30, 1963	3,930	2,856.5	Oct. 31, 1962	752	2,843.0
1964	June 30, 1964	3,500	2,855.3	Oct. 31, 1963	1,050	2,845.4
1965	June 30, 1965	3,890	2,856.4	Nov. 30, 1964	1,450	2,847.5

1939-65: Maximum contents observed, 4,080 acre-ft Apr. 30, 1942; no storage Aug. 31, 1944, Aug. 31, Sept. 30, 1946, Oct. 31, 1951.

Remarks.--This reservoir, 1 of 4 comprising the Camas Reservoirs group, is formed by earthfill dam; storage began in 1921. Usable capacity, 3,860 acre-ft (4,000 acre-ft prior to 1960) at elevation 2,856.3 ft. No dead storage. Water is used for irrigation and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Indian Affairs.

Contents, in acre-feet, on last day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1961	582	815	815	841	1,650	2,400	3,610	3,930	2,940	1,360	636	880
1962	936	1,000	1,100	1,260	1,650	1,760	2,940	3,750	3,290	2,180	732	835
1963	752	1,030	964	1,360	1,850	2,770	3,930	2,940	3,090	2,510	1,020	1,070
1964	1,050	1,210	1,290	1,360	1,360	1,550	2,650	2,840	3,500	2,650	1,620	1,450
1965	1,470	1,450	1,490	1,880	2,020	2,570	2,350	3,640	3,890	2,940	1,720	1,840

Mission Valley Reservoirs, Mont.

A group of eight reservoirs in an area east of and tributary to Flathead River and between Flathead Lake and Jocko River is operated for irrigation. Gages are nonrecording, set to approximate sea level datum, and are read at end of month. Records furnished by Bureau of Indian Affairs. Figures given herein represent usable contents.

12-3710 (revised). Twin Reservoir.--Lat 47°40', long 114°05', in sec.18, T.22 N., R.19 W., at outlet works 4 miles southeast of Polson, fed entirely by various canals; storage began in 1932. Usable capacity, 899 acre-ft at elevation 3,090.5 ft. No dead storage below elevation 3,061 ft.
Extremes.--1940-65: Maximum month-end contents observed, 899 acre-ft June 30, 1956, June 30, 1964; no storage at times in July 1941, August, September 1944, October 1957.

12-3767. Lower Crow Reservoir.--Lat 47°30'00", long 114°14'10", in S½ sec.11, T.20 N., R.21 W., at outlet works on Crow Creek, 6 miles west of Ronan and at mile 3.44; storage began in 1933. Usable capacity, 10,350 acre-ft at elevation 2,877 ft. No dead storage below elevation 2,800 ft.
Extremes.--1940-65: Maximum contents observed, 10,770 acre-ft May 21, 22, 1948; no storage Sept. 30, 1963.

12-3772. Mission Reservoir.--Lat 47°18'50", long 114°01'20", in S½ sec.16, T.18 N., R.19 W., at outlet works on Mission Creek, 4 miles east of St. Ignatius, and at mile 16.7; storage began in 1935. Usable capacity, 7,250 acre-ft at elevation 3,406 ft. No dead storage below elevation 3,340.7 ft.
Extremes.--1940-65: Maximum contents observed, 7,720 acre-ft May 29, June 11, 1948; no storage at times in September 1949, February, March 1964.

12-3773. Tabor Reservoir.--Lat 47°15'50", long 113°56'10", in N½ sec.6, T.17 N., R.18 W., at outlet works on Dry Creek, 8 miles southeast of St. Ignatius, fed by water diverted from Jocko River; storage began in 1919. Usable capacity, 23,300 acre-ft at elevation 4,025 ft. No dead storage below elevation 3,911.5 ft, not including contents of old lake.
Extremes.--1940-65: Maximum contents observed, 23,310 acre-ft July 8, 1948; minimum month-end contents, 137 acre-ft Dec. 31, 1952, to Feb. 28, 1953.

12-3779 (revised). Pablo Reservoir.--Lat 47°38', long 114°08', in sec.27, T.22 N., R.20, W., at outlet works 3 miles south of Polson, fed entirely by various canals, some water supplied by Flathead pumping plant; storage began in 1914. Usable capacity, 27,100 acre-ft at elevation 3,210.3 ft. No dead storage below elevation 3,179 ft, gate sill.
Extremes.--1940-65: Maximum month-end contents observed, 27,440 acre-ft June 30, 1959; no storage at times in 1956, 1961-63.

12-3782. McDonald Reservoir.--Lat 47°26'00", long 113°59'30", in NE¼ sec.10, T.19 N., R.19 W., at outlet works on Post Creek, 9 miles east of Charlo and at mile 12.4; storage began in 1919. Usable capacity, 8,220 acre-ft at elevation 3,598 ft. No dead storage below 3,545 ft, not including contents of old lake.
Extremes.--1940-65: Maximum month-end contents observed, 8,220 acre-ft June 30, 1959; no storage Aug. 31, 1961.

12-3797. Kicking Horse Reservoir.--Lat 47°27'10", long 114°04'40", in sec.31, T.20 N., R.19 W., at outlet works 5 miles south of Ronan, fed entirely by various canals; storage began in 1930. Usable capacity, 8,350 acre-ft at elevation 3,061.94 ft. Dead storage, 70 acre-ft below elevation 3,042 ft.
Extremes.--1940-65: Maximum month-end contents observed, 9,540 acre-ft June 30, 1965; no storage Aug. 31, 1961.

12-3800. Ninepipe Reservoir.--Lat 47°28', long 114°08', in sec.27, T.20 N., R.20 W., at outlet works 2 miles northeast of Charlo, fed entirely by various canals; storage began in 1911. Usable capacity, 14,870 acre-ft at elevation 3,010 ft. No dead storage below elevation 2,895.4 ft.
Extremes.--1940-65: Maximum month-end contents observed, 16,610 acre-ft June 30, 1959; no storage Aug. 31, 1961.

Month-end contents, in acre-feet, water years 1961-65

Date	1961	1962	1963	1964	1965
	Mission Valley Reservoirs				
Oct. 31	19,350	12,690	15,170	8,700	26,770
Nov. 30	23,530	19,120	20,530	12,820	30,890
Dec. 31	26,620	20,820	25,070	15,840	35,240
Jan. 31	28,120	21,600	-	18,940	36,530
Feb. 28 or 29	29,960	24,160	30,100	19,650	39,310
Mar. 31	33,930	26,880	32,780	22,640	40,740
Apr. 30	37,080	41,200	38,190	26,460	50,960
May 31	79,750	62,080	37,530	43,590	58,310
June 30	98,730	85,160	73,590	97,230	97,030
July 31	42,520	48,280	61,990	86,310	86,550
Aug. 31	4,550	15,580	17,530	39,540	48,320
Sept.30	6,810	6,000	5,250	28,260	48,930

12-3805. Lower Jocko Lake near Arlee, Mont.

Location.--Lat 47°12'20", long 113°45'40", in NE¼ sec.28, T.17 N., R.17 W., at dam on Middle Fork Jocko River, 15 miles east of Arlee and at mile 39.2.

Drainage area.--7.39 sq mi.

Records available.--December 1939, April 1940, September 1940 to September 1965 (no winter records since 1947). Records for November 1957, published only in WSP 1736. May to July 1948 scattered daily contents, published in WSP 1080.

Gage.--Staff gage read at end of month. Datum of gage is at mean sea level (levels by Bureau of Indian Affairs).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	May 31, 1961	6,260	-	Long periods	0	-
1962	May 31, 1962	5,840	-	do.	0	-
1963	May 31, 1963	6,050	-	Several days	0	-
1964	June 30, 1964	6,030	-	Long periods	0	-
1965	June 30, 1965	6,170	-	do.	0	-

1939-65: Maximum contents observed, 6,700 acre-ft June 8, 1948; no storage at times.

Remarks.--Reservoir is formed by earthfill dam; storage began in 1937. Usable capacity, 6,380 acre-ft at elevation 4,340 ft (7,600 acre-ft at elevation 4,350 ft prior to 1960). No dead storage below elevation 4,267 ft; capacity of natural lake unknown. Water is used for irrigation and recreation. Transmountain diversion takes water from Placid Creek in Clearwater River basin in SW¼ sec.29, T.17 N., R.16 W., to Upper Jocko Lake, thence to Lower Jocko Lake. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Indian Affairs.

MONTH-END CONTENTS, IN ACRE-FEET, WATER YEARS 1961-65

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1961	0	0	-	-	-	-	709	6,260	5,320	1,170	0	0
1962	0	0	-	-	-	-	-	5,840	5,830	2,700	0	0
1963	0	0	0	-	-	-	-	6,050	4,900	1,900	0	0
1964	0	0	0	0	0	0	0	5,380	6,030	3,570	0	0
1965	0	0	0	0	0	0	1,780	6,030	6,170	3,910	0	439

12-3890. Clark Fork near Plains, Mont.

Location.--Lat 47°25'50", long 114°51'20", in SW¼ sec.1, T.19 N., R.26 W., on right bank 2 miles southeast of Plains, 6 miles downstream from Flathead River, and at mile 239.0.

Drainage area.--19,958 sq mi.

Records available.--October 1910 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 2,449.34 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Nov. 28, 1911, wire-weight gage at site 50 ft upstream at same datum.

Average discharge.--55 years, 19,730 cfs (14,280,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 5, 1961	93,600	14.81	Aug. 30, 1961	3,940	2.84
1962	May 30, 1962	67,600	12.42	Aug. 26, 1962	4,350	3.00
1963	June 7, 1963	58,500	11.50	Aug. 20, 1963	4,640	3.09
1964	June 11, 1964	128,000	17.48	Dec. 26, 1963	4,450	3.03
1965	June 20, 1965	91,000	14.57	Oct. 5, 1964	5,840	3.52

1910-65: Maximum discharge, 134,000 cfs June 5, 1948 (gage height, 19.17 ft); minimum, 3,200 cfs Feb. 8, 1936, Dec. 10, 1940; minimum gage height, 2.70 ft (from partly estimated gage-height record) Sept. 2, 1958.

Remarks.--Records excellent. Flow partly regulated by Hungry Horse Reservoir (see station 12-3620) and by Flathead Lake (see station 12-3715). Diversions for irrigation of about 335,000 acres above station.

Revisions.--WSP 1246: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,800	7,510	8,220	11,400	9,650	17,000	19,400	30,100	91,100	21,300	8,890	4,130
2	6,400	7,760	8,810	10,300	6,560	16,800	19,500	28,800	90,300	20,700	8,140	4,250
3	5,240	9,350	9,690	10,900	7,880	16,600	19,700	27,100	91,000	20,300	8,300	4,550
4	6,840	9,270	9,440	12,200	8,680	15,700	21,400	27,400	93,200	19,700	9,060	4,880
5	6,840	8,890	9,730	11,800	7,510	14,200	23,100	27,600	93,300	17,300	9,310	4,950
6	7,090	8,470	10,200	11,400	6,560	13,700	22,800	30,400	92,300	19,200	8,600	5,060
7	8,390	8,050	10,000	9,270	9,860	16,100	22,400	37,400	90,000	20,800	6,880	5,060
8	8,510	9,060	9,600	7,590	11,300	16,000	21,700	37,700	89,500	22,600	7,840	5,340
9	7,930	9,480	9,200	7,720	11,900	15,100	21,300	32,600	87,100	23,400	8,220	5,680
10	7,550	9,020	9,400	10,800	13,100	15,400	20,600	31,200	79,400	17,800	7,420	7,250
11	8,640	9,190	9,300	9,270	13,400	16,200	20,200	32,500	64,700	15,600	6,680	7,630
12	9,440	8,430	9,400	10,200	13,600	15,500	18,900	40,700	58,600	15,000	7,000	8,350
13	9,100	7,590	9,600	11,700	14,800	15,000	18,800	43,700	54,400	16,000	7,210	6,760
14	9,310	6,640	9,270	11,300	15,700	16,800	20,500	41,600	60,800	16,200	6,240	5,880
15	9,190	8,560	9,650	9,350	15,000	16,900	20,600	40,300	59,000	15,500	6,680	4,680
16	8,350	9,690	10,500	7,300	14,200	16,900	20,500	40,700	56,700	14,300	7,550	4,440
17	8,510	9,270	11,900	11,200	14,500	17,800	20,300	43,200	57,400	13,200	7,340	4,750
18	9,190	8,510	11,800	10,200	13,700	18,100	19,900	46,400	66,800	13,800	6,920	4,250
19	9,400	9,560	12,900	10,500	11,400	18,200	20,200	47,400	68,400	13,000	7,760	4,710
20	9,400	8,980	13,600	10,600	9,440	16,400	20,500	48,500	66,800	13,200	6,880	5,420
21	9,400	8,070	13,600	10,600	12,000	17,800	26,900	50,700	62,500	12,700	6,280	5,840
22	9,400	8,470	13,700	9,060	14,600	18,000	30,600	54,900	54,400	13,300	7,090	6,960
23	9,310	9,100	11,400	7,720	17,600	18,000	30,800	59,200	50,800	11,900	7,760	10,200
24	9,440	8,770	9,230	11,200	16,800	18,200	28,600	63,700	49,300	10,800	7,210	15,400
25	8,150	7,720	7,550	11,500	16,300	18,700	28,300	69,400	40,300	13,100	4,920	15,500
26	5,880	6,200	7,460	13,500	14,600	19,200	28,700	75,600	36,500	13,000	4,320	16,400
27	6,240	9,650	7,760	11,900	13,600	18,900	29,000	81,800	35,500	11,900	4,160	16,300
28	8,810	10,700	10,700	10,900	16,800	19,100	30,600	85,000	33,000	12,200	4,100	16,800
29	7,720	10,200	11,700	7,420	------	19,200	31,800	86,100	29,100	10,600	4,130	14,400
30	7,800	9,730	11,900	7,130	------	19,100	29,600	86,400	26,600	8,510	4,020	13,500
31	7,210	------	12,000	11,100	------	19,200	------	89,100	------	8,300	4,000	------
TOTAL	252,480	261,890	319,210	317,030	351,040	529,800	707,200	1,537.2M	1,928.8M	475,210	210,910	239,360
MEAN	8,145	8,730	10,300	10,230	12,540	17,090	23,570	49,590	64,290	15,330	6,804	7,979
MAX	9,440	10,700	13,700	13,500	17,600	19,200	31,800	89,100	93,300	23,400	9,310	16,800
MIN	5,240	6,200	7,460	7,130	6,560	13,700	18,800	27,100	26,600	8,300	4,000	4,130
AC-FT	500,800	519,500	633,100	628,800	696,300	1,051M	1,403M	3,049M	3,826M	942,600	418,300	474,800

CAL YR 1960: TOTAL 7,352,700 MEAN 20,090 MAX 73,500 MIN 5,240 AC-FT 14,580,000
WAT YR 1961: TOTAL 7,130,130 MEAN 19,530 MAX 93,300 MIN 4,000 AC-FT 14,140,000

M Expressed in thousands.

12-3890. Clark Fork near Plains, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13,400	7,870	8,200	10,800	24,800	11,200	9,690	40,200	64,500	35,200	13,200	6,750
2	13,400	9,650	7,950	9,340	24,200	9,200	8,580	39,100	64,200	31,500	12,800	5,890
3	14,400	10,400	8,410	14,600	24,100	10,000	10,100	38,600	64,600	34,600	13,500	4,960
4	13,800	10,400	7,150	16,200	24,900	11,500	11,900	38,700	64,700	32,400	14,000	6,260
5	14,100	9,120	8,870	15,200	24,900	11,800	12,300	38,900	63,800	30,700	11,200	6,410
6	12,200	7,950	7,830	14,900	24,800	14,200	14,400	39,500	60,000	30,200	8,960	5,600
7	11,400	7,950	8,540	14,400	25,200	13,000	16,800	39,900	56,700	27,700	11,000	5,260
8	13,800	7,710	13,800	15,400	25,900	12,200	18,500	40,400	54,200	25,600	10,800	6,750
9	13,100	8,620	16,100	16,600	25,500	11,900	18,100	42,900	45,700	24,100	9,690	7,350
10	14,800	8,620	16,500	16,800	25,100	11,600	17,400	46,100	37,600	23,800	10,000	6,410
11	17,500	9,250	16,200	16,800	24,500	10,600	16,400	48,100	38,200	21,700	9,650	6,410
12	17,600	9,340	15,700	15,500	24,400	9,600	16,400	48,400	40,100	20,200	8,580	5,710
13	15,600	8,370	15,000	15,800	24,200	11,200	16,600	48,300	46,500	20,000	8,240	5,740
14	9,910	9,120	15,500	16,500	24,000	9,170	17,300	48,400	49,100	20,000	10,200	5,990
15	7,070	11,000	16,200	16,800	23,500	9,340	18,900	48,100	46,500	19,300	9,950	6,110
16	7,430	11,300	16,400	17,000	22,800	9,470	20,700	47,000	45,700	18,700	8,750	5,470
17	8,240	11,300	16,700	17,000	22,300	9,000	23,400	46,800	45,500	18,400	9,290	5,090
18	10,200	11,700	15,600	16,800	21,800	7,310	24,500	47,400	45,500	17,400	9,430	6,370
19	9,430	10,700	17,000	16,700	21,700	6,410	26,700	48,600	44,900	16,600	7,110	8,540
20	6,990	9,430	17,200	16,600	21,000	8,410	30,300	50,800	44,000	16,800	5,950	8,960
21	9,690	9,340	17,400	16,400	20,500	8,580	34,600	52,500	42,300	16,700	5,740	8,830
22	10,200	8,160	15,700	16,000	19,400	8,490	37,100	54,300	40,700	15,000	6,600	9,340
23	8,280	9,870	12,200	16,300	19,000	8,960	36,000	56,200	39,000	12,400	6,030	6,520
24	7,630	6,990	9,380	16,700	17,900	9,250	37,000	57,900	37,000	14,700	5,500	5,260
25	7,150	7,030	10,500	17,000	17,600	9,000	40,100	60,600	35,400	14,800	4,960	7,870
26	6,180	9,340	12,800	17,500	15,000	7,990	43,300	66,000	35,200	15,200	4,670	8,750
27	7,150	8,450	15,800	17,700	14,300	9,340	44,200	66,800	33,600	14,800	4,540	7,830
28	10,100	8,450	16,600	18,100	11,500	11,200	43,500	66,200	32,400	13,000	4,800	8,330
29	10,100	8,070	16,000	18,500	------	11,400	42,700	66,700	37,300	11,000	5,600	7,990
30	8,540	8,960	14,200	20,200	------	11,200	41,500	67,000	40,300	11,300	6,490	6,370
31	7,590	------	12,600	22,700	------	11,100	------	65,600	------	13,100	7,150	------
TOTAL	336,980	274,460	418,430	506,840	614,800	313,620	748,970	1,566.0M	1,395.2M	637,300	264,420	202,720
MEAN	10,870	9,149	13,500	16,350	21,960	10,120	24,970	50,520	46,510	20,560	8,530	6,757
MAX	17,600	11,700	17,400	22,700	25,900	14,200	44,200	67,000	64,700	35,200	14,000	9,340
MIN	6,180	6,990	7,150	9,340	11,500	6,410	8,580	38,600	32,400	11,000	4,540	4,960
AC-FT	668,400	544,400	829,900	1,005M	1,219M	622,100	1,486M	3,106M	2,767M	1,264M	524,500	402,100

CAL YR 1961: TOTAL 7,326,420 MEAN 20,070 MAX 93,300 MIN 4,000 AC-FT 14,530,000
WAT YR 1962: TOTAL 7,279,740 MEAN 19,940 MAX 67,000 MIN 4,540 AC-FT 14,440,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,710	11,400	13,800	17,400	16,000	20,900	16,400	26,500	48,900	47,300	11,000	6,180
2	8,200	10,700	14,300	13,900	16,000	18,700	18,800	28,300	55,200	48,100	10,500	6,220
3	8,240	10,900	14,000	16,500	16,000	16,000	17,600	30,000	53,400	40,200	9,780	5,600
4	8,120	10,600	15,700	18,000	16,400	14,200	16,800	30,500	46,900	39,000	9,000	6,330
5	8,410	9,820	15,400	18,400	20,300	15,600	16,600	30,300	43,300	37,500	6,410	7,190
6	8,200	13,400	15,500	18,100	25,900	15,400	17,000	29,700	42,600	34,600	9,170	8,030
7	8,410	10,200	15,000	15,400	29,500	15,200	17,300	26,800	55,800	37,100	9,170	7,630
8	5,990	10,600	16,900	16,000	28,100	11,700	17,600	25,800	52,600	34,800	9,340	6,640
9	8,240	9,950	15,400	17,000	24,000	10,800	17,600	33,100	46,600	29,200	8,490	6,030
10	8,120	10,000	15,000	17,600	22,200	11,500	18,000	35,600	50,600	27,900	9,650	6,680
11	7,790	9,690	16,800	17,600	21,200	11,600	18,400	35,300	45,300	25,400	8,750	8,330
12	8,910	9,340	16,700	15,200	20,200	14,000	18,400	34,800	46,700	23,900	6,870	7,230
13	9,120	11,600	16,000	14,300	18,800	13,800	18,600	34,100	47,300	23,500	8,370	7,190
14	9,510	11,100	15,300	14,500	18,800	13,300	19,200	25,400	47,000	22,700	7,150	8,200
15	9,690	11,300	17,000	15,500	18,900	13,400	20,000	21,400	47,900	21,100	7,950	5,670
16	11,000	12,400	16,100	16,500	18,000	16,400	20,700	20,800	42,300	20,400	7,470	4,930
17	11,100	14,200	16,200	17,500	14,000	17,500	22,300	20,300	44,800	19,600	8,120	6,180
18	11,000	11,500	17,400	18,500	12,100	16,600	22,900	20,600	42,500	18,500	7,230	7,190
19	10,900	9,290	17,600	18,500	14,200	17,600	22,800	21,700	39,300	15,400	5,060	6,710
20	10,800	9,820	18,400	18,000	16,400	17,500	23,200	22,500	36,300	15,800	4,960	6,640
21	9,910	12,600	18,000	18,000	18,200	17,000	23,400	24,900	35,800	17,200	5,360	7,350
22	8,200	12,700	19,700	18,000	18,800	18,100	23,100	25,700	36,600	16,000	5,670	6,750
23	10,800	10,900	19,600	18,000	18,800	18,300	22,800	26,700	39,100	12,900	5,850	5,300
24	9,870	11,000	18,300	18,000	18,300	17,100	22,800	28,800	39,500	13,000	7,150	6,410
25	10,400	12,600	18,000	18,000	17,500	17,500	22,900	32,100	32,200	13,600	6,790	7,110
26	9,600	10,500	15,900	17,500	19,300	16,800	23,000	32,400	31,400	11,500	4,830	8,620
27	10,400	14,000	17,400	17,500	19,500	15,400	23,000	31,700	30,000	12,000	6,370	7,390
28	10,800	12,800	18,000	17,000	20,000	14,300	23,300	34,600	30,700	11,000	6,110	7,590
29	9,730	12,100	17,400	16,500	------	14,600	24,200	33,900	31,000	9,040	5,960	6,830
30	13,000	13,000	17,300	16,000	------	15,400	25,200	34,000	36,300	11,300	6,680	5,810
31	12,400	------	16,200	15,500	------	16,800	------	30,300	------	10,400	6,910	------
TOTAL	292,570	340,010	514,300	524,400	537,400	483,400	613,900	888,600	1,277.9M	719,940	232,120	203,960
MEAN	9,438	11,330	16,590	16,920	19,190	15,590	20,460	28,660	42,600	23,220	7,488	6,799
MAX	13,000	14,200	19,700	18,500	29,500	20,900	25,200	35,600	55,800	48,100	11,000	8,620
MIN	5,710	9,290	13,800	13,900	12,100	10,800	16,400	20,300	30,000	9,040	4,830	4,930
AC-FT	580,300	674,400	1,020M	1,040M	1,066M	958,800	1,218M	1,763M	2,535M	1,428M	460,400	404,500

CAL YR 1962: TOTAL 7,396,750 MEAN 20,270 MAX 67,000 MIN 4,540 AC-FT 14,670,000
WAT YR 1963: TOTAL 6,628,500 MEAN 18,160 MAX 55,800 MIN 4,830 AC-FT 13,150,000

M Expressed in thousands.

12-3890. Clark Fork near Plains, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,850	10,500	5,780	10,600	14,000	13,400	12,400	13,800	69,000	55,400	14,600	8,200
2	6,490	9,730	5,470	8,910	14,200	17,200	12,400	19,700	69,100	50,200	15,000	9,650
3	6,370	8,160	6,990	11,000	13,600	16,900	13,200	21,400	72,600	49,800	12,700	10,700
4	7,030	6,830	10,400	13,200	14,300	16,600	12,400	18,700	77,900	58,500	14,600	15,000
5	7,750	10,900	11,600	14,200	14,000	16,900	12,100	23,000	82,900	59,600	14,600	19,200
6	6,260	10,400	10,000	16,000	16,400	17,200	12,400	22,700	84,300	53,700	14,300	16,100
7	5,020	10,000	7,310	14,000	16,400	17,400	13,000	23,200	84,800	58,000	13,400	11,700
8	5,960	9,510	5,780	12,300	17,000	16,700	11,800	22,900	93,500	44,900	14,000	10,300
9	7,310	9,780	5,160	13,000	16,900	16,400	11,700	22,600	111,000	42,900	10,800	10,400
10	7,910	7,550	10,000	13,800	14,600	16,700	11,600	21,600	120,000	41,000	8,870	11,600
11	8,370	5,990	12,600	15,800	14,600	16,500	12,000	20,200	127,000	44,600	12,000	13,100
12	9,650	9,470	15,000	14,400	15,000	17,200	12,400	26,200	124,000	37,000	11,900	11,600
13	8,240	10,500	15,600	13,000	16,800	17,100	12,900	26,900	116,000	33,400	11,600	10,100
14	6,330	9,470	16,000	14,800	17,200	19,300	13,000	27,400	109,000	32,500	11,500	9,600
15	6,640	8,160	15,400	15,400	17,200	19,500	13,000	29,000	106,000	28,500	11,900	10,100
16	8,240	9,120	14,200	14,800	16,400	18,900	12,700	30,700	105,000	30,200	11,200	9,170
17	8,870	7,990	13,400	11,600	15,400	18,600	13,400	32,200	104,000	31,200	8,580	10,400
18	9,250	7,390	10,100	14,800	16,300	17,900	14,900	33,200	103,000	32,400	11,300	10,600
19	10,800	8,870	12,600	12,400	16,000	17,600	13,900	39,900	100,000	26,400	10,400	11,400
20	12,000	7,790	14,400	12,400	15,800	17,200	11,500	41,100	95,500	25,200	9,600	10,600
21	12,800	7,430	16,000	15,300	16,800	17,000	12,700	46,000	93,000	23,200	8,070	9,260
22	13,200	7,510	15,400	14,200	17,200	16,200	14,300	57,700	89,400	21,200	8,030	11,500
23	12,400	7,070	13,400	13,900	17,000	15,500	15,400	69,700	74,800	20,200	6,750	9,380
24	13,300	6,300	12,200	11,500	14,000	14,800	16,000	67,000	53,800	18,600	5,780	10,400
25	12,100	5,130	9,250	12,400	15,800	12,300	16,200	61,800	73,900	18,600	7,910	10,400
26	9,340	5,300	5,530	13,800	16,000	13,700	15,300	47,400	85,600	17,800	7,590	9,040
27	9,730	5,810	9,250	13,400	16,400	12,200	13,200	39,900	82,600	16,900	7,790	8,410
28	8,700	5,570	15,400	13,400	14,700	11,700	14,600	38,400	81,100	17,100	8,160	7,670
29	10,500	5,470	13,200	10,900	13,000	13,000	12,900	41,500	67,500	17,200	8,370	9,040
30	9,380	5,190	12,400	12,600	------	12,600	13,200	53,600	69,000	15,800	8,330	7,830
31	11,000	------	13,600	13,500	------	12,400	------	58,200	------	15,200	7,710	------
TOTAL	276,790	238,890	353,420	411,310	453,000	497,000	396,500	1,097.6M	2,725.7M	1,037.4M	327,340	322,480
MEAN	8,929	7,963	11,400	13,270	15,620	16,030	13,220	35,410	90,860	33,460	10,560	10,750
MAX	13,300	10,900	16,000	16,000	17,200	19,500	16,200	69,700	127,000	59,600	15,000	19,200
MIN	5,020	5,130	5,160	8,910	13,000	11,700	11,500	13,800	53,800	15,200	5,780	7,670
AC-FT	549,000	473,800	701,000	815,800	898,500	985,800	786,400	2,177M	5,406M	2,058M	649,300	639,600

CAL YR 1963: TOTAL 6,350,720 MEAN 17,400 MAX 55,800 MIN 4,830 AC-FT 12,600,000
WAT YR 1964: TOTAL 8,137,430 MEAN 22,230 MAX 127,000 MIN 5,020 AC-FT 16,140,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,990	13,200	12,900	17,500	21,100	26,100	21,700	63,200	81,400	40,600	15,600	13,600
2	8,680	11,200	13,200	12,500	19,600	25,500	22,000	67,100	79,200	37,800	12,500	13,500
3	8,640	12,600	13,800	13,500	19,200	24,800	23,800	66,400	77,200	35,500	13,900	12,900
4	7,840	12,600	14,200	14,000	18,800	24,700	24,200	62,400	76,900	38,500	15,600	12,200
5	6,560	12,000	13,700	16,800	17,600	24,300	23,400	58,700	71,000	39,500	15,400	11,400
6	8,350	12,000	13,000	17,200	19,000	24,200	23,300	55,800	71,400	41,800	15,600	9,730
7	7,840	13,100	10,600	17,400	22,100	24,400	23,300	53,100	69,800	35,300	15,200	8,350
8	7,880	12,500	13,700	17,800	21,900	24,500	22,800	50,500	70,300	34,600	13,900	11,200
9	8,300	12,500	13,900	17,900	21,000	26,300	23,400	48,300	70,800	35,800	11,500	11,400
10	10,300	14,500	13,900	16,900	21,000	26,600	24,000	46,500	65,100	37,400	14,500	12,400
11	10,700	13,500	14,800	13,900	21,000	26,900	24,500	45,900	68,400	39,300	14,300	13,200
12	11,300	13,300	15,000	16,300	20,600	27,300	23,300	46,400	75,400	35,800	13,000	12,200
13	11,100	13,400	14,300	16,700	20,300	27,200	22,900	49,700	80,300	35,400	14,800	10,600
14	11,000	13,600	12,300	16,700	20,400	26,400	22,800	54,500	81,700	35,800	13,600	12,800
15	11,400	13,700	13,400	16,500	20,300	26,900	23,200	59,800	76,300	32,800	12,600	13,400
16	11,900	13,500	15,000	16,200	20,200	26,400	24,500	63,200	62,200	34,700	11,100	15,500
17	13,000	14,700	14,000	14,300	20,100	27,300	25,400	64,600	57,600	28,900	11,800	17,200
18	10,900	15,200	13,000	13,800	20,800	26,500	25,300	65,900	63,700	32,400	11,000	15,900
19	10,300	15,300	14,500	16,300	21,100	26,000	25,600	61,000	83,200	19,600	11,100	15,200
20	11,600	15,900	14,500	16,600	21,200	26,100	29,400	49,800	90,200	20,700	11,600	13,200
21	12,600	15,300	14,500	16,900	22,200	26,400	40,000	44,600	88,000	21,900	10,800	15,900
22	12,000	14,800	15,000	17,100	22,600	26,800	46,700	49,600	83,800	21,300	9,350	16,900
23	11,400	11,800	22,000	17,400	25,800	27,000	46,500	47,400	67,800	20,400	8,850	17,200
24	11,200	15,200	34,000	18,800	26,600	26,400	46,100	42,200	59,200	21,700	12,800	18,000
25	11,000	15,900	31,500	16,300	26,300	26,000	46,000	43,200	59,600	21,200	17,800	18,200
26	10,400	15,400	20,900	17,800	26,400	25,400	45,900	49,700	52,200	18,200	16,200	17,600
27	12,700	9,400	19,200	18,300	25,800	25,300	46,400	55,300	46,000	19,800	16,200	17,300
28	11,600	11,800	17,300	18,200	25,900	24,100	48,000	57,100	50,900	19,500	15,800	17,100
29	13,200	11,000	19,500	15,600	------	23,200	50,700	59,300	55,000	16,200	14,000	16,400
30	11,800	9,900	19,100	16,800	------	22,800	56,600	70,800	48,400	15,400	12,400	16,600
31	14,400	------	18,800	20,900	------	22,200	------	78,400	------	15,500	14,000	------
TOTAL	329,780	398,800	505,500	513,300	608,900	794,000	951,700	1,730.4M	2,083.0M	903,600	416,800	427,080
MEAN	10,640	13,290	16,310	16,560	21,750	25,610	31,720	55,820	69,430	29,150	13,450	14,240
MAX	14,400	15,900	34,000	20,900	26,600	27,300	56,600	78,400	90,200	41,800	17,800	18,200
MIN	6,560	9,400	10,600	12,500	17,600	22,200	21,700	42,200	46,000	15,400	8,850	8,350
AC-FT	654,100	791,000	1,003M	1,018M	1,208M	1,575M	1,888M	3,432M	4,132M	1,792M	826,700	847,100

CAL YR 1964: TOTAL 8,502,410 MEAN 23,230 MAX 127,000 MIN 5,780 AC-FT 16,860,000
WAT YR 1965: TOTAL 9,662,860 MEAN 26,470 MAX 90,200 MIN 6,560 AC-FT 19,170,000

M Expressed in thousands.

12-3895. Thompson River near Thompson Falls, Mont.

Location.--Lat 47°35'35", long 115°13'40", in NE¼SE¼ sec.7, T.21 N., R.28 W., on right bank 1.3 miles upstream from mouth and 6 miles east of Thompson Falls.

Drainage area.--642 sq mi.

Records available.--March to September 1911, October 1911 to September 1916 (occasional gage heights, discharges, and discharge measurements), April 1956 to September 1965. Records for January and February 1911, published in WSP 916, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Altitude of gage is 2,430 ft (from river-profile map). October 1911 to September 1916, staff gage at site a quarter of a mile upstream at different datum.

Average discharge.--9 years, 472 cfs (341,700 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	3,580	6.33	Jan. 3, 1961	100	1.46
1962	Apr. 20, 1962	1,800	4.62	Dec. 10, 1961	68	1.57
1963	May 25, 1963	1,400	4.10	Jan. 11, 1963	a 75	-
1964	June 9, 1964	6,080	8.53	Dec. 11, 1963	a 70	-
1965	Apr. 22, 1965	3,030	5.83	Dec. 17, 1964	a 80	-

a Minimum daily.

1956-65: Maximum discharge, 6,080 cfs June 9, 1964 (gage height, 8.53 ft); minimum, 68 cfs Dec. 10, 1961, result of freezeup; minimum gage height, 1.01 ft Dec. 17, 1964, result of freezeup. Flood in May to June 1948 reached a discharge of 6,190 cfs, by slope-area measurement of peak flow at site a quarter of a mile downstream.

Remarks.--Records good. Minor diversions above station for irrigation; acreage unknown. Diversion from headwaters of Alder Creek in SW¼ sec.16, T.23 N., R.25 W., to supplement water supply for storage in Upper Dry Fork Reservoir in Little Bitterroot River basin.

Revisions (water years).--WSP 1246: 1911. See also Records available.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	198	204	187	160	184	351	422	1,000	2,760	570	298	244
2	198	207	198	130	192	360	462	1,280	2,660	552	289	253
3	198	201	198	110	192	335	633	1,410	2,590	534	284	244
4	195	198	198	120	187	295	835	1,310	2,570	529	280	235
5	192	192	160	160	178	275	754	1,240	2,510	524	276	219
6	192	187	125	190	175	295	656	1,160	2,430	558	271	215
7	195	190	140	198	184	275	603	1,180	2,330	529	266	215
8	201	184	165	192	178	260	555	1,180	2,020	485	262	215
9	201	178	168	181	181	256	522	1,180	1,810	463	262	215
10	198	192	162	175	268	252	500	1,370	1,640	446	258	215
11	204	201	160	173	472	245	478	1,600	1,490	436	253	231
12	213	195	165	170	522	242	472	1,570	1,560	424	248	219
13	207	192	168	170	404	249	506	1,490	1,450	408	248	211
14	201	192	170	175	347	275	484	1,450	1,350	397	244	207
15	198	192	140	192	315	319	462	1,450	1,300	392	248	207
16	198	198	150	210	319	364	445	1,510	1,280	386	253	203
17	195	201	168	213	299	386	484	1,610	1,250	375	248	195
18	195	207	173	207	279	360	561	1,600	1,200	365	240	195
19	195	207	181	190	264	355	603	1,610	1,140	360	240	195
20	195	204	173	192	268	373	585	1,830	1,050	350	235	195
21	195	207	175	187	331	368	555	2,210	967	345	235	195
22	195	201	175	170	603	355	538	2,420	896	345	227	199
23	192	195	178	157	538	360	533	2,590	830	335	227	211
24	198	219	175	152	450	373	533	2,890	785	335	223	203
25	195	271	175	145	418	386	528	2,960	746	330	223	195
26	195	264	173	120	382	396	550	3,250	714	325	253	192
27	198	232	170	120	355	400	615	3,520	684	320	235	192
28	201	216	170	130	331	386	681	3,020	654	312	223	192
29	204	198	170	150	------	382	735	2,590	624	312	215	203
30	198	195	170	160	------	391	863	2,550	600	307	215	199
31	198	------	160	181	------	409	------	2,660	------	302	219	------
TOTAL	6,138	6,120	5,240	5,180	8,816	10,328	17,153	58,690	43,890	12,651	7,698	6,309
MEAN	198	204	169	167	315	333	572	1,893	1,463	408	248	210
MAX	213	271	198	213	603	409	863	3,520	2,760	570	298	253
MIN	192	178	125	110	175	242	422	1,000	600	302	215	192
CFSM	.31	.32	.26	.26	.49	.52	.89	2.95	2.28	.64	.39	.33
IN.	.36	.35	.30	.30	.51	.60	.99	3.40	2.54	.73	.45	.37
AC-FT	12,170	12,140	10,390	10,270	17,490	20,490	34,020	116,400	87,050	25,090	15,270	12,510

CAL YR 1960: TOTAL 177,873 MEAN 486 MAX 2,600 MIN 125 CFSM .76 IN 10.30 AC-FT 352,800
WAT YR 1961: TOTAL 188,213 MEAN 516 MAX 3,520 MIN 110 CFSM .80 IN 10.90 AC-FT 373,300

12-3895. Thompson River near Thompson Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	192	183	186	184	171	201	405	882	1,310	572	279	212
2	186	183	180	174	180	198	462	856	1,230	550	275	208
3	183	183	180	190	201	198	500	889	1,270	528	275	208
4	180	177	177	198	231	194	561	941	1,230	506	279	204
5	177	168	186	194	223	190	627	934	1,130	495	287	201
6	183	168	168	194	231	194	752	941	1,030	489	279	198
7	183	174	165	201	227	190	1,240	994	954	473	271	194
8	183	171	138	212	219	187	1,160	994	922	451	267	208
9	177	168	128	129	212	184	960	1,150	1,000	435	267	204
10	186	171	84	125	219	174	818	1,300	1,110	420	263	204
11	195	174	80	155	223	159	720	1,330	1,080	405	255	227
12	192	171	130	170	239	180	684	1,300	1,050	400	251	212
13	195	159	150	175	247	159	696	1,310	1,060	400	243	204
14	189	171	155	171	255	168	798	1,290	1,040	390	243	201
15	183	165	160	171	255	171	1,040	1,220	1,010	375	239	198
16	183	130	165	153	255	171	1,120	1,190	1,000	365	235	194
17	186	120	165	165	255	171	1,080	1,200	1,020	360	231	190
18	180	130	162	159	255	177	1,110	1,300	1,020	360	227	190
19	177	153	162	126	251	187	1,360	1,390	974	350	227	187
20	186	153	168	125	243	194	1,720	1,430	934	340	223	187
21	192	125	180	115	231	198	1,630	1,430	896	331	223	180
22	186	153	162	120	235	194	1,410	1,480	856	326	223	184
23	186	156	165	130	198	198	1,310	1,520	818	318	227	180
24	186	159	177	170	165	198	1,460	1,600	772	313	223	177
25	180	153	187	180	165	223	1,680	1,710	740	308	219	177
26	186	153	168	187	160	275	1,550	1,730	714	308	215	177
27	192	159	162	184	180	370	1,350	1,650	684	308	215	177
28	189	162	171	171	195	390	1,220	1,680	638	295	227	184
29	183	174	180	168	-------	350	1,080	1,700	605	291	235	198
30	177	180	190	168	-------	340	960	1,570	583	287	227	190
31	180	-------	184	171	-------	355	-------	1,430	-------	279	219	-------
TOTAL	5,733	4,846	5,015	5,135	6,121	6,738	31,463	40,341	28,680	12,028	7,569	5,855
MEAN	185	162	162	166	219	217	1,049	1,301	956	388	244	195
MAX	195	183	190	212	255	390	1,720	1,730	1,310	572	287	227
MIN	177	120	80	115	160	159	405	856	583	279	215	177
CFSM	.29	.25	.25	.26	.34	.34	1.63	2.03	1.49	.60	.38	.30
IN.	.33	.28	.29	.30	.35	.39	1.82	2.34	1.66	.70	.44	.34
AC-FT	11,370	9,610	9,950	10,190	12,140	13,360	62,410	80,020	56,890	23,860	15,010	11,610

CAL YR 1961: TOTAL 186,309 MEAN 510 MAX 3,520 MIN 80 CFSM .80 IN 10.79 AC-FT 369,500
WAT YR 1962: TOTAL 159,524 MEAN 437 MAX 1,730 MIN 80 CFSM .68 IN 9.24 AC-FT 316,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	184	177	235	204	130	300	632	850	1,090	435	227	159
2	180	177	239	208	144	287	561	863	1,000	410	227	171
3	177	174	235	215	212	275	517	811	960	390	223	180
4	177	174	223	212	322	263	495	746	928	380	219	171
5	180	184	215	201	556	267	489	708	954	365	215	165
6	177	190	227	194	572	263	534	702	934	345	212	165
7	180	184	227	201	566	251	588	772	876	340	212	159
8	187	184	227	194	534	243	594	863	818	336	201	159
9	194	198	223	198	484	243	578	863	837	331	201	159
10	201	198	223	115	440	251	561	824	856	326	204	159
11	204	198	219	75	390	247	539	778	811	326	204	159
12	255	201	215	118	345	239	522	759	772	322	201	156
13	259	208	208	156	331	235	512	766	740	313	194	159
14	255	201	208	187	340	227	534	759	708	304	194	174
15	251	194	208	208	322	235	627	792	678	300	194	168
16	231	190	215	208	308	227	690	830	649	295	194	180
17	215	184	247	187	295	223	672	882	627	287	190	171
18	208	180	271	153	287	223	632	967	594	287	190	165
19	201	180	267	115	287	219	605	1,040	572	283	190	156
20	198	247	255	126	295	219	572	1,080	556	275	190	153
21	194	263	263	144	287	227	539	1,130	539	267	187	153
22	190	247	263	156	287	235	517	1,190	528	263	184	150
23	190	231	251	126	283	259	534	1,230	500	263	184	153
24	187	215	159	144	275	283	522	1,310	484	255	180	153
25	187	227	159	150	271	275	495	1,390	462	255	180	150
26	187	267	201	115	283	275	495	1,370	446	251	174	150
27	187	287	219	141	308	287	522	1,280	430	247	168	147
28	184	267	223	141	304	395	588	1,200	420	239	165	147
29	180	235	219	102	-------	468	660	1,130	456	235	162	144
30	180	235	215	98	-------	578	759	1,130	462	231	159	147
31	180	-------	208	110	-------	696	-------	1,140	-------	227	159	-------
TOTAL	6,160	6,297	6,967	4,902	9,458	8,915	17,085	30,155	20,687	9,383	5,984	4,782
MEAN	199	210	225	158	338	288	570	973	690	303	193	159
MAX	259	287	271	215	572	696	759	1,390	1,090	435	227	180
MIN	177	174	159	75	130	219	489	702	420	227	159	144
CFSM	.31	.33	.35	.25	.53	.45	.89	1.52	1.07	.47	.30	.25
IN.	.36	.36	.40	.28	.55	.52	.99	1.75	1.20	.54	.35	.28
AC-FT	12,220	12,490	13,820	9,720	18,760	17,680	33,890	59,810	41,030	18,610	11,870	9,480

CAL YR 1962: TOTAL 163,354 MEAN 448 MAX 1,730 MIN 115 CFSM .70 IN 9.46 AC-FT 324,000
WAT YR 1963: TOTAL 130,775 MEAN 358 MAX 1,390 MIN 75 CFSM .56 IN 7.58 AC-FT 259,400

12-3895. Thompson River near Thompson Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	144	156	110	135	138	123	251	495	1,460	665	322	227
2	144	159	115	147	126	115	279	506	1,610	645	322	244
3	144	153	120	141	129	120	271	506	1,750	630	314	237
4	130	150	126	138	129	120	283	512	1,760	600	307	227
5	159	153	138	132	141	120	300	512	1,650	590	303	220
6	162	156	162	144	135	115	291	506	1,670	565	296	210
7	159	162	144	138	126	112	279	506	1,680	530	289	210
8	159	168	123	108	118	105	291	556	3,450	505	282	203
9	156	165	135	126	144	118	322	632	5,360	500	275	203
10	156	165	75	144	138	115	360	708	3,420	485	275	203
11	156	160	70	138	138	112	370	733	2,510	462	264	200
12	159	155	138	129	132	115	365	740	2,070	444	261	197
13	156	150	141	102	135	112	331	824	1,820	436	258	197
14	156	150	141	141	123	112	304	870	1,680	426	258	194
15	156	155	138	132	135	118	340	844	1,570	431	251	194
16	159	160	138	135	132	118	435	870	1,510	426	244	190
17	156	165	135	132	135	126	415	1,080	1,430	404	244	190
18	156	165	129	132	123	135	375	1,250	1,310	404	241	190
19	156	165	126	135	132	135	350	1,390	1,190	387	247	190
20	157	170	129	141	126	129	355	1,680	1,100	370	244	220
21	158	170	129	135	118	132	375	1,990	1,030	361	237	210
22	159	165	126	110	120	135	385	1,720	960	353	234	200
23	165	160	126	129	123	100	410	1,390	944	341	230	194
24	171	160	123	126	135	85	390	1,180	949	341	220	194
25	187	165	132	144	105	95	375	1,040	944	334	217	194
26	171	175	132	141	110	126	390	974	905	330	237	190
27	162	184	132	135	112	115	400	934	883	326	234	187
28	159	174	132	138	112	118	390	1,060	817	318	244	187
29	159	150	132	129	129	123	405	1,260	756	318	234	184
30	156	115	132	135	------	141	451	1,320	696	322	234	197
31	156	------	132	135	------	177	------	1,460	------	330	227	------
TOTAL	4,903	4,803	3,961	4,127	3,699	3,722	10,538	30,048	48,884	13,579	8,045	6,083
MEAN	158	160	128	133	128	120	351	969	1,629	438	260	203
MAX	187	184	162	147	144	177	451	1,990	5,360	665	322	244
MIN	144	115	70	102	105	85	251	495	696	318	217	184
CFSM	.25	.25	.20	.21	.20	.19	.55	1.51	2.54	.68	.40	.32
IN.	.28	.28	.23	.24	.21	.22	.61	1.74	2.83	.79	.47	.35
AC-FT	9,720	9,530	7,860	8,190	7,340	7,380	20,900	59,600	96,960	26,930	15,960	12,070

CAL YR 1963: TOTAL 125,018 MEAN 343 MAX 1,390 MIN 70 CFSM .53 IN 7.24 AC-FT 248,000
WAT YR 1964: TOTAL 142,392 MEAN 389 MAX 5,360 MIN 70 CFSM .61 IN 8.25 AC-FT 282,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	213	180	217	275	326	382	303	2,480	1,630	740	340	255
2	213	180	237	258	314	378	334	2,190	1,500	708	331	251
3	210	177	237	268	303	378	361	1,870	1,500	690	336	247
4	200	177	227	258	292	374	382	1,640	1,560	684	331	251
5	197	177	213	254	292	370	404	1,460	1,540	672	326	251
6	190	177	203	268	300	378	431	1,330	1,540	638	322	247
7	187	174	197	261	296	387	444	1,220	1,560	622	318	243
8	187	174	194	251	300	408	467	1,160	1,460	605	308	239
9	190	177	203	247	296	408	510	1,110	1,360	594	300	259
10	194	177	200	244	275	408	610	1,120	1,360	583	295	267
11	190	177	203	234	237	413	635	1,230	1,400	566	291	251
12	187	180	165	237	275	400	645	1,500	1,560	544	295	247
13	187	177	180	234	278	382	729	1,880	1,510	534	300	247
14	187	174	184	234	275	378	844	2,020	1,340	522	291	267
15	197	168	184	234	237	378	949	2,040	1,220	500	287	300
16	210	165	118	234	268	382	1,080	1,960	1,130	484	283	291
17	203	159	80	234	261	326	1,080	1,870	1,220	473	279	267
18	197	165	110	234	271	310	996	1,690	1,680	462	275	259
19	194	168	145	234	300	320	996	1,500	1,620	451	271	255
20	194	168	155	234	366	337	1,560	1,450	1,440	440	287	255
21	194	165	160	234	378	349	2,720	1,400	1,310	435	283	251
22	190	162	210	234	382	337	2,880	1,370	1,200	430	283	255
23	187	165	535	224	330	314	2,360	1,390	1,110	425	287	247
24	187	213	675	220	334	292	1,960	1,460	1,080	410	283	243
25	184	271	485	230	341	307	1,720	1,560	1,040	400	279	235
26	187	244	391	227	334	318	1,650	1,570	994	390	275	231
27	187	210	374	244	374	303	1,670	1,530	928	385	275	227
28	187	194	341	247	422	296	1,820	1,590	870	375	279	227
29	187	177	314	264	------	292	2,120	1,830	830	365	271	227
30	187	194	300	278	------	289	2,490	2,000	792	355	267	223
31	184	------	289	337	------	292	------	1,840	------	345	259	------
TOTAL	5,988	5,466	7,726	7,666	8,657	10,886	35,150	50,260	39,284	15,827	9,107	7,515
MEAN	193	182	249	247	309	351	1,172	1,621	1,309	511	294	251
MAX	213	271	675	337	422	413	2,880	2,480	1,680	740	340	300
MIN	184	159	80	220	237	289	303	1,110	792	345	259	223
CFSM	.30	.28	.39	.39	.48	.55	1.83	2.52	2.04	.80	.46	.39
IN.	.35	.32	.45	.44	.50	.63	2.04	2.91	2.28	.92	.53	.44
AC-FT	11,880	10,840	15,320	15,210	17,170	21,590	69,720	99,690	77,920	31,390	18,060	14,910

CAL YR 1964: TOTAL 147,905 MEAN 404 MAX 5,360 MIN 80 CFSM .63 IN 8.57 AC-FT 293,400
WAT YR 1965: TOTAL 203,532 MEAN 558 MAX 2,880 MIN 80 CFSM .87 IN 11.79 AC-FT 403,700

12-3900. Thompson Falls Reservoir at Thompson Falls, Mont.

Location.--Lat 47°35'30", long 115°21'10", near east line of sec.7, T.21 N., R.29 W., at dam on Clark Fork at Thompson Falls, at mile 208.

Drainage area.--20,968 sq mi.

Records available.--October 1939 to September 1965.

Gage.--Staff gage read several times daily but only month-end figures supplied. Datum of gage is at mean sea level (levels by The Montana Power Co.).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	Feb. 28, 1961	14,970	2,396.0	June 30, 1961	2,920	2,384.8
1962	July 31, 1962	14,680	2,395.8	June 30, 1962	2,920	2,384.8
1963	Feb. 28, 1963	14,100	2,395.4	Apr. 30, 1963	2,350	2,384.0
1964	July 31, 1964	13,960	2,395.3	Apr. 30, 1964	2,920	2,384.8
1965	July 31, 1965	14,390	2,395.6	June 30, 1965	3,210	2,385.2

1939-65: Maximum contents observed, 16,060 acre-ft Nov. 30, 1949; no storage July 31, 1958.

Remarks.--Reservoir is formed by 2 concrete dams, first generator installed July 1915. Usable capacity, 14,970 acre-ft (corrected) at elevation 2,396.0 ft. Dead storage unknown. Water is used for power development and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by The Montana Power Co.

MONTH-END CONTENTS, IN ACRE-FEET, WATER YEARS 1961-65

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1961	13,110	14,100	13,390	12,570	14,970	13,960	2,850	7,360	2,920	11,650	13,670	13,670
1962	11,260	11,390	12,570	13,390	10,760	10,510	3,290	5,170	2,920	14,680	12,980	11,520
1963	13,670	13,390	11,900	11,900	14,100	13,250	2,350	2,630	2,770	13,250	12,160	11,900
1964	13,390	11,780	12,840	12,430	12,710	12,160	2,920	4,480	5,260	13,960	12,430	10,270
1965	13,670	11,010	12,160	13,110	13,960	12,430	4,480	5,900	3,210	14,390	13,110	12,980

12-3907. Prospect Creek at Thompson Falls, Mont.

Location.--Lat 47°35'15", long 115°21'20", in lot 12, SE¼SE¼SE¼ sec.7, T.21 N., R.29 W., on right bank 500 ft downstream from Dry Creek, half a mile upstream from mouth, and half a mile south of Thompson Falls.

Drainage area.--182 sq mi.

Records available.--April 1956 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,400 ft (from topographic map).

Average discharge.--9 years, 259 cfs (187,500 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	2,070	6.57	Jan. 11, 1961	45	0.78
1962	Apr. 20, 1962	1,670	5.82	Dec. 11, 1961	30	.54
1963	May 25, 1963	900	4.32	Sept.30, 1963	47	.95
1964	June 8, 1964	2,290	6.79	Dec. 11, 1963	33	.75
1965	Apr. 21, 1965	2,220	6.68	Sept.30, 1965	a 64	-

a Minimum daily.

1956-65: Maximum discharge, 2,860 cfs May 21, 1956 (gage height, 7.60 ft); minimum, 30 cfs Dec. 11, 1961 (gage height, 0.54 ft).

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	64	56	57	56	67	312	350	686	1,290	223	102	75
2	64	54	58	54	71	306	400	900	1,410	208	101	74
3	63	53	59	50	69	283	616	965	1,390	200	99	72
4	63	53	60	50	69	259	1,020	886	1,380	195	97	71
5	62	53	58	55	71	241	860	810	1,350	190	94	71
6	62	51	57	62	75	232	700	733	1,260	190	94	70
7	64	51	57	58	80	219	596	672	1,230	188	93	70
8	64	51	57	57	81	202	529	638	1,000	174	91	69
9	62	51	57	57	84	193	499	638	882	168	92	68
10	62	53	57	56	125	185	451	729	788	162	91	68
11	64	56	56	56	298	177	415	900	725	156	89	67
12	63	53	56	56	487	172	405	925	810	152	87	66
13	61	53	56	56	436	172	420	886	711	149	87	65
14	60	52	56	57	362	179	400	900	658	146	87	64
15	58	51	55	60	328	190	380	891	630	142	86	64
16	57	53	56	62	321	214	365	920	616	140	86	64
17	57	52	57	60	291	243	385	1,110	588	136	84	63
18	57	56	57	59	269	253	463	1,130	554	135	82	64
19	57	53	58	59	253	265	514	1,160	514	132	80	63
20	57	52	57	60	251	291	493	1,330	469	130	80	62
21	57	53	57	60	380	300	463	1,490	420	128	78	62
22	56	51	57	55	925	300	439	1,420	380	126	77	62
23	54	52	57	55	745	298	422	1,430	348	126	76	65
24	55	62	57	60	560	298	398	1,550	321	124	75	60
25	54	70	57	60	469	306	382	1,510	302	119	76	59
26	53	62	57	55	378	315	412	1,770	287	118	79	58
27	56	58	57	55	330	315	395	1,900	271	113	76	57
28	56	57	57	55	298	306	398	1,480	257	111	74	58
29	56	57	56	64	———	298	433	1,260	245	108	74	59
30	53	57	56	65	———	302	544	1,260	232	107	72	57
31	54	———	55	67	———	319	———	1,260	———	105	74	———
TOTAL	1,825	1,636	1,764	1,791	8,173	7,945	14,547	34,139	21,318	4,601	2,633	1,947
MEAN	58.9	54.5	56.9	57.8	292	256	485	1,101	711	148	84.9	64.9
MAX	64	70	60	67	925	319	1,020	1,900	1,410	223	102	75
MIN	53	51	55	50	67	172	350	638	232	105	72	57
CFSM	.32	.30	.31	.32	1.60	1.41	2.66	6.05	3.90	.82	.47	.36
IN.	.37	.33	.36	.37	1.67	1.62	2.97	6.98	4.36	.94	.54	.40
AC-FT	3,620	3,240	3,500	3,550	16,210	15,760	28,850	67,710	42,280	9,130	5,220	3,860

CAL YR 1960: TOTAL 86,563 MEAN 237 MAX 1,430 MIN 51 CFSM 1.30 IN 17.69 AC-FT 171,700
WAT YR 1961: TOTAL 102,319 MEAN 280 MAX 1,900 MIN 50 CFSM 1.54 IN 20.91 AC-FT 202,900

12-3907. Prospect Creek at Thompson Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	56	49	48	48	76	134	172	517	832	247	108	77
2	55	48	47	48	77	130	196	523	796	236	107	76
3	55	48	48	53	82	128	289	610	850	226	108	75
4	55	48	46	53	100	122	390	718	783	215	111	74
5	54	48	48	53	114	117	520	733	686	208	110	73
6	54	48	46	53	117	113	753	708	602	200	107	72
7	56	47	46	57	113	110	1,320	718	541	191	105	71
8	54	47	45	59	111	108	1,100	725	520	182	102	71
9	53	46	44	55	111	106	757	846	599	172	102	71
10	57	46	37	52	118	102	592	1,000	669	168	99	72
11	56	48	36	58	125	99	499	1,020	638	162	97	73
12	53	46	41	62	141	97	463	960	613	159	94	70
13	52	47	41	63	151	94	496	930	602	156	93	70
14	51	48	42	64	165	91	610	855	568	149	91	69
15	50	47	48	64	182	90	864	792	541	147	90	68
16	50	45	46	64	193	89	955	770	538	142	88	67
17	50	45	48	65	193	89	873	824	544	142	87	66
18	50	45	45	65	190	91	896	915	529	141	86	66
19	50	45	45	59	190	91	1,230	985	493	138	86	65
20	53	45	46	57	182	93	1,550	960	463	135	85	65
21	53	45	49	51	174	96	1,240	900	433	131	84	64
22	52	48	45	57	171	97	950	915	408	129	84	64
23	52	47	45	60	162	97	873	965	382	128	82	64
24	52	48	48	64	152	96	1,080	1,080	358	125	81	63
25	50	47	50	69	146	106	1,290	1,130	340	122	80	62
26	51	45	47	75	141	120	1,060	1,160	328	125	80	61
27	50	45	45	75	138	151	860	1,110	310	122	80	61
28	50	45	46	73	134	162	741	1,180	291	117	81	63
29	49	45	47	72	———	162	641	1,170	271	114	80	65
30	48	46	50	72	———	161	557	995	255	112	78	62
31	48	———	49	74	———	164	———	878	———	110	78	———
TOTAL	1,619	1,397	1,414	1,894	3,949	3,506	23,817	27,592	15,783	4,851	2,844	2,040
MEAN	52.2	46.6	45.6	61.1	141	113	794	890	526	156	91.7	68.0
MAX	57	49	50	75	193	164	1,550	1,180	850	247	111	77
MIN	48	45	36	48	76	89	172	517	255	110	78	61
CFSM	.29	.26	.25	.34	.77	.62	4.36	4.89	2.89	.86	.50	.37
IN.	.33	.29	.29	.39	.81	.72	4.87	5.64	3.23	.99	.58	.42
AC-FT	3,210	2,770	2,800	3,760	7,830	6,950	47,240	54,730	31,310	9,620	5,640	4,050

CAL YR 1961: TOTAL 101,524 MEAN 278 MAX 1,900 MIN 36 CFSM 1.53 IN 20.75 AC-FT 201,400
WAT YR 1962: TOTAL 90,706 MEAN 249 MAX 1,550 MIN 36 CFSM 1.37 IN 18.53 AC-FT 179,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	60	57	208	177	102	293	613	571	627	180	92	64
2	60	57	205	174	104	289	529	592	574	172	92	64
3	59	57	193	176	131	281	463	550	532	166	90	63
4	60	57	176	176	146	267	428	505	511	162	88	62
5	59	58	166	170	265	261	412	466	511	155	86	61
6	58	58	172	165	430	253	457	460	481	151	85	60
7	58	57	171	161	520	243	520	499	445	146	86	60
8	59	61	171	158	602	236	538	547	415	144	84	59
9	60	61	172	158	571	232	511	550	425	140	81	59
10	62	60	172	140	502	230	484	532	418	140	81	58
11	63	61	170	126	436	228	454	511	395	138	80	57
12	69	63	165	129	385	221	425	505	382	135	78	57
13	66	64	161	137	350	215	410	517	365	129	76	57
14	64	64	158	136	326	210	412	535	350	128	75	58
15	63	65	156	135	308	207	466	560	330	124	74	57
16	60	66	168	132	293	202	523	588	317	123	72	56
17	59	66	203	129	279	198	517	624	308	120	71	53
18	61	65	238	123	267	195	487	676	289	119	70	53
19	60	66	255	113	261	190	454	741	273	114	70	52
20	60	76	253	117	279	188	425	749	261	113	70	52
21	59	78	253	116	267	190	400	770	249	108	69	51
22	59	87	251	116	261	190	382	810	239	107	69	51
23	59	125	243	110	257	200	378	814	224	105	69	52
24	58	132	224	112	255	214	358	855	214	102	69	50
25	58	142	207	111	249	219	342	873	207	104	68	50
26	57	247	205	106	265	228	340	828	198	102	67	50
27	57	328	205	107	285	243	350	757	187	99	66	50
28	57	275	200	106	285	326	375	700	182	98	66	49
29	57	238	195	94	———	400	405	680	198	97	64	49
30	57	219	191	92	———	523	475	676	191	94	64	48
31	57	———	179	101	———	652	———	672	———	92	63	———
TOTAL	1,855	3,110	6,086	4,103	8,681	8,024	13,333	19,713	10,298	3,907	2,335	1,662
MEAN	59.8	104	196	132	310	259	444	636	343	126	75.3	55.4
MAX	69	328	255	177	602	652	613	873	627	180	92	64
MIN	57	57	156	92	102	188	340	460	182	92	63	48
CFSM	.33	.57	1.08	.73	1.70	1.42	2.44	3.49	1.89	.69	.41	.30
IN.	.38	.64	1.24	.84	1.77	1.64	2.72	4.03	2.10	.80	.48	.34
AC-FT	3,680	6,170	12,070	8,140	17,220	15,920	26,450	39,100	20,430	7,750	4,630	3,300

CAL YR 1962: TOTAL 97,327 MEAN 267 MAX 1,550 MIN 48 CFSM 1.47 IN 19.89 AC-FT 193,000
WAT YR 1963: TOTAL 83,107 MEAN 228 MAX 873 MIN 48 CFSM 1.25 IN 16.98 AC-FT 164,800

12-3907. Prospect Creek at Thompson Falls, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	47	40	40	42	43	45	72	433	1,190	310	119	87
2	47	40	40	44	42	45	74	442	1,340	306	116	88
3	46	40	40	43	42	45	88	412	1,360	293	114	85
4	46	40	40	43	42	47	125	370	1,250	277	111	82
5	48	40	40	43	43	47	132	338	1,100	267	111	81
6	46	43	45	43	43	46	129	310	1,130	255	107	80
7	46	42	42	43	42	45	130	298	1,130	238	107	79
8	45	43	42	42	42	45	138	302	1,680	230	105	79
9	45	43	42	43	42	46	152	352	1,960	226	102	78
10	44	41	38	43	43	46	214	484	1,530	214	101	78
11	44	41	38	43	44	47	277	574	1,190	200	100	77
12	44	40	41	43	43	48	275	616	1,000	188	100	76
13	43	40	42	43	43	48	253	741	940	180	105	76
14	43	40	41	43	43	47	239	810	910	176	100	76
15	43	43	41	43	43	50	279	778	855	190	97	75
16	43	41	42	43	43	50	398	868	855	187	94	74
17	42	41	42	43	43	52	368	1,230	783	170	92	74
18	42	43	40	43	42	53	326	1,350	697	162	96	74
19	41	40	41	43	43	53	310	1,410	627	155	96	74
20	41	42	41	44	43	53	328	1,470	571	148	93	78
21	41	40	41	43	42	53	360	1,770	538	143	91	75
22	42	40	41	43	43	57	375	1,340	502	140	88	74
23	43	40	41	43	43	53	362	955	484	135	87	73
24	44	40	41	42	43	52	338	774	490	131	86	73
25	45	40	42	45	43	53	323	697	481	129	85	74
26	43	40	41	44	43	53	326	680	448	126	89	72
27	42	42	41	43	43	53	330	672	422	123	89	72
28	42	40	41	42	44	53	319	828	388	119	96	71
29	41	40	41	42	45	57	332	955	358	120	90	70
30	41	40	41	42	------	61	378	1,020	330	122	89	74
31	41	------	42	42	------	65	------	1,100	------	120	87	------
TOTAL	1,351	1,225	1,271	1,331	1,243	1,568	7,750	24,379	26,539	5,780	3,043	2,299
MEAN	43.6	40.8	41.0	42.9	42.9	50.6	258	786	885	186	98.2	76.6
MAX	48	43	45	45	45	65	398	1,770	1,960	310	119	88
MIN	41	40	38	42	42	45	72	298	330	119	85	70
CFSM	.24	.22	.23	.24	.24	.28	1.42	4.32	4.86	1.02	.54	.42
IN.	.28	.25	.26	.27	.25	.32	1.58	4.98	5.42	1.18	.62	.47
AC-FT	2,680	2,430	2,520	2,640	2,470	3,110	15,370	48,360	52,640	11,460	6,040	4,560

CAL YR 1963: TOTAL 75,903 MEAN 208 MAX 873 MIN 38 CFSM 1.14 IN 15.51 AC-FT 150,600
WAT YR 1964: TOTAL 77,779 MEAN 213 MAX 1,960 MIN 38 CFSM 1.17 IN 15.89 AC-FT 154,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	74	68	136	238	313	339	187	1,450	846	279	114	75
2	74	68	188	225	290	329	195	1,210	792	268	110	74
3	73	68	207	215	272	313	206	990	842	259	115	73
4	72	69	193	204	259	299	225	842	873	255	115	73
5	71	69	174	198	255	293	241	733	832	246	110	73
6	70	70	158	201	254	297	257	648	832	236	110	72
7	70	70	146	186	246	307	268	592	832	231	105	72
8	70	71	141	174	246	319	282	554	753	223	105	71
9	70	72	141	166	241	325	307	541	700	217	105	73
10	69	73	138	160	231	327	347	592	704	217	100	72
11	69	73	140	156	222	329	375	711	722	204	100	71
12	69	75	131	150	215	319	398	965	778	196	102	71
13	67	75	126	147	214	307	469	1,230	672	187	98	71
14	67	74	122	142	209	297	578	1,200	574	180	94	75
15	70	74	123	141	201	291	683	1,170	505	172	92	84
16	75	73	112	140	198	293	774	1,100	460	170	89	76
17	72	73	104	137	195	275	757	1,040	578	165	88	74
18	70	73	105	135	195	257	672	886	792	160	87	73
19	69	73	106	134	206	254	680	774	714	155	86	72
20	69	73	105	131	245	245	1,300	774	620	150	90	71
21	68	72	106	131	281	245	2,140	757	554	145	90	70
22	68	72	134	131	297	239	1,860	757	496	140	90	69
23	69	72	703	130	290	236	1,530	788	448	135	90	69
24	68	93	900	131	281	215	1,330	806	430	135	88	68
25	67	119	599	128	272	207	1,180	810	410	130	86	67
26	68	104	472	127	266	204	1,110	832	382	125	84	66
27	68	96	398	152	311	201	1,130	837	355	125	82	65
28	68	112	345	160	345	195	1,230	915	333	120	81	65
29	68	117	309	193	------	190	1,400	1,110	313	120	80	65
30	68	117	284	245	------	187	1,530	1,180	295	120	78	64
31	68	------	261	313	------	186	------	1,000	------	116	76	------
TOTAL	2,158	2,408	7,307	5,221	7,050	8,320	23,641	27,794	18,437	5,581	2,940	2,134
MEAN	69.6	80.3	236	168	252	268	788	897	615	180	94.8	71.1
MAX	75	119	900	313	345	339	2,140	1,450	873	279	115	84
MIN	67	68	104	127	195	186	187	541	295	116	76	64
CFSM	.38	.44	1.30	.93	1.38	1.47	4.33	4.93	3.38	.99	.52	.39
IN.	.44	.49	1.49	1.07	1.44	1.70	4.83	5.68	3.77	1.14	.60	.44
AC-FT	4,280	4,780	14,490	10,360	13,980	16,500	46,890	55,130	36,570	11,070	5,830	4,230

CAL YR 1964: TOTAL 85,805 MEAN 234 MAX 1,960 MIN 42 CFSM 1.29 IN 17.53 AC-FT 170,200
WAT YR 1965: TOTAL 112,991 MEAN 310 MAX 2,140 MIN 64 CFSM 1.70 IN 23.09 AC-FT 224,100

12-3913. Noxon Rapids Reservoir near Noxon, Mont.
(Formerly published as Noxon Reservoir near Noxon)

Location.--Lat 47°57'40", long 115°44'00", in SW¼ sec.33, T.26 N., R.32 W., at dam on Clark Fork, 3 miles southeast of Noxon, 7½ miles upstream from Bull River, and at mile 169.7.

Drainage area.--21,833 sq mi.

Records available.--April 1959 to September 1965.

Gage.--Water-stage recorder, midnight readings. Datum of gage is at mean sea level (levels by The Washington Water Power Co.).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	June 27, 1961	333,700	2,330.88	May 15, 1961	134,200	2,300.99
1962	July 15, Sept. 15	334,200	2,330.95	Apr. 19, 1962	107,000	2,295.62
1963	July 21, 1963	333,000	2,330.80	May 8, 1963	90,810	2,292.28
1964	Aug. 2, 1964	334,500	2,330.98	May 1, 1964	100,100	2,294.19
1965	July 19, 1965	334,600	2,331.00	Apr. 15, 1965	112,300	2,296.68

1959-65: Maximum contents, 335,400 acre-ft Apr. 7, 1960 (elevation, 2,331.10 ft); minimum since first filling, 90,810 acre-ft May 8, 1963 (elevation, 2,292.28 ft).

Remarks.--Reservoir is formed by concrete and earthfill dam; construction began in 1955, completed in 1959. Storage began Apr. 3, 1959. Usable capacity, 334,600 acre-ft at controlled spillway elevation (2,331 ft). Dead storage, 161,000 acre-ft below elevation 2,270 ft, minimum operating level. Water is used for power production, flood control, and recreation. Figures given herein represent usable contents.

Cooperation.--Records furnished by The Washington Water Power Co.

MONTH-END CONTENTS, IN ACRE-FEET, WATER YEARS 1961-65

YEAR	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1961	320,400	317,500	304,800	311,700	329,500	250,000	183,100	216,900	330,900	326,500	331,400	322,400
1962	322,000	320,200	325,000	302,900	251,500	107,400	132,200	170,400	330,800	328,300	322,500	332,900
1963	326,100	327,300	33,1300	311,100	297,900	179,900	117,800	185,800	324,100	329,500	293,800	329,900
1964	309,900	322,500	326,700	327,700	282,900	155,200	101,100	161,700	328,700	327,300	331,600	321,700
1965	321,400	328,100	330,400	331,000	287,300	150,400	170,100	192,200	322,600	326,400	334,500	331,800

12-3914. Clark Fork below Noxon Rapids Dam, near Noxon, Mont.

Location.--Lat 47°57'40", long 115°44'00", in SW¼ sec.33, T.26 N., R.32 W., at Noxon Rapids Dam, 1 mile upstream from Rock Creek, 3 miles southeast of Noxon, and at mile 169.7.

Drainage area.--21,833 sq mi.

Records available.--May 1960 to September 1965.

Gage.--Plant generator ratings for discharge through powerplant. Water-stage recorder on reservoir determines head on taintor gates. Datum of gage is at mean sea level (levels by The Washington Water Power Co.).

Average discharge.--5 years, 21,640 cfs (15,670,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for May 1960 to September 1965 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1960	June 18, 1960	73,200	-	Sept.18, 1960	2,180	-
1961	June 5, 1961	99,700	-	Oct. 16, 1960	80	-
1962	May 28, 1962	74,900	-	Aug. 26, 1962	80	-
1963	June 8, 1963	55,300	-	(a)	80	-
1964	June 12, 1964	124,900	-	Aug. 23, 1964	2,840	-
1965	June 20, 1965	92,000	-	Oct. 4, 1964	4,850	-

a Aug. 18, 25, 31, Sept. 1, 1963.

1960-65: Maximum daily discharge, 124,900 cfs June 12, 1964; minimum daily, 80 cfs Oct. 16, 1960, Aug. 26, 1962, Aug. 18, 25, 31, Sept. 1, 1963.

Remarks.--Records good. Flow regulated by Hungry Horse Reservoir (see station 12-3620) and Flathead Lake (see station 12-3715). Diversions for irrigation of about 350,000 acres above station. Some subsurface flow is indicated by comparison with records for adjacent gaging stations. Figures of discharge given herein are combined flows through turbines and spillway.

Cooperation.--Records collected by The Washington Water Power Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, 1960

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1								-	48,200	40,000	12,600	9,750
2								-	55,600	38,000	10,300	9,480
3								-	59,200	40,300	11,500	3,780
4								-	59,600	39,400	11,800	2,760
5								-	63,100	41,000	15,800	3,470
6								-	62,000	35,600	6,570	6,540
7								-	58,300	29,400	7,530	9,010
8								-	53,900	28,100	11,300	8,650
9								-	49,300	23,700	11,500	11,100
10								-	45,000	26,000	14,300	7,320
11								-	41,400	22,200	15,800	6,260
12								-	46,900	25,600	13,200	10,500
13								-	50,600	26,500	7,140	13,000
14								-	50,700	23,300	5,300	9,800
15								-	52,100	26,500	10,600	9,080
16								-	58,400	19,000	9,470	9,440
17								-	65,200	14,700	8,520	4,880
18								-	73,200	16,500	6,320	2,180
19								-	73,000	15,600	9,800	7,740
20								54,200	62,900	15,700	3,290	9,180
21								51,400	50,700	18,300	3,870	8,610
22								48,100	55,100	16,600	6,180	6,310
23								44,800	55,600	14,500	4,980	6,500
24								47,800	42,100	11,100	4,240	6,420
25								45,000	38,300	13,800	4,980	5,960
26								42,200	41,700	13,200	6,310	9,830
27								42,800	42,400	11,800	3,810	9,610
28								40,200	48,900	11,200	4,880	7,120
29								34,800	33,900	11,700	5,010	9,090
30					------			37,600	36,800	10,100	4,940	8,620
31		------			------		------	42,000	------	9,950	4,270	------
TOTAL								-	1,574,100	689,350	256,110	231,990
MEAN								-	52,470	22,240	8,262	7,733
MAX								-	73,200	41,000	15,800	13,000
MIN								-	33,900	9,950	3,290	2,180
AC-FT								-	3,122,000	1,367,000	508,000	460,100

12-3914. Clark Fork below Noxon Rapids Dam, near Noxon, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,100	5,380	8,590	5,560	8,670	17,400	22,400	36,100	96,200	23,000	7,920	7,300
2	5,120	6,630	7,860	7,980	6,790	17,700	20,300	35,000	98,000	20,200	6,700	3,220
3	9,760	6,020	6,940	14,800	8,350	15,800	24,400	39,400	97,200	21,500	7,010	1,220
4	6,440	7,080	5,750	13,900	5,190	17,500	27,200	37,400	97,600	18,000	11,300	4,240
5	5,200	6,680	13,400	9,430	3,590	14,700	20,200	37,500	99,700	20,200	6,710	2,650
6	5,330	6,360	10,800	8,580	5,390	16,000	28,800	36,000	97,200	18,100	5,760	3,570
7	6,220	7,920	11,100	5,130	6,240	10,800	27,700	43,600	97,200	18,200	5,970	7,080
8	5,270	6,370	12,300	2,730	7,030	17,000	26,500	47,400	88,000	22,600	5,600	7,410
9	4,440	9,230	12,600	8,980	8,840	16,300	24,900	42,100	76,200	20,600	6,690	4,620
10	8,280	9,020	10,100	9,220	12,600	15,900	24,900	39,900	83,600	22,600	9,000	3,860
11	8,830	5,950	3,630	10,500	15,600	13,900	23,900	41,700	70,200	17,400	8,600	5,970
12	7,920	6,660	8,910	10,700	16,000	12,500	27,400	48,100	63,800	14,700	9,260	4,070
13	7,770	6,410	8,140	9,550	15,800	18,200	23,500	50,500	63,000	12,900	4,700	8,350
14	5,940	9,060	8,440	4,770	13,600	16,100	21,500	50,900	57,200	20,600	7,330	6,720
15	2,910	8,070	8,520	3,460	15,500	15,600	20,800	49,300	48,500	15,300	4,670	1,670
16	80	5,720	9,360	9,460	18,000	17,100	20,400	48,400	56,500	7,630	5,250	4,630
17	5,850	7,620	6,310	7,980	11,900	20,200	27,200	49,200	57,100	16,000	7,230	4,130
18	8,180	10,600	3,820	9,160	16,500	23,600	23,800	52,000	54,800	15,300	7,140	5,850
19	9,900	7,470	10,600	11,600	10,700	24,900	26,200	54,300	57,800	18,200	8,780	4,460
20	8,870	7,640	12,900	11,800	14,800	24,200	25,300	56,000	59,800	17,900	10,300	5,810
21	10,500	11,400	15,000	5,950	12,300	23,000	28,700	58,700	60,300	12,500	7,820	4,790
22	3,560	10,700	16,600	7,150	12,600	23,000	32,100	61,600	51,100	15,500	7,210	10,200
23	1,830	10,000	12,000	13,500	21,700	23,800	33,000	65,800	51,200	8,100	4,560	12,200
24	7,320	3,500	8,170	10,500	19,200	23,300	31,400	65,800	50,300	17,400	4,440	9,350
25	6,550	6,800	3,080	10,700	17,400	22,600	33,300	69,100	45,200	12,900	3,920	14,400
26	5,600	6,990	4,820	11,200	17,100	23,300	30,800	78,800	34,800	7,160	1,540	17,800
27	6,380	4,150	10,800	11,400	20,200	24,100	32,400	89,200	33,700	14,200	449	13,900
28	5,580	10,800	11,700	9,240	11,300	20,500	35,500	90,600	33,500	12,700	3,670	14,700
29	4,560	9,210	12,200	5,920	-------	22,700	36,500	88,000	30,400	7,050	3,070	13,900
30	5,020	5,420	12,400	10,200	-------	23,600	33,300	91,600	26,600	499	3,550	11,700
31	5,020	------	8,740	6,270	-------	22,800	-------	91,500	-------	2,560	3,650	-------
TOTAL	191,340	228,860	295,580	277,320	352,890	597,900	823,300	1,746.3M	1,935.1M	471,699	189,699	219,770
MEAN	6,172	7,629	9,535	8,946	12,600	19,290	27,440	56,330	64,500	15,220	6,129	7,326
MAX	10,500	11,400	16,600	14,800	21,700	24,900	36,500	91,900	99,700	23,000	11,300	17,800
MIN	80	3,500	3,080	2,730	3,590	10,800	20,300	35,000	26,600	499	449	1,220
AC-FT	379,500	453,900	586,300	550,100	699,900	1,186M	1,633M	3,464M	3,838M	935,600	376,500	435,900

CAL YR 1960: TOTAL MEAN MAX MIN AC-FT
WAT YR 1961: TOTAL 7,330,058 MEAN 20,080 MAX 99,700 MIN 80 AC-FT 14,540,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12,300	8,780	8,280	11,800	22,400	11,800	3,810	46,200	71,600	35,700	13,300	1,430
2	9,730	8,120	5,260	14,000	21,500	14,600	8,640	44,500	70,600	32,800	15,000	5,220
3	13,800	8,450	5,900	11,700	22,800	12,700	10,200	40,300	65,700	28,600	13,400	6,600
4	14,600	9,620	8,460	12,100	19,800	8,610	12,900	42,200	70,800	32,800	10,700	5,920
5	16,200	6,890	8,860	14,900	24,000	10,800	13,000	41,200	70,400	30,100	7,300	4,540
6	17,500	9,540	13,600	12,800	23,600	11,600	13,300	41,700	68,800	31,600	5,850	2,560
7	15,000	7,430	13,000	8,560	25,300	13,000	18,900	44,000	64,500	28,700	10,200	3,660
8	10,600	7,540	14,500	14,600	25,300	12,900	23,500	44,600	58,100	26,000	10,700	7,470
9	11,400	9,790	14,100	19,700	26,500	15,000	21,900	44,800	59,600	25,100	11,400	4,210
10	7,410	8,700	19,000	18,000	21,300	11,500	20,400	47,900	50,100	20,000	12,300	6,740
11	18,500	4,780	17,000	13,200	18,700	9,920	18,300	54,900	38,600	19,100	8,610	4,640
12	17,200	3,060	13,200	12,800	23,900	10,700	21,400	54,400	36,400	24,600	1,840	5,650
13	12,700	7,510	8,690	8,950	26,400	13,600	22,300	53,900	47,600	20,900	8,650	4,720
14	8,800	7,740	10,400	10,700	23,200	11,700	20,500	56,500	49,500	13,000	10,700	4,310
15	6,760	11,300	9,680	15,500	25,400	14,500	18,000	52,600	40,700	12,000	11,300	4,710
16	8,800	11,700	9,510	15,400	25,400	14,700	26,400	52,500	34,200	20,500	11,300	5,540
17	9,530	13,200	12,400	16,400	22,100	15,700	33,200	53,700	33,900	14,800	12,600	4,850
18	8,660	11,000	17,900	18,900	20,600	14,000	34,200	53,500	34,200	20,500	7,570	6,510
19	7,040	8,020	15,900	22,000	24,300	16,400	34,500	54,200	27,700	17,000	1,980	7,790
20	8,570	11,900	16,000	22,500	26,000	13,100	35,400	55,100	34,700	16,600	10,100	8,920
21	9,450	8,020	18,300	16,800	20,600	15,700	37,200	57,200	28,800	16,000	7,170	8,170
22	7,150	5,760	20,300	19,000	19,600	14,200	37,400	58,800	26,200	9,480	3,370	7,330
23	7,530	8,200	13,200	15,200	24,500	11,700	40,700	61,200	36,400	18,500	8,060	4,930
24	6,700	11,300	7,320	15,400	21,000	12,400	41,700	63,500	35,800	16,000	6,020	5,940
25	8,120	6,750	4,470	14,200	17,300	10,500	43,800	64,800	33,000	16,500	537	7,150
26	8,070	6,080	11,700	20,300	16,600	15,600	47,800	69,500	31,700	15,200	80	8,320
27	6,830	4,480	15,000	17,100	17,600	17,200	49,700	70,900	32,400	13,500	3,690	7,080
28	6,110	8,010	12,200	14,200	12,400	18,000	49,700	74,900	32,600	4,910	5,880	7,160
29	6,150	9,160	12,400	18,300	-------	18,400	49,200	74,300	33,800	7,580	6,020	5,960
30	12,300	9,850	12,900	20,200	-------	13,600	47,700	73,100	39,200	11,000	4,210	5,080
31	8,180	------	11,800	21,700	------	12,600	-------	73,700	-------	11,000	4,130	------
TOTAL	321,690	252,680	381,230	486,910	619,000	416,730	855,650	1,720.6M	1,362.0M	611,270	247,967	173,110
MEAN	10,380	8,423	12,300	15,710	22,110	13,440	28,520	55,500	45,400	19,720	7,999	5,770
MAX	18,500	13,200	20,300	22,500	26,500	18,400	49,700	74,900	71,600	35,700	15,000	8,920
MIN	6,110	3,060	4,470	8,560	12,400	8,610	3,810	40,300	26,200	4,910	80	1,430
AC-FT	638,100	501,200	756,200	965,800	1,228M	826,600	1,697M	3,413M	2,701M	1,212M	491,800	343,400

CAL YR 1961: TOTAL 7,569,878 MEAN 20,740 MAX 99,700 MIN 449 AC-FT 15,010,000
WAT YR 1962: TOTAL 7,448,837 MEAN 20,410 MAX 74,900 MIN 80 AC-FT 14,770,000

M Expressed in thousands.

12-3914. Clark Fork below Noxon Rapids Dam, near Noxon, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5,470	11,600	14,300	18,000	14,500	20,800	22,400	31,900	32,100	39,700	11,900	80
2	6,100	11,700	11,800	13,500	11,500	19,300	21,300	33,900	37,700	52,000	14,700	103
3	9,710	8,220	12,900	13,900	11,600	15,400	22,100	34,400	42,400	39,600	8,330	1,400
4	8,530	7,400	14,800	17,400	19,300	18,800	19,500	34,200	37,700	35,400	2,920	2,220
5	6,470	11,100	14,500	18,800	18,200	16,300	19,400	32,400	29,900	38,700	9,730	6,510
6	7,500	11,600	14,400	17,900	19,800	15,800	15,000	31,800	24,100	33,100	7,830	9,070
7	7,180	10,800	13,800	15,400	26,400	15,000	15,300	31,900	47,100	33,500	10,200	5,490
8	5,810	10,200	13,600	12,100	29,500	13,500	18,900	29,400	55,300	35,700	9,640	150
9	5,900	11,100	17,800	18,000	32,000	10,600	17,400	32,200	49,600	32,200	8,150	4,370
10	9,620	7,980	13,300	19,400	23,100	9,270	19,700	33,900	42,000	29,300	4,150	5,650
11	9,090	5,670	14,900	14,800	27,800	14,400	19,600	34,400	45,900	24,300	5,700	6,820
12	7,640	10,600	16,200	12,200	25,400	16,600	19,200	34,500	39,200	22,400	9,590	7,650
13	6,790	11,500	17,600	9,370	26,200	16,500	18,800	34,400	46,000	24,400	12,900	7,560
14	7,660	10,100	13,200	10,700	21,800	17,700	16,700	32,300	48,200	16,400	11,000	5,060
15	8,810	10,000	16,200	13,800	22,400	19,600	26,200	25,400	48,300	23,500	5,430	4,110
16	8,910	11,800	16,200	17,200	20,100	17,800	24,600	23,000	44,600	19,400	9,210	9,970
17	9,930	9,690	17,000	15,700	16,500	16,900	26,700	23,400	44,700	15,900	7,730	3,230
18	10,800	9,200	15,400	17,000	15,300	22,200	28,800	23,300	40,400	19,400	80	4,980
19	11,200	13,000	19,500	16,000	14,500	21,500	29,800	26,300	39,000	16,400	7,110	4,920
20	9,500	10,100	16,800	14,300	15,200	19,900	28,000	24,400	38,000	12,700	10,900	8,630
21	8,550	10,300	17,900	17,000	17,600	20,600	29,200	29,000	33,900	10,800	9,520	5,280
22	10,200	7,520	18,700	14,600	18,000	21,700	29,800	27,200	36,200	18,800	7,160	4,670
23	9,190	12,200	19,700	19,400	16,300	22,800	29,700	28,900	36,000	14,200	6,160	5,850
24	9,270	11,700	19,900	15,300	13,600	17,700	28,700	31,500	42,600	12,800	3,630	4,890
25	11,200	8,740	15,100	15,300	17,700	21,600	26,800	29,100	34,100	11,800	80	6,270
26	11,200	11,600	19,000	18,200	20,700	21,000	23,700	25,400	29,000	12,900	4,360	7,280
27	8,590	13,400	14,700	16,500	22,000	20,900	24,000	26,700	32,600	9,050	7,170	7,500
28	5,630	13,400	20,600	21,600	21,800	19,700	21,900	27,800	27,500	6,830	10,800	4,760
29	9,570	12,200	14,200	18,900	------	19,200	26,500	28,100	31,300	12,800	14,100	5,380
30	11,900	10,900	16,200	17,300	------	22,000	30,000	29,700	37,000	8,850	5,370	5,930
31	11,300	------	15,600	14,200	------	18,600	------	27,200	------	7,970	80	------
TOTAL	269,220	315,320	495,800	493,770	558,800	563,670	699,800	918,000	1,176.4M	690,800	235,630	155,823
MEAN	8,685	10,510	15,990	15,930	19,960	18,180	23,330	29,610	39,210	22,280	7,601	5,194
MAX	11,900	13,400	20,600	21,600	32,000	22,800	30,000	34,500	55,300	52,000	14,700	9,970
MIN	5,470	5,670	11,800	9,370	11,500	9,270	15,000	23,000	24,100	6,830	80	80
AC-FT	534,000	625,400	983,400	979,400	1,108M	1,118M	1,388M	1,821M	2,333M	1,370M	467,400	309,100

CAL YR 1962: TOTAL 7,573,577 MEAN 20,750 MAX 74,900 MIN 80 AC-FT 15,020,000
WAT YR 1963: TOTAL 6,573,033 MEAN 18,010 MAX 55,300 MIN 80 AC-FT 13,040,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,140	7,890	3,690	9,590	9,760	17,700	16,700	17,100	68,900	59,100	14,000	6,680
2	6,870	7,230	6,600	10,800	14,000	20,800	18,400	17,600	64,900	49,800	9,560	8,210
3	5,410	6,090	5,160	12,900	16,600	21,100	15,200	23,300	61,600	48,100	13,800	9,820
4	6,960	5,980	8,880	13,400	15,900	19,700	14,800	20,600	66,800	56,300	14,200	12,100
5	5,890	5,410	10,500	12,900	15,600	19,400	12,100	23,100	73,200	60,500	13,000	17,600
6	5,760	9,760	8,850	12,200	17,400	20,100	12,200	23,200	70,000	53,000	15,100	15,100
7	7,120	9,840	4,910	13,100	18,200	19,100	14,700	20,300	71,700	55,600	15,200	13,700
8	4,440	6,630	4,650	13,900	14,400	18,000	15,700	23,700	90,000	48,400	9,630	11,200
9	4,760	7,390	6,170	14,300	15,100	18,700	16,400	22,900	116,200	42,400	9,670	11,400
10	5,820	8,310	10,800	13,200	15,200	23,500	15,900	22,700	119,100	39,600	12,700	9,100
11	6,190	9,060	15,200	11,300	18,100	20,200	16,600	23,000	122,500	42,600	10,900	10,400
12	8,000	9,520	12,300	12,200	16,700	18,500	16,200	25,000	124,900	38,700	11,000	13,200
13	7,380	7,860	11,100	13,300	14,600	19,300	16,300	28,500	116,400	30,200	9,040	7,560
14	8,920	8,350	8,160	13,300	16,200	16,800	14,000	31,700	112,600	31,800	11,500	9,580
15	6,350	9,240	11,200	13,300	14,100	13,200	14,900	33,400	107,700	29,300	8,810	6,550
16	7,710	7,780	12,500	13,100	10,200	21,700	16,100	32,000	105,400	28,000	8,700	10,600
17	6,600	7,530	11,900	12,300	15,400	20,200	13,000	33,700	105,800	28,800	9,260	11,400
18	8,110	6,550	12,300	13,300	16,300	21,300	16,000	38,200	103,000	33,500	9,590	13,400
19	13,400	7,420	11,800	12,200	13,900	20,400	16,400	41,700	102,300	24,800	10,600	11,100
20	11,800	11,000	12,400	10,600	17,800	19,100	14,600	44,000	96,400	28,100	10,100	3,180
21	13,600	7,920	11,100	10,800	15,400	14,900	12,000	50,000	95,700	26,800	8,480	8,850
22	9,500	5,530	7,940	12,700	10,500	12,300	16,100	56,700	90,300	19,400	7,290	7,840
23	13,200	4,230	13,300	14,300	7,840	20,900	17,700	66,600	80,700	20,100	2,840	8,370
24	13,500	2,860	11,200	14,300	14,800	19,800	17,100	70,500	57,600	21,300	7,760	10,800
25	7,740	8,250	8,670	9,640	13,400	17,800	16,900	68,600	68,400	14,400	6,460	8,870
26	8,070	7,560	11,200	8,850	18,500	15,800	16,700	64,000	83,900	12,100	6,660	8,940
27	7,540	5,150	11,400	9,050	19,000	12,700	14,200	52,200	84,000	16,800	7,460	7,160
28	8,720	4,230	10,900	12,800	19,600	12,800	15,800	45,500	81,600	14,800	6,440	9,840
29	5,930	4,280	9,910	10,800	16,800	9,140	16,300	48,000	70,000	11,900	6,970	8,650
30	13,000	4,150	11,800	10,900	------	13,400	18,000	50,100	69,400	15,600	7,320	8,500
31	13,200	------	11,000	11,200	------	17,700	------	60,500	------	14,400	6,560	------
TOTAL	258,630	213,200	307,490	376,530	441,300	556,040	467,000	1,178.4M	2,681.0M	1,016.2M	300,600	299,750
MEAN	8,343	7,107	9,919	12,150	15,220	17,940	15,570	38,010	89,370	32,780	9,697	9,992
MAX	13,600	11,000	15,200	14,300	19,600	23,500	18,400	70,500	124,900	60,500	15,200	17,600
MIN	4,440	2,860	3,690	8,850	7,840	9,140	12,000	17,100	57,600	11,900	2,840	3,180
AC-FT	513,000	422,900	609,900	746,800	875,300	1,103M	926,300	2,337M	5,318M	2,016M	596,200	594,500

CAL YR 1963: TOTAL 6,272,013 MEAN 17,180 MAX 55,300 MIN 80 AC-FT 12,440,000
WAT YR 1964: TOTAL 8,096,140 MEAN 22,120 MAX 124,900 MIN 2,840 AC-FT 16,060,000

M Expressed in thousands.

12-3914. Clark Fork below Noxon Rapids Dam, near Noxon, Mont.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,300	9,760	9,690	17,700	20,200	30,700	25,700	67,900	83,300	38,900	11,000	13,700
2	7,390	10,500	12,900	16,700	20,000	31,700	25,600	72,100	84,100	39,900	14,600	12,800
3	5,350	11,700	13,800	11,100	19,500	30,400	23,700	74,100	83,100	36,500	10,100	16,000
4	4,850	9,580	14,300	13,600	19,100	30,200	26,000	71,800	80,800	38,200	16,300	14,200
5	8,310	12,100	13,700	15,700	20,400	27,500	29,100	68,000	70,900	40,200	16,000	11,600
6	7,040	12,900	13,500	17,600	19,700	28,000	29,000	64,600	65,700	42,700	15,000	7,960
7	8,920	12,300	14,300	19,100	21,800	27,300	28,200	60,800	60,200	37,300	13,400	8,940
8	9,370	10,300	12,000	20,900	23,200	28,600	27,000	57,900	61,100	34,800	12,300	9,490
9	9,620	12,300	12,100	16,400	24,100	28,500	28,900	54,900	60,200	37,100	15,700	8,770
10	5,610	12,500	13,200	18,500	22,700	32,600	25,800	54,300	54,500	36,900	13,700	12,400
11	4,950	14,000	14,200	15,700	22,800	33,400	28,100	52,900	56,400	40,600	10,600	10,300
12	8,600	13,700	14,300	13,900	21,500	32,300	28,000	53,200	77,300	36,600	12,400	10,700
13	10,700	13,200	12,700	16,800	24,400	27,600	28,100	50,600	80,100	36,100	11,700	10,500
14	10,500	12,300	13,200	16,000	23,800	34,100	27,200	62,000	83,000	36,900	14,100	13,100
15	10,400	10,700	13,900	16,000	20,000	34,100	27,100	64,000	78,700	31,200	12,800	11,500
16	11,300	14,300	18,600	15,900	19,900	33,100	27,300	67,600	67,800	28,600	10,700	18,600
17	10,400	13,800	20,200	14,400	23,900	32,100	28,300	70,800	54,300	27,700	10,600	16,200
18	10,100	13,200	18,400	13,600	23,900	30,800	29,000	71,100	64,400	32,900	10,900	11,400
19	11,600	12,000	18,700	15,500	23,600	30,000	29,500	69,900	83,900	22,100	10,100	11,300
20	11,100	15,200	12,300	15,300	23,400	33,100	32,200	64,300	92,000	19,600	11,000	12,600
21	11,100	13,300	11,100	15,800	23,300	31,600	40,000	55,800	88,500	21,900	9,910	14,300
22	12,900	13,300	8,530	17,100	23,800	31,200	48,300	54,300	85,300	21,200	9,920	15,600
23	11,800	13,100	17,000	18,100	28,200	32,700	58,200	54,600	73,600	20,600	7,920	16,000
24	10,900	13,600	26,600	17,000	28,100	29,800	55,800	52,000	61,200	20,900	10,700	17,700
25	9,290	14,200	31,600	16,800	28,500	29,700	54,900	50,700	61,600	22,200	15,800	16,600
26	11,300	13,000	25,600	15,800	29,400	28,100	55,200	51,400	55,800	20,000	19,000	17,600
27	14,500	12,100	18,000	19,700	29,100	28,600	55,200	56,500	49,500	17,800	12,900	17,300
28	12,600	11,200	19,400	18,600	29,000	30,600	56,300	60,100	46,000	20,500	15,900	17,200
29	11,200	9,440	16,100	16,600	------	26,600	58,200	62,100	55,100	19,400	13,500	15,800
30	10,400	12,100	19,900	15,400	------	25,500	62,700	67,400	52,400	17,600	12,000	14,700
31	10,000	------	20,500	20,200	------	25,100	------	78,400	------	11,300	12,000	------
TOTAL	301,400	371,680	500,320	511,500	657,300	935,600	1,098.6M	1,916.1M	2,070.8M	908,200	392,550	404,860
MEAN	9,723	12,390	16,140	16,500	23,480	30,180	36,620	61,810	69,030	29,300	12,660	13,500
MAX	14,500	15,200	31,600	20,900	29,400	34,100	62,700	78,400	92,000	42,700	19,000	18,600
MIN	4,850	9,440	8,530	11,100	19,100	25,100	23,700	50,600	46,000	11,300	7,920	7,960
AC-FT	597,800	737,200	992,400	1,015M	1,304M	1,856M	2,179M	3,801M	4,107M	1,801M	778,600	803,000

CAL YR 1964: TOTAL 8,490,220 MEAN 23,200 MAX 124,900 MIN 2,840 AC-FT 16,840,000
WAT YR 1965: TOTAL 10,068,910 MEAN 27,590 MAX 92,000 MIN 4,850 AC-FT 19,970,000

M Expressed in thousands.

12-3920. Clark Fork at Whitehorse Rapids, near Cabinet, Idaho

Location.--Lat 48°05'10", long 116°03'50", in NE¼SW¼ sec.27, T.55 N., R.3 E., on left bank at Cabinet, 0.4 mile downstream from Cabinet Gorge Dam, 1.7 miles downstream from Blue Creek, 6.5 miles southeast of Clark Fork, and at mile 149.5. Measuring cableway 0.4 mile downstream. Discharge computed at Whitehorse Rapids 2.7 miles downstream.

Drainage area.--22,067 sq mi, based on revised area of 22,006 sq mi for site near Heron.

Records available.--September 1928 to September 1965. Prior to October 1952, published as "Clark Fork near Heron, Mont."

Gage.--Digital water-stage recorder. Datum of gage is 2,060.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1947, levels by The Washington Water Power Co. Prior to Oct. 30, 1928, staff gage and Oct. 30, 1928, to Apr. 8, 1952, graphic water-stage recorder, at site near Heron 4 miles upstream at datum 88.00 ft higher prior to Jan. 2, 1931, and 78.00 ft higher thereafter. Apr. 9 to Sept. 30, 1952, staff gage just upstream from present site at datum approximately 60 ft lower and Oct. 1, 1952, to Sept. 30, 1964, graphic water-stage recorder at datum 60.00 ft lower. Oct. 1, 1964, to May 6, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--37 years, 21,790 cfs (15,780,000 acre-ft per year); 15-year base period (1947-62), 24,740 cfs.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 6, 1961	112,000	86.84	Sept.16, 1961	810	63.80
1962	May 28, 1962	84,300	83.10	Sept. 2, 3, 1962	750	63.80
1963	July 2, 1963	66,900	80.48	(a)	820	63.82
1964	June 11, 1964	147,000	90.60	Aug. 23, 1964	914	63.99
1965	June 22, 1965	103,000	25.56	Oct. 4, 1964	1,100	4.25

a Aug. 25, 26, 31, Sept. 1, 2, 3, 1963.

1928-65: Maximum discharge, 153,000 cfs May 29 to June 1, 1948 (maximum gage height, 50.97 ft May 31, 1948, site and datum then in use); minimum observed, 270 cfs Aug. 12, 1952 (discharge measurement), at present site during filling of Cabinet Gorge Reservoir; minimum daily since reservoir filled, 762 cfs Sept. 2, 1962.

Maximum discharge known, 195,000 cfs June 1894 (elevation of floodmark at site about 4 miles upstream and an eighth of a mile below "near Heron" site, 2,137.1 ft).

Remarks.--Records excellent. Flow regulated by Hungry Horse Reservoir (see station 12-3620) and Flathead Lake (see station 12-3710). Extreme diurnal fluctuation caused by powerplant at Cabinet Gorge Dam. Diversions above station for irrigation of about 354,000 acres. Discharge measurements indicate about 800 cfs ground-water inflow between Cabinet Gorge Dam and Whitehorse Rapids. Records given herein represent flow at Whitehorse Rapids, computed by adding 600 cfs to observed flows at the measuring cableway, and are considered comparable to records at former site near Heron except for minor surface inflow from additional drainage area. To determine flow at Cabinet Gorge Dam, 800 cfs should be deducted from discharges published herein.

Cooperation.--Gage-height record furnished by The Washington Water Power Co.

Revisions (water years).--WSP 1182: 1936. WSP 1736: 1931, 1936(m), 1937.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8,520	7,680	10,200	7,720	11,000	18,700	28,000	38,400	99,600	27,800	9,580	3,700
2	7,120	8,320	9,990	9,820	7,940	21,600	22,700	39,600	102,000	23,800	9,060	5,080
3	12,200	8,120	9,050	16,600	11,200	19,700	27,800	40,900	100,000	26,000	9,110	4,020
4	7,900	8,940	7,390	15,700	6,760	19,400	32,400	40,800	101,000	21,700	13,400	6,270
5	7,740	9,740	15,700	11,900	5,860	18,500	32,800	40,800	104,000	23,600	9,060	5,500
6	6,900	7,630	13,000	11,100	7,000	19,300	32,400	39,300	101,000	21,700	6,560	8,780
7	8,100	10,600	12,800	7,040	7,920	12,700	31,600	46,200	101,000	21,400	8,630	9,160
8	9,280	10,600	14,600	4,720	9,240	21,000	29,300	49,700	88,400	25,900	8,120	3,360
9	8,500	9,560	14,600	10,400	11,100	18,400	27,100	44,000	81,800	24,200	8,760	5,630
10	6,100	10,900	12,400	10,800	15,300	19,300	28,900	42,600	87,800	25,800	11,000	12,300
11	11,700	7,970	6,330	12,800	18,400	16,600	26,900	44,200	76,000	20,800	10,400	7,560
12	10,100	9,180	9,840	12,400	18,500	15,800	30,300	49,400	68,300	17,800	11,400	5,060
13	9,820	8,460	9,760	11,900	19,000	20,200	27,600	51,200	65,200	15,700	6,390	3,560
14	8,080	10,900	10,700	6,900	18,900	19,200	25,100	52,300	61,500	23,100	8,990	9,710
15	4,340	10,700	10,300	5,290	18,300	18,700	24,600	51,200	52,700	19,000	7,100	4,700
16	1,750	7,700	11,000	11,600	20,900	19,200	23,000	50,000	60,400	10,600	6,470	3,900
17	7,840	9,720	8,200	10,200	15,100	22,700	30,200	50,800	61,400	18,600	9,300	5,340
18	9,750	13,200	5,640	11,300	19,000	26,000	27,000	53,800	58,700	17,900	9,350	8,230
19	12,300	9,580	12,200	13,200	13,900	27,600	29,800	56,400	62,000	21,400	10,700	5,190
20	11,100	9,900	14,300	13,700	17,100	27,400	29,200	57,400	63,900	20,700	12,900	7,700
21	12,900	13,700	17,500	9,660	16,700	26,300	31,800	60,500	64,900	20,200	9,160	6,590
22	5,320	12,700	18,200	7,560	17,000	25,200	34,900	62,800	55,300	14,300	9,540	16,600
23	3,840	11,000	20,900	15,800	26,700	25,900	36,000	66,600	53,400	10,300	6,280	8,830
24	9,500	6,070	10,300	12,400	21,800	25,700	36,000	68,200	53,300	19,700	6,040	11,600
25	8,880	9,420	2,660	12,400	21,400	24,700	35,000	70,300	49,400	15,800	5,580	15,900
26	8,130	8,950	3,640	12,700	20,600	24,500	33,900	81,300	38,700	9,630	2,840	19,000
27	7,960	5,840	11,400	12,400	21,200	27,400	34,400	93,000	38,400	16,100	1,770	16,800
28	8,060	13,100	13,700	10,800	17,600	24,000	38,000	93,400	37,100	15,400	10,200	16,400
29	6,740	11,600	13,800	7,970	------	22,700	39,000	90,700	35,400	8,660	4,600	16,300
30	6,800	12,100	14,200	11,200	------	27,000	37,000	94,500	31,400	2,940	6,080	13,900
31	7,040	------	11,300	7,890	------	25,100	------	94,800	------	4,060	6,260	------
TOTAL	254,310	293,880	355,600	335,870	435,420	680,500	922,700	1,815.1M	2,054.0M	564,590	256,630	266,670
MEAN	8,204	9,796	11,470	10,830	15,550	21,950	30,760	58,550	68,470	18,210	8,214	8,889
MAX	12,900	13,700	20,900	16,600	26,700	27,600	39,000	94,800	104,000	27,800	13,400	19,000
MIN	1,750	5,840	2,660	4,720	5,860	12,700	22,700	38,400	31,400	2,940	1,770	3,360
AC-FT	504,400	582,900	705,300	666,200	863,600	1,350M	1,830M	3,600M	4,074M	1,120M	505,100	528,900

CAL YR 1960: TOTAL 8,396,910 MEAN 22,940 MAX 77,800 MIN 1,750 AC-FT 16,660,000
WAT YR 1961: TOTAL 8,233,270 MEAN 22,560 MAX 104,000 MIN 1,750 AC-FT 16,330,000

M Expressed in thousands.

12-3920. Clark Fork at Whitehorse Rapids, near Cabinet, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13,200	10,400	9,460	13,400	24,100	13,900	6,080	46,800	73,500	39,300	16,400	786
2	12,700	9,960	7,220	16,000	23,600	16,000	10,400	45,600	71,600	37,700	16,900	762
3	13,900	9,940	7,240	13,900	25,100	16,300	12,600	42,400	71,100	32,000	17,800	6,550
4	23,300	10,900	10,300	14,100	22,200	9,320	15,600	43,400	70,400	36,900	12,700	7,000
5	18,000	9,060	10,400	16,900	27,400	13,000	15,900	43,700	69,900	33,400	8,430	6,700
6	13,700	11,400	15,100	15,100	26,500	13,000	17,300	44,000	68,800	35,600	13,700	4,150
7	16,500	8,660	14,800	10,400	27,800	15,200	22,100	45,100	63,700	31,400	12,800	4,960
8	12,000	8,930	16,300	15,800	28,100	14,700	28,500	45,800	58,300	30,000	12,500	9,100
9	13,400	11,900	15,800	21,400	28,800	17,300	25,800	46,800	61,100	29,300	13,600	6,200
10	8,940	10,400	20,900	20,500	23,900	13,700	25,200	49,300	50,800	23,800	14,600	8,260
11	19,600	6,710	19,000	15,400	21,200	11,000	19,600	55,400	41,500	22,200	11,400	5,990
12	19,500	4,090	15,000	14,400	26,500	13,000	24,600	55,800	38,800	26,800	3,300	7,080
13	14,300	8,740	10,100	10,600	28,700	17,800	25,500	56,200	40,700	23,700	10,600	6,820
14	10,400	9,700	12,300	12,800	27,300	12,200	25,000	54,200	51,100	16,100	13,700	5,580
15	9,070	13,200	11,600	17,700	26,900	15,500	21,200	50,900	43,600	14,300	14,400	6,460
16	10,300	13,200	11,200	17,100	28,000	16,200	29,300	52,600	38,200	24,900	13,100	7,500
17	11,400	15,400	14,000	18,200	25,200	17,200	36,700	54,300	37,500	16,900	19,400	8,310
18	11,000	12,400	19,700	21,500	23,900	17,300	36,200	54,300	38,900	24,100	10,000	8,200
19	8,640	10,200	17,200	24,000	27,000	20,900	41,100	55,700	31,300	19,600	1,980	8,920
20	9,860	13,500	18,500	24,200	28,600	13,600	40,700	57,000	38,400	20,900	9,820	12,000
21	11,400	9,980	20,500	18,900	23,600	19,100	39,600	57,800	33,100	18,100	9,580	9,110
22	8,640	8,030	21,300	25,200	22,100	12,500	40,100	60,400	30,800	11,200	10,500	9,090
23	9,420	9,330	16,100	13,900	26,400	13,100	42,700	62,400	40,600	21,500	4,310	6,300
24	8,540	12,800	9,170	17,700	25,300	14,700	42,000	65,200	40,400	19,400	7,860	7,830
25	9,780	8,080	5,640	16,100	19,200	12,200	48,500	67,200	38,200	20,100	7,960	8,920
26	10,400	7,320	14,400	23,700	18,100	19,000	48,600	71,400	34,700	19,400	3,320	10,500
27	8,160	8,850	16,000	17,600	21,800	18,900	50,400	73,100	36,400	15,300	8,880	9,460
28	8,040	7,200	13,900	16,400	13,400	19,300	50,600	77,200	38,000	7,970	13,200	8,640
29	7,100	10,200	14,400	20,300	------	20,900	49,200	77,100	36,700	9,620	13,200	7,450
30	14,000	12,000	15,000	22,000	------	20,500	47,900	75,400	44,100	14,700	2,240	5,920
31	10,400	------	13,600	24,700	------	12,900	------	74,800	------	13,100	798	------
TOTAL	375,590	302,480	436,130	549,900	690,700	480,220	938,980	1,761.3M	1,441.2M	709,290	328,978	214,548
MEAN	12,120	10,080	14,070	17,740	24,670	15,490	31,300	56,820	48,040	22,880	10,610	7,152
MAX	23,300	15,400	21,300	25,200	28,800	20,900	50,600	77,200	73,500	39,300	19,400	12,000
MIN	7,100	4,090	5,640	10,400	13,400	9,320	6,080	42,400	30,800	7,970	798	762
AC-FT	745,000	600,000	865,100	1,091M	1,370M	952,500	1,862M	3,493M	2,859M	1,407M	652,500	425,500

CAL YR 1961: TOTAL 8,443,680 MEAN 23,130 MAX 104,000 MIN 1,770 AC-FT 16,750,000
WAT YR 1962: TOTAL 8,229,316 MEAN 22,550 MAX 77,200 MIN 762 AC-FT 16,320,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,960	13,700	17,300	20,200	17,100	23,200	24,600	33,200	35,700	41,500	16,400	820
2	8,520	14,400	14,500	18,100	14,300	22,300	25,200	37,600	40,700	54,600	14,900	820
3	10,900	9,830	14,700	14,400	13,700	17,900	25,100	37,900	45,600	44,600	11,300	3,740
4	10,200	9,430	17,600	19,800	22,200	21,600	21,400	39,000	41,400	38,300	5,340	8,000
5	8,000	13,000	16,900	20,900	21,600	20,700	22,300	35,800	35,500	42,400	9,840	2,550
6	9,310	14,100	16,700	20,400	23,300	16,400	17,600	34,700	28,400	36,300	10,900	10,400
7	9,140	15,300	16,000	18,200	29,000	18,100	18,300	36,800	46,800	35,800	12,100	7,380
8	7,250	19,200	15,800	14,800	32,800	15,700	22,600	32,600	60,000	38,700	12,400	1,360
9	7,370	9,160	19,800	19,500	35,600	13,200	20,200	36,200	53,100	35,400	10,100	5,800
10	11,100	5,800	15,700	22,800	26,800	11,700	22,500	40,800	50,000	33,200	6,010	7,500
11	11,500	7,240	16,900	17,100	31,000	17,200	22,800	41,000	52,900	28,000	6,780	8,610
12	9,690	12,400	19,800	14,800	28,700	18,800	21,400	40,300	40,500	26,600	11,900	9,520
13	8,740	13,100	20,200	11,700	29,700	19,300	21,500	39,100	50,000	27,200	14,700	10,100
14	10,400	12,600	15,100	13,400	24,700	21,100	19,800	36,200	51,500	19,200	13,800	6,980
15	11,300	12,100	16,900	15,300	25,500	21,900	23,500	27,400	51,900	29,100	7,660	5,520
16	11,100	13,900	18,600	21,700	22,900	21,800	27,400	23,200	48,200	20,800	11,000	12,200
17	12,400	11,600	19,400	13,900	19,500	18,900	30,500	23,700	47,800	19,800	9,200	4,750
18	13,000	11,200	17,400	17,700	19,300	23,900	31,800	26,200	42,300	20,000	1,980	6,390
19	13,400	15,300	21,800	19,000	15,300	23,900	32,800	30,500	43,000	18,900	7,980	6,000
20	11,900	12,400	19,400	15,600	18,400	24,000	30,600	27,500	42,400	15,500	13,500	10,600
21	10,700	13,000	19,800	19,900	21,000	23,000	32,300	33,100	37,000	13,200	11,200	6,850
22	12,400	9,960	20,900	16,000	20,800	22,900	32,500	32,400	37,800	21,100	8,870	6,300
23	11,400	14,500	22,400	22,100	18,800	24,900	32,400	35,200	38,400	17,300	8,530	8,140
24	11,100	14,300	22,200	18,000	16,300	23,900	31,800	34,300	45,900	14,800	5,580	5,860
25	13,500	10,700	16,300	16,900	20,200	22,000	30,100	34,700	37,100	14,900	988	7,960
26	13,400	14,400	22,700	21,100	23,100	25,000	26,700	29,800	31,500	15,200	6,020	10,400
27	10,200	16,500	16,600	18,600	25,000	23,200	26,400	30,500	36,400	10,800	8,180	8,180
28	8,040	15,900	22,400	24,200	24,800	22,800	24,000	31,900	30,700	8,640	12,800	6,600
29	11,500	14,900	16,000	21,400	------	21,100	30,600	32,000	33,200	15,600	15,800	6,440
30	13,700	13,200	20,800	20,000	------	23,300	34,800	33,200	39,400	10,700	10,100	8,000
31	12,800	------	15,500	16,500	------	23,800	------	30,000	------	9,540	903	------
TOTAL	330,920	383,120	566,100	564,000	641,400	647,500	789,500	1,036.8M	1,275.1M	777,680	296,761	203,870
MEAN	10,670	12,770	18,260	18,190	22,910	20,890	26,320	33,450	42,500	25,090	9,573	6,796
MAX	13,700	19,200	22,700	24,200	35,600	25,000	34,800	41,000	60,000	54,600	16,400	12,200
MIN	6,960	5,800	14,500	11,700	13,700	11,700	17,600	23,200	28,400	8,640	903	820
AC-FT	656,400	759,900	1,123M	1,119M	1,272M	1,284M	1,566M	2,056M	2,529M	1,543M	588,600	404,400

CAL YR 1962: TOTAL 8,395,256 MEAN 23,000 MAX 77,200 MIN 762 AC-FT 16,650,000
WAT YR 1963: TOTAL 7,512,751 MEAN 20,580 MAX 60,000 MIN 820 AC-FT 14,900,000

M Expressed in thousands.

12-3920. Clark Fork at Whitehorse Rapids, near Cabinet, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8,920	9,650	5,740	11,200	11,700	20,200	19,200	22,000	70,600	64,000	15,400	10,800
2	7,660	5,140	7,420	14,000	16,500	21,800	21,900	18,300	69,600	53,800	10,300	14,000
3	7,560	7,110	6,820	13,900	19,500	23,300	17,300	27,400	66,000	50,700	17,400	13,600
4	8,360	8,080	11,000	15,400	17,700	21,700	16,900	23,500	70,300	58,300	17,300	12,700
5	7,320	6,400	12,400	15,000	17,900	21,900	14,500	25,700	75,800	61,700	15,400	14,600
6	7,400	12,100	10,100	15,600	18,600	23,300	15,600	27,300	74,400	57,000	18,200	17,300
7	8,540	11,700	6,830	15,100	20,100	23,500	15,600	22,800	75,300	57,400	18,200	15,900
8	6,220	8,680	5,750	16,100	16,600	19,500	20,400	26,800	82,500	52,900	12,000	14,000
9	6,220	8,340	8,180	15,900	17,400	22,700	17,900	25,700	130,000	46,800	11,600	14,100
10	6,840	10,000	12,700	15,000	17,400	23,300	20,400	26,600	129,000	42,800	15,700	11,100
11	7,880	11,100	16,700	14,700	20,600	21,600	18,300	26,700	133,000	45,600	13,100	12,800
12	9,460	11,500	13,800	13,000	19,100	19,700	16,100	28,200	135,000	43,900	13,500	15,000
13	9,560	9,040	13,100	15,000	17,500	21,200	18,500	32,500	125,000	35,900	12,500	9,700
14	10,800	10,500	9,890	15,700	18,100	20,800	18,300	35,600	120,000	36,600	12,500	12,300
15	8,560	10,500	13,000	15,200	15,700	14,500	16,000	38,000	114,000	30,500	11,000	8,140
16	8,260	9,560	14,200	15,300	12,100	23,800	18,700	36,400	113,000	30,300	11,800	11,800
17	8,430	9,410	13,600	15,000	18,000	23,500	15,900	37,500	110,000	32,600	11,400	14,300
18	9,550	10,500	14,900	15,700	17,600	21,900	18,500	43,800	109,000	37,400	15,500	17,200
19	15,200	9,720	13,600	14,100	16,400	22,500	17,800	45,200	108,000	28,500	13,600	11,500
20	13,700	9,260	14,800	12,700	19,500	21,300	22,100	48,100	101,000	31,600	9,700	4,390
21	15,500	9,730	12,300	12,800	17,900	15,600	9,540	54,800	99,500	32,400	10,700	11,500
22	12,200	7,470	9,200	13,900	12,100	15,600	19,800	58,200	92,200	23,700	9,480	9,460
23	14,400	5,450	15,400	16,200	9,390	21,000	18,600	67,000	86,000	25,100	4,520	13,200
24	16,500	4,260	13,300	16,400	17,300	24,800	19,600	73,300	63,300	23,500	10,100	10,600
25	8,960	10,400	10,000	12,300	15,100	19,200	19,800	68,400	69,400	17,500	8,560	10,800
26	9,780	9,390	12,900	10,600	21,900	17,400	20,200	65,100	88,700	15,900	8,370	12,800
27	9,560	5,880	13,100	11,200	20,200	14,000	17,400	53,100	87,400	18,900	8,660	7,000
28	10,300	5,940	13,000	15,000	22,500	14,500	18,200	47,600	85,500	22,200	9,150	12,200
29	8,580	5,500	12,000	13,600	19,600	10,800	15,900	50,500	72,700	10,900	8,660	11,000
30	13,900	5,760	14,000	12,800	------	15,300	20,500	52,500	73,300	17,400	9,460	12,100
31	15,000	------	12,500	12,600	------	19,800	------	62,400	------	18,400	9,470	------
TOTAL	311,130	262,070	362,270	441,000	504,990	620,000	546,440	1,271.0M	2,839.8M	1,128.2M	374,030	365,890
MEAN	10,040	8,736	11,690	14,230	17,410	20,000	18,210	41,000	94,660	36,390	12,070	12,200
MAX	16,500	12,100	16,700	16,400	22,500	24,800	22,100	73,300	135,000	64,000	18,200	17,300
MIN	6,220	4,260	5,740	10,600	9,390	10,800	9,540	18,300	63,300	10,900	4,520	4,390
AC-FT	617,100	519,800	718,600	874,700	1,002M	1,230M	1,084M	2,521M	5,633M	2,238M	741,900	725,700

CAL YR 1963: TOTAL 7,168,081 MEAN 19,640 MAX 60,000 MIN 820 AC-FT 14,220,000
WAT YR 1964: TOTAL 9,026,820 MEAN 24,660 MAX 135,000 MIN 4,260 AC-FT 17,900,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,050	11,800	12,800	21,200	23,700	34,400	28,100	70,600	86,100	41,800	12,900	12,400
2	10,600	13,400	15,300	19,900	23,500	34,800	29,000	74,500	87,400	44,300	16,700	15,100
3	6,740	13,500	16,500	13,600	23,300	33,700	26,000	76,100	85,800	38,800	15,600	19,400
4	6,550	13,200	16,800	16,000	21,400	34,100	28,000	73,200	83,600	41,300	16,700	16,800
5	10,400	13,700	16,800	19,600	23,500	32,100	31,900	69,300	74,100	44,700	18,900	13,900
6	9,620	15,800	16,100	20,900	23,100	30,100	31,400	66,200	58,200	45,100	17,500	10,100
7	13,400	14,700	16,800	21,700	23,900	30,600	30,100	62,600	64,200	41,100	16,200	11,200
8	10,600	12,200	14,800	24,600	28,300	31,200	29,500	59,300	62,700	38,500	14,400	12,000
9	10,400	14,800	14,500	19,100	27,000	31,700	32,300	56,700	63,000	41,000	13,400	10,400
10	7,680	14,200	16,100	22,200	26,200	35,500	30,000	54,900	59,500	40,300	16,500	14,800
11	6,920	16,300	16,900	19,600	25,700	36,900	31,100	54,700	59,700	43,600	13,400	12,700
12	11,000	16,000	17,000	15,400	23,500	35,000	30,700	56,800	81,700	39,700	14,300	12,900
13	13,300	15,600	15,500	19,600	27,500	29,500	31,000	52,700	84,300	38,600	14,000	12,600
14	13,200	14,400	15,700	19,400	26,100	36,700	30,900	65,000	86,200	40,100	18,100	15,700
15	12,800	13,300	16,600	19,200	21,700	38,700	30,800	66,700	83,400	35,300	14,900	13,800
16	13,900	16,500	21,200	18,800	21,900	34,900	31,700	70,100	71,200	32,300	13,800	21,800
17	11,600	16,000	25,200	16,900	26,100	35,500	32,400	73,300	58,800	31,400	12,900	19,200
18	13,000	15,600	21,200	16,200	26,900	34,600	31,900	73,100	68,200	36,700	12,900	13,700
19	14,200	15,000	20,800	19,300	25,800	33,200	33,600	71,600	87,700	26,600	13,200	13,700
20	13,000	17,700	15,300	17,300	26,400	36,500	36,100	66,900	95,800	21,500	13,400	15,000
21	13,700	15,400	14,000	19,100	26,100	33,900	43,100	58,700	93,800	25,500	12,600	16,900
22	15,500	16,100	13,600	20,400	26,100	33,800	51,300	54,900	89,500	24,900	12,100	17,600
23	15,700	16,300	17,300	24,500	31,100	35,500	61,000	57,300	76,800	23,500	10,200	18,500
24	13,400	14,500	31,100	17,700	31,600	33,100	58,200	54,600	65,200	24,100	13,700	21,500
25	11,500	16,300	36,400	19,700	31,500	32,000	58,400	53,400	65,400	24,900	18,700	18,800
26	13,400	16,100	30,800	18,600	32,600	31,400	55,900	53,600	58,900	26,800	22,400	20,400
27	15,100	15,400	20,700	22,700	32,500	31,000	57,700	59,500	52,700	18,700	14,600	21,200
28	16,500	12,200	22,800	21,300	31,900	33,000	58,400	62,400	49,600	23,700	18,600	19,300
29	12,200	11,600	19,500	20,500	------	29,100	60,800	64,800	58,300	22,800	16,600	18,300
30	13,600	14,000	23,500	18,400	------	28,300	65,900	69,200	56,300	20,300	15,500	18,000
31	11,900	------	23,800	24,000	------	27,400	------	80,700	------	13,900	18,100	------
TOTAL	370,460	441,600	595,500	607,400	739,300	1,028.9M	1,187.1M	1,983.4M	2,178.5M	1,013.8M	480,800	477,700
MEAN	11,950	14,720	19,210	19,590	26,400	33,190	39,570	63,980	72,620	32,700	15,510	15,920
MAX	16,500	17,700	36,400	24,600	32,600	38,700	65,900	80,700	95,800	45,100	22,400	21,800
MIN	6,550	11,600	12,800	13,600	21,400	27,400	26,000	52,700	49,600	13,900	10,200	10,100
AC-FT	734,800	875,900	1,181M	1,205M	1,466M	2,041M	2,355M	3,934M	4,321M	2,011M	953,700	947,500

CAL YR 1964: TOTAL 9,498,910 MEAN 25,950 MAX 135,000 MIN 4,390 AC-FT 18,840,000
WAT YR 1965: TOTAL 11,104,460 MEAN 30,420 MAX 95,800 MIN 6,550 AC-FT 22,030,000

M Expressed in thousands.

12-3923. Pack River near Colburn, Idaho

Location.--Lat 48°25'10", long 116°30'10", in SW¼ sec.32, T.59 N., R.1 W., on left bank 50 ft downstream from bridge on U.S. Highway 95, 2.2 miles northeast of Colburn, 10 miles north of Sandpoint, and at mile 28.07.

Drainage area.--124 sq mi.

Records available.--September 1958 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,130 ft (from topographic map).

Average discharge.--7 years, 332 cfs (240,400 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (1,450 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 2, 1961	1300	* 1,780	8.97	Nov. 26, 1962	0900	* 1,470	8.12	Apr. 29, 1965	0600	* 2,190	9.92
May 27, 1961	0430	* 3,180	12.35	May 25, 1963	0400	* 1,700	8.66	May 13, 1965	0600	1,980	9.40
June 2, 1961	0400	2,640	11.13	May 21, 1964	0500	* 2,690	11.23	May 30, 1965	0500	2,090	9.68
				June 2, 1964	0500	2,130	9.90	June 3, 1965	0700	1,580	8.26
Apr. 25, 1962	0500	* 1,780	8.92					June 19, 1965	1300	1,600	8.32
May 28, 1962	2300	* 2,430	10.50	Apr. 21, 1965	0300	1,660	8.50				

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Aug. 30, 1961	21	1.08	1964	Oct. 2,3,4,17,18, 19,20,1963	28	-
1962	Sept. 6, 1962	23	.97				
1963	Sept.11, 12, 1963	23	1.01	1965	Aug. 19, 1965	38	1.18

1958-65: Maximum discharge, 3,180 cfs May 27, 1961 (gage height, 12.35 ft); minimum, 18 cfs Sept. 12, 13, 1958 (gage height, 0.93 ft).

Remarks.--Records good except those for December 1960, January 1961, January 1962, January 1963, December 1964, and January 1965, which are fair. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	142	162	74	180	353	560	1,170	2,110	280	64	73
2	27	127	156	71	155	330	667	1,620	2,300	269	59	104
3	27	112	150	68	170	305	884	1,350	2,210	237	57	63
4	27	102	145	68	165	284	854	1,170	2,230	269	54	47
5	25	98	119	80	160	277	716	1,020	2,210	248	53	40
6	26	92	110	86	172	274	634	919	1,910	238	52	39
7	35	89	90	84	225	255	589	834	2,060	259	48	37
8	89	83	93	84	202	245	578	803	1,350	209	47	34
9	68	79	80	87	224	246	543	872	1,460	185	60	32
10	55	83	80	87	311	243	511	1,080	1,270	169	60	31
11	50	94	84	85	405	236	492	1,150	1,160	160	50	35
12	70	96	115	85	412	230	591	1,050	1,290	150	46	34
13	71	82	110	85	344	238	661	1,090	1,130	142	38	31
14	55	84	108	89	303	315	564	1,150	1,230	134	36	29
15	52	80	100	145	320	345	518	1,210	1,330	124	32	27
16	52	91	90	246	312	370	497	1,370	1,360	115	34	26
17	60	83	96	192	284	360	585	1,480	1,290	107	38	26
18	68	163	100	165	266	341	645	1,510	1,290	104	38	26
19	65	124	104	140	256	349	591	1,630	1,150	93	32	27
20	62	130	99	120	286	386	536	1,920	976	86	31	27
21	62	219	95	106	599	374	516	2,190	813	80	31	27
22	121	155	93	100	767	362	520	1,930	672	77	29	29
23	141	138	88	100	545	358	524	2,130	643	89	27	30
24	232	237	87	100	482	372	536	2,110	625	113	26	28
25	194	531	85	100	460	384	562	1,900	578	86	26	31
26	168	312	82	97	400	450	608	2,500	526	75	26	32
27	181	244	82	94	370	450	576	2,700	448	70	25	31
28	169	214	81	92	330	434	572	1,640	370	66	24	31
29	153	185	79	92	------	448	739	1,510	376	65	22	38
30	127	176	79	110	------	472	1,150	1,650	326	67	22	36
31	115	------	77	140	------	522	------	1,770	------	67	32	------
TOTAL	2,674	4,425	3,109	3,272	9,154	10,609	18,619	46,468	36,693	4,433	1,219	1,101
MEAN	86.3	148	100	106	327	342	621	1,499	1,223	143	39.3	36.7
MAX	232	531	162	246	767	522	1,150	2,700	2,300	280	64	104
MIN	25	79	77	68	160	230	492	803	326	65	22	26
CFSM	.70	1.19	.81	.85	2.64	2.76	5.01	12.1	9.86	1.15	.32	.30
IN.	.80	1.33	.93	.98	2.75	3.18	5.58	13.9	11.0	1.33	.37	.33
AC-FT	5,300	8,780	6,170	6,490	18,160	21,040	36,930	92,170	72,780	8,790	2,420	2,180

CAL YR 1960: TOTAL 119,585 MEAN 327 MAX 2,200 MIN 25 CFSM 2.64 IN 35.87 AC-FT 237,200
WAT YR 1961: TOTAL 141,776 MEAN 388 MAX 2,700 MIN 22 CFSM 3.13 IN 42.52 AC-FT 281,200

12-3923. Pack River near Colburn, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATLR YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	33	61	74	56	57	76	195	698	1,020	296	51	28
2	32	53	65	54	58	75	225	737	1,050	250	47	27
3	32	59	62	76	68	74	284	859	1,210	213	49	26
4	32	53	60	110	91	72	347	902	926	200	64	26
5	32	49	67	85	91	71	422	825	781	186	85	26
6	34	54	54	75	84	70	549	762	726	192	81	25
7	38	52	53	70	73	71	889	772	730	186	65	27
8	36	53	50	64	73	72	663	730	844	171	64	32
9	35	51	49	59	78	70	553	810	1,260	165	59	29
10	52	56	46	56	104	67	488	869	1,140	160	56	30
11	79	72	45	54	107	68	460	886	974	150	52	246
12	72	57	45	53	110	64	478	876	919	136	49	146
13	218	53	47	52	107	63	549	862	882	123	47	97
14	183	58	49	52	131	62	691	839	844	116	44	113
15	138	46	51	52	131	63	1,010	851	912	110	41	115
16	122	38	52	51	127	64	972	916	1,020	105	39	80
17	169	43	52	50	124	67	876	1,020	1,050	101	38	66
18	111	43	51	48	118	72	1,030	1,100	896	93	37	57
19	93	48	58	47	115	79	1,350	1,220	815	87	36	49
20	79	49	79	45	115	82	1,440	1,230	779	82	34	45
21	72	44	95	45	105	87	1,260	1,230	719	80	32	42
22	66	48	79	45	104	98	1,140	1,390	658	79	33	38
23	71	50	70	45	94	86	1,230	1,340	600	76	32	38
24	72	50	84	46	88	101	1,530	1,770	558	73	30	36
25	65	50	104	48	82	133	1,580	1,850	549	71	30	34
26	80	49	76	51	80	150	1,160	1,610	528	67	28	33
27	98	49	66	55	79	167	1,050	1,560	416	70	30	32
28	78	55	63	56	77	160	969	2,140	345	61	40	43
29	67	65	62	57	------	154	815	1,900	332	55	37	162
30	65	66	63	57	------	158	726	1,270	322	52	32	90
31	63	------	60	57	------	171	------	1,140	------	51	30	------
TOTAL	2,417	1,574	1,931	1,771	2,671	2,857	24,731	35,054	23,805	3,857	1,392	1,838
MEAN	78.0	52.5	62.3	57.1	95.4	92.2	831	1,131	794	124	44.9	61.3
MAX	218	72	104	110	131	171	1,580	2,140	1,260	296	85	246
MIN	32	38	45	45	57	62	195	698	322	51	28	25
CFSM	.63	.42	.50	.46	.77	.74	6.70	9.12	6.40	1.00	.36	.49
IN.	.72	.47	.58	.53	.80	.86	7.48	10.5	7.14	1.16	.42	.55
AC-FT	4,790	3,120	3,830	3,510	5,300	5,670	49,450	69,530	47,220	7,650	2,760	3,650

CAL YR 1961: TOTAL 137,490 MEAN 377 MAX 2,700 MIN 22 CFSM 3.04 IN 41.24 AC-FT 272,700
WAT YR 1962: TOTAL 104,098 MEAN 285 MAX 2,140 MIN 25 CFSM 2.30 IN 31.22 AC-FT 206,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	73	103	364	274	125	240	309	732	956	362	66	29
2	62	98	332	326	140	231	287	650	896	326	65	32
3	54	95	298	406	170	220	272	581	805	291	62	32
4	49	89	270	343	220	212	282	530	786	282	59	29
5	47	94	259	300	320	212	328	524	929	248	57	28
6	45	98	270	277	440	206	630	832	906	220	54	27
7	49	88	250	261	450	202	574	1,100	732	206	51	26
8	66	102	243	248	440	197	516	966	721	197	49	25
9	95	172	242	234	410	193	468	796	781	181	48	25
10	114	213	237	175	380	192	436	746	751	189	49	25
11	110	199	231	115	356	189	412	723	753	219	50	24
12	219	203	220	97	336	182	394	756	691	209	47	24
13	378	181	213	97	322	178	410	746	632	179	46	28
14	258	160	212	120	302	175	478	777	636	165	46	55
15	196	148	392	140	284	172	567	856	604	153	42	40
16	168	137	617	150	275	168	595	956	583	165	39	46
17	149	129	497	140	267	164	528	994	543	149	37	51
18	140	123	444	130	259	161	484	1,090	480	144	36	44
19	134	136	414	120	254	161	448	1,170	436	133	35	38
20	140	309	380	125	250	171	428	1,170	374	123	35	34
21	218	261	368	130	242	171	410	1,310	307	114	38	33
22	243	220	337	135	232	182	406	1,410	309	107	36	32
23	202	197	303	130	231	216	392	1,380	320	102	34	36
24	178	185	280	135	225	258	376	1,470	262	94	39	38
25	157	405	220	130	218	232	376	1,450	307	91	41	37
26	142	1,220	230	125	256	231	410	1,260	277	91	37	35
27	132	710	240	130	261	256	478	1,170	254	85	36	32
28	123	524	240	130	248	388	545	1,140	228	81	33	31
29	119	432	246	125	------	360	643	1,130	312	76	32	30
30	115	406	269	120	------	384	753	1,200	462	73	31	30
31	108	------	264	125	------	351	------	1,180	------	70	30	------
TOTAL	4,283	7,437	9,382	5,493	7,913	6,855	13,735	30,795	17,033	5,125	1,360	996
MEAN	138	248	303	177	283	221	458	993	568	165	43.9	33.2
MAX	378	1,220	617	406	450	388	753	1,470	956	362	66	55
MIN	45	88	212	97	125	161	272	524	228	70	30	24
CFSM	1.11	2.00	2.44	1.43	2.28	1.78	3.69	8.01	4.58	1.33	.35	.27
IN.	1.28	2.23	2.81	1.65	2.37	2.06	4.12	9.24	5.11	1.54	.41	.30
AC-FT	8,500	14,750	18,610	10,900	15,700	13,600	27,240	61,080	33,780	10,170	2,700	1,980

CAL YR 1962: TOTAL 119,278 MEAN 327 MAX 2,140 MIN 25 CFSM 2.64 IN 35.77 AC-FT 236,600
WAT YR 1963: TOTAL 110,407 MEAN 302 MAX 1,470 MIN 24 CFSM 2.44 IN 33.11 AC-FT 219,000

12-3923. Pack River near Colburn, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	74	190	97	72	71	176	478	1,800	402	80	72
2	27	82	183	114	72	66	195	456	1,910	384	84	67
3	28	78	175	94	68	65	173	458	1,680	349	86	73
4	29	78	168	89	73	65	210	444	1,600	303	78	67
5	31	85	164	88	68	66	202	513	1,460	298	105	60
6	33	90	162	91	71	65	206	495	1,650	264	82	55
7	34	101	151	84	70	61	243	520	1,540	267	71	53
8	33	100	145	73	73	62	272	456	1,550	262	64	53
9	32	90	135	75	70	67	341	852	1,550	267	63	51
10	32	85	115	80	68	65	402	1,050	1,450	222	64	49
11	31	80	110	81	70	66	412	1,010	1,250	196	57	47
12	31	77	120	80	73	79	370	1,080	1,100	189	54	45
13	31	78	125	79	67	73	316	1,180	1,070	175	57	42
14	31	113	125	78	68	70	296	1,210	1,080	164	59	41
15	30	269	120	76	66	72	250	1,140	1,020	164	52	40
16	30	207	115	87	64	74	378	1,290	1,050	155	49	39
17	29	192	111	133	64	77	318	1,800	911	134	48	48
18	28	174	107	253	67	78	302	2,030	765	131	47	244
19	29	169	103	186	66	75	320	2,100	756	129	61	136
20	29	176	101	197	70	74	368	2,390	789	115	51	125
21	45	150	97	137	70	75	376	2,340	726	108	48	125
22	132	142	93	105	70	75	499	1,550	723	102	44	136
23	287	148	91	87	72	70	476	1,170	762	94	42	124
24	160	146	89	77	66	73	456	1,070	730	89	39	107
25	176	148	88	209	65	74	499	1,030	643	86	39	94
26	124	222	82	102	67	67	543	999	595	82	42	85
27	100	388	81	73	71	65	503	964	610	79	45	81
28	91	274	80	73	72	64	444	1,260	464	75	55	75
29	88	230	78	72	67	72	472	1,450	398	78	54	70
30	91	216	76	71	------	90	505	1,600	392	107	96	150
31	77	------	76	71	------	123	------	1,690	------	88	88	------
TOTAL	1,970	4,462	3,656	3,212	2,000	2,238	10,543	36,079	32,064	5,558	1,904	2,451
MEAN	63.5	149	118	104	69.0	72.2	351	1,164	1,069	179	61.4	81.7
MAX	287	388	190	253	73	123	543	2,390	1,910	402	105	244
MIN	28	74	76	71	64	61	176	444	392	75	39	39
CFSM	.51	1.20	.95	.84	.56	.58	2.83	9.39	8.62	1.45	.50	.66
IN.	.59	1.34	1.10	.96	.60	.67	3.16	10.8	9.62	1.67	.57	.74
AC-FT	3,910	8,850	7,250	6,370	3,970	4,440	20,910	71,560	63,600	11,020	3,780	4,860

CAL YR 1963: TOTAL 99,393 MEAN 272 MAX 1,470 MIN 24 CFSM 2.20 IN 29.81 AC-FT 197,100
WAT YR 1964: TOTAL 106,137 MEAN 290 MAX 2,390 MIN 28 CFSM 2.34 IN 31.83 AC-FT 210,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	230	68	337	125	125	186	186	1,540	1,050	349	64	61
2	169	108	351	125	116	179	206	1,210	1,170	351	61	56
3	164	103	280	125	109	172	203	1,070	1,470	362	66	56
4	142	96	242	125	107	171	210	962	1,330	347	78	63
5	128	176	218	125	132	178	234	882	1,240	332	81	61
6	120	145	202	125	149	192	242	798	1,340	311	99	56
7	114	127	186	125	137	207	238	786	1,250	284	73	51
8	108	116	181	125	132	218	245	815	1,020	266	62	49
9	144	146	168	120	125	216	264	936	1,080	240	57	48
10	168	197	165	120	119	220	354	1,110	1,170	206	53	44
11	140	175	150	118	115	236	358	1,310	1,180	186	49	43
12	123	154	142	117	115	236	412	1,560	1,160	174	54	41
13	111	142	150	117	120	236	486	1,800	876	169	75	42
14	105	131	140	117	120	236	570	1,640	712	160	59	61
15	103	124	132	117	118	242	654	1,610	753	151	50	185
16	97	118	110	118	116	242	767	1,630	774	144	45	111
17	94	119	90	118	124	216	661	1,350	992	136	43	87
18	89	114	82	118	136	200	587	1,120	1,240	125	42	77
19	87	108	92	119	142	190	661	1,060	1,330	116	40	70
20	82	104	105	119	148	185	1,320	1,140	862	109	85	67
21	81	102	115	118	148	186	1,580	1,090	756	115	72	64
22	79	100	120	115	125	179	1,400	1,050	685	125	55	65
23	77	103	150	113	120	170	1,190	1,060	621	118	59	62
24	75	176	200	114	125	160	1,180	1,120	610	107	76	59
25	72	190	160	111	132	150	1,230	1,180	562	91	76	55
26	71	157	140	113	136	150	1,310	1,300	536	88	107	53
27	68	144	130	111	225	145	1,410	1,410	462	88	94	51
28	67	131	125	108	210	145	1,650	1,700	400	82	78	51
29	67	116	120	115	------	148	1,960	1,880	384	76	80	51
30	65	188	120	114	------	151	1,800	1,770	354	72	75	49
31	66	------	125	119	------	164	------	1,200	------	67	66	------
TOTAL	3,306	3,978	5,028	3,669	3,726	5,906	23,568	39,092	27,399	5,547	2,074	1,889
MEAN	107	133	162	118	133	191	786	1,261	913	179	66.9	63.0
MAX	230	197	351	125	225	242	1,960	1,880	1,470	362	107	185
MIN	65	68	82	108	107	145	186	786	354	67	40	41
CFSM	.86	1.07	1.31	.95	1.07	1.54	6.34	10.2	7.37	1.44	.54	.51
IN.	.99	1.19	1.51	1.10	1.12	1.77	7.07	11.7	8.22	1.66	.62	.57
AC-FT	6,560	7,890	9,970	7,280	7,390	11,710	46,750	77,540	54,350	11,000	4,110	3,750

CAL YR 1964: TOTAL 108,361 MEAN 296 MAX 2,390 MIN 39 CFSM 2.39 IN 32.50 AC-FT 214,900
WAT YR 1965: TOTAL 125,182 MEAN 343 MAX 1,960 MIN 40 CFSM 2.77 IN 37.54 AC-FT 248,300

12-3924. Rapid Lightning Creek near Samuels, Idaho

Location.--Lat 48°22'50", long 116°21'45", in SW¼NE¼ sec.17, T.58 N., R.1 E., on left bank 0.2 mile downstream from county bridge, 1.2 miles downstream from Spring Creek, 7 miles east of Samuels, and at mile 2.5.

Drainage area.--45.0 sq mi.

Records available.--July 1963 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,330 ft (from topographic map).

Extremes.--Maximum and minimum discharges for July 1963 to September 1965 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (380 cfs), and annual minimum discharge

Water year	Maximum				Minimum		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1963	-	-	-	-	Aug. 30, 1963	10	1.35
1964	Apr. 9, 1964	2000	420	4.05	Oct. 1, 15-20, 1963	11	-
	May 20, 1964	2200	* 490	3.65			
	June 8, 1964	0400	395	3.33			
1965	Dec. 23, 1964	-	-	a 5.50	Aug. 19, 1965	15	1.51
	Apr. 20, 1965	0500	* 718	4.33			

a Ice jam.

1963-65: Maximum discharge, 718 cfs Apr. 20, 1965 (gage height, 4.33 ft); minimum, 10 cfs Aug. 30, 1963 (gage height, 1.35 ft).

Remarks.--Records good except those for Dec. 16, 1964, to Jan. 12, 1965, which are poor. Occasional diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1										-	19	13
2										-	19	18
3										-	18	15
4										-	18	13
5										-	17	13
6										-	17	12
7										-	16	12
8										-	16	12
9										-	15	11
10										-	18	11
11										-	18	11
12										-	16	11
13										-	16	19
14										-	19	22
15										-	16	20
16										-	15	19
17										-	14	20
18										-	14	15
19										-	14	14
20										-	15	13
21										-	16	13
22										24	15	14
23										23	14	20
24										23	18	15
25										24	16	13
26										24	20	13
27										23	16	12
28										21	14	11
29					———					20	13	12
30					———					20	13	11
31		———			———		———		———	20	13	———
TOTAL										-	498	429
MEAN										-	16.1	14.3
MAX										-	20	22
MIN										-	13	11
CFSM										-	.36	.32
IN.										-	.41	.35
AC-FT										-	988	851

12-3924. Rapid Lightning Creek near Samuels, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	14	53	40	28	27	136	205	318	71	28	21
2	12	19	51	50	27	27	149	205	340	69	31	22
3	12	16	48	40	27	26	149	240	322	66	25	20
4	12	19	46	38	30	25	151	234	296	61	27	18
5	13	20	45	38	30	27	130	234	286	60	28	18
6	14	30	43	35	30	24	156	196	329	55	23	17
7	14	38	41	32	28	24	191	188	364	52	21	17
8	13	30	38	30	35	24	243	207	375	48	20	16
9	12	28	36	30	29	24	275	228	337	46	21	16
10	12	26	33	32	30	25	273	256	293	43	20	16
11	12	22	31	31	33	27	276	243	266	41	19	15
12	12	21	33	30	32	28	173	246	234	40	19	15
13	12	22	34	29	30	26	118	269	216	38	21	15
14	12	32	34	29	28	27	109	256	213	40	19	15
15	11	49	33	29	28	38	218	240	207	48	18	14
16	11	34	32	36	28	40	196	253	222	40	17	14
17	11	72	31	36	27	45	114	326	196	35	17	23
18	11	55	30	34	28	48	95	344	180	35	19	24
19	11	55	29	33	29	44	105	375	168	34	20	18
20	11	84	28	33	31	42	136	424	156	30	19	20
21	14	52	28	32	34	43	149	404	140	30	17	19
22	29	44	27	32	36	44	357	307	130	28	16	18
23	45	44	27	30	34	40	293	262	126	27	16	17
24	33	45	27	29	30	41	259	240	124	26	15	16
25	27	58	31	31	37	42	250	219	116	25	15	16
26	19	105	29	30	33	37	250	207	111	24	16	15
27	17	143	28	28	32	36	225	202	105	23	18	15
28	17	85	28	29	33	39	199	231	93	22	22	15
29	17	68	27	29	27	46	207	253	85	28	18	15
30	15	58	27	28	------	64	213	276	76	28	30	28
31	15	------	27	28	------	88	------	293	------	26	21	------
TOTAL	487	1,388	1,055	1,011	884	1,138	5,795	8,063	6,424	1,239	636	528
MEAN	15.7	46.3	34.0	32.6	30.5	36.7	193	260	214	40.0	20.5	17.6
MAX	45	143	53	50	37	88	357	424	375	71	31	28
MIN	11	14	27	28	27	24	95	188	76	22	15	14
CFSM	.35	1.03	.76	.72	.68	.82	4.29	5.78	4.76	.89	.46	.39
IN.	.40	1.15	.87	.84	.73	.94	4.79	6.66	5.31	1.02	.53	.44
AC-FT	966	2,750	2,090	2,010	1,750	2,260	11,490	15,990	12,740	2,460	1,260	1,050

CAL YR 1963: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1964: TOTAL 28,648 MEAN 78.3 MAX 424 MIN 11 CFSM 1.74 IN 23.68 AC-FT 56,820

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	25	18	160	44	48	109	78	286	194	55	18	20
2	24	28	180	44	47	95	88	246	178	50	18	19
3	22	23	140	44	45	87	92	216	183	47	24	22
4	19	21	114	44	44	81	103	207	183	46	22	22
5	18	22	96	43	58	79	118	188	178	44	38	21
6	18	20	82	43	63	84	118	166	176	41	27	19
7	17	20	76	43	53	90	114	151	168	39	22	18
8	18	20	71	42	57	92	124	143	149	38	20	18
9	32	37	67	42	54	92	154	143	140	36	19	18
10	34	48	71	42	51	96	231	147	143	34	18	17
11	26	40	64	42	46	107	222	160	145	34	18	17
12	23	34	60	42	47	114	237	186	151	33	24	17
13	22	32	68	40	48	111	259	216	130	31	24	18
14	21	29	55	40	46	109	262	222	114	31	20	22
15	20	27	48	40	46	111	282	222	107	30	18	34
16	20	30	37	41	46	103	318	234	98	27	18	23
17	20	37	31	41	56	88	272	210	118	27	17	22
18	19	27	33	40	66	78	234	186	186	25	16	21
19	19	24	37	40	75	70	298	170	158	24	17	20
20	19	24	40	40	82	68	630	246	128	25	32	21
21	18	23	42	41	72	69	517	213	112	27	22	20
22	18	26	50	40	66	66	371	194	98	29	21	20
23	18	30	70	40	57	57	318	196	90	25	29	19
24	18	93	57	40	54	54	318	216	82	24	24	19
25	17	64	50	40	56	53	311	222	76	22	24	19
26	18	48	45	41	63	52	300	219	72	22	34	19
27	17	42	44	42	199	52	300	219	67	24	25	17
28	17	38	43	41	145	53	337	231	71	21	24	17
29	18	37	43	47	------	53	344	256	66	20	24	17
30	17	101	43	47	------	56	322	262	60	20	23	17
31	18	------	44	53	------	64	------	222	------	19	21	------
TOTAL	630	1,063	2,059	1,309	1,790	2,493	7,672	6,395	3,821	970	701	593
MEAN	20.3	35.4	66.4	42.2	63.9	80.4	256	206	127	31.3	22.6	19.8
MAX	34	101	180	53	199	114	630	286	194	55	38	34
MIN	17	18	31	40	44	52	78	143	60	19	16	17
CFSM	.45	.79	1.48	.94	1.42	1.79	5.68	4.58	2.83	.70	.50	.44
IN.	.52	.88	1.70	1.08	1.48	2.06	6.34	5.29	3.16	.80	.58	.49
AC-FT	1,250	2,110	4,080	2,600	3,550	4,940	15,220	12,680	7,580	1,920	1,390	1,180

CAL YR 1964: TOTAL 29,470 MEAN 80.5 MAX 424 MIN 14 CFSM 1.79 IN 24.36 AC-FT 58,450
WAT YR 1965: TOTAL 29,496 MEAN 80.8 MAX 630 MIN 16 CFSM 1.80 IN 24.38 AC-FT 58,500

12-3925. Pend Oreille Lake at Hope, Idaho

Location.--Lat 48°14'50", long 116°18'30", in lot 2, NW¼ sec.35, T.57 N., R.1 E., near Northern Pacific Railway station at Hope.

Drainage area.--22,900 sq mi, approximately (natural drainage area above mouth of lake at Sandpoint).

Records available.--March 1914 to September 1965. Published as "at Sandpoint" 1914-22. Records published for both sites September 1921 to September 1922.

Gage.--Water-stage recorder. Datum of gage is 2,000.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1947; gage readings have been reduced to elevations above mean sea level. Prior to Oct. 1, 1921, staff gage at Sandpoint at datum 42.18 ft higher. Oct. 1, 1921, to Sept. 30, 1929, staff gage at present site at datum 45.47 ft higher than present datum. Oct. 1, 1929, to Sept. 30, 1950, water-stage recorder at present site at datum 0.20 ft lower than present datum.

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	June 8, 1961	1,664,000	2,063.58	Dec. 27, 1960	940,800	2,055.77
1962	Aug. 30, 1962	1,573,000	2,062.62	Jan. 25, 1962	629,600	2,052.27
1963	July 2, 1963	1,578,000	2,062.68	Apr. 29, 1963	1,025,000	2,056.70
1964	June 16, 1964	1,738,000	2,064.35	Mar. 23, 1964	820,800	2,054.43
1965	Sept.14, 1965	1,569,000	2,062.58	Mar. 31, 1965	832,300	2,054.56

1914-65: Maximum elevation, 2,071.62 ft, present datum, June 9, 1948 (contents, 2,462,000 acre-ft); minimum, 2,046.27 ft, present datum, Feb. 17, 1936 (contents, 117,700 acre-ft). Maximum elevation known, 2,075.88 ft, present datum, June 1894 (contents, 2,905,000 acre-ft).

Remarks.--Regulation at Albeni Falls Dam beginning June 4, 1952. Contents shown is that above elevation 2,044.8 ft but does not include storage in Pend Oreille River above Albeni Falls Dam.

Revisions (water years).--WSP 1122: 1946.

Capacity table, water years 1961-65 (elevation, in feet, and contents, in acre-feet)

2,052.0	605,800	2,056.0	916,500	2,060.0	1,327,000
2,054.0	782,500	2,058.0	1,143,000	2,062.0	1,514,000
				2,065.0	1,801,000

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62.60	59.93	56.08	56.05	56.11	56.46	56.14	56.20	62.01	62.19	62.08	62.34
2	62.54	59.93	56.08	56.09	56.10	56.45	56.10	56.25	62.38	62.15	62.16	62.32
3	62.61	59.93	56.15	56.16	56.11	56.48	56.20	56.28	62.69	62.20	62.20	62.30
4	62.48	59.91	56.13	56.17	56.06	56.43	56.26	56.30	62.96	62.19	62.32	62.34
5	62.41	59.86	56.19	56.24	56.01	56.37	56.23	56.28	63.24	62.27	62.41	62.38
6	62.40	59.79	56.18	56.19	55.98	56.34	56.15	56.28	63.39	62.26	62.37	62.49
7	62.43	59.77	56.15	56.02	55.94	56.10	56.10	56.34	63.57	62.24	62.39	62.59
8	62.49	59.67	56.17	56.02	55.94	56.10	56.11	56.45	63.39	62.36	62.39	62.57
9	62.44	59.57	56.22	56.04	55.95	56.09	56.07	56.46	63.17	62.49	62.35	62.54
10	62.34	59.58	56.27	56.00	56.14	56.09	56.04	56.47	63.03	62.53	62.43	62.64
11	62.30	59.40	56.20	56.00	56.30	55.94	56.02	56.50	62.69	62.48	62.44	62.59
12	62.20	59.18	56.12	56.05	56.29	55.83	56.14	56.61	62.33	62.44	62.50	62.52
13	62.06	59.03	56.07	56.13	56.31	55.86	56.19	56.76	62.12	62.38	62.44	62.46
14	61.90	58.87	56.06	56.11	56.26	55.90	56.11	56.92	62.07	62.48	62.44	62.57
15	61.69	58.66	56.04	56.11	56.26	55.94	56.06	57.03	62.07	62.47	62.49	62.54
16	61.40	58.45	56.08	56.14	56.28	55.94	56.01	57.12	62.12	62.38	62.46	62.48
17	61.26	58.30	56.15	56.11	56.13	56.00	56.07	57.21	62.08	62.35	62.47	62.46
18	61.23	58.17	56.19	56.05	56.08	56.11	56.06	57.34	62.00	62.34	62.45	62.50
19	61.25	58.03	56.20	56.05	55.99	56.21	56.09	57.51	62.03	62.44	62.47	62.50
20	61.25	58.02	56.14	56.13	55.99	56.24	56.08	57.73	62.08	62.44	62.53	62.50
21	61.28	57.85	56.12	56.14	56.39	56.21	56.05	58.02	62.07	62.49	62.48	62.48
22	61.20	57.67	56.11	56.10	56.57	56.16	56.05	58.32	62.00	62.45	62.45	62.63
23	61.09	57.54	56.21	56.15	56.72	56.15	56.05	58.63	62.08	62.37	62.39	62.50
24	61.02	57.40	56.12	56.11	56.68	56.15	56.04	58.86	62.14	62.33	62.36	62.50
25	60.83	57.29	55.94	56.08	56.60	56.12	56.03	59.09	62.12	62.20	62.35	62.47
26	60.66	56.99	55.81	56.10	56.50	56.11	56.02	59.53	62.03	62.12	62.29	62.45
27	60.54	56.62	55.86	56.12	56.54	56.15	55.95	60.13	62.08	62.25	62.23	62.43
28	60.46	56.39	55.94	56.17	56.47	56.11	56.00	60.61	62.17	62.33	62.30	62.47
29	60.30	56.14	55.99	56.18	------	56.07	56.06	60.96	62.22	62.26	62.27	62.50
30	60.14	56.09	56.05	56.19	------	56.09	56.11	61.34	62.23	62.15	62.27	62.48
31	60.00	------	56.07	56.12	------	56.08	------	61.64	------	62.09	62.38	------
MAX	62.61	59.93	56.27	56.24	56.72	56.48	56.26	61.64	63.57	62.53	62.53	62.64
MIN	60.00	56.09	55.81	56.00	55.94	55.83	55.95	56.20	62.00	62.09	62.08	62.30
(†)	1,327,000	969,600	967,800	972,300	1,004,000	968,700	971,400	1,480,000	1,536,000	1,523,000	1,550,000	1,559,000
(‡)	-245,000	-357,400	-1,800	+4,500	+31,700	-35,300	+2,700	+508,600	+56,000	-13,000	+27,000	+9,000

CAL YR 1960..... ‡ -49,200
WAT YR 1961..... ‡ -13,000

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,000 ft to obtain elevation above mean sea level.

12-3925. Pend Oreille Lake at Hope, Idaho--Continued

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62.47	59.97	52.35	52.43	52.48	54.52	52.36	55.74	59.45	61.89	62.33	62.44
2	62.41	59.95	52.35	52.48	52.47	54.38	52.38	55.72	59.49	61.93	62.40	62.35
3	62.38	59.95	52.40	52.54	52.49	54.25	52.48	55.70	59.51	61.92	62.50	62.37
4	62.38	59.98	52.50	52.53	52.45	53.98	52.58	55.65	59.48	62.07	62.48	62.40
5	62.20	59.98	52.50	52.60	52.52	53.77	52.61	55.62	59.47	62.20	62.37	62.43
6	62.05	60.00	52.49	52.60	52.60	53.58	52.73	55.63	59.40	62.38	62.34	62.44
7	62.05	59.84	52.49	52.56	52.70	53.41	52.87	55.64	59.24	62.41	62.35	62.43
8	61.94	59.66	52.50	52.56	52.84	53.27	53.13	55.69	59.00	62.43	62.31	62.34
9	61.80	59.56	52.49	52.60	53.19	53.14	53.29	55.72	58.89	62.45	62.30	62.31
10	61.65	59.32	52.58	52.61	53.21	52.94	53.30	55.82	58.59	62.38	62.36	62.41
11	61.65	59.04	52.56	52.54	53.29	52.70	53.20	56.07	58.16	62.27	62.35	62.36
12	61.74	58.65	52.49	52.51	53.46	52.57	53.22	56.31	57.92	62.29	62.21	62.34
13	61.89	58.33	52.45	52.44	53.70	52.60	53.25	56.53	58.04	62.29	62.18	62.33
14	62.05	57.97	52.48	52.43	53.96	52.53	53.28	56.71	58.29	62.21	62.23	62.30
15	61.95	57.66	52.46	52.45	54.18	52.48	53.24	56.80	58.58	62.07	62.33	62.27
16	61.84	57.35	52.42	52.40	54.43	52.49	53.38	56.91	58.79	62.21	62.39	62.27
17	61.55	57.09	52.54	52.40	54.62	52.45	53.65	56.97	58.98	62.17	62.55	62.29
18	61.29	56.79	52.61	52.50	54.74	52.40	53.80	57.05	59.19	62.22	62.54	62.37
19	61.09	56.44	52.63	52.58	54.95	52.47	54.04	57.11	59.30	62.24	62.37	62.49
20	60.98	56.15	52.67	52.67	55.15	52.47	54.23	57.17	59.62	62.34	62.35	62.55
21	60.90	55.80	52.72	52.60	55.16	52.57	54.33	57.25	59.82	62.35	62.34	62.52
22	60.87	55.47	52.78	52.63	55.12	52.64	54.40	57.37	59.94	62.23	62.33	62.53
23	60.80	55.09	52.75	52.43	55.15	52.59	54.53	57.56	60.25	62.32	62.28	62.51
24	60.60	54.78	52.67	52.35	55.21	52.57	54.65	57.76	60.52	62.35	62.32	62.51
25	60.47	54.35	52.43	52.32	55.10	52.48	54.92	57.97	60.79	62.40	62.32	62.51
26	60.41	53.97	52.39	52.42	54.95	52.56	55.13	58.26	60.96	62.46	62.22	62.50
27	60.31	53.58	52.42	52.40	54.86	52.57	55.38	58.52	61.14	62.42	62.25	62.48
28	60.18	53.18	52.48	52.34	54.67	52.54	55.56	58.57	61.33	62.32	62.39	62.52
29	60.07	52.80	52.55	52.35	------	52.48	55.66	59.13	61.49	62.25	62.57	62.43
30	60.08	52.49	52.50	52.39	------	52.54	55.71	59.26	61.78	62.30	62.57	62.30
31	60.03	------	52.45	52.47	------	52.48	------	59.38	------	62.30	62.50	------
MAX	62.47	60.00	52.78	52.67	55.21	54.52	55.71	59.38	61.78	62.46	62.57	62.55
MIN	60.03	52.49	52.35	52.32	52.45	52.40	52.36	55.62	57.92	61.89	62.18	62.27
(†)	1,330,000	648,900	645,400	647,200	842,100	648,000	935,400	1,270,000	1,493,000	1,542,000	1,561,000	1,542,000
(‡)	-229,000	-681,100	-3,500	+1,800	+194,900	-194,100	+287,400	+334,600	+223,000	+49,000	+19,000	-19,000

CAL YR 1961..... ‡ -322,400
WAT YR 1962..... ‡ -17,000

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,000 ft to obtain elevation above mean sea level.

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62.27	59.99	58.18	58.10	58.12	57.16	57.36	56.97	60.42	62.60	62.23	62.41
2	62.28	60.04	58.04	58.12	58.08	57.19	57.36	57.08	60.69	62.64	62.30	62.34
3	62.32	60.00	57.91	58.04	58.16	57.12	57.34	57.13	60.98	62.42	62.36	62.31
4	62.30	59.96	57.91	58.04	58.28	57.12	57.24	57.15	61.11	62.18	62.26	62.39
5	62.26	60.00	57.94	58.07	58.32	57.15	57.25	57.09	61.39	62.15	62.26	62.36
6	62.22	60.00	57.96	58.07	58.30	57.09	57.23	57.06	61.30	62.07	62.31	62.41
7	62.23	60.01	57.95	58.04	58.31	57.04	57.21	57.14	61.56	62.02	62.35	62.43
8	62.14	60.20	57.91	57.95	58.37	57.01	57.25	57.13	61.87	62.04	62.39	62.39
9	62.01	60.24	57.97	57.90	58.48	56.97	57.19	57.18	62.10	62.06	62.42	62.37
10	61.92	60.17	57.96	58.00	58.40	56.90	57.16	57.31	62.17	62.26	62.44	62.37
11	61.89	60.13	57.94	58.02	58.40	56.93	57.15	57.45	62.25	62.36	62.46	62.40
12	61.81	60.17	57.99	58.04	58.35	56.97	57.09	57.59	62.09	62.36	62.50	62.40
13	61.67	60.17	58.01	58.02	58.33	56.99	57.05	57.75	62.10	62.38	62.53	62.49
14	61.57	60.10	57.96	58.00	58.22	57.05	56.96	57.91	62.15	62.28	62.53	62.40
15	61.44	60.02	58.01	58.05	58.20	57.11	57.10	57.93	62.21	62.36	62.43	62.33
16	61.28	59.99	58.06	58.17	58.18	57.19	57.16	57.95	62.20	62.34	62.47	62.40
17	61.17	59.85	58.09	58.09	58.07	57.19	57.19	57.99	62.19	62.30	62.50	62.25
18	61.10	59.66	57.99	58.03	57.97	57.26	57.19	58.03	62.15	62.29	62.38	62.22
19	61.01	59.62	57.94	58.02	57.80	57.28	57.20	58.15	62.17	62.31	62.40	62.20
20	60.90	59.54	57.85	57.95	57.64	57.25	57.16	58.20	62.20	62.31	62.49	62.29
21	60.80	59.42	57.82	57.97	57.56	57.20	57.13	58.43	62.22	62.30	62.44	62.32
22	60.69	59.24	57.85	57.89	57.45	57.13	57.13	58.63	62.33	62.38	62.38	62.33
23	60.57	59.12	57.90	57.94	57.33	57.17	57.12	58.88	62.43	62.33	62.41	62.35
24	60.47	59.01	57.95	57.92	57.12	57.20	57.06	59.10	62.60	62.33	62.45	62.31
25	60.41	58.91	57.88	57.86	57.00	57.11	56.97	59.36	62.46	62.33	62.35	62.36
26	60.37	58.88	57.96	57.89	57.10	57.12	56.87	59.48	62.30	62.34	62.38	62.38
27	60.25	58.80	57.92	57.93	57.16	57.15	56.83	59.62	62.35	62.33	62.40	62.40
28	60.12	58.68	58.03	58.05	57.20	57.15	56.72	59.79	62.37	62.23	62.51	62.43
29	60.06	58.48	58.02	58.09	------	57.18	56.76	59.95	62.45	62.25	62.59	62.46
30	60.01	58.34	58.14	58.11	------	57.29	56.90	60.16	62.60	62.22	62.51	62.48
31	59.98	------	58.08	58.13	------	57.34	------	60.28	------	62.17	62.45	------
MAX	62.32	60.24	58.18	58.17	58.48	57.34	57.36	60.28	62.60	62.64	62.59	62.49
MIN	59.98	58.34	57.82	57.86	57.00	56.90	56.72	56.97	60.42	62.02	62.23	62.20
(†)	1,325,000	1,174,000	1,150,000	1,155,000	1,070,000	1,083,000	1,043,000	1,353,000	1,571,000	1,530,000	1,556,000	1,559,000
(‡)	-217,000	-151,000	-24,000	+5,000	-85,000	+13,000	-40,000	+310,000	+218,000	-41,000	+26,000	+3,000

CAL YR 1962..... ‡ +504,600
WAT YR 1963..... ‡ +17,000

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,000 ft to obtain elevation above mean sea level.

12-3925. Pend Oreille Lake at Hope, Idaho--Continued

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62.44	60.19	56.82	56.95	56.69	56.90	54.90	54.85	58.01	62.10	62.32	62.45
2	62.38	60.14	56.84	56.85	56.87	56.90	55.01	54.85	58.30	62.16	62.22	62.49
3	62.40	60.02	56.83	56.82	56.92	56.87	55.00	55.00	58.49	62.19	62.23	62.46
4	62.37	60.00	56.82	56.87	56.90	56.80	55.02	55.03	58.71	62.38	62.28	62.42
5	62.38	59.93	56.85	56.91	56.90	56.76	54.95	55.01	59.00	62.54	62.26	62.43
6	62.42	59.91	56.85	56.98	56.93	56.71	54.89	54.99	59.27	62.44	62.27	62.50
7	62.40	59.80	56.80	56.94	56.97	56.63	54.86	54.87	59.53	62.41	62.35	62.54
8	62.31	59.56	56.73	56.89	57.00	56.50	54.94	54.82	60.04	62.43	62.34	62.55
9	62.18	59.35	56.70	56.84	57.01	56.41	55.00	54.80	61.13	62.43	62.31	62.50
10	62.01	59.17	56.67	56.79	57.03	56.26	55.07	54.85	62.03	62.43	62.33	62.34
11	61.93	58.98	56.75	56.80	57.04	56.03	55.08	54.88	62.85	62.46	62.39	62.46
12	61.85	58.82	56.76	56.77	57.03	55.74	55.00	54.93	63.52	62.50	62.45	62.53
13	61.74	58.68	56.75	56.78	56.98	55.54	54.98	54.97	63.90	62.38	62.42	62.51
14	61.66	58.56	56.70	56.80	56.94	55.36	54.95	55.03	64.13	62.45	62.45	62.50
15	61.55	58.54	56.72	56.84	56.96	55.00	54.84	55.08	64.20	62.46	62.42	62.45
16	61.46	58.57	56.79	56.83	56.91	54.90	54.85	55.03	64.34	62.39	62.39	62.45
17	61.38	58.52	56.81	56.85	56.90	54.98	54.78	55.08	64.30	62.38	62.34	62.57
18	61.30	58.41	56.84	56.89	56.90	54.94	54.78	55.25	64.26	62.50	62.44	62.57
19	61.23	58.33	56.84	56.95	56.81	54.90	54.77	55.39	64.20	62.36	62.44	62.55
20	61.19	58.15	56.86	56.88	56.83	54.84	54.89	55.72	64.00	62.32	62.36	62.42
21	61.15	58.02	56.85	56.84	56.85	54.78	54.75	56.12	63.80	62.39	62.32	62.37
22	61.10	57.91	56.78	56.86	56.80	54.55	54.88	56.48	63.52	62.30	62.37	62.30
23	60.86	57.76	56.79	56.86	56.67	54.55	54.90	56.91	63.17	62.32	62.29	62.35
24	60.68	57.56	56.74	56.90	56.65	54.71	54.87	57.38	62.48	62.36	62.34	62.35
25	60.38	57.43	56.72	56.97	56.64	54.76	54.80	57.67	62.05	62.31	62.38	62.35
26	60.23	57.34	56.70	56.93	56.75	54.79	54.77	57.83	62.10	62.22	62.33	62.42
27	60.09	57.22	56.73	56.82	56.79	54.73	54.67	57.75	62.09	62.22	62.33	62.42
28	60.09	57.09	56.78	56.74	56.85	54.68	54.58	57.55	62.02	62.29	62.42	62.44
29	60.11	56.95	56.79	56.69	56.86	54.59	54.60	57.49	61.86	62.26	62.45	62.48
30	60.17	56.82	56.85	56.60	------	54.61	54.71	57.46	61.97	62.27	62.48	62.53
31	60.23	------	56.84	56.56	------	54.77	------	57.68	------	62.29	62.47	------
MAX	62.44	60.19	56.86	56.98	57.04	56.90	55.08	57.83	64.34	62.54	62.48	62.57
MIN	60.09	56.82	56.67	56.56	56.64	54.55	54.58	54.80	58.01	62.10	62.22	62.30
(†)	1,348,000	1,036,000	1,037,000	1,012,000	1,039,000	851,100	845,700	1,114,000	1,511,000	1,541,000	1,558,000	1,564,000
(‡)	-211,000	-312,000	+1,000	-25,000	+27,000	-187,900	-5,400	+268,300	+397,000	+30,000	+17,000	+6,000

CAL YR 1963..... ‡ -113,000
WAT YR 1964..... ‡ +5,000

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,000 ft to obtain elevation above mean sea level.

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62.38	59.91	56.85	58.80	56.70	55.53	54.63	58.35	59.21	62.21	62.29	62.40
2	62.36	59.95	56.87	58.82	56.63	55.62	54.73	58.62	59.59	62.25	62.29	62.42
3	62.31	59.90	56.83	58.64	56.58	55.70	54.73	58.86	59.86	62.23	62.27	62.50
4	62.22	59.89	56.81	58.51	56.46	55.77	54.75	59.00	60.06	62.24	62.20	62.50
5	62.21	59.93	56.80	58.53	56.40	55.77	54.88	59.03	60.04	62.30	62.12	62.47
6	62.22	59.98	56.77	58.52	56.35	55.73	54.84	58.97	59.89	62.34	62.03	62.38
7	62.15	60.00	56.78	58.44	56.27	55.69	54.78	58.84	59.72	62.27	62.22	62.33
8	62.20	59.97	56.80	58.46	56.32	55.72	54.76	58.67	59.49	62.22	62.37	62.38
9	62.17	60.04	56.83	58.38	56.24	55.73	54.88	58.64	59.32	62.25	62.40	62.34
10	62.05	60.03	56.88	58.38	56.14	55.84	54.95	58.28	59.11	62.28	62.43	62.44
11	61.88	60.05	56.89	58.30	56.05	55.99	55.00	58.12	58.94	62.39	62.39	62.50
12	61.77	60.06	56.89	58.15	55.90	56.07	55.07	58.06	59.28	62.36	62.40	62.50
13	61.68	60.06	56.86	58.10	55.87	56.03	55.08	58.04	59.60	62.33	62.32	62.50
14	61.56	60.01	56.86	58.06	55.76	56.15	55.02	58.28	59.93	62.30	62.33	62.57
15	61.42	59.93	56.84	57.91	55.58	56.35	54.95	58.57	60.24	62.33	62.34	62.48
16	61.29	59.83	56.88	57.76	55.44	56.41	54.95	58.82	60.39	62.30	62.30	62.49
17	61.13	59.65	56.95	57.58	55.36	56.50	54.93	58.98	60.59	62.33	62.23	62.46
18	61.01	59.47	56.89	57.42	55.28	56.54	54.90	59.10	60.88	62.46	62.17	62.36
19	60.95	59.28	56.87	57.36	55.19	56.56	55.03	59.19	61.19	62.40	62.14	62.22
20	60.89	59.11	56.83	57.28	55.12	56.63	55.15	59.18	61.64	62.32	62.12	62.13
21	60.82	58.89	56.89	57.22	55.06	56.67	55.38	59.01	62.05	62.44	62.18	62.14
22	60.78	58.72	57.03	57.18	54.97	56.68	55.73	58.75	62.35	62.46	62.34	62.15
23	60.74	58.51	57.10	57.23	54.99	56.42	56.28	58.61	62.37	62.38	62.27	62.18
24	60.69	58.34	57.44	57.16	55.02	56.11	56.76	58.43	62.33	62.37	62.31	62.35
25	60.68	58.11	57.85	57.07	55.05	55.71	57.22	58.25	62.50	62.36	62.43	62.48
26	60.57	57.84	58.25	56.97	55.15	55.38	57.48	58.10	62.43	62.49	62.53	62.51
27	60.46	57.59	58.34	56.94	55.33	55.20	57.60	58.10	62.16	62.44	62.47	62.53
28	60.36	57.24	58.50	56.94	55.41	55.04	57.75	58.16	62.06	62.50	62.48	62.50
29	60.21	56.90	58.52	56.89	------	54.83	57.91	58.29	62.20	62.52	62.42	62.41
30	60.07	56.83	58.64	56.78	------	54.65	58.11	58.48	62.29	62.52	62.39	62.35
31	59.93	------	58.79	56.72	------	54.58	------	58.84	------	62.41	62.44	------
MAX	62.38	60.06	58.79	58.82	56.70	56.68	58.11	59.19	62.50	62.52	62.53	62.57
MIN	59.93	56.83	56.77	56.72	54.97	54.58	54.63	58.04	58.94	62.21	62.03	62.13
(†)	1,321,000	1,036,000	1,215,000	1,027,000	908,400	834,100	1,153,000	1,220,000	1,541,000	1,553,000	1,556,000	1,547,000
(‡)	-243,000	-285,000	+179,000	-186,000	-118,600	-74,300	+318,900	+67,000	+321,000	+12,000	+3,000	-9,000

CAL YR 1964..... ‡ +178,000
WAT YR 1965..... ‡ -17,000

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,000 ft to obtain elevation above mean sea level.

12-3930. Priest Lake at outlet, near Coolin, Idaho

Location.--Lat 48°29'30", long 116°53'00", in SE¼ sec.5, T.59 N., R.4 W., half a mile east of outlet, 1¾ miles northwest of Coolin, and at mile 44.2.

Drainage area.--572 sq mi.

Records available.--June 1911 to September 1913 (fragmentary gage-height records at Coolin, published as part of records for Priest River at outlet of Priest Lake, at Coolin), April 1928 to July 1950 (gage-height record only), August 1950 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,434.64 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. June 18, 1911, to Sept. 30, 1913, staff gages at Coolin at different datums. Apr. 21, 1928, to Oct. 18, 1939, staff gage at site 400 ft north of lake outlet at present datum.

Extremes.--Maximums and minimums (contents in acre-feet, gage height in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Gage height	Date	Contents	Gage height
1961	June 7, 1961	192,300	6.05	Jan. 4, 1961	49,960	0.07
1962	May 30, 1962	142,620	3.98	Mar. 18, 1962	42,900	-.23
1963	May 31, 1963	135,930	3.70	Mar. 23, 1963	55,830	.32
1964	June 9, 1964	164,890	4.91	Feb. 29, 1964	44,320	-.17
1965	May 31, 1965	148,100	4.21	Feb. 25, 26, 1965	49,020	.03

1928-65: Maximum gage height, 6.46 ft May 29, 30, 1948 (contents, 202,200 acre-ft); minimum, -0.23 ft Mar. 18, 1962 (contents, 42,900 acre-ft).

Remarks.--Flow from Priest Lake is regulated to hold lake at heights desirable for recreation interests during summer months and storage is released for power downstream during winter months. Storage began Aug. 9, 1950. Prior to Aug. 9, 1950, some regulation resulted from logging operations in the outlet channel. Figures given herein represent contents above gage height of about -2 ft. Capacity table is based on area measured from Priest Lake quadrangle (scale, 1:250,000) and reconnaissance survey of marginal areas and is only approximate.

Capacity table, water years 1961-65 (gage height, in feet, and contents, in acre-feet)

-0.3	41,260	2.0	95,530	6.1	193,500
0.0	48,310	4.0	143,100		

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.69	.63	.64	.13	.23	.89	1.10	2.42	5.69	2.99	3.10	3.07
2	2.53	.61	.63	.10	.26	.89	1.17	2.70	5.79	2.92	3.08	3.08
3	2.38	.58	.62	.09	.24	.87	1.25	2.92	5.86	2.89	3.08	3.07
4	2.25	.54	.60	.07	.25	.85	1.34	3.15	5.93	2.91	3.06	3.08
5	2.12	.53	.57	.11	.26	.86	1.40	3.30	5.99	2.97	3.05	3.09
6	2.02	.49	.53	.11	.29	.85	1.45	3.41	6.04	3.06	3.05	3.09
7	1.94	.45	.49	.12	.30	.83	1.50	3.47	6.05	3.04	3.04	3.09
8	1.89	.42	.47	.11	.33	.80	1.54	3.49	5.93	3.07	3.03	3.08
9	1.81	.39	.44	.14	.35	.83	1.55	3.58	5.85	3.09	3.05	3.08
10	1.69	.45	.42	.12	.40	.81	1.57	3.72	5.70	3.09	3.03	3.10
11	1.57	.43	.39	.13	.48	.80	1.59	3.84	5.52	3.09	3.03	3.08
12	1.49	.40	.38	.12	.51	.81	1.66	3.92	5.38	3.10	3.03	3.07
13	1.38	.39	.37	.12	.58	.81	1.69	3.97	5.24	3.10	3.03	3.05
14	1.29	.39	.36	.11	.61	.83	1.71	4.06	5.11	3.08	3.03	3.05
15	1.21	.37	.34	.13	.64	.82	1.72	4.11	5.02	3.09	3.02	3.05
16	1.12	.39	.32	.16	.66	.84	1.72	4.19	4.93	3.08	3.03	3.04
17	1.06	.43	.30	.20	.65	.83	1.75	4.28	4.90	3.08	3.04	3.04
18	.99	.41	.32	.19	.64	.82	1.76	4.34	4.78	3.08	3.03	3.04
19	.92	.42	.32	.19	.67	.80	1.80	4.44	4.70	3.10	3.03	3.03
20	.85	.62	.31	.16	.67	.83	1.82	4.59	4.53	3.10	3.04	3.03
21	.80	.60	.29	.19	.72	.86	1.82	4.77	4.39	3.10	3.04	3.03
22	.77	.59	.28	.17	.77	.87	1.81	4.87	4.21	3.11	3.05	3.03
23	.73	.63	.24	.15	.81	.88	1.82	4.99	4.03	3.15	3.04	3.02
24	.74	.75	.24	.17	.82	.90	1.83	5.09	3.85	3.18	3.04	3.01
25	.72	.79	.22	.14	.86	.90	1.86	5.21	3.69	3.17	3.02	3.01
26	.69	.79	.21	.14	.88	.95	1.88	5.41	3.51	3.16	3.02	3.00
27	.72	.77	.19	.11	.88	.97	1.93	5.62	3.34	3.13	3.01	3.00
28	.71	.74	.16	.13	.89	.98	1.95	5.63	3.18	3.13	3.00	2.99
29	.69	.71	.16	.13	------	1.01	2.05	5.59	3.11	3.13	2.99	-
30	.66	.67	.13	.19	------	1.03	2.20	5.62	3.03	3.13	2.97	-
31	.67	------	.12	.21	------	1.07	------	5.62	------	3.11	3.00	------
MAX	2.69	.79	.64	.21	.89	1.07	2.20	5.63	6.05	3.18	3.10	3.10
MIN	.66	.37	.12	.07	.23	.80	1.10	2.42	3.03	2.89	2.97	2.99
(†)	64,090	64,090	51,130	53,240	69,280	73,530	100,270	181,930	119,980	121,890	119,270	119,030
(‡)	-51,850	0	-12,960	+2,110	+16,040	+4,250	+26,740	+81,660	-61,950	+1,910	-2,620	-240

CAL YR 1960..... ‡ -12,730
WAT YR 1961..... ‡ +3,090

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--No gage-height record Sept. 29-30.

12-3930. Priest Lake at outlet, near Coolin, Idaho--Continued

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		-	.11	.05	-.20	-	.00	2.54	3.83	2.99	3.04	3.00
2		-	.09	.06	-.21	-	.02	2.50	3.74	3.03	3.04	3.00
3		-	.09	.09	-.20	-.16	.05	2.54	3.73	3.03	3.06	2.98
4		-	.09	.08	-.20	-.15	.10	2.56	3.67	3.03	3.08	2.96
5		-	.09	.05	-.21	-.16	.16	2.56	3.60	3.08	3.09	2.95
6		-	.06	.07	-.21	-.16	.27	2.57	3.50	3.09	3.10	2.95
7		.46	.06	.05	-.20	-.16	.37	2.54	3.39	3.08	3.10	2.95
8		.42	.02	.04	-.19	-.17	.45	2.55	3.32	3.08	3.09	2.93
9		.38	.02	.02	-.18	-.17	.50	2.57	3.31	3.06	3.10	2.92
10		.36	.05	-	-.17	-.18	.55	2.60	3.32	3.04	3.10	2.99
11		.34	.06	-	-.17	-.18	.58	2.63	3.29	3.02	3.09	3.07
12		.31	.08	-	-.15	-.19	.62	2.65	3.26	3.00	3.08	3.08
13		.28	.09	-	-.13	-.20	.66	2.69	3.25	2.98	3.07	3.08
14		.26	.10	-	-.13	-.20	.73	2.69	3.24	2.98	3.07	3.10
15		.20	.09	-	-.12	-.21	.86	2.70	3.22	3.02	3.06	3.11
16		.19	.09	-	-.12	-.22	1.00	2.71	3.23	3.03	3.05	3.10
17		.15	.05	-	-.12	-.22	1.12	2.74	3.24	3.04	3.04	3.10
18		.13	.02	-	-.13	-.21	1.26	2.81	3.24	3.05	3.03	3.10
19		.13	.00	-	-.13	-.21	1.45	2.90	3.20	3.06	3.02	3.09
20		.12	.03	-	-.13	-.20	1.64	2.99	3.16	3.08	3.01	3.09
21		.15	.05	-	-.14	-.19	1.80	3.06	3.12	3.10	3.01	3.08
22		.16	.07	-	-.15	-.17	1.93	3.14	3.05	3.09	3.01	3.07
23		.15	.10	-.15	-.16	-.15	2.04	3.24	3.06	3.10	3.00	3.06
24		.14	.12	-.16	-.17	-.10	2.22	3.40	3.08	3.10	3.00	3.06
25		.11	.10	-.17	-.17	-.07	2.37	3.66	3.08	3.11	3.00	3.05
26		.09	.10	-.18	-.18	-.06	2.48	3.64	3.07	3.11	2.99	3.05
27		.11	.10	-.18	-	-.03	2.06	3.74	3.06	3.10	3.00	3.03
28		.12	.10	-.19	-	-.03	2.63	3.89	3.05	3.07	3.01	3.10
29		.11	.09	-.19	------	-.03	2.61	3.97	3.04	3.06	3.01	3.14
30		.11	.08	-.19	------	-.02	2.58	3.97	3.02	3.06	3.00	3.13
31	.82	------	.07	-.19	------	-.01	------	3.90	------	3.05	3.00	------
MAX	-	-	.12	-.09	-.12	-.01	2.63	3.97	3.83	3.11	3.10	3.14
MIN	-	.09	.00	-.19	-.21	-.22	.00	2.50	3.02	2.98	2.99	2.92
(†)	67,630	50,900	49,960	43,840	43,840	48,080	109,280	140,710	119,750	120,460	119,270	122,360
(‡)	-51,400	-16,730	-940	-6,120	0	+4,240	+61,200	+31,430	-20,960	+710	-1,190	+3,090

CAL YR 1961..... ‡ -1,170
WAT YR 1962..... ‡ +3,330

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--No gage-height record Oct. 1 to Nov. 6.

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.12	2.22	1.18	1.00	.38	.46	.80	1.93	3.65	3.13	3.01	3.00
2	3.10	2.09	1.15	1.02	.43	.45	.81	2.02	3.60	3.14	3.02	3.01
3	3.09	1.95	1.13	1.03	.46	.44	.82	2.05	3.59	3.15	3.03	3.00
4	3.08	1.82	1.10	1.03	.48	.44	.85	2.05	3.48	3.13	3.04	2.98
5	3.06	1.70	1.08	1.03	.49	.43	.93	2.10	3.48	3.12	3.05	-
6	3.05	1.59	1.05	1.01	.49	.43	1.01	2.21	3.47	3.11	3.05	-
7	3.07	1.48	1.00	.99	.49	.42	1.09	2.42	3.41	3.10	3.04	-
8	3.07	1.40	.98	.95	.49	.41	1.16	2.56	3.36	3.12	3.05	-
9	3.10	1.37	.95	.95	.49	.41	1.20	2.63	3.32	3.09	3.04	-
10	3.13	1.31	.93	.87	.49	.41	1.23	2.67	3.28	3.14	3.05	-
11	3.16	1.31	.90	.83	.49	.40	1.26	2.68	3.20	3.14	3.06	-
12	3.24	1.27	.87	.79	.48	.39	1.28	2.69	3.09	3.12	3.06	-
13	3.27	1.21	.86	.76	.48	.38	1.30	2.70	3.08	3.09	3.06	2.98
14	3.27	1.14	.85	-	.47	.37	1.35	2.71	3.02	3.02	3.05	2.98
15	3.27	1.09	.91	-	.46	.36	1.45	2.72	3.00	3.04	3.05	2.97
16	3.25	1.04	.95	.68	.46	.37	1.57	2.75	2.99	3.01	3.04	2.99
17	3.23	.99	1.00	.67	.46	.35	1.64	2.80	2.97	2.99	3.04	3.00
18	3.21	.94	1.00	.63	.46	.34	1.67	2.85	2.95	2.96	3.03	3.00
19	3.20	.89	1.01	.60	.48	.35	1.70	2.92	2.92	2.95	3.00	2.99
20	3.19	.90	1.02	.58	.48	.34	1.69	3.00	2.92	2.94	3.00	2.99
21	3.19	.89	1.04	.55	.46	.33	1.69	3.11	2.92	2.93	2.99	2.99
22	3.20	.86	1.02	.54	.46	.33	1.71	3.23	2.98	2.91	2.98	3.03
23	3.20	.83	.98	.53	.45	.40	1.70	3.35	2.99	2.90	2.98	3.03
24	3.18	.80	.95	.50	.44	.43	1.69	3.47	2.96	2.90	2.98	3.03
25	3.17	.95	.94	.48	.45	.45	1.67	3.57	2.96	2.94	2.99	3.03
26	3.15	1.07	.91	.45	.47	.45	1.66	3.63	2.94	2.95	2.99	3.03
27	3.04	1.10	.88	.42	.47	.55	1.67	3.66	2.92	2.97	2.99	3.02
28	2.85	1.11	.88	.40	.47	.58	1.70	3.67	2.87	2.99	3.00	3.02
29	2.67	1.12	.94	.38	------	.66	1.78	3.67	3.02	2.99	3.00	3.02
30	2.50	1.18	.97	.35	------	.75	1.85	3.68	3.10	2.99	3.00	3.01
31	2.36	------	.95	.39	------	.78	------	3.68	------	2.98	3.00	------
MAX	3.27	2.22	1.18	1.03	.49	.78	1.85	3.68	3.65	3.15	3.06	-
MIN	2.36	.80	.85	.35	.38	.33	.80	1.93	2.87	2.90	2.98	-
(†)	104,060	76,130	70,700	57,480	59,370	66,690	91,980	135,450	121,650	118,790	119,270	119,510
(‡)	-18,300	-27,930	-5,430	-13,220	+1,890	+7,320	+25,290	+43,470	-13,800	-2,860	+480	+240

CAL YR 1962..... ‡ +20,740
WAT YR 1963..... ‡ -2,850

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.

12-3930. Priest Lake at outlet, near Coolin, Idaho--Continued

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.00	2.12	.72	.20	.14	-.13	-.10	1.17	4.27	2.97	3.03	3.02
2	3.00	1.98	.68	.19	.13	-.12	-.09	1.27	4.40	2.94	3.04	3.02
3	2.99	1.84	.65	.17	.11	-.11	-.08	1.32	4.52	2.94	3.07	3.03
4	2.99	1.73	.62	.16	.09	-.11	-.06	1.39	4.60	2.94	3.06	3.02
5	3.00	1.62	.63	.15	.08	-.09	-.05	1.45	4.63	2.95	3.08	3.01
6	3.00	1.55	.62	-	.06	-.09	-.04	1.51	4.73	2.95	3.08	3.00
7	3.00	1.49	.58	-	.05	-.11	-.01	1.55	4.85	2.98	3.07	2.99
8	2.98	1.39	.56	-	.04	-.10	.02	1.63	4.88	2.99	3.06	3.00
9	2.97	1.31	.52	-	.03	-.09	.06	1.74	4.89	3.02	3.08	2.99
10	2.97	1.22	.47	-	.03	-.09	.10	1.86	4.85	3.03	3.07	2.98
11	2.96	1.14	.43	-	.02	-.05	.15	1.98	4.78	3.03	3.07	2.95
12	2.95	1.06	.40	-	.01	-.06	.20	2.09	4.68	3.03	3.07	2.94
13	2.95	1.00	.38	.08	.00	-.07	.23	2.21	4.59	3.02	3.07	2.94
14	2.95	1.01	.36	.07	-.01	-.05	.28	2.33	4.51	2.99	3.07	2.93
15	2.95	.97	.35	.12	-.02	-.05	.31	2.43	4.43	2.97	3.06	2.93
16	2.95	.96	.35	.13	-.03	-.05	.35	2.56	4.41	2.99	3.05	2.93
17	2.94	.96	.35	.17	-.04	-.02	.38	2.79	4.35	2.99	3.05	3.02
18	2.92	.94	.33	.15	-.05	-.03	.41	3.07	4.25	2.97	3.07	3.05
19	2.91	.98	.32	.17	-.06	-.05	.44	3.36	4.19	2.96	3.08	3.09
20	2.90	.93	.32	.18	-.07	-.05	.48	3.70	4.10	2.95	3.07	3.10
21	2.88	.88	.31	.16	-.08	-.05	.54	4.00	3.97	2.93	3.06	3.10
22	2.97	.87	.30	.15	-.09	-.05	.64	4.14	3.85	2.95	3.05	3.13
23	3.01	.86	.29	.13	-.10	-.10	.70	4.14	3.75	2.95	3.05	3.13
24	3.05	.82	.26	.16	-.12	-.12	.77	4.10	3.64	2.96	3.02	3.13
25	3.08	.80	.26	.18	-.13	-.12	.80	4.03	3.54	2.96	3.00	3.14
26	2.96	.77	.26	.16	-.14	-.12	.87	3.95	3.42	2.95	3.00	3.14
27	2.79	.80	.25	.15	-.15	-.13	.94	3.89	3.34	2.96	3.01	3.13
28	2.63	.80	.23	.14	-.16	-.14	.98	3.90	3.25	2.98	3.01	3.13
29	2.49	.77	.21	.14	-.14	-.14	1.04	3.97	3.13	3.01	3.03	3.13
30	2.36	.75	.19	.14	------	-.14	1.10	4.05	3.03	2.99	3.04	3.15
31	2.24	------	.18	.14	------	-.14	------	4.15	------	3.03	3.03	------
MAX	3.08	2.12	.72	.20	.14	-.02	1.10	4.15	4.89	3.03	3.08	3.15
MIN	2.24	.75	.18	.07	-.16	-.14	-.10	1.17	3.03	2.93	3.00	2.93
(†)	101,220	65,980	52,540	51,600	45,020	45,020	74,240	146,680	119,980	119,980	119,980	122,840
(‡)	-18,290	-35,240	-13,440	-940	-6,580	0	+29,220	+72,440	-26,700	0	0	+2,860

CAL YR 1963..... ‡ -18,160
WAT YR 1964..... ‡ +3,330

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.

GAGE HEIGHT, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.17	1.64	.68	.37	.13	.13	.14	3.34	4.14	3.12	3.12	3.04
2	3.20	1.53	.69	.40	.11	.12	.17	3.39	4.09	3.13	3.11	3.02
3	3.20	1.46	.67	.41	.10	.12	.19	3.40	4.10	3.13	3.15	3.04
4	3.21	1.43	.65	.40	.10	.12	.19	3.39	4.09	3.14	3.14	3.04
5	3.21	1.38	.62	.42	.11	.11	.21	3.35	4.07	3.12	3.18	3.03
6	3.20	1.31	.60	.40	.12	.11	.22	3.29	4.07	3.11	3.17	3.01
7	3.20	1.24	.59	.37	-	.10	.24	3.21	4.03	3.09	3.16	2.99
8	3.20	1.18	.58	.35	-	.10	.25	3.16	3.96	3.06	3.15	2.98
9	3.22	1.19	.59	.34	-	.10	.30	3.13	3.90	3.03	3.14	2.96
10	3.22	1.16	.56	.31	.08	.11	.36	3.14	3.88	3.00	3.13	2.96
11	3.20	1.11	.54	.29	.06	.12	.39	3.20	3.85	2.99	3.12	2.94
12	3.17	1.06	.50	.27	.05	.12	.44	3.33	3.80	2.98	3.08	2.94
13	3.14	1.04	.48	.26	.05	.13	.51	3.49	3.73	3.00	3.10	2.95
14	3.10	.99	.46	.25	.05	.13	.60	3.62	3.64	3.00	3.08	3.00
15	3.09	.93	.44	.23	.05	.14	.72	3.76	3.56	3.00	3.06	3.02
16	3.05	.87	.39	.21	.08	.15	.87	3.87	3.49	3.02	3.05	3.00
17	3.03	.82	.36	.20	.07	.14	1.00	3.92	3.48	3.00	3.03	2.99
18	3.00	.77	.35	.18	.06	.14	1.11	3.90	3.53	3.00	3.02	2.99
19	2.97	.72	.37	.17	.05	.13	1.26	3.89	3.52	3.01	3.05	3.01
20	2.94	.68	.37	.17	.05	.13	1.45	3.93	3.43	3.03	3.08	3.01
21	2.92	.64	.40	.17	.06	.14	1.66	3.93	3.34	3.06	3.07	3.03
22	2.90	.61	.44	.16	.06	.13	1.84	3.90	3.21	3.11	3.07	3.03
23	2.88	.65	.44	.18	.04	.13	1.97	3.89	3.10	3.11	3.09	3.03
24	2.75	.65	.42	.17	.04	.12	2.11	3.88	2.99	3.12	3.10	3.03
25	2.57	.63	.39	.16	.03	.11	2.25	3.87	2.94	3.12	3.10	3.04
26	2.40	.62	.41	.16	.08	.10	2.40	3.88	3.00	3.14	3.11	3.05
27	2.25	.61	.41	.16	.14	.10	2.56	3.91	3.03	3.15	3.09	3.03
28	2.10	.58	.38	.18	.13	.11	2.77	3.99	3.08	3.15	3.09	3.02
29	1.97	.58	.37	.17	------	.11	3.01	4.08	3.11	3.14	3.08	3.02
30	1.87	.65	.38	.16	------	.13	3.20	4.19	3.12	3.13	3.06	3.02
31	1.75	------	.37	.15	------	.13	------	4.20	------	3.13	3.05	------
MAX	3.22	1.64	.69	.42	.14	.15	3.20	4.20	4.14	3.15	3.18	3.05
MIN	1.75	.58	.35	.15	.03	.10	.14	3.13	2.94	2.98	3.02	2.94
(†)	89,600	63,620	57,010	51,840	51,360	51,360	124,000	147,900	122,100	122,400	120,500	119,800
(‡)	-33,240	-25,980	-6,610	-5,170	-480	0	+72,640	+23,900	-25,800	+300	-1,900	-700

CAL YR 1964..... ‡ +4,470
WAT YR 1965..... ‡ -3,040

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.

12-3940. Priest River near Coolin, Idaho

Location.--Lat 48°26'50", long 116°53'50", in SE¼ sec.19, T.59 N., R.4 W., on left bank 190 ft downstream from Dickensheet Bridge, 2½ miles downstream from Binarch Creek, 3 miles southwest of Coolin, 5 miles downstream from outlet of Priest Lake, and at mile 38.6.

Drainage area.--611 sq mi.

Records available.--October 1948 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,338.24 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Feb. 23, 1949, wire-weight gage at same site and datum.

Average discharge.--17 years, 1,337 cfs (967,900 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 6, 1961	7,970	8.02	Sept.24,27,28,1961	150	2.02
1962	May 30, 1962	a 4,720	-	Sept. 9, 10, 1962	133	1.92
1963	May 31, 1963	4,430	6.11	Sept.12, 1963	166	2.06
1964	June 9, 1964	6,180	7.19	Oct. 22, 1963	149	2.00
1965	May 31, 1965	5,130	6.67	Sept.13, 1965	187	2.17

a Maximum daily.

1948-65: Maximum discharge, 8,130 cfs May 27, 1956 (gage height, 8.15 ft); minimum observed, 26 cfs Sept. 25, 1958 (gage height, 1.16 ft), but may have been less Sept. 11, 1953, Sept. 24, 1958, when stage was below intake.

Maximum stage known since at least 1913, 8.40 ft May 29, 1948 (discharge, 8,670 cfs).

Remarks.--Records excellent except those for period of no gage-height record, which are good. No diversion above station. Flow partly regulated by Priest Lake (see station 12-3930).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,300	826	868	510	587	1,130	1,370	2,630	7,200	1,990	450	177
2	2,160	818	850	504	559	1,130	1,430	2,960	7,370	1,930	440	196
3	2,020	802	842	493	599	1,120	1,520	3,250	7,530	1,730	435	186
4	1,870	770	834	488	599	1,100	1,620	3,490	7,690	1,130	425	186
5	1,750	749	802	498	611	1,100	1,680	3,770	7,810	802	377	189
6	1,640	728	778	510	617	1,090	1,730	3,950	7,890	680	341	192
7	1,570	707	763	515	635	1,070	1,760	4,000	7,890	642	337	192
8	1,500	687	735	510	642	1,050	1,800	4,050	7,870	661	332	189
9	1,440	668	721	515	661	1,050	1,810	4,120	7,770	674	328	186
10	1,600	680	694	521	700	1,040	1,820	4,270	7,670	680	307	192
11	1,740	694	680	515	756	1,040	1,820	4,480	7,370	680	249	192
12	1,650	680	668	521	802	1,040	1,870	4,600	7,100	680	249	183
13	1,560	668	661	515	842	1,030	1,940	4,720	6,870	687	246	180
14	1,470	668	648	521	859	1,060	1,960	4,820	6,660	680	242	177
15	1,390	661	635	533	904	1,060	1,960	4,870	6,490	680	235	177
16	1,310	668	623	551	922	1,070	1,960	4,970	6,320	654	205	174
17	1,230	668	611	557	922	1,070	1,980	5,080	6,170	460	186	172
18	1,150	694	617	563	922	1,060	2,020	5,150	6,100	460	183	172
19	1,090	687	623	563	931	1,070	2,030	5,260	5,960	466	183	172
20	1,040	756	617	563	940	1,090	2,050	5,440	5,770	466	183	172
21	994	850	611	557	976	1,110	2,050	5,680	5,550	466	186	166
22	940	826	599	557	1,010	1,110	2,070	5,940	5,320	466	186	161
23	922	826	593	545	1,040	1,130	2,080	5,980	5,050	476	196	161
24	904	895	581	545	1,080	1,140	2,050	6,150	4,800	493	211	155
25	913	994	575	545	1,110	1,150	2,080	6,280	4,560	498	205	155
26	886	985	563	539	1,120	1,200	2,130	6,510	4,290	488	196	153
27	877	967	557	533	1,120	1,230	2,140	6,890	4,070	476	196	153
28	895	940	551	527	1,120	1,240	2,180	7,100	3,850	460	189	172
29	877	913	533	521	-------	1,260	2,240	7,120	3,250	471	189	202
30	850	886	527	551	-------	1,280	2,430	7,060	2,250	466	172	205
31	842	-------	515	581	-------	1,320	-------	7,100	-------	455	164	-------
TOTAL	41,370	23,361	20,475	16,467	23,626	34,640	57,580	157,590	184,490	22,047	8,023	5,339
MEAN	1,335	779	660	531	844	1,117	1,919	5,084	6,150	711	259	178
MAX	2,300	994	868	581	1,120	1,320	2,430	7,120	7,890	1,990	450	205
MIN	842	661	515	488	587	1,030	1,370	2,630	2,250	455	164	153
AC-FT	82,060	46,340	40,610	32,660	46,860	68,710	114,200	312,600	365,900	43,730	15,910	10,590

CAL YR 1960: TOTAL 527,445 MEAN 1,441 MAX 5,370 MIN 174 AC-FT 1,046,000
WAT YR 1961: TOTAL 595,008 MEAN 1,630 MAX 7,890 MIN 153 AC-FT 1,180,000

12-3940. Priest River near Coolin, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	205	940	510	488	345	341	445	2,960	4,600	1,030	354	196
2	205	895	504	482	341	341	471	2,910	4,510	895	257	199
3	208	859	493	504	341	341	482	2,810	4,460	922	225	189
4	205	800	493	504	341	345	515	2,980	4,390	913	257	185
5	205	770	488	498	337	350	569	2,960	4,290	922	303	183
6	225	750	488	482	337	345	629	2,960	4,130	931	345	180
7	467	728	482	498	341	345	700	2,960	4,040	931	345	166
8	563	700	471	482	350	341	763	2,650	3,900	931	337	140
9	1,400	680	470	471	354	341	794	2,960	3,850	913	337	136
10	2,580	654	430	460	363	341	818	3,000	3,650	895	337	143
11	2,390	635	420	450	368	332	850	3,060	3,840	886	337	166
12	2,290	623	405	430	368	328	877	3,100	3,790	868	332	202
13	2,220	611	401	410	372	323	913	3,140	3,790	770	328	228
14	2,090	599	391	400	386	319	967	3,150	3,740	551	328	239
15	1,970	575	396	390	386	315	1,060	3,150	3,720	339	323	246
16	2,040	557	396	390	386	311	1,180	3,150	3,600	249	323	264
17	2,040	539	420	380	386	311	1,310	3,170	3,490	242	283	267
18	1,920	521	425	370	386	307	1,430	3,220	3,470	249	260	267
19	1,800	515	445	360	386	315	1,600	3,370	3,480	253	260	283
20	1,670	504	466	360	382	319	1,790	3,460	3,440	260	260	283
21	1,570	504	482	350	377	328	1,970	3,550	3,380	299	228	279
22	1,460	527	493	350	370	341	2,120	3,660	3,310	359	208	275
23	1,400	521	498	350	360	345	2,270	3,760	2,350	382	205	272
24	1,350	521	515	360	354	363	2,440	3,920	1,910	420	199	268
25	1,270	504	510	360	350	396	2,590	4,100	1,720	455	199	268
26	1,210	493	504	368	345	410	2,810	4,270	1,500	450	189	264
27	1,210	436	433	369	341	425	2,960	4,390	1,700	450	192	260
28	1,150	510	438	363	341	425	3,060	4,580	1,810	440	199	270
29	1,030	510	504	359	------	430	3,050	4,700	1,590	430	202	360
30	1,040	510	498	354	------	430	3,020	4,720	1,470	425	202	320
31	994	------	493	350	------	440	------	4,700	------	420	199	------
TOTAL	40,637	18,553	14,482	12,741	10,094	10,944	44,443	107,870	100,000	18,480	8,353	7,059
MEAN	1,311	618	467	411	361	353	1,481	3,480	3,333	596	269	235
MAX	2,580	940	515	504	386	440	3,060	4,720	4,600	1,030	354	360
MIN	205	493	391	350	337	307	445	2,910	1,470	242	189	136
AC-FT	80,600	36,800	28,720	25,270	20,020	21,710	88,150	214,000	198,300	36,650	16,570	14,000

CAL YR 1961: TOTAL 583,474 MEAN 1,599 MAX 7,890 MIN 153 AC-FT 1,157,000
WAT YR 1962: TOTAL 393,656 MEAN 1,079 MAX 4,720 MIN 136 AC-FT 780,800

Note.--No gage-height record May 29 to June 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	355	2,160	1,350	1,200	707	735	1,030	2,070	4,380	1,180	253	174
2	360	2,040	1,350	1,230	707	735	1,030	2,180	4,320	1,200	260	174
3	345	2,050	1,310	1,270	749	721	1,040	2,240	4,240	1,220	260	177
4	335	2,040	1,280	1,260	763	721	1,060	2,250	4,170	1,250	264	177
5	330	1,900	1,260	1,250	778	714	1,100	2,270	4,140	1,300	268	177
6	330	1,790	1,240	1,240	786	707	1,250	2,380	4,140	1,270	264	174
7	335	1,680	1,220	1,220	786	707	1,320	2,600	4,070	1,260	260	174
8	363	1,590	1,180	1,200	794	700	1,390	2,810	3,840	1,250	260	174
9	382	1,550	1,160	1,170	786	687	1,440	2,880	3,660	1,260	260	172
10	401	1,490	1,130	1,120	786	687	1,460	3,000	3,600	1,260	264	174
11	415	1,460	1,110	1,080	786	674	1,470	3,050	3,540	1,300	268	174
12	460	1,450	1,090	1,040	778	668	1,490	3,050	3,460	1,300	268	172
13	557	1,400	1,060	1,000	770	661	1,500	3,050	3,420	1,270	295	172
14	575	1,340	1,060	980	770	654	1,540	3,060	3,320	1,240	311	174
15	569	1,280	1,100	960	770	648	1,640	3,060	2,680	1,180	303	177
16	587	1,230	1,150	949	770	642	1,740	3,110	2,300	1,180	295	177
17	635	1,170	1,180	922	770	629	1,820	3,140	2,290	1,150	291	183
18	642	1,110	1,220	913	770	623	1,870	3,210	2,210	1,130	283	186
19	629	1,070	1,230	877	770	623	1,900	3,310	1,880	842	242	183
20	617	1,050	1,240	859	778	635	1,910	3,420	1,590	700	215	183
21	611	1,050	1,240	842	763	629	1,900	3,550	1,470	611	218	180
22	617	1,030	1,230	735	756	635	1,910	3,720	1,480	515	215	186
23	668	1,020	1,210	501	749	674	1,910	3,870	1,520	493	202	192
24	714	994	1,160	910	742	735	1,910	4,020	1,500	287	174	196
25	700	1,030	1,140	780	735	735	1,870	4,170	1,490	235	177	196
26	687	1,230	1,110	750	749	742	1,870	4,310	1,480	242	177	192
27	1,910	1,270	1,100	720	749	763	1,860	4,360	1,460	249	174	192
28	2,890	1,280	1,080	700	756	859	1,880	4,390	1,210	253	174	192
29	2,680	1,280	1,100	670	------	904	1,920	4,350	1,030	257	177	192
30	2,490	1,310	1,180	650	------	994	1,990	4,390	1,130	253	177	189
31	2,310	------	1,180	687	------	1,030	------	4,410	------	253	174	------
TOTAL	25,499	42,344	36,650	29,585	21,373	22,271	48,020	101,730	81,010	27,390	7,423	5,435
MEAN	823	1,411	1,182	954	763	718	1,601	3,282	2,700	884	239	181
MAX	2,890	2,160	1,350	1,270	794	1,030	1,990	4,410	4,380	1,300	311	196
MIN	330	994	1,060	501	707	623	1,030	2,070	1,030	235	174	172
AC-FT	50,580	83,990	72,690	58,680	42,390	44,170	95,250	201,800	160,700	54,330	14,720	10,780

CAL YR 1962: TOTAL 424,477 MEAN 1,163 MAX 4,720 MIN 136 AC-FT 841,900
WAT YR 1963: TOTAL 448,730 MEAN 1,229 MAX 4,410 MIN 172 AC-FT 890,000

12-3940. Priest River near Coolin, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	184	1,600	920	534	508	350	385	1,340	5,100	2,680	342	330
2	181	1,810	896	524	497	354	403	1,390	5,300	1,950	346	330
3	178	1,930	872	529	492	359	408	1,490	5,500	1,690	354	330
4	175	1,820	848	524	482	368	422	1,530	5,660	1,510	363	330
5	175	1,710	832	518	472	368	427	1,600	5,740	1,300	363	325
6	175	1,650	840	513	466	368	436	1,650	5,820	1,300	368	321
7	172	1,570	816	508	456	368	456	1,690	6,030	1,140	368	317
8	170	1,510	793	508	446	368	472	1,740	6,100	960	359	309
9	170	1,430	772	503	441	368	503	1,830	6,140	960	363	309
10	167	1,350	750	500	441	368	545	1,960	6,100	984	363	309
11	165	1,270	740	500	436	385	584	2,080	6,010	1,000	363	305
12	165	1,200	720	470	432	399	612	2,190	5,860	1,020	359	298
13	162	1,130	702	466	422	394	630	2,310	5,700	1,010	359	271
14	162	1,100	681	466	418	399	654	2,450	5,580	1,000	359	236
15	159	1,100	660	472	413	403	681	2,590	5,480	856	354	223
16	159	1,070	648	492	413	403	702	2,730	5,380	730	350	192
17	159	1,100	642	505	413	418	723	2,950	5,280	744	350	201
18	154	1,070	642	518	408	422	744	3,280	5,130	730	346	220
19	157	1,080	642	518	408	418	765	3,680	5,020	730	350	230
20	157	1,090	630	524	399	413	786	4,100	4,940	730	350	243
21	159	1,040	612	518	394	413	808	4,590	4,770	720	350	243
22	159	1,020	612	518	385	441	912	4,940	4,590	640	346	254
23	187	1,020	606	508	381	418	968	5,060	4,410	470	346	260
24	204	992	600	508	376	380	1,010	4,980	4,270	450	338	268
25	210	976	594	524	372	372	1,060	4,900	4,130	440	325	268
26	1,420	960	584	518	363	372	1,100	4,790	3,960	440	313	268
27	2,240	968	584	513	359	372	1,160	4,680	3,810	430	313	268
28	2,090	976	578	508	350	368	1,190	4,650	3,550	380	325	268
29	1,950	960	562	508	346	363	1,230	4,680	3,330	320	325	268
30	1,820	944	556	508	------	363	1,280	4,790	3,160	330	330	268
31	1,700	------	545	503	------	372	------	4,940	------	334	334	------
TOTAL	15,485	37,446	21,479	15,729	12,189	11,927	22,056	97,580	151,850	27,978	10,774	8,262
MEAN	500	1,248	693	507	420	385	735	3,148	5,062	903	348	275
MAX	2,240	1,930	920	534	508	441	1,280	5,060	6,140	2,680	368	330
MIN	154	944	545	466	346	350	385	1,340	3,160	320	313	152
AC-FT	30,710	74,270	42,600	31,200	24,180	23,660	43,750	193,500	301,200	55,490	21,370	16,390

CAL YR 1963: TOTAL 418,647 MEAN 1,147 MAX 4,410 MIN 154 AC-FT 830,400
WAT YR 1964: TOTAL 432,755 MEAN 1,182 MAX 6,140 MIN 154 AC-FT 858,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	275	1,730	864	642	513	518	545	3,860	5,080	1,220	441	385
2	286	1,630	888	660	510	513	567	3,980	4,980	1,220	436	376
3	294	1,560	880	660	500	508	578	4,020	4,920	1,240	446	381
4	321	1,500	864	660	497	508	584	3,980	4,920	1,260	446	381
5	346	1,470	848	660	497	503	600	3,930	4,900	1,280	456	381
6	385	1,420	824	667	508	503	612	3,840	4,850	1,270	472	372
7	418	1,340	800	654	503	503	624	3,760	4,830	1,260	466	363
8	487	1,280	793	648	497	503	630	3,660	4,810	1,220	456	359
9	529	1,280	793	630	497	508	648	3,600	4,680	1,200	441	350
10	529	1,260	793	624	487	508	716	3,580	4,630	1,170	432	334
11	600	1,220	779	618	482	508	751	3,630	4,590	976	432	298
12	660	1,190	758	600	477	513	793	3,740	4,520	751	427	254
13	709	1,160	723	589	477	518	864	3,960	4,430	709	403	140
14	681	1,130	716	584	472	529	944	4,150	4,290	589	413	195
15	660	1,090	702	572	466	534	1,020	4,340	4,150	492	403	214
16	648	1,040	667	556	477	550	1,140	4,560	4,030	436	394	210
17	636	1,000	648	550	482	534	1,250	4,680	3,960	436	390	204
18	618	968	624	540	482	534	1,320	4,720	3,930	413	385	204
19	594	928	618	529	472	534	1,430	4,670	4,020	413	381	201
20	578	896	624	524	472	534	1,620	4,740	3,950	399	403	204
21	562	872	630	529	472	529	1,820	4,770	3,810	408	403	207
22	550	840	667	524	477	534	2,010	4,700	3,660	432	394	210
23	534	832	667	518	472	540	2,140	4,670	3,490	446	403	210
24	1,620	880	660	529	466	529	2,280	4,650	3,260	451	413	210
25	2,380	856	648	524	461	529	2,440	4,630	2,490	456	413	210
26	2,230	840	642	524	466	529	2,610	4,630	1,110	456	418	214
27	2,070	824	648	524	518	529	2,790	4,670	1,130	472	413	210
28	1,950	800	648	529	524	524	3,000	4,760	1,170	461	403	204
29	1,820	786	648	529	------	529	3,360	4,850	1,200	461	403	207
30	1,710	808	648	529	------	534	3,650	5,000	1,210	456	399	207
31	1,760	------	642	524	------	545	------	5,100	------	446	394	------
TOTAL	27,440	33,430	22,354	17,950	13,624	16,214	43,336	133,830	113,000	22,899	12,979	7,945
MEAN	885	1,114	721	579	487	523	1,445	4,317	3,767	739	419	265
MAX	2,380	1,730	888	667	524	550	3,650	5,100	5,080	1,280	472	385
MIN	275	786	618	518	461	503	545	3,580	1,110	399	381	190
AC-FT	54,430	66,310	44,340	35,600	27,020	32,160	85,960	265,400	224,100	45,420	25,740	15,760

CAL YR 1964: TOTAL 441,569 MEAN 1,206 MAX 6,140 MIN 192 AC-FT 875,800
WAT YR 1965: TOTAL 465,001 MEAN 1,274 MAX 5,100 MIN 190 AC-FT 922,300

12-3950. Priest River near Priest River, Idaho

Location.--Lat 48°13', long 116°55', in NE¼SE¼ sec.11, T.56 N., R.5 W., on right bank 500 ft downstream from Saddler Creek, a quarter of a mile downstream from Lower West Branch, 2½ miles north of Priest River, and at mile 3.8.

Drainage area.--902 sq mi.

Records available.--June 1903 to April 1905, November 1910 to April 1911, May to December 1923, February 1929 to September 1965. Prior to October 1930, published as "at Priest River."

Gage.--Water-stage recorder. Altitude of gage is 2,090 ft (from river-profile map). Prior to May 15, 1929, and Sept. 18, 1929, to Apr. 28, 1930, staff gages at site 3 miles downstream at altitude about 40 ft lower. June 4 to Sept. 17, 1929, and Apr. 29 to Sept. 11, 1930, staff gages at or near present site at present datum.

Average discharge.--37 years (1903-4, 1929-65), 1,659 cfs (1,201,000 acre-ft per year); 15-year base period (1947-62), 1,875 cfs.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 7, 1961	9,390	8.36	Aug. 31,Sept.27,28	289	a 0.80
1962	May 29, 1962	6,130	6.34	Sept. 9, 10, 1962	256	.74
1963	May 28, 1963	5,190	5.67	Sept. 9-12, 1963	294	.80
1964	June 8, 1964	7,200	7.05	Oct. 19, 20, 1963	272	.78
1965	May 31, 1965	6,240	6.41	Sept.13, 30, 1965	350	.92

a Occurred Sept. 27, 28, 1961.

1903-5, 1910-11, 1923, 1929-65: Maximum discharge, 10,500 cfs May 29, 30, 1948; maximum gage height, 8.97 ft May 29, 1948; minimum discharge, 165 cfs Sept. 26, 1958 (gage height, 0.46 ft).

Remarks.--Records excellent. No diversion above station. Some regulation on tributary and, since Aug. 9, 1950, flow partly regulated by Priest Lake (see station 12-3930).

Revisions (water years).--WSP 572: 1903-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,250	1,060	1,300	715	1,040	1,970	2,570	3,970	8,700	2,350	615	340
2	2,390	1,030	1,280	701	1,190	1,930	2,700	4,490	8,830	2,250	602	340
3	2,230	1,020	1,260	694	1,050	1,830	2,930	4,840	8,970	2,160	589	340
4	2,070	972	1,250	667	1,040	1,720	3,190	5,120	9,100	1,810	576	315
5	1,940	942	1,120	708	1,070	1,660	3,150	5,600	9,170	1,160	563	320
6	1,830	912	1,080	764	1,180	1,700	3,050	5,880	9,210	1,120	508	320
7	1,750	898	1,070	764	1,320	1,640	2,950	5,920	9,340	965	484	325
8	1,740	869	1,040	750	1,270	1,530	2,930	5,840	9,230	958	472	325
9	1,660	848	1,020	785	1,390	1,650	2,930	5,960	9,130	958	460	320
10	1,580	876	972	813	1,770	1,640	2,860	6,160	8,890	958	466	320
11	1,940	935	958	732	2,170	1,580	2,760	6,540	8,540	950	419	325
12	1,870	912	958	785	2,320	1,580	2,950	6,550	8,240	942	375	320
13	1,770	890	950	785	2,110	1,660	3,220	6,480	7,950	942	365	316
14	1,660	905	928	827	1,970	2,120	3,100	6,610	7,660	928	365	316
15	1,550	893	869	1,020	2,080	2,170	3,000	6,660	7,440	912	365	312
16	1,470	905	848	1,180	2,100	2,200	2,950	6,720	7,260	905	365	307
17	1,400	920	862	1,040	1,900	2,150	2,980	6,850	7,100	778	325	302
18	1,330	1,200	852	780	1,770	2,100	3,060	6,850	6,980	674	312	307
19	1,270	1,090	869	912	1,720	2,080	3,070	6,910	6,800	680	307	312
20	1,220	1,300	862	876	1,790	2,180	3,010	7,030	6,560	667	307	312
21	1,170	1,730	855	862	2,510	2,200	2,960	7,400	6,260	660	307	312
22	1,150	1,410	834	848	2,690	2,150	2,930	7,640	5,960	654	307	312
23	1,120	1,270	827	827	2,380	2,150	2,900	7,760	5,670	680	298	302
24	1,130	1,880	813	827	2,260	2,170	2,900	7,890	5,370	722	312	298
25	1,120	2,750	799	820	2,290	2,160	2,920	8,010	5,070	701	320	298
26	1,110	2,150	792	785	2,130	2,330	3,020	8,250	4,770	687	312	307
27	1,100	1,720	778	771	2,030	2,390	3,010	8,610	4,460	674	307	294
28	1,170	1,540	764	760	1,950	2,340	3,060	8,850	4,270	648	307	294
29	1,160	1,410	750	750	------	2,350	3,160	8,780	4,030	628	302	335
30	1,090	1,350	743	820	------	2,400	3,600	8,630	2,940	641	294	345
31	1,060	------	729	955	------	2,470	------	8,690	------	628	302	------
TOTAL	47,300	36,577	29,042	25,623	50,530	62,300	89,840	211,510	213,230	30,390	12,208	9,492
MEAN	1,526	1,219	937	827	1,805	2,010	2,995	6,823	7,131	980	394	316
MAX	2,390	2,750	1,300	1,180	2,650	2,470	3,600	8,850	9,340	2,350	615	345
MIN	1,060	848	729	667	1,040	1,580	2,570	3,970	2,940	628	294	294
AC-FT	93,820	72,550	57,600	50,820	100,200	123,600	178,200	419,500	424,300	60,280	24,210	18,830

CAL YR 1960: TOTAL 717,491 MEAN 1,960 MAX 6,740 MIN 320 AC-FT 1,423,000
WAT YR 1961: TOTAL 818,742 MEAN 2,243 MAX 9,340 MIN 294 AC-FT 1,624,000

12-3950. Priest River near Priest River, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	345	1,150	743	687	602	530	1,260	3,840	5,610	1,550	556	330
2	350	1,080	725	674	602	520	1,340	3,860	5,440	1,210	460	320
3	345	1,060	701	764	556	520	1,530	3,780	5,330	1,200	386	320
4	345	1,010	634	796	550	520	1,600	4,000	5,210	1,200	386	312
5	340	965	701	757	580	520	1,730	3,860	5,080	1,210	442	307
6	340	942	654	743	570	530	2,040	3,830	4,940	1,210	490	302
7	436	912	660	729	563	563	2,390	3,950	4,730	1,220	508	298
8	701	890	641	708	596	563	2,220	3,840	4,560	1,200	502	276
9	778	862	641	641	648	556	2,030	4,000	4,510	1,170	490	260
10	2,690	855	550	596	715	550	1,700	4,000	4,490	1,160	490	264
11	2,570	834	520	580	743	532	1,840	4,080	4,460	1,130	478	348
12	2,460	799	500	570	750	520	1,840	4,050	4,400	1,120	475	355
13	2,460	785	490	560	757	510	1,900	4,060	4,420	1,090	466	360
14	2,290	778	490	550	905	508	2,030	4,060	4,400	876	454	380
15	2,150	736	500	550	950	520	2,350	4,000	4,350	687	448	380
16	2,070	708	530	560	898	526	2,550	3,960	4,270	448	448	370
17	2,220	697	570	550	855	532	2,550	4,000	4,060	448	430	397
18	2,090	680	608	540	827	550	2,610	4,080	4,050	424	385	402
19	1,950	680	680	520	827	576	2,880	4,310	4,010	430	375	402
20	1,840	674	736	520	813	628	3,140	4,340	3,950	430	375	392
21	1,730	674	834	510	757	674	3,250	4,400	3,880	436	370	392
22	1,640	701	806	520	729	680	3,250	4,520	3,760	490	340	386
23	1,620	687	778	540	674	674	3,370	4,620	3,320	532	325	380
24	1,550	687	869	580	641	792	3,560	4,880	2,350	538	320	375
25	1,460	680	898	610	610	1,100	3,750	5,120	2,330	602	316	375
26	1,430	641	820	670	590	1,190	3,830	5,320	2,240	608	312	375
27	1,480	660	760	708	570	1,250	4,090	5,420	2,260	602	316	375
28	1,400	687	778	694	540	1,200	4,490	5,820	2,210	596	325	414
29	1,310	701	771	674	------	1,160	4,140	6,070	1,970	582	345	532
30	1,240	722	743	641	------	1,160	3,950	5,950	1,880	576	335	478
31	1,190	------	701	615	------	1,200	------	5,810	------	556	335	------
TOTAL	44,830	23,927	21,096	19,360	19,498	21,854	79,440	137,830	118,550	25,573	12,687	10,854
MEAN	1,446	798	681	625	696	705	2,648	4,446	3,952	823	409	362
MAX	2,690	1,150	898	796	950	1,250	4,490	6,070	5,610	1,550	556	532
MIN	340	641	490	510	540	508	1,260	3,780	1,880	424	312	260
AC-FT	88,920	47,460	41,840	38,400	38,670	43,350	157,600	273,400	235,100	50,740	25,160	21,530

CAL YR 1961: TOTAL 795,676 MEAN 2,180 MAX 3,340 MIN 294 AC-FT 1,578,000
WAT YR 1962: TOTAL 535,505 MEAN 1,467 MAX 6,070 MIN 260 AC-FT 1,062,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	520	2,340	1,830	1,720	1,020	1,240	2,050	2,760	5,090	1,470	408	307
2	526	2,220	1,800	1,940	1,040	1,210	1,930	2,930	5,000	1,460	414	307
3	508	2,140	1,720	2,100	1,100	1,160	1,840	3,050	4,880	1,440	414	307
4	496	2,240	1,620	1,980	1,250	1,110	1,910	3,000	4,760	1,440	414	302
5	490	2,210	1,590	1,880	1,500	1,120	1,980	3,010	4,760	1,410	414	302
6	484	1,910	1,590	1,810	1,530	1,100	2,720	3,260	4,810	1,400	414	298
7	490	1,810	1,550	1,760	1,530	1,080	2,770	3,770	4,700	1,390	408	298
8	526	1,710	1,530	1,700	1,440	1,070	2,760	4,030	4,560	1,410	402	298
9	576	1,710	1,500	1,640	1,360	1,070	2,800	4,060	4,220	1,410	402	294
10	615	1,810	1,480	1,450	1,280	1,070	2,660	4,090	4,200	1,410	414	294
11	641	1,710	1,470	1,360	1,200	1,060	2,570	4,080	4,080	1,440	414	294
12	792	1,810	1,430	1,390	1,200	1,050	2,510	4,030	3,970	1,420	414	294
13	812	1,710	1,400	1,380	1,200	1,020	2,450	3,990	3,880	1,380	414	312
14	862	1,620	1,410	1,360	1,150	1,010	2,460	3,960	3,790	1,350	454	335
15	799	1,440	1,720	1,310	1,150	1,000	2,660	3,920	3,470	1,300	442	320
16	764	1,530	2,040	1,270	1,150	995	2,770	3,920	2,730	1,290	436	335
17	906	1,440	1,920	1,250	1,140	980	2,820	3,950	2,720	1,280	430	355
18	820	1,360	1,910	1,220	1,130	980	2,830	4,000	2,660	1,260	424	345
19	813	1,360	1,890	1,200	1,170	972	2,800	4,090	2,360	1,180	419	320
20	792	1,360	1,850	1,180	1,200	1,030	2,760	4,220	2,060	898	370	316
21	785	1,360	1,790	1,130	1,160	1,030	2,690	4,360	1,800	869	360	312
22	778	1,280	1,750	1,080	1,140	1,060	2,670	4,530	1,820	729	360	312
23	785	1,230	1,640	720	1,140	1,170	2,700	4,700	1,870	701	365	340
24	876	1,210	1,510	810	1,120	1,580	2,640	4,880	1,820	608	355	335
25	869	1,440	1,480	1,050	1,120	1,420	2,600	5,020	1,790	442	330	330
26	855	2,500	1,500	1,050	1,280	1,340	2,560	5,120	1,760	424	330	325
27	1,080	2,200	1,480	1,040	1,280	1,390	2,540	5,160	1,730	419	320	320
28	2,990	1,870	1,480	1,000	1,230	2,020	2,540	5,180	1,660	419	316	316
29	2,840	1,750	1,480	970	-------	1,990	2,570	5,150	1,320	414	312	316
30	2,670	1,770	1,740	940	-------	2,230	2,660	5,120	1,450	408	312	312
31	2,510	------	1,820	1,000	------	2,250	------	5,120	------	402	312	------
TOTAL	30,270	52,050	50,920	41,690	34,210	38,807	76,220	128,460	95,720	32,873	11,993	9,451
MEAN	976	1,735	1,643	1,345	1,222	1,252	2,541	4,144	3,191	1,060	387	315
MAX	2,990	2,500	2,040	2,100	1,530	2,250	2,830	5,180	5,090	1,470	454	355
MIN	484	1,210	1,400	720	1,020	972	1,840	2,760	1,320	402	312	294
AC-FT	60,040	103,200	101,000	82,690	67,850	76,970	151,200	254,800	189,900	65,200	23,790	18,750

CAL YR 1962: TOTAL 578,892 MEAN 1,586 MAX 6,070 MIN 260 AC-FT 1,148,000
WAT YR 1963: TOTAL 602,664 MEAN 1,651 MAX 5,180 MIN 294 AC-FT 1,195,000

12-3950. Priest River near Priest River, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	302	1,850	1,160	680	701	538	965	2,420	6,120	3,430	532	490
2	302	1,860	1,130	750	694	538	1,120	2,450	6,360	2,730	550	490
3	298	2,230	1,100	680	680	544	1,120	2,680	6,550	2,170	538	490
4	298	2,130	1,080	680	667	550	1,200	2,720	6,700	2,080	556	490
5	298	2,020	1,080	680	660	570	1,200	2,820	6,790	1,660	570	430
6	307	2,000	1,080	680	634	563	1,200	2,830	6,840	1,650	550	430
7	307	1,950	1,030	680	628	550	1,360	2,830	7,030	1,600	532	430
8	302	1,850	1,020	615	622	538	1,440	2,900	7,160	1,270	520	375
9	294	1,740	995	680	622	563	1,710	3,050	7,150	1,240	520	430
10	289	1,630	928	680	634	544	1,810	3,290	7,090	1,250	520	430
11	284	1,540	920	680	608	582	1,910	3,430	6,980	1,250	514	430
12	280	1,450	910	615	608	634	1,910	3,490	6,840	1,240	514	375
13	280	1,360	900	648	622	608	1,710	3,610	6,620	1,230	514	430
14	280	1,360	890	648	602	615	1,620	3,730	6,440	1,230	490	375
15	280	1,520	869	654	608	634	1,620	3,800	6,280	1,180	490	325
16	280	1,410	862	694	602	654	1,810	3,910	6,260	972	490	325
17	280	1,480	848	715	596	674	1,660	4,160	6,160	965	490	360
18	276	1,480	834	729	589	694	1,590	4,550	6,010	972	490	466
19	272	1,440	827	722	582	687	1,600	5,000	5,840	958	490	424
20	272	1,580	820	736	563	687	1,620	5,490	5,700	942	490	402
21	289	1,410	750	729	563	708	1,620	6,000	5,500	905	490	419
22	325	1,320	750	715	550	715	2,010	6,300	5,290	715	490	402
23	424	1,320	750	715	550	660	2,060	6,300	5,090	660	490	402
24	414	1,320	750	694	550	550	2,110	6,140	4,950	634	430	402
25	419	1,290	750	715	532	550	2,110	5,950	4,790	628	430	402
26	529	1,330	750	715	532	615	2,210	5,790	4,630	615	430	402
27	2,530	1,380	750	708	520	550	2,210	5,650	4,460	602	430	397
28	2,410	1,330	750	701	520	615	2,210	5,570	4,270	508	430	357
29	2,250	1,240	750	701	520	615	2,210	5,610	3,940	520	490	397
30	2,100	1,200	680	708	------	750	2,210	5,770	3,750	550	550	419
31	1,970	------	680	694	------	820	------	5,920	------	526	490	------
TOTAL	19,441	47,020	27,393	21,441	17,359	19,115	51,135	134,160	177,590	36,882	15,510	12,436
MEAN	627	1,567	884	692	598	617	1,705	4,328	5,920	1,190	500	415
MAX	2,530	2,230	1,160	750	701	820	2,210	6,300	7,160	3,430	570	490
MIN	272	1,200	680	615	520	538	965	2,420	3,750	508	430	325
AC-FT	38,560	93,260	54,330	42,530	34,430	37,910	101,400	266,100	352,200	73,150	30,760	24,670

CAL YR 1963: TOTAL 563,278 MEAN 1,543 MAX 5,180 MIN 272 AC-FT 1,117,000
WAT YR 1964: TOTAL 579,482 MEAN 1,583 MAX 7,160 MIN 272 AC-FT 1,149,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	424	2,010	1,830	870	750	1,160	1,080	5,790	6,160	1,620	667	576
2	430	1,910	2,010	870	750	1,090	1,300	5,750	6,000	1,600	654	563
3	424	1,810	1,710	880	750	1,070	1,320	5,640	5,510	1,590	694	563
4	424	1,710	1,440	890	750	1,050	1,360	5,500	5,880	1,590	736	570
5	466	1,710	1,360	890	750	1,040	1,410	5,330	5,640	1,590	694	563
6	478	1,620	1,280	890	820	1,050	1,430	5,140	5,790	1,570	715	550
7	538	1,530	1,200	890	750	1,080	1,420	4,950	5,750	1,540	694	538
8	563	1,440	1,200	890	750	1,100	1,480	4,790	5,670	1,510	680	532
9	680	1,440	1,120	880	720	1,110	1,560	4,670	5,540	1,480	667	532
10	715	1,620	1,120	820	670	1,140	1,950	4,650	5,440	1,440	654	514
11	708	1,530	1,120	820	660	1,200	1,960	4,700	5,400	1,410	634	484
12	806	1,440	965	820	660	1,220	2,050	4,840	5,350	1,100	648	454
13	855	1,360	1,040	820	670	1,230	2,260	5,110	5,220	1,060	641	380
14	869	1,360	965	820	690	1,240	2,460	5,360	5,080	920	608	370
15	841	1,280	965	750	715	1,270	2,670	5,560	4,950	855	602	414
16	820	1,240	890	750	750	1,270	3,060	5,820	4,800	708	589	402
17	799	1,200	680	750	771	1,120	3,160	5,910	4,770	687	576	375
18	778	1,170	750	750	785	1,050	3,060	5,840	4,830	687	563	370
19	757	1,120	840	750	806	1,020	3,280	5,770	4,840	660	556	360
20	743	1,080	900	750	841	1,020	4,220	5,940	4,760	667	589	375
21	729	1,060	940	750	827	1,040	4,650	6,010	4,580	680	602	370
22	708	1,010	1,000	750	841	1,010	4,760	5,820	4,390	694	596	370
23	694	1,000	1,120	750	820	965	4,600	5,750	4,200	715	622	365
24	1,030	1,220	1,200	750	785	898	4,530	5,790	4,010	715	634	365
25	2,700	1,230	1,280	750	785	880	4,560	5,790	3,650	701	648	360
26	2,560	1,120	1,200	750	792	870	4,660	5,720	1,880	694	634	360
27	2,380	1,080	1,120	750	1,220	870	4,800	5,720	1,590	708	622	365
28	2,210	1,030	1,050	750	1,280	876	5,050	5,780	1,600	701	602	360
29	2,110	980	950	750	------	883	5,430	5,940	1,640	680	608	355
30	2,010	1,170	980	750	------	912	5,710	6,100	1,640	680	602	355
31	1,910	------	860	750	------	980	------	6,200	------	680	582	------
TOTAL	32,159	40,480	34,985	24,810	22,158	32,714	91,240	171,680	137,160	31,932	19,613	13,110
MEAN	1,037	1,349	1,129	800	791	1,055	3,041	5,538	4,572	1,030	633	437
MAX	2,700	2,010	2,010	890	1,280	1,270	5,710	6,200	6,160	1,620	736	576
MIN	424	980	680	750	660	870	1,080	4,650	1,590	660	556	355
AC-FT	63,790	80,290	69,390	49,210	43,950	64,890	181,000	340,500	272,100	63,340	38,900	26,000

CAL YR 1964: TOTAL 593,252 MEAN 1,621 MAX 7,160 MIN 325 AC-FT 1,177,000
WAT YR 1965: TOTAL 652,041 MEAN 1,786 MAX 6,200 MIN 355 AC-FT 1,293,000

12-3955. Pend Oreille River at Newport, Wash.

Location.--Lat 48°11'00", long 117°02'00", in SE¼SW¼ sec.24, T.56 N., R.6 W. (Boise meridian), on left bank at Newport, 0.2 mile upstream from bridge on U.S. Highway 2, a quarter of a mile east of Idaho-Washington State line, 1.6 miles downstream from Albeni Falls Dam, and at mile 88.5.

Drainage area.--24,200 sq mi, approximately.

Records available.--June 1903 to September 1941, October 1952 to September 1965. Prior to October 1921, published as Clark Fork at Newport, Wash., October 1921 to September 1937 as Clark Fork at Priest River, Idaho, and October 1937 to September 1941 as Pend Oreille River at Priest River, Idaho.

Gage.--Water-stage recorder. Datum of gage is 2,000.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 22, 1928, staff or wire-weight gages at Priest River, Newport, or Metaline Falls at various datums (see description, WSP 532, p. 92). Sept. 22, 1928, to Sept. 30, 1935, water-stage recorder at Priest River at datum 2,040.14 ft above mean sea level and Oct. 1, 1935, to Sept. 30, 1941, at datum 2,000 ft above mean sea level, datum of 1929. Since December 1952, auxiliary water-stage recorder 2.74 miles downstream from base gage.

Average discharge.--51 years, 25,590 cfs (18,530,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 8, 1961	115,000	49.50	Sept. 1, 1961	1,280	30.43
1962	June 3, 1962	81,900	a 44.60	Sept.19, 1962	2,210	b 30.12
1963	July 3, 1963	60,400	c 41.24	Aug. 18, 1963	2,340	d 30.63
1964	June 18, 1964	120,000	50.80	Oct. 6, 1963	3,740	e 30.78
1965	June 5, 1965	86,200	45.12	Aug. 8, 1965	6,470	f 30.90

a Occurred June 5, 1962.
b Occurred Sept. 6, 1962.
c Occurred June 11, 1963.
d Occurred Sept. 4, 1963.
e Occurred Oct. 7, 1963.
f Occurred Sept. 11, 1965.

1903-41, 1952-65: Maximum discharge, 136,000 cfs June 15, 1913, June 21, 1933; minimum, 1,280 cfs Sept. 1, 1961.
Maximum stage known, about 64.0 ft in June 1894, present site and datum, from water-surface profiles (discharge, about 200,000 cfs).

Remarks.--Records excellent except those below 8,000 cfs, which are good. Flow regulated at Albeni Falls Dam and affected by storage in Pend Oreille Lake (see station 12-3925), Flathead Lake (see station 12-3710), Hungry Horse Reservoir (see station 12-3620), and several smaller reservoirs (see elsewhere in this report). Diversions above station for irrigation of about 354,000 acres. Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.

Revisions (water years).--WSP 532: 1903-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10,300	12,700	14,800	8,360	15,500	26,400	31,400	44,300	98,100	30,500	6,570	4,100
2	10,900	9,440	13,800	8,840	13,600	26,300	31,400	48,500	102,000	29,000	6,230	6,320
3	11,700	9,420	10,600	12,900	13,700	25,600	32,100	51,400	104,000	25,500	7,540	4,490
4	16,000	11,300	10,830	15,200	12,400	24,600	35,500	54,400	107,000	24,000	7,650	3,690
5	12,800	12,900	13,600	14,800	12,100	25,700	40,000	55,500	110,000	24,400	7,830	2,590
6	11,900	13,100	15,400	14,000	13,600	26,900	42,000	56,300	111,000	24,800	7,350	2,830
7	9,300	13,200	15,600	12,600	13,800	27,500	39,500	56,000	113,000	23,500	8,270	3,120
8	9,100	15,600	15,300	11,900	13,900	24,400	36,300	57,100	114,000	21,700	8,300	2,860
9	11,300	16,700	14,400	12,200	15,500	24,200	35,900	56,800	112,000	19,600	8,830	5,870
10	13,600	17,200	12,300	13,500	17,100	25,400	35,600	56,600	111,000	23,800	8,280	6,480
11	16,100	19,300	12,400	14,400	24,300	27,800	33,900	57,100	108,000	24,000	9,050	6,970
12	17,800	20,200	15,100	11,600	29,500	26,300	31,600	57,700	102,000	21,200	8,940	4,960
13	17,700	19,700	15,000	9,780	28,600	24,300	32,000	58,200	87,100	19,800	10,000	4,930
14	17,800	20,300	12,600	9,980	28,200	24,300	34,200	59,300	79,600	20,100	8,260	3,690
15	17,600	21,400	12,400	10,100	28,200	24,500	32,200	59,500	68,800	20,400	7,200	5,650
16	17,900	21,300	10,500	13,000	28,300	25,700	31,000	61,100	72,900	16,800	7,370	5,920
17	16,100	21,200	6,150	15,600	28,500	26,300	32,600	61,700	79,200	18,900	8,610	5,880
18	13,200	20,800	6,440	17,500	27,100	26,300	34,300	61,900	77,700	19,700	10,300	5,630
19	12,200	19,800	12,300	15,600	27,300	29,800	34,200	63,100	76,200	18,000	10,500	4,760
20	12,800	20,600	17,200	12,700	20,900	31,500	35,100	63,900	76,100	20,000	10,700	5,520
21	13,400	22,900	19,500	11,900	11,700	33,700	38,100	64,000	75,100	20,200	11,600	6,530
22	12,100	23,900	19,500	11,800	22,000	33,700	41,200	65,600	68,700	17,100	11,100	9,220
23	11,400	23,900	18,800	15,000	29,200	32,300	40,800	68,800	62,400	17,200	9,810	13,700
24	16,700	25,700	16,700	16,200	32,500	31,700	42,000	74,200	60,800	21,800	7,990	12,100
25	18,800	25,900	13,500	15,800	33,100	31,700	42,800	77,700	58,600	22,000	5,640	16,300
26	19,200	28,800	12,000	14,500	30,900	31,300	40,900	79,400	51,800	16,000	5,100	18,300
27	17,400	28,300	11,100	13,900	26,200	32,100	41,900	82,800	40,800	11,700	4,600	18,800
28	14,500	26,500	11,500	10,600	26,300	31,600	42,000	88,200	37,800	11,400	4,900	16,400
29	15,600	24,900	13,300	12,400	------	30,700	43,100	90,300	36,800	13,200	5,370	14,700
30	16,400	16,600	13,400	16,100	------	31,300	43,300	92,800	33,800	12,000	5,640	14,700
31	16,400	------	11,800	16,800	------	31,400	------	95,400	------	7,460	2,940	------
TOTAL	448,000	583,560	417,790	409,560	624,000	875,300	1,106.9M	2,020.4M	2,436.3M	615,760	242,770	237,210
MEAN	14,450	19,450	13,480	13,210	22,290	28,240	36,900	65,170	81,210	19,860	7,831	7,907
MAX	19,200	28,800	19,500	17,500	33,100	33,700	43,300	95,400	114,000	30,500	11,600	18,800
MIN	9,100	9,420	6,150	8,360	11,700	24,200	31,000	44,300	33,800	7,460	2,940	2,590
AC-FT	888,600	1,157M	828,700	812,300	1,238M	1,736M	2,196M	4,007M	4,832M	1,221M	481,500	470,500

CAL YR 1960: TOTAL 9,941,950 MEAN 27,160 MAX 70,000 MIN 4,180 AC-FT 19,720,000
WAT YR 1961: TOTAL 10,017,550 MEAN 27,450 MAX 114,000 MIN 2,590 AC-FT 19,870,000

M Expressed in thousands.

12-3955. Pend Oreille River at Newport, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14,800	15,000	17,500	16,900	24,900	23,700	15,800	53,300	79,900	34,800	14,400	3,350
2	14,800	12,300	7,760	16,500	24,600	23,700	13,900	52,600	80,100	35,000	13,800	3,210
3	15,600	11,800	6,210	14,200	24,500	23,100	12,900	52,800	80,000	32,800	14,000	3,570
4	22,600	10,300	8,450	17,000	24,300	23,500	16,600	53,000	80,500	29,700	14,100	4,620
5	26,200	9,800	10,700	16,200	24,300	23,200	19,300	52,600	80,300	29,100	13,900	4,860
6	23,400	10,800	15,800	16,500	24,700	23,800	21,800	52,900	80,200	27,900	13,900	3,640
7	17,700	17,000	15,900	16,800	24,100	23,700	23,300	53,200	80,500	29,600	14,000	6,330
8	17,000	17,900	16,500	17,400	24,000	23,800	23,200	53,200	77,700	30,200	14,100	6,760
9	21,400	18,000	16,300	19,800	20,300	24,000	25,000	53,300	75,500	30,200	14,300	6,420
10	20,800	21,600	17,900	22,000	20,200	23,800	28,700	51,600	75,100	27,700	12,300	6,970
11	21,800	21,700	20,500	20,000	20,200	23,500	27,800	52,500	68,400	26,100	12,000	7,070
12	20,300	21,900	19,300	16,300	19,900	18,900	26,800	53,800	57,600	27,300	12,100	7,070
13	9,260	23,700	12,800	15,600	19,900	16,400	28,400	54,500	52,300	24,100	11,400	7,130
14	7,140	27,200	12,600	15,900	19,800	16,400	29,200	54,200	48,500	21,000	10,500	7,160
15	16,000	27,300	14,500	18,200	20,100	18,600	29,300	54,100	38,600	20,700	10,500	7,180
16	19,700	27,000	14,500	20,700	19,700	16,800	29,500	56,500	36,100	19,700	11,000	7,170
17	26,100	27,600	15,000	19,600	19,700	20,400	31,300	59,200	36,200	19,200	10,900	6,950
18	27,000	27,400	17,100	18,400	19,700	20,700	36,600	61,400	36,100	19,500	10,500	2,950
19	19,700	27,400	20,800	20,000	19,500	19,000	38,500	61,100	32,200	18,400	10,600	2,420
20	17,200	27,800	20,500	21,500	21,400	17,800	41,500	63,100	28,400	17,500	10,400	9,800
21	15,400	27,600	20,500	22,500	24,500	15,800	43,000	62,400	29,000	17,500	10,600	9,680
22	16,700	27,400	21,000	22,500	24,600	13,600	43,800	63,900	29,100	17,700	9,350	8,530
23	17,200	27,900	21,300	22,400	25,500	17,500	44,700	64,300	29,100	17,400	7,060	7,170
24	19,300	27,800	19,700	21,100	24,900	20,300	44,900	66,000	29,500	17,300	6,190	6,660
25	17,400	28,100	19,500	16,400	24,900	20,800	45,700	68,200	29,500	17,600	7,270	9,270
26	17,000	26,700	18,400	19,800	25,500	21,400	48,100	69,300	29,400	17,500	7,400	10,600
27	16,800	28,600	16,600	19,900	25,000	23,700	49,900	71,700	29,400	17,000	6,950	10,400
28	14,800	28,800	15,700	19,900	23,600	24,600	50,900	73,700	29,700	14,400	3,490	9,960
29	13,400	28,300	14,600	20,000	-------	24,400	52,100	76,400	29,800	12,300	2,340	11,000
30	14,500	28,400	18,300	20,300	-------	22,200	52,800	78,300	33,400	12,000	3,100	11,400
31	16,100	-------	17,700	21,000	-------	19,500	-------	79,400	-------	13,200	3,330	-------
TOTAL	557,100	683,100	503,320	585,800	634,300	648,700	995,900	1,872-5M	1,522.4M	696,400	316,420	209,320
MEAN	17,970	22,770	16,240	18,900	22,650	20,930	33,200	60,400	50,750	22,460	10,210	6,977
MAX	27,000	28,800	21,300	22,500	25,500	24,600	52,800	79,400	80,500	35,000	14,400	11,400
MIN	7,140	9,800	6,210	14,200	19,500	13,600	12,900	51,600	28,400	12,000	2,940	2,420
AC-FT	1,105M	1,355M	999,500	1,162M	1,258M	1,287M	1,975M	3,714M	3,020M	1,381M	627,600	415,200

CAL YR 1961: TOTAL 10,312,320 MEAN 28,250 MAX 114,000 MIN 2,590 AC-FT 20,450,000
WAT YR 1962: TOTAL 9,225,860 MEAN 25,280 MAX 80,500 MIN 2,420 AC-FT 18,300,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10,300	15,100	27,800	24,000	18,100	26,900	28,000	35,200	35,800	41,600	12,200	4,040
2	7,940	14,400	27,800	24,000	18,100	24,700	28,700	39,200	36,200	55,700	10,700	4,510
3	9,550	14,100	25,400	24,200	18,000	24,500	30,100	41,200	40,000	57,800	10,000	5,500
4	10,900	14,000	20,600	24,100	21,500	24,000	30,200	43,500	42,500	53,100	10,000	3,850
5	10,800	14,600	19,200	23,800	25,100	22,700	28,100	46,000	37,500	47,300	10,500	3,890
6	11,200	15,200	19,700	24,100	25,900	22,600	26,500	44,800	35,000	41,300	10,600	6,970
7	11,200	15,600	20,300	24,600	32,500	22,800	26,900	43,900	40,800	40,200	10,500	6,940
8	12,800	14,800	20,300	23,600	34,400	18,300	28,000	42,000	51,400	39,200	10,600	4,140
9	15,100	13,700	20,000	22,500	34,500	17,600	28,600	42,000	52,000	36,600	10,100	6,780
10	16,400	12,900	20,400	20,700	35,300	17,400	28,700	41,400	54,200	27,500	6,700	7,540
11	16,200	13,100	20,200	19,000	34,700	17,600	28,800	41,400	55,800	23,800	5,760	7,490
12	16,800	13,300	20,100	16,000	34,900	18,500	28,700	40,800	55,000	27,800	10,500	8,440
13	17,500	16,100	20,700	16,000	34,700	20,300	28,700	38,200	55,100	26,700	14,600	8,990
14	17,400	17,600	21,200	17,400	32,500	19,900	28,700	35,800	54,700	25,700	15,300	9,520
15	18,100	18,100	21,600	15,800	29,300	20,900	29,000	33,600	54,800	26,100	11,900	9,040
16	18,600	17,600	21,500	18,900	28,100	20,200	30,600	30,000	54,800	23,800	9,130	11,600
17	17,600	20,300	23,400	21,300	28,000	20,200	34,100	29,000	52,500	22,700	7,890	12,800
18	17,200	20,600	26,800	22,700	27,400	22,700	37,000	31,400	48,700	22,200	6,520	7,400
19	17,400	20,600	28,400	21,500	27,700	25,400	36,600	33,900	47,100	18,100	7,680	7,320
20	17,600	19,400	28,500	19,800	28,400	27,100	37,500	32,600	43,300	15,500	7,600	5,490
21	17,400	19,300	25,100	19,700	28,400	27,700	37,900	31,100	37,800	15,400	11,600	7,030
22	17,700	20,500	22,300	20,200	28,400	28,100	37,900	32,500	35,300	17,600	12,400	7,250
23	17,500	21,200	22,400	20,100	27,900	26,900	37,900	33,000	35,100	18,100	8,380	9,020
24	17,500	21,600	22,400	20,400	28,000	26,100	37,900	32,600	39,700	16,400	5,340	7,830
25	17,100	22,400	22,200	20,400	25,900	29,300	37,900	33,000	45,100	14,900	4,750	6,530
26	16,900	25,000	21,200	20,600	26,400	26,600	35,700	32,900	41,700	13,500	4,660	8,820
27	16,700	25,600	20,700	19,100	26,500	27,200	33,700	32,900	35,800	13,000	7,740	6,210
28	16,400	26,000	21,000	18,300	28,600	27,300	33,700	32,300	33,600	13,000	7,290	5,680
29	17,100	27,900	21,100	20,100	-------	27,200	34,000	32,600	33,400	14,100	11,900	5,810
30	18,300	27,800	20,700	20,000	-------	27,000	34,000	32,100	33,600	12,700	14,800	6,550
31	16,800	-------	21,500	19,100	-------	27,000	-------	34,700	-------	13,000	4,750	-------
TOTAL	479,990	558,400	694,500	642,000	793,600	734,700	964,100	1,125.6M	1,318.3M	835,000	292,590	213,420
MEAN	15,480	18,610	22,400	20,710	28,340	23,700	32,140	36,310	43,940	26,940	9,438	7,114
MAX	18,600	27,900	28,500	24,600	35,300	29,300	37,900	46,000	55,800	57,800	15,300	12,800
MIN	7,940	12,900	19,200	15,800	18,000	17,400	26,500	29,000	33,400	12,700	4,660	3,890
AC-FT	952,000	1,108M	1,378M	1,273M	1,574M	1,457M	1,912M	2,233M	2,615M	1,656M	580,300	423,300

CAL YR 1962: TOTAL 9,214,630 MEAN 25,250 MAX 80,500 MIN 2,420 AC-FT 18,280,000
WAT YR 1963: TOTAL 8,652,200 MEAN 23,700 MAX 57,800 MIN 3,890 AC-FT 17,160,000

M Expressed in thousands.

12-3955. Pend Oreille River at Newport, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10,600	14,500	8,190	13,900	7,690	19,900	17,600	22,100	68,300	64,100	15,700	13,100
2	10,200	13,900	7,320	15,300	9,740	22,100	20,400	24,300	70,300	56,200	16,100	12,800
3	8,710	14,600	9,230	16,200	17,600	26,200	21,800	26,900	72,200	52,700	16,400	14,400
4	8,410	12,900	13,300	14,600	19,800	26,600	20,100	29,200	73,800	52,700	15,300	15,100
5	7,530	11,100	15,600	14,000	18,800	25,700	20,100	31,100	75,700	57,700	17,300	15,300
6	6,380	19,700	12,900	15,200	19,100	26,200	22,400	33,300	77,300	63,400	16,200	12,900
7	8,880	21,700	10,100	17,100	19,100	27,700	21,200	34,000	80,200	60,800	16,100	14,600
8	11,500	21,700	10,700	18,400	16,400	27,000	20,900	34,200	81,300	55,900	13,200	15,000
9	12,300	20,700	10,500	19,500	16,500	27,000	21,100	33,000	86,900	48,400	12,900	15,600
10	13,800	21,000	13,400	18,400	18,800	31,200	23,200	32,000	94,300	43,100	13,600	18,200
11	14,100	21,000	14,500	15,900	21,300	35,000	25,200	31,800	100,000	44,900	10,500	7,400
12	13,500	21,100	14,500	14,900	20,800	33,800	25,200	33,500	107,000	44,200	11,500	11,100
13	14,700	18,500	14,900	15,300	21,000	31,000	24,600	38,000	113,000	42,500	15,200	11,200
14	14,700	19,300	13,900	16,100	20,600	33,200	24,800	40,700	116,000	37,600	10,000	13,100
15	14,000	14,700	13,700	16,400	16,100	33,000	24,800	43,900	119,000	33,400	12,900	10,600
16	13,000	11,400	14,400	17,100	16,800	29,000	24,100	46,300	119,000	32,000	12,700	12,200
17	13,000	15,200	14,700	16,600	18,400	24,400	23,600	45,800	119,000	31,800	12,700	13,500
18	13,800	18,800	14,700	15,300	20,600	25,600	21,600	47,400	119,000	33,500	13,100	16,000
19	16,900	19,000	15,200	14,600	20,100	26,600	21,800	48,700	119,000	33,500	13,000	13,600
20	17,000	20,100	15,500	15,700	19,400	25,600	21,600	49,900	118,000	31,600	13,000	14,100
21	18,100	17,600	14,600	16,800	17,300	23,500	21,700	52,400	116,000	30,100	13,000	14,400
22	19,800	16,700	14,300	14,900	16,200	23,200	21,600	56,300	114,000	26,600	6,340	13,300
23	26,700	15,400	15,600	16,900	16,900	21,600	23,700	57,500	112,000	22,400	6,410	12,500
24	27,100	15,500	16,200	17,400	17,100	19,200	26,500	61,000	104,000	21,000	8,610	11,800
25	21,900	17,500	14,500	13,600	16,300	18,400	27,800	65,300	96,300	19,600	9,870	11,900
26	17,700	17,900	14,400	13,700	16,100	18,600	27,200	68,300	93,400	19,800	8,550	8,380
27	17,100	16,300	13,800	17,800	19,000	17,600	28,300	68,600	91,800	18,800	8,440	8,020
28	13,000	14,500	12,700	18,600	20,100	17,300	27,300	67,800	92,100	17,600	7,520	11,000
29	8,780	14,500	12,200	18,700	19,900	17,200	23,100	66,400	86,900	17,200	6,340	11,400
30	11,800	14,400	12,600	18,500	------	16,100	20,800	65,600	72,200	17,200	9,100	12,300
31	13,200	------	14,000	17,000	------	15,200	------	66,500	------	16,400	10,200	------
TOTAL	438,190	511,200	412,140	504,400	517,530	764,700	694,100	1,422.2M	2,908.0M	1,147.2M	371,780	384,800
MEAN	14,140	17,040	13,290	16,270	17,850	24,670	23,140	45,880	96,930	37,010	11,990	12,830
MAX	27,100	21,700	16,200	19,500	21,300	35,000	28,300	68,600	119,000	64,100	17,300	18,200
MIN	6,380	11,100	7,320	13,600	7,690	15,200	17,600	22,100	68,300	16,400	6,340	7,400
AC-FT	869,100	1,014M	817,500	1,000M	1,027M	1,517M	1,377M	2,821M	5,768M	2,275M	737,400	763,200

CAL YR 1963: TOTAL 8,280,840 MEAN 22,690 MAX 57,800 MIN 3,890 AC-FT 16,420,000
WAT YR 1964: TOTAL 10,076,240 MEAN 27,530 MAX 119,000 MIN 6,340 AC-FT 19,990,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14,800	15,200	21,300	23,900	27,600	32,700	29,100	68,300	77,700	50,000	20,000	15,400
2	13,700	15,100	23,400	23,300	28,400	33,500	29,100	70,700	80,500	44,000	19,500	15,500
3	10,500	16,700	21,200	24,700	28,600	33,800	28,800	72,800	82,900	44,000	18,500	15,600
4	10,300	16,200	19,800	25,100	28,400	34,400	28,800	74,200	85,000	43,500	20,700	16,200
5	11,800	14,400	22,000	23,600	29,000	35,500	32,000	75,300	85,700	43,900	24,800	16,500
6	10,600	15,300	21,900	24,900	29,300	35,200	35,700	75,300	85,100	45,400	22,000	15,400
7	16,300	15,100	20,300	27,000	29,500	35,700	35,300	74,600	84,400	46,900	6,980	14,600
8	13,600	15,500	17,700	26,500	29,600	35,300	33,400	73,200	82,600	43,600	7,590	12,400
9	13,400	17,400	16,600	25,100	32,600	35,200	32,200	71,300	80,300	41,200	18,700	12,200
10	15,500	17,400	17,200	25,100	32,600	35,200	32,100	69,400	79,400	39,600	15,400	10,500
11	15,500	17,600	17,900	25,300	32,600	34,900	32,200	68,100	77,100	39,700	16,500	10,500
12	17,700	18,400	19,000	24,800	32,500	35,300	33,600	65,300	74,600	42,100	17,700	13,600
13	18,600	18,500	18,800	24,300	32,700	35,500	36,300	61,300	76,400	41,900	16,800	14,400
14	20,500	19,000	19,300	24,100	32,700	35,500	39,400	64,600	76,300	38,800	16,600	15,600
15	20,500	18,400	19,500	27,800	32,800	33,900	40,700	66,300	75,100	38,400	16,600	18,000
16	20,300	21,700	19,100	28,200	32,700	34,500	40,200	70,700	72,800	34,500	16,600	19,600
17	19,600	26,000	20,800	27,500	33,200	34,900	40,600	76,100	63,200	30,600	16,300	23,000
18	19,600	25,400	24,200	26,000	33,100	34,800	40,500	78,000	65,500	30,400	16,700	19,200
19	18,100	25,900	24,000	24,200	33,100	35,000	40,900	78,900	79,700	25,800	18,100	20,500
20	16,800	25,900	18,500	23,300	33,200	35,100	43,800	79,800	80,700	26,100	17,100	20,900
21	17,200	26,900	16,000	23,800	32,900	35,300	47,000	79,500	81,300	21,400	7,560	17,500
22	18,700	26,600	16,500	24,200	32,900	35,700	48,100	78,300	81,300	23,500	8,060	17,700
23	18,600	30,200	18,600	24,800	32,600	47,000	48,200	76,700	82,900	26,300	14,100	17,700
24	16,400	29,500	19,200	24,600	33,000	50,700	47,800	75,100	74,800	26,200	12,400	14,900
25	15,400	30,200	18,900	25,300	32,800	50,000	48,000	73,300	65,200	25,700	14,400	13,100
26	21,200	30,300	19,200	26,100	32,700	46,000	55,000	71,800	68,000	22,600	16,900	17,300
27	22,700	30,500	18,900	25,800	32,500	41,600	62,700	71,200	66,600	21,500	19,200	20,800
28	23,700	30,900	19,100	25,900	32,400	40,900	63,900	71,300	57,700	21,200	19,400	21,600
29	23,000	31,000	22,700	26,700	------	40,900	65,800	71,900	53,300	22,200	19,200	22,800
30	21,900	27,600	19,500	27,300	------	38,600	67,500	72,600	55,900	20,300	17,500	22,000
31	20,200	------	19,900	28,100	------	31,500	------	74,700	------	20,300	15,600	------
TOTAL	536,700	668,800	610,000	788,300	886,000	1,154.1M	1,258.7M	2,250.6M	2,252.4M	1,045.6M	507,490	505,000
MEAN	17,310	22,290	19,680	25,430	31,640	37,230	41,960	72,600	75,080	33,730	16,370	16,830
MAX	23,700	31,000	24,200	28,200	33,200	50,700	67,500	79,800	85,700	50,000	24,800	23,000
MIN	10,300	14,400	16,000	23,300	27,600	31,500	28,800	61,300	53,300	20,300	6,980	10,500
AC-FT	1,065M	1,327M	1,210M	1,564M	1,757M	2,289M	2,497M	4,464M	4,468M	2,074M	1,007M	1,002M

CAL YR 1964: TOTAL 10,530,210 MEAN 28,770 MAX 119,000 MIN 6,340 AC-FT 20,890,000
WAT YR 1965: TOTAL 12,463,690 MEAN 34,150 MAX 85,700 MIN 6,980 AC-FT 24,720,000

M Expressed in thousands.

12-3960. Calispell Creek near Dalkena, Wash.

Location.--Lat 48°14'40", long 117°20'30", in SW¼ sec.26, T.32 N., R.43 E., on right bank 2 miles upstream from Calispell Lake, 4.8 miles west of Dalkena, and 9 miles upstream from mouth.

Drainage area.--68.3 sq mi (revised).

Records available.--August 1950 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,070 ft (from topographic map). Prior to Oct. 25, 1961, on left bank 100 ft downstream at same datum.

Average discharge.--15 years, 73.9 cfs (53,500 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Nov. 25, 1960	543	6.35	Jan. 1, 1961	2.6	a 3.16
1962	Apr. 7, 1962	314	5.53	Jan. 8, 1962	5.2	b 3.41
1963	Apr. 6, 1963	502	6.09	Nov. 3-5, 1962	4.3	3.91
1964	May 21, 1964	262	5.35	Feb. 4, 1964	4.4	3.88
1965	Apr. 21, 1965	721	7.28	(c)	11	d 3.99

a Occurred Oct. 2, 1960.
b Occurred Oct. 5, 1961.
c Oct. 3, 4, 1964, Sept. 18-29, 1965.
d Occurred Nov. 29, 1964.

1950-65: Maximum discharge, 1,070 cfs Feb. 25, 1958; maximum gage height, 7.33 ft Mar. 30, 1960; minimum discharge, 2.6 cfs Jan. 1, 1961; minimum gage height, 2.11 ft Sept. 1, 1957.

Remarks.--Records good except those above 400 cfs and those for winter periods, which are fair. No diversion above station. Regulation at low flow by Power Lake (capacity, 1,000 acre-ft) since September 1956.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.7	38	86	2.8	56	150	281	355	137	32	32	14
2	4.0	38	81	5.4	68	143	332	375	125	32	32	11
3	9.9	38	58	14	71	131	400	362	113	36	30	11
4	14	32	49	19	70	110	435	355	113	41	24	11
5	13	6.5	46	34	78	110	392	312	118	41	16	14
6	13	4.0	47	34	97	124	338	287	108	41	12	14
7	15	18	44	12	124	110	295	272	120	39	14	16
8	7.9	36	41	9.4	143	99	266	264	112	37	16	14
9	4.6	37	21	27	144	99	255	264	116	37	16	11
10	10	33	9.4	30	228	97	235	352	108	46	16	11
11	15	10	12	32	263	88	226	442	102	42	15	10
12	15	4.9	27	32	326	84	263	402	110	41	14	6.0
13	17	4.6	47	32	272	97	340	342	104	37	14	6.0
14	17	10	44	7.5	230	130	304	335	97	27	15	10
15	7.9	13	39	10	238	166	270	328	92	14	17	14
16	4.3	18	19	42	342	174	254	312	84	14	17	13
17	11	21	6.7	51	205	185	255	312	76	27	17	11
18	16	31	6.7	52	178	180	250	295	81	32	17	12
19	16	27	24	49	170	186	245	278	83	34	13	15
20	16	52	42	34	164	221	230	270	80	18	11	15
21	15	214	37	15	206	223	216	278	73	13	11	16
22	4.3	71	36	16	243	213	203	270	70	10	11	14
23	4.3	41	24	54	226	216	200	248	64	8.7	11	12
24	14	160	3.2	52	211	216	197	230	52	14	11	11
25	36	369	4.8	47	200	208	191	213	49	16	11	14
26	39	166	7.1	44	179	216	198	197	63	18	11	15
27	40	108	11	41	176	228	197	188	63	21	11	16
28	32	96	34	20	160	219	202	182	54	27	14	16
29	5.3	78	36	17	------	224	211	167	59	18	15	13
30	5.3	73	32	37	------	238	304	156	52	17	15	11
31	19	------	9.1	54	------	255	------	152	------	24	14	------
TOTAL	449.0	1,849.0	984.0	926.6	5,068	5,140	7,985	8,735	2,678	859.7	498	382.0
MEAN	14.5	61.6	31.7	29.9	181	166	266	284	89.3	27.7	16.1	12.7
MAX	40	369	86	54	342	255	435	442	137	46	32	16
MIN	4.0	4.0	3.2	2.8	56	84	191	152	49	8.7	11	6.0
AC-FT	891	3,670	1,950	1,840	10,050	10,200	15,840	17,440	5,310	1,710	988	758

CAL YR 1960: TOTAL 30,425.6 MEAN 83.1 MAX 744 MIN 3.2 AC-FT 60,350
WAT YR 1961: TOTAL 35,614.8 MEAN 97.6 MAX 442 MIN 2.8 AC-FT 70,640

12-3960. Calispell Creek near Dalkena, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	24	21	12	27	28	76	160	117	27	14	8.1
2	13	24	17	17	19	24	109	156	107	39	14	8.1
3	13	24	13	36	11	18	129	163	106	40	14	7.4
4	12	13	23	36	8.9	17	146	230	107	28	13	8.1
5	9.4	8.1	30	36	19	17	156	206	98	35	12	8.1
6	10	14	21	28	24	19	194	136	78	35	13	8.1
7	8.3	16	17	23	24	27	296	208	89	22	16	8.1
8	8.3	16	26	21	24	27	238	199	82	22	15	8.1
9	11	16	12	24	26	27	196	250	73	33	17	8.1
10	12	14	7.0	24	19	18	174	265	75	38	17	8.9
11	12	7.4	6.0	24	17	16	163	268	80	38	12	9.7
12	13	7.4	6.0	23	22	35	198	255	73	38	10	9.7
13	13	7.4	6.5	13	27	28	165	238	71	33	16	8.9
14	10	11	7.0	10	31	28	150	220	73	19	23	8.9
15	10	13	7.5	21	31	28	270	201	66	13	23	8.9
16	16	14	8.0	22	31	28	281	187	58	28	23	8.9
17	21	16	8.5	22	26	24	240	183	60	23	23	18
18	21	11	9.7	23	26	24	232	183	66	24	12	35
19	21	8.1	13	24	26	27	270	183	61	24	12	35
20	21	9.7	19	26	31	31	250	176	56	24	14	35
21	9.0	12	30	26	31	31	265	174	52	14	16	35
22	8.0	13	30	26	24	31	235	169	45	12	24	22
23	15	13	14	26	26	31	230	163	36	13	23	13
24	15	13	10	26	33	28	240	169	39	13	22	27
25	14	9.7	8.1	38	33	26	248	169	39	13	13	35
26	14	7.4	19	26	32	38	215	163	48	13	13	35
27	15	10	35	15	32	43	230	156	49	13	27	33
28	8.9	13	35	8.1	28	42	252	163	46	11	31	36
29	8.1	21	38	17	------	42	201	156	40	11	30	26
30	17	23	24	26	------	40	180	139	27	12	30	21
31	24	------	12	27	------	40	------	131	------	14	21	------
TOTAL	418.5	411.2	536.8	728.1	710.9	895	6,269	5,879	2,037	724	565	542.6
MEAN	13.5	13.7	17.3	23.5	25.4	28.6	209	190	67.9	23.4	18.3	18.1
MAX	24	24	38	38	33	43	296	268	117	40	31	36
MIN	8.0	7.4	6.0	8.1	8.9	16	76	131	27	11	10	7.4
AC-FT	830	816	1,060	1,440	1,410	1,760	12,430	11,660	4,040	1,440	1,120	1,080

CAL YR 1961: TOTAL 33,699.3 MEAN 92.3 MAX 442 MIN 2.8 AC-FT 66,840
WAT YR 1962: TOTAL 19,709.6 MEAN 54.0 MAX 296 MIN 6.0 AC-FT 39,090

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	6.8	50	89	35	64	206	150	78	36	17	4.7
2	31	6.8	50	87	36	55	171	160	75	42	17	4.7
3	31	4.3	55	123	28	52	154	154	80	39	13	4.7
4	31	4.3	50	121	42	56	152	141	66	24	13	4.7
5	31	7.4	48	100	55	56	201	143	70	38	15	10
6	30	9.7	46	91	49	54	438	206	78	28	15	13
7	28	9.7	43	94	54	52	390	287	68	23	14	11
8	28	9.7	33	85	60	48	353	350	60	39	14	11
9	27	13	27	70	66	39	329	344	61	40	14	13
10	18	6.3	42	55	66	46	287	305	68	39	8.1	14
11	21	7.4	43	52	70	52	260	268	63	40	8.1	15
12	22	17	42	50	60	52	235	240	56	38	10	12
13	8.9	50	42	52	56	50	220	223	54	14	14	14
14	6.8	50	42	50	56	50	220	206	49	14	14	12
15	17	46	50	50	56	43	314	192	36	14	13	12
16	26	42	158	50	56	33	308	171	39	13	5.7	14
17	17	27	148	50	55	38	278	171	50	13	5.2	14
18	14	21	129	48	61	49	255	152	50	13	4.7	14
19	12	32	119	45	61	52	230	148	49	14	4.7	14
20	5.2	40	109	42	58	50	206	148	46	14	12	13
21	5.2	40	100	40	54	50	190	141	45	15	15	11
22	10	28	82	39	49	48	185	127	35	33	15	11
23	14	33	68	39	46	56	192	127	28	39	14	13
24	14	28	66	39	49	121	167	121	40	39	13	12
25	13	31	54	39	55	123	158	113	46	27	13	13
26	9.7	174	61	38	66	104	148	111	43	15	14	12
27	4.7	137	61	38	70	109	141	111	43	13	15	12
28	4.7	87	55	36	68	317	143	100	42	12	15	11
29	8.9	66	49	36	------	270	148	94	30	15	15	11
30	8.9	55	70	36	------	308	148	80	24	17	10	11
31	6.8	------	104	35	------	252	------	82	------	17	5.2	------
TOTAL	534.3	1,089.9	2,096	1,819	1,537	2,749	6,827	5,366	1,572	778	378.2	348.8
MEAN	17.2	36.3	67.6	58.7	54.9	88.7	228	173	52.4	25.1	12.2	11.6
MAX	31	174	158	123	70	317	438	350	80	42	17	15
MIN	4.7	4.3	27	35	28	33	141	80	24	12	4.7	4.7
AC-FT	1,060	2,160	4,160	3,610	3,050	5,450	13,540	10,640	3,120	1,540	750	692

CAL YR 1962: TOTAL 22,063.3 MEAN 60.4 MAX 296 MIN 4.3 AC-FT 43,760
WAT YR 1963: TOTAL 25,095.7 MEAN 68.8 MAX 438 MIN 4.3 AC-FT 49,780

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-3960. Calispell Creek near Dalkena, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	12	22	13	21	13	39	174	121	52	15	16
2	12	8.1	30	17	12	21	43	169	119	48	15	6.5
3	12	8.1	18	17	28	28	44	171	117	43	18	6.5
4	12	13	13	13	10	28	38	180	113	25	17	6.5
5	8.1	17	26	13	19	28	52	190	111	29	17	6.5
6	7.4	24	38	15	31	26	82	185	106	31	17	8.0
7	12	28	24	23	30	18	94	178	104	46	17	8.8
8	13	27	14	38	24	17	113	183	105	50	15	8.8
9	13	8.9	23	38	12	22	141	203	100	43	15	8.8
10	13	7.4	28	29	20	28	165	225	91	43	16	8.8
11	13	7.4	29	14	26	29	165	218	85	41	17	8.8
12	8.9	11	30	12	30	29	165	206	92	41	18	8.8
13	8.1	18	31	16	28	28	152	206	85	39	18	8.8
14	13	38	19	18	28	16	146	198	76	39	18	8.8
15	13	39	13	13	18	13	156	185	72	39	15	8.8
16	13	26	29	18	12	13	165	174	76	39	13	18
17	13	17	31	21	21	14	143	190	92	39	15	23
18	14	36	23	14	26	14	117	218	92	38	18	20
19	8.9	45	30	11	22	14	115	225	81	38	19	15
20	8.1	46	30	15	24	14	127	248	87	38	17	13
21	13	47	14	15	26	14	123	258	93	34	22	19
22	16	39	12	16	17	14	167	232	73	30	22	26
23	15	24	15	16	20	19	185	201	73	30	21	30
24	15	24	15	15	12	24	178	171	67	26	22	30
25	14	25	12	12	32	19	178	152	62	15	23	25
26	8.9	43	17	12	30	14	194	135	58	15	28	12
27	8.9	43	19	22	26	13	199	125	58	15	34	12
28	13	38	15	38	28	14	176	119	58	15	35	15
29	11	39	13	38	19	15	171	115	54	16	25	16
30	11	29	18	38	------	28	174	121	53	16	20	17
31	13	------	18	38	------	39	------	121	------	16	20	------
TOTAL	364.3	787.9	674	633	654	626	4,007	5,681	2,559	1,031	605	420.2
MEAN	11.8	26.3	21.7	20.4	22.6	20.2	134	183	85.3	33.3	19.5	14.0
MAX	16	47	38	38	32	39	199	258	121	52	35	30
MIN	7.4	7.4	12	11	10	13	38	119	53	15	13	6.5
AC-FT	723	1,560	1,340	1,260	1,300	1,240	7,950	11,270	5,080	2,040	1,200	833

CAL YR 1963: TOTAL 23,201.7 MEAN 63.6 MAX 438 MIN 4.7 AC-FT 46,020
WAT YR 1964: TOTAL 18,042.4 MEAN 49.3 MAX 258 MIN 6.5 AC-FT 35,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	16	47	17	21	43	53	544	139	38	24	16
2	17	16	100	18	19	67	60	473	126	37	17	14
3	11	16	78	20	20	80	65	405	113	38	15	15
4	11	15	60	22	20	75	78	357	105	38	15	15
5	14	16	52	22	20	72	91	302	100	38	14	15
6	15	15	43	25	20	70	102	252	93	34	14	15
7	14	14	36	25	20	72	104	227	88	33	14	15
8	14	14	26	25	20	73	107	206	84	34	14	15
9	15	15	25	25	20	75	117	201	80	36	13	15
10	14	16	25	25	18	76	169	203	72	36	13	14
11	14	16	29	26	15	83	190	224	72	36	14	13
12	15	23	29	29	17	91	201	258	68	35	14	13
13	16	32	26	30	18	92	235	293	66	35	14	14
14	16	26	31	30	19	94	268	296	64	35	15	17
15	16	21	36	30	20	96	296	281	64	34	15	16
16	15	20	32	30	23	96	421	281	60	33	15	16
17	13	16	15	30	26	85	414	243	59	24	15	15
18	13	16	15	31	31	80	355	209	66	23	15	12
19	15	15	16	31	32	78	362	188	71	22	14	11
20	16	13	17	31	30	75	575	219	62	17	15	11
21	16	13	18	31	29	72	657	230	60	19	16	11
22	17	13	19	30	29	68	648	198	58	19	16	12
23	16	14	19	20	31	65	578	191	50	18	16	12
24	15	18	17	20	35	59	552	201	44	17	16	11
25	15	17	15	17	35	58	539	191	46	16	17	11
26	15	15	15	18	35	56	544	179	44	15	16	11
27	15	14	15	19	38	54	565	169	42	19	16	11
28	15	13	16	20	39	53	610	150	42	24	16	11
29	15	13	16	20	------	53	648	154	40	20	16	12
30	15	17	17	21	------	52	601	149	39	20	16	14
31	15	------	17	22	------	50	------	143	------	24	16	------
TOTAL	460	498	922	760	700	2,213	10,206	7,630	2,117	867	476	404
MEAN	14.8	16.6	29.7	24.5	25.0	71.4	340	246	70.6	28.0	15.4	13.5
MAX	17	32	100	31	39	96	657	544	139	38	24	17
MIN	11	13	15	17	15	43	53	143	39	15	13	11
AC-FT	912	988	1,830	1,510	1,390	4,390	20,240	15,130	4,200	1,720	944	801

CAL YR 1964: TOTAL 18,096.2 MEAN 49.4 MAX 258 MIN 6.5 AC-FT 35,890
WAT YR 1965: TOTAL 27,253 MEAN 74.7 MAX 657 MIN 11 AC-FT 54,060

12-3965. Pend Oreille River below Box Canyon, near Ione, Wash.

Location.--Lat 48°46'50", long 117°24'40", in SE¼NE¼ sec.19, T.38 N., R.43 E., on left bank 1,000 ft downstream from Box Canyon Dam and 4 miles north of Ione.

Drainage area.--24,900 sq mi (revised), approximately.

Records available.--October 1952 to September 1965.

Gage.--Digital water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Mar. 29, 1954, staff gage at site 300 ft upstream at same datum. Mar. 29 to Aug. 25, 1954, staff gage and Aug. 26, 1954, to July 31, 1964, graphic water-stage recorder, at present site and datum.

Average discharge.--13 years, 28,580 cfs (20,690,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1961	June 9, 1961	114,600	2,009.14	Sept. 6, 1961	3,720	1,980.75
1962	June 7, 1962	82,800	2,002.86	Aug. 23, 1962	2,030	1,979.70
1963	July 4, 1963	57,100	1,997.37	Sept. 5, 1963	a 4,120	-
1964	June 18, 1964	119,900	2,010.30	Sept.11, 1964	a 5,030	-
1965	June 6, 1965	88,200	2,003.84	Aug. 7, 1965	a 6,970	-

a Minimum daily.

1952-65: Maximum discharge, 125,700 cfs June 6, 1956 (elevation, 2,011.74 ft); minimum, 2,030 cfs Aug. 23, 1962 (elevation, 1,979.70 ft).
Flood in June 1948 reached elevation of 2,018.00 ft, from floodmarks (discharge, 167,000 cfs).

Remarks.--Records excellent. In 1946 there were diversions for irrigation of about 340,000 acres, and there probably has not been any appreciable change since that time. Flow regulated at Box Canyon and Albeni Falls Dams and affected by storage in Pend Oreille Lake, Flathead Lake, Hungry Horse Reservoir, and by smaller reservoirs in Pend Oreille River basin in Montana (see elsewhere in this report). Records of chemical analyses for the water years 1961-62 are published in reports of the Geological Survey as "at Metaline Falls, Wash."

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,410	14,700	18,700	11,300	16,900	28,300	33,800	45,300	96,700	33,500	7,210	4,280
2	11,900	11,300	15,000	9,560	14,400	26,100	33,700	46,900	99,700	30,700	6,080	4,560
3	12,200	10,800	12,800	11,400	14,400	25,000	33,500	49,500	102,400	29,600	6,750	5,680
4	14,200	11,200	12,400	14,400	14,600	24,800	37,700	49,400	105,100	29,400	7,590	5,560
5	12,800	12,800	12,400	15,300	13,300	25,000	43,500	52,800	107,100	27,400	7,740	4,140
6	12,200	13,100	13,200	14,600	13,200	25,000	45,600	55,300	109,600	27,800	7,930	4,030
7	10,500	13,000	16,400	13,900	13,400	25,100	42,500	56,900	111,500	27,600	7,350	4,050
8	9,930	14,400	18,300	14,000	13,800	22,800	38,600	59,400	112,800	25,300	7,930	3,950
9	9,460	15,100	18,600	12,300	14,800	21,200	38,600	61,500	113,800	22,500	8,990	4,260
10	13,000	17,700	17,200	13,600	17,900	21,800	36,500	62,100	112,500	22,100	9,040	7,740
11	14,600	17,400	14,900	15,100	18,800	26,200	35,200	60,800	111,300	25,700	8,530	7,980
12	17,400	18,800	14,300	13,900	24,000	29,000	33,300	59,900	109,200	21,500	9,040	8,460
13	18,100	19,600	11,900	12,000	28,100	29,000	32,100	59,700	103,900	18,100	9,510	8,560
14	18,100	20,300	11,800	11,300	28,600	26,400	37,500	60,600	90,100	16,900	10,100	6,280
15	17,400	21,300	11,000	11,200	28,600	26,100	36,700	61,500	80,200	14,100	7,880	4,860
16	17,200	21,800	11,500	11,800	28,700	26,600	33,900	61,500	72,300	15,000	7,310	7,000
17	16,200	21,900	7,740	14,300	28,800	27,300	33,400	63,400	74,300	17,700	7,830	6,280
18	13,500	22,300	7,590	16,000	28,800	28,000	35,000	64,200	76,800	23,100	8,350	7,280
19	12,800	21,000	11,100	16,900	28,100	29,100	36,500	64,700	75,600	21,700	10,600	6,730
20	13,100	21,500	15,200	12,800	32,000	32,200	38,200	65,400	74,600	19,400	8,280	5,840
21	13,900	22,300	20,700	13,600	33,400	37,500	41,000	65,600	73,400	20,900	10,700	6,550
22	13,100	21,700	19,400	13,000	28,800	36,600	43,400	65,600	73,100	17,400	8,680	7,590
23	13,100	24,800	19,600	12,200	34,000	36,000	43,800	63,200	68,000	18,100	11,400	10,900
24	14,600	25,300	19,100	14,800	33,300	33,900	43,400	67,700	62,600	20,300	9,040	14,500
25	17,600	28,800	15,600	16,300	34,900	33,900	45,400	75,800	60,400	23,900	7,070	14,100
26	18,800	28,400	14,600	16,100	35,300	34,500	43,600	79,700	54,600	21,100	6,470	16,800
27	17,900	29,300	13,000	14,100	33,500	33,200	43,000	82,000	47,500	13,500	5,350	18,500
28	13,600	28,800	11,200	12,700	29,200	33,500	43,500	86,800	43,500	11,300	5,730	19,200
29	13,000	26,800	13,100	11,600	-------	33,200	43,700	91,700	39,700	9,460	6,280	16,100
30	14,400	24,100	14,700	14,100	-------	32,300	45,700	94,100	37,300	12,600	7,100	16,800
31	15,100	------	13,000	17,100	-------	32,900	------	95,100	------	10,000	5,370	------
TOTAL	439,160	600,300	446,030	421,260	683,600	902,500	1,172.4M	2,028.5M	2,500.0M	648,260	247,570	258,660
MEAN	14,170	20,010	14,390	13,590	24,410	29,110	39,080	65,440	83,330	20,910	7,986	8,623
MAX	18,800	29,300	20,700	17,100	35,300	37,500	45,700	95,100	113,800	33,500	11,400	18,500
MIN	9,410	10,800	7,590	9,560	13,200	21,200	32,100	45,300	37,300	9,460	5,350	3,990
AC-FT	871,100	1,191M	884,700	835,600	1,356M	1,790M	2,325M	4,023M	4,959M	1,286M	491,000	513,100

CAL YR 1960: TOTAL 10,098,580 MEAN 27,590 MAX 68,900 MIN 4,850 AC-FT 20,030,000
WAT YR 1961: TOTAL 10,348,260 MEAN 28,350 MAX 113,800 MIN 3,990 AC-FT 20,530,000

M Expressed in thousands.

12-3965. Pend Oreille River below Box Canyon, Near Ione, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15,200	16,100	28,400	20,400	24,300	25,100	21,700	52,900	91,300	36,000	14,900	4,480
2	14,800	14,600	16,700	21,200	27,600	25,900	16,700	53,400	92,000	35,800	13,400	4,480
3	14,800	12,800	9,170	16,600	26,900	24,200	13,500	53,300	81,800	32,500	13,700	4,540
4	16,100	12,200	9,040	16,000	26,400	23,700	15,500	53,500	81,600	30,200	14,900	4,680
5	23,200	10,600	9,460	16,400	26,200	24,200	15,900	53,300	81,800	30,000	14,700	7,160
6	26,300	10,700	11,800	16,100	26,300	24,700	26,600	53,200	82,200	29,500	13,600	5,470
7	22,300	11,600	15,500	17,100	25,900	25,200	25,100	56,500	81,500	30,400	13,700	4,440
8	16,100	18,200	16,600	17,600	26,100	25,300	22,400	58,000	79,500	31,200	14,300	6,660
9	18,900	18,300	17,900	16,700	24,900	25,100	26,400	55,400	77,400	30,900	14,000	7,810
10	22,200	18,500	16,700	19,200	23,200	24,300	27,700	54,200	75,800	30,000	12,800	8,430
11	20,400	22,900	17,900	23,200	21,500	24,400	29,000	53,000	72,500	27,800	12,000	8,280
12	23,700	25,500	20,400	20,500	21,700	23,900	28,400	53,500	63,400	26,600	11,900	7,710
13	19,700	24,300	19,200	17,200	20,800	19,900	29,000	54,400	55,900	24,700	11,900	7,760
14	12,200	26,500	13,100	17,400	21,000	16,800	29,200	55,200	54,700	21,700	10,700	7,880
15	10,800	28,000	12,600	16,600	22,000	17,300	29,600	55,300	46,400	20,200	9,770	7,960
16	16,500	28,800	14,200	17,700	22,700	18,600	36,900	51,100	40,200	19,600	12,100	7,930
17	20,600	29,300	14,400	20,500	21,700	18,800	42,300	52,300	38,200	19,100	8,730	7,760
18	26,000	29,100	14,300	19,000	21,700	21,400	38,500	53,100	38,400	20,800	11,000	6,210
19	24,200	29,200	16,800	18,500	21,500	21,400	40,400	58,200	38,300	19,100	10,500	4,100
20	18,700	29,200	20,800	20,000	21,500	19,800	43,900	62,300	33,300	16,400	10,500	5,350
21	17,600	29,100	20,500	21,200	23,200	17,900	45,600	62,000	33,100	16,300	10,800	10,000
22	17,600	29,100	21,400	23,000	24,700	15,500	45,900	63,400	32,900	17,900	11,800	10,800
23	17,300	29,100	22,400	23,500	25,700	16,300	46,500	64,300	33,000	18,700	6,200	8,860
24	18,000	29,200	21,900	25,000	26,300	19,600	47,300	66,000	33,300	20,200	6,730	8,030
25	19,200	29,200	20,400	24,400	26,300	22,300	47,300	68,600	32,400	18,400	6,800	7,860
26	17,100	29,000	19,700	19,900	26,300	22,400	48,000	70,300	33,100	17,900	8,080	10,100
27	16,800	28,200	16,900	20,800	26,300	24,300	47,900	72,100	32,100	16,700	7,880	11,300
28	17,400	29,000	16,000	21,400	25,300	26,200	47,700	76,800	30,900	15,400	5,640	10,900
29	16,400	29,300	16,400	21,700	------	28,200	50,000	79,800	30,900	12,200	4,600	10,300
30	15,400	29,300	14,800	21,700	------	26,600	51,800	80,300	32,900	10,400	4,520	12,200
31	15,100	------	18,900	21,700	------	26,700	------	80,700	------	12,800	4,500	------
TOTAL	570,600	706,900	524,270	612,000	678,000	696,000	1,040.8M	1,676.4M	1,610.8M	709,400	326,850	229,460
MEAN	18,410	23,560	16,910	19,740	24,210	22,450	34,690	60,530	53,690	22,880	10,540	7,649
MAX	26,300	29,300	28,400	25,000	27,600	28,200	51,800	80,700	82,200	36,000	14,900	12,200
MIN	10,800	10,600	9,040	16,000	20,800	15,500	13,500	51,100	30,900	10,400	4,500	4,100
AC-FT	1,132M	1,402M	1,040M	1,214M	1,345M	1,380M	2,064M	3,722M	3,195M	1,407M	648,300	455,100

CAL YR 1961: TOTAL 10,664,540 MEAN 29,220 MAX 113,800 MIN 3,990 AC-FT 21,150,000
WAT YR 1962: TOTAL 9,581,480 MEAN 26,250 MAX 82,200 MIN 4,100 AC-FT 19,000,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,690	16,800	27,800	21,500	17,000	28,500	35,300	35,200	35,500	37,200	12,100	4,530
2	9,410	15,800	28,400	23,400	16,000	26,500	33,600	34,200	36,300	46,300	10,600	4,590
3	9,540	15,200	28,200	24,100	16,000	25,100	30,200	31,400	36,600	53,300	10,200	6,080
4	10,200	13,500	22,500	24,100	18,000	23,900	31,400	37,700	40,200	56,300	10,200	4,750
5	11,100	13,300	19,300	24,200	21,000	22,900	30,600	43,300	40,300	51,900	10,100	4,120
6	11,600	14,300	19,500	24,400	26,000	22,200	28,800	43,900	36,000	45,400	10,000	4,470
7	11,500	14,900	20,300	24,500	30,000	23,600	29,400	44,400	36,200	42,900	10,100	6,590
8	11,900	13,900	20,300	25,600	33,000	23,800	28,900	48,600	44,200	41,100	10,100	6,300
9	14,000	13,700	20,300	27,600	35,000	19,100	29,600	53,000	49,000	38,900	10,100	4,850
10	16,100	13,200	20,000	27,900	36,500	15,500	29,900	49,200	50,900	30,700	7,670	7,380
11	17,900	12,400	20,200	26,200	36,400	15,700	30,500	45,700	55,000	20,800	5,870	7,290
12	16,300	12,500	20,500	18,400	36,100	16,000	30,100	43,900	55,800	26,700	7,740	7,840
13	16,400	12,900	20,400	15,500	39,400	19,000	30,100	43,000	55,100	25,900	13,300	8,100
14	16,400	20,800	21,500	20,400	35,400	23,500	30,000	39,700	53,500	25,400	14,600	9,240
15	16,700	19,000	22,400	19,600	32,200	17,200	30,700	35,200	53,500	25,700	13,600	8,460
16	18,000	18,900	22,600	13,200	26,300	20,400	30,700	29,300	53,700	25,000	9,820	11,300
17	19,300	17,600	22,700	10,600	26,500	20,000	32,600	26,000	53,400	22,100	7,450	13,800
18	20,700	19,300	24,200	11,800	28,400	20,100	39,500	27,000	50,400	21,800	8,680	7,290
19	18,500	19,800	26,700	20,000	27,700	22,000	39,100	28,300	48,300	16,400	7,290	6,660
20	20,000	18,800	27,800	21,000	27,500	25,700	38,400	30,900	47,800	15,900	7,930	6,810
21	18,500	18,400	27,700	20,000	27,500	26,800	39,200	31,100	47,800	15,700	9,670	5,850
22	19,300	21,000	24,200	20,000	28,200	27,300	38,800	31,600	42,600	17,600	12,300	7,060
23	18,000	20,900	22,400	20,700	28,200	27,500	38,600	33,800	38,800	17,800	8,810	7,810
24	17,500	20,700	22,200	20,500	28,500	27,500	38,500	34,000	39,500	16,300	5,550	8,270
25	17,900	21,500	22,400	21,800	28,100	27,600	38,200	33,900	42,900	14,800	5,910	7,090
26	16,000	23,400	21,800	21,000	27,600	27,700	37,100	33,500	45,100	14,100	5,780	7,550
27	14,800	26,300	22,000	20,000	26,800	27,700	34,800	33,200	40,000	12,400	5,050	8,320
28	15,300	26,400	21,800	19,000	26,400	27,900	31,200	33,000	32,800	12,300	5,850	6,550
29	15,500	27,100	22,900	18,000	------	28,100	33,400	33,100	34,200	12,000	10,800	6,020
30	18,500	27,200	20,800	19,000	------	27,900	35,300	32,600	34,600	13,600	13,900	6,020
31	19,900	------	19,300	18,000	------	28,100	------	33,200	------	12,400	7,960	------
TOTAL	486,440	549,500	703,100	642,000	785,700	734,800	1,004.5M	1,132.9M	1,330.0M	828,700	289,830	211,030
MEAN	15,690	18,320	22,680	20,710	28,060	23,700	33,480	36,550	44,330	26,730	9,349	7,034
MAX	20,700	27,200	28,400	27,900	39,400	28,500	39,500	53,000	55,800	56,300	14,800	13,800
MIN	9,410	12,400	19,300	10,600	16,000	15,500	28,800	26,000	32,800	12,000	5,050	4,120
AC-FT	964,800	1,090M	1,395M	1,273M	1,558M	1,457M	1,992M	2,247M	2,638M	1,644M	574,900	418,600

CAL YR 1962: TOTAL 9,518,750 MEAN 26,080 MAX 82,200 MIN 4,100 AC-FT 18,880,000
WAT YR 1963: TOTAL 8,698,500 MEAN 23,830 MAX 56,300 MIN 4,120 AC-FT 17,250,000

M Expressed in thousands.

12-3965. Pend Oreille River below Box Canyon, near Ione, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8,270	13,700	11,500	14,400	15,600	21,000	16,600	22,700	70,100	73,500	16,300	12,500
2	11,700	14,200	9,280	14,500	9,780	21,500	19,500	27,700	71,000	65,500	16,300	12,800
3	11,000	14,500	8,700	16,200	10,500	25,000	20,500	30,300	72,500	58,300	17,700	12,600
4	8,580	14,400	10,700	16,700	17,300	26,900	22,400	32,600	74,600	55,800	16,100	14,800
5	8,460	14,700	13,300	14,400	19,300	25,700	21,500	34,300	76,800	55,800	15,700	15,700
6	7,810	14,700	15,400	14,300	19,900	27,300	21,600	36,400	80,300	61,200	18,500	14,000
7	6,980	24,400	12,300	17,200	19,000	27,500	23,800	37,300	82,600	63,600	17,700	14,200
8	11,300	20,800	10,800	18,000	18,500	27,700	22,500	37,500	84,700	60,300	13,700	15,400
9	13,700	22,400	10,800	18,800	17,000	27,800	23,500	36,400	89,000	57,500	13,100	16,100
10	13,900	23,200	12,300	19,500	17,700	28,200	25,600	35,000	93,000	47,100	13,200	18,400
11	13,500	22,300	13,800	19,100	18,700	33,800	29,100	34,700	96,600	45,100	11,500	5,030
12	13,400	22,200	13,900	15,800	21,100	36,600	29,800	37,100	102,400	47,100	4,460	12,100
13	13,300	20,900	14,300	15,600	22,000	33,700	29,100	42,200	107,800	46,300	13,400	11,000
14	13,200	18,400	14,300	16,000	22,400	32,100	26,400	43,700	112,300	35,800	16,600	12,400
15	14,500	19,100	14,100	17,800	21,600	33,200	25,400	44,100	115,100	37,300	10,300	12,300
16	14,500	15,100	15,000	18,100	17,200	32,700	25,300	47,200	117,200	33,100	12,900	12,400
17	13,100	12,700	16,500	18,700	17,000	27,400	26,400	48,800	118,500	33,700	13,200	10,100
18	13,100	12,900	15,500	12,500	18,700	27,000	26,800	49,300	119,400	36,500	12,900	16,500
19	13,200	20,800	15,000	11,400	20,900	27,100	24,900	49,400	119,400	35,300	13,000	16,000
20	15,500	21,100	15,600	14,500	20,400	27,800	22,900	49,100	119,000	34,400	13,500	14,500
21	16,800	19,900	15,300	17,500	19,300	26,900	22,400	48,000	118,300	29,700	13,700	12,600
22	19,400	19,000	15,000	18,400	16,600	25,200	22,600	50,900	117,100	27,800	11,300	13,700
23	22,900	17,500	15,100	15,200	17,300	25,200	24,600	57,300	115,200	24,400	8,150	12,800
24	27,500	16,800	16,300	18,200	18,200	21,700	28,300	62,200	112,600	21,200	7,240	11,300
25	26,700	16,700	16,200	16,300	17,500	20,500	29,800	67,700	107,400	20,500	8,120	11,200
26	18,800	17,900	15,000	15,000	17,300	20,000	30,600	71,000	101,200	20,400	9,260	9,590
27	17,800	18,600	14,800	15,100	17,500	19,300	29,400	70,900	96,800	20,600	9,530	9,260
28	18,900	16,300	13,200	15,200	19,700	18,600	29,200	70,500	94,400	18,000	8,500	9,860
29	14,800	16,100	12,600	19,900	20,800	18,200	25,600	69,800	90,300	18,300	8,050	11,000
30	10,400	14,700	12,400	19,500	------	18,300	23,400	69,400	82,600	19,400	7,400	10,800
31	12,400	------	13,400	19,300	------	16,700	------	69,200	------	17,900	9,560	------
TOTAL	445,400	536,000	422,380	517,100	528,780	801,000	749,700	1,482.7M	2,958.2M	1,230.2M	386,730	381,740
MEAN	14,370	17,870	13,630	16,680	18,230	25,840	24,990	47,830	98,610	39,680	12,480	12,720
MAX	27,500	24,400	16,500	19,900	22,400	36,600	30,600	71,000	119,400	73,500	18,500	18,400
MIN	6,980	12,700	8,700	11,400	9,780	16,700	15,600	22,700	70,100	17,900	7,240	5,030
AC-FT	883,400	1,063M	837,800	1,026M	1,049M	1,589M	1,487M	2,941M	5,868M	2,440M	767,100	757,200

CAL YR 1963: TOTAL 8,363,240 MEAN 22,910 MAX 56,300 MIN 4,120 AC-FT 16,590,000
WAT YR 1964: TOTAL 10,439,930 MEAN 28,520 MAX 119,400 MIN 5,030 AC-FT 20,710,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13,700	19,600	24,000	20,400	27,200	32,400	30,900	72,400	73,100	58,000	19,900	15,400
2	15,400	16,400	23,200	23,400	26,200	33,900	29,300	74,000	78,800	50,700	19,400	14,500
3	11,600	16,900	23,900	23,400	27,700	33,900	29,300	75,400	83,200	48,100	15,800	14,700
4	10,600	18,300	24,000	23,500	28,100	34,000	31,100	77,600	85,800	46,700	23,300	14,700
5	10,200	16,400	24,200	25,400	29,200	34,900	38,200	78,600	87,600	46,300	23,900	14,600
6	10,100	14,800	23,100	26,600	29,100	35,000	44,500	79,400	87,800	45,200	23,800	15,100
7	12,500	14,900	19,600	25,100	29,000	35,000	36,900	80,500	87,300	46,000	6,970	16,100
8	13,400	14,900	17,400	25,300	29,800	35,000	35,100	79,800	86,500	46,400	7,760	13,400
9	10,700	16,000	16,500	24,700	31,600	35,000	34,700	78,600	85,300	43,800	16,900	12,800
10	13,500	17,700	16,300	24,300	33,100	35,000	34,400	76,900	83,300	41,500	13,100	11,200
11	14,800	17,800	17,500	24,600	32,400	35,000	34,400	75,500	81,900	40,600	15,100	8,340
12	15,100	18,000	18,100	24,900	32,300	35,200	35,900	74,300	79,400	40,300	16,800	11,200
13	17,100	18,000	18,100	25,400	32,800	35,400	39,800	73,300	77,800	42,500	16,400	12,600
14	18,000	17,600	18,100	24,800	32,400	35,400	42,500	69,900	78,200	40,900	15,500	13,600
15	19,000	17,400	20,200	26,900	32,000	35,400	43,800	68,000	78,000	39,500	16,200	16,500
16	20,500	19,100	17,900	25,300	32,500	34,500	43,200	69,200	76,800	36,500	16,200	19,400
17	19,800	25,100	18,000	25,400	32,400	34,800	43,000	72,000	71,600	33,600	16,000	21,400
18	19,800	24,500	22,800	26,300	32,400	35,100	43,000	73,400	67,200	27,700	16,500	19,700
19	20,200	24,400	23,300	24,200	32,500	35,000	43,000	75,200	72,400	32,300	16,800	19,000
20	17,000	25,400	22,000	23,400	32,500	35,000	44,500	78,800	78,500	29,100	18,200	19,600
21	17,800	25,300	18,800	23,400	32,500	35,000	47,800	81,600	80,300	23,200	8,960	16,700
22	17,200	25,800	15,900	24,700	32,500	37,300	50,000	81,300	80,900	21,200	8,100	16,600
23	18,300	29,100	17,400	25,600	32,600	48,300	51,100	79,500	81,500	16,100	11,200	17,200
24	17,300	31,100	19,400	23,500	31,900	51,300	51,300	80,300	82,100	19,600	12,400	15,100
25	16,000	30,100	20,800	23,100	32,000	52,700	51,200	80,100	72,200	28,300	13,000	12,700
26	16,600	29,500	20,300	25,500	32,900	51,800	51,700	77,400	70,300	25,400	16,800	15,500
27	20,200	30,100	19,000	26,400	33,400	45,400	59,900	75,100	68,700	21,300	19,000	19,600
28	21,700	30,000	18,700	23,600	32,400	41,700	65,400	73,900	63,100	20,100	18,700	19,800
29	21,600	30,000	19,800	24,800	------	40,000	67,600	74,300	57,100	20,600	18,500	20,800
30	21,600	29,700	19,100	25,500	------	35,400	70,100	74,300	58,000	19,400	17,600	20,500
31	21,200	------	19,000	26,500	------	32,200	------	71,500	------	20,400	15,000	------
TOTAL	512,500	663,900	616,400	765,900	875,400	1,166.0M	1,323.6M	2,352.1M	2,314.7M	1,071.3M	493,810	478,340
MEAN	16,530	22,130	19,880	24,710	31,260	37,610	44,120	75,870	77,160	34,560	15,930	15,940
MAX	21,700	31,100	24,200	26,900	33,400	52,700	70,100	81,600	87,800	58,000	23,900	21,400
MIN	10,100	14,800	15,900	20,400	26,200	32,200	29,300	68,000	57,100	16,100	6,970	8,340
AC-FT	1,017M	1,317M	1,223M	1,519M	1,736M	2,313M	2,625M	4,665M	4,591M	2,125M	979,500	948,800

CAL YR 1964: TOTAL 10,828,950 MEAN 29,590 MAX 119,400 MIN 5,030 AC-FT 21,480,000
WAT YR 1965: TOTAL 12,633,950 MEAN 34,610 MAX 87,800 MIN 6,970 AC-FT 25,060,000

M Expressed in thousands.

12-3969. Sullivan Creek above Outlet Creek, near Metaline Falls, Wash.

Location.--Lat 48°50'45", long 117°17'10", in SW¼SE¼ sec.30, T.39 N., R.44 E., on right bank 30 ft downstream from road bridge, 1,000 ft upstream from Outlet Creek, and 4 miles southeast of Metaline Falls.

Drainage area.--70.2 sq mi.

Records available.--January 1959 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,540.09 ft above mean sea level (Pend Oreille County Public Utility District levels).

Average discharge.--6 years, 116 cfs (83,980 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (600 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 26, 1961	2230	* 1,480	13.61	May 23, 1963	1930	* 759	12.62	May 29, 1965	1830	* 922	12.97
May 27, 1961	-	-	13.90					June 6, 1965	2000	726	12.61
June 3, 1961	1930	1,230	13.62	May 20, 1964	2000	876	12.88				
May 29, 1962	0100	* 725	12.59	June 3, 1964	2230	* 921	13.09				

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Jan. 3, 1961	19	9.94	1964	Mar. 23, 1964	16	10.34
1962	Feb. 23, 24, 1962	6.5	10.06	1965	Dec. 17, 1964	a 12	-
1963	Jan. 10, 1963	12	10.36				

a Minimum daily.

1959-65: Maximum discharge, 1,480 cfs May 26, 1961 (gage height, 13.61 ft); maximum gage height, 13.90 ft May 27, 1961; minimum discharge, 6.5 cfs Feb. 23, 24, 1962 (gage height, 10.06 ft).

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	37	35	23	27	43	60	250	1,070	150	53	52
2	28	33	35	22	26	40	72	362	1,110	140	52	46
3	28	30	35	20	25	35	88	358	1,130	132	50	38
4	28	29	30	24	25	33	102	331	1,110	126	50	36
5	28	29	20	25	25	40	98	307	1,140	120	49	35
6	29	29	20	25	28	41	94	290	1,080	116	49	35
7	32	28	20	25	36	39	90	287	1,050	109	47	34
8	44	25	20	25	31	37	88	290	825	102	46	33
9	33	27	22	25	31	37	84	308	780	95	46	33
10	31	29	23	25	34	36	81	370	696	90	46	33
11	30	28	25	25	37	36	81	404	652	87	46	33
12	36	27	25	25	39	35	94	382	674	84	45	32
13	32	26	25	24	35	35	94	382	638	80	45	32
14	30	27	24	24	34	37	86	444	629	78	44	31
15	29	26	22	27	35	39	84	476	634	74	43	31
16	29	26	21	32	34	40	83	498	624	73	42	30
17	30	25	26	28	33	40	88	520	575	72	43	30
18	29	35	25	27	32	39	92	530	575	69	40	30
19	29	30	25	23	32	41	92	602	479	67	38	35
20	29	40	25	22	32	43	88	758	402	66	38	30
21	29	45	25	22	44	44	88	852	345	65	38	30
22	33	35	25	22	52	43	88	804	298	64	36	30
23	32	30	25	22	46	45	90	887	269	73	36	30
24	39	40	25	23	45	45	90	887	246	66	36	30
25	36	50	25	22	44	45	96	901	228	64	38	30
26	36	45	24	22	39	46	104	1,190	210	64	36	29
27	37	30	24	22	43	48	106	1,190	193	58	36	28
28	38	30	24	22	40	48	110	970	181	57	35	30
29	35	35	24	23	------	49	140	845	172	57	35	33
30	32	35	24	24	------	50	203	860	165	57	34	30
31	32	------	24	27	------	56	------	942	------	55	41	------
TOTAL	991	961	772	747	984	1,285	2,863	18,477	18,180	2,610	1,313	989
MEAN	32.0	32.0	24.9	24.1	35.1	41.5	95.4	596	606	84.2	42.4	33.0
MAX	44	50	35	32	52	56	203	1,190	1,140	150	53	52
MIN	28	25	20	20	25	33	60	250	165	55	34	28
CFSM	.46	.46	.35	.34	.50	.59	1.36	8.49	8.63	1.20	.60	.47
IN.	.53	.51	.41	.40	.52	.68	1.52	9.79	9.63	1.38	.70	.52
AC-FT	1,970	1,910	1,530	1,480	1,950	2,550	5,680	36,650	36,060	5,180	2,600	1,960

CAL YR 1960: TOTAL 47,478 MEAN 130 MAX 866 MIN 20 CFSM 1.85 IN 25.15 AC-FT 94,170
WAT YR 1961: TOTAL 50,172 MEAN 137 MAX 1,190 MIN 20 CFSM 1.96 IN 26.58 AC-FT 99,510

12-3969. Sullivan Creek above Outlet Creek, near Metaline Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	30	28	21	15	18	22	162	434	164	58	33
2	29	26	27	21	15	17	25	162	410	152	56	32
3	29	30	26	24	17	17	29	164	426	147	58	30
4	28	28	26	22	20	17	33	167	394	133	67	30
5	28	27	25	21	14	16	38	159	362	127	69	29
6	30	25	20	21	17	17	43	159	334	122	65	28
7	31	29	23	21	16	17	49	155	318	120	60	29
8	30	28	19	20	16	17	45	152	338	107	60	29
9	28	28	21	19	17	17	43	157	406	104	59	26
10	35	29	13	16	19	16	42	167	418	97	56	32
11	31	30	19	23	18	16	41	174	406	92	53	58
12	36	28	21	21	18	15	42	177	394	90	53	40
13	46	27	23	20	18	15	46	178	468	87	53	34
14	36	27	24	20	20	15	60	182	459	92	49	38
15	35	21	24	18	19	15	111	182	472	82	49	34
16	36	19	24	17	18	15	119	187	490	82	47	32
17	42	20	23	16	18	16	113	215	468	80	46	30
18	36	25	23	15	18	16	138	263	418	78	46	27
19	34	27	23	14	18	17	204	338	330	73	46	28
20	33	24	23	13	18	17	227	366	366	71	44	28
21	31	20	23	12	15	17	215	398	334	69	41	26
22	31	27	22	12	18	16	210	434	307	67	38	26
23	32	25	21	13	10	17	230	486	287	67	36	26
24	31	25	24	14	10	17	288	635	265	65	36	26
25	31	20	23	15	15	19	299	665	251	65	34	25
26	34	21	23	16	15	20	256	626	237	65	36	25
27	34	27	20	16	15	20	227	621	217	65	37	25
28	32	29	23	15	17	19	201	670	201	62	41	30
29	30	30	23	15	------	19	182	655	185	60	38	51
30	30	29	23	15	------	19	169	567	173	60	34	36
31	30	------	22	15	------	20	------	470	------	58	33	------
TOTAL	1,009	785	702	541	464	529	3,747	10,124	10,628	2,795	1,495	948
MEAN	32.5	26.2	22.6	17.5	16.6	17.1	125	327	354	90.2	48.2	31.5
MAX	46	30	28	24	20	20	299	670	490	164	69	58
MIN	28	19	13	12	10	15	22	152	173	58	33	25
CFSM	.46	.37	.32	.25	.24	.24	1.78	4.65	5.05	1.28	.69	.45
IN.	.53	.42	.37	.27	.25	.28	1.99	5.36	5.63	1.48	.73	.50
AC-FT	2,000	1,560	1,390	1,070	920	1,050	7,430	20,080	21,080	5,540	2,970	1,880

CAL YR 1961: TOTAL 49,944 MEAN 137 MAX 1,190 MIN 13 CFSM 1.95 IN 26.46 AC-FT 99,060
WAT YR 1962: TOTAL 33,767 MEAN 92.5 MAX 670 MIN 10 CFSM 1.32 IN 17.89 AC-FT 66,980

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	36	49	49	33	43	47	186	574	152	53	36
2	29	34	46	49	33	43	46	179	476	142	52	36
3	28	34	44	51	35	42	46	168	440	136	51	36
4	26	33	38	46	42	41	47	155	435	134	50	33
5	26	36	41	44	52	44	53	155	484	128	47	35
6	25	36	40	43	51	43	70	238	480	125	47	34
7	28	34	38	41	53	43	68	322	444	122	47	34
8	32	36	38	40	49	42	64	318	412	125	46	33
9	34	40	40	37	46	42	63	296	399	117	46	33
10	34	41	40	14	45	42	62	278	368	120	46	32
11	36	40	38	12	45	42	60	260	345	122	46	32
12	54	43	34	12	45	41	60	255	327	114	45	32
13	69	38	34	15	45	41	63	255	304	107	45	35
14	49	36	37	20	45	41	74	260	286	100	44	42
15	41	34	57	25	45	40	107	273	268	96	44	35
16	40	34	71	30	45	40	107	291	247	90	43	37
17	37	33	62	30	45	40	105	322	230	86	44	38
18	37	33	60	30	45	40	100	386	213	83	43	36
19	36	36	58	31	44	39	98	448	202	76	43	35
20	37	53	56	32	44	40	96	516	186	72	43	34
21	40	46	56	33	44	41	91	610	179	69	44	33
22	43	40	44	34	43	43	91	656	170	68	43	33
23	43	37	34	33	43	47	89	700	175	66	42	33
24	41	37	20	34	43	49	87	718	162	64	43	33
25	40	60	26	33	43	45	87	696	158	64	42	32
26	38	85	41	31	47	45	91	651	145	63	41	31
27	38	65	46	33	45	47	105	615	136	60	40	31
28	37	58	51	33	43	58	117	597	131	58	38	31
29	37	49	53	33	------	52	139	592	158	57	38	31
30	36	53	53	33	------	51	168	610	168	56	37	30
31	36	------	51	33	------	49	------	588	------	55	37	------
TOTAL	1,157	1,270	1,396	1,014	1,238	1,356	2,501	12,594	8,722	2,927	1,372	1,018
MEAN	37.3	42.3	45.0	32.7	44.2	43.7	83.4	406	291	94.4	44.3	33.9
MAX	69	85	71	51	53	58	168	718	574	152	53	42
MIN	25	33	20	12	33	39	46	155	131	55	37	30
CFSM	.53	.60	.64	.47	.63	.62	1.19	5.79	4.14	1.35	.63	.48
IN.	.61	.67	.74	.54	.66	.72	1.32	6.67	4.62	1.55	.73	.54
AC-FT	2,290	2,520	2,770	2,010	2,460	2,690	4,960	24,980	17,300	5,810	2,720	2,020

CAL YR 1962: TOTAL 35,094 MEAN 96.1 MAX 670 MIN 10 CFSM 1.37 IN 18.59 AC-FT 69,610
WAT YR 1963: TOTAL 36,565 MEAN 100 MAX 718 MIN 12 CFSM 1.43 IN 19.37 AC-FT 72,530

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-3969. Sullivan Creek above Outlet Creek, near Metaline Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	28	30	30	25	22	33	78	764	205	63	43
2	30	29	30	31	24	22	34	80	849	176	63	43
3	30	28	31	28	26	22	33	82	896	183	61	43
4	30	29	31	27	26	22	33	89	796	171	62	41
5	30	29	34	27	26	23	33	112	745	164	59	40
6	31	30	33	29	22	22	34	112	802	155	57	39
7	31	30	26	25	19	21	35	112	766	144	55	39
8	30	30	31	20	24	21	37	128	745	138	54	39
9	30	30	30	27	27	23	41	172	720	136	56	40
10	30	29	22	28	26	22	45	209	670	132	57	39
11	30	28	24	27	23	22	46	209	610	125	52	38
12	29	29	28	26	22	22	45	226	550	119	51	37
13	29	30	28	26	24	22	46	247	535	114	50	37
14	29	38	29	26	22	22	46	260	540	109	50	37
15	28	47	29	26	23	22	47	273	535	106	48	36
16	28	37	30	27	23	22	47	318	540	102	47	36
17	27	36	30	27	23	22	47	498	480	98	49	54
18	27	34	29	27	22	22	46	584	470	95	51	54
19	27	34	28	27	22	22	47	664	442	92	54	44
20	28	32	29	26	22	22	50	795	407	92	45	46
21	32	30	29	26	22	22	52	782	369	89	47	45
22	31	32	28	26	21	22	58	620	345	88	45	45
23	47	32	28	26	21	22	58	512	337	86	44	44
24	36	31	28	26	22	21	60	453	322	83	42	43
25	34	31	28	26	20	22	64	417	303	81	42	43
26	31	35	27	26	20	23	74	399	288	80	43	42
27	30	43	27	26	21	22	72	399	284	77	42	41
28	30	37	27	26	22	22	70	453	254	76	44	40
29	30	34	27	26	22	23	74	552	231	77	43	40
30	29	31	27	26	------	25	78	628	216	70	51	45
31	29	------	27	26	------	29	------	700	------	66	58	------
TOTAL	943	973	885	823	662	693	1,485	11,163	15,801	3,549	1,587	1,253
MEAN	30.4	32.4	28.5	26.5	22.8	22.4	49.5	360	527	114	51.2	41.8
MAX	47	47	34	31	27	29	78	795	886	205	63	54
MIN	27	28	22	20	19	21	33	78	216	66	42	36
CFSM	.43	.46	.41	.38	.33	.32	.71	5.13	7.50	1.63	.73	.59
IN.	.50	.52	.47	.44	.35	.37	.79	5.91	8.37	1.88	.84	.66
AC-FT	1,870	1,930	1,760	1,630	1,310	1,370	2,950	22,140	31,340	7,040	3,150	2,490

CAL YR 1963: TOTAL 35,543 MEAN 97.4 MAX 718 MIN 12 CFSM 1.39 IN 18.83 AC-FT 70,500
WAT YR 1964: TOTAL 39,817 MEAN 109 MAX 886 MIN 19 CFSM 1.55 IN 21.09 AC-FT 78,980

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	47	35	46	33	28	26	39	386	583	158	50	39
2	44	43	46	32	27	29	46	337	583	152	50	38
3	45	37	43	32	30	30	44	306	649	142	58	37
4	43	44	40	31	31	30	44	281	644	136	57	40
5	42	55	38	31	36	30	44	260	644	129	61	37
6	41	44	36	30	34	32	45	244	678	118	55	38
7	40	41	34	30	30	33	45	238	632	112	51	43
8	40	40	36	29	31	35	45	234	578	104	48	41
9	44	42	36	29	30	36	47	244	566	98	48	41
10	46	44	36	31	22	37	50	278	594	93	46	40
11	43	44	34	30	29	38	52	345	605	91	46	40
12	42	40	28	30	30	38	58	456	566	87	46	38
13	40	39	31	30	30	39	70	565	495	82	45	40
14	39	36	33	31	28	39	85	575	418	77	44	44
15	40	35	26	28	28	40	106	575	382	74	44	45
16	40	33	16	30	29	39	132	570	364	71	43	41
17	39	36	12	31	29	30	132	505	423	70	42	40
18	38	36	20	29	30	34	123	456	455	68	41	39
19	38	36	30	29	30	37	123	420	396	65	41	37
20	37	34	34	29	30	40	138	442	352	66	58	38
21	36	34	36	31	30	44	157	433	316	68	46	37
22	36	33	37	30	30	41	166	415	288	76	46	36
23	36	36	37	30	28	38	173	428	264	64	55	35
24	35	43	35	29	29	36	189	456	254	61	55	35
25	35	39	32	29	30	36	211	480	241	60	48	34
26	36	36	34	28	30	36	234	525	223	58	52	33
27	35	34	36	29	36	38	267	585	202	58	45	32
28	35	32	35	31	27	36	349	720	185	55	45	32
29	35	31	34	31	------	38	451	850	175	53	45	30
30	35	30	33	30	------	37	438	822	168	52	43	30
31	34	------	32	31	------	38	------	670	------	51	41	------
TOTAL	1,216	1,142	1,036	934	832	1,110	4,103	14,101	12,933	2,643	1,495	1,132
MEAN	39.2	38.1	33.4	30.1	29.7	35.8	137	455	431	85.5	48.2	37.7
MAX	47	55	46	33	36	44	451	850	678	158	61	45
MIN	34	30	12	28	22	26	39	234	168	51	41	30
CFSM	.56	.54	.48	.43	.42	.51	1.95	6.48	6.14	1.22	.69	.54
IN.	.64	.60	.55	.49	.44	.59	2.17	7.47	6.85	1.40	.79	.60
AC-FT	2,410	2,270	2,050	1,850	1,650	2,200	8,140	27,970	25,650	5,250	2,970	2,250

CAL YR 1964: TOTAL 40,410 MEAN 110 MAX 886 MIN 12 CFSM 1.57 IN 21.41 AC-FT 80,150
WAT YR 1965: TOTAL 42,683 MEAN 117 MAX 850 MIN 12 CFSM 1.67 IN 22.61 AC-FT 84,660

12-3970. Sullivan Lake near Metaline Falls, Wash.

Location.--Lat 48°50'20", long 117°17'10", in NE¼ sec.31, T.39 N., R.44 E., 300 ft southeast of dam at outlet and 4 miles southeast of Metaline Falls.

Drainage area.--51.2 sq mi (revised).

Records available.--May 1912 to September 1923, January 1959 to September 1965 (fragmentary).

Gage.--Staff gage. Datum of gage is at mean sea level (Pend Oreille County Public Utility District levels of 1957). Prior to May 9, 1913, staff gage and May 9, 1913, to Sept. 30, 1923, float gage, on dam at outlet of lake at different datum.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Elevation	Date	Elevation
1961	July 13-17, 22, 1961	2,588.50	Jan. 8, 1961	2,564.70
1962	June 27, 1962	2,589.10	Apr. 19, 1962	2,564.45
1963	July 2, 1963	2,589.28	Mar. 11, 1963	2,564.80
1964	Oct. 3, 1963	2,586.85	Jan. 14, 15, 21, Feb. 4, 12, 1964.	2,564.70
1965	July 23-26, 1965	2,588.50	Feb. 6, 1965	2,564.70

1959-65: Maximum elevation observed, 2,589.28 ft July 2, 1963; minimum observed, 2,564.45 ft Apr. 19, 1962.

Remarks.--Reservoir is formed by concrete dam at lake outlet. Some small diversions for domestic use.

Cooperation.--Elevation record furnished by Public Utility District No. 1 of Pend Oreille County.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	87.56	72.75	66.10	-	-	-	-	72.92	85.32	88.00	-	-
2	87.54	72.35	66.00	-	-	-	-	73.48	85.92	88.05	-	-
3	87.52	72.00	65.90	-	-	-	68.10	74.25	86.35	88.10	-	-
4	86.90	71.60	65.80	-	-	-	-	74.90	86.65	88.20	-	87.75
5	-	71.28	65.70	-	-	-	-	75.90	86.90	88.20	-	-
6	-	71.00	65.65	-	-	-	68.70	-	86.95	88.28	-	-
7	85.06	70.40	65.60	-	-	66.39	-	-	87.48	88.32	88.30	-
8	-	70.19	65.50	64.70	64.80	-	-	-	87.42	88.34	-	-
9	-	69.90	65.40	-	-	-	-	-	86.95	88.36	-	-
10	-	69.62	65.35	-	64.83	-	69.25	-	86.60	88.40	-	-
11	-	69.30	65.38	-	-	-	-	-	86.24	88.45	-	87.58
12	-	69.05	65.30	-	-	-	69.65	79.85	86.10	88.48	-	-
13	81.94	68.70	65.20	-	-	-	-	80.15	86.00	88.50	88.18	-
14	81.54	68.50	65.20	-	-	-	69.80	80.60	86.20	88.50	-	-
15	81.00	68.30	65.14	-	65.28	66.84	-	81.02	86.40	88.50	-	-
16	80.50	68.05	65.08	-	-	-	-	81.30	86.50	88.50	-	-
17	79.90	67.80	65.06	-	-	-	-	81.40	86.65	88.50	-	-
18	79.30	67.60	65.02	-	-	67.00	-	81.55	86.78	-	-	-
19	78.75	67.40	65.00	64.71	-	-	-	81.55	86.80	-	-	-
20	78.16	67.30	65.00	-	-	-	70.65	81.50	86.90	-	88.00	-
21	77.60	67.20	64.95	-	65.59	-	-	81.60	87.05	-	-	-
22	77.00	67.02	64.90	-	-	67.25	-	81.60	87.10	88.50	-	-
23	76.50	66.90	64.90	-	-	-	-	81.65	87.10	-	-	-
24	76.10	66.80	64.85	-	-	-	-	81.72	87.15	-	-	-
25	75.60	66.70	-	-	-	67.43	-	81.72	87.30	-	87.90	-
26	75.10	66.60	-	-	-	-	71.62	81.80	87.45	-	-	87.20
27	74.75	66.50	-	-	66.02	-	-	83.00	87.60	-	-	-
28	74.30	66.40	-	-	66.14	67.68	-	84.00	87.70	-	87.80	-
29	73.90	66.30	-	-	------	67.75	-	84.65	87.80	-	-	-
30	73.50	66.20	-	-	------	-	-	85.15	87.90	-	-	-
31	73.10	------	64.80	-	------	-	------	85.25	------	88.40	-	------
MAX	-	72.75	-	-	-	-	-	-	87.90	-	-	-
MIN	-	66.20	-	-	-	-	-	-	85.32	-	-	-

Note.--Add 2,500 ft to obtain elevation above mean sea level.

12-3970. Sullivan Lake near Metaline Falls, Wash.--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	87.10	83.77	83.60	71.85	65.15	64.65	-	68.70	81.70	88.85		87.80
2	87.02	83.80	-	71.40	65.05	-	-	68.90	82.00	88.75		-
3	87.00	83.78	-	71.05	65.00	-	-	69.20	82.50	88.70		-
4	87.00	83.78	-	70.60	65.00	-	-	69.50	82.90	88.65		-
5	87.00	83.70	83.60	71.20	64.97	-	64.64	69.80	83.20	88.60		-
6	86.90	83.68	-	69.85	64.94	-	-	70.00	83.50	88.55		-
7	86.60	83.68	-	69.45	64.93	-	-	70.30	83.80	88.50		-
8	86.20	83.66	83.60	69.10	64.89	64.85	-	70.50	84.05	88.45		87.60
9	85.88	83.65	83.15	68.80	-	-	-	70.70	84.40	88.40		-
10	85.45	83.65	82.65	68.45	-	-	-	71.00	84.80	88.38		-
11	85.10	-	82.20	68.15	-	-	-	71.40	85.10	88.40		-
12	84.60	-	81.65	67.85	-	-	64.82	71.70	85.40	88.40		-
13	84.25	-	81.29	67.55	-	-	-	72.00	85.70	88.40		-
14	83.80	-	80.74	67.35	-	-	-	72.30	86.10	88.40		-
15	83.70	-	80.34	67.05	64.75	64.65	-	72.70	86.40	88.40		87.40
16	83.70	-	79.84	66.85	-	-	-	72.90	86.80	88.40		-
17	83.75	83.55	79.34	66.70	-	-	-	73.30	87.20	88.40		-
18	83.75	-	79.84	66.55	-	-	-	73.70	87.50	88.40		-
19	83.75	-	78.34	66.40	-	-	64.45	74.10	87.80	88.40		-
20	83.73	-	77.84	66.20	-	-	-	74.55	88.10	88.40		-
21	83.75	-	77.34	66.05	-	-	-	75.00	88.40	-		-
22	83.73	-	76.94	65.95	64.65	64.65	-	75.50	88.60	-	87.90	87.25
23	83.75	-	76.49	65.85	-	-	-	76.05	88.70	-		-
24	83.78	83.57	75.94	65.75	-	-	-	76.70	88.80	-		-
25	83.78	-	75.39	65.60	-	-	66.90	77.60	88.95	-		-
26	83.78	-	75.04	65.50	-	-	67.30	78.20	89.00	-		-
27	83.78	-	74.35	65.45	-	-	67.60	78.90	89.10	-		-
28	83.78	-	73.85	65.35	-	64.64	68.05	79.60	89.00	-		-
29	83.78	-	73.40	65.25	------	64.60	68.25	80.20	89.00	-		87.20
30	83.78	-	72.85	65.20	------	-	68.50	80.80	88.90	-		-
31	83.78	------	72.35	65.10	------	-	------	-	------	-		------
MAX	87.10	-	-	71.85	-	-	-	-	89.10	-	-	-
MIN	83.70	-	-	65.10	-	-	-	-	81.70	-	-	-

Note.--Add 2,500 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	87.16	75.78	67.05	65.67	64.92	64.90	-	70.30	84.50	89.20	-	-
2	87.10	75.40	66.95	65.65	-	-	-	-	84.85	89.28	-	87.80
3	87.00	75.05	66.85	65.65	-	-	-	70.90	85.20	89.20	88.50	-
4	86.55	74.70	66.68	-	64.98	64.86	-	-	85.50	89.21	-	-
5	86.18	74.35	66.60	-	-	-	-	-	85.80	89.10	88.50	-
6	88.77	73.90	66.48	-	-	-	-	71.65	86.20	89.10	88.45	-
7	-	73.40	66.30	-	-	-	-	72.35	86.80	89.10	88.40	-
8	-	72.92	66.30	-	-	-	66.60	72.90	86.90	89.10	88.40	-
9	-	72.50	66.18	-	-	-	-	73.35	87.20	89.10	88.38	87.60
10	-	72.10	66.10	-	-	-	66.84	73.75	87.45	89.08	88.35	-
11	-	71.70	66.00	-	65.00	64.80	-	74.10	87.70	89.08	88.35	-
12	83.55	71.30	65.92	-	-	-	-	74.50	87.70	89.08	88.35	-
13	-	71.00	65.85	-	-	-	-	74.85	87.72	89.08	88.35	-
14	82.98	70.65	65.85	-	-	-	-	75.20	87.80	89.08	88.30	-
15	82.65	70.26	65.82	-	-	-	67.40	75.58	87.95	89.00	88.25	-
16	82.20	69.94	65.90	-	-	-	-	75.90	88.10	89.00	-	87.45
17	81.80	69.58	65.91	-	-	-	-	76.35	88.30	88.98	-	-
18	81.50	69.25	65.92	-	64.94	65.12	-	75.75	88.40	88.94	-	-
19	81.05	69.00	65.92	-	-	-	68.20	77.30	88.55	88.92	88.15	-
20	80.65	68.75	65.92	-	-	-	-	77.80	88.60	88.90	-	-
21	80.25	68.50	-	65.25	-	-	-	78.30	88.68	88.85	-	-
22	79.85	68.28	-	-	-	-	68.70	78.80	88.75	88.80	-	-
23	79.45	68.05	-	-	-	-	-	80.30	88.88	88.75	-	87.30
24	79.05	67.80	-	-	-	-	-	80.80	88.90	88.70	-	-
25	78.62	67.70	-	64.88	64.88	-	-	81.20	89.00	88.70	-	-
26	78.20	67.60	-	-	-	-	-	81.70	89.02	88.70	87.95	-
27	77.84	67.58	-	-	-	-	68.70	82.20	89.00	88.65	88.90	-
28	77.42	67.45	-	65.00	-	-	-	82.70	89.00	88.65	-	-
29	77.00	67.30	-	-	------	-	-	83.10	89.10	88.62	-	-
30	76.60	67.15	65.64	-	------	-	-	83.60	89.20	88.60	-	87.15
31	76.20	------	65.68	-	------	-	------	84.10	------	88.58	-	------
MAX	-	75.78	-	-	-	-	-	-	89.20	89.28	-	-
MIN	-	67.15	-	-	-	-	-	-	84.50	88.58	-	-

Note.--Add 2,500 ft to obtain elevation above mean sea level.

12-3970. Sullivan Lake near Metaline Falls, Wash.--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	73.30	65.90	-	-		-	65.40	76.90	85.30	86.10	-
2	-	72.90	65.80	-	-		-	65.50	77.36	85.40	86.10	85.90
3	86.85	72.35	65.70	-	-		-	-	77.70	85.50	86.10	-
4	86.45	72.00	65.60	-	64.70		-	-	78.10	85.60	86.10	85.86
5	86.00	71.42	65.60	-	-		-	66.00	78.35	85.70	86.10	-
6	85.60	71.05	65.60	-	-		-	66.20	78.70	85.75	86.10	-
7	85.20	70.65	65.50	64.80	-		-	66.40	79.00	85.80	86.10	-
8	84.70	70.30	65.43	-	-		-	66.60	79.30	85.90	86.10	-
9	84.30	69.00	65.40	-	-		-	66.90	79.50	85.95	86.10	85.80
10	83.90	-	65.30	-	-		-	67.30	79.65	86.00	86.10	-
11	83.50	-	-	-	-		-	67.60	79.75	86.05	86.10	-
12	83.10	-	-	-	64.70		-	68.05	79.85	86.10	86.10	-
13	82.68	-	-	-	-		-	68.40	80.20	86.10	-	-
14	82.30	-	-	64.70	-		-	68.85	80.65	86.15	-	-
15	81.90	-	-	64.70	-		-	69.30	81.00	-	-	-
16	81.50	-	-	-	-		-	69.70	81.50	-	-	85.70
17	81.10	-	65.10	-	-		-	70.30	81.90	86.20	-	-
18	80.70	-	-	-	-		-	71.10	82.30	86.20	-	-
19	80.30	67.20	-	-	-		-	71.90	82.70	86.20	86.00	-
20	79.85	67.10	-	-	-		-	73.00	83.00	86.20	-	-
21	79.45	66.90	-	64.70	-		-	73.90	83.30	86.20	-	-
22	78.65	66.70	-	-	-		65.20	74.70	83.60	86.20	-	-
23	78.45	66.60	-	-	-		65.11	75.00	83.80	86.20	-	85.75
24	-	66.45	-	-	-		-	75.20	84.07	86.20	-	-
25	-	66.30	-	-	-		-	75.30	84.30	86.20	-	-
26	76.75	66.20	-	-	-		-	75.40	84.50	86.20	85.90	-
27	-	-	-	-	-		-	75.55	84.70	86.20	-	-
28	-	66.10	-	-	-		-	75.70	84.90	86.20	-	-
29	-	66.00	-	-	-		65.35	75.90	85.00	86.20	-	-
30	-	-	-	-	------		-	76.20	85.15	86.19	-	-
31	73.82	------	-	-	------		------	76.50	------	-	-	------
MAX	-	-	-	-	-	-	-	-	85.15	-	-	-
MIN	-	-	-	-	-	-	-	-	76.90	-	-	-

Note.--Add 2,500 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	75.60	66.30	-		-	-	70.34	85.54	88.05	-	-
2	-	75.15	66.20	-		-	-	-	85.78	88.10	-	-
3	-	74.60	66.10	-		-	-	-	86.15	88.20	-	-
4	-	74.10	66.00	-		-	-	-	86.75	88.25	-	-
5	-	73.70	65.90	-		-	-	-	87.00	88.30	-	-
6	-	-	65.80	-	64.61	64.86	-	-	87.20	88.30	-	88.15
7	-	72.90	65.70	-		-	-	-	87.30	88.40	-	-
8	85.60	72.45	65.65	-		-	64.91	72.70	87.35	88.40	-	-
9	85.62	72.00	65.60	64.81		-	-	-	87.40	88.40	-	-
10	-	71.68	65.50	-		64.77	64.86	-	87.45	88.40	-	-
11	-	71.30	-	-		-	-	-	87.50	88.43	-	-
12	85.60	71.00	65.40	-		-	-	-	87.55	88.43	-	-
13	85.15	70.60	-	-		64.79	-	-	87.60	-	-	88.00
14	84.60	70.30	65.30	-		-	-	-	87.55	88.42	-	-
15	84.05	69.90	65.30	-		-	-	76.08	87.45	-	-	-
16	83.65	-	65.25	64.71		-	-	-	87.45	88.45	88.25	-
17	83.65	-	-	-		-	-	-	87.45	88.45	-	-
18	83.60	69.00	-	-		-	65.81	-	87.55	-	-	-
19	83.00	68.70	65.11	-		64.81	-	-	87.60	88.44	-	87.40
20	82.40	68.40	65.06	-		-	66.20	-	87.60	88.40	-	86.85
21	81.75	68.15	65.01	-		-	-	-	87.60	88.43	-	86.35
22	81.30	67.95	65.01	-		-	-	79.80	87.45	88.45	-	85.85
23	80.80	67.55	-	64.71		-	-	-	87.38	88.50	88.30	85.40
24	80.20	67.35	65.01	-		-	-	-	87.35	88.50	88.32	84.90
25	79.65	67.20	-	-		-	67.51	-	87.45	88.50	-	84.35
26	79.00	66.00	64.96	-		-	-	-	87.60	88.50	-	83.85
27	78.40	66.80	64.96	-		64.75	-	-	87.80	-	-	83.40
28	77.90	66.60	64.96	64.75		-	-	-	87.85	-	-	82.90
29	77.30	66.50	-	-	------	-	-	83.60	87.90	-	-	82.40
30	76.70	66.40	-	64.71	------	-	70.24	-	88.00	-	88.33	81.95
31	76.15	------	64.93	-	------	-	------	-	------	-	-	------
MAX	-	-	-	-	-	-	-	-	88.00	-	-	-
MIN	-	-	-	-	-	-	-	-	85.54	-	-	-

Note.--Add 2,500 ft to obtain elevation above mean sea level.

12-3971. Outlet Creek near Metaline Falls, Wash.

Location.--Lat 48°50'45", long 117°17'15", in SW¼SE¼ sec.30, T.39 N., R.44 E., on right bank 600 ft upstream from mouth, half a mile downstream from ullivan Lake Dam, and 4 miles east of Metaline Falls.

Drainage area.--51.5 sq mi (revised).

Records available.--January 1959 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,550 ft above mean sea level (Pend Oreille County Public Utility District levels).

Average discharge.--6 years, 77.0 cfs (55,750 acre-f per year).

Extremes.--Maximum and minimum discharges for the wa er years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 8, 1961	881	12.07	Feb. 12-14, 1961	1.9	8.78
1962	Dec. 24, 1961	368	10.9	Apr. 25-27, 1962	3.9	8.87
1963	Nov. 6, 1962	315	10.7	Mar. 11-23, 1963	2.1	8.79
1964	Oct. 24, 1963	503	11.2	May 2-6, 1964	2.9	8.81
1965	Oct. 25, 1964	424	11.0	Apr. 20, 21, 1965	2.3	8.80

1959-65: Maximum discharge, 881 cfs June 8, 1 61 (gage height, 12.07 ft); minimum, 1.9 cfs Feb. 12-14, 1961 (gage height, 8.78 ft).

Remarks.--Records good. Flow regulated by Sullivan ake (see station 12-3970). No diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, WATE YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	259	86	26	23	2.	3.4	6.4	448	22	23	23
2	23	253	85	26	23	2.	3.7	6.4	329	22	23	23
3	266	247	80	25	23	2.	3.7	6.8	400	22	23	23
4	335	238	77	24	23	2.	3.9	7.1	300	22	22	23
5	388	232	74	23	24	2.	3.9	7.5	469	22	22	24
6	381	226	69	24	25	2.	3.9	7.9	495	22	22	24
7	374	220	66	24	26	2.	3.9	8.3	475	22	22	24
8	370	214	63	24	26	2.	3.9	8.7	755	22	22	24
9	364	211	60	25	28	2.	3.9	9.2	725	22	23	24
10	356	202	57	25	16	2.	3.9	9.6	630	22	23	24
11	350	197	55	24	2.1	2.	3.9	10	561	22	22	24
12	342	189	52	23	1.9	2.	4.2	100	444	24	22	24
13	336	183	50	23	1.9	2.7	4.2	156	265	25	22	24
14	332	173	48	23	1.9	2.7	4.2	158	192	26	22	23
15	325	168	45	23	2.1	2.7	4.8	202	232	25	22	23
16	370	160	43	23	2.1	2.7	4.8	268	268	24	23	23
17	384	156	42	23	2.1	2.7	5.1	336	292	24	23	23
18	374	148	40	23	2.1	2.7	5.1	395	316	24	23	23
19	367	142	39	23	2.1	2.9	5.4	517	282	24	23	23
20	384	137	39	22	2.1	2.9	5.4	565	122	23	23	23
21	378	132	38	22	2.1	2.9	5.4	581	137	23	23	23
22	350	126	37	22	2.1	2.9	5.7	585	142	23	23	23
23	325	122	36	22	2.1	3.2	5.7	585	146	24	23	23
24	316	117	34	21	2.1	3.2	5.7	585	100	25	23	23
25	307	115	33	21	2.3	3.2	6.1	590	21	24	23	22
26	301	111	32	20	2.3	3.4	6.1	436	21	24	23	22
27	292	105	31	20	2.3	3.4	6.1	45	21	24	23	22
28	286	102	30	20	2.3	3.4	6.1	44	37	25	23	22
29	280	95	27	20	------	3.4	6.1	114	22	24	23	22
30	271	91	27	21	------	3.4	6.1	469	22	24	23	22
31	265	------	27	22	------	3.4	------	581	------	24	23	------
TOTAL	9,875	5,071	1,522	707	275.0	88.0	144.3	7,399.9	8,660	725	703	693
MEAN	319	169	49.1	22.8	9.82	2.84	4.81	239	289	23.4	22.7	23.1
MAX	395	259	86	26	28	3.4	6.1	590	755	26	23	24
MIN	23	91	27	20	1.9	2.3	3.4	6.4	21	22	22	22
AC-FT	19,590	10,060	3,020	1,400	545	175	286	14,680	17,190	1,440	1,390	1,370

CAL YR 1960: TOTAL 36,600.0 MEAN 100 MAX 428 MIN 5.1 AC-FT 72,600
WAT YR 1961: TOTAL 35,872.2 MEAN 98.3 MAX 755 MIN 1.9 AC-FT 71,150

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-3971. Outlet Creek near Metaline Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	19	18	279	45	18	19	4.1	14	98	24	24
2	22	19	18	270	42	18	19	4.7	14	92	24	24
3	22	19	18	261	39	18	19	5.0	15	87	24	24
4	22	19	18	249	37	18	20	5.3	15	84	24	24
5	55	19	18	237	35	18	21	5.3	16	82	24	24
6	167	19	18	226	33	18	23	5.3	16	84	24	24
7	243	19	18	218	31	18	26	5.6	16	80	24	24
8	240	19	128	207	29	18	27	5.6	16	78	24	24
9	252	19	279	199	27	18	28	5.5	17	54	24	24
10	261	19	276	189	26	17	29	6.2	17	26	24	24
11	288	19	288	179	25	17	30	6.2	18	24	24	24
12	303	19	297	169	24	16	30	6.2	18	24	24	24
13	300	19	291	155	23	16	31	6.6	19	24	24	24
14	205	19	285	147	22	16	33	6.5	19	24	24	24
15	21	19	297	138	21	16	37	6.9	19	24	24	24
16	21	19	321	130	20	16	42	7.3	20	24	23	24
17	20	19	312	120	20	16	46	7.3	20	24	23	24
18	20	19	306	112	21	16	52	7.6	21	24	23	23
19	20	18	297	107	22	16	61	8.0	21	24	23	23
20	20	18	303	99	22	16	72	8.4	21	24	23	23
21	20	18	303	94	22	16	80	8.4	22	24	23	23
22	20	18	291	89	21	16	86	8.8	28	24	23	23
23	20	18	304	82	21	17	92	9.2	37	24	23	23
24	20	18	348	76	20	17	61	9.6	48	24	23	23
25	19	18	358	71	20	18	3.9	10	62	24	23	23
26	19	18	344	66	19	18	3.9	11	69	24	23	23
27	19	18	330	62	18	19	4.1	11	96	24	23	23
28	19	18	318	58	18	19	4.1	12	110	24	24	23
29	19	18	309	54	------	19	4.1	12	107	24	24	22
30	19	18	300	51	------	19	4.1	13	101	24	24	22
31	19	------	288	48	------	19	------	13	------	24	24	------
TOTAL	2,737	558	7,304	4,442	723	537	1,008.2	242.4	1,032	1,269	732	705
MEAN	88.3	18.6	236	143	25.8	17.3	33.6	7.82	34.4	40.9	23.6	23.5
MAX	303	19	358	279	45	19	92	13	110	98	24	24
MIN	19	18	18	48	18	16	3.9	4.1	14	24	23	22
AC-FT	5,430	1,110	14,490	8,810	1,430	1,070	2,000	481	2,050	2,520	1,450	1,400

CAL YR 1961: TOTAL 30,003.2 MEAN 82.2 MAX 755 MIN 1.9 AC-FT 59,510
WAT YR 1962: TOTAL 21,289.6 MEAN 58.3 MAX 358 MIN 3.9 AC-FT 42,230

Note.--No gage-height record Jan. 23 to Feb. 22. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	32	249	118	57	37	36	2.3	5.0	16	70	28	23
2	81	243	114	57	37	36	2.3	5.0	17	80	27	23
3	195	232	110	56	37	36	2.3	5.0	18	78	26	23
4	249	226	106	56	37	35	2.3	5.0	18	76	26	23
5	258	226	102	56	39	35	2.3	5.3	19	80	26	23
6	261	300	98	55	40	35	2.5	5.6	19	74	25	23
7	258	291	94	54	41	35	2.5	5.9	20	69	24	23
8	255	285	90	52	41	21	2.5	5.9	20	66	24	23
9	252	285	86	51	41	2.5	2.5	6.2	21	62	24	23
10	249	270	82	50	41	2.3	2.5	6.2	21	61	24	22
11	246	270	79	49	40	2.1	2.5	6.6	121	62	24	22
12	246	252	76	48	39	2.1	2.7	6.9	142	60	24	22
13	243	246	74	48	39	2.1	2.7	7.3	109	59	24	23
14	249	240	72	47	39	2.1	2.7	7.3	82	56	24	23
15	267	229	70	47	38	2.1	2.9	7.6	23	54	24	23
16	267	215	68	46	38	2.1	2.9	8.0	23	52	24	22
17	261	186	66	46	37	2.1	2.9	8.0	24	51	23	23
18	267	181	65	45	37	2.1	3.1	8.4	25	48	23	24
19	270	174	64	45	37	2.1	3.1	8.8	30	45	23	24
20	267	167	64	44	37	2.1	3.1	8.8	32	46	24	24
21	261	160	61	44	36	2.1	3.4	9.2	36	48	23	24
22	270	155	61	43	36	2.1	3.6	9.6	42	48	23	24
23	279	151	61	43	36	2.3	3.6	11	49	43	23	24
24	276	147	60	43	36	2.3	3.9	11	52	40	23	24
25	270	142	59	42	35	2.3	3.9	11	55	37	23	24
26	264	138	57	41	36	2.3	4.1	12	59	36	22	23
27	273	134	56	40	36	2.5	4.1	13	61	35	23	23
28	279	130	56	38	36	2.5	4.4	14	61	34	23	23
29	270	126	56	38	------	2.5	4.7	15	61	33	23	23
30	264	122	57	37	------	2.7	5.0	15	69	32	23	23
31	255	------	57	37	------	2.5	------	16	------	29	23	------
TOTAL	7,634	6,172	2,339	1,455	1,059	320.9	93.3	269.6	1,345	1,664	743	694
MEAN	246	206	75.5	46.9	37.8	10.4	3.11	8.70	44.8	53.7	24.0	23.1
MAX	279	300	118	57	41	36	5.0	16	142	80	28	24
MIN	32	122	56	37	35	2.1	2.3	5.0	16	29	22	22
AC-FT	15,140	12,240	4,640	2,890	2,100	637	185	535	2,670	3,300	1,470	1,380

CAL YR 1962: TOTAL 26,835.6 MEAN 73.5 MAX 300 MIN 3.9 AC-FT 53,230
WAT YR 1963: TOTAL 23,788.8 MEAN 65.2 MAX 300 MIN 2.1 AC-FT 47,180

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-3971. Outlet Creek near Metaline Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	321	65	28	23	17	17	17	212	18	24	23
2	88	309	61	28	23	17	17	2.9	220	19	24	23
3	255	297	57	27	22	17	18	2.9	226	18	24	23
4	237	288	55	27	21	17	18	2.9	232	20	24	23
5	294	279	56	27	21	18	19	3.1	234	21	24	23
6	291	270	61	25	21	18	19	2.9	240	21	24	23
7	288	258	60	25	21	18	19	3.1	246	21	24	22
8	285	246	57	25	20	18	21	3.1	244	21	24	22
9	282	237	55	24	19	18	21	3.1	252	23	24	22
10	279	226	54	24	19	18	23	3.4	255	23	24	22
11	276	218	50	24	19	18	24	3.4	255	23	24	22
12	273	207	46	24	19	18	24	3.6	240	23	24	22
13	270	194	45	23	19	18	26	3.9	13	24	24	22
14	267	181	44	23	19	19	27	3.9	12	24	24	22
15	261	174	43	24	19	19	28	4.1	12	24	24	22
16	258	164	42	24	19	19	29	4.4	12	24	24	22
17	255	155	41	25	19	19	30	4.7	12	24	24	22
18	282	144	40	25	19	20	31	5.0	13	24	24	22
19	303	136	39	25	19	19	31	5.3	13	24	24	22
20	300	130	38	25	19	19	32	5.6	14	24	24	22
21	294	120	36	24	18	19	33	5.9	14	24	24	21
22	291	112	35	24	18	19	35	110	14	24	24	21
23	312	103	34	24	18	18	37	186	15	24	24	21
24	435	98	33	24	17	18	37	186	16	24	24	21
25	459	92	33	24	17	17	39	186	16	24	24	21
26	424	86	32	24	17	17	41	186	16	24	24	21
27	393	81	32	24	17	17	42	191	17	24	23	21
28	379	76	31	24	17	17	42	194	17	24	23	20
29	365	72	30	24	17	17	44	196	17	24	23	20
30	354	68	29	24	------	17	45	202	18	24	23	20
31	334	------	28	23	------	17	------	207	------	24	23	------
TOTAL	9,167	5,342	1,352	765	556	557	869	1,941.2	3,122	708	739	653
MEAN	296	178	43.3	24.7	19.2	18.0	29.0	62.6	104	22.8	23.8	21.8
MAX	459	321	65	28	23	20	45	207	255	24	24	23
MIN	23	68	28	23	17	17	17	2.9	12	18	23	20
AC-FT	18,180	10,600	2,700	1,520	1,100	1,100	1,720	3,850	6,190	1,400	1,470	1,300

CAL YR 1963: TOTAL 23,514.8 MEAN 64.4 MAX 459 MIN 2.1 AC-FT 46,640
WAT YR 1964: TOTAL 25,781.2 MEAN 70.4 MAX 459 MIN 2.9 AC-FT 51,140

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	350	100	31	24	25	23	4.0	16	22	25	24
2	20	340	96	31	24	24	25	4.3	16	22	25	24
3	20	329	91	31	24	24	25	4.3	16	23	26	24
4	20	322	86	31	24	24	26	4.6	113	23	27	24
5	20	312	81	30	24	24	27	4.6	186	23	27	24
6	20	306	76	30	24	24	27	4.9	212	24	28	23
7	19	297	72	30	24	23	27	5.2	229	24	28	23
8	19	288	67	30	24	23	28	5.2	235	24	27	23
9	21	279	62	30	24	23	27	5.5	240	24	27	23
10	24	270	61	27	24	23	29	5.8	245	24	27	23
11	24	264	57	27	24	23	30	5.8	240	25	26	23
12	185	255	54	26	24	23	30	6.1	221	25	26	23
13	382	243	51	26	24	24	19	6.1	218	25	26	23
14	378	232	48	25	24	24	2.5	6.4	215	25	25	23
15	335	223	46	25	24	24	2.5	6.8	210	26	24	23
16	96	215	39	24	24	24	2.5	7.1	204	26	24	23
17	23	207	39	24	22	24	2.5	7.8	207	27	24	22
18	238	199	38	24	21	24	2.5	8.2	210	27	24	267
19	406	191	38	24	21	24	2.5	8.6	204	26	24	368
20	395	183	37	24	21	23	2.5	9.0	202	26	24	360
21	378	171	36	24	21	23	2.3	9.4	196	26	24	357
22	360	163	36	23	22	23	2.5	9.9	178	27	24	350
23	368	156	37	24	22	23	2.5	10	151	27	24	346
24	371	149	36	24	21	23	2.7	11	77	27	24	340
25	399	140	35	24	21	23	2.7	11	21	28	24	336
26	410	131	34	24	21	23	3.1	12	21	28	24	329
27	396	123	34	24	24	23	3.1	13	21	26	24	326
28	402	115	33	24	24	22	3.3	13	21	26	24	318
29	402	109	33	24	------	22	3.8	14	21	26	24	312
30	385	103	33	24	------	22	4.0	15	22	25	24	309
31	364	------	32	24	------	22	------	16	------	26	24	------
TOTAL	6,904	6,665	1,618	813	645	723	392.5	254.6	4,362	783	778	4,713
MEAN	223	222	52.2	26.2	23.0	23.3	13.1	8.21	145	25.3	25.1	157
MAX	410	350	100	31	24	25	30	16	240	28	28	368
MIN	19	103	32	23	21	22	2.3	4.0	16	22	24	22
AC-FT	13,690	13,220	3,210	1,610	1,280	1,430	779	505	8,650	1,550	1,540	9,350

CAL YR 1964: TOTAL 25,057.2 MEAN 68.6 MAX 410 MIN 2.9 AC-FT 49,700
WAT YR 1965: TOTAL 28,651.1 MEAN 78.5 MAX 410 MIN 2.3 AC-FT 56,830

12-3980. Sullivan Creek at Metaline Falls, Wash.

Location.--Lat 48°51'40", long 117°21'50", in SW¼SW¼ sec.22, T.39 N., R.43 E., on right bank 100 ft downstream from State highway bridge, half a mile upstream from mouth, and half a mile east of Metaline Falls.

Drainage area.--142 sq mi.

Records available.--October 1953 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,050 ft (from topographic map). Prior to Aug. 24, 1956, staff gage at site 120 ft upstream at datum 3.70 ft higher.

Average discharge.--12 years, 229 cfs (165,800 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 5, 1961	2,020	6.20	Mar. 4, 1961	49	1.28
1962	May 29, 1962	750	4.37	Mar. 12, 13, 1962	41	1.38
1963	May 23, 1963	834	4.36	Mar. 17, 18, 19,20	50	1.46
1964	June 2, 1964	1,340	5.18	Mar. 23, 1964	35	1.34
1965	May 29, 1965	1,010	4.66	Feb. 11, 1965	46	1.24

1953-65: Maximum discharge observed, 3,550 cfs June 12, 1955 (gage height, 3.90 ft, site and datum then in use); minimum, 7.3 cfs Jan. 1, 1958 (result of freezeup); minimum daily, 27 cfs Jan. 1, 1958.

Remarks.--Records good except those for period of no gage-height record and those for winter periods, which are fair. Some regulation by storage in Sullivan Lake. Small diversions above station for municipal and mine use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	72	332	142	61	60	60	80	309	1,630	210	93	97
2	72	320	140	58	60	55	90	421	1,620	200	91	97
3	234	312	133	56	60	52	110	433	1,640	190	93	86
4	415	301	127	54	60	50	130	415	1,700	180	93	81
5	415	298	112	60	60	55	130	403	1,780	170	91	77
6	415	290	103	62	65	60	125	388	1,760	165	93	77
7	409	285	90	60	73	58	125	385	1,720	160	91	75
8	412	277	85	59	70	55	125	394	1,770	150	90	74
9	400	275	85	61	70	55	120	409	1,670	145	90	72
10	394	275	85	60	62	53	120	470	1,440	140	91	72
11	391	267	85	59	52	52	120	523	1,320	135	90	71
12	391	254	87	56	54	50	155	562	1,190	130	86	72
13	382	246	87	59	51	50	155	600	960	127	84	71
14	373	236	83	58	51	52	145	651	887	123	82	71
15	367	229	70	60	50	55	140	703	941	119	79	71
16	400	219	70	66	50	55	145	779	970	115	86	69
17	424	216	75	64	50	55	145	847	950	113	85	67
18	418	216	75	63	50	55	145	867	975	111	84	67
19	409	202	77	59	50	57	149	964	828	107	81	69
20	424	214	74	55	50	60	147	1,560	598	107	81	69
21	424	212	73	56	60	60	144	1,780	517	105	81	67
22	409	191	71	55	70	60	145	1,660	426	103	79	67
23	391	182	70	55	65	60	145	1,840	400	115	77	67
24	388	191	69	53	60	60	145	1,720	350	113	75	66
25	379	202	68	54	55	60	151	1,530	280	105	77	66
26	370	180	66	53	50	62	163	1,740	260	101	75	64
27	364	163	65	53	55	65	165	1,380	250	97	74	63
28	358	161	64	53	55	65	173	1,060	240	95	72	64
29	349	152	64	54	-------	65	193	1,020	230	95	71	72
30	337	147	63	56	-------	70	262	1,430	220	95	71	67
31	332	-------	62	60	-------	75	-------	1,610	-------	93	82	-------
TOTAL	11,318	7,045	2,620	1,797	1,618	1,796	4,291	28,853	29,602	4,014	2,589	2,168
MEAN	365	235	84.5	58.0	57.8	57.9	143	931	987	129	83.5	72.3
MAX	424	332	142	66	73	75	262	1,840	1,790	210	93	97
MIN	72	147	62	53	50	50	80	309	220	93	71	63
AC-FT	22,450	13,970	5,200	3,560	3,210	3,560	8,510	57,230	58,710	7,960	5,140	4,300

CAL YR 1960: TOTAL 98,121 MEAN 268 MAX 1,610 MIN 62 AC-FT 194,600
WAT YR 1961: TOTAL 97,711 MEAN 268 MAX 1,840 MIN 50 AC-FT 193,800

Note.--No gage-height record Jan. 22 to Apr. 17.

12-3980. Sullivan Creek at Metaline Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	66	66	66	328	68	45	52	227	500	290	86	65
2	64	60	63	315	66	45	57	216	467	273	86	64
3	63	57	61	315	65	48	63	225	434	254	88	61
4	61	58	60	300	65	47	69	234	458	243	100	63
5	86	55	60	290	60	47	78	213	430	234	100	61
6	219	57	57	278	60	47	88	209	400	232	95	61
7	381	57	57	271	60	47	100	207	380	220	94	60
8	375	57	108	261	59	47	98	158	390	211	94	61
9	381	57	335	250	59	46	95	205	458	196	86	60
10	405	60	322	232	60	45	94	232	485	154	86	61
11	430	60	335	232	59	43	94	248	467	145	85	81
12	468	58	352	220	58	42	94	252	455	144	85	75
13	482	57	350	198	57	42	100	257	518	140	82	68
14	384	57	345	188	58	42	123	259	527	133	81	69
15	88	54	360	171	58	42	202	257	524	128	78	68
16	75	47	380	154	57	42	238	266	548	128	78	64
17	86	47	372	149	55	42	227	298	533	126	75	63
18	77	51	362	132	54	42	257	358	491	125	74	61
19	74	57	358	121	53	43	348	422	458	120	74	61
20	72	58	358	113	52	43	412	449	435	115	73	60
21	71	53	360	107	50	44	402	476	408	110	73	59
22	69	58	345	102	50	45	395	512	380	107	72	59
23	72	58	355	98	47	45	415	545	362	104	69	58
24	69	57	395	95	46	46	446	662	350	102	66	58
25	67	54	402	91	45	48	410	711	348	101	68	58
26	63	50	390	86	45	51	370	666	340	100	66	57
27	74	58	375	84	42	52	338	655	342	100	68	57
28	71	54	368	79	45	50	302	697	340	95	70	61
29	67	66	360	77	------	48	271	704	320	92	69	77
30	66	66	348	73	------	49	243	608	302	89	68	68
31	66	------	335	70	------	50	------	548	------	88	66	------
TOTAL	5,092	1,714	8,794	5,480	1,553	1,415	6,481	12,016	12,910	4,701	2,455	1,859
MEAN	164	57.1	284	177	55.5	45.6	216	388	430	152	79.2	63.3
MAX	482	66	402	328	68	52	446	711	548	290	100	81
MIN	61	47	57	70	42	42	52	198	302	88	66	57
AC-FT	10,100	3,400	17,440	10,870	3,080	2,810	12,850	23,830	25,610	9,320	4,870	3,770

CAL YR 1961: TOTAL 92,328 MEAN 253 MAX 1,840 MIN 47 AC-FT 183,100
WAT YR 1962: TOTAL 64,510 MEAN 177 MAX 711 MIN 42 AC-FT 128,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	67	335	203	127	72	96	75	266	508	254	98	67
2	113	330	194	125	72	96	72	259	547	247	96	66
3	235	324	185	127	75	94	72	242	502	242	94	66
4	330	322	176	123	88	92	72	226	482	231	90	66
5	335	350	172	119	109	96	90	228	547	228	88	64
6	343	385	163	117	111	92	110	322	553	219	88	62
7	343	377	154	115	113	90	107	396	499	203	86	62
8	343	369	148	113	109	85	105	401	480	210	85	61
9	345	369	146	109	103	64	103	380	460	194	85	61
10	340	363	142	90	101	56	101	360	420	192	85	59
11	340	356	137	70	101	55	101	350	500	199	83	59
12	353	353	131	65	101	55	101	340	500	187	85	59
13	363	343	127	65	100	53	103	340	460	179	83	62
14	348	332	129	70	100	53	115	350	404	170	81	74
15	356	322	135	75	100	53	161	360	330	165	79	69
16	358	312	172	75	100	52	168	380	302	161	77	67
17	350	304	157	80	100	52	163	428	279	157	77	70
18	353	269	152	80	98	50	157	485	262	157	77	69
19	356	262	147	75	98	50	150	541	252	148	76	66
20	353	269	144	75	98	50	144	580	235	142	77	64
21	353	257	144	80	98	52	140	650	226	142	79	61
22	358	245	133	80	96	56	137	723	254	137	77	61
23	366	233	123	80	94	62	135	778	245	129	76	62
24	361	224	113	76	94	70	133	810	233	121	77	61
25	358	247	113	76	94	66	133	782	233	119	76	59
26	353	294	123	72	103	64	140	723	222	117	74	59
27	356	254	123	72	101	67	152	698	217	111	72	58
28	363	233	123	70	98	88	168	650	212	109	72	58
29	356	215	127	69	------	85	196	646	240	105	70	56
30	350	212	133	69	------	83	250	660	276	103	69	56
31	343	------	129	72	------	79	------	646	------	101	67	------
TOTAL	10,241	9,060	4,498	2,711	2,727	2,156	3,854	14,990	10,970	5,179	2,499	1,884
MEAN	330	302	145	87.5	97.4	69.5	128	484	366	167	80.6	62.8
MAX	366	385	203	127	113	96	250	810	558	254	98	74
MIN	67	212	113	65	72	50	72	226	212	101	67	56
AC-FT	20,310	17,970	8,920	5,380	5,410	4,280	7,640	29,730	21,760	10,270	4,960	3,740

CAL YR 1962: TOTAL 72,709 MEAN 199 MAX 711 MIN 42 AC-FT 144,200
WAT YR 1963: TOTAL 70,769 MEAN 194 MAX 810 MIN 50 AC-FT 140,400

12-3980. Sullivan Creek at Metaline Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	55	377	107	67	53	43	58	157	1,060	300	96	77
2	78	366	103	70	52	43	62	123	1,120	269	99	75
3	272	348	103	66	52	43	62	129	1,240	275	93	77
4	335	340	100	64	52	45	62	144	1,140	257	96	74
5	332	327	109	62	50	46	64	174	1,050	245	95	72
6	330	319	113	62	49	43	64	191	1,180	230	90	71
7	327	309	103	61	45	43	67	183	1,140	216	87	69
8	322	234	103	53	43	41	70	186	1,100	206	85	69
9	317	284	101	56	49	43	79	242	1,080	202	88	71
10	312	276	96	59	50	43	88	292	1,020	190	90	69
11	306	264	85	58	49	43	96	299	965	184	83	67
12	304	257	90	56	46	45	94	312	830	175	83	66
13	299	245	88	55	46	43	90	330	676	169	82	64
14	294	254	85	55	48	43	92	345	676	162	80	64
15	289	266	83	55	48	45	98	350	672	154	79	63
16	286	231	83	59	48	43	103	382	680	149	75	63
17	279	222	81	58	48	46	100	523	628	143	75	80
18	302	206	79	58	46	48	98	625	611	138	80	108
19	340	201	77	56	46	45	100	695	586	132	93	88
20	335	185	77	56	43	45	103	854	544	127	80	87
21	337	168	76	55	43	46	105	874	508	123	75	87
22	332	161	76	55	43	46	121	770	484	120	73	85
23	369	157	74	55	42	41	131	720	459	118	74	83
24	541	148	72	53	43	42	135	660	457	113	72	80
25	499	137	70	56	42	42	144	616	439	110	71	80
26	465	137	67	55	40	45	161	601	418	106	72	79
27	442	148	67	55	41	42	165	600	424	101	74	77
28	431	129	67	53	42	41	161	660	381	99	77	77
29	415	119	66	53	42	43	165	772	347	103	74	75
30	404	113	64	53	------	43	174	885	320	110	87	73
31	390	------	64	53	------	45	------	980	------	101	83	------
TOTAL	10,339	6,988	2,619	1,782	1,341	1,358	3,112	14,674	22,415	5,147	2,565	2,276
MEAN	334	233	84.5	57.5	46.2	43.8	104	473	747	166	82.7	75.9
MAX	541	377	113	70	53	49	174	980	1,240	300	96	108
MIN	55	113	54	53	40	41	58	123	320	99	71	63
AC-FT	20,510	13,860	5,190	3,530	2,660	2,690	6,170	29,110	44,460	10,210	5,090	4,510

CAL YR 1963: TOTAL 66,916 MEAN 183 MAX 810 MIN 50 AC-FT 132,700
WAT YR 1964: TOTAL 74,616 MEAN 204 MAX 1,240 MIN 40 AC-FT 148,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	85	412	181	75	58	55	69	486	667	203	96	84
2	81	406	169	74	54	53	81	434	652	193	94	82
3	81	398	160	74	55	55	84	398	723	191	104	84
4	79	401	149	72	60	55	84	377	802	183	104	85
5	77	406	140	70	64	55	88	344	875	173	107	82
6	77	385	132	69	64	57	92	317	930	166	107	79
7	77	372	125	68	60	55	92	302	895	160	98	79
8	75	359	125	66	60	58	94	297	835	154	96	78
9	78	356	118	65	58	59	95	305	830	149	92	77
10	88	348	115	65	52	61	107	338	865	144	89	75
11	85	341	109	64	51	64	110	415	880	140	88	75
12	174	329	96	63	54	66	121	498	816	135	86	74
13	434	319	101	63	57	69	135	610	748	132	88	75
14	431	307	100	64	55	69	135	652	679	128	85	79
15	412	302	94	61	53	70	168	652	644	125	84	84
16	209	288	70	61	55	72	207	659	616	121	81	79
17	81	283	65	63	55	63	213	582	663	118	79	77
18	215	276	75	61	54	61	197	528	715	115	79	243
19	457	265	88	61	55	66	193	498	655	110	78	401
20	454	256	89	61	55	69	211	522	596	112	98	401
21	434	240	86	63	54	75	238	513	540	115	92	396
22	417	230	85	61	54	73	256	498	504	128	88	393
23	423	225	86	61	52	69	265	507	460	115	96	387
24	426	225	85	61	52	63	276	528	387	112	102	387
25	443	211	78	61	54	68	297	555	305	109	94	382
26	460	201	78	58	54	65	319	585	285	107	98	379
27	449	187	81	60	64	68	356	659	267	107	92	374
28	452	177	79	63	61	66	429	788	249	102	89	369
29	454	166	78	63	------	66	525	925	232	101	91	364
30	440	173	77	63	------	69	525	920	213	100	88	361
31	423	------	75	61	------	69	------	762	------	98	86	------
TOTAL	8,571	8,844	3,189	1,995	1,574	1,983	6,062	16,464	18,528	4,146	2,849	6,185
MEAN	276	295	103	64.4	56.2	64.0	202	531	618	134	91.9	206
MAX	460	412	181	75	64	75	525	925	930	203	107	401
MIN	75	166	65	58	51	53	69	297	213	98	78	74
AC-FT	17,000	17,540	6,330	3,960	3,120	3,930	12,020	32,660	36,750	8,220	5,650	12,270

CAL YR 1964: TOTAL 75,274 MEAN 206 MAX 1,240 MIN 40 AC-FT 149,300
WAT YR 1965: TOTAL 80,390 MEAN 220 MAX 930 MIN 51 AC-FT 159,500

12-3985. Pend Oreille River below Z Canyon, near Metaline Falls, Wash.

(International gaging station)

Location.--Lat 48°58'50", long 117°20'40", in lot 2, sec.11, T.40 N., R.43 E., on right bank three-quarters of a mile downstream from Z Canyon, 1½ miles south of international boundary, 5 miles downstream from Slate Creek, and 10 miles downstream from town of Metaline Falls.

Drainage area.--25,200 sq mi, approximately.

Records available.--November 1908 to September 1910 (gage heights only), October 1912 to September 1964 (discontinued). Prior to October 1928, published as Clark Fork at Metaline Falls and October 1928 to September 1937 as Clark Fork below Z Canyon, near Metaline Falls.

Gage.--Water-stage recorder. Datum of gage is 1,721.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels by Corps of Engineers). Prior to Dec. 19, 1928, staff gages at Metaline Falls 10 miles upstream at datum approximately 262.2 ft higher.

Average discharge.--52 years (1912-64), 26,890 cfs (19,470,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-64 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 9, 1961	117,300	46.84	Sept. 6, 1961	3,870	-
1962	June 3, 1962	83,600	35.80	Sept. 1-3, 1962	4,800	-
1963	July 5, 1963	58,800	27.78	Sept. 5, 1963	4,500	-
1964	June 18, 1964	122,600	48.64	Oct. 1, 1963	7,270	-

1912-64: Maximum discharge, 171,300 cfs June 13, 1948 (gage height, 60.25 ft); minimum, 2,500 cfs Dec. 12, 1919 (gage height, -2.4 ft, site and datum then in use).
Maximum stage known, 69.0 ft in June 1894, from floodmarks.

Remarks.--Records excellent except those for period of no gage-height record, which are good. In 1946 there were diversions for irrigation of about 340,000 acres and there probably has not been any appreciable change since that time. Flow regulated at Albeni Falls and Box Canyon Dams and affected by storage in Pend Oreille Lake, Flathead Lake, Hungry Horse Reservoir, and several smaller reservoirs in Pend Oreille River basin in Montana (see elsewhere in this report).

Cooperation.--This staion maintained by the United States under agreement with Canada.

Revisions (water years).--WSP 442: 1913.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9,440	16,400	20,300	13,000	17,500	29,000	34,000	46,900	100,300	36,000	7,660	4,960
2	12,000	12,700	16,800	11,500	15,000	26,500	34,000	48,600	102,700	33,000	6,630	4,470
3	13,000	11,800	14,500	12,500	15,000	25,300	34,000	51,100	105,500	32,000	6,580	5,440
4	14,800	11,800	13,700	14,500	15,000	25,200	38,000	51,400	108,100	31,000	7,760	6,220
5	14,300	13,700	14,000	16,000	14,000	25,400	44,000	54,300	110,300	30,000	7,700	4,840
6	13,600	14,200	14,300	16,000	14,000	25,400	46,000	57,400	112,600	30,500	7,970	3,870
7	12,000	14,100	16,600	15,000	14,000	25,600	43,000	59,300	114,700	30,000	7,620	4,150
8	11,000	14,700	19,100	14,500	14,500	23,800	39,500	61,600	115,900	27,500	7,780	4,100
9	10,000	15,800	19,300	13,000	15,000	22,100	39,000	64,500	117,000	25,000	8,810	4,300
10	13,500	19,200	18,400	14,500	18,000	22,400	37,000	64,900	115,800	24,500	9,140	6,820
11	15,300	18,200	16,400	16,000	20,000	26,100	36,000	64,000	114,200	27,500	8,560	8,080
12	18,200	19,700	15,800	15,000	25,000	29,300	34,000	62,800	112,400	23,000	8,740	8,250
13	19,100	20,400	13,200	13,000	28,500	29,400	33,000	62,700	107,400	19,000	9,360	8,490
14	19,200	21,100	12,700	12,200	29,000	27,200	37,300	63,500	94,000	18,000	10,200	7,140
15	18,700	21,900	11,700	12,200	29,000	26,600	37,400	64,400	82,800	14,600	9,040	5,100
16	18,400	22,600	12,400	12,500	29,000	27,000	34,500	64,600	75,400	15,500	7,180	6,070
17	18,100	22,600	9,440	14,500	29,000	27,700	33,700	66,400	76,100	17,600	7,950	6,860
18	14,800	23,100	8,200	16,500	29,000	28,400	34,800	67,200	79,000	22,900	8,450	7,160
19	14,100	21,900	10,200	17,000	29,000	29,500	37,300	67,500	78,100	23,300	10,300	7,260
20	14,200	22,300	16,000	14,500	32,500	32,400	38,800	68,600	77,400	19,300	11,000	6,140
21	15,200	23,000	18,200	14,700	34,000	37,800	41,300	69,000	75,600	21,600	10,800	6,670
22	14,700	22,800	20,200	14,000	26,500	37,600	43,700	68,800	75,400	18,300	8,810	7,260
23	13,500	25,300	20,300	13,500	34,500	36,300	44,700	66,900	70,500	18,200	11,500	10,000
24	15,100	25,900	20,000	15,000	34,000	34,400	43,600	69,900	65,000	20,000	10,300	14,600
25	18,500	28,900	17,000	17,000	35,000	34,100	46,700	78,000	63,000	24,000	7,360	14,300
26	19,700	28,800	15,500	17,000	35,500	34,800	44,500	82,500	57,000	22,700	6,710	16,500
27	19,600	29,600	14,000	16,000	34,000	33,700	44,000	84,400	50,000	15,200	5,650	18,700
28	15,300	29,300	12,500	14,000	31,000	34,000	44,500	88,400	45,500	12,300	5,560	19,400
29	14,000	27,500	13,500	13,000	------	33,700	44,800	92,700	42,000	9,450	6,270	18,600
30	15,600	25,200	15,000	14,500	------	33,000	47,100	97,500	39,500	12,500	7,120	17,700
31	16,600	------	14,000	17,500	------	33,500	------	98,300	------	11,500	6,480	------
TOTAL	471,540	624,500	473,240	450,100	699,500	917,200	1,190.8M	2,108.1M	2,583.2M	685,950	254,990	263,660
MEAN	15,210	20,820	15,270	14,520	24,980	29,590	39,690	68,000	86,110	22,130	8,225	8,789
MAX	19,700	29,600	20,300	17,500	35,500	37,800	47,100	98,300	117,000	36,000	11,500	19,400
MIN	9,440	11,800	8,200	11,500	14,000	22,100	33,000	46,900	39,500	9,450	5,560	3,870
AC-FT	935,300	1,239M	938,700	892,800	1,387M	1,819M	2,362M	4,181M	5,124M	1,361M	505,800	523,000

CAL YR 1960: TOTAL 10,689,540 MEAN 29,210 MAX 71,800 MIN 5,900 AC-FT 21,200,000
WAT YR 1961: TOTAL 10,722,780 MEAN 29,380 MAX 117,000 MIN 3,870 AC-FT 21,270,000

M Expressed in thousands.

12-3985. Pend Oreille River below Z Canyon, near Metaline Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15,700	16,300	28,800	20,700	24,500	26,000	23,100	54,200	82,400	36,500	16,200	4,800
2	15,200	15,300	19,200	21,600	27,700	27,000	18,800	54,900	83,200	36,900	15,200	4,600
3	15,200	13,400	11,100	18,200	27,400	25,000	14,600	55,300	83,200	34,200	14,600	4,800
4	15,900	12,500	9,500	16,600	26,900	24,500	16,300	55,800	82,900	30,600	16,400	4,900
5	23,000	10,900	10,000	17,300	26,600	24,500	20,300	55,400	82,900	31,000	16,000	6,810
6	26,700	10,600	11,500	16,700	26,800	25,000	26,900	55,400	83,000	29,500	15,400	7,100
7	23,400	11,300	15,300	17,500	26,400	25,500	26,400	57,700	82,700	30,500	15,200	5,420
8	17,400	16,900	17,500	18,100	26,600	26,000	23,100	61,000	81,000	31,700	15,700	6,510
9	18,900	18,400	18,500	17,400	25,500	26,000	26,800	58,100	79,000	31,700	15,600	8,200
10	22,600	18,500	17,500	18,900	24,000	25,000	28,300	56,800	77,600	30,600	14,500	8,990
11	21,100	22,200	19,000	23,100	22,500	25,000	29,600	55,500	75,000	28,600	13,200	9,130
12	23,700	25,500	21,000	22,000	22,500	24,500	28,900	55,700	67,400	27,200	13,200	8,500
13	21,400	24,600	20,000	17,900	21,500	21,000	29,700	56,500	58,500	26,400	13,200	8,350
14	14,000	26,200	14,000	18,000	22,000	17,500	29,900	57,500	57,400	22,600	11,500	8,550
15	10,400	27,800	13,500	17,400	23,000	18,000	30,200	57,600	50,200	21,500	11,000	8,590
16	16,600	28,800	15,200	17,300	23,000	19,000	36,600	53,000	42,400	21,200	12,000	8,550
17	20,800	29,300	15,500	20,500	23,000	19,500	43,800	53,800	39,700	19,600	10,500	8,460
18	26,100	29,300	15,400	19,900	22,500	22,000	39,500	55,500	39,700	21,700	11,500	7,850
19	25,800	29,200	18,000	18,700	22,500	22,000	41,100	59,700	39,700	20,500	11,000	5,420
20	19,600	29,200	21,500	20,700	23,000	21,000	44,400	65,000	34,800	18,100	11,000	5,230
21	18,200	29,100	21,100	21,700	24,000	18,500	47,000	64,600	34,200	17,200	11,500	9,920
22	18,000	29,100	21,800	23,300	25,000	16,500	46,800	66,000	33,900	18,900	12,500	11,600
23	18,300	29,100	22,900	23,800	26,400	17,500	47,800	67,100	34,100	19,700	7,200	9,850
24	18,400	29,100	22,800	25,800	26,800	20,000	48,600	68,300	34,300	21,200	7,170	8,770
25	19,400	29,100	21,100	24,600	27,000	22,500	48,700	71,000	33,400	19,600	7,400	8,440
26	17,900	29,000	20,800	20,600	27,000	23,500	49,400	72,700	33,900	19,100	8,220	9,920
27	17,500	28,300	20,400	21,000	27,000	25,000	49,600	73,700	33,200	18,200	8,720	12,000
28	17,900	29,000	17,500	21,900	26,000	26,000	49,000	77,800	31,700	17,300	7,120	12,200
29	16,900	29,400	17,200	22,200	------	28,300	51,200	81,300	31,600	14,400	5,760	11,500
30	16,000	29,500	15,800	22,200	------	27,500	53,100	81,600	33,600	11,700	5,200	12,500
31	15,600	------	18,900	22,100	------	27,700	------	81,800	------	12,800	4,500	------
TOTAL	587,600	706,900	552,300	627,700	697,100	717,000	1,069.5M	1,940.3M	1,657.0M	741,900	359,190	247,700
MEAN	18,950	23,560	17,820	20,250	24,900	23,130	35,650	62,590	55,230	23,930	11,590	8,257
MAX	26,700	29,500	28,800	25,800	27,700	28,300	53,100	81,800	83,200	36,900	16,400	12,500
MIN	10,400	10,600	9,500	16,600	21,500	16,500	14,600	53,000	31,600	11,700	4,900	4,800
AC-FT	1,165M	1,402M	1,095M	1,245M	1,383M	1,422M	2,121M	3,849M	3,287M	1,472M	712,400	491,300

CAL YR 1961: TOTAL 11,000,300 MEAN 30,140 MAX 117,000 MIN 3,870 AC-FT 21,820,000
WAT YR 1962: TOTAL 9,904,190 MEAN 27,130 MAX 83,200 MIN 4,800 AC-FT 19,640,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11,400	19,500	28,600	22,300	17,800	28,700	34,800	36,800	37,100	37,600	12,700	5,700
2	10,700	18,200	29,200	23,900	16,000	27,700	35,700	35,500	38,200	46,600	11,700	5,300
3	10,200	17,400	29,200	25,100	16,500	25,800	31,000	32,700	38,100	54,400	10,300	6,100
4	11,200	15,800	23,500	24,800	16,500	24,900	32,300	38,700	41,200	57,700	10,600	5,800
5	12,000	15,300	20,900	25,000	20,800	24,200	32,400	44,400	42,400	54,300	10,300	4,500
6	13,000	16,100	20,000	25,100	25,200	23,200	29,800	45,400	38,200	47,500	10,100	4,700
7	13,100	17,100	20,800	25,200	29,000	24,300	30,500	46,000	37,700	44,600	10,100	6,200
8	13,300	16,200	21,000	26,400	33,000	25,300	30,000	49,800	44,700	42,500	10,100	7,330
9	15,400	15,800	20,800	28,500	35,400	21,300	30,500	54,900	50,200	40,700	10,100	5,300
10	17,900	15,400	20,700	28,500	36,500	17,100	30,800	51,100	52,100	34,600	9,060	7,000
11	19,600	14,500	20,900	27,400	36,500	17,100	31,700	47,400	56,500	21,500	6,410	7,600
12	18,700	14,600	21,200	20,200	36,200	17,300	31,100	45,700	57,900	27,700	6,950	7,560
13	18,300	14,800	21,200	16,600	40,000	19,600	31,100	44,600	57,300	27,000	12,800	8,460
14	18,400	20,500	22,000	19,600	36,400	24,200	31,200	41,400	55,300	26,500	15,200	9,530
15	18,500	21,800	22,900	22,000	33,200	19,400	31,900	37,700	55,400	26,800	15,000	9,100
16	19,500	20,700	23,400	15,000	27,500	21,300	32,200	31,200	55,500	26,000	10,400	10,200
17	21,100	19,100	23,100	11,700	27,200	21,100	33,400	27,700	55,500	23,000	8,110	14,400
18	22,600	21,100	24,700	12,000	29,200	21,400	40,500	28,600	52,500	23,500	9,040	10,100
19	20,200	21,700	27,400	20,500	28,000	22,900	40,300	29,300	50,100	18,200	7,500	6,950
20	21,700	21,100	28,600	20,500	28,500	26,600	39,700	32,600	49,100	16,300	8,260	7,270
21	20,400	20,500	28,800	20,000	28,300	28,000	40,300	32,800	50,000	16,200	8,830	6,580
22	21,000	22,400	25,700	20,400	29,000	28,400	40,200	33,300	45,000	18,700	13,300	7,010
23	19,800	22,700	23,300	20,800	29,000	28,800	40,000	35,700	40,600	18,500	10,400	7,810
24	19,600	22,600	23,100	21,000	29,000	28,800	39,900	36,200	40,600	17,700	7,030	8,670
25	20,000	23,300	23,300	21,500	28,800	28,800	39,400	36,100	43,900	15,900	6,470	7,580
26	18,400	24,600	23,000	21,500	28,500	28,800	38,800	35,500	46,700	15,300	6,410	7,640
27	17,100	27,600	23,000	21,000	27,700	28,800	36,200	35,200	42,400	13,900	6,040	8,440
28	17,300	27,400	22,700	20,000	27,200	29,100	32,900	34,700	35,100	12,900	5,790	7,850
29	17,500	28,200	23,700	18,000	------	29,400	34,700	35,000	35,400	15,200	9,250	6,620
30	19,600	28,300	21,900	19,000	------	29,200	36,800	34,500	35,800	14,700	15,500	6,540
31	21,700	------	20,500	18,700	------	29,400	------	34,800	------	13,500	9,600	------
TOTAL	539,200	604,300	729,500	662,200	796,900	770,900	1,040.1M	1,185.7M	1,380.5M	869,500	303,570	223,860
MEAN	17,390	20,140	23,530	21,360	28,460	24,870	34,670	38,250	46,020	28,050	9,793	7,462
MAX	22,600	28,300	29,200	28,500	40,000	29,400	40,500	54,900	57,900	57,700	15,500	14,400
MIN	10,200	14,500	20,000	11,700	16,000	17,100	29,800	27,700	35,100	12,900	5,790	4,500
AC-FT	1,069M	1,199M	1,447M	1,313M	1,581M	1,529M	2,063M	2,352M	2,738M	1,725M	602,100	444,000

CAL YR 1962: TOTAL 9,930,390 MEAN 27,210 MAX 83,200 MIN 4,800 AC-FT 19,700,000
WAT YR 1963: TOTAL 9,106,230 MEAN 24,950 MAX 57,900 MIN 4,500 AC-FT 18,060,000

M Expressed in thousands.
Note.--No gage-height record Jan. 10 to Feb. 28.

12-3985. Pend Oreille River below Z Canyon, near Metaline Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,270	14,100	13,300	15,300	17,500	21,500	16,900	23,200	70,000	75,900	16,900	13,000
2	11,300	15,000	10,300	15,400	11,200	21,600	19,400	27,900	71,000	65,900	16,700	13,800
3	11,900	15,200	9,080	16,200	10,400	24,800	20,500	30,700	72,400	57,600	17,700	13,400
4	9,150	15,200	10,300	17,200	16,700	27,500	22,800	33,200	74,600	54,700	17,000	15,000
5	8,940	15,300	13,000	15,700	19,000	26,400	22,000	34,500	76,600	54,400	16,200	16,200
6	8,390	15,500	15,900	15,300	20,100	27,500	21,900	36,900	80,100	58,900	18,300	14,900
7	7,640	23,800	13,600	16,900	19,300	28,200	24,400	37,800	82,500	61,800	18,300	14,900
8	9,960	22,300	11,800	18,300	18,900	28,200	23,000	38,200	84,200	58,900	15,700	16,200
9	14,300	22,700	11,200	18,700	17,300	28,200	23,900	37,500	90,000	57,800	14,000	16,300
10	14,500	23,800	12,500	19,900	17,700	28,200	26,100	36,000	96,400	46,800	13,800	18,200
11	14,200	23,000	14,500	19,700	18,700	32,200	29,000	35,300	99,600	48,700	12,800	10,300
12	14,000	22,700	14,900	17,000	21,100	35,500	30,700	37,600	104,700	46,600	10,300	11,600
13	14,000	21,800	15,300	16,400	22,300	33,600	29,600	41,800	110,200	45,500	13,000	11,400
14	13,900	18,900	15,300	16,500	22,800	32,200	27,000	44,300	114,800	40,600	16,400	12,600
15	14,800	19,100	15,300	18,000	22,600	33,200	26,100	44,400	117,800	36,800	11,500	13,000
16	15,100	17,100	15,500	18,300	17,900	33,300	25,800	47,200	120,000	33,000	13,400	12,500
17	14,000	13,700	17,000	18,900	17,300	28,200	26,900	49,400	121,400	33,000	13,500	11,100
18	13,700	13,400	16,500	14,700	18,700	27,500	27,300	49,900	122,200	35,600	13,600	15,900
19	13,700	20,000	15,900	12,300	20,900	27,300	25,700	50,200	122,400	34,800	13,700	16,800
20	15,100	21,700	16,200	14,400	20,800	28,000	23,600	50,000	121,800	34,000	14,300	15,100
21	16,900	20,500	16,200	17,200	19,900	27,500	23,100	48,900	121,200	30,000	14,400	13,500
22	19,100	19,300	15,900	18,600	17,400	25,700	23,200	50,600	120,000	27,900	13,000	14,400
23	22,800	18,100	15,900	16,500	17,400	25,600	24,900	56,400	118,300	24,800	8,710	13,800
24	27,300	17,200	16,600	17,700	18,300	23,000	28,600	61,800	115,800	21,400	7,850	11,900
25	28,000	17,100	17,000	17,700	18,100	20,900	30,500	66,600	110,700	20,100	8,000	11,600
26	20,100	17,700	16,000	15,700	17,500	20,300	31,600	70,900	103,500	20,300	9,580	10,800
27	18,000	18,600	15,700	15,900	17,700	19,600	30,500	70,600	99,600	20,500	9,680	9,290
28	19,100	17,100	14,700	18,600	19,700	18,900	30,300	70,300	96,800	18,200	9,150	9,510
29	16,100	16,600	13,700	20,500	20,900	18,300	26,700	69,700	92,800	18,200	8,670	11,200
30	12,300	15,800	13,300	20,000	------	18,400	25,100	69,300	94,800	18,700	8,370	11,200
31	12,500	------	13,900	19,700	------	17,400	------	69,100	------	18,000	9,510	------
TOTAL	458,050	552,300	446,280	533,200	538,100	808,700	767,100	1,490.6M	3,016.8M	1,219.8M	404,620	389,600
MEAN	14,780	18,410	14,400	17,200	18,560	26,090	25,570	48,080	100,600	39,350	13,050	13,320
MAX	28,000	23,800	17,000	20,500	22,800	35,500	31,600	70,900	122,400	75,900	18,300	18,200
MIN	7,270	13,400	9,080	12,300	10,400	17,400	16,900	23,200	70,000	18,000	7,850	9,290
AC-FT	908,500	1,095M	885,200	1,058M	1,067M	1,604M	1,522M	2,957M	5,984M	2,419M	802,600	772,600

CAL YR 1963: TOTAL 8,689,860 MEAN 23,810 MAX 57,900 MIN 4,500 AC-FT 17,240,000
WAT YR 1964: TOTAL 10,635,150 MEAN 29,060 MAX 122,400 MIN 7,270 AC-FT 21,090,000

M Expressed in thousands.

12-3986. Pend Oreille River at international boundary
(Formerly published as Pend Oreille River below Z Canyon, near Metaline Falls, Wash.)

(International gaging station)

Location.--Lat 48°59'50", long 117°21'10", in NE¼ sec.3, T.40 N., R.40 E., on left bank 600 ft upstream from international boundary, 0.8 mile downstream from Boundary Dam, and 9.5 miles north of Metaline Falls.

Drainage area.--25,200 sq mi, approximately.

Records available.--November 1908 to September 1910 (gage heights only), October 1912 to September 1965. Prior to October 1928, published as Clark Fork at Metaline Falls, Wash., and October 1928 to September 1937 as Clark Fork below Z Canyon, near Metaline Falls, Wash.

Gage.--Water-stage recorder. Datum of gage is 1,000 ft above mean sea level (city of Seattle Boundary Dam datum). Prior to Dec. 19, 1928, staff gages at Metaline Falls at datum approximately 1,983.4 ft above mean sea level, and Dec. 20, 1928, to Sept. 30, 1964; water-stage recorder at site 1¼ miles upstream at datum 1,721.18 ft above mean sea level (datum of 1929, supplementary adjustment of 1947), from levels by Corps of Engineers.

Extremes.--Maximum and minimum discharges for December 1962 to September 1965 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1963	July 4, 1963	57,400	30.25	Sept. 5, 1963	a 4,570	-
1964	June 19, 1964	122,100	42.01	Oct. 1, 1963	a 7,510	-
1965	June 6, 1965	89,000	36.00	Aug. 8, 1965	6,860	18.77

a Minimum daily.

1912-65: Maximum discharge, 171,300 cfs June 13, 1948 (gage height, 60.25 ft, site and datum then in use); minimum, 2,500 cfs Dec. 12, 1919 (gage height, -2.4 ft, site and datum then in use). Maximum stage known, 69.0 ft in June 1894, at site and datum 1¼ miles upstream.

Remarks.--Records excellent. In 1946 there were diversions for irrigation of about 340,000 acres above station and there probably has not been any appreciable change since that time. Flow regulated at Albeni Falls and Box Canyon Dams and affected by storage in Pend Oreille Lake, Flathead Lake, Hungry Horse Reservoir, and several smaller reservoirs in Montana (see elsewhere in this report). Little or no regulation by construction work at Boundary Dam.

Cooperation.--This station is maintained by the United States under agreement with Canada, and designated an international gaging station since Feb. 9, 1965.

DISCHARGE, IN CUBIC FEET PER SECOND, DECEMBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1			28,300	21,800	17,400	28,600	34,500	36,600	36,800	37,400	12,100	5,690
2			28,900	23,600	15,500	27,500	36,000	35,800	37,800	46,000	11,100	5,340
3			28,700	24,600	15,900	25,600	31,000	32,600	37,700	53,200	10,000	6,120
4			23,000	24,600	15,900	24,500	32,300	38,600	41,000	56,200	10,200	5,830
5			19,800	24,600	20,500	23,900	32,200	44,300	42,000	52,800	9,970	4,570
6			20,000	24,800	25,000	23,100	29,800	45,000	37,800	46,600	9,860	4,740
7			20,800	25,000	29,000	24,100	30,600	45,600	37,400	44,000	9,920	6,160
8			20,800	26,000	33,000	24,900	30,000	49,000	44,300	42,000	9,940	7,380
9			20,600	28,000	35,400	21,000	30,600	53,700	49,400	40,200	9,920	5,340
10			20,500	28,500	36,600	16,600	30,800	50,300	51,000	33,900	8,630	6,940
11			20,600	27,300	36,600	16,700	31,600	46,800	55,200	21,000	6,500	7,650
12			20,800	19,900	36,300	16,700	31,000	45,000	56,400	27,600	6,640	7,730
13			20,700	16,100	39,800	19,200	31,000	44,100	55,800	26,600	12,400	8,260
14			21,600	19,400	36,300	23,800	31,100	41,100	54,100	26,000	14,700	9,250
15			22,400	21,800	33,300	18,900	31,800	37,400	54,200	26,400	14,400	8,780
16			22,800	14,400	27,600	21,100	32,200	31,000	54,200	25,700	10,100	9,920
17			22,600	11,200	27,200	21,000	33,400	27,400	54,200	22,800	7,590	13,900
18			24,100	11,400	29,200	21,100	40,400	28,200	51,400	23,400	9,070	9,170
19			26,800	20,400	28,000	22,600	40,200	29,000	49,400	18,000	7,470	7,010
20			28,200	20,100	28,300	26,200	39,600	32,400	48,100	15,800	8,300	7,340
21			28,400	19,600	28,200	27,900	40,200	32,600	45,100	15,700	8,510	6,620
22			25,000	20,100	29,200	28,200	40,000	33,200	44,500	18,400	12,900	7,180
23			22,800	20,500	29,200	28,600	39,900	35,400	40,200	18,100	10,000	7,920
24			22,600	20,800	29,200	28,700	39,600	36,000	40,200	17,100	6,500	8,650
25			22,900	21,300	28,800	28,700	39,200	35,800	43,300	15,300	6,500	7,600
26			22,400	21,300	28,600	28,700	38,600	35,200	46,000	14,700	6,480	7,780
27			22,600	20,900	27,800	28,700	36,200	35,000	41,800	13,300	6,260	8,500
28			22,200	19,700	27,200	29,100	32,800	34,400	34,600	12,400	5,830	7,690
29			23,200	17,500	------	29,400	34,600	34,800	35,400	14,800	9,170	6,680
30			21,500	18,700	------	29,200	36,600	34,200	35,600	13,900	14,900	6,620
31		------	20,000	18,300	------	29,300	------	34,600	------	12,800	9,410	------
TOTAL			715,600	652,200	795,000	763,600	1,037.8M	1,175.1M	1,358.9M	852,100	296,870	222,340
MEAN			23,080	21,040	28,390	24,630	34,590	37,910	45,300	27,490	9,575	7,411
MAX			28,900	28,500	39,800	29,400	40,400	53,700	56,400	56,200	14,900	13,900
MIN			19,800	11,200	15,500	16,600	29,800	27,400	34,600	12,400	5,830	4,570
AC-FT			1,419M	1,294M	1,577M	1,515M	2,058M	2,331M	2,695M	1,690M	588,600	441,000

M Expressed in thousands.

12-3986. Pend Oreille River at international boundary--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,510	13,700	12,300	14,300	16,800	21,400	16,100	22,800	70,000	75,300	16,200	12,200
2	11,200	14,500	9,690	14,300	10,400	21,400	18,900	27,600	71,200	65,500	16,000	13,000
3	11,400	14,700	8,780	15,300	9,750	24,600	20,300	30,500	72,700	57,500	17,000	12,600
4	8,880	14,700	10,000	16,300	16,200	27,400	22,700	33,100	75,000	54,500	16,300	14,200
5	8,310	14,700	12,700	14,700	18,800	26,100	21,700	34,800	77,100	54,200	15,400	15,400
6	8,250	14,900	15,300	14,200	19,800	27,200	21,700	36,800	80,800	56,000	17,600	14,100
7	7,560	23,300	12,800	16,100	19,000	28,100	24,100	37,700	83,300	62,200	17,500	14,100
8	9,800	22,100	11,100	17,600	18,600	28,000	22,800	38,000	85,100	59,000	15,000	15,400
9	13,800	22,400	10,700	18,300	16,800	28,100	23,700	37,200	90,100	57,800	13,200	15,700
10	14,000	23,600	12,000	19,300	17,100	28,000	25,800	35,800	96,000	46,800	13,100	17,500
11	13,600	22,800	13,700	19,000	18,300	33,200	29,000	35,200	99,000	48,600	12,200	10,400
12	13,500	22,600	13,700	16,000	20,900	35,600	30,400	37,500	104,100	46,600	9,750	11,500
13	13,600	21,700	14,400	15,500	22,200	34,200	29,800	41,700	109,600	45,500	12,600	11,100
14	13,400	18,500	14,400	15,700	22,600	32,000	27,100	44,000	114,200	41,000	15,700	12,300
15	14,300	18,800	14,400	17,400	22,400	33,200	25,900	44,200	117,400	37,400	10,900	12,600
16	14,600	16,400	14,700	17,600	21,800	33,200	25,600	46,800	119,500	33,800	12,700	12,100
17	13,500	12,700	15,700	18,400	16,700	27,800	26,800	48,800	121,000	33,800	13,100	10,500
18	13,200	12,700	15,500	13,700	18,500	27,200	27,200	49,200	121,800	36,400	13,000	15,600
19	13,200	20,000	15,100	11,600	20,700	27,000	25,600	49,400	121,900	35,600	13,000	16,200
20	14,600	21,300	15,500	13,700	20,700	27,700	23,600	49,200	121,400	34,800	13,500	14,500
21	16,500	20,100	15,500	16,700	19,600	27,200	22,900	48,300	120,800	30,600	13,700	13,000
22	19,000	19,000	15,100	18,300	16,700	25,200	23,100	50,000	115,600	28,800	12,300	13,800
23	22,800	17,500	15,100	15,700	16,900	25,000	24,600	55,700	117,800	25,200	8,420	13,100
24	27,200	16,400	15,900	17,400	17,800	22,400	28,400	61,200	115,600	21,600	7,620	11,500
25	27,800	16,300	16,200	16,900	17,500	20,500	30,400	66,300	110,700	20,200	7,800	11,300
26	19,800	17,100	15,100	15,100	17,000	19,900	31,600	70,800	104,000	20,400	9,220	10,500
27	17,600	18,200	14,900	15,100	17,100	19,300	30,300	70,600	99,700	20,500	9,300	9,250
28	18,300	16,400	13,600	18,300	19,500	18,500	30,000	70,200	97,000	18,200	8,860	9,500
29	15,500	15,900	12,700	20,200	20,700	17,900	26,400	69,500	92,800	17,800	8,330	11,000
30	11,500	14,900	12,300	19,700	------	17,900	24,700	69,100	84,500	18,200	7,760	10,900
31	12,100	------	13,100	19,300	------	16,700	------	68,900	------	17,500	9,040	------
TOTAL	447,440	537,900	421,970	511,700	530,850	801,900	761,200	1,480.9M	3,014.1M	1,224.5M	386,100	384,950
MEAN	14,430	17,930	13,610	16,510	18,310	25,870	25,370	47,770	100,500	39,500	12,450	12,830
MAX	27,800	23,600	16,200	20,200	22,600	35,600	31,600	70,800	121,900	75,300	17,600	17,500
MIN	7,510	12,700	8,780	11,600	9,750	16,700	16,100	22,800	70,000	17,500	7,620	9,250
AC-FT	887,500	1,067M	837,000	1,015M	1,053M	1,591M	1,510M	2,937M	5,978M	2,429M	765,800	763,500

CAL YR 1963: TOTAL 8,561,220 MEAN 23,460 MAX 56,400 MIN 4,570 AC-FT 16,980,000
WAT YR 1964: TOTAL 10,503,510 MEAN 28,700 MAX 121,900 MIN 7,510 AC-FT 20,830,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12,700	21,400	25,700	20,400	27,900	32,900	31,800	72,500	72,300	56,700	20,500	15,300
2	15,700	17,400	23,700	23,500	26,200	34,300	29,800	74,000	78,200	50,400	19,800	14,500
3	12,600	17,400	24,500	23,800	28,400	34,300	29,800	75,300	83,100	47,400	16,700	14,600
4	10,700	18,800	24,600	23,800	28,000	34,400	31,000	77,400	85,600	46,200	22,100	14,500
5	10,200	17,700	24,900	25,000	25,600	35,200	37,600	78,700	87,800	45,800	24,800	14,400
6	10,000	15,700	23,700	27,400	29,700	35,200	43,800	79,100	88,000	44,800	24,100	14,800
7	11,400	15,600	21,000	25,400	29,500	35,200	38,900	80,100	87,200	45,400	10,000	15,700
8	13,900	15,500	17,900	25,700	29,900	35,100	34,800	79,700	86,500	46,100	7,160	14,000
9	10,700	16,100	17,300	25,400	31,600	35,400	35,200	78,600	85,300	43,900	16,100	13,000
10	13,300	18,400	16,900	24,600	33,500	35,400	34,900	77,100	83,300	41,600	13,100	11,900
11	14,700	18,700	17,900	25,100	32,800	35,400	34,800	75,800	81,700	40,600	14,700	8,750
12	15,300	18,700	18,500	25,100	32,700	35,600	36,000	74,600	79,400	40,100	16,300	9,550
13	17,300	18,700	18,700	25,800	33,200	35,900	39,400	74,000	77,400	42,000	16,800	12,500
14	18,400	18,300	18,800	24,900	33,000	35,800	42,500	70,900	77,700	41,200	15,600	13,200
15	19,500	18,000	20,200	27,500	32,500	35,800	43,700	68,200	77,800	39,600	16,400	15,500
16	20,700	18,900	19,500	26,000	32,800	35,000	43,400	69,300	76,500	37,400	15,900	19,200
17	20,600	25,100	17,700	25,800	32,900	35,000	43,300	72,600	71,700	34,400	15,900	21,400
18	20,200	25,300	22,600	26,500	32,900	35,400	43,100	74,000	66,000	27,600	16,600	20,500
19	20,900	25,000	23,900	25,100	33,000	35,500	43,100	74,500	71,000	33,400	16,500	19,300
20	18,300	25,900	23,300	24,000	33,100	35,600	44,400	78,600	77,900	30,700	18,500	20,000
21	18,200	26,000	19,100	23,900	33,100	35,600	47,200	81,100	79,900	24,200	10,700	17,400
22	18,200	26,000	17,700	24,800	33,200	36,700	49,400	81,100	80,600	22,800	8,210	16,900
23	18,600	29,200	17,000	25,900	33,200	47,100	50,600	79,400	81,200	16,900	10,000	17,300
24	18,400	31,700	19,400	24,600	32,700	50,400	50,800	80,000	82,200	18,200	12,500	16,000
25	16,800	31,000	19,800	23,800	32,600	51,600	50,600	80,500	72,300	28,300	12,300	13,100
26	16,700	30,000	20,400	25,200	33,200	51,400	51,000	77,700	69,100	26,800	16,000	14,700
27	20,400	30,800	19,500	26,600	34,000	46,100	57,800	75,200	67,700	22,300	18,900	19,700
28	22,600	30,600	19,200	24,700	32,900	41,600	64,700	74,000	62,400	21,000	19,000	20,200
29	22,600	30,600	19,600	25,000	------	40,400	67,200	74,500	55,600	20,500	18,600	21,000
30	22,500	30,400	20,100	25,800	------	36,400	69,900	74,500	55,800	20,100	17,800	21,200
31	22,300	------	19,600	27,200	------	32,200	------	71,800	------	20,700	15,300	------
TOTAL	524,400	682,900	632,700	778,300	888,100	1,171.9M	1,320.5M	2,354.8M	2,301.2M	1,077.1M	497,870	480,100
MEAN	16,920	22,760	20,410	25,110	31,720	37,800	44,020	75,960	76,710	34,750	16,060	16,000
MAX	22,600	31,700	25,700	27,500	34,000	51,600	69,900	81,100	88,000	56,700	24,800	21,400
MIN	10,000	15,500	16,900	20,400	26,200	32,200	29,800	68,200	55,600	16,900	7,160	8,750
AC-FT	1,040M	1,355M	1,255M	1,544M	1,762M	2,324M	2,619M	4,671M	4,564M	2,136M	987,500	952,300

CAL YR 1964: TOTAL 10,936,200 MEAN 29,880 MAX 121,900 MIN 7,620 AC-FT 21,690,000
WAT YR 1965: TOTAL 12,709,870 MEAN 34,820 MAX 88,000 MIN 7,160 AC-FT 25,210,000

M Expressed in thousands.

12-3989. Salmo River near Salmo, British Columbia

Location.--Lat 49°04'07", long 117°16'37", on Salmo-Nelway highway, 500 ft downstream from South Fork Salmo River and 10 miles south of Salmo.

Drainage area.--450 sq mi.

Records available.--October 1960 to September 1965 in reports of Geological Survey. March 1949 to September 1960 in reports of Department of Northern Affairs and National Resources, Canada.

Gage.--Water-stage recorder.

Average discharge.--16 years (1949-65), 1,130 cfs (818,100 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 8, 1961	7,120	6.12	Oct. 5, 1960	122	1.18
1962	May 25, 1962	6,090	5.67	Dec. 11, 1961	a 111	-
1963	May 25, 1963	6,380	5.76	Sept.10, 1963	142	1.13
1964	May 21, 1964	8,670	6.72	Oct. 17, 1963	127	1.09
1965	May 30, 1965	6,800	5.99	Dec. 17, 1964	118	1.10

a Minimum daily.

1949-65: Maximum discharge, 12,800 cfs May 19, 1954; minimum, 50 cfs Dec. 26, 1952.

Remarks.--Records good except those for winter periods, which are fair.

Cooperation.--Records furnished by Department of Energy, Mines and Resources, Canada (formerly Department of Northern Affairs and National Resources, Canada).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	138	436	292	162	334	640	1,920	4,300	4,740	1,400	282	340
2	138	400	310	142	322	550	2,200	5,580	4,840	1,320	274	422
3	134	382	298	150	292	450	2,470	4,690	5,590	1,280	262	290
4	130	340	280	162	268	350	2,600	4,450	5,860	1,210	254	250
5	126	346	185	170	280	300	2,170	4,280	5,550	1,160	250	230
6	134	322	162	166	340	250	1,780	4,130	5,340	1,210	262	218
7	190	316	153	166	490	220	1,590	4,040	6,180	1,120	246	206
8	358	268	149	162	436	198	1,480	4,000	7,120	1,010	234	194
9	280	268	145	180	424	200	1,420	4,210	6,500	900	230	186
10	232	310	144	180	448	208	1,410	4,600	6,090	828	230	178
11	210	310	144	185	472	203	1,380	4,100	5,330	773	218	178
12	244	286	145	185	508	200	1,530	3,690	5,860	724	210	170
13	226	268	146	180	450	192	1,620	4,000	5,710	682	202	162
14	205	280	148	185	478	206	1,470	4,470	5,610	647	194	158
15	195	268	151	280	484	236	1,410	5,000	5,860	612	190	158
16	200	268	158	590	472	280	1,420	5,100	6,010	570	194	150
17	205	268	232	496	460	332	1,600	5,280	5,810	535	234	146
18	210	322	238	418	454	360	1,800	5,600	5,560	488	214	142
19	210	298	220	358	454	367	1,940	6,200	5,060	458	198	146
20	205	352	205	304	478	492	1,580	6,600	4,490	434	186	150
21	210	352	195	322	830	752	1,480	7,000	3,780	410	190	158
22	370	322	195	322	1,010	803	1,540	6,400	3,090	392	178	158
23	442	298	185	286	884	779	1,680	6,390	2,840	422	170	154
24	590	352	180	268	866	758	1,900	6,310	2,690	440	170	150
25	576	472	180	238	830	760	2,070	6,160	2,540	428	210	154
26	527	400	175	232	782	840	2,240	6,620	2,360	370	190	154
27	555	304	170	244	750	948	2,470	5,920	2,090	345	178	150
28	541	346	162	268	715	1,100	2,580	5,120	1,810	330	162	158
29	508	286	170	292	------	1,250	2,620	4,750	1,630	318	158	202
30	448	298	166	328	------	1,400	3,270	4,440	1,560	318	150	182
31	430	------	166	352	------	1,660	------	4,600	------	298	202	------
TOTAL	9,167	9,738	5,843	7,973	15,051	17,284	56,640	158,030	137,500	21,432	6,522	5,694
MEAN	296	325	189	257	538	558	1,888	5,098	4,583	691	210	190
MAX	590	472	310	590	1,010	1,660	3,270	7,000	7,120	1,400	282	422
MIN	126	268	144	142	268	192	1,380	3,690	1,560	298	150	142
AC-FT	18,180	19,320	11,600	15,810	29,850	34,280	112,300	313,400	272,700	42,510	12,940	11,290

CAL YR 1960: TOTAL 411,658 MEAN 1,124 MAX 10,200 MIN 126 AC-FT 816,500
WAT YR 1961: TOTAL 450,880 MEAN 1,235 MAX 7,120 MIN 126 AC-FT 894,200

12-3989. Salmo River near Salmo, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	170	258	250	166	146	132	470	1,720	3,400	1,350	298	190
2	166	257	234	162	150	133	584	1,690	3,260	1,240	290	182
3	162	253	226	178	162	133	710	1,860	3,810	1,110	294	174
4	162	251	218	178	198	135	804	1,930	3,210	1,000	330	170
5	162	250	218	170	154	143	844	1,750	2,710	966	370	166
6	202	248	194	166	170	160	916	1,650	2,380	966	365	162
7	198	245	194	170	170	173	1,240	1,620	2,220	932	345	158
8	186	238	150	162	170	182	1,200	1,550	2,420	876	398	158
9	178	235	162	158	170	178	1,080	1,630	3,760	820	355	162
10	218	232	115	112	186	170	1,010	1,890	3,690	773	330	166
11	218	227	111	116	194	170	982	2,130	3,160	724	310	314
12	258	223	136	137	190	158	1,010	2,300	3,010	661	302	298
13	416	221	168	146	190	158	1,130	2,360	3,330	661	306	250
14	386	218	178	150	210	162	1,340	2,260	3,510	654	282	250
15	370	215	180	124	214	162	2,990	2,310	3,600	647	270	262
16	422	208	182	134	210	166	2,630	2,460	3,960	633	258	238
17	488	206	178	154	210	178	2,260	2,840	4,020	626	246	218
18	380	201	182	134	210	190	2,490	3,380	3,580	612	242	206
19	335	199	182	132	214	202	3,240	4,220	3,300	563	242	194
20	306	190	178	133	218	218	3,670	4,200	3,110	521	230	186
21	286	150	190	136	198	226	3,300	4,260	2,790	482	234	178
22	278	182	178	138	210	226	3,070	4,400	2,490	464	222	174
23	282	194	178	144	170	226	3,180	4,690	2,280	434	214	170
24	285	190	210	154	138	238	3,810	5,560	2,250	422	202	166
25	287	158	218	157	135	262	4,030	5,620	2,250	398	198	162
26	290	138	194	158	134	306	3,260	5,100	2,220	380	198	162
27	288	190	162	156	133	330	2,790	4,890	1,780	365	210	166
28	280	218	174	152	132	318	2,420	5,460	1,500	345	230	198
29	275	238	182	148	------	322	2,070	5,480	1,410	326	234	340
30	263	242	182	147	------	340	1,860	4,400	1,410	314	214	282
31	260	------	170	146	------	380	------	3,740	------	302	198	------
TOTAL	8,457	6,475	5,674	4,618	4,986	6,477	60,390	99,440	85,820	20,567	8,417	6,102
MEAN	273	216	183	149	178	209	2,013	3,208	2,861	663	272	203
MAX	488	258	250	178	218	380	4,030	5,620	4,020	1,350	398	340
MIN	162	138	111	112	132	132	470	1,550	1,410	302	198	158
AC-FT	16,770	12,840	11,250	9,160	9,890	12,850	119,800	197,200	170,200	40,790	16,690	12,100

CAL YR 1961: TOTAL 446,732 MEAN 1,224 MAX 7,120 MIN 111 AC-FT 886,100
WAT YR 1962: TOTAL 317,423 MEAN 870 MAX 5,620 MIN 111 AC-FT 629,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	246	310	507	514	288	458	773	2,620	4,570	1,600	410	170
2	226	302	482	549	314	452	745	2,340	4,030	1,480	404	198
3	210	294	464	626	355	434	724	2,090	3,670	1,380	386	202
4	198	294	428	584	404	422	759	1,860	3,710	1,280	360	182
5	190	318	416	535	689	416	807	1,820	4,050	1,160	340	174
6	190	310	422	514	696	404	1,070	2,880	4,220	1,030	326	162
7	202	286	416	494	568	404	1,110	3,630	3,740	960	310	156
8	218	286	410	476	540	398	1,110	3,120	3,610	890	298	154
9	250	294	422	464	507	398	1,100	2,760	3,570	897	290	150
10	270	330	422	330	494	398	1,070	2,570	3,470	861	278	146
11	262	322	410	286	494	398	1,040	2,490	3,380	815	278	198
12	306	335	392	255	488	386	1,020	2,590	3,340	752	270	174
13	422	318	392	245	488	386	1,080	2,780	3,240	766	270	190
14	380	302	392	245	482	386	1,300	2,800	3,150	738	254	365
15	322	290	521	245	476	380	2,200	2,980	2,980	738	246	266
16	294	286	843	250	470	380	2,130	3,190	2,680	724	234	246
17	282	278	752	252	470	375	1,850	3,450	2,600	710	230	266
18	274	270	703	257	458	375	1,660	3,840	2,360	710	218	250
19	270	274	682	265	452	375	1,500	4,240	2,160	703	210	222
20	282	416	654	270	446	392	1,380	4,550	1,920	682	218	210
21	375	398	647	272	434	410	1,320	5,070	1,760	612	234	202
22	528	355	577	272	422	470	1,310	5,560	1,600	619	222	190
23	488	326	500	268	422	528	1,270	5,830	1,710	598	222	198
24	446	322	422	268	416	577	1,250	6,250	1,450	563	230	218
25	410	386	415	268	416	577	1,240	6,230	1,580	563	234	198
26	380	924	405	268	464	598	1,380	5,620	1,360	535	226	186
27	365	717	402	272	482	654	1,660	5,350	1,180	500	210	178
28	350	605	402	276	464	710	1,860	5,070	1,080	470	202	174
29	340	549	417	275	------	780	2,250	5,170	1,440	446	194	166
30	330	549	427	275	------	843	2,750	5,370	1,720	428	186	158
31	322	------	455	278	------	816	------	5,270	------	410	178	------
TOTAL	9,628	11,246	15,139	10,648	13,138	14,980	40,718	119,390	81,750	24,820	8,168	5,951
MEAN	311	375	490	343	469	483	1,357	3,851	2,725	801	263	198
MAX	528	924	843	626	696	843	2,750	6,250	4,570	1,600	410	365
MIN	190	270	392	245	288	375	724	1,820	1,080	410	178	146
AC-FT	19,100	22,310	30,150	21,120	26,060	29,710	80,760	236,800	162,100	49,230	16,200	11,800

CAL YR 1962: TOTAL 332,850 MEAN 912 MAX 5,620 MIN 112 AC-FT 660,300
WAT YR 1963: TOTAL 355,636 MEAN 974 MAX 6,250 MIN 146 AC-FT 705,400

12-3989. Salmo River near Salmo, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	158	190	318	262	210	190	434	1,760	6,570	2,210	528	360
2	158	202	306	282	194	186	470	1,700	7,230	2,230	514	340
3	154	202	314	254	202	182	470	1,660	7,060	2,130	482	340
4	150	202	306	250	198	186	521	1,890	6,570	1,890	514	322
5	150	210	335	238	202	190	514	2,400	6,250	1,860	549	310
6	162	218	330	250	194	186	542	2,360	7,250	1,890	482	294
7	186	234	262	222	170	178	626	2,320	7,080	1,730	446	282
8	162	230	298	170	174	178	696	2,750	6,640	1,700	410	282
9	158	218	290	242	218	190	852	3,330	6,210	1,860	410	294
10	150	210	214	242	202	182	990	3,560	5,960	1,480	440	294
11	146	202	242	226	198	198	1,020	3,430	5,620	1,270	386	286
12	142	198	282	226	174	198	970	3,510	5,370	1,150	365	274
13	142	202	270	226	194	190	915	3,760	5,430	1,080	380	270
14	142	290	274	226	186	190	906	3,840	5,660	990	370	262
15	138	591	270	222	194	198	980	3,740	5,350	924	345	246
16	138	428	262	230	190	198	933	4,030	5,250	870	326	242
17	130	398	258	234	190	206	879	5,890	4,710	780	314	330
18	138	375	250	230	186	210	852	6,380	4,240	738	335	549
19	138	370	254	230	190	202	879	6,590	4,110	689	422	404
20	138	340	258	218	178	206	951	7,770	3,920	654	370	434
21	210	286	250	218	178	206	960	7,670	3,630	612	335	410
22	218	318	250	218	178	202	1,120	5,450	3,600	584	314	470
23	302	318	246	214	178	170	1,190	4,220	3,840	584	298	434
24	282	310	242	210	190	178	1,310	3,540	3,840	542	282	398
25	282	310	242	218	166	210	1,480	3,070	3,470	514	278	380
26	242	370	238	210	174	202	1,630	2,930	3,190	482	302	345
27	222	549	234	210	178	198	1,590	3,040	3,510	452	290	330
28	214	440	230	210	182	202	1,490	3,920	2,930	428	330	318
29	210	386	226	210	190	218	1,560	5,010	2,250	470	330	306
30	202	345	222	210	------	250	1,800	5,540	2,110	598	416	404
31	194	------	222	206	------	314	------	5,960	------	619	404	------
TOTAL	5,558	9,142	8,195	7,014	5,458	6,194	29,530	123,020	148,890	34,010	11,967	10,210
MEAN	179	305	264	226	188	200	984	3,968	4,963	1,097	386	340
MAX	302	591	335	292	218	314	1,800	7,770	7,250	2,230	549	549
MIN	130	190	214	170	166	170	434	1,660	2,110	428	278	242
AC-FT	11,020	18,130	16,250	13,910	10,830	12,290	58,570	244,000	295,300	67,460	23,740	20,250

CAL YR 1963: TOTAL 342,458 MEAN 938 MAX 6,250 MIN 130 AC-FT 679,300
WAT YR 1964: TOTAL 399,188 MEAN 1,091 MAX 7,770 MIN 130 AC-FT 791,800

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	546	286	380	250	202	242	370	4,090	3,550	1,170	302	246
2	482	440	395	242	182	250	452	3,370	3,700	1,140	290	238
3	479	385	380	246	222	258	505	2,890	4,600	1,120	310	246
4	440	400	365	246	226	262	554	2,670	4,300	1,070	351	286
5	414	561	355	242	234	262	645	2,370	4,220	1,020	400	266
6	400	470	342	242	250	282	728	2,150	4,580	966	395	246
7	382	434	328	238	234	306	736	2,020	4,070	930	332	234
8	380	405	337	238	230	332	744	2,050	3,530	948	302	222
9	431	416	323	234	226	351	792	2,220	3,710	824	282	218
10	458	446	323	234	198	380	882	2,700	4,170	728	266	210
11	428	477	306	230	194	422	939	3,440	4,280	680	254	206
12	405	440	242	226	210	452	1,210	4,170	3,980	680	250	202
13	385	400	310	226	234	464	1,600	4,680	3,300	680	250	206
14	370	375	306	226	214	484	1,990	4,780	2,610	659	242	246
15	370	365	266	226	218	519	2,370	4,720	2,520	617	226	323
16	375	346	142	230	226	526	2,440	4,520	2,550	554	218	286
17	360	355	154	234	230	491	2,420	3,840	3,140	491	206	262
18	346	351	218	234	234	470	2,190	3,350	3,460	458	202	250
19	337	342	238	230	246	458	2,110	3,160	3,070	434	198	242
20	332	332	242	230	258	452	2,160	3,230	2,500	416	242	242
21	328	323	242	234	246	446	2,390	3,100	2,120	458	242	234
22	319	314	242	230	246	422	2,420	3,000	1,870	589	222	246
23	310	319	244	226	234	405	2,490	3,100	1,740	526	242	234
24	306	375	248	226	226	375	2,720	3,300	1,760	452	302	226
25	298	355	258	226	242	380	2,910	3,480	1,690	410	282	222
26	294	342	254	218	242	370	3,250	3,860	1,600	390	294	222
27	286	337	258	226	286	360	3,660	4,360	1,450	440	270	226
28	282	314	266	230	266	346	4,480	5,350	1,240	385	282	214
29	278	274	270	226	------	346	5,180	6,110	1,190	360	306	210
30	278	332	262	226	------	346	4,820	5,790	1,240	337	282	206
31	274	------	258	226	------	351	------	4,210	------	319	266	------
TOTAL	11,373	11,311	8,754	7,198	6,456	11,810	60,157	112,080	87,790	20,251	8,508	7,117
MEAN	367	377	282	232	231	381	2,005	3,615	2,926	653	274	237
MAX	546	561	395	250	286	526	5,180	6,110	4,600	1,170	400	323
MIN	274	274	142	218	182	242	370	2,020	1,190	313	198	202
AC-FT	22,560	22,440	17,350	14,280	12,810	23,420	119,300	222,300	174,100	40,170	16,880	14,120

CAL YR 1964: TOTAL 407,731 MEAN 1,114 MAX 7,770 MIN 142 AC-FT 808,700
WAT YR 1965: TOTAL 352,805 MEAN 967 MAX 6,110 MIN 142 AC-FT 699,800

12-3995. Columbia River at international boundary

(International gaging station)

Location.--Lat 49°00'03", long 117°37'40", in SE¼ sec.4, T.40 N., R.41 E., on left bank at international boundary, half a mile downstream from Pend Oreille River.

Drainage area.--59,700 sq mi, approximately.

Records available.--October 1937 to September 1965. Prior to March 1938 monthly discharge only, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation 1937 datum). Prior to Apr. 27, 1939, staff gage at same site and datum. Since May 31, 1942, auxiliary water-stage recorder 2.2 miles downstream from base gage. Jan. 1 to May 30, 1942, auxiliary staff gage at same site.

Average discharge.--28 years, 99,400 cfs (71,960,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1961	June 10, 1961	493,900	1,334.62	Jan. 10, 1961	24,500	1,290.85
1962	June 3, 1962	269,000	1,318.85	Dec. 15, 1961	29,200	1,292.17
1963	June 21, 1963	292,000	1,320.85	Jan. 17, 1963	33,200	1,292.58
1964	June 19, 1964	420,300	1,329.82	Feb. 4, 1964	29,900	1,291.88
1965	June 21, 1965	326,600	1,323.26	Dec. 23, 1964	34,300	1,293.95

1937-65: Maximum discharge, 550,100 cfs June 12, 1948 (elevation, 1,338.13 ft); minimum, 18,000 cfs Feb. 7, 1954 (elevation, 1,289.38 ft).

Flood in June 1894 reached a stage of 1,346 ft, from information by Bureau of Reclamation (discharge, 680,000 cfs).

Flow of about 12,900 cfs occurred Jan. 30 or 31, 1937, based on information from other gaging stations (elevation, 1,287.9 ft), from rating curve extended below 1,291.6 ft; may have been as low sometime in January 1930.

Remarks.--Records excellent except those for periods of no base or auxiliary gage-height record, which are fair. Many diversions above station for irrigation. It was estimated that 346,700 acres were under irrigation in the United States in 1946. Water is diverted for irrigation of an additional 35,000 acres in Canada. Flow is affected by storage in Kootenay Lake, which is operated in accordance with the Nov. 11, 1938, Order of the International Joint Commission, as well as by natural and controlled regulation in other lakes and reservoirs in Kootenay and Pend Oreille River basins. Records of chemical analyses and water temperatures for the water years 1961-65 are published in reports of the Geological Survey.

Cooperation.--This station is maintained by the United States under agreement with Canada.

Revisions (water years).--WSP 932: 1937(m), 1938(M), 1939(m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	60,500	60,000	50,800	29,900	45,300	59,600	69,000	87,800	386,000	277,100	120,000	79,000
2	61,400	58,400	45,400	28,600	37,700	58,100	70,300	104,300	398,700	263,000	116,000	77,000
3	60,800	56,100	40,800	29,300	37,200	55,800	70,800	109,600	411,000	250,800	115,000	76,000
4	60,400	54,500	38,400	31,300	37,900	54,600	74,200	111,900	426,400	235,200	112,000	73,000
5	58,600	55,200	36,600	33,500	36,400	54,600	82,200	117,200	441,300	228,300	113,000	73,000
6	56,600	56,200	37,200	33,200	37,000	53,800	85,400	122,500	455,600	219,900	112,000	73,000
7	54,000	55,300	38,400	32,400	38,100	56,700	81,700	126,700	477,100	215,300	111,000	73,000
8	54,500	54,500	40,900	31,800	38,200	52,500	77,900	131,000	486,200	209,100	110,000	71,000
9	53,700	54,300	41,400	30,800	40,000	49,100	78,700	137,700	492,000	200,200	108,000	69,000
10	56,000	56,700	39,500	31,200	43,100	50,300	77,100	142,500	492,000	194,000	107,000	68,000
11	55,400	54,400	36,700	40,000	45,100	54,400	75,400	145,200	484,200	192,600	106,000	66,000
12	58,500	56,900	35,400	38,900	50,500	57,500	74,700	146,800	476,000	184,500	104,000	63,000
13	60,000	55,400	33,300	32,500	58,600	56,700	72,900	150,600	466,800	175,300	102,000	61,000
14	60,200	55,900	32,900	33,200	61,200	53,300	78,100	155,900	449,400	171,400	100,000	59,000
15	58,900	57,600	33,300	33,400	58,100	54,100	78,500	160,800	433,200	164,400	97,000	58,000
16	58,200	58,200	31,900	35,400	58,800	55,600	75,800	165,100	424,200	163,000	96,000	56,000
17	57,400	56,200	30,600	41,500	59,200	56,900	74,800	171,300	424,200	164,200	98,000	54,000
18	52,300	57,600	29,400	42,200	59,600	58,200	76,700	176,300	429,000	169,000	99,000	53,000
19	50,400	57,100	30,800	43,100	58,400	59,500	80,100	182,700	429,900	166,800	99,000	52,000
20	49,500	55,600	34,700	40,300	56,600	60,500	81,200	191,500	429,900	159,200	99,000	51,000
21	49,500	57,100	37,300	39,500	59,000	66,000	83,900	201,600	424,500	158,000	100,000	49,000
22	49,200	57,000	39,500	38,900	53,300	69,900	85,700	210,700	418,000	153,000	98,000	48,000
23	48,800	58,000	38,800	34,900	68,100	69,200	87,300	224,400	406,500	153,000	96,000	48,000
24	52,100	58,400	38,300	35,200	69,700	67,100	85,700	238,400	391,000	154,000	98,000	49,000
25	62,000	64,600	35,400	36,900	77,300	64,900	89,300	260,200	376,000	156,000	97,000	49,000
26	63,900	66,000	32,700	37,200	76,300	66,000	88,400	284,000	366,400	148,000	94,000	51,000
27	66,100	64,800	30,800	35,700	70,300	66,100	88,100	306,900	344,300	135,000	92,000	52,000
28	63,600	60,200	29,100	33,400	62,000	67,200	89,600	321,200	323,400	133,000	90,000	52,000
29	60,500	58,700	31,400	30,700	------	67,100	90,400	341,200	307,800	130,000	88,000	51,000
30	62,400	55,500	32,800	32,800	------	66,700	95,300	364,400	294,800	130,000	84,000	48,000
31	59,900	------	31,200	41,700	------	67,500	------	375,600	------	124,000	80,000	------
TOTAL	1,775.3M	1,726.4M	1,116.2M	1,089.4M	1,493.0M	1,850.5M	2,419.2M	5,975.9M	12,569M	5,585.7M	3,144.0M	1,802.0M
MEAN	57,270	57,550	36,010	35,140	53,320	59,690	80,640	192,800	419,000	180,200	101,400	60,070
MAX	66,100	66,000	50,800	43,100	77,300	69,900	95,300	375,600	492,000	277,100	120,000	79,000
MIN	48,800	54,300	29,100	28,600	36,400	49,100	69,000	97,800	294,800	124,000	80,000	48,000
AC-FT	3,521M	3,424M	2,214M	2,161M	2,961M	3,670M	4,798M	11,850M	24,930M	11,080M	6,236M	3,574M

CAL YR 1960: TOTAL 37,420,500 MEAN 102,200 MAX 279,000 MIN 29,100 AC-FT 74,220,000
WAT YR 1961: TOTAL 40,546,400 MEAN 111,100 MAX 492,000 MIN 28,600 AC-FT 80,420,000

M Expressed in thousands.
Note.--No base or auxiliary gage-height record Feb. 18 to Mar. 28, July 22 to Sept. 30.

12-3995. Columbia River at international boundary--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48,000	53,600	51,100	38,000	41,200	44,200	42,100	135,000	260,000	268,100	153,400	81,500
2	46,000	51,400	42,700	39,200	45,100	45,000	38,700	135,800	254,400	265,400	151,600	77,000
3	45,000	48,500	34,800	37,100	44,000	43,800	36,300	136,200	267,100	256,700	148,500	73,900
4	44,000	46,800	31,500	34,200	44,000	42,500	41,800	136,500	263,800	245,400	148,700	73,800
5	52,000	47,000	32,200	35,700	44,200	47,000	45,500	136,100	259,800	238,600	147,700	72,700
6	56,500	45,200	33,300	35,200	52,200	49,100	52,000	135,400	256,200	230,200	146,000	72,000
7	53,000	44,000	35,300	34,400	51,600	47,000	53,200	135,800	252,300	223,600	143,500	71,000
8	46,700	48,300	37,700	36,400	51,600	47,800	51,000	139,000	248,500	216,000	141,900	67,600
9	46,000	49,200	39,300	35,400	51,300	48,700	55,000	135,000	248,600	208,700	140,100	66,900
10	52,100	47,800	38,800	37,500	48,900	48,700	58,000	133,800	248,500	205,700	137,500	66,500
11	56,500	50,300	38,600	40,900	48,200	46,700	60,300	132,700	246,300	199,200	132,500	64,500
12	60,200	55,300	41,700	41,600	46,400	46,000	60,500	132,700	240,800	196,000	129,800	64,400
13	63,600	52,400	41,800	35,800	45,000	40,300	62,100	133,500	235,400	195,400	127,400	63,400
14	52,400	57,800	36,300	36,400	44,800	36,000	63,500	134,300	236,600	191,500	123,300	63,200
15	46,500	60,100	33,200	34,900	46,100	37,600	67,500	135,100	232,000	190,100	120,400	61,300
16	53,500	56,600	34,200	35,300	47,700	40,600	75,700	132,400	228,600	188,200	118,100	59,700
17	59,400	56,300	34,500	41,400	46,700	42,100	90,000	134,000	231,300	184,800	113,900	60,000
18	77,100	55,100	33,700	38,000	46,200	44,500	80,500	139,200	237,000	184,600	112,400	59,300
19	78,900	54,700	36,800	36,300	46,100	44,700	91,200	147,000	244,300	180,200	110,600	58,400
20	60,700	54,000	39,700	38,000	44,400	45,500	98,400	155,600	247,100	173,300	109,100	58,800
21	61,500	54,200	40,100	38,800	44,400	44,400	104,300	159,100	251,800	166,200	108,700	57,400
22	64,800	54,300	40,900	40,100	46,500	37,800	104,000	165,000	254,500	162,900	105,200	55,700
23	63,500	54,400	40,500	40,800	48,600	33,500	110,400	172,500	257,200	160,100	107,400	53,200
24	61,500	53,500	40,600	43,400	49,200	35,900	115,300	182,700	258,000	158,500	103,100	51,900
25	63,800	53,100	38,800	41,200	47,800	39,500	117,700	192,600	259,400	155,400	102,400	52,000
26	62,700	52,400	38,500	37,300	46,900	43,500	121,800	200,100	263,600	154,000	102,600	52,800
27	67,400	51,700	38,000	37,800	47,200	49,000	125,300	208,200	267,100	153,800	99,400	52,700
28	60,500	52,100	36,100	37,200	45,900	57,200	126,800	225,300	267,900	154,500	95,500	52,500
29	58,600	54,200	35,200	39,000	-------	58,600	130,400	239,200	267,600	154,200	91,100	52,100
30	57,300	52,500	33,700	39,900	-------	52,900	133,500	247,600	267,200	151,200	87,600	50,400
31	54,600	------	35,600	38,600	------	47,500	------	254,900	------	152,300	84,800	------
TOTAL	1,774.8M	1,567.0M	1,166.2M	1,176.4M	1,313.7M	1,388.4M	2,416.3M	4,983.7M	7,564.2M	5,566.4M	3,749.8M	1,962.8M
MEAN	57,250	52,230	37,620	37,950	46,920	44,790	80,540	160,800	252,100	179,500	121,000	62,090
MAX	78,900	60,100	51,100	43,400	52,200	58,600	133,600	254,900	267,900	268,100	153,400	81,500
MIN	44,000	44,000	31,900	34,200	41,200	33,900	36,300	132,400	228,600	151,200	84,800	50,400
AC-FT	3,520M	3,108M	2,313M	2,333M	2,606M	2,754M	4,793M	9,885M	15,000M	11,830M	7,438M	3,893M

CAL YR 1961: TOTAL 40,436,500 MEAN 110,800 MAX 492,000 MIN 28,600 AC-FT 80,200,000
WAT YR 1962: TOTAL 34,929,700 MEAN 95,700 MAX 268,100 MIN 31,900 AC-FT 69,280,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	51,400	59,000	69,600	51,200	41,700	58,500	68,300	93,600	225,000	224,500	136,000	77,700
2	50,100	56,200	67,500	51,100	38,700	57,600	72,300	96,100	229,500	227,300	132,600	75,200
3	50,400	55,000	62,700	52,700	39,000	56,400	65,200	93,400	233,200	231,500	126,400	72,600
4	51,100	52,700	55,000	54,300	37,700	58,000	65,900	101,700	238,300	232,100	124,100	71,300
5	52,500	51,900	52,600	56,000	43,000	54,000	66,700	110,400	243,400	228,700	120,100	69,500
6	53,200	53,200	52,800	55,600	48,400	49,500	62,000	116,300	242,600	223,300	117,000	68,300
7	52,100	55,100	54,500	53,600	59,200	51,600	63,500	120,300	243,400	221,700	115,000	67,900
8	50,400	52,800	54,900	53,700	67,500	54,700	63,300	123,800	251,500	223,000	113,700	67,900
9	50,700	52,100	53,500	57,600	73,000	51,000	64,800	130,000	260,000	224,300	113,000	68,200
10	56,000	53,400	51,500	58,400	71,300	46,500	65,200	127,100	263,700	220,700	112,000	69,300
11	58,600	51,600	50,300	56,800	68,700	45,700	63,900	124,000	268,900	209,600	108,600	70,000
12	56,900	51,000	52,400	47,000	67,200	45,500	66,700	123,100	272,400	215,900	108,500	71,300
13	54,100	50,100	51,700	41,300	70,800	46,400	66,900	122,100	274,400	213,100	116,300	74,500
14	58,000	53,900	51,300	44,200	69,000	50,100	67,900	119,600	276,600	209,700	120,700	72,500
15	55,800	56,600	52,700	47,000	61,900	45,400	71,100	117,400	279,900	208,200	122,500	72,600
16	55,200	53,500	57,400	38,400	57,000	46,200	73,200	110,700	281,800	204,700	119,500	74,100
17	55,600	51,900	58,200	35,200	55,300	46,100	73,800	108,400	284,600	199,900	115,500	79,800
18	56,100	53,100	58,400	35,500	57,700	46,500	81,200	111,500	285,500	198,300	120,100	77,500
19	53,700	51,100	59,400	42,600	57,200	48,100	82,100	115,000	283,200	189,200	117,000	72,600
20	54,400	53,200	60,300	42,100	58,400	52,200	82,100	122,100	285,700	183,400	116,300	69,900
21	53,000	57,000	61,700	42,100	57,000	55,100	84,000	127,400	290,800	180,400	113,700	66,200
22	58,900	62,600	59,800	43,100	58,800	56,300	84,400	133,600	291,500	179,600	115,200	64,900
23	68,700	59,100	54,300	44,100	57,800	57,300	84,800	143,200	282,900	176,300	109,500	63,600
24	63,200	55,300	51,000	43,700	57,900	57,400	85,400	153,000	275,300	172,200	102,000	63,400
25	61,200	56,300	49,900	44,300	57,700	57,400	85,600	162,500	273,000	166,300	98,500	62,100
26	63,500	63,800	49,300	43,400	57,200	59,200	85,900	173,100	269,400	161,400	95,600	60,000
27	62,000	72,300	48,200	42,400	56,200	61,900	83,500	183,200	256,900	155,100	91,500	59,800
28	56,500	73,100	47,800	42,300	57,200	62,100	82,000	192,200	240,000	150,400	86,100	59,200
29	55,400	64,600	48,500	42,000	------	65,500	86,300	201,200	233,400	147,700	85,700	58,200
30	59,500	63,200	56,600	44,100	------	64,500	91,400	209,000	229,000	144,400	88,500	58,400
31	61,900	------	53,800	43,800	------	64,100	------	216,800	------	133,400	83,200	------
TOTAL	1,740.1M	1,694.7M	1,707.6M	1,449.6M	1,603.5M	1,671.3M	2,239.4M	4,181.8M	7,866.2M	6,056.9M	3,449.2M	2,054.0M
MEAN	56,130	56,490	55,080	46,760	57,270	53,910	74,650	134,900	262,200	195,400	111,300	68,430
MAX	68,700	73,100	69,600	58,400	73,000	65,500	91,400	216,800	291,500	232,100	136,000	79,800
MIN	50,100	50,100	47,800	35,200	37,700	45,400	62,000	93,400	225,000	133,400	83,200	58,200
AC-FT	3,451M	3,361M	3,387M	2,875M	3,180M	3,315M	4,442M	8,294M	15,600M	12,010M	6,841M	4,084M

CAL YR 1962: TOTAL 35,564,100 MEAN 97,440 MAX 268,100 MIN 33,900 AC-FT 70,540,000
WAT YR 1963: TOTAL 35,715,300 MEAN 97,860 MAX 291,500 MIN 35,200 AC-FT 70,850,000

M Expressed in thousands.

12-3995. Columbia River at international boundary--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	58,300	47,100	37,400	36,900	38,900	38,800	34,100	69,100	226,400	330,000	166,700	86,300
2	63,700	47,600	36,000	36,100	31,200	38,000	40,400	74,100	235,200	314,700	163,400	90,700
3	62,000	46,600	36,100	36,800	31,800	43,500	42,300	76,800	244,800	302,100	162,700	77,600
4	57,100	47,300	37,200	37,600	35,000	45,200	49,900	80,700	255,400	296,000	160,600	76,900
5	58,200	46,800	38,200	35,600	39,000	44,600	45,900	84,800	267,900	294,700	159,100	74,400
6	57,800	47,000	38,600	35,400	39,200	46,000	49,200	87,400	283,200	300,800	159,700	71,600
7	56,900	52,100	37,900	37,300	37,800	47,700	46,200	89,100	296,900	305,800	157,500	69,400
8	56,300	53,300	36,500	39,300	37,000	47,300	45,600	92,000	307,100	304,700	153,100	70,300
9	58,100	53,000	36,500	40,700	35,500	47,400	47,000	94,700	316,900	308,800	147,000	66,800
10	54,400	54,200	37,200	44,600	35,500	47,000	49,600	96,600	331,400	303,000	144,000	71,100
11	53,700	53,700	36,700	44,400	37,500	51,800	53,000	97,600	342,600	307,700	140,300	72,800
12	55,600	53,500	34,600	41,600	40,200	56,400	55,500	103,200	356,500	309,000	135,200	67,700
13	54,000	52,700	34,800	40,400	41,300	54,500	54,200	111,300	369,500	307,500	134,200	71,100
14	52,900	50,800	34,400	41,200	41,600	50,800	51,700	118,200	383,600	302,200	136,500	68,100
15	52,000	51,200	35,100	43,000	41,600	52,700	51,600	121,200	396,400	296,000	130,400	67,000
16	51,500	49,400	36,000	43,500	36,800	52,800	51,100	127,700	407,100	296,400	130,000	61,800
17	49,600	46,400	39,500	44,000	35,600	47,300	53,100	136,600	413,200	294,400	127,800	57,400
18	48,100	45,900	39,000	40,200	36,900	47,000	53,000	144,000	416,600	293,100	125,800	65,100
19	47,200	49,800	36,700	36,600	38,400	46,800	51,700	150,000	419,000	285,400	124,500	73,000
20	47,500	52,200	37,200	38,800	38,500	47,100	50,400	158,600	416,600	275,800	123,200	69,300
21	49,100	50,300	36,200	40,600	37,800	45,100	49,000	165,500	413,700	261,500	120,800	68,700
22	52,900	48,700	35,300	43,400	34,400	43,600	50,900	171,000	409,500	250,300	116,500	72,300
23	62,700	48,300	36,300	40,200	34,200	43,200	55,200	182,300	402,900	236,000	109,700	74,300
24	68,200	46,900	37,300	40,800	35,400	43,100	61,200	193,300	397,400	225,200	104,400	72,200
25	69,800	46,500	37,200	42,400	35,000	40,700	65,100	200,800	388,500	214,500	97,900	71,800
26	58,100	46,400	37,400	40,000	34,400	40,100	68,200	207,900	378,200	205,800	99,500	72,500
27	53,500	46,400	37,000	39,900	34,600	38,000	67,600	208,000	371,700	194,400	99,900	71,600
28	54,400	47,400	37,900	42,100	36,300	32,500	66,100	208,600	365,800	184,100	98,000	74,500
29	51,500	46,200	36,800	43,900	37,300	32,600	71,900	210,600	359,000	173,900	96,400	74,700
30	47,000	40,900	36,200	41,300	------	32,400	71,300	213,000	344,800	171,600	93,800	77,200
31	45,700	------	36,300	40,900	------	32,200	------	218,000	------	168,300	93,100	------
TOTAL	1,707.8M	1,471.6M	1,139.6M	1,249.5M	1,068.7M	1,377.1M	1,609.6M	4,292.7M	10,518M	8,318.7M	4,013.1M	2,150.2M
MEAN	55,090	49,050	36,760	40,310	36,850	44,420	53,650	138,500	350,600	268,300	129,500	71,670
MAX	69,800	54,200	39,600	44,600	41,600	56,400	71,900	218,000	419,000	330,000	166,700	86,300
MIN	45,700	40,900	34,400	35,400	31,200	32,200	34,100	69,100	226,400	168,300	93,100	57,400
AC-FT	3,387M	2,919M	2,260M	2,478M	2,120M	2,731M	3,193M	8,514M	20,860M	16,500M	7,960M	4,265M

CAL YR 1963: TOTAL 34,895,900 MEAN 95,610 MAX 291,500 MIN 34,400 AC-FT 69,210,000
WAT YR 1964: TOTAL 38,916,400 MEAN 106,300 MAX 419,000 MIN 31,200 AC-FT 77,190,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	79,100	64,800	57,900	37,900	45,100	58,000	50,700	157,200	238,900	263,700	154,600	102,700
2	85,800	61,500	53,600	40,700	48,000	63,500	48,400	162,000	251,100	252,800	152,700	96,000
3	82,200	62,500	53,700	41,700	49,700	66,800	48,400	166,800	264,400	244,400	149,000	93,700
4	79,600	64,100	54,400	42,100	49,500	65,700	49,300	171,000	271,000	241,200	154,600	89,800
5	78,200	64,300	56,900	45,700	51,200	64,100	56,300	174,700	277,600	239,600	160,600	86,900
6	75,700	61,300	54,500	47,600	51,700	61,400	65,700	175,100	283,000	238,400	159,800	83,900
7	74,700	60,700	50,700	47,100	54,100	61,300	62,000	175,900	285,700	240,800	149,600	80,700
8	76,700	60,700	44,600	47,000	53,300	62,500	57,500	175,400	287,400	245,300	143,500	76,300
9	74,900	61,200	44,200	45,300	54,400	62,200	63,600	173,600	289,300	246,600	148,200	73,600
10	74,300	63,800	42,800	44,800	56,800	63,000	58,400	172,400	291,800	245,900	146,500	72,400
11	76,900	63,900	44,200	47,000	55,500	62,300	58,400	172,400	295,200	245,000	146,900	70,900
12	79,400	62,400	43,700	46,400	56,300	62,100	62,900	174,300	299,600	242,100	147,300	69,100
13	80,600	58,700	42,700	48,000	56,200	64,100	74,900	177,000	304,400	241,300	146,100	70,900
14	80,900	58,000	43,800	47,000	55,800	63,700	80,000	178,600	310,800	236,200	145,000	68,500
15	81,700	56,700	45,100	52,700	55,000	64,100	84,000	180,400	316,000	228,900	145,400	68,600
16	80,100	56,800	46,000	51,000	54,000	64,300	85,500	185,800	316,900	222,300	144,100	71,400
17	81,100	63,300	40,500	51,000	54,100	64,300	86,500	192,400	314,400	214,000	141,700	72,600
18	81,200	62,300	44,900	49,900	54,800	63,800	88,400	196,900	311,400	204,400	138,400	70,300
19	80,200	59,700	46,400	46,000	55,200	62,900	88,100	198,100	315,800	206,000	134,800	67,600
20	76,000	61,500	45,700	42,500	54,800	59,600	91,000	203,600	322,500	201,100	132,600	67,500
21	74,000	59,600	40,300	43,000	54,400	59,200	96,500	207,000	325,800	191,000	122,500	63,600
22	74,200	59,000	41,300	45,800	55,400	61,400	95,600	206,700	323,800	185,800	117,100	61,900
23	71,100	60,900	38,900	48,800	58,000	75,800	107,600	205,000	319,600	175,100	119,500	64,200
24	71,300	65,800	39,700	47,900	58,100	79,800	110,200	205,200	317,300	169,900	118,700	63,100
25	70,000	66,000	38,400	46,500	55,100	80,600	113,500	207,000	304,300	174,800	118,800	59,100
26	69,100	65,100	38,900	46,600	55,100	80,300	117,000	206,600	296,500	170,000	125,700	59,800
27	68,200	65,600	38,100	47,500	56,800	73,000	126,300	206,600	291,500	162,200	127,800	65,500
28	70,600	63,600	37,500	46,500	58,100	67,500	138,500	211,200	283,400	159,300	128,100	63,300
29	70,600	63,400	37,200	46,300	------	66,200	146,100	219,300	272,300	157,300	127,700	62,900
30	68,900	62,700	38,200	47,700	------	58,900	151,800	229,200	267,000	156,100	121,400	60,300
31	66,700	------	37,500	48,900	------	50,200	------	232,400	------	155,600	113,400	------
TOTAL	2,354.0M	1,859.9M	1,382.9M	1,437.5M	1,521.1M	2,012.6M	2,563.1M	5,899.8M	8,848.7M	6,558.1M	4,282.9M	2,177.1M
MEAN	75,940	62,000	44,610	46,370	54,330	64,920	85,440	190,300	295,000	211,600	138,200	72,570
MAX	85,800	66,000	57,900	52,700	58,100	80,600	151,800	232,400	325,800	263,700	160,600	102,700
MIN	66,700	56,700	37,200	37,900	48,000	50,200	48,400	157,200	238,900	155,600	113,400	59,100
AC-FT	4,669M	3,689M	2,743M	2,851M	3,017M	3,992M	5,084M	11,700M	17,550M	13,010M	8,495M	4,318M

CAL YR 1964: TOTAL 40,194,200 MEAN 109,800 MAX 419,000 MIN 31,200 AC-FT 79,720,000
WAT YR 1965: TOTAL 40,897,700 MEAN 112,000 MAX 325,800 MIN 37,200 AC-FT 81,120,000

M Expressed in thousands.

12-3999. Big Sheep Creek near Rossland, British Columbia

Location.--Lat 49°01'00", long 117°56'40", just above bridge on Rossland-Cascade highway, approximately 15 miles west of Rossland.

Drainage area.--140 sq mi.

Records available.--October 1960 to September 1965 in reports of Geological Survey. August 1929 to September 1930 and April 1949 to September 1960 in reports of Department of Northern Affairs and National Resources, Canada.

Gage.--Water-stage recorder. Prior to April 1949, staff gage near present site.

Average discharge.--17 years (1929-30, 1949-65), 198 cfs (143,300 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 27, 1961	2,000	5.83	Sept.19, 1961	10.8	1.06
1962	May 25, 1962	1,190	4.57	Dec. 10, 1961	a 8.0	-
1963	May 23, 1963	b 1,110	-	Oct. 1, 5, 6, 1962	a 13.2	-
1964	May 20, 1964	1,530	5.13	Oct. 11, 1963	7.4	.84
1965	Apr. 29, 1965	1,380	4.88	Sept.30, 1965	18.0	1.15

a Minimum daily.
b Maximum daily.

1929-30, 1949-65: Maximum discharge, 2,700 cfs May 12, 1954; minimum, 2.3 cfs Nov. 7, 1952.

Remarks.--Records excellent except those for period of no gage-height record and those for winter periods, which are fair.

Cooperation.--Records furnished by Department of Energy, Mines and Resources, Canada (formerly Department of Northern Affairs and National Resources, Canada).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	18	17	14	26	63	474	1,040	1,170	94	23	20
2	14	17	18	14	24	60	508	1,390	1,210	90	22	17
3	14	16	18	14	23	56	596	1,430	1,160	84	20	14
4	14	15	16	14	23	54	650	1,300	1,100	80	20	13
5	14	15	15	14	26	52	556	1,180	993	77	16	13
6	13	15	14	13	33	50	469	1,050	925	75	20	13
7	15	15	14	13	44	49	414	1,010	1,060	69	19	12
8	24	14	14	14	41	49	391	998	946	67	17	12
9	18	14	14	14	38	51	376	1,070	719	62	16	12
10	16	14	14	15	41	53	361	1,150	640	57	17	12
11	15	16	14	16	44	51	353	1,140	552	53	17	12
12	17	15	14	15	43	49	402	1,080	543	51	16	12
13	16	15	14	15	42	48	448	1,060	534	47	16	12
14	16	15	14	15	41	57	418	1,170	474	43	16	12
15	15	17	14	17	43	68	376	1,260	435	39	15	12
16	16	17	14	20	43	75	353	1,260	399	38	15	12
17	15	17	15	20	42	89	351	1,320	364	38	16	12
18	14	20	16	18	42	90	474	1,370	328	37	16	11
19	14	18	17	17	44	104	486	1,480	290	34	15	11
20	15	22	16	17	48	149	444	1,690	251	34	14	11
21	15	22	15	17	63	186	399	1,750	215	32	15	11
22	15	19	15	16	99	188	383	1,530	191	28	14	12
23	16	18	15	16	94	186	402	1,600	169	31	13	11
24	16	22	15	16	88	188	431	1,580	153	30	14	11
25	15	28	14	16	84	188	474	1,400	138	28	17	11
26	17	24	14	16	78	210	543	1,630	134	26	16	11
27	18	20	14	17	73	251	587	1,670	117	24	14	11
28	23	20	14	18	68	271	650	1,390	108	24	13	12
29	22	17	14	20	------	300	704	1,160	101	24	13	14
30	20	17	14	22	------	353	849	1,110	99	24	12	13
31	20	------	14	27	------	414	------	1,130	------	24	16	------
TOTAL	507	532	460	510	1,398	4,052	14,362	40,668	15,518	1,404	505	372
MEAN	16.4	17.7	14.8	16.5	49.9	131	479	1,312	517	47.2	16.3	12.4
MAX	24	28	18	27	99	414	849	1,670	1,210	94	23	20
MIN	13	14	14	13	23	48	353	998	99	24	12	11
AC-FT	1,010	1,060	912	1,010	2,770	8,040	28,490	80,660	30,780	2,800	1,000	738

CAL YR 1960: TOTAL 77,939 MEAN 212 MAX 1,770 MIN 13 AC-FT 154,000
WAT YR 1961: TOTAL 80,348 MEAN 220 MAX 1,870 MIN 11 AC-FT 159,400

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-3999. Big Sheep Creek near Rossland, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	20	14	11	8.5	11	47	414	631	126	28	16
2	12	13	14	11	8.4	11	57	369	596	120	27	16
3	12	13	13	11	8.5	11	72	426	631	117	26	15
4	12	13	13	11	8.5	10	111	495	640	109	31	14
5	11	13	13	11	8.6	10	178	482	556	104	30	14
6	13	12	12	11	8.6	10	210	448	504	99	29	13
7	15	13	11	11	8.8	11	255	414	456	96	28	13
8	13	13	10	11	8.8	11	277	391	439	90	29	12
9	13	13	9.0	11	9.0	11	239	383	526	84	30	12
10	13	13	8.0	11	11	11	215	439	574	80	26	13
11	12	13	8.5	11	11	11	212	521	521	75	25	16
12	16	13	10	11	10	11	227	587	465	69	26	20
13	21	12	12	10	11	11	267	605	456	67	30	16
14	17	13	13	10	13	11	357	596	539	63	20	14
15	15	12	14	10	12	11	605	574	521	60	24	14
16	14	11	12	10	12	11	744	578	478	59	24	14
17	14	11	12	10	12	12	618	640	456	55	22	14
18	12	11	12	10	12	13	605	719	414	57	22	14
19	11	11	13	10	12	14	724	804	376	54	22	14
20	13	11	13	10	12	15	924	854	339	50	21	13
21	12	11	14	10	11	16	772	864	303	45	20	13
22	12	12	13	10	11	16	709	879	277	42	20	13
23	13	12	12	10	10	16	713	925	242	38	18	13
24	12	11	12	11	11	16	814	1,020	215	37	18	13
25	12	11	12	11	11	20	905	1,160	199	35	17	12
26	13	9.4	12	11	10	26	799	1,040	183	34	17	12
27	17	11	12	9.3	10	32	689	962	171	34	18	12
28	16	13	12	9.0	10	28	605	957	157	33	19	13
29	15	16	12	9.7	-------	29	508	941	144	31	19	17
30	14	15	12	8.5	-------	33	452	824	134	30	19	23
31	15	-------	11	8.5	-------	37	-------	699	-------	29	16	-------
TOTAL	423	375.4	370.5	319.6	289.7	496	13,823	21,110	12,143	2,022	727	428
MEAN	13.6	12.5	12.0	10.3	10.3	16.0	461	681	405	65.2	23.5	14.3
MAX	21	20	14	11	13	37	905	1,160	640	126	31	23
MIN	11	9.4	8.0	8.5	8.4	10	47	383	134	29	16	12
AC-FT	839	745	735	634	575	984	27,420	41,870	24,090	4,010	1,440	849

CAL YR 1961: TOTAL 80,017.9 MEAN 219 MAX 1,870 MIN 8.0 AC-FT 158,700
WAT YR 1962: TOTAL 52,527.2 MEAN 144 MAX 1,160 MIN 8.0 AC-FT 104,200

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22		71	83	45	72	153	660	508	149	33	13
2	20		68	83	47	72	142	614	448	137	33	14
3	18		66	97	51	71	140	561	400	128	30	14
4	17		63	92	58	69	144	504	358	116	28	14
5	15		62	89	74	69	153	469	357	107	27	13
6	16		60	86	75	69	230	578	397	98	25	13
7	17		62	84	72	68	290	819	368	93	25	15
8	19		62	84	67	68	321	789	324	87	24	15
9	20		62	78	65	67	303	689	303	84	22	15
10	23	27	60	66	64	67	294	627	287	83	22	16
11	27		62	57	64	67	277	596	258	83	22	16
12	31		60	53	64	66	264	587	239	77	22	16
13	34		59	50	63	63	277	587	218	72	27	16
14	31		62	48	62	64	310	556	199	71	20	23
15	28		66	47	62	60	456	630	183	74	17	16
16	24		72	46	60	60	640	660	174	72	17	18
17	23		83	45	62	62	583	710	160	68	17	22
18	22		90	46	62	60	508	750	146	66	17	17
19	22	33	99	46	62	59	461	795	134	62	17	16
20	30	38	99	46	62	59	414	850	124	57	17	15
21	42	37	97	46	62	62	387	930	128	53	17	14
22	39	35	90	45	60	67	372	1,030	149	49	16	14
23	36	34	81	45	60	75	364	1,110	151	46	16	15
24	35	34	77		62	84	353	1,070	134	45	18	15
25	33	39	74		63	84	346	1,000	126	44	17	14
26	31	59	71		75	89	364	870	117	43	16	14
27	30	69	70	44	75	99	399	780	106	40	16	14
28	29	72	71		72	128	474	709	101	38	15	14
29	29	69	72		-------	144	556	645	106	35	14	14
30	28	75	74		-------	155	645	609	122	33	14	14
31	28	-------	76		-------	160	-------	587	-------	32	14	-------
TOTAL	819	1,080	2,241	1,814	1,770	2,459	10,620	22,411	6,825	2,242	635	459
MEAN	26.4	36.0	72.3	58.5	63.2	79.3	354	723	228	72.3	20.5	15.3
MAX	42	-	99	97	75	160	645	1,110	508	149	33	23
MIN	15	-	59	-	45	59	140	469	101	32	14	13
AC-FT	1,620	2,140	4,440	3,600	3,510	4,880	21,060	44,450	13,540	4,450	1,260	910

CAL YR 1962: TOTAL 55,498.3 MEAN 152 MAX 1,160 MIN 8.4 AC-FT 110,100
WAT YR 1963: TOTAL 53,375 MEAN 146 MAX 1,110 MIN 13 AC-FT 105,900

Note.--No gage-height record Oct. 1 to Nov. 22, May 15-27. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-3999. Big Sheep Creek near Rossland, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	15	29	27	22	21	67	561	1,020	218	66	39
2	14	17	31	27	22	21	104	534	1,120	202	66	39
3	14	16	32	25	22	22	128	512	1,200	196	60	38
4	14	17	32	24	22	22	151	565	1,060	186	57	36
5	14	17	34	24	22	23	164	689	993	167	54	35
6	17	17	36	24	21	22	169	716	1,050	191	51	33
7	17	20	33	24	20	21	175	704	1,080	186	48	34
8	16	20	32	27	21	22	184	739	988	164	45	34
9	16	20	32	24	21	22	205	854	884	164	43	33
10	14	20	29	24	21	22	225	841	779	157	43	32
11	8.7	20	29	24	21	24	250	905	724	146	40	32
12	8.3	18	29	24	20	24	275	883	834	132	39	30
13	11	18	29	23	20	24	282	915	764	122	40	30
14	13	24	29	23	20	24	276	894	634	115	37	30
15	13	30	29	24	21	24	273	844	664	104	35	29
16	14	24	28	24	21	24	268	864	622	101	33	28
17	14	22	28	24	20	25	265	1,070	650	97	32	31
18	14	22	27	24	20	26	264	1,430	622	92	35	33
19	14	23	27	23	21	26	264	1,460	618	86	43	31
20	14	20	28	23	20	26	294	1,440	570	81	37	30
21	18	19	27	23	21	26	310	1,430	552	75	35	35
22	16	20	26	23	21	27	357	1,240	530	72	30	37
23	17	20	26	22	22	26	387	993	444	69	34	36
24	17	21	26	22	21	26	395	837	402	67	31	35
25	17	22	26	23	21	25	448	744	372	62	31	34
26	16	27	26	22	20	26	499	699	335	58	31	32
27	16	27	26	22	21	26	495	677	317	54	31	32
28	16	25	26	22	21	27	469	697	310	51	38	31
29	16	24	25	23	20	30	478	774	277	54	36	30
30	15	28	24	23	------	34	534	859	245	62	45	31
31	15	------	24	22	------	45	------	946	------	71	40	------
TOTAL	453.0	633	885	733	606	783	8,655	27,431	20,724	3,604	1,246	994
MEAN	14.6	21.1	28.5	23.6	20.9	25.3	289	885	691	116	41.8	33.1
MAX	18	30	36	27	22	45	534	1,460	1,200	218	80	39
MIN	8.3	15	24	22	20	21	67	512	245	51	31	26
AC-FT	899	1,260	1,760	1,450	1,200	1,550	17,170	54,410	41,110	7,150	2,570	1,970

CAL YR 1963: TOTAL 51,206.0 MEAN 140 MAX 1,110 MIN 8.3 AC-FT 101,600
WAT YR 1964: TOTAL 66,797.0 MEAN 183 MAX 1,460 MIN 8.3 AC-FT 132,500

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	24	33	25	23	28	74	1,070	734	97	28	24
2	30	26	35	27	23	28	78	898	674	89	28	24
3	30	25	33	26	23	28	90	756	704	87	35	24
4	30	26	33	25	23	28	102	674	674	84	35	26
5	29	29	32	25	23	30	122	596	618	80	32	25
6	29	27	31	25	24	32	144	539	600	75	42	24
7	28	27	30	24	23	35	157	495	556	74	48	24
8	28	26	30	24	21	42	169	486	486	71	43	22
9	29	28	29	24	20	47	183	508	452	66	38	22
10	30	32	29	24	20	62	207	583	435	62	34	22
11	29	37	28	24	20	87	242	724	418	58	31	21
12	29	34	26	23	21	108	328	879	391	57	29	20
13	28	33	26	23	21	117	456	998	365	53	27	21
14	28	31	26	23	21	122	583	1,020	342	51	26	24
15	26	30	29	24	22	132	734	1,010	317	51	25	24
16	26	28	23	24	23	136	774	957	300	47	24	22
17	25	28	22	24	24	128	749	874	277	44	24	21
18	26	28	23	24	24	122	674	754	287	42	22	20
19	25	28	24	24	25	113	582	664	251	39	22	20
20	25	28	25	23	26	109	578	734	212	38	31	20
21	25	28	25	23	25	104	650	724	191	44	28	20
22	25	27	26	21	25	99	704	685	174	52	26	20
23	25	27	27	21	25	92	724	684	157	51	28	19
24	25	33	28	21	25	86	774	709	142	47	28	19
25	24	32	28	22	25	84	849	749	132	43	28	19
26	24	32	28	22	25	81	931	813	122	39	29	19
27	24	31	27	22	31	77	1,030	854	117	36	26	20
28	24	28	25	22	30	74	1,170	941	109	33	26	19
29	24	27	25	23	------	72	1,340	1,040	104	32	25	19
30	24	28	25	23	------	71	1,250	1,060	102	30	25	18
31	24	------	25	23	------	69	------	856	------	28	25	------
TOTAL	828	868	856	728	661	2,443	16,448	24,346	10,473	1,700	918	642
MEAN	26.7	28.9	27.6	23.5	23.6	78.8	548	785	349	54.8	29.6	21.4
MAX	30	37	35	27	31	136	1,340	1,070	734	97	48	26
MIN	24	24	22	21	20	28	74	486	102	28	22	18
AC-FT	1,640	1,720	1,700	1,440	1,310	4,850	32,620	48,290	20,770	3,370	1,820	1,270

CAL YR 1964: TOTAL 67,378 MEAN 184 MAX 1,460 MIN 20 AC-FT 133,600
WAT YR 1965: TOTAL 60,911 MEAN 167 MAX 1,340 MIN 18 AC-FT 120,800

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4015. Kettle River near Ferry, Wash.

(International gaging station)

Location.--Lat 48°58'40", long 118°46'10", in lot 7, sec.10, T.40 N., R.32 E., on right bank 1¼ miles south of international boundary and Ferry and 3 miles upstream from Toroda Creek.

Drainage area.--2,220 sq mi, approximately.

Records available.--August 1928 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,836.8 ft above mean sea level, international joint adjustment of 1947. Prior to Nov. 23, 1928, staff gage at present site and datum.

Average discharge.--37 years, 1,494 cfs (1,082,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 8, 1961	15,000	18.83	Dec. 6, 1961	49	9.19
1962	May 28, 1962	8,950	16.22	Jan. 11, 1962	68	9.24
1963	May 24, 1963	10,500	16.92	Jan. 10, 1962	45	9.13
1964	June 7, 1964	13,600	18.27	Dec. 11, 1963	97	9.33
1965	May 30, 1965	10,700	17.02	Dec. 15, 1964	89	9.30

1928-65: Maximum discharge, 21,200 cfs May 29, 1948 (gage height, 21.15 ft); minimum, 14 cfs (discharge measurement) Jan. 23, 1930, but may have been less during period of ice effect Jan. 18-23, 1930.

Remarks.--Records excellent except those for period of no gage-height record and those for winter periods, which are fair. Several small diversions above station for irrigation. No regulation.

Cooperation.--Sixteen discharge measurements furnished by Canada Department of Mines and Technical Surveys, Water Resources Branch. This station is maintained by the United States under agreement with Canada.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	188	271	180	152	123	223	1,000	4,600	10,000	1,250	371	164
2	179	267	186	149	126	223	1,200	5,800	10,500	1,240	340	167
3	170	263	210	146	129	203	1,500	8,000	10,600	1,330	314	186
4	167	252	152	146	131	174	2,200	7,500	10,500	1,180	290	203
5	167	230	94	146	134	177	2,000	7,200	10,000	1,080	279	199
6	167	216	77	146	158	210	1,900	7,100	9,380	1,070	260	193
7	170	216	90	149	177	206	1,800	7,000	11,600	1,080	256	174
8	170	180	100	149	190	192	1,750	7,100	13,000	1,040	237	167
9	170	129	104	152	196	199	1,700	7,200	8,940	1,020	230	164
10	176	177	100	158	203	206	1,700	7,400	8,250	994	213	158
11	182	177	112	161	213	203	1,700	7,660	6,880	969	206	152
12	179	183	129	164	220	203	1,800	7,200	7,090	921	199	149
13	173	210	140	164	223	196	1,900	6,800	6,720	830	190	143
14	173	216	143	167	210	196	2,100	6,880	5,860	762	180	140
15	176	190	137	180	206	223	1,900	7,430	5,520	713	167	137
16	173	203	120	183	203	234	1,800	7,700	5,250	652	186	137
17	173	203	100	174	199	252	1,900	7,760	4,860	620	223	134
18	173	210	118	180	196	263	2,100	8,000	4,480	590	267	129
19	188	203	126	158	199	279	2,300	8,910	4,000	554	310	126
20	185	213	131	110	203	319	2,200	10,200	3,410	494	283	123
21	182	220	137	90	210	357	2,100	11,600	2,940	450	263	123
22	179	190	140	75	227	366	2,000	12,300	2,590	420	241	123
23	176	193	149	78	230	371	2,000	13,100	2,320	404	234	123
24	203	199	152	82	234	385	2,100	13,100	2,080	394	223	126
25	236	206	152	85	241	394	2,200	11,400	1,860	385	216	118
26	295	139	152	85	234	435	2,300	11,400	1,710	371	203	123
27	310	152	150	85	230	478	2,500	13,600	1,560	353	196	129
28	306	131	150	88	230	518	2,800	13,300	1,450	340	183	155
29	306	146	152	92	------	578	3,400	10,500	1,360	348	170	167
30	302	146	152	98	------	678	4,000	9,450	1,300	394	167	164
31	286	------	152	105	------	800	------	9,580	------	404	161	------
TOTAL	6,280	5,991	4,187	4,097	5,475	9,748	61,850	276,670	176,010	22,652	7,258	4,496
MEAN	203	200	135	132	196	314	2,062	8,925	5,867	731	234	150
MAX	310	271	210	183	241	800	4,000	13,600	13,000	1,330	371	203
MIN	167	129	77	75	123	174	1,000	4,600	1,300	340	161	116
AC-FT	12,460	11,880	8,300	8,130	10,860	19,330	122,700	548,800	349,100	44,930	14,400	8,920

CAL YR 1960: TOTAL 515,121 MEAN 1,407 MAX 10,900 MIN 77 AC-FT 1,022,000
WAT YR 1961: TOTAL 584,714 MEAN 1,602 MAX 13,600 MIN 75 AC-FT 1,160,000

12-4015. Kettle River near Ferry, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	164	206	193	164	155	120	282	3,600	6,230	2,130	370	422
2	164	199	196	164	160	130	336	3,460	5,780	2,040	350	375
3	161	199	190	164	165	140	385	3,430	6,610	2,120	350	345
4	158	186	170	164	170	130	462	3,500	6,370	2,100	365	317
5	158	134	150	164	165	140	530	3,320	5,340	1,960	380	299
6	164	140	130	161	160	150	594	3,130	4,800	1,550	439	282
7	167	167	120	145	150	160	682	2,990	4,610	2,010	408	270
8	170	180	130	152	168	170	759	2,850	5,000	1,630	523	257
9	177	193	120	158	172	194	780	2,850	6,510	1,660	640	253
10	180	195	100	134	194	178	766	3,050	6,510	1,600	717	253
11	174	206	100	90	212	178	752	3,730	5,580	1,480	614	257
12	180	206	105	100	223	153	766	4,290	5,000	1,350	556	261
13	199	203	110	110	246	145	852	4,370	5,240	1,260	536	265
14	199	196	115	115	257	162	1,060	4,370	5,850	1,170	760	308
15	216	186	120	120	257	181	1,650	4,400	6,150	1,100	736	308
16	279	129	125	120	253	181	2,530	4,500	6,330	1,040	620	365
17	310	110	130	120	249	181	2,780	4,830	6,510	1,010	542	400
18	344	123	130	120	246	184	2,990	5,280	6,010	958	492	360
19	353	137	130	115	249	188	3,820	5,580	5,500	924	456	313
20	314	137	135	110	223	191	4,800	5,810	5,140	868	450	299
21	294	123	143	110	162	191	4,970	5,990	4,780	812	439	274
22	279	140	152	115	150	191	4,780	6,190	4,300	745	422	265
23	260	143	164	120	130	191	4,970	6,420	3,610	696	406	246
24	248	140	174	120	100	188	5,650	7,350	3,730	640	400	238
25	241	126	170	125	80	194	6,720	8,500	3,600	601	380	234
26	230	87	146	130	90	212	6,390	8,420	3,700	582	350	227
27	234	112	140	135	100	234	5,530	8,540	3,420	562	336	216
28	241	149	140	140	110	234	4,950	8,700	2,840	510	340	219
29	234	180	146	145	-------	249	4,350	8,700	2,490	462	395	238
30	223	199	161	145	-------	242	3,880	7,780	2,300	439	510	355
31	210	------	164	150	-------	253	-------	6,820	------	406	462	------
TOTAL	6,925	4,835	4,405	4,129	4,996	5,625	79,766	162,750	150,140	37,015	14,826	8,751
MEAN	223	161	142	133	178	181	2,659	5,250	5,005	1,194	478	292
MAX	353	206	199	164	257	253	6,720	8,700	6,610	2,130	780	422
MIN	158	87	100	90	80	120	282	2,850	2,300	406	336	216
AC-FT	13,740	9,590	8,740	8,190	9,910	11,160	158,200	322,800	297,800	73,420	29,410	17,360

CAL YR 1961: TOTAL 584,421 MEAN 1,601 MAX 13,600 MIN 75 AC-FT 1,159,000
WAT YR 1962: TOTAL 484,163 MEAN 1,326 MAX 8,700 MIN 80 AC-FT 960,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	434	562	295	370	140	282	410	4,390	7,140	2,900	616	219
2	406	536	322	375	150	271	394	4,070	6,120	2,360	637	219
3	380	523	331	390	160	263	389	3,700	5,680	2,020	623	223
4	345	504	257	370	200	248	389	3,360	5,430	1,820	576	226
5	336	492	350	350	250	244	399	3,180	5,320	1,880	538	230
6	331	480	390	331	267	237	452	3,380	4,990	1,720	508	219
7	317	486	380	313	263	240	526	3,720	4,960	1,670	479	199
8	313	474	375	241	263	237	644	3,720	4,470	1,620	446	193
9	313	456	395	212	271	233	708	3,540	4,210	1,630	435	189
10	317	450	400	80	259	233	722	3,350	4,260	1,710	410	183
11	340	439	400	90	255	237	745	3,190	4,040	1,680	389	183
12	355	417	395	110	255	237	776	3,210	3,990	1,650	374	171
13	355	417	365	150	255	233	800	3,360	3,940	1,600	379	174
14	370	400	350	180	248	230	934	3,490	3,540	1,440	394	189
15	456	395	360	200	248	230	1,400	3,700	3,360	1,350	430	193
16	444	395	375	200	255	233	2,410	4,100	3,100	1,420	349	248
17	412	385	380	200	259	233	2,570	4,400	2,840	1,410	394	278
18	395	380	406	190	271	230	2,420	4,900	2,600	1,310	365	267
19	395	365	395	180	271	226	2,330	5,570	2,360	1,240	333	286
20	462	370	390	170	263	230	2,220	6,420	2,140	1,120	320	267
21	516	390	375	170	267	230	2,120	7,460	1,930	988	303	241
22	731	456	355	180	263	233	2,100	8,750	1,970	916	311	223
23	876	428	234	180	259	255	2,120	9,630	2,290	874	303	223
24	812	385	168	170	255	282	2,140	10,200	2,040	900	298	209
25	738	385	145	160	251	298	2,150	10,200	1,840	874	303	226
26	696	434	150	150	271	303	2,230	9,210	1,740	979	303	244
27	654	456	172	155	278	316	2,530	8,310	1,570	916	294	223
28	634	444	198	140	286	365	3,040	7,400	1,470	808	276	209
29	601	370	249	135	-------	404	3,400	7,300	1,430	752	255	196
30	588	313	322	130	-------	430	4,110	7,620	2,400	671	248	189
31	575	-------	370	135	-------	430	-------	7,700	------	630	233	------
TOTAL	14,897	12,987	10,039	6,457	6,933	8,353	47,578	172,530	103,170	42,898	12,179	6,539
MEAN	481	433	324	208	248	269	1,586	5,565	3,439	1,384	393	218
MAX	876	562	406	390	286	430	4,110	10,200	7,140	2,900	637	286
MIN	313	313	145	80	140	226	389	3,180	1,430	630	233	171
AC-FT	29,550	25,760	19,910	12,810	13,750	16,570	94,370	342,200	204,600	85,090	24,160	12,970

CAL YR 1962: TOTAL 505,921 MEAN 1,386 MAX 8,700 MIN 80 AC-FT 1,003,000
WAT YR 1963: TOTAL 444,560 MEAN 1,218 MAX 10,200 MIN 80 AC-FT 881,800

Note.--No gage-height record Apr. 1 to May 10.

12-4015. Kettle River near Ferry, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	191	176	156	201	170	179	268	2,280	9,650	3,420	1,510	1,400
2	188	170	158	198	176	185	328	2,280	11,000	3,290	1,310	1,310
3	185	176	173	188	173	167	372	2,240	11,900	3,660	1,310	1,370
4	182	182	198	182	176	173	391	2,560	11,300	3,870	1,150	1,460
5	176	182	211	173	173	176	440	3,260	10,800	3,880	1,360	1,350
6	191	185	217	179	170	179	457	3,400	12,000	4,000	1,340	1,230
7	188	194	185	150	142	161	440	3,310	13,100	3,430	1,140	1,130
8	188	188	194	129	134	167	570	3,470	12,800	3,040	986	1,220
9	228	185	206	150	153	173	671	4,150	11,600	2,820	900	1,730
10	231	185	179	167	173	170	908	4,730	10,100	2,740	666	1,700
11	228	191	120	173	176	182	925	4,720	9,550	2,350	848	1,510
12	228	188	134	164	164	185	870	4,630	9,540	2,150	760	1,380
13	224	182	173	167	139	182	952	5,010	9,170	1,930	722	1,270
14	217	191	198	173	148	188	925	5,120	9,110	1,750	745	1,180
15	211	224	211	167	167	185	952	4,830	10,400	1,630	745	1,100
16	208	256	217	176	170	188	961	4,940	9,540	1,730	678	1,040
17	208	303	208	170	170	188	916	5,680	8,820	1,810	615	1,040
18	201	287	204	161	170	194	882	7,100	7,600	1,580	602	1,230
19	198	283	204	161	173	191	866	7,780	7,020	1,430	616	1,560
20	191	231	204	142	173	188	925	8,840	6,480	1,270	1,650	1,470
21	194	129	204	161	176	185	1,060	9,650	5,820	1,180	1,350	1,730
22	185	150	211	155	176	191	1,160	8,710	5,350	1,100	1,110	1,920
23	185	175	217	148	167	194	1,210	6,940	5,090	1,020	961	2,120
24	173	204	211	150	173	182	1,250	5,960	5,040	943	840	1,530
25	211	256	214	158	173	185	1,410	5,440	4,600	874	768	1,780
26	217	276	188	156	153	182	1,670	4,870	4,260	792	730	1,910
27	211	268	179	161	156	185	1,760	4,900	4,510	730	708	1,810
28	201	264	201	161	167	191	1,740	5,370	5,500	671	816	1,640
29	198	214	208	173	167	191	1,800	6,670	4,240	623	1,340	1,540
30	182	176	201	173	------	201	2,060	8,080	3,660	623	1,370	1,450
31	179	------	204	176	------	221	------	9,240	------	800	1,400	------
TOTAL	6,218	6,275	5,980	5,144	4,807	5,709	28,209	166,350	249,820	61,165	31,488	44,570
MEAN	201	209	193	166	166	184	974	5,366	8,327	1,973	1,016	1,486
MAX	231	303	217	201	179	221	2,060	9,650	13,100	4,000	1,660	2,120
MIN	173	129	120	129	134	161	268	2,240	3,660	623	602	1,040
AC-FT	12,330	12,450	11,860	10,200	9,530	11,320	57,940	330,000	495,500	121,300	62,460	88,400

CAL YR 1963: TOTAL 425,110 MEAN 1,165 MAX 10,200 MIN 80 AC-FT 843,200
WAT YR 1964: TOTAL 616,736 MEAN 1,685 MAX 13,100 MIN 120 AC-FT 1,223,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,430	550	388	360	276	268	420	8,230	7,760	1,750	401	615
2	1,370	556	440	370	253	260	457	7,160	7,720	1,660	372	538
3	1,300	657	452	400	264	272	502	6,270	8,540	1,570	364	484
4	1,270	671	457	380	272	291	550	5,830	8,770	1,540	382	457
5	1,200	615	440	360	280	291	636	5,160	8,120	1,450	576	496
6	1,130	556	430	380	287	295	722	4,680	8,210	1,370	832	456
7	1,090	563	410	370	287	312	792	4,330	7,500	1,250	730	462
8	1,040	550	391	360	280	324	824	4,370	6,600	1,170	622	435
9	1,020	520	391	350	272	341	891	4,650	6,520	1,080	532	415
10	1,030	508	406	337	260	368	1,010	5,340	6,750	937	468	391
11	1,060	544	328	320	268	396	1,180	6,180	7,120	843	430	382
12	1,010	526	201	303	246	425	1,440	7,120	7,820	734	425	372
13	934	490	170	295	276	440	1,910	7,820	6,560	508	425	354
14	891	446	164	291	276	462	2,480	7,820	5,530	624	452	340
15	840	415	134	276	272	479	3,220	7,780	4,920	760	484	346
16	832	435	120	280	276	502	3,780	7,400	4,750	708	440	576
17	808	462	160	312	272	490	3,940	6,740	4,670	657	396	671
18	776	446	220	299	280	430	3,960	6,120	4,940	602	358	576
19	752	440	260	303	291	410	3,340	5,770	4,900	570	333	532
20	738	440	340	307	291	462	3,820	5,910	4,130	550	341	502
21	715	440	350	307	287	508	4,370	6,200	3,650	563	328	657
22	692	435	360	307	299	490	4,750	6,250	3,240	664	333	671
23	671	425	330	291	256	457	4,940	6,330	2,880	715	359	671
24	643	420	360	276	249	420	5,500	6,710	2,700	671	391	615
25	622	430	310	253	264	410	6,440	7,280	2,550	589	532	570
26	608	446	300	260	295	420	6,960	7,820	2,350	526	768	526
27	589	430	320	256	316	406	7,720	8,120	2,200	502	678	490
28	544	391	340	249	307	382	8,820	8,730	2,100	508	596	474
29	532	283	350	264	------	406	9,800	9,820	2,000	508	576	462
30	550	295	350	268	------	406	9,320	10,400	1,850	484	556	446
31	544	------	350	276	------	415	------	8,980	------	435	615	------
TOTAL	27,231	14,425	10,062	9,660	7,752	12,238	104,994	211,570	157,380	27,498	15,096	15,028
MEAN	878	481	325	312	277	395	3,500	6,825	5,246	887	487	501
MAX	1,430	671	457	400	316	508	9,800	10,400	8,770	1,750	832	671
MIN	532	283	120	246	246	260	420	4,390	1,850	435	328	346
AC-FT	54,010	28,610	19,960	19,160	15,380	24,270	208,300	419,600	312,200	54,540	29,940	29,810

CAL YR 1964: TOTAL 649,981 MEAN 1,776 MAX 13,100 MIN 120 AC-FT 1,289,000
WAT YR 1965: TOTAL 612,934 MEAN 1,679 MAX 10,400 MIN 120 AC-FT 1,216,000

12-4045. Kettle River near Laurier, Wash.

(International gaging station)

Location.--Lat 48°59'10", long 118°13'00", in NW¼ sec.11, T.40 N., R.36 E., on right bank 500 ft downstream from Deep Creek, 1½ miles southeast of Laurier, and 12 miles upstream from Boulder Creek.

Drainage area.--3,800 sq mi, approximately.

Records available.--September 1929 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,425.5 ft above mean sea level, international joint adjustment of 1947. Prior to Jan. 3, 1930, staff gage at same site and datum.

Average discharge.--36 years, 2,874 cfs (2,081,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 28, 1961	26,300	14.71	Dec. 6, 1960	216	2.57
1962	May 29, 1962	15,600	11.47	(a)	b 220	-
1963	May 25, 1963	17,700	12.16	Sept.12, 1963	276	2.74
1964	June 7, 1964	22,200	13.57	Oct. 20, 21, 1963	255	2.70
1965	May 30, 1965	17,900	12.24	Dec. 17, 1964	b 220	-

a Nov. 26, Dec. 10, 11, 1961.
b Minimum daily.

1929-65: Maximum discharge, 35,000 cfs May 29, 1948 (gage height, 17.25 ft); minimum, 88 cfs Dec. 1, 1936 (gage height, 2.20 ft), but was probably less during winter of 1929-30.
Maximum stage known, about 22 ft in May or June 1894, from information by local residents.

Remarks.--Records excellent except those for period of no gage-height record and those for winter periods, which are fair. Numerous diversions for irrigation of about 720 acres in the United States (for 1946 from United States reports), and 2,090 acres in Canada from the Canada Year Book for 1940. Some diversion for domestic use. No regulation.

Cooperation.--Sixteen discharge measurements furnished by Canada Department of Mines and Technical Surveys, Water Resources Branch. This station is maintained by the United States under agreement with Canada.

Revisions (water years).--WSP 737: 1930-31. WSP 862: 1937. WSP 882: 1938.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	343	529	343	330	367	658	3,190	10,100	18,200	2,550	779	339
2	327	505	380	320	371	646	3,680	12,700	15,100	2,450	710	339
3	319	483	415	320	367	639	4,280	14,800	19,600	2,450	658	354
4	315	472	430	310	351	594	4,980	13,700	19,600	2,340	606	375
5	311	440	310	310	355	552	4,670	13,500	19,200	2,170	576	380
6	311	425	310	310	371	588	4,230	13,600	18,100	2,070	558	375
7	315	405	300	320	420	606	3,850	13,700	19,100	2,030	534	359
8	331	405	290	331	469	594	3,660	13,200	23,900	1,940	504	343
9	327	359	280	331	516	600	3,630	13,500	17,600	1,880	492	335
10	331	343	290	339	522	600	3,550	13,900	15,400	1,760	469	331
11	335	371	311	347	540	600	3,520	14,300	13,500	1,620	447	319
12	343	380	327	363	564	600	3,630	13,900	12,600	1,510	425	311
13	339	380	339	363	552	594	4,110	13,300	12,700	1,410	410	307
14	335	400	347	367	546	600	4,160	13,300	11,500	1,340	395	303
15	331	415	330	371	546	632	3,900	14,200	11,100	1,260	380	299
16	331	405	320	405	552	698	3,760	14,700	10,800	1,200	385	292
17	331	405	320	436	534	793	3,870	14,900	10,200	1,170	420	288
18	327	420	330	430	528	870	4,310	15,400	9,480	1,160	458	278
19	327	415	350	410	534	915	4,550	16,400	8,620	1,140	486	270
20	335	425	367	350	534	1,020	4,400	18,300	7,530	1,080	522	267
21	339	436	367	270	540	1,270	4,140	20,500	6,520	1,010	510	264
22	343	430	371	250	613	1,360	4,010	22,000	5,640	952	486	256
23	347	410	371	260	672	1,370	4,130	23,200	4,980	930	452	256
24	355	420	367	270	704	1,400	4,310	23,600	4,470	900	436	250
25	405	430	359	290	717	1,440	4,560	21,000	4,060	878	420	239
26	488	425	351	300	704	1,560	4,990	19,900	3,690	842	395	239
27	535	410	330	300	678	1,750	5,820	23,400	3,310	807	371	232
28	583	355	330	300	672	1,860	6,520	25,400	3,010	772	355	246
29	583	315	330	300	------	2,030	7,150	20,100	2,800	758	343	264
30	565	331	340	310	------	2,300	8,230	17,700	2,650	779	327	270
31	541	------	340	330	------	2,680	------	17,400	------	733	331	------
TOTAL	11,648	12,344	10,545	10,243	14,839	32,415	133,790	515,600	338,470	43,951	14,640	8,985
MEAN	376	411	340	330	530	1,046	4,460	16,630	11,300	1,418	472	300
MAX	583	529	430	436	717	2,680	8,230	25,400	23,900	2,550	779	380
MIN	311	315	280	250	351	552	3,190	10,100	2,660	758	327	232
AC-FT	23,100	24,480	20,920	20,320	29,430	64,300	265,400	1,023M	672,300	87,180	29,040	17,820

CAL YR 1960: TOTAL 1,016,816 MEAN 2,778 MAX 18,400 MIN 280 AC-FT 2,017,000
WAT YR 1961: TOTAL 1,147,974 MEAN 3,145 MAX 25,400 MIN 232 AC-FT 2,277,000

M Expressed in thousands.

12-4045. Kettle River near Laurier, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	275	410	405	488	430	320	707	6,770	11,300	4,030	785	770
2	279	400	396	472	440	340	938	6,510	10,200	3,900	728	707
3	275	396	378	460	450	360	1,010	6,470	11,000	3,820	700	642
4	275	382	360	460	460	380	1,250	6,750	11,500	3,820	721	595
5	275	364	346	455	460	390	1,500	6,550	9,660	3,560	763	570
6	283	324	250	445	450	415	1,660	6,220	8,530	3,470	860	552
7	307	324	250	466	420	410	1,980	5,930	8,040	3,480	890	516
8	315	338	270	460	460	420	2,220	5,650	8,340	3,330	836	488
9	315	356	240	450	500	435	2,210	5,530	11,000	3,060	1,040	477
10	315	374	220	350	550	430	2,130	5,720	11,900	2,910	1,150	472
11	324	382	220	260	580	420	2,080	6,480	10,300	2,770	1,160	499
12	328	387	230	270	600	405	2,120	7,500	8,920	2,600	1,060	488
13	328	382	240	280	610	387	2,290	7,850	8,840	2,400	1,080	510
14	346	378	260	290	620	364	2,680	7,760	10,200	2,240	1,200	516
15	374	374	280	300	620	392	3,980	7,620	10,700	2,060	1,300	528
16	392	300	290	310	600	405	6,310	7,740	11,400	1,980	1,140	552
17	460	230	290	310	576	405	6,310	8,200	12,000	1,870	1,050	602
18	540	240	300	300	558	410	6,370	9,040	11,400	1,790	960	616
19	564	250	330	280	552	425	7,630	9,730	10,400	1,750	882	570
20	616	260	380	260	552	450	9,250	10,500	9,520	1,650	852	534
21	570	240	420	260	516	455	9,440	10,600	8,960	1,550	838	504
22	540	250	450	270	420	460	8,940	10,900	8,090	1,460	792	488
23	528	260	480	270	370	460	8,390	11,400	7,330	1,370	778	466
24	510	260	516	280	300	472	9,930	12,700	6,970	1,280	747	450
25	488	240	516	300	230	488	11,600	14,800	6,770	1,210	714	430
26	455	220	488	320	250	522	11,400	15,000	6,450	1,140	694	420
27	455	250	420	340	270	552	10,000	15,000	6,330	1,080	661	410
28	455	300	430	360	300	566	9,200	15,300	5,360	1,040	661	415
29	450	382	466	380	------	602	8,150	15,500	4,710	952	680	430
30	435	405	477	400	------	628	7,350	14,300	4,340	875	728	472
31	420	------	482	420	------	654	------	12,400	------	838	815	------
TOTAL	12,492	9,658	11,080	10,966	13,144	13,652	159,445	292,580	270,460	68,345	27,417	15,630
MEAN	403	322	357	354	469	447	5,315	9,439	9,015	2,237	884	523
MAX	616	410	516	488	620	654	11,600	15,500	12,000	4,030	1,300	770
MIN	275	220	220	260	230	320	707	5,530	4,340	838	661	410
AC-FT	24,780	19,160	21,980	21,750	26,070	27,480	316,300	580,300	536,400	137,500	54,380	31,120

CAL YR 1961: TOTAL 1,146,667 MEAN 3,142 MAX 25,400 MIN 220 AC-FT 2,274,000
WAT YR 1962: TOTAL 906,129 MEAN 2,483 MAX 15,500 MIN 220 AC-FT 1,797,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	594	1,110	815	873	360	740	1,350	7,950	12,500	4,450	1,070	380
2	661	1,080	770	873	380	733	1,310	7,460	11,300	4,060	1,040	370
3	642	1,050	785	894	400	705	1,260	6,880	9,950	3,480	1,030	365
4	602	1,010	707	901	450	677	1,260	6,240	9,600	3,160	982	360
5	576	984	728	866	600	658	1,310	5,770	9,380	3,070	929	355
6	546	960	800	924	680	658	1,520	6,340	9,200	2,970	873	350
7	552	944	845	796	700	652	1,960	7,320	9,080	2,790	817	328
8	540	920	845	775	700	646	2,200	7,300	8,220	2,660	768	312
9	552	912	845	915	720	634	2,310	6,920	7,580	2,660	726	304
10	576	898	852	450	700	628	2,320	6,500	7,460	2,620	691	296
11	602	875	852	300	680	628	2,320	6,200	7,300	2,600	658	296
12	635	868	852	350	670	628	2,320	6,120	7,260	2,550	640	289
13	674	852	822	400	660	622	2,370	6,260	7,240	2,510	622	292
14	707	838	800	450	670	616	2,610	6,380	6,840	2,320	622	316
15	749	808	830	500	680	622	3,850	6,680	6,380	2,250	628	312
16	800	800	852	510	680	616	5,880	7,280	6,060	2,220	640	336
17	785	778	920	510	680	616	5,900	7,820	5,580	2,220	615	375
18	742	778	928	500	700	610	5,360	8,420	5,110	2,130	586	415
19	728	756	960	490	733	604	4,950	9,420	4,680	2,000	550	410
20	742	763	944	480	705	604	4,640	11,800	4,240	1,860	520	420
21	838	938	936	470	698	604	4,420	12,400	3,820	1,720	502	405
22	1,070	875	936	460	691	610	4,290	14,200	3,680	1,620	490	375
23	1,540	898	808	450	677	670	4,290	15,900	3,850	1,510	490	380
24	1,640	838	550	430	677	747	4,300	17,100	3,760	1,480	490	380
25	1,540	808	500	410	664	796	4,320	17,500	3,390	1,480	502	380
26	1,430	830	500	400	698	838	4,400	16,400	3,180	1,530	502	380
27	1,340	960	520	380	733	854	4,820	14,700	2,920	1,560	496	390
28	1,270	968	560	370	740	1,070	5,790	13,100	2,690	1,400	470	385
29	1,220	912	650	360	------	1,290	6,540	12,400	2,630	1,280	445	360
30	1,180	845	789	350	------	1,360	7,420	13,200	3,200	1,190	425	340
31	1,150	------	845	350	------	1,400	------	13,500	------	1,110	400	------
TOTAL	27,193	26,756	24,346	17,087	18,126	23,176	107,590	305,460	188,520	70,460	20,220	10,647
MEAN	877	892	785	551	647	748	3,586	9,854	6,284	2,273	652	355
MAX	1,640	1,110	960	915	740	1,400	7,420	17,500	12,900	4,450	1,070	420
MIN	540	756	500	300	360	604	1,260	5,770	2,630	1,110	400	280
AC-FT	53,940	53,070	48,290	33,890	35,950	45,970	213,400	605,900	373,900	139,800	40,110	21,120

CAL YR 1962: TOTAL 951,194 MEAN 2,606 MAX 15,500 MIN 230 AC-FT 1,887,000
WAT YR 1963: TOTAL 839,581 MEAN 2,300 MAX 17,500 MIN 280 AC-FT 1,665,000

12-4045. Kettle River near Laurier, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	322	318	360	445	385	396	590	5,110	15,700	6,290	1,820	2,110
2	308	313	340	445	375	390	823	5,040	17,200	6,130	2,200	2,010
3	300	304	350	428	380	396	972	4,840	19,100	6,250	2,060	1,910
4	295	313	370	418	375	380	1,070	5,150	18,600	6,830	1,980	2,010
5	291	322	401	390	380	385	1,190	6,290	17,800	6,290	1,880	2,010
6	295	336	462	401	365	390	1,260	6,850	18,800	6,750	2,110	1,860
7	300	340	390	380	300	385	1,360	6,690	21,400	6,050	1,930	1,730
8	300	345	400	300	290	360	1,610	6,910	21,300	5,450	1,730	1,700
9	304	340	450	350	330	375	1,900	7,930	19,700	5,060	1,590	2,060
10	304	336	400	380	365	385	2,310	9,010	17,400	4,770	1,500	2,400
11	318	331	280	400	385	396	2,640	9,030	16,400	4,330	1,450	2,280
12	308	331	310	380	360	412	2,720	8,770	16,200	3,890	1,380	2,100
13	300	326	410	350	310	412	2,620	9,030	15,800	3,520	1,320	1,950
14	295	336	470	360	330	406	2,540	9,200	15,500	3,210	1,290	1,820
15	291	370	490	390	360	412	2,560	8,870	17,200	2,980	1,310	1,720
16	283	500	500	385	375	406	2,590	8,820	16,400	2,870	1,250	1,630
17	275	506	480	396	370	423	2,480	9,780	15,600	2,970	1,160	1,610
18	267	548	470	385	375	434	2,370	12,200	14,500	2,760	1,120	1,610
19	263	548	470	370	380	428	2,300	13,300	12,500	2,480	1,300	1,990
20	259	524	470	370	375	428	2,390	15,000	11,500	2,300	1,580	2,060
21	259	396	480	350	370	434	2,620	16,500	10,400	2,110	2,220	2,150
22	259	300	490	365	370	434	2,870	15,800	9,510	1,960	1,910	2,420
23	263	322	512	370	370	428	3,200	12,500	9,150	1,860	1,710	2,710
24	300	385	506	350	370	428	3,220	10,700	8,540	1,770	1,520	2,720
25	313	418	512	360	360	406	3,560	9,490	8,510	1,680	1,400	2,550
26	336	450	450	360	350	418	4,060	8,660	7,890	1,550	1,340	2,480
27	360	489	430	365	360	423	4,330	8,420	7,650	1,440	1,290	2,620
28	355	566	450	365	360	418	4,220	8,840	9,110	1,350	1,340	2,420
29	345	478	462	370	340	428	4,210	10,700	7,850	1,280	1,670	2,280
30	336	420	462	370	------	445	4,040	12,800	6,790	1,240	2,070	2,140
31	331	------	445	390	------	484	------	14,400	------	1,360	2,080	------
TOTAL	9,335	11,811	13,472	11,738	10,415	12,745	75,225	296,630	424,600	108,780	50,510	63,040
MEAN	301	394	435	379	359	411	2,508	9,569	14,150	3,509	1,642	2,101
MAX	360	566	512	445	385	484	4,640	16,500	21,400	6,830	2,220	2,720
MIN	259	300	280	300	290	360	590	4,840	6,790	1,240	1,120	1,610
AC-FT	18,520	23,430	26,720	23,280	20,660	25,280	149,200	588,400	842,200	215,800	101,000	125,000

CAL YR 1963: TOTAL 795,904 MEAN 2,181 MAX 17,500 MIN 259 AC-FT 1,579,000
WAT YR 1964: TOTAL 1,088,701 MEAN 2,975 MAX 21,400 MIN 259 AC-FT 2,159,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,110	900	634	660	600	655	972	15,000	13,300	3,210	774	853
2	2,080	916	739	680	600	596	956	13,100	12,700	3,140	704	658
3	1,960	964	802	720	550	590	1,090	11,600	13,000	2,890	683	802
4	1,900	1,080	816	760	572	596	1,220	10,600	14,000	2,800	711	746
5	1,820	1,080	809	740	596	634	1,360	9,610	13,400	2,680	795	704
6	1,760	1,030	795	700	614	641	1,600	8,770	13,900	2,530	1,080	739
7	1,700	986	760	720	620	662	1,790	8,200	13,400	2,370	1,280	746
8	1,620	956	746	700	614	683	1,900	8,040	11,600	2,240	1,150	690
9	1,610	940	725	680	600	725	2,000	8,260	11,200	2,080	1,000	662
10	1,590	940	704	650	600	781	2,160	9,150	11,600	1,920	879	627
11	1,600	956	718	640	550	851	2,450	10,600	12,200	1,790	795	596
12	1,590	964	560	600	550	948	2,910	11,700	12,500	1,730	746	578
13	1,510	924	360	580	566	1,040	3,920	13,500	12,000	1,690	725	566
14	1,430	872	320	560	566	1,090	5,150	13,600	9,730	1,600	718	554
15	1,360	802	290	560	566	1,150	6,450	13,400	8,660	1,480	725	554
16	1,330	788	250	550	584	1,220	7,560	13,000	8,220	1,360	767	566
17	1,310	795	220	550	584	1,230	7,870	12,100	8,020	1,280	650	815
18	1,270	809	320	550	584	1,170	7,780	11,000	8,370	1,180	634	886
19	1,230	795	420	600	608	1,080	7,450	10,100	8,510	1,100	590	816
20	1,210	795	550	600	627	1,090	7,410	10,300	7,470	1,070	590	774
21	1,170	788	650	648	620	1,180	8,090	10,500	6,550	1,090	584	774
22	1,150	767	680	641	620	1,180	8,940	10,600	5,900	1,120	584	916
23	1,120	760	700	641	602	1,140	9,230	10,600	5,310	1,210	614	924
24	1,080	767	740	600	572	1,060	9,780	11,100	4,910	1,130	634	916
25	1,050	774	680	600	578	1,000	11,200	12,000	4,650	1,110	718	656
26	1,020	788	600	550	596	1,010	12,500	12,800	4,370	1,010	872	816
27	996	788	580	550	649	1,000	13,300	13,600	4,060	1,000	1,050	774
28	964	753	600	550	683	972	14,900	14,500	3,760	924	964	725
29	924	676	640	550	-------	940	16,900	16,200	3,580	908	872	704
30	908	572	660	596	-------	956	16,800	17,400	3,360	872	851	683
31	900	-------	660	596	-------	964	------	16,200	-------	837	837	-------
TOTAL	43,272	25,735	18,728	19,322	16,670	28,834	195,678	367,330	272,540	51,411	24,623	22,263
MEAN	1,396	858	604	623	595	930	6,523	11,850	9,085	1,658	794	742
MAX	2,110	1,080	816	760	683	1,230	16,900	17,400	14,900	3,210	1,280	924
MIN	900	572	220	550	550	590	972	8,040	3,360	837	584	554
AC-FT	85,830	51,040	37,150	38,320	33,060	57,190	388,100	728,600	540,600	102,000	48,840	44,160

CAL YR 1964: TOTAL 1,141,818 MEAN 3,120 MAX 21,400 MIN 220 AC-FT 2,265,000
WAT YR 1965: TOTAL 1,086,406 MEAN 2,976 MAX 17,400 MIN 220 AC-FT 2,155,000

Note.--No gage-height record Dec. 16 to Jan. 20.

12-4060. Deer Lake near Loon Lake, Wash.

Location.--Lat 48°06'25", long 117°36'10", on line between secs.11 and 14, T.30 N., R.41 E., an eighth of a mile upstream from outlet and 3 miles northeast of town of Loon Lake.

Drainage area.--18.2 sq mi (revised).

Records available.--November 1952 to September 1965 (fragmentary).

Gage.--Staff gage read occasionally. Datum of gage is 2,473.9 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1953, staff gage at same site at datum 4.00 ft higher.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	May 17, 1961.....	8.13	Jan. 8-10, 22, 26, 1961.....	4.36
1962	May 18, 20, 22, 23, 1962.....	6.82	Sept.28, 1962.....	4.16
1963	May 17, 1963.....	6.28	Sept.30, 1963.....	3.77
1964	May 9, 10, 11, 1964.....	6.06	Oct. 27, 1963.....	3.38
1965	Apr. 28, 30, 1965.....	7.46	Jan. 11, 1965.....	3.57

1952-65: Maximum gage height observed, 9.30 ft Apr. 25, 26, 1956; minimum observed, 3.05 ft Jan. 8, 1958.

Remarks.--Intermediate stages of lake controlled for recreational purposes by flashboards. No diversion.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	4.52	5.10	-	4.44	7.05		-				-
2	-	4.52	5.18	-	4.44	7.09		-				-
3	-	4.52	5.20	-	4.44	7.11		-				5.18
4	-	4.50	5.22	-	4.46	7.11		-				5.20
5	-	4.50	5.22	-	4.52	7.13		-				5.20
6	-	4.50	5.17	-	4.60	7.13		-				5.24
7	-	4.50	5.20	-	4.62	7.13		-				5.24
8	-	4.48	5.20	4.36	4.68	7.15		-				5.26
9	4.80	4.48	5.20	4.36	4.72	7.15		-				5.26
10	4.78	4.48	5.18	4.36	4.86	7.17		-				-
11	4.76	4.48	-	4.38	5.06	7.21		-				-
12	4.76	4.48	-	4.38	5.18	7.21		-				-
13	4.74	4.46	-	4.38	5.22	7.21		-				-
14	4.74	4.46	-	4.40	5.30	7.23		-				-
15	4.72	4.46	-	4.40	5.38	7.25		-				-
16	4.70	4.46	-	4.40	5.46	7.27		-				-
17	4.68	4.50	-	4.40	5.58	7.27		8.13	7.74			-
18	4.64	4.54	-	4.38	5.72	7.27	8.12	-		6.58		5.02
19	4.62	4.56	-	4.38	5.92	-		-				5.02
20	4.62	4.68	-	4.38	6.08	-		-				4.98
21	4.60	4.70	-	4.37	6.20	-		8.07				4.96
22	4.60	4.78	-	4.36	6.38	7.83		8.03				4.82
23	4.60	4.88	-	4.36	6.46	7.91		8.01				4.82
24	-	4.96	-	4.36	6.58	7.97		8.01				4.80
25	-	5.02	-	4.36	6.68	8.03		7.97				4.80
26	-	5.04	-	4.36	6.76	-		7.97			5.68	4.80
27	-	5.04	-	4.38	6.88	-		7.95				4.78
28	-	5.04	-	4.38	6.96	-		-				4.78
29	-	5.06	5.18	4.38	------	-		-				4.78
30	-	5.06	5.16	4.40	------	-		-				4.76
31	-	------	5.16	4.42	------	-	------	-	------			------
MAX	-	5.06	-	-	6.96	-	-	-	-	-	-	-
MIN	-	4.46	-	-	4.44	-	-	-	-	-	-	-

12-4060. Deer Lake near Loon Lake, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.72	4.46	4.34	4.46	-	-	-	-	-	6.06	-	4.62
2	4.70	4.46	-	-	-	-	5.38	-	6.68	6.04	-	4.60
3	4.68	4.46	-	-	4.22	-	-	6.60	-	6.02	-	4.58
4	4.68	4.46	-	-	-	-	-	-	6.68	6.00	-	4.56
5	4.66	-	-	-	-	4.48	-	6.68	6.66	5.98	-	4.52
6	4.66	-	-	-	4.46	-	-	-	6.66	5.96	5.26	4.48
7	4.64	-	-	-	-	-	5.46	-	6.64	5.94	5.22	4.46
8	4.62	-	-	-	-	-	5.52	-	6.60	5.92	-	4.42
9	4.60	-	-	4.48	-	-	-	-	-	5.90	5.20	4.42
10	4.58	-	-	4.44	-	-	5.56	6.78	-	5.90	-	4.40
11	4.58	-	-	-	4.48	4.48	5.62	-	6.58	-	5.18	4.40
12	4.56	-	-	4.48	-	-	5.68	-	6.54	5.88	5.16	4.38
13	4.56	-	-	-	-	-	5.76	-	6.52	5.86	5.12	4.36
14	4.54	-	-	-	-	-	-	6.79	6.54	5.67	5.10	4.34
15	4.48	-	-	4.46	4.48	-	5.76	-	6.52	5.64	5.08	4.32
16	4.48	-	-	-	-	-	5.76	6.80	6.52	-	5.06	4.30
17	4.48	-	-	-	-	-	-	-	6.50	5.66	5.02	4.30
18	4.48	-	-	-	-	-	5.84	6.82	6.48	-	5.00	4.28
19	4.46	-	-	4.44	-	4.50	5.86	-	6.47	5.60	4.96	4.28
20	4.46	-	-	-	4.48	-	-	6.82	6.44	5.60	-	4.26
21	4.46	-	4.42	-	-	-	-	-	6.40	-	-	4.24
22	4.44	-	-	4.42	-	-	-	6.82	6.38	5.56	4.92	4.22
23	4.44	-	-	-	-	4.54	-	6.82	6.32	5.54	4.90	4.20
24	4.46	-	-	-	-	-	-	-	-	5.52	4.84	4.19
25	4.42	-	-	-	-	-	-	-	-	-	-	-
26	4.42	-	-	4.42	-	4.76	-	-	6.22	5.46	4.76	4.18
27	4.44	-	-	-	4.48	-	6.08	6.74	-	5.44	4.76	4.18
28	4.44	-	-	-	-	-	-	-	-	-	4.72	4.16
29	4.44	-	-	-	------	-	-	-	-	5.40	4.70	-
30	4.44	-	-	4.40	------	4.98	-	6.70	-	5.38	4.68	-
31	4.46	------	-	-	------	-	------	-	------	5.36	4.64	------
MAX	4.72	-	-	-	-	-	-	-	-	-	-	-
MIN	4.42	-	-	-	-	-	-	-	-	-	-	-

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.16	4.01	4.11	4.12	4.08	-	5.18	5.99	6.04	5.35	4.67	4.07
2	-	3.98	4.14	4.12	4.10	4.56	5.18	6.00	6.02	-	4.65	-
3	4.14	3.96	4.14	4.16	-	-	5.20	6.01	-	5.32	4.61	4.05
4	4.14	3.98	4.14	4.16	4.25	4.57	5.21	6.01	5.96	-	4.61	4.01
5	4.12	3.99	4.14	4.16	4.29	4.58	5.25	6.02	-	5.32	-	-
6	4.10	4.00	-	4.17	4.33	4.59	5.27	6.04	6.00	5.29	4.59	-
7	4.08	4.02	4.14	4.18	4.40	-	5.34	6.10	5.99	5.27	4.58	-
8	4.10	-	4.14	4.19	4.45	4.58	5.43	-	5.99	-	4.55	-
9	4.12	4.02	4.14	4.16	-	-	5.48	6.18	-	5.24	-	-
10	-	-	4.13	4.14	4.48	4.57	5.55	6.20	5.97	-	4.53	-
11	4.14	4.02	4.13	4.10	4.48	-	5.64	6.23	5.85	5.22	4.55	-
12	4.18	4.02	4.13	4.10	4.48	4.57	5.76	-	-	5.21	4.57	-
13	4.20	4.02	4.16	4.10	4.49	4.57	5.72	6.25	5.81	5.19	4.54	-
14	4.20	-	4.18	-	-	4.57	-	-	5.77	-	-	-
15	4.20	4.02	4.20	-	4.49	-	5.75	6.26	-	5.18	4.52	-
16	4.18	-	4.24	4.10	-	4.57	5.78	6.27	5.74	-	-	3.97
17	4.15	4.02	-	-	-	4.57	5.82	6.28	-	5.15	4.48	-
18	4.14	4.03	4.29	-	4.49	4.57	5.84	6.25	5.72	-	4.44	3.98
19	4.12	4.03	4.30	4.09	4.51	4.57	5.88	6.24	5.66	5.12	4.41	-
20	4.12	4.03	4.32	4.05	4.51	4.57	5.90	6.21	5.66	-	4.40	3.92
21	4.11	4.05	-	4.02	-	4.57	-	-	5.67	5.09	4.38	3.90
22	4.10	4.05	4.32	-	4.52	-	5.92	6.20	-	-	4.36	-
23	4.09	4.06	4.24	4.00	4.53	4.57	5.94	6.18	5.70	4.94	4.33	3.90
24	4.08	4.06	4.18	-	-	4.59	5.96	-	5.68	-	4.31	3.88
25	4.06	4.07	-	4.10	4.54	4.62	5.97	6.17	5.66	4.92	4.30	3.86
26	4.05	4.08	4.06	4.10	4.55	4.64	5.99	6.13	-	4.90	-	3.84
27	4.04	4.08	4.04	-	-	4.70	5.99	6.13	5.57	4.88	4.29	3.81
28	4.03	-	4.03	4.09	4.56	4.73	5.99	6.11	-	4.86	4.23	3.80
29	4.02	4.09	-	4.09	------	4.82	5.99	6.11	5.50	4.84	-	-
30	4.01	4.10	4.08	-	------	4.89	5.99	-	5.36	4.80	4.19	3.77
31	4.01	------	4.12	4.08	------	5.11	------	6.05	------	4.71	-	------

12-4060. Deer Lake near Loon Lake, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.76	-	3.66	3.70	-	-	-	5.90	5.78	-	-	4.63
2	3.76	-	3.65	-	3.99	-	-	5.93	5.76	5.50	-	-
3	-	-	3.64	3.70	-	3.95	-	5.98	-	5.48	5.00	4.62
4	3.74	-	3.66	-	3.99	-	-	6.00	-	5.46	4.98	4.59
5	3.74	-	3.70	-	3.99	3.96	-	6.02	-	-	4.98	-
6	3.73	-	3.70	3.69	4.00	-	-	6.03	-	-	4.96	4.57
7	3.72	-	-	-	-	3.98	4.77	6.04	5.70	-	4.94	4.56
8	3.70	3.52	3.69	-	3.99	4.02	-	6.05	5.72	-	4.91	4.56
9	3.68	3.52	3.67	-	-	4.08	-	6.06	-	-	4.90	-
10	3.67	3.51	3.64	-	3.99	4.13	-	6.06	5.72	-	4.87	4.54
11	3.65	3.51	3.64	-	3.99	4.16	-	6.06	5.71	-	4.84	-
12	3.64	3.50	-	-	3.99	4.17	-	6.05	5.71	-	-	4.52
13	3.62	3.50	3.63	-	4.00	4.18	-	6.04	5.70	-	4.80	-
14	3.61	-	3.62	-	3.98	4.20	-	-	5.66	-	4.77	4.50
15	3.64	3.54	3.63	-	-	4.20	-	6.03	5.66	-	4.76	4.47
16	3.62	3.57	3.65	-	3.97	-	-	-	5.72	-	-	4.46
17	3.60	3.63	3.67	-	3.96	4.22	-	6.02	5.71	-	-	-
18	3.58	3.64	3.67	-	-	4.23	-	6.01	-	-	4.80	4.44
19	3.55	-	3.68	-	-	4.24	-	6.00	5.70	-	4.79	4.43
20	3.53	3.64	-	-	3.95	-	-	5.97	-	5.25	-	-
21	3.53	-	3.69	3.88	-	-	-	-	5.69	5.22	4.78	-
22	-	3.67	3.68	-	3.94	-	-	5.95	5.67	-	4.76	-
23	3.50	-	3.69	3.89	3.94	-	-	5.93	5.66	5.20	-	4.40
24	-	3.68	-	-	3.94	-	5.72	5.90	-	5.18	4.72	-
25	3.46	3.70	3.70	3.91	3.95	-	5.75	5.89	5.63	5.16	4.70	4.36
26	3.42	3.70	-	3.93	-	-	5.78	5.88	5.60	5.11	4.64	-
27	3.38	-	3.70	3.95	-	-	5.80	5.86	5.58	5.10	4.62	4.33
28	-	3.70	-	3.96	-	-	-	5.85	5.56	5.08	4.66	4.32
29	-	3.68	3.70	3.97	3.96	-	5.84	5.84	5.54	5.04	-	-
30	-	-	3.70	3.98	------	4.53	5.88	5.82	-	-	-	4.32
31	-	------	-	3.98	------	-	------	5.80	------	5.02	4.63	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	4.02	-	-	3.64	-	5.92	-	-	6.16	-	-
2	-	4.00	4.24	-	-	-	5.97	-	6.80	-	5.84	5.28
3	4.30	4.01	-	-	-	-	6.02	7.42	-	6.14	5.80	-
4	-	4.01	4.18	-	3.63	-	-	7.40	6.76	6.08	5.75	5.26
5	4.32	-	-	-	-	-	6.04	-	6.72	-	5.72	-
6	-	4.00	4.16	-	3.63	-	-	-	-	6.04	5.68	5.23
7	4.28	-	-	-	3.62	-	6.21	7.38	6.68	-	-	-
8	-	4.00	4.15	-	-	-	6.32	-	-	6.02	5.64	5.22
9	-	-	-	-	-	-	6.40	7.34	6.64	-	5.61	5.16
10	4.24	4.01	4.10	-	3.61	5.52	6.48	-	-	6.00	5.60	-
11	4.22	-	-	3.57	-	5.54	6.59	7.30	6.50	-	-	-
12	-	4.02	4.06	-	-	5.60	-	-	6.48	6.00	5.58	5.14
13	4.20	-	-	-	3.60	5.80	6.70	7.22	-	-	5.56	-
14	-	4.03	-	-	-	-	6.81	7.18	6.45	5.92	-	5.11
15	4.16	-	-	-	3.62	5.80	-	7.12	-	-	5.50	-
16	-	4.04	-	3.58	-	-	6.94	7.06	6.42	5.90	-	5.08
17	4.13	-	-	3.58	-	5.82	7.06	7.06	-	-	5.47	5.10
18	-	-	3.66	-	-	-	-	-	-	5.89	-	5.05
19	4.12	4.05	-	-	-	-	7.14	7.04	6.40	-	5.46	5.03
20	-	-	-	3.60	-	5.82	7.22	-	-	5.87	-	-
21	4.10	4.06	-	-	-	5.83	7.30	-	6.39	5.90	5.44	5.04
22	4.07	-	-	-	-	-	7.34	7.00	-	6.00	5.43	-
23	-	-	-	3.62	-	5.85	7.37	-	-	6.00	-	-
24	4.05	4.06	-	3.65	3.67	-	7.40	6.98	6.30	-	5.40	4.98
25	-	-	-	-	-	5.86	7.42	6.96	-	5.96	-	-
26	4.04	4.10	-	3.65	-	-	7.42	6.94	6.26	5.93	5.38	-
27	-	-	-	-	-	5.87	-	-	6.20	5.90	-	4.96
28	4.02	4.14	-	-	-	5.87	7.46	6.90	-	5.86	5.36	-
29	-	4.20	-	3.67	------	-	-	-	6.18	-	-	4.93
30	-	4.22	-	3.68	------	5.88	7.46	-	-	5.86	5.32	-
31	4.02	------	-	-	------	-	------	6.84	------	-	-	------

12-4065. Loon Lake near Loon Lake, Wash.

Location.--Lat 48°01'45", long 117°36'15", in NW¼ sec.11, T.29 N., R.41 E., at south end of Loon Lake, 2.7 miles southeast of town of Loon Lake.

Drainage area.--35.8 sq mi (revised).

Records available.--April 1950 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, unadjusted; 0.94 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 29, 1951, water-stage recorder at site 0.2 mile north at present datum.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	May 14, 1961	2,381.50	Sept.28, 1961	2,379.80
1962	May 27, 28, 1962	2,381.40	Nov. 17, 18, 1961	2,379.67
1963	May 9, 1963	2,381.34	Jan. 29, 1963	2,379.90
1964	Apr. 12, 1964	2,381.11	Nov. 4, 1963	2,379.83
1965	May 24-28, 1965	2,381.20	Nov. 3, 1964	2,379.78

1950-65: Maximum elevation, 2,382.71 ft May 3, 1950, but may have been higher sometime in water year 1951 while water-stage recorder was not operating; minimum recorded, 2,379.67 ft Nov. 17, 18, 1961.

Remarks.--Elevation controlled by dam at lake outlet. Some small diversions for irrigation.

Revisions (water years).--WSP 1216: 1950.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	80.19	80.06	80.67	80.73	80.60	81.05	81.25	81.28	81.36	81.10	80.66	80.20
2	80.18	80.05	80.67	80.73	80.63	81.07	81.26	81.29	81.36	81.08	80.65	80.18
3	80.17	80.04	80.68	80.73	80.64	81.07	81.25	81.31	81.35	81.06	80.63	80.16
4	80.17	80.03	80.68	80.73	80.63	81.06	81.24	81.33	81.35	81.05	80.62	80.14
5	80.17	80.03	80.67	80.74	80.64	81.03	81.25	81.34	81.34	81.04	80.60	80.13
6	80.17	80.02	80.67	80.76	80.66	81.03	81.25	81.35	81.34	81.03	80.59	80.12
7	80.17	80.02	80.67	80.77	80.67	81.08	81.25	81.36	81.35	81.02	80.57	80.11
8	80.19	80.01	80.67	80.77	80.62	81.08	81.26	81.37	81.34	81.00	80.55	80.08
9	80.18	80.00	80.66	80.77	80.63	81.08	81.27	81.39	81.36	80.98	80.54	80.07
10	80.17	80.03	80.66	80.76	80.68	81.09	81.25	81.45	81.36	80.97	80.54	80.06
11	80.16	80.06	80.66	80.76	80.74	81.11	81.24	81.47	81.36	80.95	80.52	80.04
12	80.16	80.06	80.66	80.76	80.74	81.13	81.24	81.48	81.35	80.93	80.51	80.02
13	80.15	80.07	80.66	80.75	80.76	81.14	81.24	81.47	81.35	80.92	80.49	80.01
14	80.14	80.09	80.66	80.75	80.78	81.18	81.23	81.49	81.35	80.91	80.48	79.98
15	80.13	80.10	80.65	80.76	80.84	81.18	81.22	81.47	81.35	80.90	80.47	79.97
16	80.13	80.12	80.65	80.76	80.84	81.18	81.20	81.44	81.34	80.88	80.46	79.96
17	80.13	80.13	80.66	80.75	80.83	81.18	81.19	81.41	81.34	80.86	80.45	79.95
18	80.12	80.17	80.69	80.74	80.81	81.18	81.17	81.37	81.33	80.85	80.44	79.95
19	80.12	80.17	80.72	80.72	80.83	81.18	81.17	81.37	81.32	80.83	80.43	79.93
20	80.11	80.30	80.72	80.70	80.81	81.18	81.17	81.37	81.30	80.82	80.41	79.92
21	80.11	80.39	80.73	80.68	80.82	81.19	81.17	81.37	81.28	80.81	80.39	79.90
22	80.11	80.40	80.73	80.65	80.87	81.20	81.17	81.37	81.26	80.79	80.38	79.88
23	80.10	80.44	80.73	80.63	80.90	81.21	81.18	81.37	81.25	80.82	80.38	79.88
24	80.11	80.56	80.73	80.62	80.93	81.21	81.18	81.36	81.24	80.80	80.37	79.86
25	80.10	80.65	80.73	80.60	80.96	81.21	81.19	81.36	81.22	80.78	80.35	79.85
26	80.10	80.67	80.74	80.58	80.98	81.21	81.19	81.35	81.20	80.77	80.33	79.84
27	80.10	80.67	80.74	80.55	81.00	81.23	81.20	81.35	81.17	80.75	80.31	79.82
28	80.12	80.67	80.74	80.52	81.02	81.22	81.20	81.35	81.15	80.72	80.30	79.81
29	80.09	80.67	80.74	80.53	------	81.21	81.22	81.34	81.14	80.70	80.28	79.82
30	80.08	80.67	80.73	80.55	------	81.23	81.26	81.36	81.12	80.68	80.25	79.81
31	80.07	------	80.73	80.59	------	81.24	------	81.36	------	80.67	80.24	------
MAX	80.19	80.67	80.74	80.77	81.02	81.24	81.27	81.49	81.36	81.10	80.66	80.20
MIN	80.07	80.00	80.65	80.52	80.60	81.03	81.17	81.28	81.12	80.67	80.24	79.81

Note.--Add 2,300 ft to obtain elevation above mean sea level.

12-4065. Loon Lake near Loon Lake, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	79.80	79.77	79.80	80.17	-	-	-	-	-	81.18	80.75	80.34
2	79.79	79.75	79.80	80.17	-	-	80.64	-	-	81.15	80.73	80.32
3	79.78	79.75	79.80	80.18	81.10	80.20	-	81.20	-	81.14	80.72	80.30
4	79.78	79.75	79.80	80.20	-	-	80.70	-	-	81.11	80.72	80.29
5	79.77	79.74	79.80	80.22	-	-	-	-	-	81.10	80.72	80.28
6	79.76	79.73	79.79	80.22	-	-	-	-	-	81.09	80.70	80.26
7	79.75	79.73	79.81	80.23	-	80.16	80.80	-	-	81.09	80.70	80.26
8	79.74	79.73	79.80	80.27	-	-	-	81.30	-	81.08	80.69	80.20
9	79.73	79.72	79.79	80.27	79.80	80.16	-	-	81.34	81.07	80.68	80.19
10	79.73	79.72	-	80.28	-	-	-	-	-	81.05	80.67	80.18
11	79.73	79.71	-	-	-	-	80.89	-	-	81.03	80.66	80.18
12	79.73	79.71	-	-	-	80.14	-	-	81.34	81.02	80.65	80.17
13	79.73	79.70	-	-	-	-	80.88	-	-	81.01	80.64	80.16
14	79.74	79.70	-	-	79.84	80.14	-	81.36	-	80.99	80.62	80.16
15	79.74	79.69	-	80.17	80.20	-	-	-	-	80.97	80.61	80.15
16	79.74	79.68	-	80.17	-	-	80.98	-	81.34	80.96	80.60	80.14
17	79.73	79.67	-	80.18	-	-	-	-	-	80.94	80.58	80.13
18	79.72	79.67	-	80.18	-	-	-	-	-	80.93	80.56	80.13
19	79.71	79.68	-	80.18	79.62	-	80.98	81.36	81.32	80.91	80.55	80.12
20	79.70	79.68	-	80.18	-	80.20	-	-	-	80.90	80.53	80.12
21	79.69	79.69	-	80.17	-	-	-	-	-	80.89	80.52	80.10
22	79.68	79.75	-	80.17	79.64	-	-	81.34	-	80.88	80.50	80.10
23	79.73	79.76	-	-	-	80.30	81.00	-	81.30	80.87	80.48	80.10
24	79.74	79.77	80.10	-	79.64	-	-	-	-	80.86	80.45	80.09
25	79.74	79.77	80.14	-	-	-	-	-	-	80.85	80.43	80.08
26	79.74	79.76	80.15	-	79.62	80.56	-	-	-	80.83	80.41	80.07
27	79.78	79.78	80.14	-	-	-	-	81.40	81.26	80.82	80.39	80.06
28	79.79	79.80	80.14	-	80.10	80.56	81.16	81.40	-	80.81	80.39	80.09
29	79.78	79.80	80.14	-	------	-	-	-	81.23	80.79	80.38	80.11
30	79.77	79.80	80.15	-	------	80.58	-	81.34	81.21	80.78	80.36	80.10
31	79.77	------	80.17	-	------	-	------	81.38	------	80.77	80.35	------
MAX	79.80	79.80	-	-	-	-	-	-	-	81.18	80.75	80.34
MIN	79.68	79.67	-	-	-	-	-	-	-	80.77	80.35	80.06

Note.--Add 2,300 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	80.09	80.16	-	80.05	79.96	80.40	80.81	81.08	81.22	81.01	-	80.30
2	80.08	80.16	-	80.06	79.97	80.40	80.82	81.10	81.21	80.99	-	80.28
3	80.07	80.14	-	80.09	80.06	80.40	80.83	81.09	81.21	80.97	-	80.27
4	80.07	80.13	-	80.09	80.11	80.40	80.83	81.09	81.19	80.96	-	80.25
5	80.06	80.12	-	80.08	80.17	80.41	80.84	81.11	81.20	80.95	-	80.24
6	80.05	80.11	-	80.08	80.18	80.41	80.86	81.07	81.22	80.93	-	80.22
7	80.05	80.09	-	80.07	80.19	80.41	80.93	81.25	81.22	80.92	-	80.21
8	80.05	80.09	-	80.06	80.20	80.41	80.96	81.30	81.22	80.90	-	80.20
9	80.09	80.12	-	-	80.20	80.41	80.98	81.32	81.23	80.88	-	80.19
10	80.12	80.12	-	-	80.20	80.40	80.99	81.31	81.23	80.90	-	80.19
11	80.14	80.13	80.04	-	80.21	80.39	81.01	81.30	81.23	80.93	-	80.17
12	80.19	80.14	80.03	-	80.21	80.44	81.02	81.31	81.23	80.92	80.50	80.16
13	80.23	80.14	80.02	-	80.25	80.44	81.00	81.33	81.23	80.91	80.50	80.15
14	80.23	80.13	80.03	79.93	80.26	80.44	80.99	81.33	81.22	80.89	80.49	80.14
15	80.22	80.12	80.07	79.93	80.26	80.44	81.02	81.32	81.21	80.88	80.47	80.13
16	80.21	80.12	80.11	79.93	80.28	80.45	81.02	81.31	81.20	80.87	80.46	80.15
17	80.21	80.11	80.10	79.93	80.28	80.45	81.03	81.31	81.19	80.85	80.44	80.14
18	80.21	80.10	80.10	79.93	80.30	80.45	81.03	81.31	81.17	80.83	80.43	80.14
19	80.20	80.08	80.10	79.93	80.31	80.45	81.04	81.31	81.14	80.82	80.41	80.13
20	80.20	80.06	80.08	79.93	80.32	80.45	81.04	81.38	81.12	80.80	80.39	80.12
21	80.19	80.04	80.05	79.92	80.33	80.45	81.04	81.31	81.10	80.78	80.37	80.11
22	80.19	-	80.02	79.92	80.34	80.45	81.05	81.30	81.10	80.76	80.36	80.10
23	80.19	-	80.01	79.91	80.35	80.47	81.07	81.29	81.10	80.73	80.36	80.10
24	80.19	-	80.00	79.91	80.35	80.51	81.08	81.29	81.09	80.71	80.37	80.09
25	80.18	-	79.99	79.91	80.36	80.52	81.09	81.28	81.07	-	80.36	80.08
26	80.18	-	79.97	79.91	80.38	80.52	81.10	81.27	81.06	-	80.35	80.08
27	80.17	-	79.97	79.91	80.38	80.56	81.09	81.26	81.06	-	80.34	80.08
28	80.17	-	79.97	79.91	80.39	80.64	81.09	81.25	81.05	-	80.33	80.07
29	80.17	-	79.98	79.91	------	80.68	81.09	81.25	81.03	-	80.32	80.06
30	80.17	-	80.02	79.91	------	80.75	81.08	81.24	81.02	-	80.31	80.05
31	80.16	------	80.05	79.92	------	80.79	------	81.23	------	-	80.30	------
MAX	80.23	-	-	-	80.39	80.79	81.10	81.38	81.23	-	-	80.30
MIN	80.05	-	-	-	79.96	80.39	80.81	81.08	81.02	-	-	80.05

Note.--Add 2,300 ft to obtain elevation above mean sea level.

12-4065. Loon Lake near Loon Lake, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	80.04	79.84	80.25	80.34	80.59	80.25	80.80	80.97	-	80.95	80.47	80.18
2	80.03	79.84	80.24	80.36	80.58	80.26	80.87	80.99	-	80.92	80.48	80.17
3	80.02	79.83	80.24	80.36	80.55	80.26	80.91	81.01	-	80.91	80.46	80.17
4	80.01	79.84	80.24	80.36	80.53	80.26	80.92	81.06	-	80.90	80.46	80.17
5	79.99	79.85	80.24	80.36	80.49	80.26	80.94	81.07	-	80.88	80.45	80.16
6	80.00	79.89	80.26	80.37	80.47	80.25	80.95	81.07	-	80.86	80.44	80.15
7	79.99	79.92	80.26	80.37	80.44	80.23	80.97	81.07	-	80.85	80.43	80.13
8	79.98	79.96	80.26	80.37	80.42	80.22	81.03	81.07	81.06	80.84	80.41	80.12
9	79.97	79.96	80.27	80.38	80.40	80.23	81.06	81.06	81.05	80.84	80.40	80.11
10	79.97	79.96	80.26	80.38	80.40	80.23	81.08	81.06	81.05	80.82	80.39	80.09
11	79.96	79.96	80.26	80.38	80.39	80.28	81.08	81.06	81.05	80.81	80.37	80.08
12	79.95	79.95	80.25	80.38	80.37	80.35	81.10	81.05	81.06	80.81	80.36	80.07
13	79.94	79.95	80.24	80.39	80.36	80.36	81.09	81.05	81.06	80.78	80.35	80.06
14	79.93	79.98	80.24	80.39	80.34	80.36	81.07	81.05	81.05	80.77	80.33	80.05
15	79.93	80.00	80.25	80.39	80.34	80.38	81.06	81.04	81.05	80.74	80.32	80.03
16	79.92	79.99	80.26	80.41	80.33	80.42	81.05	81.04	-	80.72	80.30	80.02
17	79.91	80.03	80.27	80.46	80.31	80.45	81.05	81.03	-	80.70	80.29	80.05
18	79.90	80.04	80.27	80.49	80.29	80.49	81.04	-	-	80.68	80.30	80.07
19	79.89	80.12	80.27	80.51	80.28	80.50	81.02	-	-	80.66	80.31	80.06
20	79.88	80.16	80.28	80.53	80.27	80.52	80.97	-	-	80.64	80.31	80.06
21	79.88	80.15	80.28	80.55	80.27	80.53	80.92	-	-	80.67	80.30	80.05
22	79.89	80.17	80.29	80.55	80.27	80.55	80.93	-	-	80.59	80.29	80.05
23	79.90	80.20	80.29	80.55	80.27	80.55	80.94	-	-	80.58	80.28	80.04
24	79.90	80.23	80.30	80.55	80.27	80.54	80.94	-	81.05	80.57	80.26	80.03
25	79.89	80.24	80.31	80.57	80.27	80.52	80.95	-	81.05	80.55	80.24	80.02
26	79.88	80.25	80.31	80.58	80.27	80.52	80.95	-	81.02	80.54	80.22	80.01
27	79.87	80.25	80.32	80.58	80.26	80.51	80.96	-	81.01	80.53	80.21	80.00
28	79.86	80.26	80.32	80.58	80.26	80.55	80.96	-	80.99	80.51	80.22	79.99
29	79.86	80.26	80.33	80.59	80.25	80.60	80.96	-	80.97	80.51	80.21	79.98
30	79.85	80.25	80.33	80.59	------	80.66	80.96	-	80.95	80.49	80.21	79.97
31	79.85	------	80.33	80.59	------	80.73	------	-	------	80.47	80.20	------
MAX	80.04	80.26	80.33	80.59	80.59	80.73	81.10	81.03	-	80.95	80.48	80.18
MIN	79.85	79.83	80.24	80.34	80.25	80.22	80.80	80.97	-	80.47	80.20	79.97

Note.--Add 2,300 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	79.96	79.80	79.97	80.33	-		-	81.14	81.16	80.88	80.54	80.29
2	79.95	79.80	79.98	80.44	-		80.71	81.14	81.15	80.87	80.53	80.28
3	79.94	79.79	80.01	80.51	-		80.69	81.15	81.15	80.87	80.53	80.26
4	79.93	79.81	80.02	80.51	-		80.69	81.15	81.13	80.86	80.53	80.25
5	79.92	79.82	80.04	80.53	80.51		80.72	81.15	81.13	80.85	80.53	80.24
6	79.92	79.82	80.06	80.53	80.49		80.77	81.16	81.12	80.84	80.51	80.22
7	79.91	79.82	80.07	80.53	80.45		80.79	81.15	81.10	80.83	80.50	80.21
8	79.91	79.81	80.07	80.54	80.43		80.83	81.16	81.09	80.81	80.48	80.20
9	79.92	79.84	80.07	80.56	80.40		80.88	81.16	81.08	80.79	80.47	80.19
10	79.92	79.86	80.09	80.55	80.40		81.02	81.18	81.08	80.77	80.45	80.18
11	79.91	79.86	80.08	80.55	80.40		81.07	81.18	81.07	80.75	80.43	80.17
12	79.91	79.87	80.07	80.58	80.40		81.08	81.18	81.05	80.74	80.42	80.16
13	79.90	79.87	80.06	-	80.40		81.08	81.18	81.04	80.73	80.40	80.15
14	79.90	79.87	80.05	-	80.40		81.07	81.17	81.02	80.72	80.38	80.15
15	79.89	79.86	80.01	-	80.38		81.07	81.16	81.02	80.70	80.37	80.15
16	79.88	79.85	80.00	-	80.36		81.08	81.17	81.02	80.69	80.36	80.13
17	79.88	79.84	79.98	-	80.37		81.07	81.17	81.03	80.67	80.35	80.10
18	79.87	79.83	79.98	-	80.37		81.06	81.16	81.05	80.65	80.33	80.08
19	79.87	79.82	80.03	-	80.37		81.07	81.16	81.04	80.63	80.32	80.08
20	79.87	79.81	80.07	-	80.38		81.13	81.18	81.02	80.62	80.35	80.08
21	79.85	79.80	80.11	-	80.38		81.15	81.18	81.01	80.63	80.34	80.07
22	79.84	79.79	80.17	-	80.38		81.14	81.18	81.00	80.64	80.33	80.07
23	79.84	79.79	80.18	-	80.38		81.14	81.18	80.99	80.64	80.37	80.06
24	79.83	79.83	80.19	-	80.38		81.13	81.19	80.98	80.62	80.39	80.05
25	79.83	79.83	80.20	-	80.38		81.14	81.20	80.97	80.62	80.38	80.05
26	79.82	79.88	80.23	-	80.40		81.14	81.20	80.94	80.60	80.38	80.04
27	79.82	79.87	80.26	-	80.51		81.15	81.20	80.92	80.60	80.37	80.02
28	79.81	79.87	80.27	-	-		81.16	81.19	80.91	80.60	80.35	80.02
29	79.81	79.88	80.27	-	------		81.16	81.18	80.89	80.58	80.33	80.01
30	79.80	79.92	80.31	-	------		81.15	81.17	80.88	80.57	80.32	80.00
31	79.80	------	80.32	-	------		------	81.16	------	80.56	80.30	------
MAX	79.96	79.92	80.32	-	-	-	81.16	81.20	81.16	80.88	80.54	80.29
MIN	79.80	79.79	79.97	80.33	80.36	-	80.69	81.14	80.88	80.56	80.30	80.00

Note.--Add 2,300 ft to obtain elevation above mean sea level.

12-4075. Sheep Creek at Springdale, Wash.

Location.--Lat 48°03'30", long 117°45'05", in SW¼NW¼ sec.34, T.30 N., R.40 E., on right bank 45 ft upstream from railroad trestle on State Highway 231, half a mile west of Springdale, and 4 miles upstream from mouth.

Drainage area.--48.2 sq mi (revised).

Records available.--January 1953 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,980 ft (from topographic map). Prior to Sept. 30, 1958, at site 500 ft upstream at different datum.

Average discharge.--12 years, 13.3 cfs (9,630 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 11, 1961	60	a 1.59	Dec. 7-9, 1960	b 8.5	-
1962	May 13, 14, 1962	c 24	(d)	Jan. 22-27, 1962	b 8	-
1963	May 10, 11, 1963	26	e 1.03	July 29, 1963	7.5	f 0.59
1964	Apr. 2, 3, 1964	15	g .80	Sept.28, 29, 30	6.9	.53
1965	Apr. 20, 1965	50	1.17	Dec. 17, 1964	b 4.6	-

a Maximum gage height for year, 2.49 ft Dec. 12, 1960, backwater from ice.
b Minimum daily.
c Maximum daily.
d Maximum gage height for year, 3.67 ft Jan. 17, 1962, backwater from ice.
e Maximum gage height for year, 3.16 ft Jan. 28, 1963, backwater from ice.
f Occurred Sept. 10-15, 29, 30, 1963.
g Maximum gage height for year, 1.94 ft Dec. 3, 1963, backwater from ice.

1953-65: Maximum discharge, 78 cfs Feb. 26, 1958 (gage height, 2.30 ft, site and datum then in use); maximum gage height recorded, 5.22 ft Jan. 30 to Feb. 7, 1956 (backwater from ice), site and datum then in use; minimum discharge, 1.6 cfs Jan. 21, 1955.

Remarks.--Records good except those for periods of no gage-height records and those for winter periods, which are fair. Some diversions for domestic use. Flow partly regulated by dam at outlet of Loon Lake.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	14	15	12	19	21	23	19	17	14	16	17
2	10	14	15	11	21	21	23	19	16	14	15	17
3	10	13	15	11	24	21	22	19	16	14	16	17
4	10	12	14	11	25	20	22	21	16	14	15	16
5	10	12	15	11	24	20	21	20	16	14	16	16
6	11	12	9.0	12	25	21	21	20	15	14	16	16
7	11	12	8.5	12	30	24	21	19	16	14	16	16
8	11	11	8.5	12	36	30	21	19	16	14	16	17
9	11	11	8.5	13	42	32	21	20	16	14	16	17
10	11	12	9.0	13	48	32	21	24	16	14	16	17
11	11	12	12	13	58	32	24	25	16	14	16	17
12	11	12	13	13	50	32	34	24	16	14	15	17
13	11	12	13	13	46	36	32	24	15	14	16	17
14	11	12	13	14	40	42	32	25	15	14	16	17
15	11	12	13	21	29	42	31	35	15	14	16	17
16	11	12	13	21	42	40	31	39	15	14	16	17
17	11	13	13	19	40	40	31	40	15	14	16	17
18	11	13	13	19	39	39	30	40	15	14	16	17
19	11	13	13	19	40	38	20	21	15	14	16	17
20	11	17	13	19	42	36	17	13	15	14	16	17
21	11	17	13	22	45	38	16	13	15	14	16	17
22	11	15	13	18	22	32	16	14	14	14	17	17
23	11	15	13	18	19	39	16	15	14	15	17	17
24	11	20	13	18	22	40	16	16	14	15	17	17
25	11	20	12	17	22	39	16	16	14	15	17	17
26	11	17	12	16	22	40	16	16	14	15	16	17
27	13	16	13/	16	22	40	17	16	14	15	16	17
28	14	15	13	15	21	37	17	16	14	16	16	17
29	15	15	12	15	------	35	18	16	14	16	16	17
30	15	15	12	16	------	25	21	16	14	16	16	16
31	15	------	12	17	------	24	------	16	------	16	15	------
TOTAL	365	422	390.5	483	715	1,013	670	659	459	460	513	508
MEAN	11.8	14.1	12.6	15.6	32.7	32.7	22.4	21.3	15.3	14.8	16.6	17.0
MAX	15	20	15	22	58	42	34	40	17	16	17	17
MIN	10	11	8.5	11	19	20	16	13	14	14	16	16
AC-FT	725	837	775	958	1,820	2,010	1,330	1,310	911	912	1,020	1,010

CAL YR 1960: TOTAL 5,224.8 MEAN 14.3 MAX 53 MIN 8.5 AC-FT 10,360
WAT YR 1961: TOTAL 6,361.5 MEAN 18.8 MAX 58 MIN 8.5 AC-FT 13,610

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4075. Sheep Creek at Springdale, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	18	14	14	10	14	16	14	12	12	10	9.3
2	17	18	14	13	10	14	16	14	12	12	10	9.3
3	17	18	14	14	10	14	16	16	12	12	10	9.3
4	17	18	14	14	10	14	16	18	12	12	11	9.3
5	17	18	14	14	10	14	16	18	12	12	10	9.6
6	17	18	14	13	10	14	16	18	12	11	10	9.3
7	17	18	14	14	10	14	16	18	12	11	10	9.3
8	17	18	14	13	10	15	16	18	12	11	10	9.3
9	17	18	14	13	12	15	16	18	12	11	10	9.6
10	17	18	14	10	16	15	15	16	11	11	10	9.6
11	17	18	14	10	16	15	15	20	11	11	10	10
12	17	18	14	10	16	15	15	22	11	11	10	10
13	17	16	14	9.0	17	15	15	24	11	11	10	10
14	17	18	14	9.0	19	14	15	24	12	11	9.8	10
15	17	18	14	9.0	16	14	15	23	12	11	9.6	10
16	17	18	14	9.0	18	14	15	23	11	11	9.6	10
17	17	17	14	9.0	18	14	15	22	11	11	9.3	10
18	17	16	14	9.0	18	14	15	21	11	11	9.6	10
19	17	15	14	9.0	18	14	14	21	11	11	9.6	9.6
20	17	15	14	9.0	18	15	14	19	11	11	9.5	9.8
21	17	15	15	9.0	18	15	14	18	11	11	9.6	9.8
22	17	16	14	8.0	17	14	14	15	11	11	9.3	10
23	18	15	14	8.0	17	14	13	13	11	11	9.6	10
24	17	15	14	8.0	14	16	13	14	11	10	9.6	10
25	17	15	14	8.0	13	17	14	13	11	10	9.6	10
26	17	15	14	8.0	13	18	14	13	11	10	9.6	10
27	18	15	14	8.0	13	18	14	13	12	10	9.6	9.8
28	18	15	14	9.0	13	17	14	13	12	10	9.6	10
29	18	14	14	9.0	------	17	14	13	12	10	9.8	10
30	18	14	14	9.0	------	17	14	13	12	10	9.6	10
31	18	------	14	9.0	------	16	------	13	------	10	9.6	------
TOTAL	535	504	439	319.5	404	469	449	545	353	350	309.8	294.6
MEAN	17.3	16.8	14.2	10.3	14.4	15.1	15.0	17.6	11.8	11.3	9.99	9.82
MAX	18	18	15	14	19	18	16	24	12	12	11	10
MIN	17	14	14	8.0	10	14	13	13	11	10	9.3	9.3
AC-FT	1,060	1,000	871	634	802	931	891	1,080	700	694	614	584

CAL YR 1961: TOTAL 7,161 MEAN 19.6 MAX 58 MIN 11 AC-FT 14,200
WAT YR 1962: TOTAL 4,973.4 MEAN 13.6 MAX 24 MIN 8.0 AC-FT 9,860

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	10	16	11	9.0	11	11	11	9.1	8.4	7.8	7.8
2	10	10	16	11	9.0	11	11	11	9.1	8.1	7.8	7.8
3	10	12	16	12	10	10	10	11	9.1	8.1	7.8	7.8
4	10	13	15	14	12	11	11	11	9.1	8.1	7.8	7.8
5	10	13	16	15	15	10	11	11	9.4	8.1	7.8	7.8
6	10	14	16	15	14	10	13	13	9.8	8.4	7.8	7.8
7	10	14	16	15	13	11	13	14	9.4	8.4	8.1	7.8
8	11	14	16	15	13	10	13	13	9.4	8.4	8.1	8.1
9	11	15	16	15	12	10	12	14	9.8	8.7	8.1	8.1
10	11	15	16	10	12	10	12	22	9.8	8.7	8.1	8.1
11	11	15	16	9.0	11	10	12	26	9.4	8.7	7.8	8.1
12	12	16	16	10	11	10	14	15	9.4	8.4	7.8	8.1
13	12	16	16	11	10	10	13	12	9.1	8.7	7.8	8.1
14	11	15	15	12	9.0	10	12	12	9.1	8.4	7.8	8.4
15	11	15	17	12	9.1	10	12	19	9.1	8.4	7.8	8.7
16	11	16	18	12	9.1	10	12	19	9.1	8.4	7.8	9.1
17	11	17	17	11	9.1	10	13	12	8.7	8.4	7.8	9.1
18	11	16	17	10	9.4	10	12	11	8.7	8.4	7.8	8.7
19	11	15	17	9.0	9.8	10	12	10	8.7	8.4	7.8	8.7
20	11	15	16	9.5	10	10	12	10	8.4	8.1	7.8	8.7
21	11	15	16	10	9.8	10	12	10	8.7	8.1	7.8	8.7
22	11	15	15	10	10	10	12	9.8	9.1	8.1	7.8	8.7
23	10	14	15	10	9.8	11	12	9.8	9.1	8.1	7.8	8.7
24	10	14	11	10	9.8	11	12	9.8	8.7	8.1	8.1	8.7
25	10	15	10	9.5	10	11	11	9.4	8.4	8.1	8.1	8.7
26	10	17	13	9.0	12	10	11	9.4	8.4	8.1	8.1	8.7
27	10	16	12	8.5	11	11	11	9.1	8.1	7.8	8.1	8.7
28	10	15	12	8.5	11	13	12	9.1	8.1	7.8	7.8	8.7
29	10	14	11	8.0	------	12	11	9.1	8.1	7.5	7.8	8.4
30	10	15	13	8.0	------	12	11	9.1	8.4	7.8	7.8	8.4
31	10	------	12	8.5	------	11	------	9.4	------	7.8	7.8	------
TOTAL	340	442	470	340.5	301.9	331	362	385.5	268.8	255.0	244.2	251.0
MEAN	11.0	14.8	15.2	11.0	10.8	10.7	12.1	12.4	8.96	8.23	7.88	8.37
MAX	12	17	18	15	15	13	14	26	9.8	8.7	8.1	9.1
MIN	10	10	10	8.0	9.0	10	10	9.1	8.1	7.5	7.8	7.8
AC-FT	674	878	933	675	599	658	718	765	533	506	484	498

CAL YR 1962: TOTAL 4,748.4 MEAN 13.0 MAX 24 MIN 8.0 AC-FT 9,420
WAT YR 1963: TOTAL 3,993.4 MEAN 10.9 MAX 26 MIN 7.5 AC-FT 7,920

Note.--No gage-height record Jan. 11 to Feb. 12. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4075. Sheep Creek at Springdale, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.4	9.3	9.0	8.7		9.3	13	10	9.3	8.4	7.8	7.2
2	8.4	9.6	9.0	8.7		9.3	14	10	9.3	8.4	7.8	7.2
3	8.4	9.6	9.0	8.7		9.3	14	11	9.3	8.7	7.8	7.2
4	8.4	9.6	9.0	8.7		10	14	12	9.0	8.7	7.8	7.5
5	8.4	9.3	9.0	8.7		10	14	11	9.3	8.7	7.8	7.5
6	8.7	9.9	9.3	8.7		10	14	11	9.3	8.7	7.5	7.5
7	8.7	9.6	9.5	8.5		10	13	10	9.3	8.4	7.2	7.5
8	8.7	9.6	9.6	8.0		10	13	10	9.6	8.4	7.2	7.2
9	8.7	9.3	9.6	8.5		10	13	10	9.6	8.4	7.2	7.2
10	8.7	9.3	8.5	9.0	9.5	9.9	13	10	9.3	8.1	7.5	7.2
11	8.7	9.3	7.5	9.0		10	13	10	9.6	8.1	7.5	7.5
12	8.7	9.3	8.5	9.3		10	13	10	9.6	8.1	7.5	7.2
13	8.7	9.3	8.5	8.7		9.6	13	9.9	9.3	7.8	7.5	7.2
14	8.7	9.9	8.5	8.7		9.9	12	9.6	9.3	7.8	7.5	7.2
15	8.7	9.6	8.5	8.7		10	12	9.6	9.3	7.8	7.5	7.2
16	8.7	9.6	8.5	8.7		10	12	9.6	9.6	7.8	7.2	7.2
17	8.7	9.9	8.7	8.7		10	12	9.6	9.6	7.8	7.2	7.5
18	9.7	9.6	8.7	8.7		10	12	9.3	9.6	7.8	7.8	7.5
19	8.4	11	8.7	8.7		10	12	9.3	9.6	7.8	7.8	7.2
20	8.4	11	9.0	8.7		10	11	9.3	9.3	7.5	7.5	7.2
21	8.7	11	9.0	8.7	9.0	10	11	9.3	9.3	7.5	7.2	7.8
22	8.7	11	9.0	8.5		11	11	9.3	9.0	7.8	7.2	7.2
23	9.0	11	9.0	8.5		10	12	9.3	9.0	7.8	7.2	7.2
24	9.0	11	9.0	8.5	9.0	10	11	9.3	8.7	7.8	7.2	7.2
25	9.0	11	9.0	8.5		10	11	9.3	9.0	7.5	7.5	7.2
26	8.7	11	8.7	9.0	9.0	10	11	9.6	8.7	7.8	7.5	7.2
27	9.0	11	8.7	9.0		10	11	9.6	8.7	7.8	7.5	7.2
28	9.3	10	8.7	9.6		10	11	9.6	8.7	7.8	7.5	7.2
29	9.3	9.5	8.7	9.5		11	10	9.6	8.7	7.8	7.2	6.9
30	9.3	9.0	8.7	9.5	------	11	10	9.6	8.4	7.8	7.5	6.9
31	9.3	------	8.7	9.5	------	12	------	9.6	------	7.8	7.2	------
TOTAL	271.2	299.4	273.8	272.9	270.0	312.6	366	305.9	276.5	248.4	231.5	218.4
MEAN	8.75	9.98	8.83	8.80	9.31	10.1	12.2	9.87	9.22	8.01	7.47	7.28
MAX	9.3	11	9.6	9.6	-	12	14	12	9.9	8.7	7.8	7.8
MIN	8.4	9.0	7.5	8.0	-	9.3	10	9.3	8.4	7.5	7.2	6.9
AC-FT	538	594	543	541	536	620	726	607	549	493	459	433

CAL YR 1963: TOTAL 3,584.8 MEAN 9.82 MAX 26 MIN 7.5 AC-FT 7,110
WAT YR 1964: TOTAL 3,346.8 MEAN 9.14 MAX 14 MIN 6.9 AC-FT 6,640

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.2	7.8	9.0	7.5	8.0	8.5	34	12	9.9	7.5	9.0	8.3
2	7.2	7.8	9.0	7.5	7.5	8.5	39	12	9.3	7.5	9.0	8.3
3	7.5	7.8	8.7	7.0	8.5	8.4	36	12	9.3	8.1	9.3	9.0
4	7.5	8.1	8.4	7.5	9.0	8.7	36	12	9.6	8.4	9.0	8.4
5	7.5	8.1	8.4	7.5	9.5	9.0	17	11	9.6	8.4	9.0	7.8
6	7.5	7.8	8.1	7.5	9.5	9.3	16	11	9.6	8.7	8.4	7.2
7	7.5	7.8	8.1	7.0	9.0	9.3	15	11	9.6	9.0	8.4	6.9
8	7.5	7.8	8.1	7.5	9.0	9.6	15	11	9.3	9.0	8.7	7.5
9	7.5	8.1	8.1	7.5	9.0	9.6	15	11	9.3	9.0	8.7	8.4
10	7.2	9.1	8.1	7.5	8.5	9.3	41	11	8.7	9.0	8.4	8.4
11	7.2	8.1	8.1	7.5	7.5	9.6	43	11	8.4	9.0	8.1	8.4
12	7.5	7.8	7.0	7.5	8.0	9.9	41	11	8.4	9.0	8.1	8.4
13	7.5	8.1	7.5	7.5	8.5	10	43	11	8.4	9.0	8.1	8.7
14	7.5	8.1	7.5	8.0	8.0	10	40	11	8.4	9.0	8.4	8.7
15	7.5	8.1	7.0	8.0	8.0	10	41	11	8.4	8.7	8.7	8.4
16	7.5	8.1	5.0	8.0	8.5	10	44	11	8.4	8.7	8.7	9.0
17	7.5	8.4	4.6	8.0	8.7	10	44	11	8.4	8.7	8.7	9.0
18	7.5	8.4	6.0	8.0	9.4	10	40	11	8.4	8.4	8.7	9.0
19	7.5	8.4	7.0	8.0	8.4	10	43	11	8.1	9.0	9.0	9.0
20	7.8	8.4	7.5	8.0	8.1	10	46	11	7.8	9.0	9.9	9.0
21	7.8	8.4	8.0	8.0	8.0	9.9	44	11	7.8	9.0	9.3	9.0
22	7.8	8.4	8.0	8.0	7.5	9.6	43	11	7.8	9.0	9.0	9.0
23	7.8	8.4	7.5	8.0	7.8	9.6	24	11	7.8	8.7	9.3	9.0
24	7.8	9.0	6.5	8.0	7.8	9.4	23	11	7.8	8.7	9.3	9.0
25	7.8	9.0	6.0	7.0	7.8	9.3	22	11	7.8	8.7	9.0	9.0
26	7.8	9.0	6.5	7.5	7.8	9.3	21	10	7.5	8.7	9.0	9.0
27	7.8	9.0	7.0	8.0	9.6	9.0	14	10	7.5	9.0	9.0	9.0
28	7.8	9.0	7.0	8.5	8.7	9.0	13	10	7.5	9.0	9.3	9.0
29	7.8	9.0	7.5	9.0	------	9.0	12	10	7.5	8.7	9.0	9.0
30	7.8	9.0	7.5	9.0	------	13	12	9.9	7.5	8.7	9.3	9.0
31	7.8	------	7.5	8.5	------	28	------	9.9	------	9.0	9.3	------
TOTAL	234.9	249.3	230.2	242.0	234.6	314.8	917	338.8	255.0	270.3	275.1	259.5
MEAN	7.56	8.31	7.43	7.81	8.38	10.2	30.6	10.9	8.50	8.72	8.87	8.65
MAX	7.8	9.0	9.0	9.0	9.6	28	46	12	9.9	9.0	9.9	9.3
MIN	7.2	7.8	4.6	7.0	7.5	8.4	12	9.9	7.5	7.5	8.1	6.6
AC-FT	466	494	457	480	465	624	1,820	672	506	536	546	515

CAL YR 1964: TOTAL 3,216.8 MEAN 8.79 MAX 14 MIN 4.6 AC-FT 6,380
WAT YR 1965: TOTAL 3,821.5 MEAN 10.5 MAX 46 MIN 4.6 AC-FT 7,580

Note.--No gage-height record Jan. 12 to Feb. 16.

12-4075.2. Deer Creek near Valley, Wash.

Location.--Lat 48°07'25", long 117°48'05", in SE¼SE¼ sec.6, T.30 N., R.40 E., on left bank at downstream side of county road bridge, 2 miles upstream from confluence with Sheep Creek and 5 miles southwest of Valley.

Drainage area.--36.0 sq mi.

Records available.--July 1959 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,060 ft (from topographic map).

Average discharge.--6 years, 18.6 cfs (13,470 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (80 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Nov. 25, 1960	-	166	2.06	Apr. 3, 1961	2330	124	2.15	Apr. 6, 1963	2100	119	2.24
Jan. 29, 1961	-	-	a 2.72								
Feb. 9, 1961	1630	108	2.09	Feb. 28, 1962	-	-	a 2.80	Apr. 2, 1964	1700	* 88	2.11
Feb. 11, 1961	2000	* 184	2.30	Apr. 27, 1962	1400	* 76	2.04	Apr. 8, 1964	2230	86	2.09
Feb. 15, 1961	1900	84	1.99								
Feb. 21, 1961	1600	137	2.18	(b)	-	-	a 3.47	Apr. 10, 1965	0300	134	2.71
Mar. 16, 1961	2100	96	2.10	Mar. 28, 1963	0800	* 124	2.26	Apr. 16, 1965	2000	127	2.68
								Apr. 21, 1965	1300	* 142	2.72

a Backwater from ice.
b Sometime Jan. 10-16, 1963.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Aug. 12, 13, 1961	0.80	0.78	1964	Aug. 17, 1964	4.0	1.06
1962	Jan. 22, 23, 1962	a 4	-	1965	Dec. 17, 1964	a 2.0	-
1963	Aug. 17, 1963	3.6	1.04				

a Minimum daily.

1959-65: Maximum discharge, 425 cfs Mar. 29, 1960 (gage height, 2.33 ft); maximum gage height, 3.47 ft sometime Jan. 10-16, 1963 (backwater from ice); minimum discharge, 0.80 cfs Aug. 12, 13, 1961 (gage height, 0.78 ft).

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. No regulation. Small diversion above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.8	6.3	15	7.6	11	45	96	63	25	13	8.7	6.3
2	5.8	6.1	14	7.3	16	42	108	61	23	12	8.3	5.6
3	5.8	6.0	14	7.0	13	39	124	59	22	12	7.9	5.6
4	5.8	6.0	12	7.5	13	35	124	59	21	12	5.9	5.3
5	5.9	6.2	10	7.6	19	34	114	53	20	13	3.2	5.0
6	6.1	6.5	9.0	8.0	30	34	96	51	20	12	4.7	5.0
7	6.7	6.5	8.0	7.8	38	33	84	49	28	12	5.3	4.7
8	9.2	6.5	8.0	7.8	35	32	76	48	22	11	2.4	4.7
9	6.9	6.8	8.0	8.3	62	35	67	49	20	11	2.0	4.7
10	6.3	7.2	7.5	13	91	35	63	63	20	11	2.1	4.7
11	5.9	7.5	7.5	13	143	34	60	67	19	9.9	1.4	4.7
12	5.9	7.4	9.0	13	130	34	64	66	20	9.9	1.0	4.7
13	5.8	7.4	11	13	91	37	63	61	19	9.3	1.2	4.7
14	5.8	7.5	9.4	14	73	61	59	64	19	9.5	1.4	5.3
15	5.9	8.0	9.0	17	76	78	54	60	17	9.5	1.4	4.4
16	5.9	10	7.5	25	71	86	53	57	16	9.5	2.6	4.7
17	5.9	14	8.0	23	60	86	52	59	16	9.1	4.7	4.7
18	5.9	24	9.2	21	51	82	52	53	23	9.1	5.6	4.7
19	5.9	18	8.6	16	48	80	50	50	18	8.7	3.8	4.7
20	5.8	40	8.6	14	48	84	48	46	17	9.7	3.0	4.7
21	5.6	70	8.6	12	88	80	46	45	16	8.3	6.3	4.7
22	5.6	40	8.6	11	91	76	45	43	15	7.9	6.7	5.0
23	5.6	30	8.6	11	76	84	44	39	15	11	6.7	5.0
24	5.8	50	8.6	9.5	66	80	42	37	15	12	6.7	5.0
25	5.8	110	8.6	8.5	60	78	42	35	14	11	7.1	5.3
26	5.6	70	8.3	6.0	50	84	41	33	13	9.5	7.1	5.0
27	5.9	30	8.0	5.0	48	82	41	32	13	9.5	7.1	5.0
28	5.9	20	7.6	4.8	43	80	41	30	13	9.1	6.7	5.0
29	6.3	15	7.8	5.0	------	80	45	28	13	9.1	7.1	5.0
30	6.1	15	7.8	5.3	------	80	66	29	13	9.1	5.6	5.3
31	6.1	------	7.6	11	------	86	------	28	------	9.1	5.9	------
TOTAL	187.3	657.9	283.4	340.0	1,641	1,916	1,960	1,517	545	318.4	149.6	149.2
MEAN	6.04	21.9	9.14	11.0	58.6	61.8	65.3	48.9	18.2	10.3	4.83	4.97
MAX	9.2	110	15	25	143	86	124	67	28	13	8.7	6.3
MIN	5.6	6.0	7.5	4.8	11	32	41	28	13	7.9	1.0	4.4
CFSM	.17	.61	.25	.30	1.63	1.72	1.81	1.36	.50	.29	.13	.14
IN.	.19	.68	.29	.35	1.70	1.98	2.02	1.57	.56	.33	.15	.15
AC-FT	372	1,300	562	674	3,250	3,800	3,890	3,010	1,080	632	297	296

CAL YR 1960: TOTAL 8,097.1 MEAN 22.1 MAX 228 MIN 5.6 CFSM .61 IN 8.36 AC-FT 16,060
WAT YR 1961: TOTAL 9,664.8 MEAN 26.5 MAX 143 MIN 1.0 CFSM .74 IN 9.98 AC-FT 19,170

Note.--No gage-height record Nov. 3 to Dec. 6. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4075.2. Deer Creek near Valley, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.6	5.9	7.9	9.0	10	11	55	34	20	8.7	6.4	5.4
2	5.3	5.9	7.9	9.0	10	11	62	33	19	8.7	6.4	5.1
3	5.3	5.9	7.9	9.5	10	11	63	40	20	8.7	6.8	5.1
4	5.3	5.9	7.9	10	10	11	63	47	20	8.7	6.8	5.1
5	5.3	5.6	7.9	10	10	11	62	44	20	8.7	6.8	5.1
6	5.0	5.6	7.5	10	10	11	65	44	21	8.7	6.8	4.8
7	5.0	5.6	7.5	10	10	11	68	42	18	8.7	6.8	4.8
8	5.3	5.6	7.0	10	11	11	58	42	17	8.3	6.8	4.8
9	5.3	5.6	6.5	9.0	14	11	51	50	17	7.9	6.8	4.8
10	5.3	5.6	6.0	8.0	18	11	44	56	16	7.9	6.4	5.1
11	5.6	5.6	5.5	7.0	18	11	40	62	15	7.9	6.0	5.7
12	5.6	5.6	5.0	7.5	18	11	39	61	15	7.9	6.0	5.4
13	5.6	5.6	5.5	8.0	20	11	40	56	17	7.9	6.0	5.1
14	5.6	5.6	6.0	8.0	22	11	44	53	19	7.9	5.7	5.4
15	5.6	5.6	6.5	7.5	21	11	51	47	16	7.5	5.7	5.7
16	5.9	5.6	7.0	7.5	19	11	51	42	15	7.5	5.7	5.7
17	5.9	5.6	7.5	7.0	17	12	45	40	14	7.5	5.4	5.4
18	5.9	5.6	8.0	7.0	16	14	42	37	13	7.5	5.4	5.4
19	5.9	5.9	8.5	6.5	16	16	45	34	13	7.5	5.4	5.4
20	6.3	6.3	9.5	6.0	16	19	44	32	12	7.5	5.4	5.4
21	6.3	6.3	11	5.0	15	22	40	29	12	7.1	5.4	5.1
22	6.3	7.1	11	4.0	15	21	37	28	12	7.1	5.7	5.1
23	7.1	7.1	10	4.0	13	21	35	27	11	6.8	5.4	5.1
24	7.9	7.1	11	5.0	12	26	35	26	11	6.8	5.4	5.1
25	7.9	7.1	11	6.0	11	38	34	26	11	6.8	5.4	4.8
26	7.9	7.1	9.0	7.0	10	55	32	26	9.9	6.8	5.4	4.8
27	7.9	7.1	8.0	8.0	10	58	52	24	9.9	6.8	5.4	4.8
28	7.1	7.5	7.5	9.0	10	46	52	25	9.5	6.4	5.7	6.4
29	6.3	7.9	8.0	9.5	-------	44	40	23	8.7	6.4	5.7	7.9
30	5.9	7.9	8.5	10	-------	45	36	22	8.7	6.4	5.7	5.7
31	5.9	-------	9.0	10	-------	50	------	20	-------	6.4	5.4	-------
TOTAL	187.1	186.4	247.0	244.0	392	663	1,425	1,175	440.7	235.4	184.1	158.9
MEAN	6.04	6.21	7.97	7.87	14.0	21.4	47.5	37.9	14.7	7.59	5.94	5.30
MAX	7.9	7.9	11	10	22	58	68	62	21	8.7	6.8	7.9
MIN	5.0	5.6	5.0	4.0	10	11	32	20	8.7	6.4	5.4	4.8
CFSM	.17	.22	.22	.22	.39	.59	1.32	1.05	.41	.21	.16	.15
IN.	.19	.19	.26	.25	.40	.68	1.47	1.21	.46	.24	.19	.16
AC-FT	371	370	490	484	778	1,320	2,830	2,330	874	467	365	315

CAL YR 1961: TOTAL 5,156.7 MEAN 25.1 MAX 143 MIN 1.0 CFSM .70 IN 9.46 AC-FT 16,160
WAT YR 1962: TOTAL 5,538.6 MEAN 15.2 MAX 68 MIN 4.0 CFSM .42 IN 5.72 AC-FT 10,990

Note.--No gage-height record Jan. 12 to Feb. 15. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.1	4.6	8.7	21	9.0	19	53	35	15	8.5	4.6	6.2
2	4.8	4.6	9.5	21	10	18	45	41	14	7.5	4.6	6.2
3	4.8	4.6	9.1	21	11	17	40	38	14	7.5	4.6	6.2
4	4.6	4.6	7.9	22	23	16	40	35	13	7.5	4.3	6.2
5	4.8	4.6	8.3	21	40	15	47	35	13	7.0	4.3	5.8
6	4.6	4.6	8.7	20	35	15	113	48	16	6.6	4.3	5.8
7	4.6	4.6	8.7	19	30	15	108	59	14	6.2	4.3	6.2
8	5.1	4.6	9.1	19	27	15	99	66	13	6.2	4.3	6.2
9	7.5	6.0	9.1	18	25	15	95	66	15	5.8	4.3	6.2
10	6.8	6.0	9.5	16	22	15	81	61	17	5.8	4.3	6.6
11	8.3	6.4	11	10	19	15	66	56	15	5.8	4.3	6.2
12	12	7.9	11	12	17	13	60	52	14	5.4	5.0	6.6
13	13	7.9	11	12	16	13	54	49	13	5.0	5.0	7.0
14	7.5	6.8	12	12	16	14	53	45	12	4.6	4.6	7.0
15	6.0	6.4	22	12	16	14	59	41	12	4.3	4.3	6.6
16	5.4	6.4	27	12	17	13	53	38	11	4.0	4.3	8.5
17	5.1	6.4	26	11	17	13	51	35	10	4.5	4.0	9.5
18	5.1	6.4	24	10	18	13	49	34	10	6.0	4.3	7.5
19	4.8	6.4	24	9.0	20	13	48	32	10	5.5	5.4	7.0
20	4.8	6.8	22	11	23	13	45	30	11	5.2	6.2	7.0
21	4.8	6.4	21	11	20	15	40	28	12	5.1	6.2	6.6
22	4.6	6.0	16	11	18	16	40	26	13	5.1	6.2	6.6
23	4.6	6.0	15	9.5	18	20	45	25	12	5.0	6.2	6.6
24	4.6	6.0	12	10	17	28	41	24	11	5.0	6.2	6.6
25	4.6	9.5	10	9.5	17	24	39	23	10	5.0	6.6	6.6
26	4.6	17	11	8.5	21	23	38	20	9.5	5.0	6.6	6.6
27	4.6	12	12	9.0	22	26	38	20	9.0	4.6	6.6	6.6
28	4.6	9.1	13	9.0	20	86	37	20	9.5	4.6	6.2	6.6
29	4.6	8.3	15	8.0	-------	65	36	18	9.0	4.6	6.2	6.6
30	4.6	8.7	20	9.0	-------	78	35	17	9.0	4.6	6.2	6.6
31	4.6	-------	23	10	-------	66	------	16	-------	4.6	6.2	-------
TOTAL	175.5	205.6	446.6	413.5	564.0	741	1,648	1,133	366.0	172.1	160.7	200.5
MEAN	5.66	6.85	14.4	13.3	20.1	23.9	54.9	36.5	12.2	5.55	5.18	6.68
MAX	13	17	27	22	40	86	113	66	17	8.5	6.6	9.5
MIN	4.6	4.6	7.9	8.0	9.0	13	35	16	9.0	4.0	4.0	5.8
CFSM	.16	.19	.40	.37	.56	.66	1.53	1.02	.34	.15	.14	.19
IN.	.18	.21	.46	.43	.58	.77	1.70	1.17	.38	.18	.17	.21
AC-FT	348	408	886	820	1,120	1,470	3,270	2,250	726	341	319	398

CAL YR 1962: TOTAL 5,745.8 MEAN 15.7 MAX 68 MIN 4.0 CFSM .44 IN 5.94 AC-FT 11,400
WAT YR 1963: TOTAL 6,226.5 MEAN 17.1 MAX 113 MIN 4.0 CFSM .47 IN 6.43 AC-FT 12,350

Note.--No gage-height record Jan. 10 to Mar. 6. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4075.2. Deer Creek near Valley, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.6	7.5	8.5	9.5	7.0	9.0	68	37	14	8.0	5.4	6.5
2	6.6	8.0	8.0	9.5	7.0	9.0	79	37	14	8.5	5.8	6.2
3	7.0	8.0	8.0	8.5	7.0	9.0	66	37	14	7.5	5.4	6.2
4	7.0	8.0	8.5	8.5	6.5	9.0	60	53	14	6.6	5.8	6.2
5	6.6	8.0	9.0	7.5	6.5	9.0	55	48	13	7.0	5.8	6.2
6	6.6	9.5	9.0	8.5	5.5	9.5	55	42	13	6.2	5.4	6.2
7	7.0	9.5	8.5	6.5	5.0	9.5	60	40	13	6.2	5.0	6.2
8	7.0	9.5	9.0	4.5	5.0	9.0	68	38	14	6.2	5.0	6.2
9	7.0	9.0	9.0	4.5	6.0	8.5	76	37	12	6.2	5.0	6.2
10	7.0	8.5	5.5	6.0	8.5	9.5	71	37	10	6.2	4.6	6.2
11	7.0	8.5	5.0	7.0	9.0	12	64	35	12	6.2	4.6	6.2
12	7.0	8.0	5.5	7.0	6.5	11	55	34	17	6.2	5.0	6.2
13	7.0	8.0	6.5	7.0	7.5	10	50	32	13	6.2	5.0	6.2
14	7.0	11	7.5	7.0	7.5	10	49	31	11	6.2	4.6	6.2
15	7.0	12	8.5	7.0	10	12	52	29	10	5.8	4.6	6.2
16	6.6	9.5	9.0	8.0	10	13	52	28	13	5.8	4.6	5.8
17	6.6	10	9.0	8.0	9.5	14	45	26	12	5.8	4.5	6.2
18	6.6	9.5	9.0	8.0	9.5	15	41	26	12	5.8	5.0	6.2
19	7.0	13	9.0	8.0	9.5	17	38	26	12	5.8	5.8	6.2
20	7.0	14	9.0	8.0	9.0	18	38	24	12	6.2	5.8	6.2
21	7.5	12	9.0	8.0	9.0	19	38	23	12	6.2	5.0	6.2
22	7.0	10	8.5	8.0	9.0	19	40	22	10	6.2	5.0	6.2
23	7.0	12	8.5	7.5	9.0	18	41	22	10	5.8	4.6	6.2
24	9.0	13	8.5	7.0	9.0	18	40	20	9.5	5.4	4.6	5.8
25	7.5	12	8.5	7.0	9.0	17	40	19	9.5	5.4	4.6	5.6
26	7.5	12	8.5	7.0	9.0	16	42	18	9.0	5.0	5.0	5.4
27	7.5	12	8.5	7.0	9.0	16	40	17	9.0	4.6	5.4	5.4
28	7.5	12	8.5	7.0	9.0	19	38	16	8.5	4.6	6.2	5.4
29	7.5	10	8.5	7.0	9.0	25	38	16	8.5	5.0	6.2	5.0
30	7.5	9.0	8.5	7.0	------	34	38	15	8.5	5.4	6.2	5.0
31	7.5	------	9.0	7.0	------	47	------	14	------	5.4	7.0	------
TOTAL	219.2	303.0	255.5	228.0	235.0	471.0	1,537	899	349.5	187.6	162.6	180.4
MEAN	7.07	10.1	8.24	7.35	8.10	15.2	51.2	29.0	11.7	6.05	5.25	6.01
MAX	8.0	14	9.0	9.5	10	47	79	53	17	8.5	7.0	6.6
MIN	6.6	7.5	5.0	4.5	5.0	8.5	38	14	8.5	4.6	4.5	5.0
CFSM	.20	.28	.23	.20	.23	.42	1.42	.81	.32	.17	.15	.17
IN.	.23	.31	.26	.24	.24	.45	1.59	.93	.36	.19	.17	.19
AC-FT	435	601	507	452	466	934	3,050	1,780	693	372	323	358

CAL YR 1963: TOTAL 6,176.5 MEAN 16.9 MAX 113 MIN 4.0 CFSM .47 IN 6.38 AC-FT 12,250
WAT YR 1964: TOTAL 5,027.8 MEAN 13.7 MAX 79 MIN 4.5 CFSM .38 IN 5.19 AC-FT 9,970

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.4	7.6	10	7.0	7.2	18	40	76	17	8.8	5.4	5.8
2	5.4	7.6	11	6.5	7.0	17	47	67	16	8.8	5.4	5.8
3	5.1	7.2	10	6.5	7.4	17	54	60	15	8.8	5.8	5.8
4	5.1	8.4	9.6	7.0	8.0	16	68	54	14	8.4	6.1	5.8
5	5.4	7.2	8.8	7.0	9.0	16	75	49	14	8.0	6.4	5.8
6	5.4	6.4	8.4	7.0	10	17	78	44	13	8.0	6.1	5.8
7	5.4	6.4	8.0	7.0	9.6	19	75	40	13	7.6	5.4	5.8
8	5.7	6.4	8.0	7.0	9.4	20	76	37	13	7.6	5.1	5.8
9	6.0	7.6	8.0	7.0	8.0	20	88	36	12	7.6	5.1	6.1
10	6.0	8.4	8.0	7.2	7.0	24	123	35	12	7.6	5.1	6.1
11	6.0	7.6	7.5	7.2	6.8	28	105	35	12	7.2	5.1	6.1
12	6.0	7.6	7.0	7.0	7.4	29	100	35	12	7.2	5.1	6.1
13	6.0	7.6	6.4	7.0	7.6	29	102	36	11	7.2	5.1	6.1
14	6.0	7.2	7.2	7.2	7.2	30	98	35	11	7.2	5.1	6.4
15	6.4	6.8	5.5	7.4	8.2	31	102	32	12	6.8	5.1	6.4
16	6.4	6.8	4.0	7.6	9.2	31	114	31	12	6.8	5.1	6.1
17	6.8	6.8	2.0	7.6	9.2	29	112	28	13	6.4	5.1	6.1
18	6.8	6.8	2.4	7.6	11	27	94	26	16	6.4	4.8	6.1
19	6.8	6.8	5.0	7.8	12	24	94	25	12	6.4	4.8	6.4
20	6.8	6.8	6.0	7.8	15	23	128	28	11	6.4	5.8	6.4
21	6.8	6.8	6.5	7.8	14	22	134	25	11	7.2	5.4	6.4
22	7.6	6.8	6.5	7.6	13	21	123	23	11	8.0	5.4	6.4
23	7.6	6.8	6.0	7.4	12	21	109	24	10	7.6	7.6	6.4
24	7.6	10	5.5	7.4	11	20	99	26	9.8	6.8	6.8	6.4
25	7.2	8.4	4.0	7.0	12	20	94	23	10	6.8	6.4	6.8
26	7.2	8.0	5.0	6.6	14	20	90	21	10	6.4	6.1	6.8
27	6.8	7.6	6.0	7.2	18	21	89	20	10	6.4	6.1	6.8
28	7.2	7.2	6.5	7.6	20	20	88	19	9.8	6.4	6.1	6.4
29	7.2	7.2	6.5	8.4	------	21	88	18	9.3	6.1	5.8	6.4
30	7.6	7.6	7.0	8.6	------	24	78	17	9.3	6.1	5.8	6.4
31	7.6	------	7.0	8.0	------	28	------	17	------	5.4	5.8	------
TOTAL	199.3	220.4	209.3	226.8	290.2	703	2,765	1,042	361.2	222.4	174.3	186.0
MEAN	6.43	7.35	6.75	7.32	10.4	22.7	92.2	33.6	12.0	7.17	5.62	6.20
MAX	7.6	10	11	8.4	20	31	134	76	17	8.8	7.6	6.8
MIN	5.1	6.4	2.0	6.5	6.8	16	40	17	9.3	5.4	4.8	5.8
CFSM	.18	.20	.19	.20	.29	.63	2.56	.93	.33	.20	.16	.17
IN.	.21	.23	.22	.23	.30	.73	2.86	1.08	.37	.23	.18	.19
AC-FT	395	437	415	450	576	1,390	5,480	2,070	716	441	346	369

CAL YR 1964: TOTAL 4,879.1 MEAN 13.3 MAX 79 MIN 2.0 CFSM .37 IN 5.04 AC-FT 9,680
WAT YR 1965: TOTAL 6,599.9 MEAN 18.1 MAX 134 MIN 2.0 CFSM .50 IN 6.82 AC-FT 13,090

Note.--No gage-height record Jan. 12 to Feb. 22, Feb. 24 to Apr. 1.

12-4075.3. Jumpoff (Joe) Lake near Valley, Wash.

Location.--Lat 48°08'10", long 117°41'10", in NW¼NW¼ sec.6, T.30 N., R.41 E., on east shore 3½ miles southeast of Valley.

Drainage area.--2.35 sq mi.

Records available.--August 1961 to September 1965.

Gage.--Tape gage read occasionally. Altitude of gage is 2,030 ft (from topographic map). Prior to Oct. 17, 1962, staff gage at same site and datum.

Extremes.--Maximum and minimum gage heights, in feet, for August 1961 to September 1965 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	Sept.29, 1961	8.65	Sept. 7, 1961	8.51
1962	May 25, 28, June 1, 1962	8.72	Jan. 27, 1962	8.25
1963	May 14, 1963	8.84	Jan. 14, 28, 1963	8.16
1964	May 4, 6, 1964	8.55	Dec. 13, 1963, Aug. 17, 1964	8.11
1965	Apr. 21, 24, 1965	8.76	Dec. 18, 1964	8.10

1961-65: Maximum gage height observed, 8.84 ft May 14, 1963; minimum observed, 8.10 ft Dec. 18, 1964.

Remarks.--No known regulation. Some pumping for irrigation.

GAGE HEIGHT, IN FEET, 1961

Aug. 14, 1961... 8.54	Aug. 28, 1961... 8.54	Sept. 8, 1961... 8.52	Sept.22, 1961... 8.60
18..... 8.52	Sept. 1..... 8.54	11..... 8.52	25..... 8.60
21..... 8.54	4..... 8.52	15..... 8.52	29..... 8.65
25..... 8.54	7..... 8.51	18..... 8.60	

Note.--Gage heights only on days listed above.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	8.51	-	-	-	-	-	8.72	-	-	8.48
2	8.62	-	-	8.38	8.30	-	8.50	-	-	8.34	-	-
3	-	8.54	-	-	-	8.32	-	-	-	-	8.50	-
4	-	-	8.47	-	-	-	8.48	-	8.66	-	-	8.48
5	-	-	-	8.38	8.31	8.36	-	8.68	-	-	-	-
6	8.64	8.52	-	-	-	-	-	-	-	8.37	8.50	-
7	-	-	-	-	-	-	8.48	8.68	8.66	-	-	8.46
8	-	-	8.44	8.38	-	-	-	-	8.66	-	-	-
9	8.64	-	-	-	8.35	8.35	8.48	-	-	8.40	-	-
10	-	8.52	-	-	-	-	-	-	-	-	8.50	8.42
11	-	-	-	-	-	-	-	-	8.62	-	-	-
12	-	-	8.41	-	8.40	-	-	8.62	-	-	-	-
13	8.64	8.52	-	8.32	-	8.30	8.50	-	-	8.42	8.50	-
14	-	-	-	-	-	-	-	8.63	-	-	-	8.42
15	-	-	-	-	-	-	8.46	-	-	8.44	-	-
16	8.64	-	8.40	8.31	8.45	-	8.50	-	8.59	8.46	-	-
17	-	8.51	-	-	-	8.31	-	-	-	-	8.50	8.42
18	-	-	8.46	8.31	-	-	-	-	8.55	-	-	-
19	-	-	-	-	8.42	8.31	-	8.62	-	-	-	-
20	8.62	8.50	-	-	-	-	8.54	-	-	8.47	8.50	-
21	-	-	8.48	-	-	-	-	8.70	-	-	-	8.47
22	-	-	8.48	8.27	-	-	-	-	8.47	-	-	-
23	8.63	-	-	-	8.36	8.30	8.52	-	-	8.47	-	-
24	-	8.53	-	-	-	-	-	-	-	-	8.50	8.48
25	-	-	8.48	-	-	-	-	8.72	8.46	-	-	-
26	-	-	-	-	8.32	8.51	-	-	-	-	-	-
27	8.63	8.54	-	8.25	-	-	8.64	-	-	8.50	8.50	-
28	-	-	-	-	-	-	-	8.72	-	-	-	8.49
29	-	-	8.42	8.28	-------	-	-	-	8.38	-	-	-
30	8.57	-	-	-	-------	8.50	8.68	-	-	8.50	-	-
31	-	-------	-	-	-------	-	-------	-	-------	-	-	-------

12-4075.3. Jumpoff (Joe) Lake near Valley, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.49	-	-	-	8.17	8.31	-	-	8.72	-	-	-
2	-	-	-	-	-	-	8.34	-	-	8.63	8.50	-
3	-	8.48	8.45	-	-	8.27	-	8.57	8.52	-	-	8.33
4	-	-	8.42	8.35	8.23	-	-	-	-	-	-	-
5	8.49	8.45	-	-	8.31	8.26	8.36	-	-	8.63	-	-
6	-	-	-	-	8.33	8.25	-	8.61	-	-	8.50	-
7	-	-	-	8.33	8.31	8.25	8.44	-	8.53	-	-	8.29
8	8.49	-	8.37	8.32	8.33	8.25	-	8.67	-	-	-	-
9	-	-	-	-	8.31	-	-	-	-	8.63	8.46	-
10	-	8.48	8.35	-	8.29	-	8.52	-	8.56	-	-	8.29
11	-	-	-	8.20	8.26	8.25	-	8.64	-	-	-	-
12	8.50	8.41	-	-	8.25	8.25	-	-	-	8.62	-	-
13	-	-	-	-	8.25	8.24	8.49	8.81	8.51	-	8.55	-
14	-	-	8.40	8.16	8.25	-	-	8.84	-	-	-	8.31
15	8.49	-	-	-	8.25	-	8.52	-	-	-	-	-
16	-	8.43	-	-	-	8.22	8.51	8.68	-	8.66	8.44	8.35
17	8.57	-	8.41	-	-	-	-	8.69	8.49	-	-	8.37
18	-	-	-	8.21	8.27	8.22	-	-	8.54	-	-	8.37
19	8.56	8.40	-	-	8.28	-	8.49	-	-	8.66	-	-
20	-	-	-	-	8.29	-	-	8.70	8.50	-	8.43	-
21	-	-	-	8.18	8.29	-	-	8.70	-	-	-	8.36
22	8.56	-	8.36	-	8.29	8.21	-	-	-	-	-	-
23	8.54	8.37	-	-	8.29	-	8.51	-	-	8.64	-	-
24	-	-	8.35	-	8.28	8.25	-	8.69	-	-	8.42	8.35
25	-	-	-	8.18	8.28	8.26	-	-	8.57	-	-	-
26	8.52	8.45	-	-	8.32	8.25	8.52	-	-	-	-	-
27	-	-	-	-	8.31	-	-	-	8.59	8.55	8.37	-
28	-	-	8.31	8.16	8.31	8.29	-	8.71	8.59	-	-	8.33
29	8.51	-	-	-	-------	-	-	-	-	8.54	-	-
30	-	8.44	-	-	-------	-	8.54	-	-	-	8.36	-
31	-	-------	8.35	-	-------	-	-------	-	-------	-	-	-------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.31	8.21	-	-	-	8.14	8.31	8.44	-	8.27	-	-
2	-	-	8.19	8.16	8.17	-	8.33	-	8.29	-	-	-
3	-	-	-	-	-	-	8.39	-	-	8.29	-	8.25
4	8.29	-	-	-	-	-	-	8.55	-	-	8.14	8.25
5	-	-	8.17	-	-	8.21	-	-	8.25	-	-	-
6	-	8.27	-	8.16	8.17	-	8.39	8.55	-	-	8.13	-
7	-	-	-	-	-	-	8.39	8.52	-	8.29	-	8.26
8	8.29	-	-	-	-	-	-	8.51	8.28	-	8.13	-
9	-	8.29	-	8.14	8.15	8.21	8.44	-	8.26	8.31	-	-
10	-	-	8.17	-	-	-	-	-	-	8.30	8.13	-
11	-	-	-	-	-	8.24	8.44	8.51	-	-	-	8.25
12	8.26	8.22	-	-	-	-	-	-	8.28	-	-	8.25
13	-	-	8.11	8.14	8.15	-	8.44	8.50	-	8.29	-	-
14	8.25	8.27	-	-	-	8.25	-	-	-	-	8.14	-
15	-	-	-	-	-	-	-	8.49	-	8.23	-	8.24
16	-	-	8.15	-	-	-	8.44	-	8.28	-	-	-
17	8.25	8.27	8.16	8.21	8.15	8.22	-	-	8.31	8.22	8.11	-
18	-	8.25	-	-	-	8.24	-	-	-	-	8.13	8.28
19	-	-	-	-	8.14	-	-	8.46	8.35	-	8.18	-
20	-	-	-	-	-	-	8.44	-	-	-	8.18	-
21	8.24	8.29	8.18	8.19	-	8.25	-	8.44	-	8.20	8.18	8.26
22	-	-	-	8.19	8.13	-	-	-	-	-	-	-
23	-	-	8.19	-	-	8.25	8.44	-	8.31	-	-	-
24	-	8.27	-	-	8.13	-	-	-	-	8.17	8.19	8.25
25	-	-	-	8.20	-	8.22	-	-	-	-	-	8.24
26	8.21	8.27	-	8.19	-	-	-	8.41	8.29	-	8.21	-
27	-	-	-	-	-	8.22	8.44	-	-	-	-	-
28	-	-	8.19	-	8.14	-	-	-	-	8.18	8.24	8.22
29	8.21	-	-	-	-	-	-	8.37	-	-	8.24	-
30	-	8.22	8.17	8.17	-------	8.26	-	-	8.27	8.17	-	8.19
31	-	-------	-	-	-------	8.28	-------	-	-------	8.17	8.25	-------

12-4075.3. Jumpoff (Joe) Lake near Valley, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	8.15	8.30	8.30	-	8.33	-	8.71	8.51	8.29	-	8.29
2	-	-	8.31	-	-	-	8.47	-	-	-	8.19	-
3	8.18	-	8.32	8.32	8.19	8.31	-	8.71	8.49	-	8.24	8.32
4	-	8.19	8.28	-	-	-	8.47	8.71	8.45	-	8.23	-
5	-	-	-	8.28	8.21	-	-	-	-	-	-	-
6	8.17	-	-	8.28	-	8.30	8.47	-	-	8.33	8.23	8.32
7	-	8.19	8.26	-	-	8.31	-	8.66	-	-	-	-
8	8.17	-	-	8.24	8.21	-	-	-	8.39	8.31	-	-
9	8.17	8.20	8.26	-	-	8.31	8.47	-	8.38	-	8.20	8.33
10	-	8.22	8.26	8.22	8.18	8.40	8.51	8.63	8.38	8.26	8.20	-
11	-	8.22	-	8.21	8.16	-	8.57	-	8.38	-	-	-
12	-	-	8.24	8.22	-	-	8.57	-	-	8.23	8.17	-
13	8.17	8.23	-	8.20	8.16	8.42	-	8.61	-	-	8.17	-
14	-	-	8.22	-	8.16	8.44	-	8.61	8.32	8.23	8.16	8.33
15	-	-	-	8.19	-	-	8.59	-	-	-	-	-
16	8.15	8.20	8.18	-	8.16	8.44	-	-	8.32	-	-	8.33
17	-	8.18	-	-	-	8.46	8.66	8.58	-	8.25	8.14	8.33
18	-	-	8.10	8.18	-	-	-	-	8.34	-	-	8.33
19	8.13	8.17	8.11	8.18	8.18	-	8.71	8.58	-	8.23	-	-
20	-	8.17	8.11	-	-	8.44	-	8.59	-	-	8.19	8.35
21	-	-	-	-	8.21	8.44	8.76	8.60	8.31	-	8.19	-
22	8.13	8.17	8.22	8.18	-	-	-	-	-	8.36	-	-
23	8.14	-	-	-	8.21	8.45	-	-	-	8.36	8.25	8.37
24	-	8.22	-	-	-	-	8.76	8.58	8.30	-	8.27	-
25	8.13	8.21	8.22	8.22	-	-	-	-	8.30	-	-	8.36
26	-	-	8.22	-	8.21	8.43	8.74	8.58	-	-	8.29	-
27	8.13	8.24	8.22	-	8.31	8.43	8.74	-	-	8.33	8.29	8.34
28	-	-	-	8.23	8.33	8.43	-	8.56	8.27	-	-	-
29	-	-	8.24	-	------	-	8.73	-	-	8.27	-	8.33
30	-	8.24	-	8.23	------	8.43	-	-	8.27	8.25	8.29	-
31	8.14	------	-	8.22	------	8.43	------	-	------	-	-	------

12-4075.5. Waits Lake near Valley, Wash.

Location.--Lat 48°11'30", long 117°47'20", in NW¼NE¼ sec.17, T.31 N., R.40 E., on north shore 2¾ miles west of Valley.
Drainage area.--14.2 sq mi.
Records available.--July 1961 to September 1965.
Gage.--Tape gage read occasionally. Altitude of gage is 1,960 ft (from topographic map). Prior to Oct. 1, 1962, staff gage at site at lake outlet half a mile down lake at same datum.
Extremes.--Maximum and minimum gage heights, in feet, for July 1961 to September 1965 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	July 21, 1961	7.07	Sept.30, 1961	6.36
1962	May 14, 1962	8.12	Oct. 7, 14, 21, 1961	6.36
1963	Apr. 16, 17, 20, 1963	8.24	Oct. 5, 1962	6.60
1964	Apr. 11, 14, 1964	8.34	Oct. 19, 21, 22, 1963, Sept.29,1964	6.72
1965	Apr. 23, 1965	9.25	Oct. 26, 30, 1964	6.65

1961-65: Maximum gage height observed, 9.25 ft Apr. 23, 1965; minimum observed, 6.36 ft Sept. 30, Oct. 7, 14, 21, 1961.
Remarks.--Lake controlled by flashboards and fish screen at outlet. Many diversions for domestic use.

GAGE HEIGHT, IN FEET, JULY TO SEPTEMBER 1961

July 21, 1961	7.07	Aug. 19, 1961	6.76	Sept. 7, 1961	6.56	Sept.23, 1961	6.40
29	7.00	21	6.76	9	6.54	30	6.36
Aug. 5	6.90	26	6.70	16	6.46		
12	6.80	Sept. 2	6.60	18	6.46		

Note.--Gage height only for days listed above.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	6.62				-	-	-	-		-
2	-	-	6.60				7.73	-	-	-		-
3	-	-	-				-	-	-	-		-
4	-	6.44	-	7.06			-	-	-	-		-
5	-	-	-				-	-	-	-		-
6	-	-	-				-	-	-	-		-
7	6.36	-	-				-	-	8.02	-		-
8	-	-	6.60				-	-	-	-		-
9	-	-	-				-	-	-	-		-
10	-	-	-				-	-	-	-		-
11	-	6.44	-				-	-	-	-		-
12	-	-	-				-	-	7.94	-		-
13	-	-	-				-	-	-	-		-
14	6.36	-	-				-	8.12	-	-		6.58
15	-	-	-				-	-	-	-		-
16	-	-	-		7.26		7.95	-	-	-		-
17	-	-	-				-	-	-	-		-
18	-	6.44	-				-	8.10	-	7.22		-
19	-	-	-				-	-	-	-		-
20	-	-	-				7.96	-	7.82	-		-
21	6.36	-	6.94				-	-	-	-		-
22	-	-	-				-	8.07	-	-		-
23	-	-	-			7.40	-	-	-	-		-
24	-	-	-				-	8.09	-	7.16		6.56
25	-	6.44	-				-	-	-	-		-
26	-	-	-				-	-	-	-		-
27	6.45	-	-				-	-	7.64	-	6.74	-
28	6.46	-	-				-	-	-	-		-
29	-	-	-		------		-	-	-	-		-
30	-	-	-		------		-	-	-	-		-
31	-	------	-		------		------	-	------	-		------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	7.29	-	-	-	-	8.17	-	-	-	-
2	-	6.84	-	-	7.34	7.52	7.98	-	-	7.49	-	-
3	-	-	-	7.51	-	-	-	-	7.85	-	7.19	6.86
4	-	-	7.31	-	7.36	7.52	-	8.18	-	-	-	6.85
5	6.60	-	-	-	-	-	-	-	-	-	-	-
6	-	6.86	-	-	-	-	8.04	-	-	7.45	7.14	-
7	-	-	-	-	-	-	-	8.18	7.84	-	-	6.80
8	-	-	7.31	-	7.50	-	-	-	-	-	-	-
9	-	6.88	-	7.48	-	7.52	-	-	-	-	-	-
10	-	-	-	-	-	-	8.19	-	-	7.42	7.10	6.74
11	-	-	7.32	-	7.50	-	-	8.20	-	-	-	-
12	-	-	-	7.41	-	7.52	-	-	7.84	-	-	-
13	-	6.95	-	-	-	-	8.21	-	-	7.42	-	-
14	-	-	-	7.40	7.48	-	-	8.17	7.80	-	7.07	-
15	-	-	7.42	-	-	7.51	-	-	-	-	-	-
16	-	-	-	-	-	-	8.24	-	-	-	7.06	-
17	6.82	6.99	7.45	-	-	-	8.24	-	-	7.37	-	6.84
18	-	-	-	-	7.50	7.50	-	-	-	-	-	6.84
19	-	-	-	7.37	-	-	-	-	7.70	-	7.02	-
20	6.83	7.01	7.46	-	7.52	-	8.24	-	-	7.32	-	-
21	-	-	-	7.36	-	-	-	8.07	-	-	-	6.82
22	-	-	-	-	-	7.49	-	-	7.63	-	-	-
23	6.83	-	-	-	7.52	-	-	-	-	7.30	6.97	-
24	6.83	7.06	-	-	-	-	8.23	-	-	-	-	-
25	-	-	-	7.34	-	7.61	-	7.93	-	-	-	6.80
26	-	-	-	-	-	-	-	-	7.58	-	-	-
27	6.84	7.16	-	-	7.54	-	8.15	-	-	7.24	6.92	-
28	-	-	-	-	-	-	-	7.91	-	-	-	6.79
29	-	-	7.47	-	------	-	-	-	7.51	7.24	-	-
30	-	-	-	7.32	------	7.82	-	-	-	-	6.88	-
31	6.84	------	7.48	-	------	-	------	7.87	------	-	-	------

12-4075.5. Waits Lake near Valley, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.77	6.74	-	7.51	7.84	-	-	-	7.77	7.54	7.10	-
2	-	-	7.23	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	8.17	-	-	-	-
4	-	-	-	7.56	7.83	7.87	8.19	-	-	7.48	7.06	6.86
5	6.75	6.75	-	-	-	-	-	8.20	7.72	-	-	-
6	-	-	7.27	-	-	-	-	8.19	-	-	-	-
7	6.75	-	-	7.58	7.82	7.89	8.27	-	-	-	-	6.82
8	-	-	-	-	-	-	-	-	-	7.48	7.02	-
9	-	6.81	-	-	-	-	-	-	7.70	-	-	-
10	-	-	7.31	-	7.81	7.89	-	-	-	-	-	-
11	-	-	-	7.62	-	-	8.34	8.12	-	7.48	-	6.79
12	6.73	6.92	-	-	-	7.90	-	-	-	-	6.99	-
13	-	-	-	7.68	7.81	-	-	-	7.73	-	-	-
14	-	-	7.32	-	-	-	8.34	-	-	7.34	-	6.80
15	6.73	6.97	-	-	-	-	-	8.04	-	-	6.95	-
16	-	-	-	7.77	-	-	-	-	7.73	-	-	-
17	-	-	7.37	-	7.80	7.93	8.33	-	-	-	-	-
18	-	-	-	-	-	-	-	7.99	-	7.26	6.92	6.85
19	6.72	7.07	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	7.72	-	-	-
21	6.72	-	7.40	7.81	-	7.99	8.28	-	7.72	-	6.95	-
22	6.72	7.10	-	-	7.78	-	-	-	7.72	-	-	6.87
23	-	-	7.43	-	-	-	-	7.89	-	-	-	-
24	-	-	-	-	-	-	-	-	-	7.19	6.92	-
25	-	-	-	7.86	7.80	7.99	8.24	-	-	-	-	-
26	6.74	7.16	-	-	-	-	-	7.83	7.64	-	-	6.80
27	-	-	7.49	-	-	-	-	-	-	-	-	-
28	-	-	-	7.84	7.75	8.01	8.21	-	-	-	-	6.74
29	6.74	7.21	-	-	-	-	-	7.80	-	7.14	6.88	6.72
30	-	-	-	-	------	8.04	-	-	-	-	-	-
31	-	------	-	-	------	8.08	------	-	------	-	6.88	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	6.98	-	-	7.66	-	-	8.19	-	-	-
2	-	6.66	-	-	-	7.67	8.16	-	-	7.52	7.22	-
3	6.70	-	-	-	7.49	7.68	8.22	9.02	-	-	-	7.07
4	-	-	-	-	-	-	-	-	8.06	-	-	-
5	6.70	6.70	7.04	-	-	7.69	-	-	-	-	7.24	-
6	-	-	-	-	7.48	-	-	8.90	-	-	7.24	-
7	-	-	-	-	-	-	8.42	-	-	7.48	-	7.02
8	6.69	-	7.04	-	-	-	-	-	-	-	-	-
9	-	6.76	-	-	7.48	7.77	-	-	7.95	-	-	-
10	-	-	-	7.44	-	-	8.72	8.76	-	7.43	-	7.01
11	6.70	-	-	-	-	-	-	-	-	-	7.18	-
12	-	6.78	7.06	-	-	-	8.86	-	7.86	7.39	-	-
13	-	6.79	-	-	7.48	7.87	-	-	-	-	-	-
14	-	-	-	7.48	-	-	-	-	-	-	7.12	-
15	6.69	-	7.07	7.48	-	7.90	8.94	-	7.79	7.36	-	7.01
16	-	6.77	-	-	7.48	-	-	-	-	-	-	-
17	-	-	-	-	-	-	9.08	-	-	-	7.12	6.99
18	-	-	-	-	-	-	-	8.50	7.75	-	-	7.00
19	6.68	6.77	7.08	7.47	-	7.94	9.11	-	-	-	-	-
20	-	-	-	-	7.48	-	-	8.50	-	7.32	-	-
21	-	-	-	-	-	-	9.24	-	-	-	7.13	6.98
22	-	-	7.14	-	-	-	-	8.44	7.69	-	-	-
23	6.66	-	-	7.46	7.48	7.97	9.25	-	-	-	7.15	-
24	-	6.83	7.19	-	-	-	9.24	8.43	-	7.30	-	6.97
25	-	-	-	-	-	-	9.21	-	7.66	-	-	-
26	6.65	-	-	7.46	-	7.99	-	-	-	-	-	-
27	-	6.91	-	-	7.64	-	-	8.35	-	7.26	-	-
28	-	-	-	-	-	-	9.15	-	7.60	-	7.13	6.95
29	-	-	-	-	------	-	-	-	-	-	-	-
30	6.65	-	-	7.47	------	8.05	-	-	-	-	7.12	-
31	-	------	7.33	-	------	-	------	-	------	7.24	-	------

12-4077. Chewelah Creek at Chewelah, Wash.

Location.--Lat 48°17'00", long 117°42'50" (revised), on line between SE¼ sec.11, and SW¼ sec.12, T.32 N., R.40 E., on left bank downstream from small road bridge to highway north of the city park in northern part of Chewelah, 2 miles upstream from mouth.

Drainage area.--94.1 sq mi (revised).

Records available.--March 1957 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,660 ft (from topographic map).

Average discharge.--8 years, 37.1 cfs (26,860 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (140 cfs, revised), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Nov. 25, 1960	0030	161	3.07	May 11, 1962	1000	* 106	2.76	May 22, 1964	1300	* 75	2.46
Apr. 12, 1961	2400	187	3.17								
May 10, 1961	1900	* 308	3.79	May 8, 1963	0100	* 153	3.01	Apr. 21, 1965	0100	* 222	3.38
								May 20, 1965	1400	147	2.82

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Jan. 26, 1961	9.6	a 1.76	1964	Aug. 17, 18, 1964	4.6	1.51
1962	Aug. 25, 1962	4.4	1.64	1965	Aug. 12, 1965	6.2	1.11
1963	Aug. 17,18, Sept. 7	3.0	1.42				

a Occurred Aug. 23, 1961.

1957-65: Maximum discharge, 355 cfs Mar. 30, 1960; maximum gage height, 3.79 ft May 10, 1961; minimum discharge, 3.0 cfs Aug. 17, 18, Sept. 7, 1963; minimum gage height, 1.11 ft Aug. 23, 1957, Aug. 12, 1965.

Remarks.--Records good except those for winter periods, which are fair. No regulation. Most of flow in South Fork used for irrigation in summer months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	18	27	19	26	65	114	135	147	41	16	18
2	14	17	28	19	41	61	125	146	141	40	16	19
3	14	17	28	17	28	58	132	141	136	39	16	17
4	14	17	26	15	25	51	132	163	132	39	16	16
5	14	17	21	19	41	55	125	167	125	37	15	16
6	15	17	19	19	45	55	116	159	118	34	17	16
7	17	17	19	19	51	51	107	161	134	34	16	16
8	24	16	19	19	38	49	102	150	118	33	15	15
9	20	17	18	20	54	52	97	163	118	31	15	15
10	18	18	17	20	62	52	90	232	110	29	16	14
11	17	19	18	20	100	51	88	250	105	26	15	14
12	18	19	20	20	97	51	128	232	110	26	16	14
13	18	18	20	20	70	54	167	214	97	24	16	13
14	17	18	20	20	59	80	134	230	87	23	16	13
15	17	17	15	37	92	86	119	224	81	22	15	13
16	17	18	13	37	88	86	114	218	74	23	13	13
17	17	20	20	27	70	81	116	237	70	18	16	12
18	17	36	21	24	61	76	112	222	75	20	14	12
19	17	24	20	21	62	81	109	216	67	20	14	13
20	17	49	20	20	68	98	107	216	61	20	14	13
21	17	81	20	19	100	93	104	220	56	19	14	13
22	17	30	20	18	95	90	100	222	52	18	12	15
23	17	27	20	18	81	87	100	216	49	32	12	16
24	17	65	20	18	78	98	100	206	47	30	12	16
25	18	107	20	17	78	98	97	200	46	23	13	16
26	18	48	20	15	68	105	100	192	44	21	13	16
27	20	35	19	13	70	107	95	192	42	20	13	17
28	24	33	19	13	65	100	97	187	42	18	13	18
29	21	28	19	15	------	102	102	176	42	20	12	17
30	19	29	19	17	------	102	132	173	42	19	12	17
31	19	------	19	27	------	105	------	163	------	19	13	------
TOTAL	543	892	624	622	1,813	2,360	3,361	6,023	2,568	818	446	457
MEAN	17.5	29.7	20.1	20.1	64.8	77.1	112	194	85.6	26.4	14.4	15.2
MAX	24	107	28	37	100	107	167	250	147	41	17	19
MIN	14	16	13	13	25	49	88	135	42	18	12	12
CFSM	.19	.32	.21	.21	.69	.82	1.19	2.06	.91	.28	.15	.16
IN.	.21	.35	.25	.25	.72	.94	1.33	2.38	1.01	.32	.18	.18
AC-FT	1,080	1,770	1,240	1,230	3,600	4,740	6,670	11,950	5,090	1,620	885	906

CAL YR 1960: TOTAL 16,833.6 MEAN 46.0 MAX 280 MIN 9.6 CFSM .49 IN 6.65 AC-FT 33,390
WAT YR 1961: TOTAL 20,557 MEAN 56.3 MAX 250 MIN 12 CFSM .60 IN 8.12 AC-FT 40,770

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4077. Chewelah Creek at Chewelah, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	18	28	21	22	18	66	61	64	20	6.4	7.2
2	19	16	23	21	22	21	70	59	62	18	6.4	6.8
3	17	17	22	28	22	21	75	68	63	16	8.4	7.2
4	17	16	22	29	22	21	75	80	61	17	12	7.0
5	17	14	22	25	20	21	75	69	59	17	11	7.2
6	16	17	17	24	21	20	80	69	57	16	11	6.8
7	20	17	14	25	21	21	84	74	53	16	11	6.4
8	20	17	13	23	23	22	75	74	52	15	11	6.8
9	19	17	12	22	25	21	70	84	49	15	10	7.2
10	19	17	10	16	33	20	65	83	47	15	9.7	8.0
11	21	18	9.0	12	33	19	65	94	44	14	9.3	12
12	22	17	8.0	13	31	18	64	90	42	13	9.7	11
13	23	16	9.5	13	32	19	69	86	46	13	9.7	9.3
14	22	18	11	12	39	20	72	81	48	12	8.0	11
15	20	15	13	11	36	20	82	79	42	12	6.8	11
16	20	13	16	10	32	21	78	76	38	12	6.8	10
17	20	13	17	10	31	23	70	75	36	11	7.2	10
18	16	15	18	9.0	30	25	70	75	34	10	6.4	10
19	20	16	20	9.0	31	26	76	78	32	11	6.0	9.3
20	19	16	22	8.0	31	31	79	74	31	10	6.0	9.3
21	19	14	34	7.0	25	31	73	73	30	9.7	5.6	9.3
22	19	17	30	7.0	21	31	68	71	29	9.7	5.2	8.4
23	22	16	25	8.0	19	31	69	70	29	9.3	5.2	8.8
24	22	19	25	9.0	18	42	70	75	27	8.4	5.2	9.3
25	21	17	29	11	16	54	70	74	27	8.0	4.8	11
26	22	11	26	16	15	63	66	75	25	8.0	6.0	11
27	25	21	16	22	14	68	75	75	24	7.6	6.8	11
28	22	27	22	24	16	61	81	79	23	7.6	7.6	14
29	19	26	22	24	-------	60	68	75	22	6.4	8.4	22
30	18	26	22	22	-------	59	64	71	21	5.6	7.6	16
31	17	-------	22	21	-------	62	-------	68	-------	6.4	7.6	-------
TOTAL	611	517	603.5	511.0	701	992	2,164	2,335	1,215	371.7	242.8	294.9
MEAN	19.7	17.2	19.5	16.5	25.0	32.0	72.1	75.3	40.5	12.0	7.83	9.83
MAX	25	27	34	28	33	68	84	94	64	20	12	22
MIN	16	11	8.0	7.0	14	18	64	59	21	5.6	4.8	6.4
CFSM	.21	.18	.21	.18	.27	.34	.77	.80	.43	.13	.08	.10
IN.	.24	.20	.24	.20	.28	.39	.86	.92	.48	.15	.10	.12
AC-FT	1,210	1,030	1,200	1,010	1,390	1,970	4,290	4,630	2,410	737	482	585

CAL YR 1961: TOTAL 20,229.5 MEAN 55.4 MAX 250 MIN 8.0 CFSM .59 IN 8.00 AC-FT 40,120
WAT YR 1962: TOTAL 10,558.9 MEAN 28.9 MAX 94 MIN 4.8 CFSM .31 IN 4.17 AC-FT 20,940

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	16	25	27	11	26	51	69	55	27	8.3	5.9
2	13	16	25	27	12	24	47	79	52	23	9.1	5.2
3	13	16	22	37	15	23	44	74	50	22	8.7	5.5
4	12	16	17	29	55	22	49	70	49	21	7.9	5.2
5	12	16	22	26	97	22	57	70	53	20	8.3	4.9
6	13	16	21	25	42	22	104	104	63	19	7.5	4.6
7	15	16	21	25	46	22	86	123	55	19	7.1	4.0
8	16	16	21	24	32	22	83	138	50	20	6.7	4.0
9	21	20	21	22	26	22	80	129	46	19	7.1	4.3
10	21	22	22	10	24	22	75	122	50	18	6.7	4.6
11	22	21	22	9.0	24	21	74	114	45	20	6.3	5.2
12	37	26	21	10	23	20	71	108	42	19	8.7	7.1
13	36	24	20	12	22	20	70	105	40	17	8.7	7.5
14	22	20	23	13	22	20	72	101	37	16	7.1	8.3
15	19	19	36	15	22	20	100	97	35	16	5.9	9.1
16	17	18	43	16	22	20	91	92	33	16	5.2	15
17	17	18	32	17	23	20	86	87	32	15	4.3	16
18	17	17	32	16	23	20	82	85	31	16	4.3	13
19	17	18	31	13	24	20	79	82	29	14	6.3	12
20	17	21	29	15	24	20	74	81	28	13	5.5	11
21	16	18	26	15	24	22	70	80	30	13	5.5	11
22	16	17	22	15	23	25	73	78	34	12	5.9	11
23	17	16	16	15	23	30	83	74	36	9.1	5.3	11
24	16	16	13	16	23	45	73	73	32	7.9	10	11
25	16	24	13	14	22	35	69	72	31	8.7	8.7	11
26	17	52	16	13	35	30	69	70	27	9.5	7.9	11
27	16	33	17	13	30	35	68	68	26	9.5	7.1	11
28	16	25	20	12	26	91	66	65	26	9.5	7.9	10
29	16	19	22	11	-------	64	65	62	26	9.1	7.5	9.5
30	14	24	37	11	-------	70	68	59	32	9.1	7.1	9.5
31	15	-------	35	11	-------	60	-------	58	-------	8.7	6.7	-------
TOTAL	546	615	743	534.0	795	935	2,179	2,688	1,175	476.1	215.9	258.4
MEAN	17.6	20.5	24.0	17.2	28.4	30.2	72.6	86.7	39.2	15.4	7.09	8.61
MAX	37	52	43	37	97	91	104	138	63	27	10	16
MIN	12	16	13	9.0	11	20	44	56	26	7.9	4.3	4.0
CFSM	.19	.22	.25	.18	.30	.32	.77	.92	.42	.16	.08	.09
IN.	.22	.24	.29	.21	.31	.37	.86	1.06	.46	.19	.09	.10
AC-FT	1,080	1,220	1,470	1,060	1,580	1,850	4,320	5,330	2,330	944	436	513

CAL YR 1962: TOTAL 10,731.4 MEAN 29.4 MAX 94 MIN 4.8 CFSM .31 IN 4.24 AC-FT 21,290
WAT YR 1963: TOTAL 11,164.4 MEAN 30.6 MAX 138 MIN 4.0 CFSM .33 IN 4.41 AC-FT 22,140

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4077. Chewelah Creek at Chewelah, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	15	15	17	17	17	41	50	42	18	8.4	10
2	11	17	13	19	15	16	42	48	41	17	11	10
3	11	15	13	16	16	16	38	60	42	19	9.2	10
4	11	17	15	17	15	16	42	64	40	19	9.2	10
5	11	18	17	15	16	16	40	68	40	19	9.2	9.6
6	12	21	17	18	13	16	43	60	39	17	8.0	9.2
7	12	21	12	13	11	15	51	58	39	15	6.9	9.2
8	12	19	15	7.6	11	15	56	57	44	14	6.6	9.2
9	12	18	17	10	16	16	63	61	39	14	6.6	9.2
10	12	18	10	12	17	15	64	64	35	12	6.3	9.2
11	11	17	8.7	15	18	22	62	64	35	7.6	6.3	9.2
12	11	17	10	15	13	21	52	62	39	7.6	6.0	9.2
13	11	17	12	15	14	19	46	62	35	7.2	6.0	6.8
14	11	24	13	15	14	19	49	61	32	7.2	6.0	9.2
15	12	32	16	15	17	21	54	61	30	7.6	5.7	6.4
16	11	21	17	16	17	21	54	57	42	8.0	5.7	8.0
17	11	19	17	16	16	21	45	60	39	8.4	5.1	11
18	11	18	17	16	16	21	42	62	39	7.6	8.4	18
19	11	23	17	16	16	22	42	63	42	6.9	15	13
20	11	30	17	16	15	22	44	66	36	6.6	10	14
21	13	18	17	15	15	24	44	70	33	6.9	8.8	13
22	13	20	16	15	16	23	51	70	30	6.9	8.4	12
23	17	23	16	15	15	20	51	64	27	7.2	8.0	11
24	17	23	15	15	16	18	50	61	24	6.9	8.0	10
25	17	19	15	15	15	21	49	56	24	6.6	7.2	10
26	15	24	15	15	15	21	53	53	23	6.0	8.0	10
27	14	23	15	15	15	21	51	51	24	6.3	8.8	10
28	15	19	15	15	16	22	47	48	23	6.6	10	10
29	15	16	15	15	15	25	49	47	23	6.3	10	12
30	16	15	15	16	------	28	52	43	21	7.2	11	12
31	15	------	15	16	------	35	------	42	------	6.6	12	------
TOTAL	392	597	457.7	466.6	441	625	1,467	1,813	1,022	312.2	255.8	314.4
MEAN	12.6	19.9	14.8	15.1	15.2	20.2	48.9	58.5	34.1	10.1	8.25	10.5
MAX	17	32	17	19	18	35	64	70	44	19	15	18
MIN	10	15	8.7	7.6	11	15	38	42	21	6.0	5.1	8.0
CFSM	.13	.21	.16	.16	.16	.21	.52	.62	.36	.11	.09	.11
IN.	.15	.24	.18	.18	.17	.25	.58	.72	.40	.12	.10	.12
AC-FT	778	1,180	908	925	875	1,240	2,910	3,600	2,030	619	507	624

CAL YR 1963: TOTAL 10,707.1 MEAN 29.3 MAX 138 MIN 4.0 CFSM .31 IN 4.23 AC-FT 21,240
WAT YR 1964: TOTAL 8,163.7 MEAN 22.3 MAX 70 MIN 5.1 CFSM .24 IN 3.23 AC-FT 16,190

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	12	37	15	15	27	47	166	86	31	14	15
2	12	12	36	13	12	25	58	157	82	30	14	14
3	12	12	26	14	16	26	59	140	77	30	20	14
4	12	15	21	14	18	25	64	142	71	28	21	14
5	12	19	19	14	17	26	70	133	68	27	20	14
6	12	15	12	16	19	29	73	125	64	25	20	14
7	12	14	13	16	18	30	69	119	62	24	17	13
8	12	13	18	16	18	32	71	114	58	24	16	13
9	13	16	18	16	16	34	82	110	56	22	14	15
10	13	21	18	16	12	37	120	108	53	22	13	14
11	13	19	15	16	12	44	104	108	51	20	13	13
12	12	16	10	16	13	48	106	110	52	20	12	13
13	12	15	14	16	17	48	117	114	54	19	12	14
14	12	14	16	16	16	47	125	116	50	19	12	19
15	12	13	15	16	16	49	139	116	51	19	12	22
16	12	11	13	16	16	50	152	121	49	18	11	18
17	12	11	11	16	17	36	144	117	54	17	11	20
18	12	13	9.0	16	19	30	135	111	65	17	11	19
19	12	13	7.6	16	20	34	142	108	68	17	10	20
20	12	12	8.0	16	22	37	206	127	52	18	18	20
21	12	12	8.4	16	20	38	210	118	46	24	15	19
22	12	11	9.6	16	19	36	204	108	42	33	14	18
23	12	14	12	16	16	33	193	105	40	26	23	18
24	12	22	14	16	15	29	186	105	39	24	18	18
25	12	19	13	13	19	32	179	102	36	20	20	16
26	12	17	10	14	19	30	179	98	35	18	24	17
27	12	15	13	16	44	32	178	96	35	16	19	18
28	12	14	14	16	40	30	183	94	35	16	18	18
29	12	11	14	16	------	34	184	92	35	15	18	17
30	12	16	14	18	------	36	176	89	32	15	17	16
31	12	------	15	20	------	39	------	86	------	14	15	------
TOTAL	376	437	473.6	487	521	1,083	3,955	3,564	1,598	668	492	495
MEAN	12.1	14.6	15.3	15.7	18.6	34.9	132	115	53.3	21.5	15.9	16.5
MAX	13	22	37	20	44	50	210	166	86	33	24	22
MIN	12	11	7.6	13	12	25	47	86	32	14	10	13
CFSM	.13	.15	.16	.17	.20	.37	1.40	1.22	.57	.23	.17	.18
IN.	.15	.17	.19	.19	.21	.43	1.56	1.41	.63	.26	.19	.20
AC-FT	746	867	939	966	1,030	2,150	7,840	7,070	3,170	1,320	976	982

CAL YR 1964: TOTAL 8,003.6 MEAN 21.9 MAX 70 MIN 5.1 CFSM .23 IN 3.16 AC-FT 15,870
WAT YR 1965: TOTAL 14,149.6 MEAN 38.8 MAX 210 MIN 7.6 CFSM .41 IN 5.59 AC-FT 28,070

12-4080. Colville River at Blue Creek, Wash.

Location.--Lat 48°19'10", long 117°49'10", in NW¼NW¼ sec.31, T.33 N., R.40 E., on right bank upstream from county road bridge just downstream from mouth of Blue Creek at town of Blue Creek, 5½ miles northwest of Chewelah.

Drainage area.--428 sq mi.

Records available.--October 1922 to September 1923, April to September 1924, July 1960 to October 1965 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 1,620 ft (from topographic map). Prior to Oct. 1, 1924, staff gage and wooden control on left bank at different datum.

Average discharge.--5 years (1960-65), 155 cfs (112,200 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (400 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 15, 1961	2200	* 630	4.70	Mar. 27, 1962	2200	* 455	4.03	Apr. 11, 1964	1000	* 345	3.17
Apr. 5, 1961	2300	512	4.27								
May 12, 1961	1400	618	4.66	Apr. 9, 1963	1100	* 482	4.15	Mar. 15, 1965	2200	422	3.81
				May 9, 1963	1130	449	4.00	Apr. 23, 1965	1030	* 834	5.09

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Dec. 16, 1960	68	1.05	1964	Dec. 10, 1963	23	0.60
1962	July 25, 1962	29	.77	1965	Dec. 17, 1964	b 32	
1963	Jan. 10, 30, 1963	30	a .65				

a Occurred July 31, Aug. 1, 1963.
b Minimum daily.

1922-24, 1960-65: Maximum discharge, 834 cfs Apr. 23, 1965 (gage height, 5.09 ft); minimum observed, 5.3 cfs Aug. 13, 1924 (gage height, 0.09 ft, site and datum then in use).

Remarks.--Records excellent except those for winter periods, which are good. No regulation. Many small diversions for irrigation above station.

Revisions.--WSP 1716: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	74	86	151	103	187	398	485	377	347	127	86	83
2	72	86	149	101	196	385	492	406	331	122	84	86
3	72	86	149	90	236	370	498	413	312	120	82	84
4	72	83	144	75	173	349	505	436	299	120	82	82
5	72	84	127	80	200	335	510	466	285	120	80	80
6	74	83	104	100	275	333	510	468	272	119	83	80
7	82	83	103	106	313	336	502	457	276	114	83	80
8	95	82	100	106	314	328	482	453	290	109	80	80
9	95	80	98	109	292	325	455	453	277	106	78	80
10	83	86	95	117	353	336	436	482	273	104	80	80
11	80	98	107	115	460	342	416	558	258	101	78	77
12	82	101	111	115	532	346	415	612	255	98	78	78
13	82	94	114	115	565	365	440	606	252	96	78	78
14	80	95	115	123	594	394	457	600	233	94	78	80
15	80	98	90	160	618	436	434	600	217	94	78	80
16	78	96	70	219	627	464	410	597	205	94	76	80
17	80	107	80	190	594	475	396	594	196	94	60	73
18	80	154	90	155	550	478	388	594	200	92	80	77
19	78	136	100	138	520	475	379	570	198	90	77	78
20	78	157	106	125	508	480	370	542	176	72	76	77
21	78	269	104	119	508	482	360	508	168	82	78	77
22	80	284	104	122	508	485	349	482	160	83	74	77
23	82	186	103	119	502	490	343	482	151	98	72	80
24	80	229	103	117	495	495	333	457	144	114	74	82
25	83	332	104	100	485	495	326	438	138	98	76	82
26	83	386	104	90	462	498	322	413	133	92	80	83
27	84	323	103	80	436	495	319	353	128	89	80	83
28	92	211	101	78	413	498	314	384	128	88	77	86
29	95	173	103	80	------	495	314	376	111	89	76	89
30	89	159	103	85	------	492	338	365	131	89	76	90
31	86	------	103	120	------	488	------	356	------	88	77	------
TOTAL	2,521	4,527	3,338	3,552	11,916	13,163	12,298	14,948	6,544	3,096	2,435	2,427
MEAN	81.3	151	108	115	426	425	410	482	218	99.9	78.5	80.9
MAX	95	386	151	219	627	498	510	612	347	127	86	90
MIN	72	80	70	75	173	325	314	356	111	72	72	77
AC-FT	5,000	8,980	6,620	7,050	23,640	26,110	24,390	29,650	12,980	6,140	4,830	4,810

CAL YR 1960: TOTAL MEAN MAX MIN AC-FT
WAT YR 1961: TOTAL 80,765 MEAN 221 MAX 627 MIN 70 AC-FT 160,200

12-4080. Colville River at Blue Creek, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	89	94	125	117	128	110	331	273	226	91	43	47
2	89	92	122	115	130	135	330	253	213	90	41	46
3	89	94	117	125	130	127	333	251	208	90	45	44
4	88	95	114	136	130	130	344	286	212	88	60	44
5	88	90	117	127	125	131	350	302	208	76	65	44
6	86	92	109	123	123	131	353	288	210	87	64	47
7	90	94	107	125	122	127	359	290	200	83	62	46
8	94	94	92	122	125	128	368	294	197	82	62	44
9	92	94	70	114	136	136	356	304	179	77	60	47
10	92	95	60	68	165	130	334	328	171	74	59	50
11	94	96	65	55	182	128	310	343	168	71	58	55
12	96	95	70	65	178	125	292	353	162	68	58	62
13	104	94	75	80	181	125	285	351	162	65	57	58
14	100	95	80	90	222	128	286	344	178	64	56	60
15	96	94	80	85	257	131	296	334	170	62	56	60
16	95	86	90	85	238	138	309	320	157	64	54	60
17	95	88	80	85	230	146	308	308	146	60	53	60
18	94	94	90	85	228	165	293	300	141	56	52	60
19	94	95	114	80	224	183	286	292	135	58	48	59
20	94	94	130	80	230	212	294	287	128	59	46	59
21	94	90	157	80	209	241	256	282	125	56	43	57
22	95	98	157	80	183	230	283	273	122	56	43	59
23	100	94	143	80	165	252	268	258	115	53	43	59
24	106	98	149	80	120	278	260	262	115	40	43	59
25	100	95	157	90	110	346	256	268	114	30	43	59
26	101	72	138	101	100	401	251	263	107	43	44	59
27	112	104	104	120	90	443	266	260	104	52	50	59
28	112	130	112	127	100	451	317	257	103	47	52	62
29	98	122	133	131	------	416	331	261	98	44	53	93
30	95	120	130	131	------	372	298	254	96	41	50	80
31	94	------	119	128	------	343	------	240	------	41	47	------
TOTAL	2,966	2,888	3,396	3,110	4,560	6,539	9,245	8,479	4,661	1,968	1,613	1,707
MEAN	95.7	96.3	110	100	163	211	308	290	155	63.5	52.0	56.9
MAX	112	130	157	136	257	451	368	353	226	91	65	93
MIN	86	72	60	55	90	110	251	240	96	30	41	44
AC-FT	5,880	5,730	6,740	6,170	9,040	12,970	18,340	17,810	9,240	3,900	3,200	3,390

CAL YR 1961: TOTAL 79,629 MEAN 218 MAX 627 MIN 60 AC-FT 157,900
WAT YR 1962: TOTAL 51,632 MEAN 141 MAX 451 MIN 30 AC-FT 102,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	71	77	133	135	43	162	371	278	172	91	42	47
2	70	77	128	133	50	156	331	287	165	82	43	47
3	70	77	131	160	52	147	290	305	162	78	43	47
4	66	77	114	162	76	141	272	296	160	74	42	46
5	68	80	111	141	101	142	277	281	158	70	43	45
6	68	80	114	139	312	137	326	299	184	69	42	46
7	71	80	115	136	349	136	354	348	174	69	42	45
8	76	83	115	133	330	134	457	401	166	67	41	45
9	87	93	114	128	318	134	475	443	161	58	41	45
10	99	104	114	65	222	134	464	438	178	54	42	45
11	98	98	112	42	149	132	436	423	156	80	42	46
12	130	114	109	59	145	129	408	412	149	75	43	48
13	143	115	107	65	141	127	385	392	139	67	52	50
14	115	104	115	74	124	129	367	372	130	62	47	52
15	96	98	147	80	124	130	359	351	124	59	43	53
16	88	99	207	80	127	129	374	335	119	59	42	64
17	85	98	184	83	144	127	381	320	115	58	42	83
18	83	99	167	87	141	125	375	305	112	66	42	70
19	83	96	157	99	155	125	368	288	105	61	43	62
20	83	99	151	99	166	122	360	275	100	56	44	59
21	82	98	141	71	156	125	342	268	105	55	45	59
22	79	93	135	71	147	134	324	256	119	54	45	58
23	79	91	117	65	144	142	327	245	129	52	45	57
24	80	90	91	71	144	186	341	238	119	51	47	58
25	79	101	85	64	144	182	327	228	112	51	49	58
26	77	152	104	56	164	167	309	218	102	52	51	58
27	77	152	103	59	191	162	299	212	96	51	49	58
28	77	120	107	56	168	250	293	204	95	48	48	59
29	77	107	109	44	------	337	288	193	91	47	47	58
30	77	111	128	37	------	361	281	185	102	48	47	56
31	72	------	155	40	------	378	------	174	------	39	46	------
TOTAL	2,606	2,963	3,920	2,654	4,617	5,122	10,601	9,270	4,000	1,903	1,380	1,626
MEAN	84.1	98.8	126	85.6	165	165	353	299	133	61.4	44.5	54.2
MAX	143	152	207	162	349	378	475	443	184	91	52	83
MIN	66	77	85	37	43	122	272	174	91	39	41	45
AC-FT	5,170	5,880	7,780	5,260	9,160	10,160	21,030	18,390	7,930	3,770	2,740	3,230

CAL YR 1962: TOTAL 51,871 MEAN 142 MAX 451 MIN 30 AC-FT 102,900
WAT YR 1963: TOTAL 50,662 MEAN 139 MAX 475 MIN 37 AC-FT 100,500

12-4080. Colville River at Blue Creek, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	55	72	70	78	102	92	300	231	136	76	40	59
2	56	75	67	84	97	92	322	230	110	73	48	55
3	55	76	67	80	97	87	337	234	105	80	48	56
4	56	76	73	80	98	91	326	272	129	80	48	54
5	59	83	80	75	96	98	313	292	127	76	49	52
6	63	91	81	80	75	97	295	281	122	75	45	50
7	63	104	59	66	80	92	289	263	123	70	42	49
8	63	99	75	38	73	94	295	248	131	64	38	49
9	63	94	81	57	102	100	310	241	136	60	37	50
10	63	84	38	75	110	91	331	240	116	62	38	51
11	62	81	52	80	104	113	342	242	112	56	38	52
12	62	81	60	80	69	168	336	235	138	55	38	54
13	62	81	70	76	34	149	312	223	129	50	40	54
14	63	89	72	76	96	141	292	224	119	44	38	54
15	63	125	90	76	100	142	285	212	108	48	38	52
16	62	100	82	81	97	176	290	214	118	45	39	52
17	62	91	82	88	92	189	293	209	130	45	35	55
18	62	92	82	91	92	194	281	208	131	44	37	70
19	62	102	92	86	94	207	264	206	147	43	60	60
20	63	134	88	83	87	231	251	206	136	41	56	63
21	66	104	83	89	88	250	243	205	125	35	49	63
22	69	91	81	98	84	267	242	209	115	31	44	63
23	70	104	81	84	80	264	252	201	105	38	44	62
24	72	122	81	86	81	193	251	201	99	36	41	59
25	75	105	81	94	78	187	242	190	94	36	41	59
26	69	104	80	94	76	193	243	183	91	36	43	57
27	67	104	78	88	80	214	246	178	92	35	45	57
28	67	96	78	84	84	237	241	168	91	33	50	55
29	72	83	76	86	81	256	232	155	86	35	51	53
30	72	72	76	94	------	268	230	147	83	40	55	59
31	72	------	75	96	------	281	------	142	------	40	60	------
TOTAL	1,990	2,815	2,311	2,519	2,587	5,275	8,486	6,694	3,486	1,587	1,372	1,674
MEAN	64.2	93.8	74.5	81.3	89.2	170	283	216	116	51.3	44.3	56.5
MAX	75	134	88	96	110	287	342	292	147	80	60	70
MIN	55	72	38	38	69	85	230	142	83	31	35	49
AC-FT	3,950	5,580	4,580	5,000	5,130	10,460	16,830	13,280	6,920	3,150	2,720	3,360

CAL YR 1963: TOTAL 48,285 MEAN 132 MAX 475 MIN 37 AC-FT 95,780
WAT YR 1964: TOTAL 40,821 MEAN 112 MAX 342 MIN 31 AC-FT 80,970

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	57	64	112	80	89	200	292	599	206	94	53	70
2	57	64	150	75	78	238	343	567	197	90	54	70
3	56	64	125	75	96	220	387	522	186	90	60	69
4	56	70	104	80	105	207	412	490	172	87	72	69
5	56	84	94	85	110	204	418	461	164	84	69	69
6	56	73	88	85	118	221	420	438	150	79	58	69
7	55	67	80	85	115	243	414	411	154	74	66	67
8	55	56	81	85	113	265	402	393	147	73	67	67
9	63	70	83	85	113	276	402	358	145	70	62	70
10	63	92	89	85	96	291	468	336	140	67	56	70
11	62	84	91	85	84	324	533	322	136	69	56	69
12	60	76	57	85	91	382	554	313	136	65	56	69
13	60	75	73	85	104	418	567	310	140	56	55	67
14	59	73	80	86	99	417	578	311	137	63	56	72
15	59	67	64	89	92	418	595	307	137	63	53	70
16	59	66	34	89	110	418	623	306	138	62	52	73
17	59	64	32	91	108	397	655	305	160	59	52	72
18	62	67	40	89	107	328	659	293	180	56	52	72
19	62	69	50	86	113	259	675	281	160	56	51	72
20	62	67	60	84	131	237	747	282	140	58	56	73
21	62	67	70	84	131	236	798	304	130	66	63	73
22	62	67	73	83	125	232	816	297	120	81	60	70
23	62	70	70	83	113	224	828	273	114	80	77	69
24	62	94	60	88	107	196	816	266	108	72	87	69
25	62	99	40	64	115	189	786	268	107	66	73	70
26	63	96	55	76	113	184	742	256	102	62	84	69
27	63	92	65	96	202	180	695	243	102	62	79	69
28	63	93	70	96	231	193	659	233	101	60	73	69
29	63	75	75	97	------	158	647	224	104	56	72	69
30	64	78	80	104	------	230	619	218	98	58	72	67
31	64	------	80	107	------	251	------	210	------	56	70	------
TOTAL	1,868	2,243	2,333	2,667	3,269	8,356	17,550	10,387	4,211	2,134	1,973	2,099
MEAN	60.3	74.8	75.3	86.0	117	270	585	335	140	68.8	63.6	70.0
MAX	64	99	150	107	231	418	828	599	206	94	87	76
MIN	55	64	32	64	78	180	292	210	98	56	51	67
AC-FT	3,710	4,450	4,630	5,290	6,480	16,570	34,810	20,600	8,350	4,230	3,910	4,160

CAL YR 1964: TOTAL 40,149 MEAN 110 MAX 342 MIN 31 AC-FT 79,630
WAT YR 1965: TOTAL 59,090 MEAN 162 MAX 828 MIN 32 AC-FT 117,200

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1965

DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.
1	69	5	70	9	70	13	72	17	72	21	73	25	73	29	72
2	70	6	70	10	70	14	73	18	73	22	73	26		30	
3	69	7	70	11	70	15	73	19	73	23	73	27	72	31	
4	70	8	70	12	70	16	72	20	73	24	73	28			

TOTAL	2,216
MEAN	71.5
MAX	-
MIN	-
AC-FT	4,400

12-4082.1. Lake Thomas near Tiger, Wash.

Location.--Lat 48°37'50", long 117°32'20", in SW¼SW¼ sec.8, T.36 N., R.42 E., on north shore of lake at Hudon's Resort, 7 miles southwest of Tiger.

Drainage area.--16.3 sq mi.

Records available.--August 1961 to September 1965.

Gage.--Staff gage read occasionally.

Extremes.--Maximum and minimum gage heights, in feet, for August 1961 to September 1965 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	Aug. 17, 1961	5.14	Sept.29, 1961	4.95
1962	Apr. 26, 1962	5.72	Sept.26, 1962	5.03
1963	Apr. 17, 1963	5.63	Sept.12, 18, 1963	4.83
1964	May 13, 1964	5.76	Oct. 24, 1963	4.84
1965	Apr. 20, 1965	5.69	Oct. 2, 1964	5.10

1961-65: Maximum gage height observed, 5.76 ft May 13, 1964; minimum observed, 4.83 ft Sept. 12, 18, 1963.

Remarks.--Stage regulated by dam at Lake Sherry outlet.

GAGE HEIGHT, IN FEET, AUGUST 1961 TO SEPTEMBER 1965

Aug. 9, 1961	5.12	May 9, 1962	5.63	Dec. 7, 1963	5.20	Feb. 27, 1964	5.22
12	5.10	17	5.59	14	5.22	Apr. 1	5.36
17	5.14	June 7	5.48	20	5.27	May 7	5.72
22	5.10	15	5.44	Jan. 10, 1963	5.24	13	5.76
23	5.10	July 9	5.28	Feb. 20	5.10	June 10	5.28
26	5.10	18	5.24	Mar. 1	5.14	July 27	5.20
Sept.20	4.97	26	5.22	22	5.23	Aug. 5	5.16
29	4.95	Aug. 1	5.22	Apr. 17	5.63	Sept. 3	5.02
Nov. 7	5.18	6	5.22	May 17	5.52	Oct. 2	5.10
9	5.19	14	5.19	23	5.49	Nov. 13	5.20
Dec. 5	5.25	26	5.08	July 26	5.21	Dec. 14	5.24
Jan. 9, 1962	5.25	29	5.09	Sept. 4	4.88	Jan. 29, 1965	5.25
Feb. 21	5.26	Sept.26	5.03	12	4.83	Apr. 20	5.69
Mar. 17	5.32	Oct. 6	5.08	18	4.83	May 19	5.56
29	5.28	10	5.13	Oct. 24,	4.84	June 4	5.33
Apr. 17	5.69	26	5.16	Nov. 22	5.12	25	5.27
26	5.72	Nov. 9	5.18	Dec. 27	5.16	Aug. 5	5.21
May 1	5.62	14	5.25	Jan. 23, 1964	5.18	26	5.13

Note.--Gage height only for days listed above.

12-4083. Little Pend Oreille River near Colville, Wash.

Location (revised).--Lat 48°27'58", long 117°44'53", in NW¼NE¼ sec.10, T.34 N., R.40 E., on right bank 300 ft upstream from abandoned railroad bridge, 1 mile downstream from Bear Creek, 6 miles east of Arden, and 9 miles southeast of Colville.

Drainage area.--132 sq mi (revised).

Records available.--December 1957 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,984.3 ft above mean sea level.

Average discharge.--7 years (1958-65), 61.0 cfs (44,160 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (100 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Nov. 25, 1960	0330	145	1.47	Apr. 20, 1962	0830	* 224	1.79	May 8, 1963	0130	* 263	1.94
Apr. 4, 1961	0130	301	2.07	May 4, 1962	0430	207	1.72				
Apr. 13, 1961	0330	412	2.44	May 11, 1962	0800	207	1.73	May 10, 1964	0700	* 203	1.75
May 10, 1961	1930	* 1,060	4.18	May 29, 1962	0500	157	1.52				
June 18, 1961	1400	125	1.34					Apr. 29, 1965	0300	* 466	2.53
				Apr. 15, 1963	2300	175	1.66	May 20, 1965	1700	210	1.66

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Nov. 8, 1960	13	0.23	1964	Oct. 3, 1963	12	0.19
1962	Sept. 8, 1962	14	.29	1965	Dec. 16, 17, 1964	b 12	-
1963	Jan. 10, 1963	a 7.5	-				

a Result of discharge measurement.
b Minimum daily.

1957-65: Maximum discharge, 1,060 cfs May 10, 1961 (gage height, 4.18 ft); minimum, 7.0 cfs Jan. 6, 1958 (gage height, 0.14 ft).

Remarks.--Records good except those for period of no gage-height record and those for winter periods, which are fair. Possible regulation by barrier dam at outlet of Lake Sherry. No diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	26	39	26	32	80	204	361	204	58	29	28
2	18	26	38	26	38	74	239	373	190	56	29	29
3	18	25	39	24	32	71	274	355	175	54	28	27
4	18	24	36	23	31	73	280	379	161	52	27	25
5	18	22	30	27	39	74	269	430	149	51	27	25
6	20	21	25	26	46	73	247	400	146	51	29	25
7	22	20	24	26	54	70	247	462	179	49	28	24
8	41	19	24	26	49	70	247	444	157	46	27	24
9	36	19	24	28	54	73	236	482	151	44	26	24
10	28	23	25	30	61	73	226	718	140	42	25	24
11	25	25	26	29	82	72	221	801	134	40	25	23
12	25	25	29	28	87	71	289	570	151	39	24	23
13	27	23	29	29	80	72	370	479	132	38	24	23
14	25	24	28	30	71	91	307	518	119	37	24	22
15	23	23	25	35	90	106	280	507	109	36	24	22
16	23	25	24	40	85	109	274	462	101	36	25	22
17	23	30	25	37	77	107	289	454	95	35	30	22
18	23	47	26	35	73	103	295	406	115	35	29	22
19	22	40	26	31	71	109	289	367	100	34	27	22
20	22	54	26	28	75	130	277	343	90	32	25	21
21	21	83	26	26	91	126	266	337	81	32	25	22
22	23	57	27	25	94	125	244	313	76	31	25	23
23	22	46	28	24	83	132	249	289	72	44	24	24
24	23	62	28	25	86	140	266	274	68	55	24	23
25	25	122	28	25	85	140	266	263	65	45	25	24
26	24	73	28	23	75	153	280	252	61	39	25	24
27	25	46	25	22	82	157	272	242	59	36	24	23
28	32	49	26	22	76	157	274	224	59	34	24	23
29	32	40	27	23	------	166	289	214	58	37	23	25
30	28	40	26	26	------	181	349	212	59	35	22	25
31	25	------	26	33	------	155	------	214	------	31	25	------
TOTAL	755	1,159	863	858	1,900	3,373	8,115	12,145	3,456	1,284	798	713
MEAN	24.4	38.6	27.8	27.7	67.9	109	271	392	115	41.4	25.7	23.8
MAX	41	122	39	40	94	155	370	801	204	58	30	29
MIN	18	19	24	22	31	70	204	212	58	31	22	21
CFSM	.18	.29	.21	.21	.51	.82	2.05	2.97	.87	.31	.20	.18
IN.	.21	.33	.24	.24	.54	.95	2.29	3.42	.97	.36	.22	.20
AC-FT	1,500	2,300	1,710	1,700	3,770	6,690	16,100	24,090	6,850	2,550	1,580	1,410

CAL YR 1960: TOTAL 31,437 MEAN 85.9 MAX 604 MIN 16 CFSM .65 IN 9.86 AC-FT 62,360
WAT YR 1961: TOTAL 35,419 MEAN 97.0 MAX 801 MIN 18 CFSM .74 IN 9.98 AC-FT 70,250

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4083. Little Pend Oreille River near Colville, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	24	27	32	25	26	33	61	136	94	33	19	17
2	24	24	31	25	26	33	66	136	90	32	19	17
3	24	26	29	27	26	33	74	153	93	32	20	16
4	24	24	29	31	26	33	80	150	90	32	28	16
5	23	24	28	30	26	33	83	159	88	32	28	16
6	24	23	27	28	26	33	93	149	87	32	25	15
7	27	23	25	26	26	33	104	164	83	31	25	15
8	29	23	23	24	26	33	97	157	80	29	24	14
9	27	24	22	21	26	32	90	170	77	29	23	15
10	27	26	21	19	27	32	86	168	74	28	22	16
11	27	27	20	17	28	32	85	170	68	27	22	24
12	27	24	20	15	29	32	87	177	66	27	21	24
13	35	24	19	15	30	32	95	166	71	26	20	20
14	32	24	19	15	31	32	107	157	80	26	20	20
15	29	24	20	15	33	32	136	142	77	26	20	19
16	27	24	21	15	33	32	151	136	72	26	19	18
17	28	24	23	15	33	32	146	142	66	25	18	18
18	27	24	23	15	33	32	155	142	62	24	18	18
19	27	25	23	15	33	32	188	144	58	24	17	17
20	25	24	23	15	33	32	219	136	54	24	18	17
21	25	24	25	15	33	32	204	132	50	22	17	17
22	26	23	31	15	33	32	197	123	47	22	17	16
23	29	23	30	15	33	34	197	117	45	21	17	16
24	32	23	29	15	33	38	207	119	44	20	17	16
25	29	23	32	17	33	45	209	115	43	20	17	16
26	29	22	25	21	33	52	190	111	39	20	17	15
27	35	23	22	23	33	54	186	106	38	20	17	16
28	32	25	24	25	33	47	190	117	36	20	18	19
29	29	28	25	25	------	48	168	140	35	20	19	29
30	27	32	25	26	------	50	146	117	35	18	18	25
31	27	------	25	26	------	53	------	103	------	19	18	------
TOTAL	857	734	771	631	841	1,133	4,097	4,414	1,942	787	613	538
MEAN	27.6	24.5	24.9	20.4	30.0	36.5	137	142	64.7	25.4	20.0	17.9
MAX	35	32	32	31	33	54	219	190	94	33	28	29
MIN	23	22	19	15	26	32	61	103	35	18	17	14
CFSM	.21	.19	.19	.15	.23	.28	1.03	1.08	.49	.19	.15	.14
IN.	.24	.21	.22	.18	.24	.32	1.15	1.24	.55	.22	.17	.15
AC-FT	1,700	1,460	1,530	1,250	1,670	2,250	8,130	8,760	3,850	1,560	1,230	1,070

CAL YR 1961: TOTAL 35,004 MEAN 95.9 MAX 801 MIN 19 CFSM .73 IN 9.86 AC-FT 69,430
WAT YR 1962: TOTAL 17,364 MEAN 47.6 MAX 219 MIN 14 CFSM .36 IN 4.89 AC-FT 34,440

Note.--No gage-height record Dec. 11 to Mar. 21. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	21	29	38	13	35	67	114	63	45	17	15
2	20	21	28	37	14	34	61	117	61	40	18	15
3	20	21	27	44	20	35	57	115	61	39	18	15
4	19	21	24	39	40	34	61	104	60	38	17	15
5	18	21	27	36	60	31	75	106	63	36	17	14
6	18	21	26	33	55	31	126	186	83	34	17	14
7	19	21	25	32	65	32	126	247	74	32	16	14
8	20	21	25	30	55	31	125	244	68	31	16	13
9	26	24	25	15	45	32	121	186	66	30	16	13
10	26	28	25	8.0	35	32	115	190	62	29	16	13
11	29	27	25	12	33	32	114	179	57	31	16	13
12	39	32	25	15	32	31	111	166	53	29	18	13
13	42	32	25	18	31	31	107	155	50	29	18	14
14	35	30	25	20	29	31	112	149	47	27	17	14
15	28	27	33	21	28	31	164	142	44	26	16	15
16	26	27	49	22	30	31	157	130	41	26	16	18
17	24	26	41	22	30	31	136	125	41	25	16	20
18	24	25	38	21	30	32	125	123	41	27	15	20
19	23	24	35	19	30	31	121	115	36	25	15	18
20	23	26	34	19	31	31	119	111	34	24	15	17
21	22	27	32	22	32	32	119	106	35	22	16	16
22	22	25	27	21	32	37	107	100	40	21	16	16
23	22	23	24	20	31	44	107	97	46	20	16	16
24	22	22	21	19	32	55	103	93	43	20	17	17
25	21	27	19	18	32	53	98	88	41	21	21	17
26	21	50	23	17	34	49	98	85	39	22	19	16
27	21	44	22	17	39	44	98	80	38	20	18	16
28	21	33	21	16	36	88	97	75	36	20	17	15
29	21	25	24	14	------	85	98	72	39	19	16	15
30	21	29	34	12	------	87	104	68	51	18	16	14
31	21	------	41	12	------	79	------	65	------	18	15	------
TOTAL	735	801	879	689.0	994	1,292	3,229	3,933	1,513	844	517	461
MEAN	23.7	26.7	28.4	22.2	35.5	41.7	108	127	50.4	27.2	16.7	15.4
MAX	42	50	49	44	80	88	164	247	83	45	21	20
MIN	18	21	19	8.0	13	31	57	65	34	18	15	13
CFSM	.18	.20	.21	.17	.27	.32	.82	.96	.38	.21	.13	.12
IN.	.21	.23	.25	.19	.28	.36	.91	1.11	.43	.24	.15	.13
AC-FT	1,460	1,590	1,740	1,370	1,970	2,560	6,400	7,800	3,000	1,670	1,030	914

CAL YR 1962: TOTAL 17,417 MEAN 47.7 MAX 219 MIN 14 CFSM .36 IN 4.91 AC-FT 34,550
WAT YR 1963: TOTAL 15,887.0 MEAN 43.5 MAX 247 MIN 8.0 CFSM .33 IN 4.48 AC-FT 31,510

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4083. Little Pend Oreille River near Colville, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	16	24	20	22	18	37	112	62	30	16	18
2	13	17	22	21	19	18	38	110	59	30	17	17
3	13	18	22	20	20	19	36	119	57	30	17	16
4	13	18	21	20	19	18	36	132	56	29	17	15
5	13	20	20	19	18	18	35	170	57	28	17	15
6	14	22	19	18	17	18	36	179	56	27	16	14
7	15	25	18	17	17	17	40	177	56	27	15	14
8	15	25	19	17	18	17	44	168	60	25	15	14
9	14	23	18	17	19	19	54	172	56	26	15	14
10	14	21	18	18	20	20	57	189	50	26	14	14
11	14	20	17	18	20	24	59	182	48	25	14	14
12	14	18	17	18	17	23	56	170	46	24	15	14
13	14	18	18	18	17	23	54	172	44	24	15	14
14	14	24	19	18	18	20	56	154	43	23	15	14
15	14	43	19	18	19	21	62	146	41	22	15	14
16	14	32	18	20	18	22	66	140	47	20	14	15
17	14	24	18	21	18	23	59	148	49	20	14	17
18	14	22	18	21	18	23	58	142	47	19	16	21
19	14	25	18	20	18	23	58	136	47	19	22	19
20	14	30	19	21	18	23	61	130	46	18	20	16
21	16	23	20	21	18	23	62	121	42	18	18	18
22	20	25	20	21	18	23	70	112	39	18	17	18
23	21	25	20	20	18	20	78	104	38	17	16	17
24	23	25	20	20	20	18	79	95	37	16	15	17
25	20	25	20	20	18	19	82	86	35	16	15	16
26	18	30	19	20	18	20	93	83	35	16	15	16
27	16	32	19	20	18	20	96	83	34	15	15	16
28	16	28	19	21	19	21	93	81	33	15	17	16
29	16	26	19	21	19	23	96	77	32	16	17	16
30	16	25	19	21	------	27	107	70	31	17	18	16
31	16	------	19	21	------	32	------	66	------	16	18	------
TOTAL	475	725	596	606	536	652	1,858	4,026	1,385	672	501	477
MEAN	15.3	24.2	19.2	19.5	18.5	21.0	61.9	130	46.2	21.7	16.2	15.9
MAX	23	43	24	21	22	32	107	189	62	30	22	21
MIN	13	16	17	17	17	17	35	66	31	15	14	14
CFSM	.12	.18	.15	.15	.14	.16	.47	.98	.35	.16	.12	.12
IN.	.13	.20	.17	.17	.15	.18	.52	1.13	.37	.19	.14	.13
AC-FT	942	1,440	1,180	1,200	1,060	1,290	3,690	7,990	2,750	1,330	994	946

CAL YR 1963: TOTAL 15,268.0 MEAN 41.8 MAX 247 MIN 8.0 CFSM .32 IN 4.30 AC-FT 30,280
WAT YR 1964: TOTAL 12,509 MEAN 34.2 MAX 189 MIN 13 CFSM .26 IN 3.52 AC-FT 24,810

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	14	37	19	18	32	36	339	88	38	19	18
2	15	14	45	20	16	30	42	286	82	37	20	18
3	14	15	40	20	19	28	44	251	78	34	23	17
4	14	18	34	19	20	26	49	251	73	35	27	17
5	14	25	29	20	24	24	54	241	69	36	24	16
6	14	23	25	20	23	24	56	220	67	30	23	16
7	15	18	20	18	22	24	54	208	62	29	22	16
8	15	17	25	19	20	26	56	201	59	28	20	16
9	15	19	23	20	18	28	65	198	58	27	20	16
10	16	25	23	20	17	30	107	196	54	27	18	16
11	16	27	21	20	16	33	101	201	52	26	17	15
12	15	23	16	20	16	33	105	201	52	26	17	15
13	15	21	18	20	17	33	140	201	52	25	17	15
14	14	18	20	20	18	33	163	194	50	25	17	19
15	14	16	15	20	19	34	191	177	55	25	17	25
16	14	16	12	20	20	35	215	182	59	24	15	20
17	14	15	12	20	22	29	233	163	65	24	15	20
18	14	15	13	20	23	26	230	150	88	23	15	20
19	14	14	14	20	24	24	238	136	92	23	17	16
20	14	14	15	20	25	26	321	177	76	23	19	16
21	14	14	16	19	25	26	327	182	68	25	20	16
22	14	13	17	19	23	24	348	154	59	33	20	15
23	14	18	18	18	20	24	312	142	53	30	21	15
24	14	22	16	17	20	22	327	140	49	25	21	15
25	14	23	13	16	21	22	348	132	46	24	23	15
26	14	24	15	16	23	24	366	121	43	23	31	15
27	14	20	16	18	41	24	381	112	43	22	24	15
28	14	16	17	18	35	24	424	106	42	20	21	15
29	14	15	17	19	------	25	427	101	42	20	20	15
30	14	23	18	20	------	27	393	95	40	20	19	15
31	14	------	18	20	------	30	------	90	------	19	18	------
TOTAL	445	555	638	595	605	850	6,157	5,548	1,816	826	621	498
MEAN	14.4	18.5	20.6	19.2	21.6	27.4	205	179	60.5	26.6	20.0	16.6
MAX	16	27	45	20	41	35	427	339	92	38	31	25
MIN	14	13	12	16	16	22	36	90	40	19	15	15
CFSM	.11	.14	.16	.15	.16	.21	1.55	1.36	.46	.20	.15	.13
IN.	.13	.16	.18	.17	.17	.24	1.73	1.56	.51	.23	.17	.14
AC-FT	883	1,100	1,270	1,180	1,200	1,690	12,210	11,000	3,600	1,640	1,230	988

CAL YR 1964: TOTAL 12,351 MEAN 33.7 MAX 189 MIN 12 CFSM .26 IN 3.48 AC-FT 24,500
WAT YR 1965: TOTAL 19,154 MEAN 52.5 MAX 427 MIN 12 CFSM .40 IN 5.40 AC-FT 37,990

12-4084.2. Haller Creek near Arden, Wash.

Location.--Lat 48°28'05", long 117°54'30", in SW¼SW¼ sec.4, T.34 N., R.39 E., on left bank 10 ft downstream from county road bridge, three-quarters of a mile upstream from mouth, and 1½ miles northwest of Arden.

Drainage area.--37.0 sq mi.

Records available.--August 1959 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,600 ft (from topographic map). Prior to Sept. 23, 1960, at site 30 ft upstream at datum about 1.24 ft higher.

Average discharge.--6 years, 7.78 cfs (5,630 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (45 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Apr. 3, 1961	0700	63	2.74	Dec. 11, 1961	-	-	a 2.24	Apr. 6, 1963	0100	* 38	1.97
Apr. 12, 1961	2000	51	2.34	Apr. 3, 1962	2130	* 40	2.14	Apr. 8, 1964	2300	* 27	1.97
May 10, 1961	1230	* 93	3.07	Feb. 5, 1963	-	-	a 3.70	Apr. 21, 1965	0100	* 69	3.58
May 14, 1961	1830	86	2.87								

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Aug. 14, 1961	0.60	0.47	1964	July 28, Aug. 17	0.40	b 0.61
1962	Sept.26, 1962	.40	.40	1965	Dec. 16, 1964	c .50	-
1963	Sept. 7, 8, 9, 1963	.30	a .52				

a Occurred Oct. 3, 1962.
b Occurred Aug. 17, 1964.
c Minimum daily.

1959-65: Maximum discharge, 148 cfs Mar. 29, 1960 (gage height, 2.65 ft, site and datum then in use); maximum gage height, 3.70 ft Feb. 5, 1963; minimum discharge, 0.30 cfs Sept. 7, 8, 9, 1963.

Remarks.--Records good except those for period of no gage-height record and those for winter periods, which are poor. No regulation. Minor diversion for irrigation and domestic use above station.

Revisions (water years).--WSP 1716: 1959.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.0	2.1	4.6	3.2	5.0	17	52	49	27	5.8	1.2	1.7
2	1.0	2.1	4.4	2.9	8.0	16	57	48	24	5.3	1.2	1.8
3	.90	2.0	4.0	2.7	7.0	14	61	46	23	4.9	1.0	1.5
4	.90	1.9	3.6	2.6	6.5	14	56	54	20	4.9	1.0	1.4
5	1.0	1.9	3.3	2.9	9.0	14	49	55	19	5.1	1.2	1.5
6	1.1	1.8	3.2	3.0	13	13	46	53	20	4.9	1.3	1.7
7	1.8	1.8	3.3	3.0	10	13	43	53	25	4.3	1.1	1.5
8	4.6	1.8	3.3	3.0	7.0	13	41	52	21	3.9	.90	1.4
9	2.2	1.8	3.3	3.0	14	15	38	56	19	3.3	.80	1.4
10	1.8	1.9	3.2	3.0	16	15	36	77	16	3.0	.80	1.3
11	1.7	2.0	3.3	3.0	22	15	34	78	17	2.5	.80	1.3
12	1.8	2.0	3.5	3.0	22	15	42	69	20	2.5	.60	1.3
13	1.8	2.0	3.5	3.0	14	16	46	64	17	2.6	.70	1.3
14	1.7	2.0	3.4	3.1	11	25	39	81	15	2.2	.70	1.3
15	1.7	2.1	3.2	5.4	13	29	37	80	13	2.2	.80	1.3
16	1.7	2.2	3.0	7.0	13	32	35	67	12	2.3	.90	1.2
17	1.7	3.0	2.9	4.9	11	33	35	63	11	1.9	1.2	1.1
18	1.7	7.0	3.3	4.5	9.8	31	34	56	15	2.2	1.1	1.0
19	1.7	5.0	3.4	4.0	10	33	34	53	11	2.2	1.0	1.1
20	1.7	8.0	3.4	3.8	12	43	33	51	9.6	1.9	1.0	1.0
21	1.8	15	3.4	3.6	29	42	31	51	9.0	1.6	1.1	1.1
22	1.9	10	3.3	3.5	28	40	30	47	8.3	1.5	.90	1.2
23	1.8	7.0	3.3	3.4	20	43	29	43	8.0	2.8	1.0	1.3
24	1.9	20	3.3	3.2	19	43	30	40	7.4	3.0	1.1	1.3
25	1.8	15	3.3	3.1	22	43	29	38	6.9	2.0	1.7	1.4
26	1.9	9.0	3.3	3.0	18	46	29	36	6.4	1.7	1.5	1.3
27	2.2	6.0	3.3	2.9	17	46	29	34	6.0	1.6	1.4	1.2
28	3.1	5.4	3.3	2.8	16	45	30	33	5.8	1.5	1.2	1.5
29	2.9	5.0	3.3	2.8	------	47	31	30	6.2	2.0	1.1	2.0
30	2.5	4.7	3.3	3.0	------	48	48	31	6.2	1.7	1.0	1.7
31	2.3	------	3.3	4.0	------	50	------	30	------	1.6	1.4	------
TOTAL	57.60	151.5	105.5	106.3	402.3	909	1,164	1,618	424.8	88.9	32.70	41.1
MEAN	1.86	5.05	3.40	3.43	14.4	29.3	38.8	52.2	14.2	2.87	1.05	1.37
MAX	4.6	20	4.6	7.0	29	50	61	81	27	5.8	1.7	2.0
MIN	.90	1.8	2.9	2.6	5.0	13	29	30	5.8	1.5	.60	1.0
CFSM	.05	.14	.09	.09	.39	.79	1.05	1.41	.38	.08	.03	.04
IN.	.06	.15	.11	.11	.40	.91	1.17	1.63	.43	.09	.03	.04
AC-FT	114	301	209	211	798	1,800	2,310	3,210	843	176	65	82

CAL YR 1960: TOTAL 3,748.70 MEAN 10.2 MAX 106 MIN .60 CFSM .28 IN 3.77 AC-FT 7,440
WAT YR 1961: TOTAL 5,101.70 MEAN 14.0 MAX 81 MIN .60 CFSM .38 IN 5.13 AC-FT 10,120

Note.--No gage-height record Nov. 5 to Jan. 9. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4084.2. Haller Creek near Arden, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.6	1.8	3.3	3.3	3.0	3.7	30	13	7.4	3.0	.90	.70
2	1.6	1.6	3.0	3.3	3.0	3.9	32	11	7.4	3.0	.90	.60
3	1.7	1.7	2.6	3.5	3.0	4.1	34	17	8.0	2.9	.90	.60
4	1.6	1.6	2.6	3.5	3.0	4.3	34	19	7.7	2.8	1.7	.60
5	1.6	1.6	2.6	3.3	3.0	4.5	35	15	7.7	2.7	1.4	.60
6	1.7	1.6	2.5	3.2	3.0	4.5	36	18	7.7	2.6	1.4	.60
7	2.0	1.6	2.4	3.2	3.0	4.4	36	21	7.2	2.5	1.4	.50
8	2.0	1.6	2.3	3.2	3.3	4.3	31	19	6.9	2.4	1.6	.60
9	1.9	1.7	2.2	3.1	3.3	3.7	28	21	6.7	2.3	1.5	.70
10	1.8	1.8	2.0	2.7	5.0	3.7	26	22	6.4	2.2	1.4	.80
11	1.7	1.8	1.8	2.2	4.9	3.5	24	24	6.4	2.1	1.3	1.0
12	2.0	1.7	1.7	2.3	4.5	3.5	24	23	6.2	2.0	1.3	.80
13	2.2	1.7	1.8	2.4	4.7	3.5	24	21	7.4	1.9	1.3	.80
14	1.9	1.8	1.9	2.4	7.0	3.6	26	19	8.3	1.8	1.1	.80
15	1.9	1.6	2.0	2.3	6.7	3.9	30	17	6.4	1.7	1.0	.80
16	1.9	1.6	2.2	2.3	6.0	4.3	27	15	5.6	1.6	.90	.70
17	2.0	1.6	2.4	2.2	6.0	5.1	21	14	5.1	1.5	.70	.70
18	2.0	1.6	2.6	2.1	5.8	6.0	19	14	4.7	1.4	.70	.70
19	2.2	1.6	2.9	1.9	6.0	6.7	20	13	4.3	1.3	.70	.70
20	2.3	1.6	3.4	1.7	6.0	7.2	19	12	4.1	1.2	.70	.70
21	2.3	1.6	4.0	1.5	5.8	7.2	16	11	4.1	1.1	.60	.60
22	2.5	1.8	3.8	1.4	5.2	6.9	14	10	3.9	1.0	.70	.60
23	2.8	2.0	3.6	1.4	4.6	6.4	13	9.6	3.7	1.0	.60	.60
24	2.5	2.0	3.8	1.6	4.2	7.7	13	13	3.7	1.0	.70	.60
25	2.0	2.0	4.0	1.8	3.8	13	11	11	3.5	1.0	.80	.60
26	2.5	2.0	3.6	2.1	3.6	22	10	10	3.3	.90	.80	.60
27	3.2	2.0	3.2	2.4	3.5	22	21	9.3	3.5	.90	1.0	.70
28	2.5	2.2	3.0	2.7	3.5	17	21	9.6	3.2	.90	1.1	1.1
29	2.0	2.8	3.1	2.9	------	19	17	9.3	3.2	.90	1.1	1.6
30	1.9	3.3	3.2	3.0	------	21	14	8.0	3.1	.90	1.0	1.0
31	1.8	------	3.3	3.0	------	26	------	7.4	------	.90	.90	------
TOTAL	63.6	54.9	86.8	77.9	124.4	256.6	706	456.2	166.8	53.40	32.10	22.00
MEAN	2.05	1.83	2.80	2.51	4.44	8.28	23.5	14.7	5.56	1.72	1.04	.73
MAX	3.2	3.3	4.0	3.5	7.0	26	36	24	8.3	3.0	1.7	1.6
MIN	1.6	1.6	1.7	1.4	3.0	3.5	10	7.4	3.1	.90	.60	.50
CFSM	.06	.05	.08	.07	.12	.22	.64	.40	.15	.05	.03	.02
IN.	.06	.06	.09	.08	.13	.26	.71	.46	.17	.05	.03	.02
AC-FT	126	109	172	155	247	509	1,400	905	331	106	64	44

CAL YR 1961: TOTAL 4,992.40 MEAN 13.7 MAX 81 MIN .60 CFSM .37 IN 5.02 AC-FT 9,900
WAT YR 1962: TOTAL 2,100.70 MEAN 5.76 MAX 36 MIN .50 CFSM .16 IN 2.11 AC-FT 4,170

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.0	1.8	3.2	4.7	2.5	5.8	16	13	3.7	3.3	1.4	.70
2	.90	1.9	3.2	4.7	2.5	5.1	12	16	3.9	2.6	1.1	.70
3	.80	1.9	2.6	6.9	3.5	4.7	9.6	14	3.7	2.2	.90	.70
4	.90	1.9	2.5	4.9	4.9	4.5	10	11	3.7	1.9	.80	.60
5	.90	1.9	2.6	4.7	7.7	4.3	16	11	5.2	1.8	.80	.50
6	1.0	1.9	2.8	4.5	7.4	4.1	31	26	6.4	1.8	.70	.40
7	1.2	1.9	3.0	4.5	6.9	3.9	27	33	5.6	1.7	.60	.40
8	1.4	2.0	3.2	4.3	6.2	3.9	29	35	5.4	1.9	.60	.40
9	2.0	3.3	3.2	3.9	5.4	3.9	33	33	4.6	2.0	.70	.40
10	1.9	2.8	3.5	1.2	5.0	4.3	26	33	4.2	2.3	.70	.40
11	3.9	2.5	3.5	1.5	4.7	4.3	23	31	3.5	2.7	.60	.40
12	4.9	3.9	3.3	2.2	4.5	4.3	19	28	3.1	2.2	1.0	.50
13	5.6	3.5	3.3	2.7	4.4	4.3	16	26	3.0	1.9	1.0	.60
14	2.6	2.6	4.1	3.1	4.3	4.5	16	24	2.4	1.7	.80	.70
15	2.0	2.3	8.6	3.3	4.3	4.7	22	22	2.3	1.7	.80	.80
16	1.9	2.5	7.2	3.2	4.3	4.7	21	20	2.3	1.7	.80	1.4
17	1.9	2.3	5.6	3.1	4.4	4.5	20	19	2.3	1.6	.70	1.1
18	2.0	2.3	5.3	3.1	4.5	4.5	17	17	2.3	1.4	.70	1.0
19	1.9	2.5	5.3	3.0	4.6	4.5	16	16	2.2	1.2	.70	1.0
20	1.9	2.6	4.7	3.0	4.7	4.9	13	15	2.3	1.1	.70	1.0
21	1.9	2.2	4.5	2.9	4.7	5.3	11	13	2.8	1.2	.70	1.0
22	1.8	2.2	4.1	2.9	4.7	5.6	13	11	4.7	1.2	.70	1.0
23	1.8	2.0	3.0	2.7	4.3	6.2	14	9.8	4.9	1.1	.80	1.0
24	1.8	2.0	2.5	2.7	3.7	9.6	12	8.6	3.3	1.2	1.0	1.1
25	1.8	3.7	2.5	2.7	3.5	7.7	11	8.1	3.0	1.4	1.0	1.0
26	1.8	7.4	2.6	2.6	5.0	6.7	11	7.5	2.8	1.5	.90	1.0
27	1.8	4.1	2.8	2.6	6.4	8.6	9.5	6.7	2.6	1.2	.90	1.0
28	1.8	3.2	3.0	2.5	6.2	34	8.9	6.4	2.4	1.0	.80	1.0
29	1.8	2.6	3.3	2.4	------	25	8.9	5.6	2.7	1.0	.70	1.0
30	1.8	3.3	4.5	2.4	------	27	11	4.6	4.2	.90	.70	1.0
31	1.8	------	5.8	2.5	------	21	------	3.9	------	1.0	.60	------
TOTAL	60.50	81.0	119.3	101.4	135.2	246.4	502.9	528.2	105.5	51.40	24.90	23.80
MEAN	1.95	2.70	3.85	3.27	4.83	7.95	16.8	17.0	3.52	1.66	.80	.79
MAX	5.6	7.4	8.6	6.9	7.7	34	33	35	6.4	3.3	1.4	1.4
MIN	.80	1.8	2.5	1.2	2.5	3.9	8.9	3.9	2.2	.90	.60	.40
CFSM	.05	.07	.10	.09	.13	.21	.45	.46	.10	.04	.02	.02
IN.	.06	.08	.12	.10	.14	.25	.51	.53	.11	.05	.03	.02
AC-FT	120	161	237	201	268	489	997	1,050	209	102	49	47

CAL YR 1962: TOTAL 2,156.20 MEAN 5.91 MAX 36 MIN .50 CFSM .16 IN 2.17 AC-FT 4,280
WAT YR 1963: TOTAL 1,980.50 MEAN 5.43 MAX 35 MIN .40 CFSM .15 IN 1.99 AC-FT 3,930

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4084.2. Haller Creek near Arden, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.0	1.2	1.6	2.3	2.5	2.0	9.4	11	2.9	1.7	.60	.80
2	1.0	1.3	1.5	2.3	2.5	2.0	10	11	3.5	1.5	.70	.80
3	1.0	1.2	1.5	2.0	2.5	1.9	8.9	11	3.5	1.7	.60	.80
4	1.1	1.4	1.7	1.9	2.4	1.9	10	15	3.5	1.7	.60	.70
5	1.1	1.3	2.0	1.8	2.2	1.9	11	18	3.9	1.5	.60	.70
6	1.1	2.2	2.1	1.9	1.9	1.8	12	14	3.7	1.3	.50	.70
7	1.1	2.3	1.4	1.5	1.4	1.8	14	12	4.0	1.1	.50	.80
8	1.2	2.0	1.7	1.0	1.4	1.8	19	11	5.3	1.0	.50	.90
9	1.2	1.8	2.1	1.2	2.0	1.8	22	11	4.6	1.0	.50	.90
10	1.2	1.7	1.1	1.5	2.6	1.8	21	13	3.5	1.0	.50	.90
11	1.2	1.7	1.0	2.2	2.4	2.3	19	12	4.1	1.0	.50	.80
12	1.2	1.7	1.2	2.2	1.4	2.2	15	12	4.6	.90	.50	.60
13	1.2	1.5	1.4	2.2	1.6	2.0	14	11	4.0	.90	.60	.50
14	1.2	2.6	1.7	2.2	1.8	1.8	14	9.1	3.5	.70	.50	.80
15	1.2	3.4	2.0	2.2	2.0	1.9	17	8.4	3.5	.70	.50	.80
16	1.2	2.2	2.2	2.6	2.2	2.3	18	8.1	6.8	.60	.50	.80
17	1.1	1.9	2.2	2.6	2.0	2.6	13	7.2	5.5	.70	.50	1.4
18	1.0	1.8	2.2	2.6	2.0	2.6	11	7.2	5.2	.60	.70	1.7
19	1.0	3.5	2.2	2.6	2.0	2.4	11	7.7	5.9	.50	1.3	1.0
20	1.1	4.2	2.2	2.6	2.0	2.2	11	7.4	5.2	.50	.90	1.0
21	1.1	2.4	2.2	2.4	2.0	2.5	12	7.7	4.4	.50	.70	1.0
22	1.1	2.6	2.0	2.3	2.0	2.6	13	8.4	3.5	.50	.60	1.0
23	1.1	3.5	2.0	2.2	2.0	2.4	14	7.4	3.1	.50	.50	.90
24	1.2	3.1	2.0	2.4	2.0	1.9	12	5.5	2.8	.50	.50	.80
25	1.3	2.8	2.0	2.6	2.0	2.6	12	4.8	2.6	.50	.60	.70
26	1.1	2.8	2.0	2.5	2.0	2.6	14	4.4	2.5	.50	.70	.70
27	1.2	2.9	2.0	2.6	2.4	2.6	12	4.4	2.3	.50	.70	.70
28	1.3	2.2	2.0	2.6	2.2	3.1	11	3.9	2.3	.40	.70	.70
29	1.2	1.8	2.0	2.6	2.0	4.2	11	3.9	2.2	.50	.70	.70
30	1.2	1.7	2.0	2.6	------	5.9	11	3.4	1.8	.60	.80	.70
31	1.2	------	2.0	2.6	------	8.6	------	3.1	------	.60	.80	------
TOTAL	35.4	66.7	57.2	68.8	59.4	80.0	402.3	274.0	114.2	26.20	19.40	25.90
MEAN	1.14	2.22	1.85	2.22	2.05	2.58	13.4	8.84	3.81	.85	.63	.86
MAX	1.3	4.2	2.2	2.6	2.6	8.6	22	18	6.8	1.7	1.3	1.7
MIN	1.0	1.2	1.0	1.0	1.4	1.8	8.9	3.1	1.8	.40	.50	.70
CFSM	.03	.06	.05	.06	.06	.07	.36	.24	.10	.02	.02	.02
IN.	.04	.07	.06	.07	.06	.08	.40	.28	.11	.03	.02	.03
AC-FT	70	132	113	136	118	159	798	543	227	52	38	51

CAL YR 1963: TOTAL 1,879.00 MEAN 5.15 MAX 35 MIN .40 CFSM .14 IN 1.89 AC-FT 3,730
WAT YR 1964: TOTAL 1,229.50 MEAN 3.36 MAX 22 MIN .40 CFSM .09 IN 1.24 AC-FT 2,440

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	1.2	3.5	1.8	2.2	5.0	11	47	11	3.4	1.6	1.1
2	.70	1.2	4.0	1.7	2.0	4.4	14	44	10	3.1	1.5	1.1
3	.70	1.2	3.5	1.7	2.2	4.2	17	42	9.2	3.2	1.5	1.1
4	.70	2.0	3.2	1.8	2.5	4.2	20	40	8.8	3.1	1.4	1.2
5	.80	2.2	2.9	1.8	2.6	4.4	22	38	8.4	3.3	1.3	1.2
6	.80	1.7	2.3	2.0	3.1	4.6	24	35	8.0	2.8	1.3	1.2
7	.80	1.5	2.0	2.0	2.8	4.6	22	32	7.6	2.5	1.1	1.1
8	.90	1.5	2.0	2.0	2.8	5.2	24	30	7.2	2.4	1.0	1.2
9	1.1	2.0	2.2	2.0	2.5	5.5	26	28	6.8	2.3	.90	1.2
10	1.1	3.7	2.2	2.0	2.2	6.8	38	27	6.1	2.2	.90	1.2
11	1.0	2.8	2.0	2.0	1.9	8.6	34	27	5.8	2.3	.80	1.2
12	1.0	2.2	1.1	2.0	2.0	11	36	27	6.3	2.2	.80	1.1
13	1.0	1.9	1.2	2.0	2.0	11	40	27	7.2	2.1	.80	1.1
14	1.0	1.5	1.5	2.0	2.0	11	45	25	6.3	2.1	.80	1.5
15	.90	1.5	.80	2.0	2.4	12	51	24	7.6	2.0	.80	1.5
16	.90	1.5	.50	2.0	2.6	12	50	24	6.4	2.0	.70	1.3
17	1.0	1.4	1.2	2.0	2.6	10	50	22	8.4	1.9	.70	1.2
18	1.0	1.3	1.1	2.2	2.5	8.5	48	20	10	1.9	.70	1.2
19	1.0	1.5	1.0	2.9	3.4	9.0	50	19	9.4	1.9	.70	1.2
20	1.0	1.5	1.0	2.5	3.5	10	62	25	6.4	2.0	1.1	1.3
21	1.1	1.4	1.1	2.3	3.4	9.5	64	22	5.8	2.4	1.0	1.2
22	1.1	1.4	1.2	2.2	3.1	8.1	61	20	4.9	2.4	1.0	1.2
23	1.1	1.5	1.4	2.2	2.6	7.5	58	19	4.6	2.0	1.5	1.1
24	1.1	2.8	1.7	2.2	2.2	8.0	58	20	4.6	1.9	1.5	1.2
25	1.1	2.2	1.7	1.8	3.1	9.0	56	18	4.1	1.8	1.4	1.2
26	1.1	2.5	1.3	1.9	3.1	8.5	54	17	3.8	1.8	1.5	1.2
27	1.1	1.9	1.6	2.0	12	8.0	53	16	3.8	1.8	1.2	1.2
28	1.1	1.8	1.7	2.2	7.9	7.5	53	14	4.0	1.7	1.1	1.2
29	1.2	1.7	1.8	2.2	------	6.6	52	13	4.3	1.7	1.1	1.2
30	1.2	2.0	1.8	2.5	------	7.2	49	12	3.7	1.7	1.1	1.2
31	1.2	------	1.9	2.4	------	8.6	------	12	------	1.6	1.1	------
TOTAL	30.50	54.5	56.40	64.3	87.6	240.5	1,242	786	200.5	69.5	33.90	35.1
MEAN	.98	1.82	1.82	2.07	3.13	7.76	41.4	25.4	6.68	2.24	1.05	1.20
MAX	1.2	3.7	4.0	2.9	12	12	64	47	11	3.4	1.6	1.5
MIN	.70	1.2	.50	1.7	1.9	4.2	11	12	3.7	1.6	.70	1.1
CFSM	.03	.05	.05	.06	.08	.21	1.12	.69	.18	.06	.03	.03
IN.	.03	.05	.06	.06	.09	.24	1.25	.79	.20	.07	.03	.04
AC-FT	61	108	112	128	174	477	2,460	1,560	398	138	67	72

CAL YR 1964: TOTAL 1,211.60 MEAN 3.31 MAX 22 MIN .40 CFSM .09 IN 1.22 AC-FT 2,400
WAT YR 1965: TOTAL 2,901.80 MEAN 7.95 MAX 64 MIN .50 CFSM .21 IN 2.92 AC-FT 5,760

12-4084.4. White Mud Lake near Colville, Wash.

Location.--Lat 48°31'10", long 117°48'45", in SE¼NW¼ sec.19, T.35 N., R.40 E., on north shore 4½ miles southeast of Colville.

Drainage area.--15.3 sq mi.

Records available.--August 1961 to September 1965.

Gage.--Staff gage read occasionally. Altitude of gage is 2,150 ft (from topographic map).

Extremes.--Maximum and minimum gage heights, in feet, for August 1961 to September 1965 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	Aug. 14, 1961	6.17	Sept.30, 1961	5.20
1962	Oct. 1, 1961	5.20	Sept.26, 1962	3.56
1963	May 6, 1963	3.80	Sept.12, 18, 1963	2.74
1964	May 13, 1964	3.02	Sept. 3, 1964	1.92
1965	June 20, 1965	4.20	Oct. 2, 1964	1.78

1961-65: Maximum gage height observed, 6.17 ft Aug. 14, 1961; minimum observed, 1.78 ft Oct.2, 1964.

Remarks.--Lake has no surface outlet except at extreme high stages when it overflows to the northwest into Colville River. Medium and low stage outlet is on south end of lake and flows into Keogh Lake.

GAGE HEIGHT, IN FEET, AUGUST TO SEPTEMBER 1961

Aug. 14, 1961.... 6.17	Aug. 22, 1961.... 5.98	Sept. 4, 1961.... 5.68	Sept.13, 1961.... 5.50
15..... 6.02	25..... 5.92	7..... 5.62	17..... 5.42
19..... 5.98	30..... 5.88	10..... 5.56	20..... 5.36
			30..... 5.20

Note.--Gage height only for days listed above.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.20	4.98	-		-	4.80	-	-	5.05	-	-	-
2	-	-	-		-	-	-	4.87	-	4.70	4.25	3.82
3	-	-	4.86		-	4.80	4.89	4.89	-	-	-	-
4	-	-	4.86		-	-	4.89	-	-	-	-	-
5	5.16	-	-	4.92	-	-	-	-	5.03	-	4.23	-
6	-	-	-		-	4.80	-	4.89	-	4.68	-	3.76
7	-	4.92	4.84		-	4.82	4.89	4.89	4.91	-	-	-
8	5.14	-	-		4.90	-	-	-	5.03	-	-	-
9	-	4.90	-		4.90	4.82	-	4.95	5.03	-	4.20	3.68
10	-	-	-		-	4.82	4.89	4.95	-	4.64	-	-
11	-	-	-		4.91	4.82	4.89	-	-	-	-	3.70
12	5.12	4.88	-		-	4.84	-	-	5.01	-	-	-
13	-	-	-		-	-	-	4.99	-	4.60	-	-
14	-	-	-		4.92	-	4.89	-	-	-	4.14	-
15	-	-	-		-	4.84	4.89	-	5.01	-	-	-
16	4.98	-	-		-	-	-	4.99	5.00	-	-	3.64
17	-	-	-		4.92	-	4.88	4.99	-	4.52	4.09	-
18	5.08	-	-		-	-	-	-	-	4.49	-	-
19	-	-	-		-	-	4.88	-	4.97	-	-	-
20	-	-	-		-	-	-	5.00	-	4.47	-	-
21	-	4.88	-		4.90	4.82	-	-	4.93	-	-	-
22	-	-	-		-	4.82	4.87	-	4.92	4.44	-	-
23	-	-	-		4.84	4.84	-	-	4.91	-	3.97	-
24	-	-	-		-	-	-	5.03	-	-	-	3.57
25	-	4.86	-		4.82	-	4.87	-	-	-	-	-
26	5.02	5.02	-		4.80	4.89	-	5.03	4.86	4.38	-	3.56
27	-	-	-		4.80	-	-	-	4.82	-	3.92	-
28	-	4.86	-		-	-	4.87	-	-	-	-	-
29	5.00	-	4.88		-------	4.89	4.87	-	-	-	3.90	-
30	-	-	-		-------	-	-	-	-	4.28	-	-
31	-	-------	-		-------	-	-------	5.05	-------	-	3.86	-------

12-4084.4. White Mud Lake near Colville, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	3.46	-	-	3.34	-	3.70	-	-	-	-
2	3.50	-	-	-	-	-	3.67	-	-	-	-	-
3	-	-	-	-	-	-	-	3.70	-	-	-	-
4	-	-	-	-	-	-	-	-	3.70	-	-	2.82
5	3.48	-	-	3.48	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	3.69	3.80	-	-	-	2.80
7	-	-	3.48	-	3.26	3.36	-	-	3.74	-	-	-
8	-	-	-	-	-	-	3.72	-	-	-	-	-
9	3.47	-	-	-	-	-	-	-	-	-	-	-
10	-	3.45	-	3.44	-	3.55	-	-	-	-	3.12	-
11	-	-	3.44	-	-	-	3.72	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	2.74
13	-	-	3.44	-	-	-	-	-	-	3.52	-	-
14	-	-	-	-	-	3.64	3.72	-	-	-	-	-
15	3.54	-	3.48	-	-	-	-	-	-	3.50	-	-
16	-	3.46	-	-	-	-	-	3.77	-	-	-	-
17	-	-	-	-	-	3.63	3.73	3.78	-	-	3.04	-
18	3.52	3.44	-	-	-	3.62	-	-	-	-	-	2.74
19	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	3.48	-	3.32	-	-	-	3.65	-	-	-
21	-	3.44	3.48	-	-	3.62	3.71	-	-	-	-	-
22	-	-	-	-	-	3.61	-	-	-	-	-	-
23	-	-	-	3.36	-	-	-	3.74	-	3.46	2.95	-
24	-	3.46	-	-	-	3.63	-	-	3.66	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	3.49	-	-	-	3.34	-	3.70	-	-	3.32	-	-
27	3.48	-	-	-	-	-	-	-	-	3.32	-	-
28	-	-	-	-	-	3.66	-	-	-	-	-	-
29	-	-	3.48	-	------	-	-	-	-	3.27	-	-
30	-	-	-	-	------	-	-	-	-	-	2.90	-
31	3.46	------	3.48	-	------	3.68	------	-	------	-	-	------

GAGE HEIGHT, IN FEET, WATER YEARS OCTOBER 1963 TO SEPTEMBER 1965

Oct. 24, 1963.... 2.50
Nov. 22..... 2.42
Dec. 27.....2.38
Jan. 23, 1964.... 2.45
Feb. 27..... 2.50
Apr. 1..... 2.91
May 8, 1964.... 2.96
13..... 3.02
June 10..... 2.78
Aug. 5..... 2.24
Sept. 3..... 1.92
Oct. 2..... 1.78
Nov. 13, 1964.... 1.81
Dec. 17..... 1.85
Jan. 13, 1965.... 2.12
Feb. 19..... 2.39
Apr. 1..... 2.45
Apr. 20..... 2.79
May 19, 1965.... 3.60
June 25..... 4.20
Aug. 5..... 3.82
Sept.17..... 3.33

Note.--Gage height only for days listed above.

12-4085. Mill Creek near Colville, Wash.

Location.--Lat 48°34'45", long 117°52'00", in SW¼NW¼ sec.35, T.36 N., R.39 E., on right bank 3 miles northeast of Colville and 5 miles downstream from North Fork.

Drainage area.--83.0 sq mi (revised).

Records available.--October 1939 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Altitude of gage is 1,950 ft (from topographic map). Prior to Mar. 2, 1940, staff gage and Mar. 2, 1940, to Oct. 5, 1959, water-stage recorder (Nov. 2, 1952, to Oct. 5, 1959, used as supplementary gage), at site half a mile upstream at different datum. Nov. 2, 1952, to Oct. 5, 1959, staff gage and crest-stage gage at site 300 ft upstream at datum 0.47 ft higher.

Average discharge.--26 years, 48.9 cfs (35,400 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 10, 1961	618	5.54	Sept.18, 1961	12	a 2.00
1962	Apr. 19, 20, 1962	161	3.28	Jan. 10, 1962	3.2	1.75
1963	May 7, 1963	185	3.40	Sept. 9, 10, 1963	5.3	1.87
1964	May 10, 1964	153	3.25	Feb. 12, 1964	6.5	1.89
1965	Apr. 21, 1965	369	4.26	Dec. 17, 1964	b 6.0	-

a Occurred Oct. 1, 1960.
b Minimum daily.

1939-65: Maximum discharge, 618 cfs May 10, 1961 (gage height, 5.54 ft); maximum gage height, 5.65 ft May 10, 1961 (backwater from bridge); minimum discharge, 3.2 cfs Jan. 10, 1962, result of freezeup, but may have been less during period of no gage-height record Feb. 1-4, 1940.

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are fair. No regulation. Diversions for irrigation of about 50 acres above station.

Revisions (water years).--WSP 1042: 1940, 1942.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	20	38	17	19	67	236	390	180	48	23	14
2	14	18	40	17	25	63	266	390	166	46	22	15
3	14	17	39	15	26	59	296	370	156	45	21	15
4	14	16	35	15	23	53	286	370	145	44	21	16
5	14	15	22	16	27	57	262	396	137	43	21	16
6	15	15	19	17	35	56	238	398	129	41	22	15
7	19	14	19	17	45	54	222	448	132	40	22	15
8	31	13	18	17	40	53	214	450	125	38	21	15
9	20	12	19	18	44	54	206	460	115	36	20	15
10	17	14	19	18	71	53	194	529	110	35	20	15
11	16	16	19	19	72	52	190	546	110	34	20	15
12	16	16	20	18	98	52	264	498	110	33	19	14
13	16	15	21	18	75	54	290	454	105	32	18	14
14	16	15	20	19	68	60	246	444	98	31	18	14
15	16	14	17	25	76	70	230	428	90	30	17	14
16	16	14	16	32	81	82	224	406	86	29	18	14
17	16	17	18	27	71	88	232	394	82	29	18	14
18	16	40	19	24	65	86	242	366	82	29	17	13
19	17	29	19	22	63	94	236	346	75	29	17	13
20	17	39	19	18	63	116	220	338	71	28	16	13
21	18	75	19	18	85	121	210	328	68	28	16	13
22	18	48	19	18	88	118	200	312	65	27	16	14
23	17	40	18	17	78	122	200	294	62	30	15	14
24	17	57	18	17	76	125	205	278	59	32	15	15
25	16	116	18	16	76	130	210	256	57	30	15	14
26	17	73	18	16	70	143	215	244	54	28	15	14
27	18	55	17	15	70	154	220	232	52	26	16	15
28	29	49	17	15	67	157	230	218	51	27	15	15
29	26	43	18	15	------	170	260	200	52	26	15	17
30	20	40	18	16	------	186	320	198	50	25	15	17
31	19	------	17	17	------	208	------	196	------	24	14	------
TOTAL	548	965	653	570	1,701	2,963	7,064	11,175	2,974	1,023	559	437
MEAN	17.7	32.2	21.1	18.4	60.8	95.6	235	360	95.8	33.0	18.0	14.6
MAX	31	116	40	32	98	208	320	546	190	48	23	17
MIN	13	12	16	15	19	52	190	196	50	24	14	13
CFSM	.21	.39	.25	.22	.73	1.15	2.84	4.34	1.15	.40	.22	.18
IN.	.25	.43	.29	.26	.76	1.33	3.17	5.01	1.29	.46	.25	.20
AC-FT	1,090	1,910	1,300	1,130	3,370	5,880	14,010	22,170	5,900	2,030	1,110	867

CAL YR 1960: TOTAL 24,250 MEAN 66.3 MAX 380 MIN 12 CFSM .80 IN 10.87 AC-FT 48,100
WAT YR 1961: TOTAL 30,532 MEAN 83.6 MAX 546 MIN 12 CFSM 1.01 IN 13.68 AC-FT 60,560

Note.--No gage-height record June 17 to Sept. 20. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4085. Mill Creek near Colville, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	16	19	16	14	25	46	92	63	21	8.0	7.1
2	16	16	18	15	14	25	53	91	60	21	8.0	6.8
3	16	16	17	16	14	24	60	105	59	21	9.2	6.5
4	16	16	17	17	14	24	63	119	57	20	13	6.5
5	15	16	17	15	14	24	70	98	56	20	14	6.5
6	15	16	15	15	14	24	76	97	54	20	13	6.2
7	16	16	15	14	14	24	82	105	52	20	13	6.2
8	17	16	15	14	14	24	71	98	50	19	14	6.5
9	17	16	15	14	14	24	63	98	48	18	13	6.8
10	16	16	14	10	14	23	59	100	45	18	13	7.1
11	15	16	14	10	15	23	59	106	44	17	12	8.8
12	17	16	14	10	16	23	60	105	41	16	11	8.8
13	19	16	14	10	18	23	67	98	46	16	11	8.8
14	18	16	14	10	20	23	82	95	49	16	11	9.2
15	17	16	15	10	22	23	105	91	44	15	9.6	8.8
16	17	15	16	10	24	22	105	89	42	15	9.2	8.4
17	17	15	16	10	26	22	92	89	38	15	8.8	8.0
18	17	15	16	10	25	22	98	92	36	15	8.8	7.7
19	16	15	16	10	25	22	141	92	34	15	8.4	7.4
20	15	15	17	10	26	22	153	88	33	14	8.0	7.4
21	15	14	19	10	25	22	137	85	32	13	7.7	7.1
22	15	14	17	10	25	21	132	81	31	12	7.7	7.1
23	17	14	19	11	25	20	132	78	30	11	7.4	6.8
24	19	14	17	12	25	22	141	82	29	11	7.4	6.8
25	18	14	19	13	25	27	132	77	27	10	7.4	6.8
26	17	14	17	14	25	37	117	76	26	9.6	7.7	6.8
27	20	14	16	14	25	38	119	76	26	9.6	8.0	6.8
28	19	14	17	14	25	34	121	77	25	9.2	8.4	8.0
29	18	16	16	14	------	35	105	78	24	9.2	8.4	12
30	17	18	16	14	------	37	97	70	23	8.8	8.4	11
31	16	------	16	14	------	41	------	66	------	8.4	7.7	------
TOTAL	520	461	503	386	557	800	2,838	2,794	1,224	463.8	302.2	228.7
MEAN	16.8	15.4	16.2	12.5	19.9	25.8	94.6	90.1	40.8	15.0	9.75	7.62
MAX	20	18	19	17	26	41	153	119	63	21	14	12
MIN	15	14	14	10	14	20	46	66	23	8.4	7.4	6.2
CFSM	.20	.15	.20	.15	.24	.31	1.14	1.09	.49	.18	.12	.09
IN.	.23	.21	.23	.17	.25	.36	1.27	1.25	.55	.21	.14	.10
AC-FT	1,030	914	998	766	1,100	1,590	5,630	5,540	2,430	920	599	454

CAL YR 1961: TOTAL 29,850 MEAN 81.8 MAX 546 MIN 13 CFSM .99 IN 13.37 AC-FT 59,210
WAT YR 1962: TOTAL 11,077.7 MEAN 30.3 MAX 153 MIN 6.2 CFSM .37 IN 4.96 AC-FT 21,970

Note.--No gage-height record Oct. 28 to Nov. 29, Dec. 3 to Jan. 4, Feb. 9 to Mar. 19. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.2	11	18	30	10	22	49	106	49	31	11	7.4
2	8.8	11	16	29	11	20	45	112	46	27	11	7.1
3	8.4	11	16	41	14	20	42	110	44	26	11	6.8
4	8.4	11	14	35	25	19	44	102	43	25	10	6.8
5	8.4	11	15	33	32	19	58	103	47	24	9.6	6.8
6	8.4	11	15	30	30	19	121	149	51	23	9.2	6.5
7	8.8	11	15	27	29	19	103	181	48	22	8.8	6.2
8	10	11	15	27	24	19	95	173	45	22	8.0	5.9
9	14	13	15	24	22	19	92	155	44	22	8.0	5.6
10	16	15	16	8.0	20	19	85	141	41	22	8.4	5.9
11	19	14	16	7.0	19	19	82	134	40	23	8.0	5.9
12	22	19	16	8.0	18	18	84	128	38	22	9.2	5.9
13	23	20	17	11	18	18	84	121	37	20	11	6.2
14	18	17	18	14	17	19	88	113	35	19	9.6	6.8
15	15	15	24	16	16	18	134	110	34	19	8.8	7.4
16	14	15	34	16	17	18	126	103	34	19	8.0	9.2
17	13	14	29	16	17	18	122	102	33	19	7.7	11
18	13	14	27	15	18	18	121	97	32	18	7.7	9.2
19	13	13	26	13	18	18	119	94	30	18	8.0	8.4
20	13	15	26	13	18	18	112	89	30	16	8.0	8.0
21	12	15	24	14	18	19	105	86	31	15	8.0	8.0
22	12	14	22	14	17	22	103	82	36	15	8.4	8.0
23	12	13	19	14	17	24	102	79	36	15	8.4	8.4
24	12	13	16	13	18	41	98	74	32	15	11	8.4
25	12	15	14	12	18	39	97	71	32	15	10	8.4
26	11	24	16	12	27	34	95	67	30	15	9.2	8.0
27	11	22	16	12	27	37	95	64	27	14	8.8	7.7
28	11	19	17	11	23	84	97	60	26	12	8.4	7.7
29	11	16	18	11	------	64	98	57	30	12	8.4	7.7
30	11	17	30	9.0	------	65	102	53	38	12	7.7	7.7
31	11	------	38	9.0	------	58	------	51	------	11	7.4	------
TOTAL	389.4	440	616	544.0	558	866	2,798	3,167	1,119	588	276.7	223.0
MEAN	12.6	14.7	19.9	17.5	19.9	27.9	93.3	102	37.3	19.0	8.93	7.43
MAX	23	24	38	41	32	84	134	181	51	31	11	11
MIN	8.4	11	14	7.0	10	18	42	51	26	11	7.4	5.6
CFSM	.15	.18	.24	.21	.24	.34	1.12	1.23	.45	.23	.11	.09
IN.	.17	.20	.28	.24	.25	.39	1.25	1.42	.50	.26	.12	.10
AC-FT	772	873	1,220	1,080	1,110	1,720	5,550	6,280	2,220	1,170	549	442

CAL YR 1962: TOTAL 11,039.1 MEAN 30.2 MAX 153 MIN 6.2 CFSM .36 IN 4.95 AC-FT 21,900
WAT YR 1963: TOTAL 11,585.1 MEAN 31.7 MAX 181 MIN 5.6 CFSM .38 IN 5.19 AC-FT 22,980

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4085. Mill Creek near Colville, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.4	8.8	11	11	11	11	33	102	59	25	13	9.6
2	7.4	8.8	11	12	9.6	11	35	97	56	25	13	9.6
3	7.4	9.2	11	11	11	11	34	100	55	27	12	9.6
4	7.4	9.6	10	11	11	11	35	117	53	27	12	9.2
5	7.7	10	11	10	11	11	34	136	53	26	11	8.0
6	8.0	12	11	11	8.8	11	35	136	52	25	10	7.7
7	8.4	14	9.2	9.6	9.2	9.6	42	132	50	23	9.6	7.7
8	8.4	14	11	9.4	9.6	9.6	46	132	50	21	8.8	8.0
9	8.4	12	11	9.6	11	11	59	141	47	22	9.6	8.0
10	9.0	12	10	10	11	10	66	147	44	21	9.6	8.0
11	9.0	12	9.2	10	11	12	68	136	45	20	9.2	7.7
12	7.7	12	10	10	9.2	12	62	132	45	19	8.8	7.7
13	8.0	12	11	10	9.6	12	56	130	42	19	8.8	7.7
14	8.0	15	11	10	10	12	57	122	40	18	8.4	7.4
15	8.0	23	11	11	11	12	62	115	39	16	7.7	7.4
16	7.7	17	11	12	11	12	63	112	44	17	7.4	7.1
17	7.7	15	11	12	10	14	55	115	44	17	7.4	9.6
18	7.7	14	11	11	10	14	51	115	43	17	9.2	13
19	8.0	16	11	11	10	14	53	113	46	17	14	12
20	8.4	21	12	11	10	14	58	112	40	16	11	11
21	8.4	15	11	11	10	14	62	105	40	16	10	11
22	8.4	16	11	11	10	14	78	98	36	15	8.8	11
23	9.2	16	11	11	10	13	82	92	34	15	8.4	10
24	9.8	16	11	11	11	12	82	86	32	14	7.7	10
25	10	16	11	11	10	12	85	81	31	13	7.7	9.6
26	9.2	19	11	10	10	14	95	77	30	12	7.7	9.6
27	8.8	19	11	10	10	14	92	74	32	12	8.0	9.6
28	8.8	16	11	10	11	14	88	71	30	11	8.8	9.6
29	8.8	14	11	10	10	17	82	67	29	11	8.4	9.6
30	8.8	12	11	10	------	20	103	65	27	13	9.2	9.6
31	8.8	------	11	11	------	27	------	62	------	13	10	------
TOTAL	256.7	426.4	335.4	328.6	297.0	405.2	1,866	3,320	1,271	565	295.2	275.6
MEAN	8.28	14.2	10.8	10.6	10.2	13.1	62.2	107	42.4	18.2	9.52	9.19
MAX	10	23	12	12	11	27	103	147	59	27	14	13
MIN	7.4	8.8	9.2	9.4	8.8	9.6	33	62	27	11	7.4	7.1
CFSM	.10	.17	.13	.13	.12	.16	.75	1.29	.51	.22	.11	.11
IN.	.12	.19	.15	.15	.13	.18	.84	1.49	.57	.25	.13	.12
AC-FT	509	846	665	652	589	804	3,700	6,590	2,520	1,120	586	547

CAL YR 1963: TOTAL 11,158.2 MEAN 30.6 MAX 181 MIN 5.6 CFSM .37 IN 5.00 AC-FT 22,130
WAT YR 1964: TOTAL 9,642.1 MEAN 26.3 MAX 147 MIN 7.1 CFSM .32 IN 4.32 AC-FT 19,120

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.6	9.6	19	11	11	20	30	256	84	32	14	12
2	9.6	9.6	24	11	11	21	34	228	80	32	13	12
3	9.2	10	20	11	12	20	40	205	76	31	14	11
4	9.2	11	19	10	12	20	45	198	72	29	15	12
5	9.2	13	18	11	12	20	52	183	68	28	16	12
6	9.2	12	17	11	14	20	58	166	64	26	16	11
7	9.2	11	16	10	14	22	56	156	62	25	15	11
8	9.6	11	16	11	13	24	57	148	60	25	14	11
9	10	12	16	11	12	24	65	145	57	24	13	11
10	11	17	15	11	10	27	88	145	55	24	12	11
11	12	18	14	11	10	31	98	148	54	24	12	10
12	11	16	9.6	11	10	34	117	150	53	24	12	10
13	10	14	12	11	11	34	143	150	54	23	12	10
14	10	12	12	11	11	35	163	143	52	21	12	12
15	10	12	11	11	12	36	191	139	55	21	12	13
16	10	11	7.0	11	12	37	201	137	52	20	11	12
17	11	11	6.0	11	12	31	205	128	56	19	9.8	12
18	10	11	8.0	11	13	31	189	122	61	18	9.3	11
19	10	11	9.0	11	14	30	201	118	72	18	9.3	11
20	10	11	9.5	11	15	27	247	148	56	18	14	12
21	9.6	10	10	11	14	29	342	140	50	22	13	11
22	9.2	10	10	11	14	28	336	126	47	27	12	11
23	9.6	11	10	11	12	27	314	120	44	24	16	12
24	9.6	14	8.5	11	12	25	318	118	42	20	15	12
25	9.6	15	7.0	10	14	23	310	112	40	19	16	12
26	10	14	8.0	9.6	14	22	302	107	38	18	16	12
27	10	13	10	11	24	24	300	102	37	18	15	12
28	10	12	11	11	26	23	318	98	36	16	13	12
29	9.6	9.6	11	11	------	23	316	94	37	16	13	12
30	9.6	11	11	12	------	24	286	91	34	15	13	12
31	9.2	------	11	12	------	27	------	88	------	15	12	------
TOTAL	305.8	362.8	385.6	338.6	371	819	5,422	4,409	1,648	692	409.4	345
MEAN	9.86	12.1	12.4	10.9	13.3	26.4	181	142	54.9	22.3	13.2	11.5
MAX	12	18	24	12	26	37	342	256	84	32	16	13
MIN	9.2	9.6	6.0	9.6	10	20	30	88	34	15	9.3	10
CFSM	.12	.15	.15	.13	.16	.32	2.18	1.71	.66	.27	.16	.14
IN.	.14	.16	.17	.15	.17	.37	2.43	1.98	.74	.31	.18	.15
AC-FT	607	720	765	672	736	1,620	10,750	8,750	3,270	1,370	812	684

CAL YR 1964: TOTAL 9,677.8 MEAN 26.4 MAX 147 MIN 6.0 CFSM .32 IN 4.34 AC-FT 19,200
WAT YR 1965: TOTAL 15,508.2 MEAN 42.5 MAX 342 MIN 6.0 CFSM .51 IN 6.95 AC-FT 30,760

12-4087. Mill Creek at mouth, near Colville, Wash.

Location.--Lat 48°34'25", long 117°56'40", in NE¼SW¼ sec.31, T.36 N., R.39 E., on left bank at upstream side of bridge on U.S. Highway 395, 2 miles northwest of Colville.

Drainage area.--146 sq mi.

Records available.--July 1959 to October 1965 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 1,540 ft (from topographic map).

Average discharge.--6 years, 62.0 cfs (44,890 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 11, 1961	712	3.87	Oct. 6, 1960	19	0.86
1962	Apr. 20, 1962	206	2.65	July 31, 1962	3.6	1.19
1963	May 7, 1963	240	2.80	Sept. 6, 1963	5.5	1.19
1964	May 10, 1964	184	2.54	Aug. 28, 29, 1964	7.1	a 1.21
1965	Apr. 21, 1965	370	3.50	Dec. 17, 1964	b 10	-

a Occurred July 29, 1964.
b Minimum daily.

1959-65: Maximum discharge, 712 cfs May 11, 1961 (gage height, 3.87 ft); minimum, 3.6 cfs July 31, 1962.

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are fair. No regulation. Many small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	29	46	25	28	89	261	460	277	74	35	25
2	20	29	45	24	36	87	292	465	253	70	35	27
3	20	28	41	23	35	82	331	448	236	68	35	27
4	20	26	37	21	33	75	343	465	220	65	33	27
5	20	25	33	23	47	81	322	522	203	63	34	26
6	20	24	30	27	55	78	290	534	191	62	35	25
7	27	23	29	29	62	75	270	570	220	60	35	25
8	48	22	29	29	59	74	259	576	193	57	34	25
9	38	21	29	30	68	75	254	594	180	55	32	25
10	32	23	28	31	78	75	243	626	171	51	32	25
11	30	25	27	33	94	74	235	586	164	49	31	24
12	29	26	29	32	120	74	274	580	173	48	30	24
13	29	25	29	31	106	75	358	552	160	47	29	23
14	28	24	29	32	91	84	299	525	146	46	29	23
15	27	23	27	38	95	100	274	500	137	44	28	24
16	26	24	25	47	106	104	265	466	128	44	29	24
17	26	27	26	44	95	107	270	470	121	42	30	23
18	25	40	28	40	88	106	287	466	126	42	28	23
19	25	38	28	37	88	112	274	448	115	42	27	23
20	25	45	27	35	88	133	256	430	108	42	27	23
21	25	57	27	33	101	143	243	422	102	41	27	22
22	25	54	27	33	112	141	239	382	99	40	26	23
23	25	50	27	32	102	143	243	362	95	42	25	23
24	24	58	26	33	100	145	250	339	90	46	25	23
25	24	57	26	27	101	145	252	313	85	43	27	23
26	25	66	25	23	92	159	259	303	82	40	27	23
27	27	60	25	20	95	178	261	296	77	38	26	23
28	36	55	25	20	91	178	290	293	76	38	25	23
29	33	50	25	21	------	196	313	287	77	39	25	23
30	31	47	25	21	------	210	415	283	77	38	24	23
31	29	------	25	25	------	233	------	283	------	36	24	------
TOTAL	839	1,111	905	919	2,266	3,631	8,422	13,846	4,382	1,512	909	720
MEAN	27.1	37.0	29.2	29.6	80.9	117	281	447	146	48.8	29.3	24.0
MAX	48	57	46	47	120	233	415	626	277	74	35	27
MIN	20	21	25	20	28	74	235	283	76	36	24	22
CFSM	.19	.25	.20	.20	.55	.80	1.92	3.06	1.00	.33	.20	.16
IN.	.21	.28	.23	.23	.58	.92	2.15	3.53	1.12	.39	.23	.18
AC-FT	1,660	2,200	1,800	1,820	4,490	7,200	16,700	27,460	8,690	3,000	1,800	1,430

CAL YR 1960: TOTAL 33,215 MEAN 90.8 MAX 512 MIN 18 CFSM .62 IN 8.46 AC-FT 65,890
WAT YR 1961: TOTAL 39,462 MEAN 108 MAX 626 MIN 20 CFSM .74 IN 10.05 AC-FT 78,270

Note.--No gage-height record Nov. 5 to Dec. 7. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4087. Mill Creek at mouth, near Colville, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	28	27	29	28	46	70	127	83	27	4.5	8.8
2	23	28	27	29	28	45	77	123	80	27	5.0	9.4
3	23	28	26	31	28	46	86	134	78	27	6.5	9.4
4	23	28	25	31	28	44	92	162	76	28	13	9.4
5	24	27	25	30	28	44	100	141	74	27	17	10
6	25	27	24	31	28	45	107	135	73	28	16	11
7	26	27	24	31	28	45	122	148	66	28	17	11
8	26	27	25	30	29	46	112	139	64	25	19	12
9	26	27	25	27	31	45	101	143	61	24	19	13
10	26	27	24	26	33	42	95	145	59	24	18	14
11	26	27	22	24	35	41	94	156	56	22	16	14
12	26	27	22	22	36	41	95	154	54	21	15	13
13	27	27	22	21	37	41	101	145	54	20	12	13
14	26	27	24	20	39	42	109	137	57	19	13	14
15	26	27	26	20	40	42	154	132	54	18	13	15
16	27	26	28	20	44	41	166	128	50	17	12	15
17	27	27	29	20	47	41	143	127	47	16	12	15
18	27	25	29	20	46	40	146	127	45	15	12	15
19	27	25	28	20	46	39	174	123	44	15	12	15
20	27	25	29	20	47	42	186	117	41	14	12	13
21	27	25	33	20	46	42	170	112	40	13	11	13
22	27	25	31	20	45	44	158	107	39	13	11	13
23	28	25	31	20	45	44	158	106	38	12	10	13
24	29	26	33	21	44	47	172	106	38	11	9.4	13
25	29	24	34	23	44	51	170	101	35	12	8.8	13
26	30	24	33	25	44	64	156	100	34	9.4	9.4	13
27	32	24	29	26	45	68	156	100	33	9.4	10	13
28	31	24	31	27	45	64	162	100	32	9.4	10	15
29	30	24	31	28	------	61	143	100	30	5.5	9.4	16
30	29	25	30	28	------	62	132	90	28	4.5	8.8	15
31	28	------	30	28	------	65	------	86	------	4.5	8.8	------
TOTAL	831	783	857	768	1,063	1,470	3,907	3,849	1,563	545.7	370.6	387.0
MEAN	26.8	26.1	27.6	24.8	38.0	47.4	130	124	52.1	17.6	12.0	12.9
MAX	32	28	34	31	47	68	186	162	83	28	19	16
MIN	23	24	22	20	28	39	70	86	28	4.5	4.5	8.8
CFSM	.18	.18	.19	.17	.26	.32	.89	.85	.36	.12	.08	.09
IN.	.21	.20	.22	.20	.27	.37	1.00	.98	.40	.14	.09	.10
AC-FT	1,650	1,550	1,700	1,520	2,110	2,920	7,750	7,630	3,100	1,080	735	768

CAL YR 1961: TOTAL 39,078 MEAN 107 MAX 626 MIN 20 CFSM .73 IN 9.95 AC-FT 77,510
WAT YR 1962: TOTAL 16,394.3 MEAN 44.9 MAX 186 MIN 4.5 CFSM .31 IN 4.18 AC-FT 32,520

Note.--No gage-height record Jan. 11 to Feb. 16. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	20	32	39	18	33	66	135	64	35	13	9.4
2	14	20	30	37	20	32	62	139	60	30	11	9.4
3	14	20	29	45	24	31	59	135	57	28	9.4	9.4
4	14	20	27	44	35	31	59	128	55	25	9.4	8.2
5	15	20	27	40	46	30	71	125	59	24	8.8	6.5
6	16	20	27	39	44	29	147	176	71	23	8.8	6.5
7	16	20	27	37	41	29	148	226	64	22	7.6	6.5
8	17	20	27	37	41	29	137	228	60	23	7.6	7.1
9	19	23	27	35	37	29	135	206	55	24	7.6	7.6
10	21	24	26	22	34	29	123	192	52	24	8.2	8.8
11	25	24	26	15	32	29	120	182	47	24	8.2	9.4
12	31	26	26	19	31	29	122	170	44	22	10	11
13	32	29	26	22	30	29	118	162	42	20	9.4	11
14	27	27	27	25	29	29	125	154	40	19	9.4	11
15	24	26	32	29	28	29	188	150	38	19	9.4	11
16	23	26	39	28	28	29	200	143	37	19	9.4	12
17	22	25	39	27	28	29	174	135	36	19	9.4	11
18	22	24	38	26	29	29	162	128	34	19	9.4	11
19	21	24	37	23	29	29	148	123	32	17	9.4	11
20	21	24	36	24	29	29	141	117	32	16	9.4	11
21	20	24	35	25	29	29	134	112	33	15	8.8	11
22	20	24	34	25	30	32	130	109	40	15	7.6	11
23	20	24	31	24	30	34	128	102	42	15	7.6	11
24	20	24	25	23	30	44	127	100	39	15	11	12
25	20	25	25	22	32	47	122	94	37	16	11	12
26	20	31	26	21	34	42	120	88	34	16	11	12
27	20	32	27	21	37	45	120	83	32	15	10	12
28	20	30	25	20	35	63	120	77	30	14	10	12
29	20	28	27	16	------	84	122	74	32	13	10	12
30	20	30	33	16	------	82	128	69	42	13	9.4	12
31	20	------	44	17	------	76	------	66	------	12	9.4	------
TOTAL	628	734	937	943	990	1,196	3,756	4,132	1,340	611	290.5	305.8
MEAN	20.3	24.5	30.2	27.2	31.8	38.6	125	133	44.7	19.7	9.37	10.2
MAX	32	32	44	45	46	89	200	228	71	35	13	12
MIN	14	20	25	15	18	29	59	66	30	12	7.6	6.5
CFSM	.14	.17	.21	.19	.22	.26	.86	.91	.31	.13	.06	.07
IN.	.16	.19	.24	.21	.23	.30	.96	1.05	.34	.16	.07	.08
AC-FT	1,250	1,460	1,850	1,670	1,770	2,370	7,450	8,200	2,660	1,210	576	607

CAL YR 1962: TOTAL 16,222.3 MEAN 44.4 MAX 186 MIN 4.5 CFSM .30 IN 4.13 AC-FT 32,180
WAT YR 1963: TOTAL 15,663.4 MEAN 42.9 MAX 228 MIN 6.5 CFSM .29 IN 3.9[illegible] AC-FT 31,070

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4087. Mill Creek at mouth, near Colville, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	15	20	19	18	18	42	127	78	31	10	8.8
2	11	15	18	19	18	18	48	122	77	29	11	8.8
3	12	15	18	19	18	18	48	123	74	29	11	9.4
4	12	15	18	19	18	18	50	137	70	27	10	9.4
5	12	16	18	19	18	18	51	162	69	25	10	9.4
6	12	18	18	19	17	18	50	156	68	24	9.4	9.4
7	12	19	16	18	16	16	56	150	65	24	8.8	10
8	12	20	15	16	17	17	65	154	65	23	8.2	10
9	12	18	17	16	18	18	82	168	61	22	8.8	10
10	12	18	16	16	18	18	90	178	56	21	8.8	11
11	12	18	15	18	18	23	95	168	59	20	8.2	11
12	12	18	16	18	17	23	90	164	59	18	8.2	11
13	12	18	16	18	16	23	83	162	54	18	8.2	12
14	12	19	15	18	17	21	83	152	53	17	8.2	12
15	12	26	15	18	18	22	88	145	50	16	9.4	11
16	12	26	15	20	18	23	90	139	55	16	8.2	11
17	12	23	15	20	17	25	82	145	59	15	8.2	13
18	12	22	15	19	17	27	76	148	57	15	9.4	15
19	12	24	15	19	17	26	76	146	61	14	12	15
20	12	29	16	18	17	26	80	145	55	14	11	15
21	12	25	15	18	16	27	84	139	53	13	8.8	14
22	12	23	15	18	16	28	100	132	48	12	8.8	14
23	12	25	15	18	16	26	106	125	45	11	8.2	15
24	12	25	15	18	16	25	104	117	42	10	8.2	13
25	12	25	15	19	15	25	107	107	40	11	8.8	13
26	12	26	15	18	16	26	118	102	37	10	8.8	13
27	13	27	17	19	16	27	118	100	39	9.4	8.8	13
28	13	25	18	18	17	27	116	95	38	8.2	8.2	12
29	14	23	18	18	18	29	115	89	35	7.6	7.1	12
30	14	21	18	18	------	32	125	86	32	9.4	7.6	12
31	14	------	18	18	------	37	------	83	------	10	8.8	------
TOTAL	378	637	506	566	494	725	2,516	4,166	1,654	529.6	279.1	353.2
MEAN	12.2	21.2	16.3	18.3	17.0	23.4	83.9	134	55.1	17.1	9.00	11.8
MAX	14	29	20	20	18	37	125	178	78	31	12	15
MIN	11	15	15	16	15	16	42	83	32	7.6	7.1	8.8
CFSM	.08	.15	.11	.13	.12	.16	.57	.92	.38	.12	.06	.08
IN.	.10	.16	.13	.14	.13	.18	.64	1.06	.42	.13	.07	.09
AC-FT	750	1,260	1,000	1,120	980	1,440	4,990	8,260	3,280	1,050	554	701

CAL YR 1963: TOTAL 14,885.4 MEAN 40.8 MAX 228 MIN 6.5 CFSM .28 IN 3.79 AC-FT 29,520
WAT YR 1964: TOTAL 12,803.9 MEAN 35.0 MAX 178 MIN 7.1 CFSM .24 IN 3.26 AC-FT 25,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	16	23	17	15	29	44	304	112	41	16	15
2	12	16	28	17	14	26	47	280	104	38	16	15
3	12	16	27	17	18	25	48	258	96	37	17	15
4	12	18	25	16	18	28	50	248	89	36	20	15
5	12	18	24	17	18	29	54	235	85	35	20	15
6	12	18	24	17	20	30	57	217	79	32	21	15
7	12	18	23	16	19	31	57	203	75	31	18	15
8	12	18	23	17	19	32	57	191	73	30	17	16
9	13	18	23	17	19	33	65	185	70	29	16	16
10	14	22	22	17	18	34	96	183	64	28	15	16
11	14	24	22	17	15	39	106	187	61	28	14	16
12	13	22	19	17	16	44	117	187	61	27	15	15
13	14	21	15	17	19	45	144	193	64	27	16	16
14	14	21	17	17	18	46	160	191	63	25	15	17
15	14	20	17	17	19	48	185	189	65	24	15	18
16	14	19	12	16	20	48	201	185	61	23	15	17
17	15	18	10	16	20	46	215	177	65	22	14	17
18	15	18	12	16	21	46	207	166	73	22	14	16
19	15	18	13	16	22	46	211	159	86	23	13	16
20	15	18	14	16	23	44	258	183	72	25	15	17
21	15	18	15	16	23	44	334	185	63	27	16	16
22	15	18	16	16	22	42	315	168	58	33	16	14
23	15	18	15	16	21	41	278	162	54	30	15	14
24	15	20	14	16	20	38	278	155	51	27	17	14
25	15	21	11	13	21	39	290	150	49	25	18	14
26	15	22	12	14	23	39	296	143	47	24	19	14
27	15	21	14	16	32	39	296	137	47	24	17	14
28	16	21	17	17	34	41	309	133	47	24	17	15
29	16	19	17	17	------	41	334	128	46	22	17	15
30	16	18	17	17	------	41	323	121	44	20	17	15
31	16	------	17	18	------	42	------	118	------	19	16	------
TOTAL	435	573	558	509	567	1,196	5,432	5,721	2,024	858	511	463
MEAN	14.0	19.1	18.0	16.4	20.3	38.6	181	185	67.5	27.7	16.5	15.4
MAX	16	24	28	18	34	48	334	304	112	41	21	18
MIN	12	16	10	13	14	25	44	118	44	19	13	14
CFSM	.10	.13	.12	.11	.14	.26	1.24	1.26	.46	.19	.11	.11
IN.	.11	.15	.14	.13	.14	.30	1.38	1.46	.52	.22	.13	.12
AC-FT	863	1,140	1,110	1,010	1,120	2,370	10,770	11,350	4,010	1,700	1,010	918

CAL YR 1964: TOTAL 12,848.9 MEAN 35.1 MAX 178 MIN 7.1 CFSM .24 IN 3.27 AC-FT 25,490
WAT YR 1965: TOTAL 18,847 MEAN 51.6 MAX 334 MIN 10 CFSM .35 IN 4.80 AC-FT 37,380

Note.--No gage-height record Dec. 13 to Jan. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1965

DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.
1	14	5	13	9	13	13	14	17	15	21	15	25	16	29	16
2	14	6	13	10	13	14	14	18	15	22	15	26	17	30	16
3	14	7	13	11	14	15	14	19	15	23	15	27	16	31	16
4	14	8	13	12	14	16	15	20	15	24	15	28	16		

TOTAL	452
MEAN	14.6
MAX	17
MIN	13
CFSM	.100
IN.	.12
AC-FT	897

12-4090. Colville River at Kettle Falls, Wash.

Location.--Lat 48°35'40", long 118°03'30", in sec.29, T.36 N., R.38 E., on right bank 600 ft downstream from Washington Water Power Co.'s plant at foot of Meyer Falls, half a mile south of town of Kettle Falls, and 2 miles upstream from Franklin D. Roosevelt Lake.

Drainage area.--1,007 sq mi.

Records available.--October 1922 to September 1965. Published as "at Meyers Falls" 1922-38.

Gage.--Water-stage recorder. Altitude of gage is 1,500 ft (from topographic map). Prior to Oct. 21, 1932, staff gage at site 500 ft upstream at different datum. Oct. 21, 1932, to Sept. 19, 1938, staff gages at site 200 ft upstream at different datum. Sept. 20, 1938, to Mar. 20, 1949, staff gage at present site and datum.

Average discharge.--43 years, 300 cfs (217,200 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 12, 1961	2,340	8.68	Aug. 16, 1961	109	a 5.24
1962	May 12, 1962	909	6.51	Nov. 16, 1961	14	4.58
1963	May 9, 1963	1,070	6.70	Aug. 12, 1963	20	4.69
1964	May 6, 1964	735	6.35	Feb. 12, 1964	16	4.61
1965	Apr. 26, 1965	1,840	7.97	Sept.27, 1965	b 19	4.70

a Occurred Jan. 4, 1961.
b May have been less Dec. 16-18, 1964.

1922-65: Maximum discharge, 3,230 cfs Apr. 23, 1956 (gage height, 10.17 ft); minimum observed, 0.5 cfs Aug. 15, 1930.

Remarks.--Records excellent except those for winter periods, which are good. Several ditches above station divert water for irrigation. Regulation at low flow by powerplant. Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.

Revisions (water years).--WSP 1316: 1938(M), 1941(M), 1948(M). WSP 1636: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	117	166	304	194	370	782	1,180	1,330	883	352	166	138
2	117	162	304	188	412	752	1,240	1,470	818	335	158	158
3	117	159	298	180	448	708	1,320	1,530	766	325	145	153
4	117	156	286	130	412	662	1,410	1,540	716	319	138	149
5	117	152	247	140	400	648	1,440	1,620	686	314	138	145
6	120	148	200	180	452	648	1,400	1,660	662	309	141	141
7	134	148	180	212	546	640	1,350	1,650	674	293	141	138
8	176	142	170	202	560	625	1,320	1,760	686	283	134	134
9	198	142	175	207	560	625	1,280	1,780	662	268	131	138
10	173	156	190	220	610	640	1,230	1,850	644	253	123	138
11	156	162	210	236	640	640	1,180	2,120	626	243	123	134
12	152	160	220	230	834	648	1,150	2,320	626	233	120	131
13	156	176	220	225	862	655	1,320	2,200	620	224	120	131
14	152	173	220	230	869	678	1,410	2,100	590	215	116	131
15	148	176	180	274	876	798	1,320	2,100	560	205	113	134
16	145	176	150	358	953	897	1,250	2,020	530	201	113	131
17	145	184	150	376	967	904	1,210	1,930	512	201	134	131
18	142	242	200	328	918	911	1,220	1,870	512	196	138	127
19	142	286	230	280	904	911	1,210	1,730	512	192	131	127
20	142	274	230	247	911	911	1,180	1,630	478	183	127	131
21	142	406	220	220	904	953	1,130	1,520	450	158	127	127
22	145	448	207	210	932	953	1,070	1,420	434	165	127	131
23	145	412	202	200	918	967	1,040	1,340	423	183	123	134
24	145	388	202	200	904	995	1,040	1,270	401	258	123	141
25	145	512	202	160	904	1,010	1,040	1,220	390	248	134	141
26	148	560	202	150	897	1,010	1,040	1,140	374	210	138	141
27	148	532	138	150	869	1,060	1,040	1,070	362	192	141	141
28	159	454	184	160	841	1,070	1,040	1,030	352	183	138	145
29	179	364	194	160	------	1,070	1,060	974	346	179	134	153
30	173	322	198	230	------	1,100	1,180	928	340	183	127	158
31	166	------	194	310	------	1,130	------	928	------	174	127	------
TOTAL	4,558	7,958	6,567	6,788	20,713	26,001	36,300	47,170	16,635	7,278	4,089	4,152
MEAN	147	265	212	219	740	839	1,210	1,586	555	235	132	138
MAX	198	560	304	376	967	1,130	1,440	2,320	883	352	166	158
MIN	117	142	130	130	370	625	1,040	928	340	158	113	127
AC-FT	9,040	15,780	13,030	13,460	41,080	51,570	72,000	93,530	33,000	14,440	8,110	8,240

CAL YR 1960: TOTAL 161,068 MEAN 440 MAX 1,920 MIN 115 AC-FT 319,500
WAT YR 1961: TOTAL 190,209 MEAN 521 MAX 2,320 MIN 113 AC-FT 377,300

12-4090. Colville River at Kettle Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	158	183	224	233	219	180	632	720	518	168	72	79
2	158	179	215	224	215	200	632	672	497	160	72	72
3	156	179	205	233	224	220	656	656	469	156	72	72
4	158	179	192	263	233	250	683	720	456	156	74	72
5	158	166	192	248	210	245	704	765	469	156	114	72
6	153	166	174	238	205	275	729	738	462	142	122	70
7	158	174	166	238	219	265	765	747	455	160	125	70
8	170	174	116	238	210	260	783	747	427	146	125	70
9	174	170	113	224	238	265	756	756	414	146	116	72
10	170	174	110	118	278	260	720	783	396	137	96	84
11	166	174	120	83	293	250	690	846	384	136	94	102
12	170	174	130	133	293	235	664	900	372	113	96	102
13	183	174	140	174	299	235	656	873	366	125	96	102
14	192	174	150	174	335	245	672	846	356	122	102	102
15	187	170	150	148	379	250	712	801	396	102	96	102
16	179	78	150	141	374	260	792	774	366	122	94	102
17	179	148	160	140	357	275	801	747	336	108	94	102
18	179	141	174	140	352	285	783	728	312	122	77	102
19	174	187	187	130	346	330	792	704	290	70	68	99
20	170	174	201	130	346	372	846	688	275	94	66	99
21	170	162	248	130	325	414	855	664	260	108	70	99
22	170	158	283	130	304	420	819	640	250	108	68	86
23	179	162	304	130	278	414	783	608	235	96	70	73
24	192	183	293	140	205	448	783	600	230	77	70	84
25	196	166	283	150	179	518	783	600	220	89	70	96
26	192	162	293	170	166	624	756	592	210	77	63	90
27	210	174	243	215	145	704	738	584	196	65	59	90
28	219	183	219	248	160	738	801	576	192	67	72	94
29	210	243	243	253	-------	720	819	584	184	68	82	122
30	192	238	263	238	-------	696	783	568	176	70	84	156
31	187	-------	243	228	-------	656	-------	539	-------	72	84	-------
TOTAL	5,511	5,170	6,194	5,683	7,367	11,519	22,383	21,767	10,222	3,542	2,663	2,755
MEAN	178	172	200	183	264	372	746	702	341	114	86.1	91.8
MAX	219	243	304	263	379	738	855	900	518	168	125	156
MIN	153	78	110	83	145	180	632	539	176	65	59	70
AC-FT	10,930	10,250	12,290	11,270	14,650	22,850	44,400	43,170	20,280	7,030	5,290	5,460

CAL YR 1961: TOTAL 188,001 MEAN 515 MAX 2,320 MIN 78 AC-FT 372,900
WAT YR 1962: TOTAL 104,802 MEAN 287 MAX 900 MIN 59 AC-FT 207,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	150	125	230	290	108	295	594	602	320	136	68	65
2	119	125	240	270	108	280	570	626	315	175	66	68
3	119	125	235	285	125	265	516	642	310	158	64	66
4	116	125	215	324	128	250	474	634	305	148	66	68
5	110	125	200	290	235	255	481	618	300	138	64	62
6	110	132	205	275	481	245	578	650	335	129	62	66
7	110	132	205	265	448	236	726	807	358	124	60	58
8	122	136	205	260	424	232	798	1,000	335	126	58	64
9	146	136	205	250	394	228	861	1,060	320	124	55	58
10	150	146	205	156	376	228	880	1,040	315	124	58	64
11	164	164	200	77	320	228	852	1,000	310	124	58	60
12	205	168	196	99	280	228	825	940	285	135	66	66
13	255	192	192	142	260	224	780	890	265	121	74	74
14	245	188	196	160	245	224	744	843	250	112	78	72
15	192	172	230	168	240	224	762	789	236	107	74	76
16	168	164	306	172	236	224	852	744	224	102	68	52
17	156	164	354	176	250	224	834	693	216	99	63	110
18	146	160	318	175	255	220	816	658	208	102	66	118
19	150	160	300	168	260	220	789	618	196	104	68	104
20	150	160	285	142	265	216	753	586	186	87	66	87
21	136	164	275	136	270	220	726	554	186	87	68	94
22	122	160	260	153	260	228	682	538	208	82	70	94
23	139	156	235	150	255	240	666	509	236	82	72	94
24	125	150	164	150	250	290	658	488	236	78	70	97
25	128	156	142	136	250	340	658	460	216	82	76	94
26	139	210	150	119	270	320	634	436	196	80	80	92
27	128	312	172	132	325	310	618	412	182	82	78	92
28	132	265	176	122	310	412	602	400	175	78	76	92
29	128	215	210	110	-------	530	594	376	171	76	70	94
30	128	205	235	105	-------	578	564	358	189	72	70	87
31	125	-------	312	105	-------	602	------	335	-------	70	70	-------
TOTAL	4,513	4,992	7,053	5,563	7,628	8,816	20,917	20,312	7,584	3,404	2,102	2,439
MEAN	146	166	228	179	272	284	697	655	253	110	67.8	81.3
MAX	255	312	354	324	481	602	880	1,060	358	196	80	118
MIN	110	125	142	77	108	216	474	335	171	70	55	58
AC-FT	8,950	9,900	13,990	11,030	15,130	17,490	41,490	40,290	15,040	6,750	4,170	4,840

CAL YR 1962: TOTAL 104,485 MEAN 286 MAX 900 MIN 59 AC-FT 207,200
WAT YR 1963: TOTAL 95,323 MEAN 261 MAX 1,060 MIN 55 AC-FT 189,100

12-4090. Colville River at Kettle Falls, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	90	112	108	138	164	158	424	538	300	148	62	87
2	90	112	110	151	161	158	460	530	285	145	70	87
3	87	115	118	151	161	158	474	530	260	138	80	85
4	90	121	126	148	158	154	481	578	255	142	74	85
5	92	121	145	138	161	161	481	658	265	138	74	85
6	94	138	138	142	145	168	467	726	265	129	74	78
7	97	145	97	115	110	161	460	699	260	129	64	82
8	99	158	99	67	112	154	474	666	265	124	62	70
9	99	154	135	85	158	164	502	650	270	112	55	80
10	99	145	110	112	182	164	530	666	250	110	60	76
11	97	138	85	148	175	171	554	674	236	102	55	85
12	97	132	94	151	124	228	562	658	245	97	57	78
13	97	132	118	145	129	250	546	642	255	97	58	87
14	97	135	129	145	151	232	516	618	232	87	57	85
15	97	168	129	145	171	228	509	586	224	85	57	85
16	97	136	129	151	171	245	516	554	228	85	55	80
17	97	168	132	158	164	280	516	546	275	78	55	85
18	94	154	135	164	158	295	502	546	275	78	57	104
19	94	158	135	161	154	295	474	530	285	78	62	121
20	94	186	138	154	151	315	460	516	285	70	94	110
21	97	200	142	154	148	335	454	502	255	68	80	102
22	102	168	142	158	151	364	460	481	240	62	66	102
23	104	164	138	154	148	376	495	474	224	60	64	97
24	112	182	142	145	148	325	502	454	204	68	62	97
25	118	186	138	151	151	280	502	424	193	64	60	92
26	115	178	132	168	138	285	509	400	182	60	60	90
27	110	182	151	161	142	290	530	394	175	62	66	94
28	110	178	151	154	148	310	523	376	175	55	68	94
29	110	154	148	154	142	340	516	352	164	54	74	94
30	110	125	142	154	------	376	523	330	158	57	78	92
31	112	------	142	164	------	400	------	315	------	66	82	------
TOTAL	3,098	4,605	3,978	4,486	4,376	7,820	14,922	16,613	7,195	2,848	2,042	2,689
MEAN	99.9	154	128	145	151	252	497	536	240	91.9	65.9	89.6
MAX	118	200	151	168	182	400	562	726	300	148	94	121
MIN	87	112	85	67	110	154	424	315	158	54	55	70
AC-FT	6,140	9,130	7,890	8,900	8,680	15,510	29,600	32,950	14,270	5,650	4,050	5,330

CAL YR 1963: TOTAL 90,446 MEAN 248 MAX 1,060 MIN 55 AC-FT 179,400
WAT YR 1964: TOTAL 74,672 MEAN 204 MAX 726 MIN 54 AC-FT 148,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	97	107	148	138	158	418	454	1,710	472	207	90	105
2	92	112	216	124	129	394	516	1,590	451	195	81	96
3	97	99	240	129	145	364	586	1,460	430	187	88	98
4	94	112	212	132	171	352	634	1,350	406	179	110	95
5	92	126	189	142	212	340	682	1,260	388	175	119	113
6	94	138	175	142	200	352	706	1,170	364	172	116	85
7	97	126	161	142	200	370	714	1,080	346	158	102	92
8	97	115	154	142	204	394	706	1,000	340	150	98	100
9	99	124	154	145	193	418	698	936	316	144	90	102
10	110	142	161	148	168	430	770	901	305	137	88	102
11	110	154	158	148	132	467	924	880	290	137	83	98
12	102	158	126	148	142	523	973	864	285	137	83	88
13	104	145	90	148	178	586	1,040	848	270	128	108	102
14	104	135	132	148	178	602	1,120	832	285	116	85	102
15	99	129	124	151	164	618	1,180	808	290	116	71	116
16	99	115	60	158	182	626	1,270	784	300	110	73	128
17	102	115	55	154	189	602	1,340	768	300	102	83	116
18	99	118	70	154	186	546	1,410	736	358	98	73	113
19	102	124	90	161	193	488	1,410	696	412	95	71	113
20	102	124	110	158	212	448	1,480	704	376	102	77	110
21	104	124	120	158	224	442	1,670	784	322	110	81	113
22	102	115	130	158	220	424	1,790	760	295	137	98	116
23	104	115	120	154	204	412	1,820	712	270	154	100	105
24	99	135	110	154	186	388	1,820	672	251	140	122	105
25	104	151	70	121	193	370	1,830	656	238	119	131	105
26	99	164	85	110	196	364	1,840	619	228	113	119	108
27	104	161	110	138	260	358	1,820	584	224	88	131	102
28	104	158	120	168	424	352	1,810	556	224	108	119	110
29	104	142	135	175	------	358	1,820	535	224	92	102	108
30	107	126	135	178	------	388	1,800	514	220	79	105	102
31	107	------	135	175	------	418	------	500	------	92	116	------
TOTAL	3,130	3,909	4,095	4,601	5,443	13,612	36,633	27,269	9,500	4,077	3,013	3,150
MEAN	101	130	132	148	194	439	1,221	880	317	132	97.2	105
MAX	110	164	240	178	424	626	1,840	1,710	472	207	131	128
MIN	92	99	55	110	129	340	454	500	220	79	71	85
AC-FT	6,210	7,750	8,120	9,130	10,800	27,000	72,660	54,090	18,840	8,090	5,980	6,250

CAL YR 1964: TOTAL 74,125 MEAN 203 MAX 726 MIN 54 AC-FT 147,000
WAT YR 1965: TOTAL 118,432 MEAN 324 MAX 1,840 MIN 55 AC-FT 234,900

12-4110. Coeur d'Alene River above Shoshone Creek, near Prichard, Idaho

Location.--Lat 47°42'30", long 115°58'35", in NE¼SW¼ sec.5, T.50 N., R.4 E., on left bank at Shoshone Creek ranger station, 0.1 mile downstream from Uranus Creek, 0.5 mile upstream from Shoshone Creek, 3½ miles north of Prichard, and at mile 200.0.

Drainage area.--335 sq mi.

Records available.--December 1950 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,485 ft (from river-profile map).

Average discharge.--14 years (1951-65), 764 cfs (553,100 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (3,600 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 12, 1961	0015	5,220	5.56	Apr. 20, 1962	0700	5,700	5.83	June 9, 1964	0500	3,830	4.84
Feb. 22, 1961	0700	* 11,000	7.83	Apr. 25, 1962	0800	4,580	5.28				
Apr. 4, 1961	1300	4,920	5.45					Dec. 23, 1964	1730	* 11,900	8.37
May 2, 1961	2100	4,980	5.45	Feb. 4, 1963	-	-	a11.55	Apr. 22, 1965	0300	7,600	6.80
May 11, 1961	1500	3,820	4.85	Feb. 5, 1963	-	b 3,100	-	Apr. 29, 1965	1800	4,920	5.57
Apr. 7, 1962	1000	* 8,600	7.04	May 20, 1964	1300	* 6,620	6.21				

a Backwater from ice.
b Maximum daily.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Nov. 9, 1960	75	0.98	1964	Oct. 20, 1963	64	0.81
1962	Dec. 11, 1961	a 40	-	1965	Sept. 8, 1965	100	.95
1963	Sept.12, 1963	64	.79				

a Minimum daily.

1950-65: Maximum discharge, 11,900 cfs Dec. 23, 1964 (gage height, 8.37 ft); maximum gage height, 11.55 ft Feb. 4, 1963 (backwater from ice); minimum discharge, 34 cfs Dec. 26, 1952 (gage height, 0.69 ft), but may have been less during period of ice effect.

Remarks.--Records excellent except those for winter periods, which are fair. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	85	123	336	135	520	1,300	2,120	3,610	1,510	256	129	164
2	85	120	314	130	660	1,200	2,300	4,460	1,460	244	126	164
3	85	112	292	125	740	1,100	3,660	4,370	1,370	240	123	132
4	85	105	278	80	728	1,000	4,700	3,500	1,260	240	120	112
5	85	100	206	120	658	950	3,500	2,990	1,160	248	115	105
6	88	92	180	180	624	900	2,610	2,720	1,080	269	115	98
7	102	92	160	230	672	800	2,140	2,620	1,020	232	115	92
8	178	88	155	230	735	740	1,950	2,750	874	220	110	90
9	160	85	150	230	826	700	1,800	2,850	810	210	110	88
10	120	90	145	230	2,510	680	1,600	3,260	735	199	110	85
11	105	140	150	230	4,920	650	1,450	3,750	672	192	108	85
12	118	174	190	230	4,660	610	1,490	3,380	651	188	105	85
13	138	144	200	230	3,050	630	1,800	3,020	606	185	102	82
14	118	138	180	280	2,110	770	1,840	3,020	552	182	102	80
15	105	132	155	440	1,760	1,050	1,660	3,050	516	178	105	80
16	95	147	120	900	1,660	1,350	1,510	3,050	498	171	112	80
17	92	224	140	1,000	1,470	1,600	1,720	3,250	472	164	120	78
18	92	433	160	922	1,280	1,550	2,400	3,120	455	160	112	80
19	90	444	200	721	1,150	1,500	2,440	3,020	428	160	108	85
20	88	365	190	570	1,170	1,700	2,100	3,260	395	157	102	82
21	88	330	180	480	3,540	1,750	1,820	3,400	370	154	100	82
22	95	346	175	425	9,040	1,550	1,650	2,800	360	154	92	85
23	100	296	170	370	4,680	1,500	1,560	2,640	341	154	90	95
24	120	528	160	340	2,700	1,400	1,500	2,510	323	160	88	98
25	126	1,300	160	330	2,200	1,400	1,490	2,290	310	154	82	92
26	120	1,090	155	275	1,760	1,500	1,690	2,540	300	147	88	90
27	147	707	150	240	1,500	1,500	1,790	2,500	287	138	90	85
28	164	528	145	235	1,310	1,530	1,930	1,950	278	132	90	95
29	182	411	140	255	------	1,570	2,290	1,680	278	132	89	115
30	144	375	140	320	------	1,800	3,070	1,650	274	132	85	108
31	126	------	140	400	------	2,020	------	1,600	------	132	115	------
TOTAL	3,526	9,819	5,616	10,883	58,833	38,400	63,580	90,690	19,646	5,684	3,257	2,892
MEAN	114	327	181	351	2,101	1,239	2,119	2,925	655	183	105	96.4
MAX	182	1,800	336	1,000	9,040	2,020	4,700	4,460	1,510	269	129	164
MIN	85	85	120	80	520	610	1,450	1,600	274	132	82	78
CFSM	.34	.98	.54	1.05	6.27	3.70	6.33	8.73	1.95	.55	.31	.29
IN.	.39	1.09	.62	1.21	6.53	4.26	7.06	10.1	2.18	.63	.36	.32
AC-FT	6,990	19,480	11,140	21,590	116,700	76,170	126,100	179,900	38,970	11,270	6,460	5,740

CAL YR 1960: TOTAL 273,047 MEAN 746 MAX 5,720 MIN 85 CFSM 2.23 IN 30.31 AC-FT 541,600
WAT YR 1961: TOTAL 312,826 MEAN 857 MAX 9,040 MIN 78 CFSM 2.56 IN 34.73 AC-FT 620,500

Note.--No gage-height record Mar. 5-27.

12-4110. Coeur d'Alene River above Shoshone Creek, near Prichard, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	102	105	100	250	210	320	1,070	1,940	1,150	248	135	98
2	95	105	130	220	210	300	1,360	2,020	1,060	244	129	92
3	90	100	135	250	230	290	1,630	2,730	1,110	236	129	88
4	88	95	120	440	270	270	2,000	3,430	1,030	232	144	85
5	88	87	130	430	360	256	2,410	3,250	914	240	174	82
6	98	72	135	380	380	240	3,430	2,700	826	232	171	80
7	108	72	110	350	370	228	6,600	2,600	749	236	147	80
8	110	71	50	460	370	216	4,140	2,570	714	213	141	82
9	102	66	71	440	380	206	2,670	2,720	735	202	135	85
10	115	67	49	350	480	190	2,030	3,130	728	196	132	105
11	140	72	40	310	620	175	1,780	3,130	672	188	126	165
12	145	75	51	280	670	170	1,910	2,640	624	185	120	144
13	145	70	70	270	660	165	2,280	2,570	600	182	118	112
14	150	67	78	230	650	160	3,090	2,300	576	171	112	102
15	125	69	80	200	826	160	4,620	2,140	540	168	112	98
16	115	58	77	175	770	165	4,540	2,010	546	164	110	95
17	110	55	78	165	672	180	3,710	2,050	510	160	108	90
18	105	45	70	150	600	210	3,890	2,120	466	154	105	88
19	105	52	70	135	564	274	5,280	2,120	438	150	105	85
20	110	62	80	120	528	310	5,380	2,020	411	147	105	85
21	115	58	130	115	470	323	4,040	1,850	380	141	105	82
22	115	47	180	115	430	332	3,200	1,800	365	138	102	82
23	120	52	170	115	380	300	3,150	1,810	346	135	102	82
24	135	70	185	125	300	305	4,100	2,050	332	132	102	80
25	130	74	260	140	270	395	4,420	2,050	314	129	98	80
26	140	73	270	165	250	665	3,280	1,880	296	135	95	78
27	140	68	230	185	250	1,190	2,730	1,710	287	132	95	82
28	180	69	200	195	270	1,070	2,670	1,710	278	126	105	100
29	150	74	180	200	-------	882	2,330	1,700	269	123	115	157
30	120	80	220	200	-------	786	1,990	1,470	256	123	110	138
31	105	-------	250	205	-------	842	-------	1,290	-------	123	100	-------
TOTAL	3,696	2,130	4,039	7,365	12,480	11,575	95,730	69,610	17,522	5,385	3,667	2,922
MEAN	119	71.0	130	238	446	373	3,191	2,245	584	174	119	97.4
MAX	180	105	270	460	826	1,190	6,600	3,430	1,150	248	174	185
MIN	88	45	40	115	210	160	1,070	1,290	256	123	95	78
CFSM	.36	.21	.39	.71	1.33	1.11	9.53	6.70	1.74	.52	.36	.29
IN.	.41	.24	.45	.82	1.39	1.28	10.6	7.73	1.95	.60	.41	.32
AC-FT	7,330	4,220	8,010	14,610	24,750	22,960	189,900	138,100	34,750	10,680	7,310	5,800

CAL YR 1961: TOTAL 303,730 MEAN 832 MAX 9,040 MIN 40 CFSM 2.48 IN 33.72 AC-FT 602,400
WAT YR 1962: TOTAL 236,141 MEAN 647 MAX 6,600 MIN 40 CFSM 1.93 IN 26.22 AC-FT 468,400

Note.--No gage-height record Oct. 11 to Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	110	92	679	499	370	984	1,940	1,620	466	224	92	68
2	98	92	630	658	480	930	1,580	1,540	444	199	95	80
3	92	92	582	966	800	842	1,310	1,360	438	192	95	82
4	90	88	494	1,300	1,500	770	1,230	1,180	422	196	92	78
5	88	102	460	1,180	3,100	735	1,250	1,100	450	182	92	72
6	88	126	558	1,010	2,700	670	2,030	1,120	444	178	90	72
7	95	126	618	874	2,360	630	2,780	1,460	390	171	90	70
8	144	132	630	794	2,240	600	2,540	1,970	365	164	88	68
9	192	289	630	721	1,930	576	2,160	2,000	422	164	88	70
10	216	477	618	500	1,640	564	1,870	1,750	422	185	92	70
11	178	400	588	220	1,400	546	1,650	1,580	365	196	100	68
12	296	416	540	260	1,220	528	1,500	1,450	350	178	92	66
13	350	375	494	310	1,080	498	1,420	1,360	336	160	90	75
14	305	323	499	340	984	482	1,520	1,270	318	150	95	110
15	305	282	522	400	882	477	2,110	1,230	296	144	90	102
16	228	252	786	400	818	460	2,230	1,200	287	141	85	100
17	185	224	1,210	360	749	450	1,850	1,160	282	138	82	100
18	160	202	1,500	300	714	428	1,570	1,130	264	144	78	92
19	147	210	1,470	260	700	422	1,350	1,110	252	135	78	82
20	129	454	1,310	310	754	433	1,190	1,050	240	126	80	78
21	123	504	1,170	330	786	450	1,060	984	240	120	85	78
22	118	422	1,110	340	770	466	1,010	948	252	115	82	78
23	112	365	984	310	756	552	984	890	252	115	82	100
24	108	310	794	320	735	707	966	826	236	112	90	108
25	105	444	680	310	707	749	948	756	244	110	100	95
26	102	2,130	660	300	802	778	984	686	232	112	88	85
27	100	2,200	630	310	966	866	1,110	624	216	108	80	80
28	100	1,330	590	310	963	1,350	1,240	582	213	102	78	80
29	98	930	552	300	-------	1,750	1,320	546	236	100	72	78
30	95	786	534	320	-------	2,100	1,520	510	256	98	70	75
31	95	-------	516	330	-------	2,330	-------	488	-------	95	68	-------
TOTAL	4,652	14,175	23,038	15,142	32,976	24,133	46,222	35,480	9,630	4,554	2,679	2,460
MEAN	150	473	743	488	1,178	778	1,541	1,145	321	147	86.4	82.0
MAX	350	2,200	1,500	1,300	3,100	2,330	2,780	2,000	466	224	100	110
MIN	88	88	460	220	370	422	948	488	213	95	68	66
CFSM	.45	1.41	2.22	1.46	3.52	2.32	4.60	3.42	.96	.44	.26	.24
IN.	.52	1.57	2.56	1.68	3.66	2.68	5.13	3.94	1.07	.51	.30	.27
AC-FT	9,230	28,120	45,700	30,030	65,410	47,870	91,680	70,370	19,100	9,030	5,310	4,880

CAL YR 1962: TOTAL 268,141 MEAN 735 MAX 6,600 MIN 78 CFSM 2.19 IN 29.77 AC-FT 531,800
WAT YR 1963: TOTAL 215,141 MEAN 589 MAX 3,100 MIN 66 CFSM 1.76 IN 23.88 AC-FT 426,700

12-4110. Coeur d'Alene River above Shoshone Creek, near Prichard, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	72	78	340	115	180	160	1,180	2,660	3,220	490	226	175
2	72	80	270	174	170	160	1,260	2,420	3,310	466	262	181
3	70	85	230	178	160	150	1,200	2,130	2,980	455	216	178
4	70	90	220	170	160	150	1,380	1,830	2,600	425	200	164
5	75	135	210	150	160	150	1,200	1,690	2,360	410	203	149
6	85	157	240	150	150	140	1,090	1,590	2,440	396	187	144
7	82	274	213	150	150	130	1,340	1,650	2,380	370	175	139
8	80	244	170	120	130	110	1,590	2,090	2,960	352	172	136
9	75	236	160	120	140	120	1,880	2,990	3,560	342	164	131
10	75	220	120	120	150	120	2,000	3,760	2,760	324	164	131
11	72	185	90	130	150	120	1,880	4,120	2,200	308	155	126
12	70	157	110	120	150	130	1,710	4,200	1,910	292	155	123
13	68	141	160	100	140	130	1,430	4,700	1,680	280	203	118
14	68	141	170	100	140	130	1,250	5,100	1,520	280	178	116
15	68	206	170	110	140	140	1,650	4,160	1,380	324	158	116
16	68	236	160	110	140	170	2,490	4,080	1,420	308	149	114
17	68	278	160	120	140	200	2,040	5,510	1,290	273	144	126
18	68	328	150	120	130	270	1,660	6,240	1,160	288	152	164
19	66	287	140	110	130	316	1,650	5,930	1,060	273	166	144
20	66	370	140	110	120	300	1,960	6,440	982	250	161	216
21	75	328	140	110	110	300	2,030	6,190	918	240	149	262
22	98	269	140	110	120	312	2,310	4,660	861	229	139	200
23	240	240	130	100	130	200	2,150	3,410	805	223	136	175
24	196	236	130	100	140	190	1,950	2,780	770	209	133	161
25	188	252	130	130	160	200	1,940	2,490	721	206	131	149
26	141	350	130	240	150	230	2,090	2,390	676	197	144	144
27	110	1,040	130	230	150	247	2,190	2,310	652	194	152	136
28	98	882	120	210	150	250	2,000	2,800	598	184	197	131
29	95	576	112	190	150	292	2,150	3,430	550	190	197	128
30	90	444	108	180	------	496	2,570	3,480	514	212	194	109
31	85	------	105	170	------	889	------	3,270	------	233	194	------
TOTAL	2,854	8,545	4,998	4,347	4,190	6,902	53,220	110,500	50,237	9,223	5,356	4,546
MEAN	92.1	285	161	140	144	223	1,774	3,565	1,675	298	173	152
MAX	240	1,040	340	240	180	889	2,570	6,440	3,560	490	262	262
MIN	66	78	90	100	110	110	1,090	1,590	514	184	131	114
CFSM	.27	.85	.48	.42	.43	.66	5.30	10.6	5.00	.89	.52	.45
IN.	.32	.95	.55	.48	.47	.77	5.91	12.3	5.58	1.02	.59	.50
AC-FT	5,660	16,950	9,910	8,620	8,310	13,690	105,600	219,200	99,640	18,290	10,620	9,020

CAL YR 1963: TOTAL 189,673 MEAN 520 MAX 3,100 MIN 66 CFSM 1.55 IN 21.06 AC-FT 376,200
WAT YR 1964: TOTAL 264,918 MEAN 724 MAX 6,440 MIN 66 CFSM 2.16 IN 29.41 AC-FT 525,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	273	139	1,720	858	874	947	455	4,230	1,120	329	134	117
2	226	172	3,310	790	805	890	582	3,370	1,010	316	134	114
3	223	181	2,750	754	740	850	686	2,640	964	300	161	111
4	200	166	1,950	686	686	828	740	2,250	914	300	170	114
5	187	164	1,460	653	698	850	914	1,990	835	296	149	114
6	175	161	1,180	666	726	938	1,050	1,780	775	276	149	108
7	166	155	990	582	672	1,060	1,050	1,640	733	265	143	106
8	164	152	903	545	686	1,150	1,090	1,540	660	258	134	103
9	206	158	840	504	660	1,170	1,200	1,590	608	246	131	114
10	233	203	805	476	560	1,180	1,510	1,870	569	239	128	123
11	226	247	784	466	510	1,230	1,690	2,310	539	236	128	114
12	209	262	658	450	510	1,160	1,850	2,780	582	229	137	114
13	197	262	676	439	510	1,030	2,190	3,070	521	219	164	111
14	194	240	622	424	490	998	2,540	2,900	482	208	143	140
15	197	223	598	408	450	1,040	2,790	2,620	476	199	128	212
16	197	203	425	398	460	1,110	3,020	2,360	434	189	120	186
17	190	200	360	389	480	981	2,880	2,180	488	189	114	149
18	184	200	410	379	504	850	2,400	1,880	828	183	114	134
19	178	200	470	374	563	805	2,380	1,620	761	183	114	128
20	172	194	490	374	726	719	4,230	1,850	666	183	155	126
21	166	184	500	384	842	705	6,860	2,040	594	189	158	123
22	161	175	800	379	874	653	7,020	1,900	539	199	137	120
23	155	178	9,530	374	798	569	4,980	1,820	493	192	155	114
24	152	710	7,080	398	740	500	4,030	1,810	471	176	146	114
25	149	2,190	3,390	394	698	480	3,600	1,780	444	167	143	111
26	149	1,400	2,300	365	679	470	3,600	1,680	418	161	155	108
27	149	1,010	1,820	429	922	460	3,830	1,590	394	173	146	108
28	146	756	1,500	450	1,040	450	4,210	1,550	379	164	134	106
29	144	610	1,270	672	------	434	4,740	1,560	374	152	128	108
30	141	652	1,100	798	------	416	4,820	1,520	352	149	123	106
31	139	------	984	908	------	413	------	1,310	------	140	120	------
TOTAL	5,648	11,747	51,655	16,164	18,903	25,338	82,937	65,030	18,423	6,705	4,255	3,958
MEAN	182	392	1,666	521	675	817	2,765	2,098	614	216	137	122
MAX	273	2,190	9,530	906	1,040	1,230	7,020	4,230	1,120	329	170	212
MIN	139	139	360	365	450	413	455	1,310	352	140	114	103
CFSM	.54	1.17	4.97	1.56	2.02	2.44	8.25	6.26	1.83	.65	.41	.36
IN.	.63	1.30	5.73	1.79	2.10	2.81	9.21	7.22	2.05	.74	.48	.41
AC-FT	11,200	23,300	102,500	32,060	37,490	50,260	164,500	129,000	36,540	13,300	8,520	7,260

CAL YR 1964: TOTAL 317,571 MEAN 868 MAX 9,530 MIN 100 CFSM 2.59 IN 35.26 AC-FT 629,900
WAT YR 1965: TOTAL 310,503 MEAN 851 MAX 9,530 MIN 103 CFSM 2.54 IN 34.47 AC-FT 615,900

12-4130. Coeur d'Alene River at Enaville, Idaho

Location.--Lat 47°34'20", long 116°15'10", in NW¼NE¼ sec.30, T.49 N., R.2 E., on right bank 800 ft upstream from highway bridge, a quarter of a mile northwest of Enaville Post Office, 1.1 miles upstream from South Fork, 3.5 miles downstream from North Fork, and at mile 168.9.

Drainage area.--895 sq mi.

Records available.--March 1911 to April 1913 (fragmentary), October 1939 to September 1965. Published as North Fork of Coeur d'Alene River at Enaville 1911-13.

Gage.--Water-stage recorder. Datum of gage is 2,100.00 ft above mean sea level. Mar. 3, 1911, to Apr. 12, 1913, staff gage at site a quarter of a mile downstream at different datum. Oct. 18 to Dec. 22, 1939, staff gage at present site and datum.

Average discharge.--26 years (1939-65), 1,971 cfs (1,427,000 acre-ft per year); 15-year base period (1947-62), 2,177 cfs.

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (8,000 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 11, 1961	1500	17,600	71.89	Apr. 20, 1962	1200	12,000	69.90	Dec. 2, 1964	1400	12,100	70.02
Feb. 22, 1961	0730	* 31,500	76.33					Dec. 23, 1964	1945	* 34,800	77.15
Apr. 4, 1961	1200	9,960	68.97	Feb. 5, 1963	1230	* 9,400	a70.49	Apr. 21, 1965	2100	17,600	72.16
May 3, 1961	0130	9,190	68.62								
				May 20, 1964	2100	* 15,800	71.08				
Apr. 7, 1962	1800	* 18,400	72.42	June 9, 1964	0600	12,600	69.68				

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Jan. 4, 1961	196	60.97	1964	Oct. 20, 1963	196	60.83
1962	Nov. 22, 1961	130	60.96	1965	Sept.30, 1965	270	62.02
1963	Sept.12, 1963	193	60.82				

1911-13, 1939-65: Maximum discharge, 34,800 cfs Dec. 23, 1964 (gage height, 77.15 ft); minimum, 104 cfs Dec. 25, 1952 (gage height, 60.10 ft).

Flood in December 1933 reached a stage of 79.47 ft and that in April 1938 a stage of 78.16 ft, from local information concerning high watermarks.

Remarks.--Records excellent except those for winter periods and those for periods of shifting-control, which are fair. No appreciable regulation or diversion above station.

Revisions (water years).--WSP 1396: 1945.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	243	387	988	406	1,760	3,940	5,110	7,040	4,260	837	340	424
2	243	374	905	387	2,230	3,950	5,520	8,280	4,330	793	330	459
3	238	351	869	311	2,800	3,530	7,200	9,030	4,190	772	325	384
4	238	328	860	234	2,640	3,080	9,640	7,760	3,980	758	315	325
5	234	311	765	357	2,330	2,730	8,080	7,020	3,690	750	305	290
6	238	300	605	536	2,170	2,680	6,320	6,710	3,520	772	300	272
7	263	290	575	683	2,460	2,390	5,200	6,580	3,460	736	295	277
8	406	284	504	699	2,770	2,110	4,580	6,500	2,990	688	295	277
9	424	263	470	691	2,940	2,030	4,260	6,600	2,680	646	290	268
10	345	279	457	699	8,800	1,960	3,730	7,130	2,460	620	290	264
11	300	450	470	691	17,400	1,860	3,320	8,000	2,240	593	282	259
12	345	540	605	699	13,700	1,760	3,420	7,620	2,280	573	282	254
13	406	484	613	699	8,690	1,810	4,610	6,840	2,170	554	277	242
14	357	457	583	825	7,090	2,200	4,590	6,630	1,990	547	277	238
15	305	450	504	1,410	5,780	2,980	4,270	6,600	1,880	528	272	234
16	279	525	362	2,640	5,950	3,680	3,780	6,580	1,810	509	295	230
17	263	715	406	3,890	5,270	4,360	3,920	6,990	1,730	490	310	230
18	263	1,330	491	3,180	4,410	4,240	5,010	6,940	1,630	478	295	230
19	253	1,500	590	2,460	3,850	4,120	5,480	6,690	1,530	459	282	238
20	253	1,210	583	1,970	4,240	4,540	4,800	7,080	1,410	447	268	230
21	248	1,270	540	1,630	12,000	4,640	4,170	7,500	1,320	435	259	226
22	268	1,200	511	1,430	28,100	4,290	3,700	6,720	1,230	430	259	230
23	274	997	491	1,250	14,800	3,950	3,410	6,240	1,160	430	254	242
24	316	1,430	470	1,170	8,640	3,710	3,200	6,200	1,100	441	242	250
25	362	5,070	464	1,160	6,600	3,750	3,060	5,760	1,050	430	238	250
26	345	3,850	457	933	5,180	4,020	3,420	6,310	996	412	250	246
27	368	2,370	444	810	4,400	4,240	3,550	6,580	957	394	254	238
28	457	1,700	431	780	3,800	4,030	3,730	5,370	926	378	250	242
29	525	1,320	418	850	------	3,950	4,310	4,550	896	367	242	310
30	464	1,100	418	1,080	------	4,240	5,770	4,500	881	362	234	315
31	412	------	412	1,370	------	4,710	------	4,410	------	350	264	------
TOTAL	9,935	31,135	17,261	35,930	190,800	105,480	141,160	206,760	64,746	16,979	8,671	8,174
MEAN	320	1,038	557	1,159	6,814	3,403	4,705	6,670	2,158	548	280	272
MAX	525	5,070	988	3,890	28,100	4,710	9,640	9,030	4,330	837	340	459
MIN	234	263	362	234	1,760	1,760	3,060	4,410	881	350	234	226
CFSM	.36	1.16	.62	1.30	7.61	3.80	5.26	7.45	2.41	.61	.31	.30
IN.	.41	1.29	.72	1.49	7.93	4.38	5.87	8.59	2.69	.71	.36	.34
AC-FT	19,710	61,760	34,240	71,270	378,400	209,200	280,000	410,100	128,400	33,680	17,200	16,210

CAL YR 1960: TOTAL 717,983 MEAN 1,962 MAX 12,700 MIN 234 CFSM 2.19 IN 29.83 AC-FT 1,424,000
WAT YR 1961: TOTAL 837,031 MEAN 2,293 MAX 28,100 MIN 226 CFSM 2.56 IN 34.78 AC-FT 1,660,000

Note.--Shifting-control method used Feb. 11 to May 2.

12-4130. Coeur d'Alene River at Enaville, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	295	330	367	949	808	1,250	3,110	4,310	2,900	778	334	256
2	264	345	471	837	822	1,100	3,730	4,480	2,700	748	341	247
3	250	335	484	934	874	1,000	4,550	5,640	2,860	710	334	238
4	238	315	441	1,680	1,100	910	5,480	7,010	2,750	689	352	238
5	234	286	471	1,690	1,380	860	6,440	7,020	2,470	689	404	232
6	246	254	430	1,460	1,490	815	7,860	6,200	2,220	675	422	230
7	264	254	394	1,350	1,460	758	15,900	6,130	2,050	675	387	227
8	272	254	330	1,800	1,430	715	12,600	6,100	1,940	627	366	227
9	268	238	259	1,720	1,490	694	8,040	6,440	2,000	587	356	230
10	250	242	175	1,350	1,860	640	6,080	7,110	2,100	556	341	253
11	372	264	145	1,180	2,360	586	5,010	7,080	2,020	532	331	369
12	384	277	196	1,100	2,580	573	4,770	6,500	1,880	514	317	387
13	378	259	272	1,050	2,520	534	5,250	5,540	1,820	503	307	324
14	384	246	295	900	2,680	528	6,560	5,320	1,780	492	257	294
15	330	254	300	800	3,110	540	9,330	4,930	1,690	471	287	274
16	295	210	295	660	2,960	554	10,400	4,610	1,670	460	281	265
17	286	169	300	630	2,590	566	8,870	4,610	1,630	455	278	253
18	272	163	268	580	2,350	626	8,330	4,760	1,530	441	274	247
19	268	162	264	520	2,190	786	10,400	4,820	1,430	426	271	244
20	282	230	295	460	2,050	973	11,800	4,610	1,360	422	265	236
21	300	214	490	450	1,930	1,120	9,480	4,260	1,280	408	265	235
22	295	166	681	440	1,790	1,120	7,470	4,000	1,220	391	259	232
23	320	186	653	440	1,610	1,120	6,870	4,060	1,160	387	253	227
24	367	254	701	470	1,300	1,110	8,040	4,510	1,060	378	253	227
25	345	272	1,030	540	1,100	1,460	9,100	4,670	1,030	370	247	227
26	362	268	1,060	620	960	2,600	7,640	4,460	980	374	247	224
27	465	246	904	720	960	4,920	6,310	4,130	948	378	247	230
28	502	250	772	740	1,000	4,370	6,150	4,010	900	366	262	250
29	435	268	688	770	------	3,450	5,480	4,050	852	352	278	334
30	372	230	837	779	------	2,900	4,710	3,620	808	341	274	348
31	330	------	988	793	------	2,750	------	3,210	------	334	262	------
TOTAL	9,965	7,539	15,316	28,412	48,824	41,928	225,760	158,610	51,078	15,529	9,392	7,837
MEAN	321	251	494	917	1,744	1,353	7,525	5,116	1,703	501	303	261
MAX	502	345	1,060	1,800	3,110	4,920	15,900	7,110	2,900	778	422	369
MIN	234	163	145	440	808	528	3,110	3,210	808	334	247	224
CFSM	.36	.28	.55	1.02	1.95	1.51	8.41	5.72	1.80	.56	.34	.29
IN.	.41	.31	.64	1.18	2.03	1.74	9.38	6.59	2.12	.65	.39	.33
AC-FT	19,770	14,950	30,380	56,350	96,840	83,160	447,800	314,600	101,300	30,800	18,630	15,540

CAL YR 1961: TOTAL 811,520 MEAN 2,223 MAX 29,100 MIN 145 CFSM 2.48 IN 33.72 AC-FT 1,610,000
WAT YR 1962: TOTAL 620,190 MEAN 1,699 MAX 15,900 MIN 145 CFSM 1.90 IN 25.77 AC-FT 1,230,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	303	268	1,950	1,550	1,000	3,150	5,550	3,740	1,530	644	298	216
2	278	268	1,840	2,010	1,300	2,960	4,380	3,640	1,420	578	294	228
3	262	265	1,860	2,600	2,100	2,710	3,560	3,290	1,360	546	290	233
4	253	262	1,580	3,210	4,500	2,470	3,240	2,920	1,310	540	283	228
5	247	278	1,430	3,100	8,400	2,290	3,240	2,690	1,350	521	279	219
6	244	327	1,730	2,740	7,710	2,150	4,400	2,640	1,380	492	272	213
7	253	334	2,020	2,420	6,800	2,010	6,130	3,030	1,260	474	262	206
8	331	341	2,030	2,210	6,510	1,890	6,010	4,010	1,160	462	262	203
9	426	544	1,980	2,070	5,540	1,810	5,250	4,380	1,250	456	255	203
10	503	1,070	1,920	1,300	4,610	1,760	4,680	3,960	1,330	492	265	200
11	450	1,040	1,810	720	3,880	1,720	4,100	3,610	1,180	540	272	196
12	627	1,040	1,670	840	3,330	1,660	3,640	3,350	1,110	509	272	193
13	792	988	1,530	900	2,950	1,550	3,390	3,150	1,060	456	262	208
14	792	860	1,450	960	2,690	1,510	3,400	2,970	993	429	258	255
15	762	755	1,500	980	2,440	1,490	4,250	2,890	945	412	258	272
16	633	682	2,050	980	2,320	1,440	4,920	2,870	908	407	249	268
17	520	607	3,000	900	2,180	1,390	4,290	2,840	885	392	233	265
18	450	550	3,700	820	2,080	1,330	3,660	2,830	832	397	226	255
19	412	550	3,750	770	2,100	1,300	3,220	2,850	795	387	236	236
20	378	1,090	3,390	820	2,730	1,320	2,910	2,780	751	367	233	225
21	359	1,580	3,080	860	2,770	1,350	2,630	2,660	744	353	239	216
22	341	1,380	2,950	880	2,660	1,390	2,490	2,610	737	344	242	213
23	324	1,170	2,670	860	2,530	1,550	2,540	2,510	729	339	239	239
24	314	1,000	2,320	820	2,410	1,960	2,520	2,420	694	331	252	268
25	303	1,110	2,020	850	2,270	2,150	2,490	2,280	708	322	265	258
26	297	3,360	1,990	810	2,600	2,200	2,510	2,120	694	317	265	239
27	294	5,120	1,880	810	3,140	2,310	2,700	1,950	644	313	249	228
28	287	3,460	1,720	830	3,210	2,980	2,920	1,820	618	302	236	222
29	281	2,520	1,600	820	------	3,850	3,040	1,710	658	298	230	216
30	278	2,130	1,590	830	------	5,090	3,390	1,650	722	298	225	213
31	274	------	1,550	910	------	6,600	------	1,610	------	302	222	------
TOTAL	12,268	34,949	65,560	41,180	96,760	69,340	111,490	87,780	29,757	13,020	7,925	6,834
MEAN	396	1,165	2,115	1,328	3,456	2,237	3,716	2,832	992	420	256	228
MAX	792	5,120	3,750	3,210	8,400	6,600	6,130	4,380	1,530	644	298	272
MIN	244	262	1,430	720	1,000	1,300	2,490	1,610	618	298	222	193
CFSM	.44	1.30	2.36	1.48	3.86	2.50	4.15	3.16	1.11	.47	.29	.25
IN.	.51	1.45	2.72	1.71	4.02	2.88	4.63	3.65	1.24	.54	.33	.28
AC-FT	24,330	69,320	130,000	81,680	191,900	137,500	221,100	174,100	59,020	25,820	15,720	13,560

CAL YR 1962: TOTAL 700,147 MEAN 1,918 MAX 15,900 MIN 224 CFSM 2.14 IN 29.09 AC-FT 1,389,000
WAT YR 1963: TOTAL 576,863 MEAN 1,580 MAX 8,400 MIN 193 CFSM 1.77 IN 23.97 AC-FT 1,144,000

12-4130. Coeur d'Alene River at Enaville, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	208	236	1,020	362	744	597	3,420	7,250	8,300	1,550	667	515
2	206	233	825	644	708	565	4,140	6,530	8,580	1,490	743	515
3	206	236	701	729	665	546	3,660	5,740	7,970	1,450	653	515
4	206	249	665	708	644	546	3,740	4,900	7,080	1,370	593	478
5	208	322	644	651	658	552	3,460	4,420	6,460	1,320	593	447
6	216	392	744	631	638	527	3,100	4,100	6,580	1,260	560	424
7	219	644	638	611	597	497	3,380	4,120	6,530	1,170	521	406
8	216	722	552	497	546	446	4,010	4,890	8,440	1,120	502	394
9	213	701	521	497	584	456	4,710	6,650	11,600	1,090	484	384
10	208	631	402	515	618	474	5,280	8,380	8,940	1,040	471	367
11	206	527	290	540	638	468	5,210	9,200	6,850	973	453	356
12	206	446	347	497	597	515	4,840	9,340	5,740	926	453	350
13	203	392	434	412	591	509	4,050	10,400	5,030	896	534	345
14	203	372	440	418	571	497	3,470	11,800	4,570	881	521	335
15	200	462	434	451	571	578	4,140	10,400	4,200	1,010	465	335
16	200	552	418	480	578	744	6,870	9,960	4,260	1,040	441	325
17	200	665	397	497	565	840	5,920	12,700	4,080	881	424	355
18	200	922	382	480	546	1,140	4,660	14,600	3,660	851	430	459
19	198	825	377	456	527	1,150	4,300	14,200	3,340	837	465	441
20	198	1,040	382	451	503	1,070	4,770	15,400	3,080	772	471	465
21	206	1,010	387	462	468	1,060	5,080	15,300	2,900	736	441	667
22	230	802	367	440	486	1,090	5,930	12,000	2,680	708	418	580
23	418	701	353	429	509	977	6,020	9,040	2,530	674	394	502
24	515	701	344	418	578	862	5,420	7,340	2,450	646	378	453
25	474	737	372	521	521	855	5,250	6,530	2,350	626	372	424
26	392	938	397	1,010	509	832	5,590	6,220	2,220	606	430	406
27	322	1,980	392	977	540	758	5,940	6,020	2,120	586	455	389
28	283	2,280	377	885	546	715	5,400	8,120	1,970	573	593	372
29	268	1,660	367	755	597	802	5,650	8,540	1,790	573	593	362
30	258	1,280	353	737	-------	1,220	5,910	8,700	1,660	620	599	412
31	242	-------	344	708	-------	2,150	-------	8,420	-------	688	566	-------
TOTAL	7,728	22,658	14,716	17,909	16,843	24,038	144,320	271,210	147,980	28,963	15,693	12,779
MEAN	249	755	475	578	581	775	4,811	8,749	4,932	934	506	426
MAX	515	2,280	1,020	1,010	744	2,150	6,910	15,400	11,600	1,550	743	667
MIN	198	233	290	362	468	446	3,100	4,100	1,660	573	372	325
CFSM	.28	.84	.53	.65	.65	.87	5.38	9.78	5.51	1.04	.57	.48
IN.	.32	.94	.61	.74	.70	1.00	6.00	11.3	6.15	1.20	.65	.53
AC-FT	15,330	44,940	29,190	35,520	33,410	47,680	286,300	537,900	293,500	57,450	31,130	25,350

CAL YR 1963: TOTAL 509,188 MEAN 1,395 MAX 8,400 MIN 193 CFSM 1.56 IN 21.16 AC-FT 1,010,000
WAT YR 1964: TOTAL 724,817 MEAN 1,980 MAX 15,400 MIN 198 CFSM 2.21 IN 30.12 AC-FT 1,438,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	626	418	5,720	2,460	3,650	3,330	1,320	9,520	3,090	980	384	316
2	640	478	11,300	2,250	3,110	3,000	1,650	7,970	2,800	923	391	305
3	620	528	9,010	2,140	2,700	2,820	2,010	6,520	2,740	878	433	300
4	573	502	6,160	1,980	2,410	2,690	2,180	5,640	2,700	860	456	300
5	521	484	4,550	1,830	2,300	2,640	2,560	4,970	2,560	860	419	300
6	490	478	3,560	1,850	2,350	2,810	2,960	4,420	2,450	797	403	290
7	465	465	2,910	1,710	2,160	3,110	3,060	4,040	2,380	761	384	285
8	447	453	2,570	1,580	2,200	3,360	3,100	3,800	2,180	743	370	280
9	540	459	2,450	1,480	2,140	3,470	3,330	3,770	1,990	716	352	265
10	620	540	2,380	1,410	1,940	3,470	4,220	4,190	1,910	689	352	300
11	626	653	2,500	1,350	1,730	3,610	6,780	5,080	1,900	680	346	300
12	586	715	2,190	1,310	1,750	3,500	5,070	6,070	2,030	656	370	300
13	554	736	1,960	1,270	1,750	3,180	5,750	6,800	1,870	632	419	290
14	540	688	1,790	1,240	1,680	3,040	6,540	6,630	1,680	600	391	334
15	554	640	1,690	1,210	1,560	3,050	7,300	6,120	1,590	584	358	515
16	599	599	1,160	1,190	1,600	3,160	7,840	5,620	1,430	560	334	570
17	593	560	1,000	1,160	1,670	2,860	7,740	5,190	1,550	536	322	464
18	573	560	1,250	1,150	1,730	2,480	6,500	4,550	2,500	520	316	391
19	547	560	1,400	1,140	1,910	2,310	6,560	3,980	2,490	504	346	352
20	528	528	1,400	1,160	2,390	2,130	11,800	4,250	2,170	504	504	334
21	509	515	1,400	1,200	2,860	2,070	16,800	4,560	1,940	520	456	328
22	490	496	2,500	1,190	2,960	1,940	16,600	4,380	1,760	544	405	316
23	471	490	25,400	1,170	2,680	1,740	11,600	4,250	1,600	536	448	305
24	453	2,070	24,300	1,240	2,410	1,530	9,780	4,240	1,480	504	440	295
25	447	7,190	11,000	1,190	2,230	1,530	8,920	4,220	1,400	480	426	290
26	453	4,710	7,300	1,140	2,140	1,500	8,690	4,010	1,320	472	448	285
27	447	3,190	5,660	1,420	2,840	1,440	8,920	3,860	1,240	464	419	280
28	441	2,370	4,560	1,910	3,630	1,350	9,440	3,840	1,160	456	384	275
29	435	1,880	3,700	3,770	-------	1,290	10,200	4,030	1,120	426	358	275
30	424	1,940	3,170	4,170	-------	1,260	10,400	4,040	1,050	405	340	270
31	418	-------	2,810	4,060	-------	1,230	-------	3,590	-------	391	328	-------
TOTAL	16,230	35,895	158,750	53,370	64,480	76,900	207,620	154,150	58,080	19,181	12,104	9,837
MEAN	524	1,197	5,121	1,722	2,303	2,481	6,921	4,973	1,936	619	390	328
MAX	640	7,190	25,400	4,170	3,650	3,610	16,800	9,520	3,090	980	504	616
MIN	418	418	1,000	1,140	1,560	1,230	1,320	3,590	1,050	391	316	270
CFSM	.58	1.34	5.72	1.92	2.57	2.77	7.73	5.56	2.16	.69	.44	.37
IN.	.67	1.49	6.60	2.22	2.68	3.20	8.63	6.41	2.41	.80	.50	.41
AC-FT	32,190	71,200	314,900	105,900	127,900	152,500	411,800	305,800	115,200	38,040	24,010	19,510

CAL YR 1964: TOTAL 890,590 MEAN 2,433 MAX 25,400 MIN 325 CFSM 2.72 IN 37.01 AC-FT 1,766,000
WAT YR 1965: TOTAL 866,597 MEAN 2,374 MAX 25,400 MIN 270 CFSM 2.65 IN 36.01 AC-FT 1,719,000

Note.--Shifting-control method used Feb. 27 to Apr. 19.

12-4135. Coeur d'Alene River near Cataldo, Idaho

Location.--Lat 47°33'50", long 116°18'25", in NW¼SW¼ sec.26, T.49 N., R.1 E., on left bank 1½ miles upstream from Cataldo, 3.6 miles downstream from South Fork, and at mile 164.2.

Drainage area.--1,220 sq mi, approximately.

Records available.--April 1911 to December 1912, July 1920 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,100 ft above mean sea level. Datum of 1929, supplementary adjustment of 1947, is 2.84 ft higher. Apr. 25, 1911, to Dec. 31, 1912, staff gage at site 300 ft downstream at different datum. July 29, 1920, to Oct. 10, 1925, staff gage at present site and datum.

Average discharge.--46 years, 2,536 cfs (1,836,000 acre-ft per year); 15-year base period (1947-62), 2,899 cfs.

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (11,000 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 11, 1961	1600	21,700	48.31	Apr. 20, 1962	1200	16,700	46.78	May 21, 1964	0400	* 19,400	47.68
Feb. 22, 1961	0900	* 41,400	52.71	Apr. 25, 1962	1200	12,800	45.58	June 9, 1964	0500	15,800	46.64
Apr. 4, 1961	1330	12,900	45.72								
May 3, 1961	0200	12.500	45.60	Feb. 4, 1963	1100	-	a48.37	Dec. 2, 1964	1530	14,300	46.17
Apr. 7, 1962	1800	* 22,500	48.38	Feb. 5, 1963	1400	* 13,400	45.90	Dec. 23, 1964	2030	* 47,200	53.87
								Apr. 21, 1965	1530	22,600	48.54

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Sept.28, 1961	337	a 38.09	1964	Oct. 18, 1963	285	37.93
1962	Nov. 18, 1961	289	38.08	1965	Sept. 8, 1965	392	b 38.55
1963	Sept.12, 1963	285	37.95				

a Occurred Oct. 6, 1960.
b Occurred Nov. 1, 1964.

1911-12, 1920-65: Maximum discharge, 67,000 cfs Dec. 22 or 23, 1933 (gage height, 56.9 ft, from floodmark), from rating curve extended above 24,000 cfs by logarithmic plotting; minimum, 122 cfs Dec. 4, 1929; minimum gage height, 37.03 ft Sept. 6, 1931.

Revisions.--Figures of maximum discharge for the water years 1934 and 1938 have been revised to 67,000 cfs Dec. 22 or 23, 1933 (gage height, 56.9 ft, from floodmark), from rating curve extended above 24,000 cfs by logarithmic plotting and 55,600 cfs Apr. 19, 1938 (gage height, 55.15 ft), from rating curve extended above 24,000 cfs by logarithmic plotting, superseding those published in WSP 767 and 862, respectively.

Remarks.--Records good except those for winter periods and those for period of no gage-height record, which are fair. No appreciable regulation or diversion above station.

Cooperation.--Water-stage-recorder graph furnished by Washington Water Power Co.

Revisions (water years).--WSP 1396: 1945. WSP 1736: 1934(M). Revised figures of discharge, in cubic feet per second, for high-water period in the water year 1938, superseding those published in WSP 862, are given herewith:

Apr. 18, 1938..... 41,500 Apr. 19, 1938..... 42,000 Apr. 20, 1938..... 21,600

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
April 1938.....	322,020	42,000	2,960	10,730	8.80	9.82	638,700
Water year 1937-38.....	975,199	42,000	182	2,672	2.19	29.72	1,934,000
Calendar year 1938.....	886,638	42,000	280	2,429	1.99	27.03	1,739,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	363	536	1,420	594	2,640	5,070	6,320	9,400	6,210	1,230	503	518
2	360	516	1,310	556	3,110	5,210	6,900	11,200	6,520	1,170	487	550
3	360	496	1,240	506	3,660	4,670	9,260	11,500	6,320	1,120	478	457
4	363	473	1,210	451	3,470	4,090	12,500	10,200	6,020	1,110	468	440
5	356	451	1,100	541	3,120	3,630	10,700	9,070	5,560	1,100	449	410
6	345	442	874	888	3,020	3,500	8,240	8,770	5,250	1,110	443	389
7	367	434	804	1,060	3,260	3,150	6,700	8,370	5,180	1,080	445	376
8	516	430	732	1,070	3,600	2,800	5,890	8,110	4,340	996	436	378
9	541	405	684	1,070	3,720	2,700	5,530	8,210	3,920	940	427	374
10	451	438	653	1,070	9,530	2,600	4,970	9,070	3,560	895	427	370
11	409	659	671	1,070	20,800	2,500	4,470	10,600	3,260	872	414	362
12	451	744	818	1,090	19,100	2,300	4,560	10,100	3,360	858	410	358
13	506	683	853	1,090	12,500	2,400	5,810	8,980	3,160	823	410	354
14	460	659	804	1,260	8,910	2,900	6,000	8,710	2,900	802	406	348
15	421	653	701	1,950	7,240	3,800	5,410	8,690	2,800	781	406	344
16	394	713	556	3,160	7,570	4,800	4,890	8,710	2,730	767	427	344
17	390	938	578	4,390	6,720	5,600	5,110	9,320	2,610	739	436	337
18	386	1,690	677	3,800	5,510	5,500	6,430	9,320	2,460	718	427	344
19	374	1,940	846	3,100	4,930	5,400	7,040	9,070	2,320	692	410	351
20	367	1,610	825	2,640	5,460	5,800	6,190	9,790	2,170	671	401	348
21	367	1,660	770	2,320	12,900	6,000	5,490	10,500	2,010	665	401	340
22	394	1,550	744	2,100	37,800	5,400	4,950	9,350	1,870	652	393	340
23	394	1,350	719	1,850	20,600	5,100	4,690	8,710	1,770	627	381	351
24	430	1,900	689	1,740	11,800	4,700	4,430	8,690	1,660	638	378	354
25	469	5,080	695	1,700	8,930	4,800	4,290	8,210	1,570	627	366	354
26	455	4,140	683	1,430	6,860	5,100	4,650	9,290	1,500	602	385	351
27	506	2,880	665	1,250	5,720	5,400	4,750	9,770	1,440	573	385	340
28	589	2,140	641	1,220	4,910	5,000	4,990	7,740	1,360	556	370	348
29	677	1,820	629	1,340	------	5,010	5,700	6,500	1,320	545	362	401
30	600	1,480	623	1,530	------	5,250	7,540	6,430	1,280	539	354	406
31	546	------	600	2,100	------	5,810	------	6,300	------	518	381	------
TOTAL	13,607	38,910	24,814	49,936	247,350	135,690	184,400	279,080	96,440	25,036	12,672	11,379
MEAN	439	1,297	800	1,611	8,835	4,387	6,147	9,003	3,215	808	415	379
MAX	677	5,080	1,420	4,390	37,800	6,000	12,500	11,900	6,520	1,230	503	550
MIN	345	405	556	451	2,640	2,300	4,290	6,300	1,280	518	354	337
CFSM	.36	1.06	.66	1.32	7.24	3.60	5.04	7.38	2.63	.66	.34	.31
IN.	.41	1.19	.76	1.52	7.54	4.15	5.62	8.51	2.94	.76	.39	.35
AC-FT	26,990	77,180	49,220	99,050	490,700	269,100	365,800	553,500	191,300	49,660	25,130	22,570

CAL YR 1960: TOTAL 934,368 MEAN 2,553 MAX 15,900 MIN 345 CFSM 2.09 IN 28.48 AC-FT 1,853,000
WAT YR 1961: TOTAL 1,119,854 MEAN 3,068 MAX 37,800 MIN 337 CFSM 2.51 IN 34.14 AC-FT 2,221,000

12-4135. Coeur d'Alene River near Cataldo, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	389	440	487	1,130	1,170	1,700	4,020	5,560	4,110	1,200	497	381
2	370	449	596	1,080	1,180	1,470	4,850	5,790	3,840	1,150	513	366
3	358	445	627	1,220	1,340	1,350	5,830	7,370	4,110	1,090	508	358
4	348	431	590	2,100	1,460	1,240	6,950	9,350	3,910	1,050	545	354
5	348	401	627	2,110	1,960	1,180	8,340	9,490	3,490	1,040	615	344
6	358	374	627	1,840	2,030	1,120	11,200	8,310	3,170	1,020	633	337
7	370	366	562	1,780	1,980	1,100	20,100	8,260	2,900	1,010	590	330
8	374	366	487	2,810	1,950	1,030	16,800	8,310	2,760	948	556	334
9	366	358	427	2,500	2,080	1,010	10,800	9,040	2,920	902	545	337
10	393	354	350	1,920	2,580	948	7,900	10,200	3,100	858	518	378
11	478	378	320	1,690	3,180	895	6,340	10,100	2,960	837	492	573
12	473	389	354	1,610	3,350	880	6,060	9,120	2,810	816	482	545
13	464	370	410	1,560	3,260	823	6,700	8,310	2,720	802	464	459
14	459	370	423	1,340	3,460	809	8,340	7,340	2,640	781	445	423
15	423	366	418	1,170	3,920	830	12,600	6,760	2,540	753	431	397
16	393	340	418	964	3,760	851	13,800	6,340	2,530	732	427	381
17	381	304	427	940	3,380	895	12,100	6,450	2,500	718	414	374
18	370	301	393	844	3,100	956	11,500	6,720	2,380	692	406	362
19	362	323	393	730	2,960	1,140	14,300	6,720	2,240	671	406	362
20	385	348	454	680	2,810	1,370	16,300	6,450	2,100	646	397	354
21	401	337	767	650	2,580	1,590	13,200	5,930	2,010	627	393	348
22	397	330	858	640	2,350	1,620	10,100	5,560	1,900	615	385	348
23	423	337	837	640	2,110	1,650	9,290	5,680	1,800	596	385	340
24	449	378	940	700	1,700	1,640	11,100	6,450	1,730	579	378	337
25	440	389	1,320	800	1,400	2,220	12,600	6,720	1,650	568	370	334
26	454	381	1,330	902	1,300	3,640	10,500	6,450	1,570	579	366	330
27	545	374	1,140	1,040	1,300	6,630	8,520	6,020	1,450	585	374	344
28	530	378	996	1,080	1,350	5,850	8,130	5,810	1,420	550	406	374
29	529	389	918	1,090	------	4,710	7,180	5,890	1,340	534	414	497
30	468	410	1,080	1,110	------	3,880	6,170	5,210	1,260	518	410	497
31	440	------	1,240	1,130	------	3,660	------	4,590	------	503	393	------
TOTAL	12,938	11,176	20,816	39,860	65,270	58,687	301,620	220,400	75,900	23,370	14,162	11,498
MEAN	419	373	671	1,286	2,331	1,893	10,050	7,110	2,530	773	457	383
MAX	590	449	1,330	2,810	3,920	6,630	20,100	10,200	4,110	1,200	633	573
MIN	348	301	320	640	1,170	809	4,020	4,590	1,260	503	366	330
CFSM	.34	.31	.55	1.05	1.91	1.55	8.24	5.83	2.07	.63	.37	.31
IN.	.40	.34	.63	1.22	1.99	1.79	9.19	6.72	2.31	.73	.43	.35
AC-FT	25,780	22,170	41,290	79,060	129,500	116,400	598,300	437,200	150,500	47,540	28,090	22,810

CAL YR 1961: TOTAL 1,087,513 MEAN 2,979 MAX 37,800 MIN 301 CFSM 2.44 IN 33.15 AC-FT 2,157,000
WAT YR 1962: TOTAL 856,357 MEAN 2,346 MAX 20,100 MIN 301 CFSM 1.92 IN 26.10 AC-FT 1,699,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	448	405	2,630	1,960	1,400	4,450	7,780	5,440	2,480	920	457	318
2	409	405	2,630	2,510	1,800	4,290	6,260	5,340	2,300	840	452	329
3	384	405	2,630	3,160	2,500	3,960	5,070	4,820	2,200	810	448	337
4	372	405	2,220	3,780	7,000	3,540	4,550	4,230	2,100	800	434	329
5	364	448	1,970	3,630	10,500	3,290	4,460	3,820	2,090	780	430	316
6	360	504	2,330	3,210	9,990	3,020	5,940	3,760	2,070	740	417	310
7	364	504	2,680	2,870	8,850	2,760	7,800	4,260	1,910	720	409	299
8	434	509	2,660	2,640	8,280	2,570	7,670	5,260	1,720	710	401	296
9	606	745	2,620	2,440	7,300	2,410	6,900	5,660	1,800	710	388	296
10	703	1,230	2,500	1,500	6,230	2,350	6,150	5,190	1,850	793	401	292
11	651	1,240	2,380	920	5,360	2,240	5,540	4,780	1,640	870	409	288
12	902	1,270	2,190	1,100	4,640	2,140	4,940	4,500	1,550	799	405	292
13	1,060	1,270	2,000	1,200	4,130	2,010	4,570	4,330	1,500	745	384	306
14	1,070	1,140	1,890	1,220	3,850	1,930	4,600	4,210	1,420	703	376	380
15	1,060	1,040	1,930	1,230	3,530	1,910	5,740	4,130	1,350	668	376	384
16	922	963	2,530	1,220	3,360	1,840	6,530	4,100	1,300	656	372	392
17	793	883	3,680	1,180	3,210	1,770	5,800	4,070	1,250	645	360	380
18	709	831	4,520	1,100	3,090	1,700	5,000	4,100	1,200	656	356	376
19	645	818	4,570	1,000	3,060	1,630	4,410	4,200	1,150	628	344	352
20	596	1,520	4,200	1,080	3,800	1,640	3,920	4,160	1,100	606	340	337
21	564	2,150	3,860	1,120	4,000	1,690	3,530	4,070	1,100	596	340	333
22	538	1,870	3,670	1,130	3,900	1,720	3,360	4,040	1,080	579	344	329
23	513	1,610	3,370	1,120	3,730	1,940	3,490	3,940	1,060	569	340	364
24	494	1,380	2,930	1,100	3,580	2,460	3,440	3,820	1,040	548	360	380
25	475	1,610	2,580	1,100	3,400	2,710	3,370	3,610	1,050	538	366	380
26	462	4,660	2,510	1,080	3,610	2,750	3,500	3,350	1,020	538	368	352
27	444	6,230	2,350	1,070	4,180	2,960	3,720	3,060	960	528	352	340
28	434	4,500	2,160	1,070	4,410	3,840	4,000	2,790	910	509	337	325
29	430	3,350	2,010	1,070	------	5,000	4,230	2,630	980	494	329	314
30	422	2,880	2,020	1,100	------	6,810	4,740	2,620	1,060	480	325	310
31	413	------	1,930	1,200	------	8,740	------	2,570	------	470	314	------
TOTAL	18,101	46,775	84,150	51,110	132,730	92,070	151,010	126,860	44,230	20,648	11,736	10,038
MEAN	584	1,559	2,715	1,649	4,740	2,970	5,034	4,092	1,474	666	379	335
MAX	1,070	6,230	4,570	3,780	10,500	8,740	7,800	5,660	2,480	920	457	392
MIN	360	405	1,890	920	1,400	1,630	3,360	2,570	910	470	314	288
CFSM	.48	1.28	2.23	1.35	3.89	2.43	4.13	3.35	1.21	.55	.31	.27
IN.	.55	1.43	2.57	1.56	4.05	2.81	4.60	3.87	1.35	.63	.36	.31
AC-FT	35,900	92,780	166,900	101,400	263,300	182,600	299,500	251,600	87,730	40,950	23,280	19,910

CAL YR 1962: TOTAL 960,393 MEAN 2,631 MAX 20,100 MIN 330 CFSM 2.16 IN 29.28 AC-FT 1,905,000
WAT YR 1963: TOTAL 789,458 MEAN 2,163 MAX 10,500 MIN 288 CFSM 1.77 IN 24.07 AC-FT 1,566,000

Note.--No gage-height record June 12 to July 9.

12-4135. Coeur d'Alene River near Cataldo, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	303	356	1,150	528	1,000	805	4,830	8,690	10,400	2,160	870	674
2	299	356	984	812	963	763	5,440	7,920	10,800	2,100	916	679
3	299	352	857	928	928	733	4,850	7,010	10,100	2,020	838	685
4	303	372	812	902	902	751	4,940	6,090	9,020	1,900	763	651
5	310	444	799	838	949	751	4,650	5,520	8,260	1,840	757	606
6	321	523	935	831	909	715	4,210	5,130	8,400	1,750	721	579
7	325	709	818	805	870	685	4,550	5,090	8,450	1,630	685	564
8	318	812	727	697	805	634	5,190	5,860	11,000	1,540	651	554
9	314	805	691	679	812	639	5,860	7,870	14,800	1,500	639	533
10	310	739	585	685	850	656	6,570	9,880	11,200	1,430	634	513
11	306	651	452	703	870	674	6,590	10,800	8,640	1,340	606	504
12	306	585	543	651	831	757	6,170	11,300	7,280	1,280	601	485
13	299	528	596	579	824	745	5,300	12,700	6,490	1,240	715	475
14	299	513	606	579	793	721	4,580	13,800	6,020	1,220	685	470
15	296	617	596	606	799	850	5,480	12,200	5,620	1,420	628	462
16	292	679	590	634	799	1,080	8,570	12,000	5,700	1,390	596	448
17	296	769	564	656	787	1,260	7,480	15,400	5,460	1,220	579	480
18	292	1,000	528	656	745	1,790	5,960	17,500	4,960	1,150	590	574
19	288	935	523	634	733	1,740	5,520	17,100	4,480	1,140	623	554
20	288	1,130	523	645	703	1,590	6,000	18,600	4,120	1,050	617	617
21	310	1,140	523	639	685	1,570	6,440	18,700	3,880	991	590	763
22	348	949	509	612	691	1,630	7,460	14,300	3,630	963	554	697
23	533	864	494	606	715	1,440	7,530	10,600	3,500	928	538	628
24	606	870	480	590	799	1,270	6,720	8,540	3,440	896	513	579
25	612	876	513	697	757	1,230	6,490	7,620	3,320	870	504	543
26	518	1,030	543	1,180	733	1,180	6,810	7,410	3,140	844	569	538
27	439	2,100	543	1,170	745	1,080	7,160	7,280	3,000	824	596	513
28	401	2,560	528	1,100	751	1,030	6,460	8,540	2,760	781	805	499
29	392	1,850	518	1,030	799	1,150	6,860	10,200	2,520	775	763	489
30	376	1,410	495	984	-------	1,720	8,280	10,600	2,330	831	739	617
31	364	-------	499	956	-------	3,100	-------	10,400	-------	890	721	-------
TOTAL	10,963	26,524	19,528	23,612	23,547	34,739	182,950	324,650	192,720	39,913	20,606	16,973
MEAN	354	884	630	762	812	1,121	6,098	10,470	6,424	1,288	665	566
MAX	612	2,560	1,150	1,180	1,000	3,100	8,570	18,700	14,800	2,160	916	763
MIN	288	352	452	528	685	634	4,210	5,090	2,330	775	504	448
CFSM	.29	.72	.52	.62	.67	.92	5.00	8.58	5.27	1.06	.54	.46
IN.	.33	.81	.60	.72	.72	1.06	5.58	9.90	5.87	1.22	.63	.52
AC-FT	21,740	52,610	38,730	46,830	46,700	68,900	362,900	643,900	382,300	79,170	40,870	33,670

CAL YR 1963: TOTAL 697,447 MEAN 1,911 MAX 10,500 MIN 288 CFSM 1.57 IN 21.26 AC-FT 1,383,000
WAT YR 1964: TOTAL 916,725 MEAN 2,505 MAX 18,700 MIN 288 CFSM 2.05 IN 27.95 AC-FT 1,818,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	769	559	6,430	3,210	4,980	4,280	1,800	12,800	4,380	1,490	612	470
2	793	623	13,200	2,960	4,230	3,850	2,210	10,400	4,000	1,430	596	457
3	769	651	11,000	2,860	3,670	3,570	2,620	8,470	3,960	1,370	645	439
4	715	634	7,530	2,650	3,300	3,420	2,820	7,280	3,990	1,340	691	439
5	668	623	5,640	2,520	3,210	3,390	3,180	6,400	3,780	1,310	645	434
6	634	612	4,570	2,650	3,370	3,560	3,640	5,700	3,660	1,230	617	426
7	612	601	3,840	2,450	3,160	3,880	3,780	5,210	3,560	1,190	590	409
8	601	590	3,500	2,290	3,140	4,130	3,790	4,890	3,300	1,170	548	401
9	668	601	3,360	2,140	3,040	4,240	4,070	4,910	3,050	1,120	538	409
10	769	679	3,220	2,020	2,750	4,230	5,020	5,540	2,960	1,080	523	426
11	763	787	3,390	1,940	2,480	4,380	5,660	6,770	2,930	1,050	513	426
12	727	850	3,020	1,870	2,470	4,280	5,980	8,090	3,170	1,030	543	422
13	691	883	2,790	1,810	2,460	3,970	6,920	9,060	2,870	1,020	628	422
14	674	831	2,570	1,770	2,360	3,780	8,040	8,840	2,660	1,000	601	485
15	709	781	2,460	1,710	2,210	3,600	8,960	8,210	2,380	977	543	857
16	787	739	1,600	1,680	2,220	3,840	9,360	7,580	2,180	942	499	751
17	769	709	1,500	1,650	2,330	3,510	9,880	6,990	2,450	922	475	617
18	739	703	1,800	1,620	2,440	3,140	8,450	6,110	3,630	909	457	554
19	709	703	2,000	1,620	2,750	2,990	8,660	5,320	3,580	876	466	509
20	685	674	2,000	1,620	3,390	2,760	16,400	5,700	3,170	857	775	489
21	662	662	2,000	1,660	3,820	2,680	22,000	6,040	2,860	870	715	470
22	651	651	5,400	1,640	3,500	2,560	21,400	5,820	2,590	896	628	457
23	628	645	35,900	1,610	3,470	2,350	16,300	5,720	2,340	870	674	448
24	612	2,090	30,800	1,710	3,140	2,080	13,300	5,660	2,210	818	662	434
25	601	7,760	15,000	1,630	3,090	2,070	11,900	5,600	2,120	775	679	426
26	606	5,520	9,400	1,540	2,870	2,020	11,400	5,400	2,000	751	721	426
27	601	4,100	7,000	1,930	3,990	1,980	11,800	5,280	1,880	763	651	417
28	601	3,120	5,800	2,690	4,830	1,870	12,600	5,400	1,760	751	596	413
29	585	2,480	4,600	5,230	-------	1,780	13,600	5,780	1,680	657	559	405
30	574	2,480	4,020	5,520	-------	1,730	14,000	5,840	1,580	662	523	401
31	559	-------	3,600	5,700	-------	1,700	-------	5,130	-------	639	494	-------
TOTAL	20,931	43,341	208,940	73,900	85,070	97,620	270,140	205,940	86,680	30,805	18,407	14,139
MEAN	675	1,445	6,740	2,384	3,181	3,149	9,005	6,643	2,889	994	594	471
MAX	793	7,760	35,900	5,700	4,980	4,380	22,000	12,800	4,380	1,490	775	857
MIN	559	559	1,500	1,540	2,210	1,700	1,800	4,890	1,580	639	457	401
CFSM	.55	1.18	5.52	1.95	2.61	2.58	7.38	5.45	2.37	.81	.49	.39
IN.	.64	1.32	6.37	2.25	2.72	2.98	8.23	6.28	2.64	.94	.56	.43
AC-FT	41,520	85,970	414,400	146,600	176,700	193,600	535,800	408,500	171,900	61,100	36,510	28,040

CAL YR 1964: TOTAL 1,132,922 MEAN 3,095 MAX 35,900 MIN 448 CFSM 2.54 IN 34.54 AC-FT 2,247,000
WAT YR 1965: TOTAL 1,159,913 MEAN 3,178 MAX 35,900 MIN 401 CFSM 2.60 IN 35.36 AC-FT 2,301,000

12-4145. St. Joe River at Calder, Idaho

Location.--Lat 47°16'30", long 116°11'15", in NW¼SE¼ sec.3, T.45 N., R.2 E., on right bank 150 ft southwest of Chicago, Milwaukee, St. Paul and Pacific Railroad station at Calder and at mile 42.88.

Drainage area.--1,030 sq mi, approximately.

Records available.--April 1911 to September 1912 (published as "near Calder"), July 1920 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,096.76 ft above mean sea level, datum of 1929, supplementary adjustment of 1947, or 2,100 ft above mean sea level, datum of Geological Survey as given in Bulletin 567. Apr. 14, 1911, to Sept. 30, 1912, staff gage at site 2½ miles downstream at different datum. July 13 to Dec. 21, 1920, staff gage at present site and datum.

Average discharge.--46 years, 2,352 cfs (1,703,000 acre-ft per year); 15-year base period (1947-62), 2,623 cfs.

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (8,500 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 11, 1961	0400	10,600	85.85	Apr. 20, 1962	0600	14,400	87.18	June 8, 1964	2400	18,100	87.98
Feb. 22, 1961	0300	14,200	87.13	Apr. 25, 1962	0500	12,600	86.55				
Apr. 4, 1961	0300	11,800	86.32	May 10, 1962	0800	11,800	86.25	Dec. 23, 1964	1430	* 30,400	90.04
May 2, 1961	1300	12,500	86.55					Apr. 20, 1965	2200	22,800	89.08
May 27, 1961	0500	* 15,500	87.57	Feb. 5, 1963	-	a* 7,200	-	May 13, 1965	0700	11,600	86.40
Apr. 7, 1962	0800	* 16,600	87.77	May 21, 1964	0400	* 19,100	88.18				

a Maximum daily.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Dec. 7, 1960	259	79.10	1964	Dec. 11, 1962	a 250	-
1962	Dec. 10, 1961	175	78.74	1965	Sept.30, 1965	461	b 79.72
1963	Sept.12, 1963	337	79.33				

a Minimum daily.
b Occurred Nov. 16, 1964.

1911-12, 1920-65: Maximum discharge, 53,000 cfs Dec. 23, 1933, computed on basis of slope between gages downstream; maximum gage height, 93.1 ft Apr. 18, 1938, from floodmark; minimum discharge, 91 cfs Nov. 27, 1952; minimum gage height, 78.43 ft Dec. 5, 1928.

Remarks.--Records excellent except those for winter periods and those for period of no gage-height record, which are fair. No diversion above gage.

Revisions.--WSP 1182: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	415	522	625	460	1,590	2,630	3,840	9,230	10,500	1,720	625	730
2	420	532	641	440	1,620	2,520	4,550	11,900	11,600	1,660	598	730
3	424	493	652	400	1,700	2,320	7,830	10,800	11,400	1,570	588	567
4	433	456	641	280	1,500	1,990	10,700	9,270	11,100	1,550	572	503
5	438	424	498	250	1,360	1,950	7,900	8,010	10,500	1,520	557	465
6	456	398	340	370	1,310	1,900	6,270	7,130	9,840	1,550	557	442
7	493	420	270	700	1,480	1,760	5,310	6,350	9,720	1,440	542	424
8	699	410	270	682	1,520	1,580	4,970	5,830	8,030	1,350	537	420
9	552	356	300	620	1,520	1,570	4,510	5,950	7,370	1,270	527	415
10	446	410	330	603	5,370	1,500	4,010	7,150	6,480	1,210	532	415
11	424	770	360	580	9,000	1,430	3,650	8,400	5,830	1,160	513	410
12	562	647	390	567	6,920	1,400	3,800	8,030	6,420	1,110	503	402
13	547	547	430	567	4,680	1,500	4,440	7,900	5,670	1,030	493	393
14	470	552	410	641	3,460	2,080	4,060	8,260	5,250	1,040	493	385
15	442	508	370	1,060	3,080	2,600	3,700	8,450	5,020	1,000	498	361
16	424	547	300	1,410	2,970	3,100	3,510	9,100	5,350	986	498	377
17	420	627	330	1,800	2,740	3,220	4,390	9,070	4,720	921	484	368
18	410	1,040	370	1,440	2,380	2,980	5,930	9,360	4,400	906	465	368
19	406	984	450	1,140	2,210	2,980	5,650	10,100	4,120	384	460	385
20	402	737	640	906	2,670	3,350	4,960	11,300	3,740	854	451	385
21	402	718	588	765	6,500	3,190	4,420	12,400	3,370	839	465	406
22	460	658	557	660	12,200	2,970	4,190	11,100	3,050	819	456	415
23	433	603	535	630	7,110	2,860	4,220	11,600	2,840	804	442	442
24	451	953	503	620	5,000	3,060	4,040	12,400	2,630	825	446	424
25	503	1,070	500	550	4,080	3,300	3,900	12,800	2,460	770	459	389
26	460	1,380	508	540	3,370	3,370	4,100	14,700	2,330	737	513	381
27	547	1,010	503	470	2,500	3,240	4,040	14,500	2,190	711	513	372
28	572	790	498	540	2,550	2,970	4,590	11,700	2,040	687	465	361
29	664	536	484	640	------	2,920	5,490	10,500	1,930	670	442	442
30	537	620	485	763	------	3,180	7,790	10,800	1,810	652	442	424
31	479	------	480	1,220	------	3,560	------	10,300	------	641	489	------
TOTAL	14,791	20,718	14,258	22,394	102,990	78,980	150,790	304,450	171,710	32,445	15,625	13,045
MEAN	477	691	460	722	3,678	2,548	5,025	9,821	5,724	1,047	504	435
MAX	699	1,970	652	1,800	12,200	3,560	10,700	14,700	11,600	1,720	625	730
MIN	402	356	270	280	1,310	1,400	3,510	5,830	1,810	384	442	368
CFSM	.46	.67	.45	.70	3.57	2.47	4.88	9.53	5.56	1.02	.47	.42
IN.	.53	.75	.51	.81	3.72	2.85	5.44	11.0	6.20	1.17	.56	.47
AC-FT	29,340	41,090	28,280	44,420	204,300	156,700	299,100	603,900	340,600	64,350	30,970	25,870

CAL YR 1960: TOTAL 821,789 MEAN 2,245 MAX 13,100 MIN 270 CFSM 2.18 IN 29.67 AC-FT 1,630,000
WAT YR 1961: TOTAL 942,196 MEAN 2,581 MAX 14,700 MIN 270 CFSM 2.51 IN 34.02 AC-FT 1,869,000

12-4145. St. Joe River at Calder, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	402	465	493	818	760	530	2,360	4,930	7,110	2,120	687	451
2	385	503	513	770	763	620	2,850	5,310	6,840	2,010	670	442
3	377	406	493	790	804	610	3,370	6,860	7,240	1,870	664	424
4	372	433	460	1,220	875	600	3,890	8,120	6,480	1,780	730	415
5	364	372	474	891	1,230	600	5,040	7,810	5,770	1,740	724	410
6	389	344	424	699	1,140	580	7,610	7,310	5,270	1,670	687	406
7	428	356	385	711	1,020	580	14,600	7,350	4,800	1,570	664	406
8	420	364	377	2,610	1,040	580	9,000	7,550	4,660	1,480	647	402
9	385	381	279	1,900	1,140	560	6,170	10,000	5,370	1,420	636	402
10	446	398	190	1,300	1,290	540	4,700	11,500	5,600	1,360	630	460
11	738	474	190	1,200	1,530	490	3,920	10,800	5,310	1,300	598	891
12	630	433	230	1,100	1,580	480	4,190	9,840	5,140	1,250	578	636
13	557	341	340	900	1,570	470	5,140	9,170	5,080	1,240	557	522
14	513	426	380	760	1,620	450	6,600	8,220	4,880	1,180	547	527
15	451	381	520	640	1,660	470	9,650	7,790	4,740	1,140	537	487
16	424	244	560	550	1,520	500	8,710	7,570	4,720	1,100	522	451
17	428	200	580	540	1,390	572	8,420	8,100	4,790	1,040	508	438
18	410	220	590	500	1,350	630	9,410	8,630	4,570	1,000	508	426
19	389	300	580	440	1,340	718	9,410	8,650	4,310	968	503	424
20	402	440	600	380	1,250	811	13,600	8,860	4,080	929	498	420
21	438	433	700	360	1,140	854	10,300	8,240	3,920	898	489	415
22	424	368	740	350	1,050	818	8,100	7,770	3,670	861	484	410
23	433	470	730	350	868	811	8,470	8,220	3,430	839	479	402
24	470	493	780	400	615	783	11,000	9,600	3,190	818	474	398
25	428	451	861	500	520	1,050	11,900	9,870	3,050	797	460	389
26	446	493	756	560	500	1,890	9,630	9,650	2,960	811	451	381
27	603	428	770	660	500	3,550	8,030	9,390	2,720	832	451	420
28	527	438	737	740	520	2,850	7,200	9,650	2,490	770	537	508
29	446	438	693	740	------	2,190	6,130	9,390	2,330	730	614	776
30	406	446	906	750	------	1,890	5,310	8,450	2,210	711	498	625
31	388	------	929	750	------	1,950	------	7,660	------	682	460	------
TOTAL	13,929	11,941	17,280	24,879	30,685	30,087	224,910	262,260	136,820	36,916	17,492	14,166
MEAN	449	398	557	803	1,096	971	7,497	8,460	4,561	1,191	564	472
MAX	738	503	929	2,610	1,660	3,550	14,600	11,500	7,240	2,120	730	891
MIN	364	200	190	350	500	450	2,360	4,930	2,210	682	451	381
CFSM	.44	.39	.54	.78	1.06	.94	7.28	8.21	4.43	1.16	.55	.46
IN.	.50	.43	.62	.90	1.11	1.09	8.12	9.47	4.94	1.33	.63	.51
AC-FT	27,630	23,680	34,270	49,350	60,860	59,680	446,100	520,200	271,400	73,220	34,690	28,100

CAL YR 1961: TOTAL 935,579 MEAN 2,563 MAX 14,700 MIN 190 CFSM 2.49 IN 33.78 AC-FT 1,850,000
WAT YR 1962: TOTAL 821,365 MEAN 2,250 MAX 14,600 MIN 190 CFSM 2.18 IN 29.66 AC-FT 1,629,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	489	572	1,980	1,490	1,150	3,110	4,660	5,630	4,720	1,320	578	377
2	438	567	1,980	1,540	1,400	2,920	3,920	5,390	4,280	1,250	578	456
3	420	557	1,890	1,700	2,400	2,640	3,430	4,820	4,040	1,200	562	456
4	415	552	1,660	1,720	4,500	2,430	3,260	4,370	3,820	1,160	557	406
5	415	598	1,550	1,560	7,200	2,360	3,320	4,280	4,260	1,090	547	389
6	410	744	1,750	1,430	6,800	2,220	4,220	4,760	3,960	1,050	542	368
7	415	682	1,750	1,370	6,050	2,100	4,590	5,790	3,620	1,010	532	364
8	552	652	1,740	1,380	5,180	2,010	4,480	6,050	3,400	992	513	364
9	664	884	1,740	1,430	4,490	1,970	4,150	5,670	3,600	976	498	364
10	839	1,220	1,660	945	3,960	1,950	3,890	5,210	3,460	1,010	508	360
11	797	1,090	1,590	660	3,550	1,900	3,620	4,970	3,210	1,070	508	348
12	1,710	1,160	1,480	760	3,160	1,840	3,380	4,550	3,060	968	498	341
13	1,790	1,130	1,430	960	2,880	1,770	3,290	4,820	2,910	914	498	372
14	1,650	984	1,560	1,020	2,730	1,720	3,550	4,830	2,800	861	474	532
15	1,490	914	1,600	1,000	2,500	1,750	4,760	5,020	2,640	846	456	508
16	1,180	891	1,960	990	2,410	1,660	4,800	5,020	2,500	825	451	522
17	984	854	2,630	970	2,330	1,590	4,370	5,350	2,410	797	451	498
18	861	818	3,130	950	2,260	1,570	3,940	5,790	2,210	811	446	415
19	811	846	2,970	840	2,360	1,520	3,620	6,350	2,060	783	438	389
20	756	2,850	2,740	880	3,250	1,560	3,340	6,370	1,920	730	442	372
21	718	3,300	2,590	920	2,960	1,660	3,100	6,520	1,840	718	442	368
22	699	2,360	2,500	920	2,760	1,760	3,020	6,690	1,780	705	438	372
23	687	2,020	2,260	910	2,590	1,990	3,160	6,650	1,690	693	433	415
24	664	1,700	1,830	910	2,480	2,250	3,190	6,790	1,620	664	446	451
25	652	2,060	1,600	900	2,340	2,210	3,180	6,560	1,640	658	446	393
26	636	3,890	1,850	890	3,030	2,220	3,400	6,170	1,540	658	424	364
27	625	3,870	1,800	880	3,460	2,380	3,750	5,710	1,440	647	415	360
28	614	2,880	1,780	870	3,240	3,420	3,840	5,290	1,370	620	406	352
29	609	2,370	1,660	890	------	3,960	4,080	5,180	1,570	603	398	348
30	593	2,130	1,600	940	------	5,080	4,860	5,140	1,480	598	385	344
31	583	------	1,520	1,000	------	5,450	------	5,140	------	588	377	------
TOTAL	24,166	45,145	59,780	33,625	93,460	72,970	114,200	171,280	80,850	26,815	14,687	11,968
MEAN	780	1,505	1,928	1,085	3,338	2,354	3,807	5,525	2,695	865	474	399
MAX	1,790	3,890	3,130	1,720	7,200	5,450	4,890	6,790	4,720	1,320	578	532
MIN	410	552	1,430	660	1,150	1,520	3,020	4,280	1,370	588	377	341
CFSM	.76	1.46	1.87	1.05	3.24	2.29	3.70	5.36	2.62	.84	.46	.39
IN.	.87	1.63	2.16	1.21	3.37	2.63	4.12	6.18	2.92	.97	.53	.43
AC-FT	47,930	89,540	118,600	66,690	185,400	144,700	226,500	339,700	160,400	53,190	29,130	23,740

CAL YR 1962: TOTAL 907,306 MEAN 2,486 MAX 14,600 MIN 350 CFSM 2.41 IN 32.76 AC-FT 1,800,000
WAT YR 1963: TOTAL 748,946 MEAN 2,052 MAX 7,200 MIN 341 CFSM 1.99 IN 27.04 AC-FT 1,486,000

Note.--No gage-height record Feb. 5-6.

12-4145. St. Joe River at Calder, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	341	329	350	406	390	380	2,670	5,430	14,400	3,370	1,040	701
2	337	333	310	513	360	380	2,520	5,310	15,200	3,280	1,100	948
3	333	333	300	489	350	370	2,110	4,420	14,900	3,140	979	1,000
4	329	344	310	446	360	360	2,320	3,680	13,600	2,940	910	824
5	352	433	480	406	390	370	2,120	3,260	12,100	2,900	880	734
6	389	456	600	410	370	370	1,950	2,900	12,700	2,680	845	682
7	364	537	480	400	350	360	2,240	2,820	12,800	2,500	810	663
8	356	522	420	350	330	350	2,640	3,210	15,800	2,400	756	633
9	348	583	370	400	360	370	2,740	4,370	17,100	2,340	761	610
10	377	532	310	430	380	360	3,240	6,170	14,600	2,170	740	558
11	360	451	250	400	380	370	3,100	7,200	12,300	2,040	727	562
12	341	401	390	410	340	400	2,740	8,380	10,400	1,930	708	566
13	337	393	430	360	360	390	2,200	10,200	9,570	1,870	955	555
14	333	406	440	390	360	390	1,980	9,920	9,280	1,810	803	555
15	329	652	410	430	340	415	3,770	9,600	8,890	2,030	720	550
16	325	562	380	400	320	460	5,530	11,600	8,670	1,920	688	540
17	318	513	390	400	330	489	3,580	15,700	8,140	1,670	669	555
18	318	557	380	370	330	676	2,880	15,300	7,350	1,570	686	621
19	318	493	360	360	340	641	3,210	16,100	6,640	1,480	603	555
20	318	522	360	350	320	598	4,040	17,300	5,920	1,390	754	675
21	325	465	360	390	310	598	4,490	17,300	5,710	1,340	682	714
22	356	406	330	430	310	641	4,720	13,000	5,360	1,270	645	604
23	537	428	320	380	330	550	4,010	9,670	5,240	1,210	615	576
24	489	465	310	360	370	540	3,350	8,190	5,460	1,170	604	555
25	630	489	330	370	330	530	3,190	7,590	5,360	1,120	593	540
26	503	537	350	460	320	522	3,340	7,830	5,060	1,090	654	515
27	393	861	350	450	340	498	3,400	8,040	4,730	1,050	709	515
28	356	711	340	440	360	503	3,190	10,900	4,270	1,010	1,100	505
29	356	474	340	420	350	641	4,100	12,100	3,850	1,000	925	510
30	352	372	340	330	------	1,210	4,950	12,800	3,560	1,040	789	545
31	337	------	350	380	------	1,970	------	13,300	------	1,140	727	------
TOTAL	11,457	14,560	11,440	12,630	10,080	16,702	96,320	283,590	279,260	57,870	24,458	18,726
MEAN	370	485	369	407	348	539	3,211	9,148	9,308	1,867	789	624
MAX	630	861	600	513	390	1,970	5,530	17,300	17,100	3,370	1,100	1,000
MIN	318	329	250	350	310	350	1,950	2,820	3,560	1,000	593	505
CFSM	.36	.47	.36	.40	.34	.52	3.12	8.88	9.04	1.81	.77	.61
IN.	.41	.53	.41	.46	.36	.60	3.48	10.2	10.1	2.09	.88	.68
AC-FT	22,720	28,880	22,690	25,050	19,990	33,130	191,000	562,500	553,900	114,800	48,510	37,140

CAL YR 1963: TOTAL 657,312 MEAN 1,801 MAX 7,200 MIN 250 CFSM 1.75 IN 23.73 AC-FT 1,304,000
WAT YR 1964: TOTAL 837,093 MEAN 2,287 MAX 17,300 MIN 250 CFSM 2.22 IN 30.22 AC-FT 1,660,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	740	604	3,550	2,530	3,370	2,340	1,710	14,100	7,530	2,420	814	559
2	682	663	5,500	2,340	2,860	2,190	2,410	11,300	7,050	2,330	794	533
3	714	682	3,920	2,310	2,540	2,160	2,370	9,000	7,240	2,260	883	522
4	621	627	2,930	2,160	2,300	2,160	2,340	7,790	7,460	2,200	862	527
5	588	610	2,400	2,050	2,250	2,250	2,710	6,840	7,330	2,150	807	522
6	560	610	2,050	2,200	2,260	2,500	2,820	6,060	7,440	2,040	774	512
7	540	598	1,740	2,030	2,140	2,770	2,740	5,540	7,440	1,960	748	503
8	540	593	1,670	1,890	2,110	2,960	2,820	5,380	6,600	1,910	660	498
9	525	598	1,720	1,780	2,020	2,990	3,200	5,760	6,500	1,810	690	493
10	651	651	1,600	1,690	1,870	2,980	3,800	6,580	6,520	1,730	684	493
11	627	701	1,580	1,670	1,670	3,160	3,840	7,810	6,580	1,680	672	493
12	571	675	1,390	1,610	1,650	2,860	3,950	9,650	7,240	1,630	722	498
13	550	645	1,380	1,550	1,650	2,590	4,480	11,400	6,240	1,570	800	488
14	545	610	1,280	1,530	1,650	2,490	5,440	11,200	5,320	1,470	690	560
15	604	560	1,250	1,510	1,540	2,490	6,290	10,900	4,760	1,390	648	1,190
16	720	515	1,040	1,490	1,590	2,590	7,240	10,300	4,340	1,330	619	988
17	675	520	727	1,480	1,720	2,260	7,610	9,650	4,910	1,280	608	684
18	651	604	800	1,490	1,740	2,020	6,470	8,300	6,670	1,230	586	592
19	615	639	900	1,500	1,870	1,950	8,140	7,420	5,800	1,180	602	564
20	604	582	1,000	1,500	2,130	1,880	18,800	7,950	5,120	1,150	972	554
21	598	535	1,010	1,560	2,230	1,900	20,000	7,860	4,700	1,160	690	543
22	576	505	4,000	1,520	2,230	1,820	16,200	7,920	4,340	1,160	722	527
23	560	582	24,800	1,500	2,020	1,620	13,500	8,150	4,000	1,100	862	517
24	555	1,990	15,200	1,620	1,910	1,420	12,200	7,580	3,910	1,050	729	503
25	555	4,610	8,220	1,510	1,830	1,400	10,700	7,660	3,710	1,010	722	488
26	598	2,490	5,860	1,470	1,820	1,400	10,800	7,590	3,430	965	807	484
27	593	1,830	4,730	1,970	2,430	1,400	11,400	7,640	3,130	950	684	479
28	639	1,510	3,920	2,590	2,660	1,390	12,300	8,020	2,900	950	666	474
29	639	1,330	3,390	5,040	------	1,350	13,100	9,320	2,730	883	636	470
30	621	1,520	3,040	4,210	------	1,350	14,600	9,750	2,550	862	614	461
31	610	------	2,960	4,030	------	1,370	------	8,450	------	827	575	------
TOTAL	18,867	29,189	115,557	63,330	58,060	66,010	233,880	263,270	163,730	45,637	22,342	16,829
MEAN	609	973	3,728	2,043	2,074	2,129	7,796	8,493	5,458	1,472	721	561
MAX	740	4,610	24,800	5,040	3,370	3,160	20,000	14,100	7,530	2,420	972	1,190
MIN	525	505	727	1,470	1,540	1,350	1,710	5,380	2,550	827	575	461
CFSM	.59	.94	3.62	1.98	2.01	2.07	7.57	8.25	5.30	1.43	.70	.54
IN.	.68	1.05	4.17	2.29	2.10	2.38	8.44	9.51	5.91	1.65	.81	.61
AC-FT	37,420	57,900	229,200	125,600	115,200	130,900	463,900	522,200	324,800	90,520	44,310	33,380

CAL YR 1964: TOTAL 963,249 MEAN 2,632 MAX 24,800 MIN 310 CFSM 2.56 IN 34.78 AC-FT 1,911,000
WAT YR 1965: TOTAL 1,096,701 MEAN 3,005 MAX 24,800 MIN 461 CFSM 2.92 IN 39.60 AC-FT 2,175,000

12-4150. St. Maries River at Lotus, Idaho

Location.--Lat 47°19'40", long 116°37'25", in NW¼SW¼ sec.17, T.45 N., R.2 W., on left bank 1 mile northwest of Lotus, 1 mile downstream from Carlton Creek, 5½ miles southwest of St. Maries, and at mile 10.0.
Drainage area.--437 sq mi.
Records available.--July, August, October to December 1911, January 1912 (gage heights only), February to October 1912, July 1920 to September 1965.
Gage.--Water-stage recorder. Datum of gage is 2,140.19 ft above mean sea level, referenced to bench mark "USGS 2155 1911 35" (Geological Survey Bull. 567, p. 45). Datum of 1929, supplementary adjustment of 1947, is 3.17 ft higher. Prior to Oct. 1, 1945, staff gages at sites 0.8 to 1.3 miles upstream at different datums. Oct. 1, 1945, to Feb. 21, 1949, staff gage at present site and datum.
Average discharge.--45 years (1920-65), 523 cfs (378,000 acre-ft per year); 15-year base period (1947-62), 608 cfs.
Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (2,200 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 11, 1961	0130	9,000	7.33	Apr. 15, 1962	1900	2,460	4.27	May 20, 1964	1400	2,780	4.48
Feb. 16, 1961	0500	2,930	4.66								
Feb. 22, 1961	0330	* 9,420	7.45	Feb. 4, 1963	0630	-	a 9.50	Nov. 25, 1964	-	-	-
Mar. 1, 1961	1130	2,480	4.32	Mar. 30, 1963	2100	* 4,010	5.36	Dec. 2, 1964	-	-	-
Mar. 14, 1961	1900	2,860	4.63					Dec. 23, 1964	-	* 22,000	15.0
				Apr. 1, 1964	2100	2,600	4.46	Jan. 29, 1965	-	-	-
Mar. 26, 1962	0400	4,680	5.72	Apr. 16, 1964	0500	3,280	4.90	Feb. 28, 1965	2300	2,720	5.18
Apr. 7, 1962	1100	* 7,360	6.80	Apr. 22, 1964	2000	* 3,900	5.28	Apr. 20, 1965	-	-	-

a Backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Oct. 4-5, 1960	50	0.21	1964	Oct. 1-4, 1963	47	0.25
1962	Nov. 17, 1961	a 15	-.03	1965	Nov. 17-19, 1964	b 50	-
1963	Sept.12, 1963	38	.18				

a Result of freezeup.
b Minimum daily.

1911-12, 1920-65: Maximum discharge observed, 23,800 cfs Dec. 22, 23, 1933, from rating curve extended above 4,000 cfs by logarithmic plotting; maximum gage height, 15.0 ft Dec. 23, 1964; minimum discharge, 11 cfs Nov. 23, 1952; minimum gage height, -0.03 ft Nov. 17, 1961.
Remarks.--Records good except those for water year 1965, which are fair, and those for winter periods in water years 1961-64 and those for periods of doubtful or no gage-height record, which are poor. No regulation or diversion above station.
Revisions (water years).--WSP 1062: Drainage area at former site. WSP 1346: 1912. WSP 1736: 1920, 1944.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	52	113	193	160	700	1,530	1,130	1,510	674	160	69	113
2	52	108	184	150	1,100	1,870	1,210	1,970	619	155	68	139
3	52	96	228	130	1,000	1,340	1,540	1,820	613	150	67	98
4	50	92	261	140	900	1,030	1,740	1,780	800	150	64	75
5	52	86	90	150	900	918	1,480	1,800	641	160	62	68
6	52	79	73	200	950	852	1,240	1,690	603	175	62	62
7	63	86	76	350	1,300	734	1,060	1,520	669	162	63	59
8	145	80	79	480	1,210	646	987	1,360	571	137	62	58
9	151	74	82	430	1,210	669	966	1,340	531	131	60	58
10	96	99	87	430	5,750	681	898	1,550	490	125	60	56
11	80	286	92	430	7,450	630	814	1,540	420	117	60	56
12	94	261	96	430	4,440	607	1,040	1,360	444	117	58	51
13	153	170	100	440	2,420	1,010	1,480	1,250	400	111	56	52
14	109	208	104	500	1,850	2,310	1,270	1,260	360	109	56	52
15	91	170	100	600	1,990	2,390	1,080	1,270	330	108	56	52
16	77	182	95	700	2,610	2,330	966	1,240	310	102	62	52
17	74	342	100	600	1,830	2,180	1,080	1,310	280	98	66	52
18	71	460	170	520	1,400	1,810	1,170	1,210	270	93	62	52
19	69	363	400	450	1,170	1,630	1,140	1,130	260	90	58	52
20	67	258	600	350	2,030	1,840	1,030	1,110	240	90	56	55
21	67	266	500	360	4,450	1,660	898	1,130	230	88	56	60
22	80	226	400	320	7,470	1,470	854	1,090	225	85	52	71
23	86	193	350	280	3,450	1,410	1,280	1,020	220	83	51	69
24	80	748	300	280	2,110	1,480	1,250	958	210	91	51	63
25	80	1,040	280	290	1,720	1,540	1,120	916	200	88	51	62
26	79	558	260	250	1,360	1,480	1,120	895	190	81	56	58
27	91	349	240	230	1,140	1,390	1,100	823	180	78	77	56
28	116	261	220	230	994	1,200	1,060	836	175	74	60	54
29	145	170	190	240	------	1,110	1,060	752	170	71	55	58
30	118	190	180	300	------	1,100	1,370	752	160	70	51	60
31	99	------	160	400	------	1,100	------	764	------	70	56	------
TOTAL	2,691	7,614	6,290	10,860	64,904	41,947	34,438	39,056	11,495	3,421	1,843	1,929
MEAN	86.8	254	203	350	2,318	1,353	1,148	1,260	383	110	59.5	64.3
MAX	153	1,040	600	700	7,470	2,390	1,740	1,970	800	175	77	139
MIN	50	74	73	130	700	607	814	752	160	70	51	51
CFSM	.20	.58	.46	.80	5.30	3.10	2.63	2.88	.88	.25	.14	.15
IN.	.23	.65	.54	.92	5.52	3.57	2.93	3.32	.98	.29	.16	.16
AC-FT	5,340	15,100	12,480	21,540	128,700	83,200	68,310	77,470	22,800	6,790	3,660	3,830

CAL YR 1960: TOTAL 187,859 MEAN 513 MAX 5,000 MIN 47 CFSM 1.17 IN 15.99 AC-FT 372,600
WAT YR 1961: TOTAL 226,488 MEAN 621 MAX 7,470 MIN 50 CFSM 1.42 IN 13.27 AC-FT 449,200

Note.--Doubtful gage-height record June 10 to July 5, July 30 to Aug. 19.

12-4150. St. Maries River at Lotus, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	63	81	131	258	210	160	1,390	842	556	166	77	56
2	63	109	151	204	210	170	1,590	874	521	159	74	52
3	59	109	145	217	220	170	1,740	972	635	155	75	50
4	56	95	133	496	250	165	1,800	1,140	582	153	81	48
5	56	80	133	458	330	165	2,370	965	526	159	104	47
6	56	72	123	347	310	160	3,380	902	516	159	95	46
7	63	76	106	347	280	160	6,420	1,050	466	155	91	44
8	66	78	93	958	260	160	3,850	993	426	145	90	43
9	66	81	81	674	310	160	2,360	1,160	422	135	85	42
10	69	86	59	354	350	150	1,730	1,240	394	129	83	55
11	131	88	50	291	410	140	1,400	1,140	375	121	78	149
12	119	81	60	276	440	130	1,310	1,030	357	117	72	125
13	95	72	74	233	430	130	1,400	951	350	119	69	83
14	90	98	92	196	450	125	1,670	867	354	115	65	83
15	75	88	104	170	460	130	2,270	794	357	113	63	75
16	69	59	106	155	430	140	2,300	752	375	108	62	63
17	65	21	113	150	390	160	1,940	728	327	106	62	59
18	63	38	109	140	370	180	1,830	698	301	104	60	58
19	62	47	115	120	370	300	2,070	710	285	100	60	56
20	68	56	139	110	350	476	2,240	788	270	96	60	55
21	72	56	264	105	320	710	1,810	716	255	93	58	54
22	75	60	394	96	280	598	1,420	646	241	91	58	52
23	83	78	375	96	240	592	1,320	624	235	88	58	51
24	104	104	279	110	180	556	1,440	818	230	85	58	51
25	98	123	276	130	150	1,800	1,480	951	217	83	58	50
26	93	117	267	150	140	3,070	1,250	888	201	86	56	50
27	139	113	222	180	140	4,370	1,230	824	196	91	58	54
28	139	108	199	200	140	2,760	1,540	794	191	95	66	86
29	108	111	222	205	------	1,680	1,130	722	182	85	85	139
30	90	119	317	210	------	1,340	923	658	177	78	68	125
31	80	------	317	210	------	1,270	------	603	------	74	62	------
TOTAL	2,535	2,504	5,249	7,846	8,450	22,277	58,603	26,840	10,520	3,563	2,192	2,001
MEAN	81.8	83.5	169	253	302	719	1,953	866	351	115	70.7	66.7
MAX	139	123	394	958	460	4,370	6,420	1,240	635	166	104	149
MIN	56	21	50	96	140	125	923	603	177	74	58	42
CFSM	.19	.19	.39	.58	.69	1.64	4.47	1.98	.80	.26	.16	.15
IN.	.22	.21	.45	.67	.72	1.90	4.99	2.28	.90	.30	.19	.17
AC-FT	5,030	4,970	10,410	15,560	16,760	44,190	116,200	53,240	20,870	7,070	4,350	3,970

CAL YR 1961: TOTAL 220,181 MEAN 603 MAX 7,470 MIN 21 CFSM 1.38 IN 18.74 AC-FT 436,700
WAT YR 1962: TOTAL 152,580 MEAN 418 MAX 6,420 MIN 21 CFSM .96 IN 12.99 AC-FT 302,600

Note.--No gage-height record Aug. 16 to Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	81	69	273	255	210	916	1,920	818	282	143	62	47
2	69	69	361	430	250	818	1,440	788	247	129	62	52
3	62	68	453	511	450	716	1,100	782	252	121	62	69
4	59	68	317	476	2,200	582	1,080	716	233	113	62	55
5	58	78	267	354	1,950	576	1,170	692	211	108	62	50
6	59	111	327	279	1,800	516	1,620	652	364	106	59	47
7	63	108	354	264	1,650	471	1,590	635	276	102	56	44
8	91	93	317	252	1,500	444	1,540	646	249	98	56	43
9	139	137	311	234	1,350	435	1,540	613	282	102	55	43
10	151	244	285	150	1,250	430	1,550	582	330	115	58	42
11	164	177	261	100	1,100	414	1,360	556	255	139	60	41
12	362	146	233	110	1,000	384	1,150	531	227	125	59	41
13	282	166	189	170	900	368	1,020	501	214	106	60	48
14	214	153	249	190	780	361	958	481	195	96	59	80
15	233	133	279	230	700	364	1,210	458	187	91	54	98
16	166	123	386	220	700	324	1,140	435	182	88	51	78
17	127	120	765	210	650	320	993	414	206	85	48	83
18	111	120	979	180	710	327	909	402	187	86	48	71
19	102	130	680	170	800	324	824	390	164	86	48	62
20	96	200	582	180	1,400	402	830	379	151	81	48	56
21	90	700	486	180	1,300	462	836	372	147	77	50	55
22	85	550	430	190	1,200	501	812	357	149	75	52	56
23	81	350	354	180	1,150	646	1,790	350	147	75	51	62
24	80	300	199	180	1,100	944	1,640	347	145	74	55	78
25	77	280	190	180	1,050	818	1,320	337	151	72	53	75
26	75	540	200	170	1,370	728	1,140	317	162	72	56	62
27	74	450	220	170	1,330	734	1,060	288	145	71	52	56
28	74	375	240	170	1,010	1,070	958	285	137	69	50	54
29	72	288	258	170	------	1,320	874	273	147	66	47	51
30	71	255	256	180	------	3,420	830	258	166	63	46	50
31	69	------	252	190	------	3,030	------	264	------	62	46	------
TOTAL	3,537	6,031	10,955	6,925	30,880	23,175	36,204	14,927	6,274	2,896	1,683	1,749
MEAN	114	221	353	223	1,103	748	1,207	482	209	93.4	54.5	58.3
MAX	362	700	979	511	2,200	3,420	1,920	818	364	143	62	98
MIN	58	68	184	100	210	320	812	258	137	62	46	41
CFSM	.26	.51	.81	.51	2.52	1.71	2.76	1.10	.48	.21	.12	.13
IN.	.30	.56	.93	.59	2.63	1.97	3.08	1.27	.53	.25	.14	.15
AC-FT	7,020	13,150	21,730	13,740	61,250	45,970	71,810	29,610	12,440	5,740	3,350	3,470

CAL YR 1962: TOTAL 163,415 MEAN 448 MAX 6,420 MIN 42 CFSM 1.02 IN 13.81 AC-FT 324,100
WAT YR 1963: TOTAL 145,844 MEAN 400 MAX 3,420 MIN 41 CFSM .91 IN 12.41 AC-FT 289,300

12-4150. St. Maries River at Lotus, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48	57	90	100	200	170	2,150	2,010	1,350	282	147	109
2	48	56	84	170	190	170	2,100	1,870	1,390	267	149	133
3	48	57	84	150	180	160	1,610	1,610	1,320	261	133	157
4	48	60	88	190	175	160	1,570	1,430	1,190	244	115	139
5	55	78	98	170	175	160	1,360	1,320	1,120	238	108	111
6	58	108	140	170	170	155	1,240	1,170	1,050	238	102	104
7	55	156	140	160	160	150	1,430	1,100	1,120	224	98	96
8	52	175	120	135	150	130	1,590	1,220	1,700	211	95	93
9	51	270	110	135	160	130	1,730	1,540	1,740	206	93	86
10	50	219	80	140	165	135	1,980	1,930	1,350	201	91	85
11	50	137	66	145	170	140	2,050	2,300	1,300	194	88	83
12	50	106	100	130	160	150	1,780	2,200	1,150	182	85	81
13	49	93	115	110	160	150	1,360	2,430	993	177	85	81
14	49	96	120	115	155	145	1,330	2,290	874	173	83	78
15	48	157	115	120	155	170	2,170	1,970	812	211	81	77
16	48	155	110	130	150	200	2,860	2,020	800	276	81	75
17	48	143	105	130	150	250	1,770	2,450	782	199	78	80
18	48	241	105	130	150	440	1,360	2,610	752	175	83	106
19	47	187	100	120	140	400	1,240	2,560	686	164	119	102
20	47	211	105	120	135	360	1,350	2,670	619	153	145	104
21	50	179	105	125	130	370	1,510	2,570	576	145	109	139
22	54	137	96	120	135	400	2,540	2,100	531	137	96	113
23	100	119	94	115	140	370	2,600	1,690	466	131	86	98
24	140	141	92	110	160	340	2,060	1,420	430	125	83	91
25	120	157	100	150	150	314	1,820	1,250	406	123	80	85
26	94	162	105	270	150	288	2,000	1,130	382	119	83	81
27	80	191	105	260	160	267	2,080	1,090	368	113	95	80
28	67	160	100	240	165	314	1,760	1,240	343	111	186	78
29	64	100	98	220	170	571	2,090	1,330	320	111	201	77
30	61	95	94	200	------	1,040	2,170	1,360	298	123	137	81
31	58	------	92	190	------	1,570	------	1,350	------	162	121	------
TOTAL	1,885	4,206	3,156	4,810	4,610	9,769	54,680	55,230	26,218	5,678	3,336	2,905
MEAN	60.8	140	102	155	159	315	1,823	1,782	874	183	108	96.8
MAX	140	270	140	270	200	1,570	2,860	2,670	1,740	282	201	157
MIN	47	56	66	100	130	130	1,240	1,090	298	111	78	75
CFSM	.14	.32	.23	.36	.36	.72	4.17	4.08	2.00	.42	.25	.22
IN.	.16	.36	.27	.41	.39	.83	4.65	4.70	2.23	.48	.28	.25
AC-FT	3,740	8,340	6,260	9,540	9,140	19,380	108,500	109,500	52,000	11,260	6,620	5,760

CAL YR 1963: TOTAL 133,968 MEAN 367 MAX 3,420 MIN 41 CFSM .84 IN 11.40 AC-FT 265,700
WAT YR 1964: TOTAL 176,483 MEAN 482 MAX 2,860 MIN 47 CFSM 1.10 IN 15.02 AC-FT 350,000

Note.--No gage-height record Oct. 12 to Nov. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	106	91	2,000	780	2,500	1,570	704	2,100	382	209	90	102
2	108	95	3,130	730	1,700	1,280	1,620	1,800	368	206	88	96
3	93	111	2,600	700	1,400	1,210	1,420	1,600	350	204	135	93
4	88	96	1,500	650	1,250	1,130	1,410	1,600	337	196	170	95
5	81	90	920	580	1,200	1,120	1,390	1,500	324	187	117	91
6	78	83	720	600	1,200	1,180	1,370	1,300	307	179	100	88
7	77	81	550	520	1,050	1,270	1,290	1,150	291	173	93	86
8	78	80	470	470	1,000	1,310	1,310	1,100	279	164	87	83
9	88	80	500	450	910	1,360	1,530	1,050	279	153	85	83
10	113	93	520	500	810	1,410	2,120	1,050	350	157	77	81
11	153	117	450	420	760	1,540	2,060	1,040	307	155	75	81
12	108	121	400	380	720	1,560	2,000	993	273	153	81	80
13	93	108	360	350	700	1,370	2,300	1,040	288	157	113	85
14	88	96	320	410	650	1,270	2,700	1,010	264	151	104	98
15	90	80	300	450	620	1,210	3,200	965	252	141	85	194
16	98	56	230	440	620	1,190	3,700	916	783	135	77	177
17	100	50	180	430	860	951	3,500	867	680	127	69	133
18	95	50	187	440	920	710	3,300	782	511	123	65	109
19	88	50	250	450	1,000	660	6,000	722	372	117	71	104
20	83	53	340	450	1,200	620	11,000	680	343	113	282	100
21	81	61	500	466	1,150	560	7,000	888	347	123	184	98
22	80	75	1,500	450	1,050	550	5,500	746	330	149	166	96
23	78	100	15,000	470	960	500	4,700	704	307	141	196	93
24	77	800	8,000	800	902	470	4,000	776	288	125	157	88
25	77	2,200	3,500	630	824	440	3,500	698	273	117	153	86
26	85	700	2,200	580	794	420	3,100	641	258	113	249	85
27	106	400	1,800	1,100	1,870	400	2,900	598	249	115	175	85
28	106	310	1,300	2,200	2,140	398	2,800	571	238	117	141	83
29	111	280	1,100	6,000	------	398	2,700	462	227	113	123	81
30	100	600	960	4,700	------	430	2,500	422	214	102	115	80
31	93	------	880	3,800	------	466	------	398	------	96	108	------
TOTAL	2,900	7,207	52,667	31,436	30,760	28,953	92,624	30,169	10,071	4,517	3,831	2,934
MEAN	93.5	240	1,699	1,014	1,059	934	3,087	973	336	146	124	97.8
MAX	153	2,200	15,000	6,000	2,500	1,570	11,000	2,100	783	209	282	194
MIN	77	50	180	380	620	398	704	398	214	96	65	80
CFSM	.21	.55	3.89	2.32	2.51	2.14	7.07	2.23	.77	.33	.28	.22
IN.	.25	.61	4.48	2.68	2.62	2.46	7.88	2.57	.86	.38	.33	.25
AC-FT	5,750	14,290	104,500	62,350	61,010	57,430	183,700	59,840	19,980	8,960	7,600	5,820

CAL YR 1964: TOTAL 230,010 MEAN 628 MAX 15,000 MIN 50 CFSM 1.44 IN 19.57 AC-FT 456,200
WAT YR 1965: TOTAL 298,069 MEAN 817 MAX 15,000 MIN 50 CFSM 1.87 IN 25.37 AC-FT 591,200

Note.--No gage-height record Nov. 17 to Feb. 23, Apr. 12 to May 11.

12-4155. Coeur d'Alene Lake at Coeur d'Alene, Idaho

Location.--Lat 47°39'55", long 116°46'05", in sec.24, T.50 N., R.4 W., 500 ft southwest of south end of Eleventh Street, Coeur d'Alene, and at mile 113.1.

Drainage area.--3,700 sq mi, approximately.

Records available.--April 1903 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,100.00 ft above mean sea level, referred to originally accepted elevation (2,157.40 ft) of Geological Survey bench mark in southeast corner of Merrian Building (see WSP 882). Gage heights reduced to elevations above mean sea level. Datum of 1929, supplementary adjustment of 1947, is 3.00 ft higher. Apr. 26, 1903, to Feb. 14, 1905, staff gage at mouth of St. Joe River at datum about 18.7 ft higher. Feb. 15, 1905, to Mar. 23, 1921, staff gage and Mar. 24, 1921, to Dec. 22, 1930, water-stage recorder, at Johnson wharf 800 ft southeast of railroad station and 1 mile northwest of present site at datum 19.75 ft higher. Dec. 23, 1930, to Feb. 1931, staff gage at present site and datum.

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	Feb. 24, 1961	460,000	2,132.26	Jan. 14, 1961	95,100	2,123.53
1962	Apr. 27, 1962	419,000	2,131.50	Mar. 18, 1961	58,290	2,122.17
1963	Nov. 27, 1962	241,900	2,128.07	Feb. 2, 1963	88,800	2,123.30
1964	May 23, 1964	515,500	2,133.28	Mar. 11, 12, 1964	45,870	2,121.71
1965	Apr. 25, 1965	539,100	2,133.72	Apr. 1, 1965	117,700	2,124.36

1903-65: Maximum contents, 834,900 acre-ft Dec. 25, 1933 (elevation, 2,139.05 ft); minimum, 2,700 acre-ft below zero of contents table Oct. 10-12, 1904, Sept. 24, 25, 1905, Oct. 14 to Nov. 3, 1906 (elevation, 2,119.9 ft).

Maximum contents known prior to 1903, 753,300 acre-ft May 31, 1894 (elevation, 2,137.6 ft, from high watermarks).

Remarks.--The Washington Water Power Co. stores water in Coeur d'Alene Lake by regulation at Post Falls Dam for power generation at Post Falls and other plants on Spokane River. Storage is within natural range of lake stage. Contents given herein are those above elevation 2,120.0 ft. Capacity of lake between elevations 2,120 and 2,140 ft, 889,000 acre-ft.

Cooperation.--Water-stage-recorder graph furnished by Washington Water Power Co.

Revisions.--WSP 1182: Drainage area.

Capacity table, water years 1961-65 (elevation, in feet, and contents, in acre-feet)

2,121.0	26,800	2,126.0	162,900	2,134.0	554,400	
2,122.0	53,700	2,128.0	238,500			
2,124.0	107,900	2,130.0	339,700			

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26.40	25.24	26.61	24.25	24.62	30.39	27.03	27.66	30.68	27.50	27.91	27.99
2	26.35	25.20	26.59	24.14	24.94	30.04	27.08	28.08	30.56	27.61	27.92	27.99
3	26.29	25.16	26.55	24.02	25.30	29.69	27.27	28.60	30.53	27.70	27.94	27.97
4	26.26	25.11	26.50	23.94	25.61	29.29	27.76	28.98	30.47	27.80	27.97	27.96
5	26.20	25.04	26.42	23.92	25.87	28.96	28.16	29.26	30.38	27.90	27.97	27.98
6	26.17	25.00	26.32	23.89	26.16	28.59	28.36	29.40	30.30	27.93	27.95	27.97
7	26.20	24.97	26.21	23.92	26.41	28.20	28.41	29.49	30.11	27.95	27.96	27.92
8	26.18	24.90	26.11	23.90	26.56	27.83	28.38	29.49	29.89	27.97	27.96	27.95
9	26.11	24.88	25.99	23.88	26.82	27.53	28.28	29.46	29.68	28.02	27.89	27.96
10	26.10	24.96	25.88	23.80	27.62	27.25	28.13	29.51	29.40	28.00	27.89	27.92
11	26.09	25.00	25.77	23.74	28.86	26.98	27.93	29.62	29.09	28.00	27.91	27.92
12	26.04	25.00	25.69	23.66	29.72	26.73	27.83	29.77	28.82	27.98	27.90	27.93
13	26.00	25.05	25.61	23.61	30.27	26.59	27.75	29.88	28.54	28.00	27.91	27.92
14	25.95	25.07	25.49	23.55	30.39	26.70	27.70	29.92	28.27	27.99	27.92	27.93
15	25.90	25.03	25.38	23.60	30.40	26.87	27.62	29.99	28.00	27.96	27.92	27.94
16	25.84	25.03	25.24	23.70	30.32	27.02	27.53	30.03	27.74	27.94	27.93	27.95
17	25.80	25.12	25.16	23.98	30.17	27.20	27.42	30.11	27.46	27.91	27.91	27.97
18	25.74	25.22	25.15	24.19	29.90	27.29	27.50	30.19	27.24	27.92	27.90	27.93
19	25.70	25.34	25.13	24.31	29.67	27.30	27.54	30.24	26.98	27.92	27.92	27.89
20	25.64	25.48	25.12	24.38	29.57	27.37	27.56	30.35	26.73	27.92	27.93	27.81
21	25.60	25.53	25.10	24.40	29.85	27.39	27.52	30.50	26.46	27.93	27.93	27.77
22	25.55	25.57	25.04	24.40	30.83	27.39	27.47	30.66	26.44	27.94	27.93	27.72
23	25.55	25.67	25.00	24.38	31.78	27.36	27.40	30.72	26.50	27.94	27.94	27.69
24	25.46	25.89	24.93	24.35	32.24	27.33	27.31	30.79	26.68	27.95	27.94	27.63
25	25.41	26.26	24.86	24.32	32.00	27.30	27.22	30.86	26.80	27.92	27.95	27.59
26	25.40	26.50	24.81	24.37	31.66	27.29	27.13	30.94	26.91	27.92	27.94	27.55
27	25.37	26.63	24.76	24.18	31.25	27.28	27.06	31.12	27.05	27.94	27.95	27.51
28	25.35	26.68	24.68	24.06	30.80	27.21	27.01	31.22	27.19	27.92	27.97	27.51
29	25.33	26.68	24.57	24.06	------	27.12	27.08	31.16	27.32	27.89	27.97	27.50
30	25.30	26.65	24.46	24.11	------	27.05	27.28	31.00	27.42	27.89	27.97	27.45
31	25.28	------	24.36	24.38	------	27.01	------	30.86	------	27.90	28.00	------
MAX	26.40	26.68	26.61	24.40	32.24	30.39	28.41	31.22	30.68	28.02	28.00	27.99
MIN	25.28	24.88	24.36	23.55	24.62	26.59	27.01	27.66	26.44	27.50	27.89	27.45
(†)	142,900	182,800	117,700	118,300	381,900	195,700	206,100	385,100	212,000	233,700	238,500	213,200
(‡)	-33,500	+39,900	-65,100	+600	+263,600	-186,200	+10,400	+179,000	-173,000	+21,700	+4,800	-25,300

CAL YR 1960..... ‡ -67,500
WAT YR 1961..... ‡ +36,800

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,100 ft to obtain elevation above mean sea level.

12-4155. Coeur d'Alene Lake at Coeur d'Alene, Idaho--Continued

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27.40	27.47	25.73	25.58	23.36	23.79	25.85	30.24	28.72	27.94	27.91	27.98
2	27.37	27.47	25.70	25.65	23.27	23.68	25.94	29.89	28.55	27.92	27.90	27.93
3	27.34	27.41	25.66	25.75	23.20	23.52	26.12	29.71	28.38	27.92	27.90	27.94
4	27.30	27.35	25.52	25.89	23.16	23.39	26.33	29.63	28.21	27.91	27.98	27.96
5	27.25	27.29	25.57	26.04	23.14	23.27	26.66	29.62	28.02	27.94	27.97	27.97
6	27.24	27.22	25.52	26.19	23.17	23.17	27.20	29.65	27.79	27.98	27.96	28.00
7	27.20	27.16	25.46	26.30	23.19	23.05	28.11	29.63	27.55	28.00	28.00	27.90
8	27.17	27.10	25.40	26.54	23.21	22.95	29.11	29.65	27.30	28.02	27.99	27.91
9	27.15	27.03	25.30	26.65	23.30	22.83	29.62	29.69	27.13	28.00	27.98	27.93
10	27.13	26.99	25.23	26.61	23.41	22.74	29.70	29.87	26.99	27.96	27.98	28.00
11	27.12	26.90	25.12	26.50	23.57	22.64	29.57	30.07	26.84	27.93	27.96	27.99
12	27.17	26.84	25.06	26.40	23.75	22.55	29.38	30.18	26.70	27.98	27.95	27.93
13	27.18	26.77	25.01	26.33	23.97	22.44	29.22	30.21	26.58	27.94	27.93	27.95
14	27.22	26.70	24.96	26.26	24.20	22.35	29.20	30.16	26.50	27.93	27.90	28.00
15	27.25	26.63	24.94	26.09	24.39	22.28	29.38	30.03	26.50	27.92	27.90	27.99
16	27.21	26.55	24.90	25.91	24.57	22.22	29.71	29.89	26.50	27.95	27.91	27.98
17	27.20	26.47	24.92	25.78	24.68	22.20	29.98	29.76	26.50	27.96	27.92	27.99
18	27.21	26.39	24.88	25.62	24.77	22.19	30.20	29.67	26.62	27.95	27.92	28.00
19	27.25	26.30	24.90	25.37	24.83	22.24	30.50	29.60	26.79	27.96	27.92	28.02
20	27.26	26.23	24.94	25.22	24.89	22.35	30.90	29.52	26.98	27.97	27.92	28.00
21	27.29	26.20	24.97	25.02	24.88	22.46	31.29	29.42	27.14	27.96	27.92	28.00
22	27.34	26.20	25.00	24.80	24.78	22.60	31.38	29.28	27.29	27.97	27.90	28.00
23	27.40	26.12	25.03	24.59	24.68	22.69	31.30	29.18	27.48	27.98	27.91	27.99
24	27.37	26.10	25.17	24.40	24.53	22.84	31.26	29.14	27.63	27.97	27.92	28.00
25	27.37	26.01	25.23	24.24	23.39	23.21	31.32	29.18	27.78	27.98	27.93	28.01
26	27.41	25.97	24.29	24.09	24.22	23.87	31.39	29.19	27.83	27.99	27.90	28.01
27	27.44	25.91	25.31	23.93	24.03	24.79	31.37	29.19	27.87	27.99	27.90	28.00
28	27.46	25.85	25.37	23.82	23.89	25.41	31.19	29.15	27.89	27.98	27.92	28.02
29	27.49	25.80	25.40	23.71	------	25.67	30.91	29.11	27.91	27.95	27.94	28.00
30	27.48	25.78	25.43	23.60	------	25.74	30.59	29.03	27.93	27.94	27.97	27.95
31	27.48	------	25.50	23.48	------	25.80	------	28.89	------	27.92	27.97	------
MAX	27.49	27.47	25.73	26.65	24.89	25.80	31.39	30.24	28.72	28.02	28.00	28.02
MIN	27.12	25.78	24.88	23.48	23.14	22.19	25.85	28.89	26.50	27.91	27.90	27.90
(†)	214,500	156,700	148,900	93,760	104,900	157,300	370,800	282,500	235,100	234,700	237,100	236,100
(‡)	+1,300	-57,800	-7,800	-55,140	+11,140	+52,400	+213,500	-88,300	-47,400	-400	+2,400	-1,000

CAL YR 1961..... ‡ +31,200
WAT YR 1962..... ‡ +22,900

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,100 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27.96	27.55	27.72	26.73	23.36	26.37	26.85	26.69	27.17	27.90	27.90	27.92
2	28.00	27.53	27.77	26.71	23.32	26.34	27.00	26.75	27.31	27.95	27.90	27.91
3	27.96	27.51	27.72	26.67	23.68	26.30	27.01	26.78	27.42	27.92	27.90	27.90
4	27.94	27.51	27.67	26.62	24.44	26.21	26.98	26.75	27.61	27.91	27.93	27.90
5	27.93	27.51	27.66	26.50	25.12	26.12	26.99	26.70	27.79	27.91	27.93	27.90
6	29.94	27.50	27.65	26.33	25.81	25.99	27.04	26.67	27.85	27.92	27.94	27.90
7	27.99	27.50	27.68	26.22	26.40	25.84	27.21	26.71	27.85	28.00	27.96	27.90
8	27.97	27.56	27.69	26.19	26.90	25.70	27.39	26.79	27.89	28.00	27.94	27.89
9	27.94	27.63	27.70	26.19	27.16	25.55	27.51	26.89	27.91	28.00	27.95	27.88
10	27.91	27.68	27.67	26.12	27.28	25.39	27.58	26.92	27.97	28.05	27.96	27.87
11	27.91	27.75	27.62	25.97	27.26	25.22	27.55	26.93	27.90	27.99	27.97	27.86
12	27.93	27.77	27.56	25.79	27.15	25.11	27.49	26.90	27.87	27.97	27.99	27.87
13	27.93	27.80	27.51	25.69	27.03	24.99	27.38	26.86	27.87	27.99	28.00	27.95
14	27.93	27.81	27.45	25.59	26.87	24.89	27.31	26.82	27.89	28.00	27.99	27.92
15	27.85	27.81	27.43	25.53	26.74	24.80	27.31	26.77	27.93	27.96	27.95	27.91
16	27.82	27.76	27.41	25.49	26.63	24.70	27.32	26.72	27.97	27.93	27.92	27.95
17	27.81	27.76	27.51	25.40	26.47	24.60	27.33	26.68	27.96	27.94	27.94	27.94
18	27.78	27.75	27.58	25.30	26.34	24.48	27.27	26.65	27.97	27.95	27.94	27.93
19	27.80	27.75	27.59	25.13	26.33	24.39	27.15	26.67	27.95	27.95	27.93	27.95
20	27.79	27.81	27.52	24.95	26.39	24.29	27.03	26.70	27.91	27.99	27.91	27.95
21	27.78	27.91	27.41	24.81	26.42	24.24	26.91	26.70	27.90	27.98	27.90	27.94
22	27.74	27.82	27.31	24.63	26.40	24.19	26.82	26.73	27.88	27.97	27.89	27.96
23	27.71	27.76	27.23	24.46	26.34	24.20	26.86	26.75	27.90	27.92	27.91	27.94
24	27.70	27.74	27.13	24.31	26.27	24.26	26.83	26.75	27.96	27.96	27.93	27.93
25	27.70	27.79	27.00	24.16	26.18	24.32	26.79	26.74	27.96	27.90	27.92	27.94
26	27.68	27.99	26.92	24.03	26.22	24.41	26.72	26.70	27.92	27.91	27.94	27.93
27	27.67	28.00	26.98	23.89	26.28	24.64	26.69	26.60	27.92	27.96	27.93	27.90
28	27.63	27.86	26.91	23.73	26.34	24.95	26.62	26.50	27.93	27.97	27.91	27.91
29	27.61	27.92	26.85	23.62	------	25.33	26.60	26.52	27.94	27.95	27.90	27.91
30	27.59	27.85	26.81	23.48	------	25.90	26.63	26.76	27.92	27.92	27.90	27.90
31	27.57	------	26.74	23.46	------	26.50	------	26.99	------	27.91	27.90	------
MAX	28.00	28.00	27.77	26.73	27.28	26.50	27.58	26.99	27.97	28.05	28.00	27.96
MIN	27.57	27.50	26.74	23.46	23.32	24.19	26.60	26.50	27.17	27.90	27.89	27.86
(†)	218,500	231,400	185,900	93,220	172,900	177,900	182,100	194,900	234,700	234,200	233,700	233,700
(‡)	-17,600	+12,900	-45,500	-92,680	+79,680	+5,000	+4,200	+12,800	+39,800	-500	-500	0

CAL YR 1962..... ‡ +37,000
WAT YR 1963..... ‡ -2,400

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,100 ft to obtain elevation above mean sea level.

12-4155. Coeur d'Alene Lake at Coeur d'Alene, Idaho--Continued

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27.87	27.54	26.64	24.86	23.81	21.84	24.10	28.24	31.72	26.70	27.98	28.01
2	27.85	27.50	26.56	24.88	23.72	21.82	24.65	28.36	31.93	26.53	27.96	28.00
3	27.83	27.44	26.48	24.90	23.65	21.81	24.98	28.40	31.94	26.63	27.93	27.99
4	27.80	27.48	26.40	24.92	23.57	21.84	24.26	28.36	32.00	26.82	27.97	27.99
5	27.80	27.41	26.40	24.95	23.46	21.81	25.41	28.20	31.95	27.06	27.95	27.99
6	27.80	27.47	26.38	24.97	23.36	21.80	25.53	28.02	31.85	27.21	27.94	27.98
7	27.77	27.48	26.30	24.95	23.26	21.78	25.66	27.81	31.89	27.33	27.96	27.98
8	27.78	27.49	26.25	24.89	23.16	21.80	25.82	27.69	31.90	27.51	27.97	27.96
9	27.79	27.47	26.18	24.86	23.04	21.74	26.04	27.69	32.19	27.60	27.95	27.94
10	27.78	27.44	26.10	24.83	22.96	21.73	26.30	27.84	32.45	27.69	27.94	27.93
11	27.80	27.36	25.95	24.77	22.86	21.73	26.52	28.16	32.46	27.77	27.95	27.96
12	27.81	27.29	25.81	24.73	22.77	21.76	26.66	28.49	32.28	27.87	27.99	27.99
13	27.80	27.20	25.69	24.66	22.70	21.75	26.68	28.89	31.99	27.94	27.98	28.00
14	27.81	27.17	25.58	24.60	22.59	21.80	26.64	29.34	31.67	27.99	27.95	27.99
15	27.83	27.09	25.51	24.58	22.54	21.83	26.72	29.70	31.36	28.03	27.95	28.00
16	27.85	27.04	25.47	24.52	22.49	21.93	27.10	30.03	31.08	27.95	27.94	28.00
17	27.86	27.00	25.40	24.50	22.38	22.13	27.27	30.43	30.85	27.92	27.95	28.00
18	27.84	26.96	25.34	24.43	22.30	22.40	27.29	31.03	30.57	27.93	27.97	27.93
19	27.82	26.96	25.29	24.40	22.25	22.61	27.26	31.62	30.23	27.90	27.93	27.92
20	27.84	26.92	25.28	24.31	22.19	22.72	27.26	32.21	29.86	27.91	27.94	27.92
21	27.86	26.88	25.24	24.27	22.11	22.82	27.37	32.83	29.54	27.93	27.94	27.91
22	27.89	26.84	25.19	24.21	22.06	22.90	27.57	33.24	29.20	27.95	27.94	27.91
23	27.84	26.80	25.15	24.10	22.00	22.93	27.77	33.22	28.86	27.94	27.90	27.89
24	27.84	26.76	25.10	24.04	21.95	22.93	27.84	32.90	28.57	27.95	27.91	27.91
25	27.82	26.71	25.07	24.02	21.92	22.91	27.88	32.53	28.28	27.97	27.96	27.86
26	27.80	26.70	25.04	24.05	21.90	22.86	27.89	32.15	28.05	27.99	27.96	27.89
27	27.74	26.68	25.00	24.08	21.89	22.83	27.92	31.79	27.77	27.99	28.00	27.90
28	27.71	26.73	24.97	24.04	21.87	22.80	27.92	31.57	27.50	27.98	28.01	27.91
29	27.68	26.73	24.94	24.01	21.87	22.86	27.97	31.52	27.23	28.00	28.02	27.95
30	27.64	26.69	24.89	23.92	------	23.07	28.09	31.55	26.96	28.06	27.98	27.93
31	27.57	------	24.85	23.88	------	23.47	------	31.62	------	28.00	27.93	------
MAX	27.89	27.54	26.64	24.97	23.81	23.47	28.09	33.24	32.46	28.06	28.02	28.01
MIN	27.57	26.68	24.85	23.88	21.87	21.73	24.10	27.69	26.96	26.53	27.90	27.86
(†)	218,500	184,200	131,200	104,700	50,190	93,490	242,800	425,500	193,800	238,500	235,100	235,100
(‡)	-15,200	-34,300	-53,000	-26,500	-54,510	+43,300	+149,310	+182,700	-231,700	+44,700	-3,400	0

CAL YR 1963..... ‡ -54,700
WAT YR 1964..... ‡ +1,400

† Contents, in acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,100 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27.90	27.65	28.05	29.98	28.11	26.52	24.38	33.55	28.57	27.96	27.99	28.00
2	27.87	27.60	28.54	29.46	28.06	26.54	24.46	33.39	28.41	27.93	28.00	28.03
3	27.85	27.54	28.89	29.00	27.91	26.54	24.57	33.13	28.24	27.96	27.99	27.96
4	27.84	27.53	28.95	28.53	27.73	26.50	24.71	32.74	28.13	27.99	27.99	27.95
5	27.84	27.48	28.81	28.16	27.62	26.45	24.86	32.27	28.00	27.98	27.98	27.97
6	27.87	27.43	28.55	27.83	27.46	26.44	25.03	31.79	27.84	27.96	27.99	28.00
7	27.90	27.37	28.23	27.54	27.30	26.47	25.17	31.33	27.74	27.94	27.99	28.01
8	27.90	27.31	27.91	27.25	27.15	26.51	25.29	30.85	27.62	27.91	28.03	27.98
9	27.89	27.30	27.89	26.97	27.01	26.56	25.54	30.44	27.47	27.90	28.02	27.97
10	27.88	27.30	27.95	26.70	26.82	26.59	25.82	30.10	27.31	27.93	28.00	27.99
11	27.86	27.25	27.93	26.57	26.60	26.62	26.11	29.87	27.20	27.89	27.99	28.01
12	27.86	27.30	27.98	26.58	26.40	26.68	26.34	29.79	27.12	27.88	28.04	28.02
13	27.88	27.26	27.94	26.58	26.23	26.67	26.61	29.83	26.99	27.90	28.00	28.00
14	27.89	27.22	27.97	26.55	26.05	26.62	26.91	29.93	26.85	27.92	27.97	28.01
15	27.92	27.18	27.88	26.50	25.88	26.59	27.27	30.01	26.66	27.93	28.01	28.00
16	27.89	27.11	27.80	26.45	25.79	26.48	27.72	30.02	26.46	27.96	28.00	28.00
17	27.88	27.08	27.62	26.38	25.78	26.41	28.16	30.00	26.62	27.99	27.98	27.99
18	27.87	27.02	27.47	26.32	25.79	26.28	28.47	29.89	26.83	27.99	27.94	27.97
19	27.88	26.98	27.47	26.28	25.84	26.15	28.92	29.79	26.97	27.98	28.05	27.95
20	27.89	26.93	27.45	26.25	25.95	25.99	29.92	29.60	27.09	27.99	27.99	27.99
21	27.89	26.90	27.52	26.21	26.08	25.83	31.48	29.46	27.31	27.99	27.97	27.97
22	27.89	26.85	28.03	26.14	26.18	25.69	32.77	29.33	27.50	27.97	27.99	27.96
23	27.90	26.84	29.70	26.10	26.22	25.54	33.47	29.25	27.65	27.97	27.97	27.98
24	27.89	26.98	31.93	26.10	26.18	25.35	33.70	29.17	27.78	28.01	27.96	28.00
25	27.86	27.56	32.88	26.01	26.12	25.19	33.72	29.08	27.86	28.01	27.99	27.98
26	27.83	27.72	32.96	25.96	26.03	25.04	33.61	28.93	27.83	28.01	27.97	27.95
27	27.80	27.77	32.62	26.00	26.23	24.90	33.48	28.81	27.80	28.00	27.99	27.94
28	27.77	27.76	32.17	26.34	26.41	24.75	33.39	28.72	27.85	28.00	27.95	28.00
29	27.74	27.70	31.61	27.00	------	24.63	33.38	28.71	27.89	28.00	27.95	27.98
30	27.70	27.74	31.07	27.61	------	24.51	33.46	28.70	27.93	27.98	27.98	27.97
31	27.68	------	30.50	27.98	------	24.40	------	28.66	------	27.97	28.00	------
MAX	27.92	27.77	32.96	29.98	28.11	26.68	33.72	33.55	28.57	28.01	28.05	28.03
MIN	27.67	26.84	27.45	25.96	25.78	24.40	24.38	28.66	26.46	27.88	27.94	27.94
(†)	223,000	226,200	366,000	237,500	175,100	118,800	524,800	270,900	235,100	237,100	238,500	237,100
(‡)	-12,100	+3,200	+139,800	-128,500	-62,400	-56,300	+406,000	-253,900	-35,800	+2,000	+1,400	-1,400

CAL YR 1964..... ‡ +234,800
WAT YR 1965..... ‡ +2,000

† Contents in acre-feet at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 2,100 ft to obtain elevation above mean sea level.

12-4170. Hayden Lake at Hayden Lake, Idaho

Location.--Lat 47°46'02", long 116°45'12", 300 ft north of center of sec.18, T.51 N., R.3 W., at Avondale pumping plant 1½ miles northeast of Hayden Lake.

Drainage area.--62.3 sq mi.

Records available.--May 1920 to September 1965.

Gage.--Staff gage read once daily. Datum of gage is 2,200.21 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1925, at datum 30.35 ft higher. Oct. 1, 1925, to Mar. 26, 1931, at datum 21.60 ft higher.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Gage height	Date	Gage height
1961	May 18, 1961	40.55	Oct. 27, 1960	33.72
1962	May 30, 1962	39.03	Dec. 12, 1961	33.94
1963	May 15-18, 1963	39.08	Nov. 24, 1962	34.40
1964	May 25, 1964	39.39	Nov. 2-5, 1963	34.02
1965	May 1, 2, 1965	40.08	Sept.30, 1965	34.30

1920-65: Maximum gage height observed, 42.46 ft Apr. 22, 1956; minimum observed, 19.38 ft Dec. 16, 1931.

Remarks.--Water is pumped from lake for irrigation and domestic supply. Lake has no natural surface outlet; but, due to the permeability of the lakebed, a considerable part of the total inflow leaves the lake by infiltration to the ground water of Rathdrum Prairie. Some surface flow leaves the lake, during high stages (most years), through a controlled outlet in the dike at southwest corner of the lake. Flow from outlet seeps rapidly into the ground in an extremely permeable area adjacent to the outlet.

Revisions (water years).--WSP 962: 1921(M). WSP 1216: 1950.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	34.12	33.70	34.16	34.06	34.54	39.24	40.30	39.98	40.15	38.70	37.12	35.76
2	34.10	33.68	34.16	34.06	34.63	39.25	40.40	40.00	40.08	38.66	37.06	35.72
3	34.06	33.66	34.18	34.04	36.68	39.26	40.40	40.06	40.04	38.62	37.02	35.68
4	34.05	33.64	34.20	34.02	34.74	39.27	40.06	40.08	39.98	38.58	36.98	35.64
5	34.02	33.63	34.20	34.00	34.80	39.26	40.09	40.14	39.96	38.52	36.92	35.60
6	34.02	33.60	34.19	34.10	34.85	39.30	40.08	40.20	39.92	38.48	36.90	35.54
7	34.03	33.59	34.18	34.10	34.94	39.30	40.08	40.24	39.90	38.42	36.84	35.50
8	34.06	33.57	34.17	34.12	35.00	39.30	40.08	40.32	39.84	38.38	36.80	35.46
9	34.05	33.56	34.16	34.12	35.09	39.30	40.08	40.39	39.82	38.28	36.76	35.44
10	34.03	33.60	34.15	34.13	35.31	39.30	40.06	40.43	39.78	38.24	36.70	35.39
11	34.00	33.68	34.14	34.14	35.73	39.31	40.05	40.47	39.74	38.20	36.64	35.36
12	34.00	33.66	34.14	34.14	36.20	39.32	40.04	40.50	39.72	38.11	36.60	35.32
13	33.96	33.68	34.12	34.15	36.50	39.30	40.02	40.54	39.66	38.04	36.56	35.28
14	33.94	33.68	34.12	34.16	36.68	39.33	40.02	40.54	39.64	38.00	36.52	35.24
15	33.92	33.67	34.11	34.18	36.82	39.38	40.01	40.54	39.58	37.94	36.48	35.20
16	33.90	33.70	34.10	34.22	36.98	39.44	40.00	40.53	39.54	37.90	36.44	35.16
17	33.88	33.67	34.10	34.26	37.12	39.52	40.02	40.54	39.49	37.82	36.38	35.12
18	33.88	33.70	34.11	34.30	37.22	39.60	40.01	40.55	39.46	37.78	36.34	35.09
19	33.86	33.70	34.15	34.33	37.36	39.64	39.98	40.52	39.40	37.76	36.30	35.06
20	33.84	33.72	34.15	34.36	37.50	39.66	39.98	40.50	39.34	37.66	36.26	35.02
21	33.82	33.77	34.16	34.36	37.70	39.78	39.96	40.46	39.26	37.64	36.22	34.98
22	33.82	33.79	34.15	34.36	38.32	39.80	39.95	40.44	39.20	37.60	36.18	34.95
23	33.81	33.78	34.14	34.38	38.70	39.83	39.94	40.43	39.16	37.54	36.14	34.93
24	33.82	33.86	34.14	34.38	38.90	39.86	39.94	40.40	39.10	37.52	36.10	34.90
25	33.78	34.04	34.14	34.37	39.06	39.88	39.92	40.38	39.04	37.48	36.06	34.87
26	33.78	34.14	34.13	34.37	39.10	39.92	39.93	40.38	38.96	37.44	36.02	34.84
27	33.72	34.16	34.12	34.37	39.16	39.96	39.93	40.38	38.90	37.38	35.96	34.80
28	33.78	34.17	34.10	34.38	39.20	39.98	39.90	40.30	38.84	37.30	35.92	34.78
29	33.76	34.18	34.10	34.46	------	40.00	39.89	40.24	38.80	37.26	35.88	34.76
30	33.74	34.17	34.08	34.50	------	40.01	39.91	40.22	38.74	37.20	35.84	34.72
31	33.72	------	34.07	34.50	------	40.01	------	40.16	------	37.16	35.80	------
MAX	34.12	34.18	34.20	34.50	39.20	40.01	40.40	40.55	40.15	38.70	37.12	35.76
MIN	33.72	33.56	34.07	34.00	34.54	39.24	39.89	39.98	38.74	37.16	35.80	34.72

12-4170. Hayden Lake at Hayden Lake, Idaho--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	34.72	34.30	34.08	34.18	34.20	34.94	35.90	38.16	39.00	38.24	36.84	35.60
2	34.70	34.29	34.06	34.18	34.20	34.96	35.96	38.18	39.00	38.16	36.78	35.58
3	34.68	34.28	34.06	34.20	34.20	34.98	36.04	38.20	39.00	38.14	36.75	35.54
4	34.66	34.26	34.04	34.22	34.20	34.98	36.16	38.24	39.00	38.08	36.72	35.50
5	34.65	34.24	34.04	34.22	34.22	35.00	36.26	38.28	38.98	38.04	36.68	35.47
6	34.62	34.22	34.02	34.24	34.22	35.00	36.38	38.32	38.98	38.00	36.66	35.42
7	34.60	34.20	34.02	34.32	34.24	34.99	36.58	38.42	38.96	37.96	36.61	35.38
8	34.58	34.18	34.00	34.30	34.28	34.98	36.74	38.48	38.95	37.93	36.60	35.34
9	34.54	34.18	33.98	34.30	34.32	34.98	36.88	38.57	38.88	37.90	36.56	35.30
10	34.55	34.16	33.96	34.28	34.36	34.98	36.96	38.66	38.88	37.84	36.54	35.26
11	34.54	34.16	33.96	34.28	34.40	34.96	37.02	38.70	38.88	37.80	36.51	35.30
12	34.52	34.12	33.94	34.26	34.44	34.96	37.08	38.76	38.86	37.76	36.48	35.28
13	34.52	34.10	33.98	34.26	34.50	34.96	37.12	38.80	38.82	37.72	36.44	35.24
14	34.50	34.08	33.96	34.24	34.56	34.96	37.16	38.84	38.83	37.66	36.38	35.23
15	34.50	34.08	33.96	34.28	34.62	34.92	37.26	38.86	38.82	37.70	36.34	35.20
16	34.47	34.04	33.96	34.32	34.70	34.92	37.36	38.88	38.80	37.58	36.30	35.18
17	34.46	34.04	33.98	34.32	34.76	34.92	37.46	38.90	38.78	37.50	36.24	35.14
18	34.44	34.02	33.98	34.32	34.82	34.90	37.52	38.90	38.74	37.46	36.22	35.12
19	34.42	34.00	34.02	34.30	34.84	34.92	37.59	38.93	38.72	37.40	36.16	35.10
20	34.38	33.98	34.06	34.28	34.86	34.92	37.66	38.94	38.70	37.36	36.12	35.08
21	34.36	33.98	34.08	34.28	34.90	34.98	37.74	38.94	38.64	37.32	36.08	35.06
22	34.34	34.08	34.10	34.26	34.92	34.98	37.80	38.94	38.62	37.28	36.02	35.02
23	34.36	34.06	34.10	34.26	34.92	35.00	37.84	38.94	38.58	37.24	35.98	35.00
24	34.40	34.06	34.18	34.24	34.92	35.00	37.87	38.96	38.56	37.20	35.94	34.98
25	34.36	34.06	34.16	34.26	34.92	35.10	37.90	38.96	38.52	37.14	35.86	34.96
26	34.38	34.06	34.16	34.22	34.92	35.20	37.94	38.98	38.48	37.10	35.82	34.93
27	34.36	34.06	34.16	34.22	34.92	35.40	37.99	38.98	38.42	37.06	35.78	34.90
28	34.38	34.06	34.16	34.24	34.92	35.58	38.08	38.96	38.36	37.02	35.74	34.87
29	34.36	34.06	34.16	34.22	------	35.70	38.12	39.00	38.32	36.96	35.70	34.88
30	34.34	34.06	34.18	34.22	------	35.78	38.16	39.03	38.30	36.92	35.68	34.86
31	34.32	------	34.18	34.20	------	35.84	------	39.02	------	36.88	35.64	------
MAX	34.72	34.30	34.18	34.32	34.92	35.84	38.16	39.03	39.00	38.24	36.84	35.60
MIN	34.32	33.98	33.94	34.18	34.20	34.90	35.90	38.16	38.30	36.88	35.64	34.86

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	34.84	34.50	34.54	34.96	34.98	36.60	37.14	38.58	38.78	37.90	36.64	35.38
2	34.82	34.48	34.58	35.00	35.00	36.64	37.22	38.60	38.76	37.84	36.60	35.34
3	34.81	34.47	34.62	35.04	35.18	36.66	37.26	38.62	38.72	37.82	36.56	35.30
4	34.78	34.45	34.62	35.06	35.30	36.68	37.32	38.62	38.70	37.80	36.50	35.27
5	34.76	34.44	34.62	35.08	35.48	36.70	37.36	38.65	38.65	37.78	36.46	35.24
6	34.74	34.44	34.64	35.12	35.60	36.72	37.46	38.66	38.68	37.74	36.40	35.20
7	34.72	34.42	34.66	35.11	35.74	36.73	37.60	38.72	38.66	37.66	36.36	35.16
8	34.72	34.43	34.65	35.14	35.86	36.74	37.72	38.82	38.64	37.62	36.32	35.12
9	34.72	34.48	34.66	35.12	35.92	36.74	37.84	38.88	38.62	37.60	36.28	35.10
10	34.72	34.48	34.65	35.12	36.00	36.74	37.94	38.94	38.62	37.58	36.24	35.06
11	34.72	34.50	34.65	35.12	36.04	36.75	38.00	38.98	38.60	37.58	36.20	35.02
12	34.74	34.50	34.64	35.10	36.08	36.76	38.06	39.02	38.56	37.54	36.16	34.98
13	34.78	34.50	34.64	35.10	36.10	36.76	38.12	39.04	38.52	37.50	36.12	34.96
14	34.78	34.48	34.66	35.08	36.12	36.74	38.16	39.06	38.50	37.46	36.10	34.94
15	34.78	34.46	34.68	35.08	36.15	36.76	38.24	39.08	38.48	37.40	36.04	34.92
16	34.77	34.47	34.72	35.10	36.18	36.75	38.26	39.08	38.42	37.36	36.00	34.90
17	34.75	34.45	34.76	35.09	36.20	36.75	38.30	39.08	38.40	37.34	35.96	34.90
18	34.73	34.44	34.80	35.08	36.22	36.75	38.34	39.08	38.36	37.30	35.92	34.88
19	34.70	34.45	34.81	35.06	36.25	36.74	38.38	39.06	38.32	37.24	35.86	34.86
20	34.70	34.48	34.84	35.05	36.30	36.74	38.38	39.06	38.26	37.20	35.80	34.84
21	34.68	34.44	34.88	35.04	36.34	36.74	38.40	39.06	38.22	37.16	35.76	34.80
22	34.66	34.42	34.88	35.02	36.38	36.74	38.40	39.06	38.18	37.12	35.70	34.78
23	34.64	34.42	34.86	35.02	36.42	36.74	38.42	39.04	38.14	37.08	35.66	34.78
24	34.63	34.40	34.87	35.00	36.44	36.74	38.48	39.02	38.10	37.02	35.68	34.76
25	34.62	34.45	34.87	35.00	36.46	36.78	38.50	39.00	38.08	36.98	35.64	34.74
26	34.60	34.46	34.88	34.98	36.51	36.80	38.52	39.00	38.04	36.92	35.60	34.72
27	34.58	34.44	34.85	34.98	36.54	36.82	38.54	38.96	38.02	36.90	35.58	34.70
28	34.56	34.48	34.90	34.98	36.58	36.86	38.56	38.92	38.00	36.84	35.54	34.68
29	34.53	34.48	34.88	34.96	------	36.88	38.56	38.90	37.96	36.80	35.50	34.67
30	34.53	34.50	34.92	34.95	------	37.00	38.58	38.86	37.92	36.74	35.46	34.65
31	34.52	------	34.96	34.96	------	37.08	------	38.80	------	36.70	35.42	------
MAX	34.84	34.50	34.96	35.14	36.58	37.08	38.58	39.08	38.78	37.90	36.64	35.38
MIN	34.52	34.40	34.54	34.95	34.98	36.60	37.14	38.58	37.92	36.70	35.42	34.65

12-4170. Hayden Lake at Hayden Lake, Idaho--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	34.56	34.04	34.12	34.04	34.48	34.64	35.22	37.86	39.14	38.24	36.92	35.92
2	34.54	34.02	34.10	34.08	34.50	34.62	35.36	37.94	39.08	38.20	36.92	35.90
3	34.54	34.02	34.10	34.08	34.51	34.63	35.52	38.02	39.04	38.16	36.90	35.88
4	34.50	34.02	34.08	34.10	34.52	34.62	35.60	38.08	38.98	38.10	36.86	35.86
5	34.48	34.02	34.06	34.14	34.52	34.64	35.72	38.14	38.94	38.08	36.84	35.84
6	34.48	34.08	34.12	34.14	34.53	34.66	35.78	38.18	38.88	38.04	36.81	35.80
7	34.46	34.06	34.12	34.16	34.54	34.66	35.86	38.22	38.88	38.00	36.78	35.78
8	34.44	34.10	34.12	34.15	34.54	34.66	35.92	38.28	38.94	37.96	36.74	35.76
9	34.41	34.12	34.12	34.14	34.52	34.68	35.98	38.34	38.96	37.92	36.68	35.72
10	34.40	34.12	34.10	34.14	34.56	34.68	36.10	38.40	38.94	37.86	36.64	35.70
11	34.36	34.10	34.08	34.15	34.56	34.66	36.21	38.50	38.90	37.82	36.60	35.68
12	34.34	34.08	34.07	34.14	34.56	34.72	36.34	38.60	38.88	37.76	36.56	35.65
13	34.33	34.06	34.06	34.14	34.60	34.74	36.40	38.66	38.83	37.72	36.52	35.62
14	34.30	34.06	34.04	34.13	34.60	34.74	36.48	38.76	38.76	37.68	36.46	35.60
15	34.28	34.08	34.05	34.12	34.62	34.76	36.56	38.84	38.72	37.68	36.42	35.56
16	34.26	34.06	34.08	34.14	34.64	34.76	36.62	38.90	38.70	37.66	36.38	35.54
17	34.24	34.04	34.08	34.14	34.64	34.78	36.72	38.96	38.66	37.58	36.34	35.51
18	34.22	34.06	34.08	34.16	34.64	34.86	36.80	39.02	38.66	37.56	36.29	35.54
19	34.18	34.10	34.07	34.18	34.64	34.90	36.86	39.10	38.62	37.52	36.28	35.54
20	34.16	34.12	34.08	34.19	34.62	34.94	36.88	39.18	38.62	37.48	36.25	35.56
21	34.16	34.14	34.08	34.19	34.64	34.98	36.94	39.26	38.58	37.42	36.22	35.56
22	34.14	34.14	34.06	34.20	34.64	35.03	37.06	39.30	38.56	37.38	36.18	35.54
23	34.22	34.12	34.06	34.18	34.63	35.02	37.16	39.38	38.54	37.32	36.16	35.52
24	34.24	34.14	34.04	34.17	34.63	35.02	37.26	39.36	38.50	37.28	36.10	35.50
25	34.24	34.14	34.06	34.24	34.62	35.04	37.34	39.39	38.46	37.23	36.06	35.48
26	34.18	34.12	34.06	34.34	34.62	35.06	37.46	39.36	38.44	37.18	36.02	35.46
27	34.14	34.14	34.06	34.36	34.62	35.06	37.54	39.36	38.40	37.12	35.98	35.44
28	34.12	34.14	34.06	34.39	34.60	35.06	37.60	39.34	38.36	37.08	36.00	35.42
29	34.10	34.14	34.06	34.38	34.60	35.08	36.68	39.32	38.32	37.04	35.98	35.40
30	34.08	34.13	34.06	34.42	------	35.10	37.76	39.26	38.28	36.98	35.98	35.38
31	34.06	------	34.06	34.44	------	35.12	------	39.20	------	36.96	35.96	------
MAX	34.56	34.14	34.12	34.44	34.64	35.12	37.76	39.39	39.14	38.24	36.92	35.92
MIN	34.06	34.02	34.04	34.04	34.48	34.62	35.22	37.86	38.28	36.96	35.96	35.38

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	35.36	34.86	35.26	38.18	38.16	38.66	38.28	40.08	38.84	37.26	35.74	34.92
2	35.34	34.88	35.56	38.18	38.20	38.68	38.26	40.08	38.78	37.18	35.68	34.88
3	35.32	34.85	35.84	38.22	38.22	38.70	38.24	40.06	38.70	37.12	35.66	34.86
4	35.28	34.85	35.98	38.26	38.24	38.72	38.26	40.02	38.64	37.10	35.64	34.84
5	35.28	34.84	36.08	38.32	38.26	38.72	38.24	40.02	38.56	37.04	35.62	34.80
6	-	34.82	36.12	38.34	38.30	38.72	38.24	39.96	38.48	36.98	35.60	34.76
7	35.26	34.80	36.16	38.36	38.30	38.72	38.26	39.90	38.40	36.94	35.58	34.74
8	35.24	34.78	36.18	38.36	38.30	38.72	38.26	39.86	38.34	36.86	35.52	34.70
9	35.26	34.80	36.22	38.40	38.32	38.72	38.28	39.82	38.28	36.78	35.48	34.68
10	35.26	34.82	36.26	38.40	38.32	38.74	38.36	39.78	38.20	36.68	35.44	34.66
11	35.24	34.82	36.26	38.42	38.32	38.76	38.44	39.74	38.10	36.64	35.38	34.62
12	35.24	34.84	36.24	38.44	38.30	38.76	38.48	39.66	38.06	36.60	35.34	34.60
13	35.22	34.86	36.26	38.42	38.28	38.76	38.54	39.62	38.00	36.56	35.32	34.58
14	35.20	34.84	36.26	38.42	38.28	38.76	38.58	39.58	37.94	36.54	35.30	34.58
15	35.18	34.84	36.28	38.42	38.26	38.78	38.64	39.54	37.90	36.52	35.26	34.58
16	35.16	34.82	36.30	38.32	38.24	38.76	38.74	39.48	37.86	36.46	35.22	34.60
17	35.16	34.80	36.28	38.24	38.26	38.76	38.86	39.46	37.82	36.38	35.18	34.58
18	35.12	34.78	36.26	38.20	38.26	38.74	38.88	39.42	37.86	36.34	35.14	34.56
19	35.10	34.76	36.30	38.16	38.26	38.72	38.94	39.38	37.86	36.26	35.12	34.54
20	35.08	34.76	36.34	38.12	38.28	38.68	39.08	39.36	37.84	36.20	35.12	34.52
21	35.06	34.74	36.38	38.10	38.34	38.66	39.30	39.34	37.80	36.16	35.10	34.50
22	35.04	34.72	36.46	38.08	38.42	38.64	39.52	39.30	37.72	36.14	35.10	34.48
23	35.02	34.72	36.90	38.06	38.46	38.62	39.66	39.26	37.64	36.12	35.10	34.46
24	35.00	34.76	37.50	38.06	38.50	38.58	39.76	39.24	37.58	36.08	35.08	34.44
25	34.98	34.86	37.74	38.04	38.50	38.54	39.84	39.20	37.52	36.04	35.08	34.42
26	34.96	34.94	37.86	38.02	38.48	38.48	39.88	39.14	37.48	36.00	35.08	34.38
27	34.94	34.98	38.00	37.98	38.48	38.46	39.92	39.08	37.42	35.96	35.06	34.36
28	34.94	34.98	38.06	37.96	38.58	38.42	39.96	39.04	37.36	35.92	35.04	34.34
29	34.92	35.00	38.12	37.98	------	38.36	40.02	38.98	37.34	35.86	34.98	34.32
30	34.90	35.02	38.16	38.06	------	38.32	40.06	38.96	37.32	35.82	34.96	34.30
31	34.88	------	38.18	38.08	------	38.30	------	38.88	------	35.78	34.94	------
MAX	35.36	35.02	38.18	38.44	38.58	38.78	40.06	40.08	38.84	37.26	35.74	34.92
MIN	34.88	34.72	35.26	37.96	38.16	38.30	38.24	38.88	37.32	35.78	34.94	34.30

12-4180. Rathdrum Prairie Canal at Huetter, Idaho

Location.--Lat 47°43', long 116°52', in sec.6, T.50 N., R.4 W., on left bank 450 ft downstream from outlet of discharge pipe, five-eighths of a mile north of pumping plant, and three-quarters of a mile northwest of Huetter.

Records available.--October 1945 to September 1965. Monthly discharge only for October 1945 to March 1946, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 2,273.02 ft above mean sea level (Bureau of Reclamation bench mark).

Extremes.--1945-65: Maximum daily discharge, 66 cfs June 29 to July 2, 1947; no flow for long periods in each year.

Remarks.--Records good. Canal carries water which is pumped from Spokane River in sec.7, T.50 N., R.4 W., for irrigation of first unit of Rathdrum Prairie project (about 3,000 acres).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	17	49	51	58	50
2	0	0	0	0	0	0	0	17	50	52	57	50
3	0	0	0	0	0	0	0	18	51	52	57	50
4	0	0	0	0	0	0	0	18	51	52	57	51
5	0	0	0	0	0	0	0	19	51	52	57	51
6	0	0	0	0	0	0	0	20	51	52	58	51
7	0	0	0	0	0	0	0	20	51	53	58	51
8	0	0	0	0	0	0	0	21	50	53	59	51
9	0	0	0	0	0	0	0	22	48	53	60	51
10	0	0	0	0	0	0	0	17	48	53	59	52
11	0	0	0	0	0	0	0	22	50	54	58	51
12	0	0	0	0	0	0	0	22	48	54	58	51
13	0	0	0	0	0	0	0	23	48	54	58	51
14	0	0	0	0	0	0	0	22	47	54	57	51
15	0	0	0	0	0	0	0	22	47	54	57	51
16	0	0	0	0	0	0	0	22	46	55	56	51
17	0	0	0	0	0	0	0	22	46	55	56	51
18	0	0	0	0	0	0	0	22	46	53	53	51
19	0	0	0	0	0	0	0	22	46	55	56	51
20	0	0	0	0	0	0	0	24	45	55	55	49
21	0	0	0	0	0	0	7.0	26	45	55	55	48
22	0	0	0	0	0	0	13	31	50	55	51	47
23	0	0	0	0	0	0	12	41	50	55	52	46
24	0	0	0	0	0	0	12	43	50	55	51	44
25	0	0	0	0	0	0	13	41	51	56	52	31
26	0	0	0	0	0	0	13	45	51	57	52	0
27	0	0	0	0	0	0	13	46	51	57	51	0
28	0	0	0	0	0	0	14	48	52	57	51	0
29	0	0	0	0	------	0	15	50	49	57	51	0
30	0	0	0	0	------	0	14	51	52	58	51	0
31	0	------	0	0	------	0	------	46	------	58	50	------
TOTAL	0	0	0	0	0	0	126.0	880	1,470	1,686	1,711	1,232
MEAN	0	0	0	0	0	0	4.20	28.4	49.0	54.4	55.2	41.1
MAX	0	0	0	0	0	0	15	51	52	58	60	52
MIN	0	0	0	0	0	0	0	17	45	51	50	0
AC-FT	0	0	0	0	0	0	250	1,750	2,920	3,340	3,390	2,440

CAL YR 1960: TOTAL 5,863.00 MEAN 16.0 MAX 55 MIN 0 AC-FT 11,630
WAT YR 1961: TOTAL 7,105.00 MEAN 19.5 MAX 60 MIN 0 AC-FT 14,090

12-4180. Rathdrum Prairie Canal at Huetter, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	22	41	51	57	53
2	0	0	0	0	0	0	0	22	41	52	57	53
3	0	0	0	0	0	0	0	22	41	51	57	51
4	0	0	0	0	0	0	0	23	41	52	58	52
5	0	0	0	0	0	0	0	23	40	52	58	52
6	0	0	0	0	0	0	0	23	40	52	59	51
7	0	0	0	0	0	0	0	23	40	52	59	51
8	0	0	0	0	0	0	0	23	41	52	59	51
9	0	0	0	0	0	0	0	23	43	52	60	48
10	0	0	0	0	0	0	0	23	42	46	60	48
11	0	0	0	0	0	0	0	23	41	52	60	48
12	0	0	0	0	0	0	0	23	41	52	60	43
13	0	0	0	0	0	0	0	25	40	52	60	43
14	0	0	0	0	0	0	0	28	23	52	60	43
15	0	0	0	0	0	0	0	28	43	52	60	32
16	0	0	0	0	0	0	0	29	44	50	60	24
17	0	0	0	0	0	0	0	29	45	53	60	23
18	0	0	0	0	0	0	0	29	45	53	60	23
19	0	0	0	0	0	0	0	29	48	53	60	23
20	0	0	0	0	0	0	0	29	49	54	60	23
21	0	0	0	0	0	0	0	29	51	54	60	22
22	0	0	0	0	0	0	0	36	51	52	60	14
23	0	0	0	0	0	0	0	45	51	54	58	0
24	0	0	0	0	0	0	13	40	51	54	54	0
25	0	0	0	0	0	0	19	41	51	55	54	0
26	0	0	0	0	0	0	19	41	52	54	55	0
27	0	0	0	0	0	0	20	41	53	52	55	0
28	0	0	0	0	0	0	22	41	51	55	53	0
29	0	0	0	0	------	0	22	41	52	56	54	0
30	0	0	0	0	------	0	22	41	52	56	54	0
31	0	------	0	0	------	0	------	41	------	57	54	------
TOTAL	0	0	0	0	0	0	137	936	1,344	1,634	1,795	869
MEAN	0	0	0	0	0	0	4.57	30.2	44.8	52.7	57.9	29.0
MAX	0	0	0	0	0	0	22	45	53	57	60	53
MIN	0	0	0	0	0	0	0	22	23	46	53	0
AC-FT	0	0	0	0	0	0	272	1,860	2,670	3,240	3,560	1,720

CAL YR 1961: TOTAL 7,105.00 MEAN 19.5 MAX 60 MIN 0 AC-FT 14,090
WAT YR 1962: TOTAL 6,715.00 MEAN 18.4 MAX 60 MIN 0 AC-FT 13,320

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	18	50	59	58	53
2	0	0	0	0	0	0	0	18	51	58	58	52
3	0	0	0	0	0	0	0	19	51	59	59	52
4	0	0	0	0	0	0	0	19	52	58	58	51
5	0	0	0	0	0	0	0	19	52	58	59	51
6	0	0	0	0	0	0	0	19	52	58	58	51
7	0	0	0	0	0	0	0	19	53	57	59	50
8	0	0	0	0	0	0	0	18	53	57	59	50
9	0	0	0	0	0	0	0	19	54	57	59	50
10	0	0	0	0	0	0	0	19	54	58	58	50
11	0	0	0	0	0	0	0	19	54	58	58	50
12	0	0	0	0	0	0	0	19	55	58	54	50
13	0	0	0	0	0	0	0	19	55	58	56	50
14	0	0	0	0	0	0	0	19	55	58	60	50
15	0	0	0	0	0	0	0	20	55	58	60	50
16	0	0	0	0	0	0	0	31	54	58	60	38
17	0	0	0	0	0	0	0	36	55	57	60	27
18	0	0	0	0	0	0	0	37	55	58	60	27
19	0	0	0	0	0	0	0	36	55	58	60	28
20	0	0	0	0	0	0	0	36	55	58	60	28
21	0	0	0	0	0	0	0	37	54	58	60	28
22	0	0	0	0	0	0	0	40	53	58	60	19
23	0	0	0	0	0	0	0	46	54	58	60	0
24	0	0	0	0	0	0	0	46	54	58	60	0
25	0	0	0	0	0	0	0	46	55	58	60	0
26	0	0	0	0	0	0	0	46	55	58	60	0
27	0	0	0	0	0	0	0	46	56	58	57	0
28	0	0	0	0	0	0	0	20	57	58	54	0
29	0	0	0	0	------	0	10	26	57	58	53	0
30	0	0	0	0	------	0	19	50	57	58	53	0
31	0	------	0	0	------	0	------	50	------	58	53	------
TOTAL	0	0	0	0	0	0	29	912	1,622	1,796	1,803	955
MEAN	0	0	0	0	0	0	.97	29.4	54.1	57.9	58.2	31.8
MAX	0	0	0	0	0	0	19	50	57	59	60	53
MIN	0	0	0	0	0	0	0	18	50	57	53	0
AC-FT	0	0	0	0	0	0	58	1,810	3,220	3,560	3,580	1,890

CAL YR 1962: TOTAL 6,715.00 MEAN 18.4 MAX 60 MIN 0 AC-FT 13,320
WAT YR 1963: TOTAL 7,117.00 MEAN 19.5 MAX 60 MIN 0 AC-FT 14,120

12-4180. Rathdrum Prairie Canal at Huetter, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	12	47	21	50	26
2	0	0	0	0	0	0	0	13	48	24	50	24
3	0	0	0	0	0	0	0	13	50	45	50	22
4	0	0	0	0	0	0	0	13	50	47	50	12
5	0	0	0	0	0	0	0	13	51	48	49	0
6	0	0	0	0	0	0	0	13	51	49	48	0
7	0	0	0	0	0	0	0	14	51	49	48	0
8	0	0	0	0	0	0	0	21	45	51	47	0
9	0	0	0	0	0	0	0	21	42	54	46	0
10	0	0	0	0	0	0	0	21	43	55	45	0
11	0	0	0	0	0	0	0	21	43	55	44	0
12	0	0	0	0	0	0	0	22	43	55	44	0
13	0	0	0	0	0	0	0	24	43	55	43	0
14	0	0	0	0	0	0	0	26	42	54	43	0
15	0	0	0	0	0	0	0	34	43	54	43	0
16	0	0	0	0	0	0	0	36	43	53	43	0
17	0	0	0	0	0	0	0	38	43	54	43	0
18	0	0	0	0	0	0	0	41	42	53	43	0
19	0	0	0	0	0	0	0	41	34	52	43	0
20	0	0	0	0	0	0	0	43	31	52	33	0
21	0	0	0	0	0	0	0	44	30	52	28	0
22	0	0	0	0	0	0	0	44	39	52	27	0
23	0	0	0	0	0	0	0	43	43	51	27	0
24	0	0	0	0	0	0	0	42	43	52	35	0
25	0	0	0	0	0	0	0	41	44	52	39	0
26	0	0	0	0	0	0	0	41	45	52	38	0
27	0	0	0	0	0	0	0	43	46	52	38	0
28	0	0	0	0	0	0	0	45	46	51	30	0
29	0	0	0	0	0	0	7.0	45	46	50	26	0
30	0	0	0	0	------	0	12	46	44	50	26	0
31	0	------	0	0	------	0	------	47	------	50	26	------
TOTAL	0	0	0	0	0	0	19.0	961	1,311	1,544	1,245	84
MEAN	0	0	0	0	0	0	.63	31.0	43.7	49.8	40.2	2.80
MAX	0	0	0	0	0	0	12	47	51	55	50	26
MIN	0	0	0	0	0	0	0	12	30	21	26	0
AC-FT	0	0	0	0	0	0	38	1,910	2,600	3,060	2,470	167

CAL YR 1963: TOTAL 7,117.00 MEAN 19.5 MAX 60 MIN 0 AC-FT 14,120
WAT YR 1964: TOTAL 5,164.00 MEAN 14.1 MAX 55 MIN 0 AC-FT 10,240

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	18	47	56	56	21
2	0	0	0	0	0	0	0	18	47	56	55	20
3	0	0	0	0	0	0	0	17	48	56	54	20
4	0	0	0	0	0	0	0	18	48	56	54	20
5	0	0	0	0	0	0	0	18	49	56	54	21
6	0	0	0	0	0	0	0	18	50	56	54	21
7	0	0	0	0	0	0	0	18	48	56	53	21
8	0	0	0	0	0	0	0	22	48	56	52	22
9	0	0	0	0	0	0	0	24	49	56	51	25
10	0	0	0	0	0	0	0	26	49	55	50	25
11	0	0	0	0	0	0	0	16	49	55	50	25
12	0	0	0	0	0	0	0	44	49	55	50	26
13	0	0	0	0	0	0	0	44	48	55	50	25
14	0	0	0	0	0	0	0	44	48	55	50	26
15	0	0	0	0	0	0	0	45	27	55	50	23
16	0	0	0	0	0	0	0	46	0	55	50	20
17	0	0	0	0	0	0	0	47	31	54	50	20
18	0	0	0	0	0	0	0	49	42	54	50	22
19	0	0	0	0	0	0	0	51	42	54	51	22
20	0	0	0	0	0	0	0	51	43	54	50	21
21	0	0	0	0	0	0	0	51	44	54	48	20
22	0	0	0	0	0	0	0	51	45	54	47	13
23	0	0	0	0	0	0	0	51	46	54	36	0
24	0	0	0	0	0	0	0	51	50	54	31	0
25	0	0	0	0	0	0	0	50	51	54	31	0
26	0	0	0	0	0	0	0	50	52	46	30	0
27	0	0	0	0	0	0	1.0	50	52	55	30	0
28	0	0	0	0	0	0	12	49	53	55	28	0
29	0	0	0	0	-------	0	18	48	54	56	25	0
30	0	0	0	0	-------	0	18	48	55	56	23	0
31	0	-------	0	0	-------	0	------	48	-------	56	22	-------
TOTAL	0	0	0	0	0	0	49.0	1,181	1,365	1,699	1,383	473
MEAN	0	0	0	0	0	0	1.63	38.1	45.5	54.8	44.7	16.0
MAX	0	0	0	0	0	0	18	51	55	56	56	26
MIN	0	0	0	0	0	0	0	16	0	46	22	0
AC-FT	0	0	0	0	0	0	97	2,340	2,710	3,370	2,750	950

CAL YR 1964: TOTAL 5,164.00 MEAN 14.1 MAX 55 MIN 0 AC-FT 10,240
WAT YR 1965: TOTAL 6,158.00 MEAN 16.9 MAX 56 MIN 0 AC-FT 12,210

12-4185. Spokane Valley Farms Co.'s canal at Post Falls, Idaho

Location.--Lat 47°42'45", long 116°57'15", in NW¼ sec.3, T.50 N., R.5 W., on left bank 300 ft downstream from headgate and half a mile northwest of Post Falls.

Records available.--May 1911 to September 1917, September 1919 to September 1965. Published as Spokane Valley Land and Water Co.'s canal at Post Falls, prior to 1924.

Gage.--Water-stage recorder. Prior to Apr. 22, 1938, staff gages at several sites within 1,000 ft of present site at various datums.

Extremes.--1911-17, 1919-65: Maximum daily discharge, 312 cfs May 22-24, 26, 28, 1956; no flow or small amount of leakage during nonirrigation seasons.

Remarks.--Records good except those below 5 cfs, which are poor. Canal diverts water for irrigation from Spokane River in NW¼ sec.3, T.50 N., R.5 W.

Cooperation.--Some discharge measurements furnished by Washington Water Power Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	109	255	261	254	231
2	0	0	0	0	0	0	0	123	254	259	251	223
3	0	0	0	0	0	0	0	130	257	259	250	219
4	0	0	0	0	0	0	0	149	253	262	250	220
5	0	0	0	0	0	0	0	152	253	260	250	220
6	0	0	0	0	0	0	0	150	259	262	250	212
7	0	0	0	0	0	0	0	150	269	260	244	202
8	0	0	0	0	0	0	0	147	270	260	236	202
9	0	0	0	0	0	0	0	145	265	261	234	194
10	0	0	0	0	0	0	1.4	145	271	260	234	199
11	0	0	0	0	0	0	3.0	146	270	259	236	206
12	0	0	0	0	0	0	35	147	263	259	236	202
13	0	0	0	0	0	0	42	147	269	259	236	200
14	0	0	0	0	0	0	42	144	263	259	235	200
15	0	0	0	0	0	0	42	147	258	258	234	196
16	0	0	0	0	0	0	42	147	262	258	234	38
17	0	0	0	0	0	0	42	147	254	257	234	38
18	0	0	0	0	0	0	42	147	257	256	235	54
19	0	0	0	0	0	0	42	148	244	254	235	64
20	0	0	0	0	0	0	42	148	231	254	235	64
21	0	0	0	0	0	0	42	146	232	253	234	64
22	0	0	0	0	0	0	42	203	263	253	234	58
23	0	0	0	0	0	0	42	247	260	260	234	54
24	0	0	0	0	0	0	74	251	260	260	233	54
25	0	0	0	0	0	0	89	251	260	260	233	35
26	0	0	0	0	0	0	104	254	263	260	234	16
27	0	0	0	0	0	0	112	255	262	260	234	16
28	0	0	0	0	0	0	114	252	262	260	234	16
29	0	0	0	0	------	0	112	251	262	260	234	16
30	0	0	0	0	------	0	114	258	262	260	234	16
31	0	------	0	0	------	0	------	255	------	260	233	------
TOTAL	0	0	0	0	0	0	1,220.4	5,491	7,763	8,023	7,374	3,729
MEAN	0	0	0	0	0	0	40.7	177	259	259	238	124
MAX	0	0	0	0	0	0	114	258	271	262	254	231
MIN	0	0	0	0	0	0	0	109	231	253	233	16
AC-FT	0	0	0	0	0	0	2,420	10,890	15,400	15,910	14,630	7,400

CAL YR 1960: TOTAL 32,048.00 MEAN 87.6 MAX 273 MIN 0 AC-FT 63,570
WAT YR 1961: TOTAL 33,600.40 MEAN 92.1 MAX 271 MIN 0 AC-FT 66,650

12-4185. Spokane Valley Farms Co.'s canal at Post Falls, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16			1.0	1.0	1.0		154	206	267	259	233
2	7.0			1.0	1.0	1.0		157	207	267	259	232
3				1.0	1.0	1.0		157	206	267	259	231
4				1.0	1.0	1.0		157	205	266	259	232
5				1.0	1.0	1.0		157	203	267	260	232
6				1.0	1.0	1.0		157	202	269	259	231
7				1.0	1.0	1.0		157	201	268	247	231
8			1.0	1.0	1.0	0		157	213	268	238	231
9				1.0	1.0		0	157	221	259	240	230
10				1.0	1.0			157	222	270	240	220
11				1.0	1.0			158	225	270	238	209
12				1.0	1.0			158	221	270	238	201
13				1.0	1.0			159	221	270	238	192
14				1.0	1.0			160	224	270	239	185
15				1.0	1.0			172	224	270	240	184
16	1.0	1.0	1.0	1.0	1.0			179	221	270	240	105
17			2.0	2.0	1.0		10	180	224	270	238	80
18			1.0		1.0		24	181	231	270	238	63
19			1.0		1.0		51	182	234	268	238	62
20			1.0		1.0	0	57	182	238	269	237	62
21			1.0		1.0		62	195	239	268	240	42
22			1.0	2.0	1.0		74	197	241	267	238	0
23			1.0		1.0		81	199	244	267	238	0
24			1.0		1.0		104	202	249	267	237	0
25			1.0		1.0		147	203	254	267	236	
26			1.0		1.0		153	204	254	266	235	
27			1.0		1.0		152	204	254	266	235	0
28			1.0	1.0	1.0		154	204	254	265	234	
29			1.0	1.0	------		154	204	256	264	234	
30			1.0	1.0	------		154	205	264	262	233	
31		------	1.0	1.0	------		------	204	------	260	232	------
TOTAL	52.0	30.0	32.0	42.0	28.0	7.0	1,377	5,509	6,858	8,234	7,497	3,688
MEAN	1.68	1.00	1.03	1.35	1.00	.23	45.9	178	229	268	242	123
MAX	16	-	-	-	1.0	-	154	205	264	270	260	233
MIN	-	-	-	-	1.0	0	-	154	201	260	232	0
AC-FT	103	60	63	83	56	14	2,730	10,930	13,600	16,450	14,870	7,320

CAL YR 1961: TOTAL 33,714.40 MEAN 92.4 MAX 271 MIN 0 AC-FT 66,870
WAT YR 1962: TOTAL 33,414.00 MEAN 91.5 MAX 270 MIN 0 AC-FT 66,280

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0		131	269	264	252	238
2	0	0	0	0	0	0		131	267	264	252	238
3	0	0	0	0	0	0		133	269	263	252	238
4	0	0	0	0	0	0		78	271	260	252	236
5	0	0	0	0	0	0		56	270	261	252	238
6	0	0	0	0	0	0		58	268	261	252	238
7	0	0	0	0	0	0		140	270	262	252	233
8	0	0	0	0	0	0	0	166	270	262	253	229
9	0	0	0	0	0	0		166	270	262	254	229
10	0	0	0	0	0	0		166	270	261	253	229
11	0	0	0	0	0	0		166	270	255	252	228
12	0	0	0	0	0	0		164	274	246	251	226
13	0	0	0	0	0	0		164	273	243	252	226
14	0	0	0	0	0	0		162	273	243	251	228
15	0	0	0	0	0	0		161	274	243	252	194
16	0	0	0	0	0	0	20	163	274	244	254	83
17	0	0	0	0	0	0	53	183	272	249	254	67
18	0	0	0	0	0	0	62	202	272	250	253	17
19	0	0	0	0	0	0	93	213	270	252	252	5.0
20	0	0	0	0	0	0	109	215	270	253	251	2.0
21	0	0	0	0	0	0	109	215	270	253	250	
22	0	0	0	0	0	0	106	217	270	253	250	
23	0	0	0	0	0	0	104	225	269	253	252	
24	0	0	0	0	0	0	104	226	270	253	251	
25	0	0	0	0	0	0	103	211	269	253	251	
26	0	0	0	0	0	0	102	224	265	253	243	0
27	0	0	0	0	0	0	102	246	264	253	239	
28	0	0	0	0	0	0	102	260	266	253	238	
29	0	0	0	0	------	0	115	249	264	254	236	
30	0	0	0	0	------	0	130	261	263	254	237	
31	0	------	0	0	------	0	------	270	------	252	238	------
TOTAL	0	0	0	0	0	0	1,416	5,622	8,086	7,882	7,731	3,624.0
MEAN	0	0	0	0	0	0	47.2	181	270	254	249	121
MAX	0	0	0	0	0	0	130	270	274	264	254	238
MIN	0	0	0	0	0	0	-	56	263	243	236	-
AC-FT	0	0	0	0	0	0	2,810	11,150	16,040	15,630	15,330	7,190

CAL YR 1962: TOTAL 33,300.00 MEAN 91.2 MAX 270 MIN 0 AC-FT 66,050
WAT YR 1963: TOTAL 34,361.00 MEAN 94.1 MAX 274 MIN 0 AC-FT 68,150

12-4185. Spokane Valley Farms Co.'s canal at Post Falls, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	132	223	236	237	157
2	0	0	0	0	0	0	0	147	227	238	229	194
3	0	0	0	0	0	0	0	150	228	238	232	186
4	0	0	0	0	0	0	0	150	228	237	236	182
5	0	0	0	0	0	0	0	152	231	238	234	176
6	0	0	0	0	0	0	0	157	233	239	235	171
7	0	0	0	0	0	0	0	159	233	239	235	170
8	0	0	0	0	0	0	0	176	231	252	234	169
9	0	0	0	0	0	0	0	182	231	253	234	169
10	0	0	0	0	0	0	0	181	234	257	234	169
11	0	0	0	0	0	0	0	184	234	260	234	169
12	0	0	0	0	0	0	0	198	234	265	235	169
13	0	0	0	0	0	0	0	204	233	272	234	169
14	0	0	0	0	0	0	0	206	233	268	234	169
15	0	0	0	0	0	0	2.0	206	232	270	234	165
16	0	0	0	0	0	0	8.0	206	231	273	234	81
17	0	0	0	0	0	0	14	208	232	274	234	70
18	0	0	0	0	0	0	13	214	232	273	234	72
19	0	0	0	0	0	0	13	234	228	267	235	71
20	0	0	0	0	0	0	32	239	225	265	235	74
21	0	0	0	0	0	0	41	243	230	264	230	73
22	0	0	0	0	0	0	87	240	230	264	226	73
23	0	0	0	0	0	0	107	239	232	265	228	46
24	0	0	0	0	0	0	108	234	234	265	227	21
25	0	0	0	0	0	0	109	228	235	267	226	1.0
26	0	0	0	0	0	0	109	225	234	267	224	0
27	0	0	0	0	0	0	110	220	232	268	223	0
28	0	0	0	0	0	0	126	155	231	262	214	0
29	0	0	0	0	0	0	128	193	232	256	209	0
30	0	0	0	0	------	0	129	218	236	256	208	0
31	0	------	0	0	------	0	------	223	------	256	202	------
TOTAL	0	0	0	0	0	0	1,148.0	6,149	6,939	8,004	7,101	3,208.0
MEAN	0	0	0	0	0	0	38.3	198	231	258	229	107
MAX	0	0	0	0	0	0	129	243	236	274	237	197
MIN	0	0	0	0	0	0	0	132	223	236	202	0
AC-FT	0	0	0	0	0	0	2,280	12,200	13,760	15,880	14,080	6,360

CAL YR 1963: TOTAL 34,361.00 MEAN 94.1 MAX 274 MIN 0 AC-FT 68,150
WAT YR 1964: TOTAL 32,549.00 MEAN 88.9 MAX 274 MIN 0 AC-FT 64,560

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	153	256	248	214	194
2	0	0	0	0	0	0	0	166	255	241	214	194
3	0	0	0	0	0	0	0	173	250	228	214	194
4	0	0	0	0	0	0	0	175	254	225	214	188
5	0	0	0	0	0	0	0	174	254	224	213	184
6	0	0	0	0	0	0	0	172	253	233	213	182
7	0	0	0	0	0	0	0	173	254	237	212	182
8	0	0	0	0	0	0	0	196	253	237	212	181
9	0	0	0	0	0	0	0	204	253	241	213	182
10	0	0	0	0	0	0	0	215	254	242	212	180
11	0	0	0	0	0	0	0	222	252	242	213	180
12	0	0	0	0	0	0	0	221	253	241	212	180
13	0	0	0	0	0	0	0	221	252	241	192	184
14	0	0	0	0	0	0	0	227	251	242	187	183
15	0	0	0	0	0	0	1.0	229	247	241	187	182
16	0	0	0	0	0	0	2.0	227	246	241	203	87
17	0	0	0	0	0	0	2.0	242	243	239	210	75
18	0	0	0	0	0	0	3.0	160	241	239	211	66
19	0	0	0	0	0	0	3.0	106	247	239	210	56
20	0	0	0	0	0	0	25	176	248	228	210	56
21	0	0	0	0	0	0	43	222	250	221	209	55
22	0	0	0	0	0	0	54	234	247	219	210	55
23	0	0	0	0	0	0	63	234	245	218	211	55
24	0	0	0	0	0	0	89	203	246	218	211	54
25	0	0	0	0	0	0	96	237	246	217	211	51
26	0	0	0	0	0	0	97	236	245	221	211	49
27	0	0	0	0	0	0	98	235	244	220	212	49
28	0	0	0	0	0	0	101	238	246	216	204	49
29	0	0	0	0	------	0	104	249	245	215	201	49
30	0	0	0	0	------	0	122	254	247	214	196	49
31	0	------	0	0	------	0	------	256	------	214	194	------
TOTAL	0	0	0	0	0	0	903.0	6,430	7,477	7,142	6,436	3,625
MEAN	0	0	0	0	0	0	30.1	207	249	230	208	121
MAX	0	0	0	0	0	0	122	256	256	248	214	194
MIN	0	0	0	0	0	0	0	106	241	214	187	49
AC-FT	0	0	0	0	0	0	1,790	12,750	14,830	14,170	12,770	7,190

CAL YR 1964: TOTAL 32,549.00 MEAN 88.9 MAX 274 MIN 0 AC-FT 64,560
WAT YR 1965: TOTAL 32,013.00 MEAN 87.7 MAX 256 MIN 0 AC-FT 63,500

12-4190. Spokane River near Post Falls, Idaho

Location.--Lat 47°42'10", long 116°58'40", in SW¼SW¼ sec.4, T.50 N., R.5 W., on right bank 1 mile downstream from powerplant of Washington Water Power Co., 1½ miles downstream from intake of Spokane Valley Farms Co.'s Canal, 1½ miles southwest of Post Falls, and at mile 100.7.

Drainage area.--3,840 sq mi, approximately, of which about 122 sq mi in the vicinity of Hayden Lake is noncontributing to this station.

Records available.--October 1912 to September 1965 (prior to January 1913 monthly discharge only, published in WSP 870 and 1736). Prior to October 1949, published as "at Post Falls."

Gage.--Digital water-stage recorder. Datum of gage is 2,050 ft above mean sea level, referenced to same datum as gage on Coeur d'Alene Lake at Coeur d'Alene (see station 12-4155). Datum of 1929, supplementary adjustment of 1947, is 3.00 ft higher. Jan. 1, 1913, to Nov. 21, 1920, staff gage at site 0.8 mile upstream; Nov. 22, 1920, to Sept. 15, 1934, graphic water-stage recorder at site 0.6 mile upstream; Sept. 16, 1934, to Nov. 15, 1949, graphic water-stage recorder at site 0.8 mile upstream; Nov. 16, 1949, to Sept. 30, 1964, graphic water-stage recorder at present site. All gages at datum 50 ft lower. Oct. 1, 1964, to Apr. 20, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--River only, 53 years, 6,247 cfs (4,523,000 acre-ft per year); 15-year base period (1947-62), 7,162 cfs; combined river, Spokane Valley Farms Co.'s Canal, and Rathdrum Prairie Canal, 53 years, 6,353 cfs (4,599,000 acre-ft per year); 15-year base period (1947-62), 7,317 cfs.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 25, 1961	28,000	70.33	Sept. 4, 5, 1961	126	55.12
1962	Apr. 27, 1962	25,200	69.40	Sept.14, 15, 19, 20	126	55.12
1963	Nov. 27, 1962	20,200	67.70	Aug. 17, 19, 20	141	55.17
1964	May 24, 1964	32,000	71.66	Oct. 16, 17,18,1963	129	55.13
1965	Apr. 25, 1965	33,400	22.13	(a)	135	5.15

a Aug. 15, Sept. 10, 11, 12, 1965.

1912-65: Maximum discharge, 50,100 cfs when recorder was not operating Dec. 25, 1933 (determined from unpublished records collected by Washington Water Power Co. for station at Liberty Bridge); minimum daily, 104 cfs Aug. 18, 1958.

Remarks.--Records excellent. Spokane Valley Farms Co.'s Canal (see station 12-4185) and Rathdrum Prairie Canal (see station 12-4180) divert water above gage for irrigation. Figures of daily discharge do not include water diverted by these canals. Flow regulated by dam at Post Falls and affected by storage in Coeur d'Alene Lake (see station 12-4155).

Cooperation.--Gage-height record furnished by Washington Water Power Co.

Revisions (water years).--WSP 1182: Drainage area. WSP 1736: 1913, 1941, 1945.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,500	1,830	3,420	3,230	3,190	22,900	12,600	13,200	22,600	234	193	505
2	1,670	1,830	3,500	3,250	4,230	21,700	12,600	14,300	22,100	252	206	750
3	1,620	1,840	3,410	2,980	3,810	20,500	12,800	15,700	21,400	267	210	797
4	1,490	1,840	3,440	2,420	2,990	19,400	13,600	17,000	21,400	248	197	129
5	1,490	1,840	3,400	2,690	2,960	18,300	15,000	17,900	21,500	544	185	376
6	1,510	1,840	3,400	2,980	3,660	17,500	15,700	18,400	21,100	1,070	178	394
7	1,500	1,680	3,400	2,720	4,930	16,400	16,200	18,800	20,700	1,430	178	147
8	1,480	1,590	3,420	2,910	6,560	15,200	16,300	18,900	20,100	1,030	178	144
9	1,480	1,560	3,440	3,360	7,290	14,300	16,000	18,800	19,700	878	659	141
10	1,470	1,540	3,440	3,720	13,800	13,400	15,700	18,900	18,600	1,490	192	144
11	1,480	1,550	3,420	3,730	15,700	12,800	15,300	19,000	17,900	1,490	178	147
12	1,630	1,530	3,490	3,750	18,800	12,100	14,900	19,200	17,400	1,490	168	147
13	1,760	1,610	3,450	3,760	20,900	10,700	14,400	19,300	16,500	1,490	178	147
14	1,770	1,820	3,470	3,760	22,100	11,300	14,200	19,700	15,800	1,570	188	144
15	1,760	1,780	3,470	3,760	22,400	11,800	14,100	20,300	15,000	1,610	210	147
16	1,770	1,800	3,490	3,760	22,400	12,400	13,800	20,100	14,100	1,490	471	156
17	1,780	1,780	3,490	3,750	21,900	12,700	13,500	20,300	13,100	1,050	144	141
18	1,770	1,760	3,120	3,660	21,300	13,100	13,400	20,500	12,600	825	138	774
19	1,780	1,800	2,790	3,620	20,400	13,200	13,500	20,700	12,300	825	141	1,430
20	1,790	1,800	2,790	3,600	19,800	13,400	13,600	20,700	11,800	825	144	1,440
21	1,790	1,920	2,790	3,620	19,800	13,400	13,600	21,200	9,920	840	150	1,440
22	1,790	2,090	2,790	3,600	21,800	13,300	13,400	22,000	4,830	825	154	1,440
23	1,750	2,180	2,790	3,600	25,100	13,300	13,400	22,100	3,920	825	160	1,440
24	1,790	2,160	2,800	3,620	27,200	13,300	13,100	22,200	1,550	825	192	1,440
25	1,770	2,940	2,800	3,620	27,600	13,200	12,500	22,400	1,540	832	314	1,470
26	1,790	3,370	2,790	3,630	26,900	13,200	12,600	22,800	1,200	848	133	1,210
27	1,800	3,130	2,800	3,490	25,700	13,100	12,400	22,900	459	832	138	932
28	1,840	3,130	3,010	3,750	24,300	13,000	12,300	23,400	224	840	135	916
29	1,830	3,190	3,330	3,760	-------	12,900	12,300	23,900	300	825	122	1,230
30	1,830	3,320	3,180	2,940	-------	12,700	12,600	23,100	227	790	129	1,430
31	1,830	-------	3,190	2,260	-------	12,600	-------	23,100	-------	432	138	-------
TOTAL	52,350	62,050	99,520	105,180	457,520	447,000	415,800	620,800	378,870	28,882	6,118	21,228
MEAN	1,689	2,068	3,210	3,393	16,340	14,420	13,860	20,030	12,660	932	197	708
MAX	1,840	3,370	3,500	3,760	27,600	22,800	16,300	23,900	22,600	1,610	659	1,470
MIN	1,470	1,530	2,790	2,260	2,960	10,700	12,300	13,200	224	234	129	129
AC-FT	103,800	123,100	197,400	208,600	907,500	886,600	824,700	1,231M	753,500	57,290	12,130	42,110
(†)	0	0	0	0	0	0	2,670	12,640	18,320	19,250	18,020	9,840
MEAN‡	1,689	2,068	3,210	3,393	16,340	14,420	13,900	20,230	12,970	1,245	490	873
AC-FT‡	103,800	123,100	197,400	208,600	907,500	886,600	827,400	1,244M	771,800	76,540	30,150	51,950

OBSERVED

CAL YR 1960: TOTAL 2,298,592 MEAN 6,280 MAX 27,000 MIN 174 AC-FT 4,559,000
WAT YR 1961: TOTAL 2,696,318 MEAN 7,387 MAX 27,600 MIN 129 AC-FT 5,348,000

ADJUSTED ‡

CAL YR 1960: MEAN 6,383 CFSM 1.66 IN 22.63 AC-FT 4,634,000
WAT YR 1961: MEAN 7,499 CFSM 1.95 IN 26.51 AC-FT 5,429,000

† Diversion, in acre-feet, through Spokane Valley Farms Co.'s canal and Rathdrum Prairie Canal.
‡ Adjusted for diversion.
M. Expressed in thousands.

12-4190. Spokane River near Post Falls, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,440	633	2,140	1,220	4,500	5,340	9,660	21,700	17,200	2,750	840	185
2	1,440	1,130	2,160	1,380	4,310	5,260	9,760	20,600	16,600	2,360	840	150
3	1,440	1,870	2,160	1,440	4,140	5,150	10,000	19,800	16,200	2,320	653	135
4	1,440	2,040	2,140	1,400	4,140	4,950	11,100	19,400	15,700	2,810	172	141
5	1,460	2,020	2,140	1,240	4,110	4,590	11,500	19,200	15,200	2,000	561	138
6	1,290	2,050	2,120	1,230	4,100	4,530	12,400	19,200	14,600	1,600	638	138
7	1,210	2,040	2,100	1,330	4,100	4,180	14,100	19,200	14,000	1,590	403	147
8	1,220	2,040	2,130	2,900	4,110	3,940	16,900	19,200	13,400	1,580	870	141
9	1,230	2,050	2,120	4,110	3,940	4,040	19,100	19,200	12,800	2,550	870	135
10	1,230	2,070	2,100	4,730	4,280	3,730	20,100	19,500	12,400	2,610	862	154
11	1,380	2,100	2,100	5,150	4,460	3,630	20,000	20,100	12,100	1,500	848	1,010
12	1,090	2,110	1,700	5,120	4,680	3,360	19,500	20,400	11,700	1,520	855	1,260
13	418	2,100	1,700	4,610	4,890	3,400	19,200	20,700	11,400	1,520	855	433
14	150	2,100	2,100	4,570	5,390	3,170	18,000	20,700	9,040	1,520	840	157
15	507	2,110	2,100	5,670	5,700	3,000	18,500	20,400	8,420	1,300	540	546
16	1,540	2,100	2,160	5,340	6,160	3,070	19,700	20,000	8,440	956	157	502
17	1,240	2,080	1,740	5,020	6,440	3,050	20,400	19,600	7,600	855	154	144
18	141	2,090	1,890	4,980	6,540	2,870	20,300	19,300	4,810	855	147	135
19	138	2,100	1,880	5,000	6,200	2,740	21,300	19,000	3,410	855	147	132
20	141	2,120	1,470	4,900	6,290	2,860	22,500	18,800	2,860	870	150	758
21	141	2,100	1,250	4,900	6,560	2,860	23,800	19,200	2,610	862	147	811
22	141	2,070	1,540	5,200	6,500	3,020	24,700	18,600	2,170	878	150	818
23	428	2,120	1,610	5,300	6,500	3,030	24,600	18,200	1,430	878	150	602
24	1,180	2,130	1,230	4,900	6,170	3,630	24,400	18,000	1,540	862	138	171
25	1,010	2,120	1,240	4,800	5,940	4,040	24,400	17,900	1,400	500	138	178
26	652	2,110	1,240	4,800	5,920	5,010	24,700	18,000	2,570	878	144	595
27	652	2,110	1,430	4,750	5,900	6,440	24,800	18,100	2,790	858	144	825
28	652	2,100	1,750	4,670	5,480	7,570	24,500	17,900	2,790	858	154	1,220
29	646	2,130	1,750	4,630	------	9,030	23,800	18,000	2,770	832	138	1,690
30	835	2,150	1,740	4,600	------	9,380	22,800	17,800	2,750	858	141	1,560
31	989	------	1,130	4,540	------	8,600	------	17,500	------	840	144	------
TOTAL	27,471	60,093	56,060	124,430	147,450	139,470	576,520	595,200	251,500	43,825	12,950	15,011
MEAN	886	2,003	1,808	4,014	5,266	4,499	19,220	19,200	8,383	1,414	419	500
MAX	1,540	2,150	2,150	5,670	6,560	9,380	24,800	21,700	17,200	2,810	870	1,650
MIN	138	633	1,130	1,220	3,940	2,740	9,660	17,500	1,430	832	138	132
AC-FT	54,490	119,200	111,200	246,800	292,500	276,600	1,144M	1,181M	498,800	86,930	25,770	29,770
(†)	103	60	63	83	56	14	545	12,790	16,270	19,690	18,430	9,040
MEAN‡	888	2,004	1,809	4,015	5,267	4,499	19,270	19,410	8,657	1,734	719	652
AC-FT‡	54,590	119,300	111,300	246,900	292,500	276,600	1,147M	1,193M	515,100	106,600	44,200	38,810

OBSERVED

CAL YR 1961: TOTAL 2,626,022 MEAN 7,195 MAX 27,600 MIN 129 AC-FT 5,209,000
WAT YR 1962: TOTAL 2,050,020 MEAN 5,616 MAX 24,800 MIN 132 AC-FT 4,066,000

ADJUSTED ‡

CAL YR 1961: MEAN 7,306 CFSM 1.90 IN 25.83 AC-FT 5,290,000
WAT YR 1962: MEAN 5,726 CFSM 1.49 IN 20.24 AC-FT 4,146,000

† Diversion, in acre-feet, through Spokane Valley Farms Co.'s canal and Rathdrum Prairie Canal.
‡ Adjusted for diversion.
M Expressed in thousands.

12-4190. Spokane River near Post Falls, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	818	1,440	8,270	6,060	3,570	10,200	11,600	11,200	3,470	1,730	371	160
2	818	1,430	6,160	6,470	3,720	10,200	12,200	11,400	3,490	1,360	154	164
3	825	1,450	6,910	7,440	2,600	10,100	12,500	11,500	3,490	1,880	150	160
4	825	1,440	6,080	8,130	4,060	9,800	12,400	11,500	2,700	1,870	150	252
5	693	1,450	5,300	9,120	6,880	9,740	12,400	11,500	3,200	1,540	150	157
6	508	1,450	5,090	8,920	8,040	9,580	12,400	11,400	4,620	1,130	150	154
7	520	1,240	4,840	7,470	9,200	9,220	12,700	11,400	5,400	271	150	164
8	1,260	848	5,200	5,170	11,700	9,050	13,100	11,400	4,810	848	150	168
9	2,080	1,240	5,200	4,560	12,600	8,780	13,400	11,600	4,800	840	147	164
10	2,080	1,490	5,380	5,520	13,100	8,490	13,700	12,000	4,770	1,300	150	164
11	2,570	1,610	5,800	5,170	13,300	8,130	13,800	12,000	6,230	2,430	147	154
12	3,290	2,080	5,570	5,130	13,100	7,750	13,100	12,000	5,570	1,610	150	144
13	3,270	2,070	5,300	5,130	12,600	7,090	12,900	11,800	4,420	972	154	154
14	4,150	2,060	5,300	4,910	11,500	6,760	12,700	11,800	3,150	1,150	891	147
15	4,310	2,360	5,900	4,530	11,000	6,660	13,300	11,600	3,150	1,200	484	147
16	2,930	2,720	6,380	4,530	10,900	6,650	13,100	11,500	3,120	924	144	174
17	2,290	2,490	6,880	5,060	10,600	6,530	13,100	11,300	3,550	908	141	680
18	2,030	2,470	9,680	5,090	10,200	6,340	13,000	11,100	3,090	500	147	572
19	1,460	2,800	10,100	5,090	10,100	6,240	12,800	11,100	3,090	687	144	164
20	1,450	2,470	10,500	5,080	10,000	6,110	11,900	11,200	3,010	192	147	360
21	1,590	4,340	10,300	5,290	10,200	6,020	11,900	11,200	2,790	649	150	696
22	1,880	6,900	9,740	5,420	10,400	5,930	12,200	11,300	2,120	878	150	699
23	1,470	5,500	8,620	5,360	10,300	5,830	12,000	11,400	1,660	825	147	1,050
24	1,470	4,110	7,930	5,250	10,000	5,980	12,000	11,400	1,530	685	157	741
25	1,470	3,860	7,820	4,660	10,000	6,020	11,900	11,400	2,210	672	154	608
26	1,480	4,910	6,170	4,210	9,740	4,990	11,800	11,400	2,220	331	157	659
27	1,490	11,700	5,230	4,220	9,800	3,710	11,600	11,200	2,030	150	160	692
28	1,490	10,200	5,630	4,240	9,560	3,910	11,200	10,900	1,940	150	160	508
29	1,470	7,200	6,060	4,240	------	6,000	11,100	6,800	1,890	430	160	552
30	1,450	8,530	6,080	3,590	------	8,230	11,300	3,470	1,600	659	157	720
31	1,440	------	6,080	3,330	------	10,400	------	3,440	------	666	157	------
TOTAL	54,877	103,858	208,620	168,430	269,170	230,540	373,100	334,210	98,420	29,897	5,580	11,331
MEAN	1,770	3,462	6,730	5,433	9,613	7,437	12,440	10,780	3,314	964	193	378
MAX	4,310	11,700	10,500	9,120	13,300	10,400	13,800	12,000	6,230	2,430	891	1,050
MIN	508	848	4,840	3,330	2,600	3,710	11,100	3,440	1,530	150	141	144
AC-FT	108,800	206,000	413,800	334,100	533,900	457,300	740,000	662,900	197,200	59,300	11,060	22,470
(†)	0	0	0	0	0	0	2,868	12,960	19,260	19,190	18,910	9,080
MEAN‡	1,770	3,462	6,730	5,433	9,613	7,437	12,480	10,990	3,638	1,277	500	530
AC-FT‡	108,800	206,000	413,800	334,100	533,900	457,300	742,900	675,900	216,500	78,500	30,770	31,560

OBSERVED

CAL YR 1962: TOTAL 2,273,751 MEAN 6,229 MAX 24,800 MIN 132 AC-FT 4,510,000
WAT YR 1963: TOTAL 1,889,433 MEAN 5,177 MAX 13,800 MIN 141 AC-FT 3,748,000

ADJUSTED ‡

CAL YR 1962: MEAN 6,339 CFSM 1.65 IN 22.41 AC-FT 4,589,000
WAT YR 1963: MEAN 5,290 CFSM 1.38 IN 18.70 AC-FT 3,830,000

† Diversion, in acre-feet, through Spokane Valley Farms Co.'s canal and Rathdrum Prairie Canal.
‡ Adjusted for diversion.
M Expressed in thousands.

12-4190. Spokane River near Post Falls, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	727	1,440	2,790	1,950	4,280	2,350	4,960	15,400	25,500	11,700	2,620	811
2	734	1,440	2,790	1,950	4,250	2,350	6,540	16,000	25,900	8,190	2,160	1,720
3	748	1,440	2,800	1,940	4,120	2,290	7,540	16,200	26,400	3,790	1,610	1,740
4	755	1,440	2,800	1,940	4,250	1,970	8,090	16,200	26,800	1,320	1,360	1,340
5	482	1,440	2,810	1,940	4,220	2,440	8,530	15,900	26,600	1,260	1,460	1,260
6	811	1,800	2,820	1,950	4,210	2,270	8,820	15,400	26,500	1,420	1,260	1,260
7	790	2,030	2,800	2,100	4,190	2,290	9,070	14,900	26,200	1,430	1,180	1,090
8	610	2,050	2,810	2,350	4,180	2,250	9,380	14,300	26,300	1,490	916	1,190
9	318	2,050	2,830	2,350	4,150	2,250	9,820	14,000	26,500	1,430	855	1,010
10	509	2,040	2,820	2,350	4,120	2,230	11,000	14,200	27,600	1,440	840	727
11	376	2,480	3,200	2,350	4,050	2,230	11,300	14,900	28,300	1,400	825	589
12	132	2,760	3,540	2,350	3,820	2,250	11,800	15,800	28,000	1,270	741	310
13	288	2,770	3,540	2,350	3,760	2,250	11,900	16,800	27,300	1,400	1,480	706
14	138	2,780	3,540	2,350	3,550	2,250	11,900	18,000	26,200	2,090	1,260	1,000
15	132	2,790	3,080	2,350	3,460	2,330	11,900	19,200	25,000	2,930	1,000	572
16	129	2,800	2,540	2,460	3,400	2,370	12,300	20,100	24,300	4,570	956	635
17	536	2,810	2,530	2,620	3,250	2,540	12,300	21,200	23,400	3,440	741	1,800
18	558	2,790	2,530	2,640	3,150	2,910	13,200	22,800	22,600	2,680	1,020	2,250
19	358	2,790	2,370	2,640	3,010	3,370	13,200	24,800	21,600	2,680	1,510	1,540
20	135	2,790	1,940	2,640	2,970	3,580	13,100	26,600	20,300	1,920	663	1,730
21	563	2,790	1,950	2,640	2,900	3,760	13,200	28,500	19,400	1,530	769	1,510
22	1,230	2,790	1,950	2,870	2,790	3,960	13,500	30,300	18,400	1,540	734	1,500
23	1,620	2,790	1,950	3,230	2,660	3,980	14,100	31,300	17,600	1,530	713	1,510
24	1,430	2,790	1,950	3,370	2,680	4,010	14,600	30,500	16,800	1,380	713	1,540
25	1,450	2,780	1,950	3,380	2,250	4,040	14,800	29,700	16,000	1,230	727	1,010
26	1,450	2,780	1,940	3,380	1,940	3,710	14,800	28,400	15,200	1,230	734	741
27	1,450	2,790	1,940	3,370	2,150	3,800	14,900	26,800	14,500	1,230	734	748
28	1,450	2,730	1,940	3,870	2,520	3,930	15,000	25,700	13,700	1,230	1,360	741
29	1,450	2,780	1,930	4,260	2,330	3,820	15,000	25,300	13,000	1,230	1,760	727
30	1,440	2,790	1,930	4,250	------	3,340	15,100	25,200	12,400	1,250	1,980	1,390
31	1,440	------	1,950	4,180	------	3,990	------	25,300	------	2,300	1,680	------
TOTAL	24,239	72,600	78,260	84,370	98,640	91,110	352,250	659,700	668,300	73,530	36,361	34,697
MEAN	782	2,420	2,525	2,722	3,401	2,939	11,740	21,280	22,280	2,372	1,173	1,157
MAX	1,620	2,810	3,540	4,260	4,280	4,040	15,100	31,300	28,300	11,700	2,620	2,250
MIN	129	1,440	1,930	1,940	1,940	1,970	4,960	14,000	12,400	1,230	663	310
AC-FT	48,080	144,000	155,200	167,300	195,600	180,700	698,700	1,308M	1,326M	145,800	72,120	68,820
(†)	0	0	0	0	0	0	2,318	14,110	16,360	18,940	16,550	6,527
MEAN‡	782	2,420	2,525	2,722	3,401	2,939	11,780	21,510	22,550	2,680	1,442	1,266
AC-FT‡	48,080	144,000	155,200	167,300	195,600	180,700	701,000	1,323M	1,342M	164,800	88,680	75,350

OBSERVED

CAL YR 1963: TOTAL 1,697,177 MEAN 4,650 MAX 13,800 MIN 129 AC-FT 3,366,000
WAT YR 1964: TOTAL 2,274,057 MEAN 6,213 MAX 31,300 MIN 129 AC-FT 4,511,000

ADJUSTED ‡

CAL YR 1963: MEAN 4,763 CFSM 1.24 IN 16.84 AC-FT 3,449,000
WAT YR 1964: MEAN 6,316 CFSM 1.64 IN 22.39 AC-FT 4,586,000

† Diversion, in acre-feet, through Spokane Valley Farms Co.'s canal and Rathdrum Prairie Canal.
‡ Adjusted for diversion.
M Expressed in thousands.

12-4190. Spokane River near Post Falls, Idaho--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,800	2,080	11,500	21,900	15,500	10,500	6,160	31,900	16,400	3,510	800	657
2	1,670	2,070	16,000	20,300	15,700	10,600	6,260	31,900	16,100	4,290	673	935
3	1,620	2,070	17,400	18,800	15,500	10,600	6,400	31,300	15,600	3,060	2,510	925
4	1,380	2,150	18,000	17,500	15,000	10,600	6,530	30,200	15,100	2,810	1,320	143
5	1,230	2,290	17,800	16,300	14,500	10,500	6,720	28,900	14,800	3,510	658	140
6	776	2,290	17,200	15,300	14,000	10,400	7,260	27,300	14,400	3,500	622	141
7	734	2,290	16,400	14,400	13,500	10,400	7,570	25,800	13,900	3,500	663	416
8	1,320	2,290	14,300	12,600	12,300	10,500	7,700	24,200	13,600	3,000	319	864
9	1,620	2,290	8,520	11,900	12,300	11,000	7,990	22,700	13,300	2,210	843	661
10	1,710	2,300	7,260	11,400	11,900	11,000	8,800	21,400	13,000	1,760	1,050	505
11	1,720	2,280	7,150	7,540	11,500	11,100	9,400	20,400	12,700	2,980	940	135
12	1,490	2,310	6,140	5,480	11,100	11,200	10,000	19,900	12,500	2,220	962	538
13	1,230	2,310	6,140	5,520	10,700	11,300	11,400	19,800	12,300	1,480	1,500	1,040
14	1,230	2,300	6,110	5,510	10,300	11,200	11,700	20,000	12,000	1,780	771	1,530
15	1,310	2,310	6,100	5,980	9,920	11,100	12,400	20,200	11,600	1,620	138	1,730
16	1,720	2,310	6,060	6,350	9,360	10,900	13,200	20,300	10,700	1,180	930	1,730
17	1,600	2,310	5,370	6,340	9,100	10,800	14,600	20,300	6,900	1,110	934	1,710
18	1,260	2,340	4,940	6,200	9,120	10,700	15,800	20,200	8,340	1,270	364	1,480
19	1,240	2,350	4,390	6,050	9,200	10,300	16,700	19,500	8,670	1,270	484	960
20	1,230	2,330	4,880	6,170	9,320	10,000	18,600	19,500	7,390	1,270	2,390	676
21	1,230	2,330	4,840	6,620	9,520	9,660	22,400	19,000	3,880	1,530	1,460	1,040
22	1,230	2,350	8,970	6,720	9,820	9,280	27,300	18,600	3,610	1,560	1,670	690
23	1,260	2,330	17,000	6,710	9,560	8,970	30,800	18,300	3,600	1,250	2,210	735
24	1,360	2,340	23,300	6,720	9,800	8,480	32,400	18,100	3,610	687	1,080	776
25	1,710	4,730	28,900	6,710	9,880	8,140	32,700	17,800	5,200	1,380	1,430	959
26	1,730	8,080	30,700	6,680	9,740	7,820	32,500	17,400	6,060	1,660	1,660	665
27	1,840	7,070	30,300	6,560	9,840	7,620	32,200	17,100	5,150	1,740	1,220	508
28	2,070	6,520	29,100	8,720	10,100	7,360	31,800	16,800	3,200	1,150	1,150	400
29	2,180	6,480	27,400	11,600	------	6,800	31,600	16,600	3,190	1,010	455	1,180
30	2,070	6,480	25,600	13,300	------	6,650	31,700	16,500	3,490	1,230	166	598
31	2,060	------	23,800	14,800	------	6,400	------	16,600	------	1,210	159	------
TOTAL	46,630	93,980	451,570	316,680	318,480	301,880	510,590	668,900	290,290	62,197	31,531	24,907
MEAN	1,504	3,133	14,570	10,220	11,370	9,738	17,020	21,580	9,676	2,006	1,017	830
MAX	2,180	8,080	30,700	21,900	15,700	11,300	32,700	31,900	16,400	4,290	2,510	1,730
MIN	734	2,070	4,390	5,480	9,100	6,400	6,160	16,500	3,190	687	138	135
AC-FT	92,490	186,400	895,700	628,100	631,700	598,800	1,013M	1,327M	575,800	123,400	62,540	49,400
(†)	0	0	0	0	0	0	1,890	15,090	17,540	17,540	15,520	8,140
MEAN‡	1,504	3,133	14,570	10,220	11,370	9,738	17,050	21,820	9,971	2,292	1,269	967
AC-FT‡	92,490	186,400	895,700	628,100	631,700	598,800	1,015M	1,342M	593,300	140,900	78,050	57,540

OBSERVED

CAL YR 1964: TOTAL 2,691,138 MEAN 7,353 MAX 31,300 MIN 310 AC-FT 5,338,000
WAT YR 1965: TOTAL 3,117,635 MEAN 8,541 MAX 32,700 MIN 135 AC-FT 6,184,000

ADJUSTED ‡

CAL YR 1964: MEAN 7,456 CFSM 1.94 IN 26.43 AC-FT 5,413,000
WAT YR 1965: MEAN 8,646 CFSM 2.25 IN 30.57 AC-FT 6,260,000

† Diversion, in acre-feet, through Spokane Valley Farms Co.'s canal and Rathdrum Prairie Canal.
‡ Adjusted for diversion.
M Expressed in thousands.

12-4192. Twin Lakes near Rathdrum, Idaho

Location.--Lat 47°51'26", long 116°51'54", in NW¼ sec.17, T.52 N., R.4 W., on left bank at outlet gate structure, 100 yards upstream from bridge across Rathdrum Creek and 3 miles northeast of Rathdrum.

Drainage area.--41.2 sq mi.

Records available.--September 1958 to September 1965.

Gage.--Staff gage read once daily. Datum of gage is 2,301.99 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1947, levels by U.S. Bureau of Reclamation. Datum designated as U.S. Bureau of Reclamation datum in publications prior to 1961 is 3.75 ft higher.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	May 8, 9, 1961	11.54	Sept.15, 1961	2.58
1962	Apr. 29, 1962	11.42	Sept.20, 21, 1962	2.76
1963	Apr. 8, 1963	11.57	Sept.15, 1963	2.46
1964	May 23, 1964	11.48	Oct. 1-3, 1963	2.74
1965	Apr. 23, 24, 1965	11.54	Oct. 1, 1964	5.58

1958-65: Maximum gage height observed, 11.57 ft Apr. 8, 1963; minimum observed, 2.46 ft Sept. 15, 1963.

Remarks.--Stage controlled by outlet gate. Water used for irrigation on Rathdrum Prairie. A considerable part of total inflow leaves the lake by infiltration to ground water of Rathdrum Prairie.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.26	4.18	7.50	7.22	8.56	10.36	10.46	11.16	10.74	8.34	5.80	-
2	3.18	4.22	7.50	7.20	8.80	10.24	10.48	11.24	-	8.24	6.00	3.78
3	3.10	4.24	7.52	7.20	8.96	10.20	10.50	11.32	10.58	8.12	5.80	3.68
4	3.04	4.28	7.56	-	9.02	10.14	10.48	11.36	10.50	8.04	5.58	3.60
5	2.96	4.30	7.58	7.20	-	-	10.48	11.42	10.40	7.98	5.76	3.54
6	2.92	-	7.54	7.30	9.14	10.04	10.50	11.50	10.38	7.90	5.70	3.44
7	-	4.30	7.54	7.36	9.26	10.02	10.52	11.52	10.30	7.86	5.62	3.36
8	3.02	4.30	7.52	7.38	9.32	10.00	10.56	11.54	10.22	7.78	5.60	3.26
9	3.04	4.30	7.48	7.42	9.44	10.00	10.56	11.54	10.18	7.70	5.48	3.16
10	3.06	4.38	7.46	7.44	9.80	10.00	10.56	11.52	10.10	7.60	5.40	-
11	3.08	4.50	7.44	7.46	10.28	10.00	10.58	11.48	10.06	7.52	-	2.94
12	3.14	4.58	7.44	7.46	10.54	10.02	10.62	-	9.98	7.46	5.30	2.82
13	-	4.66	7.40	-	10.66	10.06	10.68	11.34	9.92	7.42	4.98	2.72
14	3.20	4.70	7.40	7.54	10.56	10.26	10.74	11.42	9.84	7.34	5.02	2.64
15	-	4.76	7.40	7.64	10.62	10.38	10.76	11.42	9.74	7.24	5.08	2.58
16	-	4.84	7.38	7.76	10.60	10.54	10.76	11.42	9.66	7.14	-	-
17	3.28	4.90	7.34	7.84	10.50	10.54	10.76	11.42	9.56	7.02	4.96	-
18	3.30	5.14	-	7.90	10.34	10.56	10.78	11.42	9.46	6.98	4.90	-
19	3.32	5.30	7.40	7.92	10.28	10.56	10.78	11.40	9.36	6.94	4.86	2.74
20	3.32	5.56	7.40	7.94	10.34	10.58	10.76	11.36	9.28	6.90	4.76	2.76
21	3.30	5.80	7.40	7.94	10.52	10.58	10.78	11.34	9.14	6.82	4.70	2.76
22	3.34	5.88	7.38	7.96	10.90	10.58	10.80	11.32	9.04	6.78	4.66	2.76
23	3.36	5.96	7.36	7.96	10.98	10.60	10.82	11.32	8.96	6.66	4.60	2.76
24	3.48	6.46	7.32	-	10.98	-	10.82	11.24	8.86	6.58	4.56	2.76
25	3.56	7.10	-	7.98	10.86	10.60	10.84	11.16	8.74	6.50	4.48	2.76
26	3.62	7.32	7.30	7.98	10.72	10.60	10.86	11.10	8.62	6.46	4.42	2.76
27	3.72	7.40	7.28	7.94	10.60	10.60	10.88	11.06	-	6.40	4.32	2.76
28	3.88	7.44	7.28	7.96	10.42	10.56	10.88	-	8.56	6.30	4.28	2.76
29	4.00	7.48	7.26	8.00	------	10.52	10.92	10.92	8.46	6.20	4.20	-
30	4.08	7.50	7.24	8.16	------	10.50	11.08	10.88	8.38	6.00	4.12	-
31	4.12	------	7.22	8.42	------	10.48	------	10.82	------	-	4.00	------
MAX	4.12	7.50	7.58	8.42	10.98	10.60	11.08	11.54	10.74	8.34	6.00	-
MIN	-	4.18	7.22	7.20	8.56	10.00	10.46	10.82	8.38	6.00	4.00	-

12-4192. Twin Lakes near Rathdrum, Idaho--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	3.74	-	5.92	6.10	6.98	8.44	11.30	10.24	7.92	5.82	3.78
2	-	3.76	4.76	5.92	6.10	6.98	8.58	11.28	10.20	7.80	5.74	3.76
3	-	3.76	4.78	6.06	6.10	6.94	8.72	11.28	10.10	7.74	5.70	3.64
4	2.80	3.76	4.82	6.16	6.12	6.96	8.88	11.24	10.06	7.64	5.58	3.58
5	2.80	3.90	4.82	6.20	6.16	6.96	9.08	11.18	10.02	7.60	5.58	3.48
6	2.80	3.96	-	6.22	6.16	6.90	9.38	11.16	9.96	7.56	5.56	3.38
7	2.80	4.00	4.88	6.24	6.20	6.86	9.70	11.16	9.88	7.50	5.50	3.28
8	2.80	4.02	4.88	6.24	6.24	6.80	9.90	11.16	9.80	7.44	5.48	3.14
9	2.80	4.06	4.88	-	-	6.78	10.06	11.18	-	7.36	5.42	-
10	2.80	4.10	4.88	6.26	6.40	6.76	10.16	11.18	9.68	7.28	5.36	3.08
11	2.80	-	4.88	6.24	-	6.76	10.22	11.18	9.60	7.22	5.30	3.08
12	2.92	4.16	4.86	6.22	6.50	6.76	10.28	11.16	9.52	7.14	5.22	3.00
13	2.98	-	4.86	6.22	6.56	6.74	10.32	11.10	9.48	7.06	5.16	2.96
14	3.00	4.20	4.86	6.22	6.78	6.74	10.38	11.06	9.40	7.00	5.10	2.90
15	3.02	4.22	4.86	6.22	6.96	6.72	10.56	11.02	9.34	6.92	5.04	2.92
16	3.06	4.24	-	6.22	7.08	6.72	10.70	10.96	9.26	6.84	4.98	-
17	3.06	4.24	5.00	6.24	7.14	6.70	10.78	10.90	9.16	6.80	4.90	2.88
18	3.06	4.28	5.10	6.24	7.20	6.70	-	10.90	9.08	6.74	4.84	2.86
19	3.06	4.30	5.14	6.18	-	6.72	10.96	10.88	9.00	6.64	4.74	2.80
20	3.08	4.30	5.20	6.18	7.22	6.84	11.08	10.80	8.90	6.56	4.70	2.76
21	-	4.36	-	-	7.22	6.86	11.14	10.78	8.76	6.48	4.60	2.76
22	3.10	4.50	5.36	6.12	7.22	6.94	11.18	10.74	8.72	6.40	4.54	2.80
23	3.28	4.52	5.40	6.10	7.20	7.00	11.24	10.70	8.64	6.34	4.48	-
24	3.28	4.54	-	6.10	7.14	7.16	11.24	10.64	8.54	6.26	4.42	2.80
25	3.32	4.54	5.74	6.08	7.10	7.40	11.24	10.62	8.50	6.18	4.36	2.80
26	3.36	4.54	5.80	6.08	7.06	7.64	11.24	10.58	-	6.12	4.30	2.80
27	-	4.56	5.82	6.10	7.04	-	11.38	10.52	8.26	6.04	4.22	2.80
28	-	4.60	5.86	-	6.98	8.02	11.40	10.50	8.18	5.96	4.14	2.94
29	3.50	4.62	5.90	6.10	------	8.14	11.42	10.44	8.08	5.86	4.06	3.00
30	3.60	4.66	5.92	6.10	------	8.22	11.38	10.38	7.98	5.92	3.96	3.02
31	3.64	------	5.92	6.10	------	8.32	------	10.32	------	5.88	3.88	------
MAX	3.64	4.66	5.92	-	-	8.32	11.42	11.30	10.24	7.92	5.82	3.78
MIN	-	3.74	-	5.92	6.10	6.70	8.44	10.32	7.98	5.86	3.88	2.76

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.00	3.08	6.28	8.34	8.38	9.72	10.89	11.42	10.10	8.04	5.84	3.76
2	2.98	3.08	-	8.42	8.40	9.74	10.96	11.42	10.02	7.98	5.78	3.66
3	2.98	-	6.56	8.50	8.90	9.74	11.02	11.46	9.94	7.88	5.68	3.58
4	2.98	3.08	6.58	8.56	9.22	9.72	11.10	11.48	9.82	7.82	-	3.48
5	2.98	3.00	6.60	8.60	9.50	9.72	11.25	11.48	9.82	7.76	5.60	3.36
6	2.98	3.00	6.70	-	9.60	9.72	11.38	11.48	9.78	7.70	5.52	3.28
7	-	3.00	6.76	8.64	9.72	9.72	11.52	11.54	9.72	-	5.42	3.16
8	2.88	3.00	6.82	8.70	9.76	9.70	11.57	11.50	9.70	7.56	-	3.04
9	2.90	3.20	-	8.68	9.82	9.70	11.54	11.50	-	7.50	5.34	2.98
10	2.92	3.28	6.88	8.66	9.82	-	11.46	11.48	9.52	7.42	5.26	2.82
11	2.76	-	6.92	8.62	9.80	9.70	11.46	-	9.46	7.38	-	2.78
12	2.82	3.68	6.92	8.62	9.78	9.68	11.46	11.48	9.38	7.32	5.14	2.70
13	2.88	3.86	6.94	-	9.74	9.68	11.46	11.50	9.32	7.26	5.08	2.66
14	-	4.04	6.98	8.60	9.72	9.66	11.44	11.50	9.26	7.16	5.00	2.56
15	2.90	4.18	7.12	8.60	9.70	9.68	11.48	-	9.18	7.10	4.94	2.46
16	3.00	4.30	-	8.60	9.68	9.66	11.50	11.40	9.08	7.02	4.86	2.66
17	3.04	4.40	7.50	8.60	9.68	-	11.46	11.34	9.02	6.94	4.80	2.70
18	3.30	-	7.62	-	9.66	9.64	11.40	11.26	8.92	6.90	4.76	2.70
19	-	4.56	7.70	8.56	9.64	9.64	11.36	11.22	-	6.82	4.68	2.70
20	-	4.76	7.80	-	9.64	9.68	11.36	11.10	8.74	6.74	4.60	2.72
21	-	4.88	7.82	8.54	9.66	9.68	11.36	11.02	8.66	6.66	4.54	2.72
22	3.26	-	7.90	8.52	9.66	9.70	11.38	10.94	8.58	6.60	4.48	2.72
23	3.24	5.06	-	8.48	9.64	9.72	11.40	10.86	-	6.50	4.40	2.76
24	3.20	5.10	7.98	8.46	9.62	9.88	11.40	10.80	8.46	6.40	4.34	2.76
25	3.18	-	-	8.46	9.62	9.92	11.40	10.74	8.38	6.32	4.10	2.76
26	3.16	5.64	8.00	8.42	9.68	9.96	11.42	-	8.30	-	4.12	2.74
27	3.10	5.84	8.00	-	9.70	10.02	11.40	10.58	8.26	6.20	-	2.70
28	-	6.00	8.06	8.40	9.70	10.22	11.42	10.48	8.20	6.12	4.04	-
29	3.08	6.06	8.02	8.40	------	10.42	11.42	10.38	8.12	6.08	3.96	2.76
30	3.06	6.16	-	8.38	------	10.61	11.42	10.30	8.08	5.98	3.88	2.74
31	3.08	------	8.24	8.38	------	10.76	------	10.20	------	-	3.80	------
MAX	-	6.16	8.24	8.70	9.82	10.76	11.57	11.54	10.10	8.04	5.84	3.76
MIN	2.76	3.00	6.28	8.34	8.38	9.64	10.89	10.20	8.08	5.98	3.80	2.46

12-4192. Twin Lakes near Rathdrum, Idaho--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.74	3.70	6.68	6.92	6.96	7.14	8.08	9.86	11.00	9.66	7.54	5.92
2	2.74	3.76	-	-	-	7.14	8.26	9.80	10.94	9.58	7.48	5.90
3	2.74	-	6.70	-	6.88	7.16	8.40	9.78	10.94	9.52	7.44	5.90
4	2.78	3.90	6.70	-	6.86	-	8.52	9.90	10.90	9.46	7.40	5.86
5	2.76	3.98	6.70	-	6.78	7.20	-	10.02	10.82	-	7.34	5.80
6	2.76	4.10	6.80	7.06	-	7.20	8.70	10.14	10.80	9.32	7.28	-
7	2.80	4.22	6.80	7.08	6.74	7.20	8.78	10.22	10.80	9.26	7.20	5.72
8	2.80	4.40	-	7.10	6.74	-	8.88	10.36	10.90	9.18	7.18	5.68
9	2.82	-	6.88	7.10	-	7.24	9.00	10.50	10.90	9.08	7.10	5.62
10	2.82	-	6.88	7.10	6.78	7.26	9.16	10.64	10.84	9.00	7.04	5.60
11	2.82	-	6.88	7.10	6.84	7.34	9.36	10.78	10.80	8.94	7.00	5.56
12	2.82	4.68	6.88	-	6.84	7.36	9.46	10.90	10.80	8.86	6.94	5.50
13	2.82	4.72	6.88	7.04	6.86	7.38	9.50	11.02	10.78	8.76	6.86	-
14	2.84	4.76	6.88	7.04	6.90	7.44	9.56	11.08	-	8.66	6.80	5.42
15	2.84	4.78	-	7.02	6.94	-	9.66	11.18	10.60	8.60	6.74	5.36
16	2.84	4.86	6.88	7.08	-	7.50	9.72	11.24	10.58	8.56	-	5.36
17	2.86	5.14	6.88	7.14	7.02	7.58	9.78	-	10.52	8.52	6.60	5.40
18	2.86	5.48	6.88	7.14	7.06	7.64	9.76	11.32	10.48	8.46	6.54	5.42
19	2.90	5.70	6.90	-	7.04	7.68	9.74	11.38	10.42	-	6.50	5.42
20	-	5.90	6.90	7.14	7.04	7.70	9.76	11.40	10.40	8.34	6.46	5.50
21	2.96	5.98	6.90	7.16	7.04	7.74	9.72	11.44	10.30	8.26	6.42	5.52
22	3.14	6.06	-	7.16	7.04	-	10.04	11.46	10.28	8.16	6.40	5.52
23	-	6.16	6.90	7.14	-	7.76	10.14	11.48	10.18	8.10	-	5.50
24	-	6.26	6.90	7.10	7.08	7.76	10.12	11.30	10.14	8.02	6.26	5.50
25	3.34	6.30	-	7.20	7.06	-	10.08	11.24	10.08	7.94	6.20	5.50
26	3.40	6.38	6.96	-	7.08	7.78	-	11.24	10.02	7.88	6.16	5.50
27	3.50	6.50	6.98	7.14	7.06	7.76	10.00	11.20	9.94	7.80	6.10	-
28	3.52	-	6.98	7.10	7.06	7.76	9.94	11.16	9.86	7.74	6.10	5.50
29	3.58	6.66	6.98	7.10	7.10	-	9.88	11.10	9.80	7.68	6.00	5.50
30	3.62	6.66	6.96	7.02	------	7.82	9.84	11.08	9.74	7.62	6.00	5.54
31	3.68	------	6.94	7.00	------	7.90	------	-	------	-	6.00	------
MAX	3.68	6.66	6.98	7.20	7.10	7.90	10.14	11.48	11.00	9.66	7.54	5.92
MIN	2.74	3.70	6.68	-	6.74	7.14	8.08	9.78	9.74	-	6.00	5.36

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.58	-	8.26	9.86	7.16	9.14	10.10	11.26	11.08	9.56	-	6.34
2	5.60	5.90	8.82	9.56	7.12	9.20	10.14	11.16	11.06	9.50	7.58	6.30
3	5.60	5.92	9.10	-	7.08	9.20	10.20	11.20	11.00	9.44	-	-
4	-	5.94	9.24	9.36	7.00	9.20	10.24	11.26	10.92	-	7.52	6.24
5	5.62	5.94	9.30	9.20	6.96	9.24	10.30	11.26	10.86	9.30	7.46	6.18
6	5.62	5.94	9.32	9.10	6.90	9.32	10.40	11.22	10.82	9.24	7.42	6.12
7	5.64	5.96	9.36	8.98	7.04	-	10.46	11.16	10.76	9.18	-	6.06
8	5.64	6.00	-	8.86	7.04	9.48	10.52	-	10.70	9.10	7.30	6.00
9	5.68	6.06	9.50	8.70	7.06	9.56	-	11.22	10.64	9.04	7.22	5.96
10	5.74	6.10	9.62	-	7.06	9.66	10.78	11.24	10.58	8.98	7.15	5.94
11	5.76	6.16	9.64	8.36	7.20	9.76	-	11.24	10.52	-	-	5.92
12	5.78	6.22	9.62	8.20	7.24	9.82	10.88	11.26	10.46	8.84	7.08	5.86
13	5.78	6.28	9.62	8.06	7.26	9.88	10.90	11.26	-	8.78	7.04	5.84
14	5.74	6.30	9.64	7.94	-	-	10.92	11.28	10.32	8.72	7.00	5.82
15	5.78	6.32	9.62	7.92	7.36	9.96	10.92	11.30	10.32	8.62	-	5.88
16	5.78	6.36	9.60	7.92	7.46	9.98	10.96	11.30	10.26	8.60	6.90	5.86
17	5.78	6.34	9.58	-	7.56	10.00	11.00	11.26	10.28	8.48	6.84	-
18	5.80	6.34	9.56	7.86	7.56	10.00	10.96	11.24	10.30	8.44	6.78	5.82
19	5.80	6.36	9.58	7.86	7.66	10.00	11.06	11.24	10.28	8.36	6.72	5.80
20	5.80	6.38	-	7.80	7.78	10.00	11.12	11.34	-	8.26	6.75	5.84
21	5.80	6.40	9.68	7.72	7.92	-	11.22	11.34	10.18	8.20	6.66	5.82
22	5.80	-	9.98	7.72	8.02	10.02	11.52	11.30	10.12	8.20	-	5.82
23	5.80	6.46	10.52	7.70	8.10	10.02	11.54	11.28	10.06	8.16	6.62	-
24	5.80	6.86	10.76	-	8.16	10.02	11.54	11.34	10.00	8.10	6.62	5.85
25	5.80	7.10	10.78	7.50	8.24	10.04	-	11.30	9.96	8.04	6.64	5.84
26	5.80	7.20	10.76	7.52	8.28	10.06	11.46	11.30	9.88	8.00	6.60	5.84
27	5.86	7.30	10.64	7.44	8.72	10.06	11.40	11.28	9.78	7.96	-	5.84
28	5.86	7.36	10.50	7.38	-	-	11.34	11.24	9.74	7.92	6.48	5.84
29	5.86	7.40	10.38	-	------	10.08	11.30	11.20	9.68	7.86	6.42	5.84
30	5.86	7.58	10.24	7.26	------	10.10	11.26	11.14	9.62	7.78	6.42	5.84
31	5.86	------	10.04	7.20	------	10.10	------	11.14	------	7.72	6.38	------
MAX	5.86	7.58	10.78	9.86	-	10.10	11.54	11.34	11.08	9.56	-	6.34
MIN	5.58	-	8.26	7.20	6.90	9.14	10.10	11.14	9.62	7.72	6.38	5.80

12-4195. Spokane River above Liberty Bridge, near Otis Orchards, Wash.

Location.--Lat 47°40'55", long 117°05'05", in NW¼ sec.11, T.25 N., R.45 E., on left bank 1.2 miles upstream from Liberty Bridge, 1⅞ miles southeast of Otis Orchards, and 3.3 miles northeast of Greenacres.

Drainage area.--3,880 sq mi, approximately.

Records available.--January 1929 to December 1936, March 1937, August 1937 to August 1941, October 1941 to October 1942, February to May 1943, August 1943 to November 1946, February to July 1947, September 1947 to February 1948, May to November 1948, March to November 1949, and April to September 1950 (monthly discharge only); October 1950 to September 1965.

Gage.--Digital water-stage recorder. Datum of gage is 2,000 ft above mean sea level (levels by Washington Water Power Co.). October 1950 to Aug. 3, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--29 years (1929-36, 1937-40, 1941-42, 1943-46, 1950-65), 6,082 cfs (4,403,000 acre-ft per year), unadjusted.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 25, 1961	27,800	18.33	Aug. 19, 20, 21	120	-
1962	Apr. 27, 1962	24,600	17.67	Sept. 6, 1962	a 114	-
1963	Nov. 27, 1962	18,400	16.27	Aug. 9-11, 1963	a 138	-
1964	May 24, 1964	31,600	19.08	(b)	127	-
1965	Apr. 25, 26, 1965	32,800	19.29	Aug. 15, Sept. 4-6	a 140	-

a Minimum daily.
b Oct. 12, 13, 15, 16, 17, 1963.

1929-65: Maximum discharge, 50,100 cfs Dec. 25, 1933 (gage height, 22.24 ft); minimum, 61 cfs Aug. 7, 1951; minimum gage height observed, 7.67 ft Sept. 2, 1955.

Remarks.--Records excellent. Flow partly regulated by powerplant at Post Falls, Idaho, and by Coeur d'Alene Lake (see station 12-4155). Spokane Valley Farms Co.'s Canal (see station 12-4185) and Rathdrum Prairie Canal (see station 12-4180) divert water above station for irrigation. Records of chemical analyses for the water years 1961-65 and of water temperatures for the water years 1964-65 are published in reports of the Geological Survey.

Cooperation.--Gage-height record collected in cooperation with the Washington Water Power Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,430	1,830	3,320	3,140	3,070	22,400	12,500	13,000	22,000	165	250	406
2	1,580	1,830	3,370	3,160	4,090	21,300	12,400	14,000	21,700	173	180	758
3	1,630	1,850	3,300	2,830	3,610	20,500	12,500	15,500	20,900	193	170	758
4	1,460	1,850	3,300	2,400	2,960	19,500	13,400	16,500	21,000	176	165	176
5	1,470	1,820	3,290	2,640	2,900	18,500	14,800	17,600	21,200	361	160	316
6	1,490	1,820	3,300	2,940	3,510	17,500	15,500	18,200	20,700	1,010	160	350
7	1,490	1,650	3,300	2,670	4,390	16,200	16,000	18,600	20,300	1,380	160	138
8	1,480	1,540	3,320	2,860	6,180	15,000	16,100	18,600	19,700	1,160	160	133
9	1,480	1,530	3,320	3,330	6,930	14,200	15,900	18,600	19,200	846	550	128
10	1,480	1,500	3,330	3,560	13,000	13,500	15,600	18,700	18,000	1,440	200	128
11	1,480	1,520	3,330	3,540	15,000	12,800	15,200	18,700	17,400	1,480	170	128
12	1,590	1,500	3,350	3,560	18,000	12,000	14,800	19,100	16,900	1,490	150	128
13	1,770	1,530	3,350	3,590	20,500	10,500	14,300	19,100	16,200	1,460	150	128
14	1,770	1,790	3,350	3,570	22,000	11,100	14,100	19,500	15,300	1,550	155	128
15	1,760	1,750	3,370	3,590	22,100	11,700	14,000	20,000	14,700	1,600	170	130
16	1,770	1,770	3,350	3,590	22,000	12,400	13,700	19,600	13,900	1,480	400	150
17	1,770	1,760	3,370	3,570	21,700	12,700	13,400	20,100	13,000	1,090	140	130
18	1,790	1,740	3,080	3,540	21,000	13,000	13,300	20,200	12,600	814	125	500
19	1,790	1,800	2,750	3,500	20,200	13,200	13,400	20,500	11,800	822	120	1,300
20	1,800	1,790	2,750	3,470	19,600	13,200	13,500	20,300	11,700	814	120	1,430
21	1,800	1,890	2,750	3,490	19,800	13,300	13,500	20,900	10,900	838	120	1,430
22	1,800	2,070	2,750	3,470	21,500	13,200	13,400	21,600	4,640	806	126	1,430
23	1,810	2,160	2,750	3,490	24,800	13,200	13,300	21,700	4,060	830	130	1,430
24	1,820	2,160	2,760	3,490	27,000	13,200	13,000	22,000	1,540	930	140	1,430
25	1,820	2,820	2,760	3,490	27,600	13,100	12,900	22,200	1,540	838	315	1,430
26	1,830	3,320	2,760	3,500	26,600	13,000	12,500	22,500	1,290	846	126	1,300
27	1,850	3,060	2,760	3,400	25,300	13,000	12,300	22,500	554	846	121	894
28	1,860	3,080	2,900	3,590	24,100	12,900	12,200	23,000	183	840	121	894
29	1,820	3,120	3,290	3,650	------	12,800	12,200	23,600	230	820	121	1,120
30	1,820	3,220	3,080	2,880	------	12,600	12,500	22,700	165	780	121	1,380
31	1,810	------	3,120	2,270	------	12,500	------	22,900	------	500	126	------
TOTAL	52,320	61,080	96,880	101,770	449,440	444,000	412,100	612,300	373,302	28,290	5,422	20,223
MEAN	1,688	2,036	3,125	3,283	16,050	14,320	13,740	19,750	12,440	913	175	674
MAX	1,860	3,320	3,370	3,650	27,600	22,400	16,100	23,600	22,000	1,600	550	1,430
MIN	1,430	1,500	2,750	2,270	2,900	10,500	12,200	13,000	165	163	120	128
AC-FT	103,800	121,200	192,200	201,900	891,500	880,700	817,400	1,214M	740,400	56,110	10,750	40,110

CAL YR 1960: TOTAL 2,252,407 MEAN 6,154 MAX 26,600 MIN 143 AC-FT 4,468,000
WAT YR 1961: TOTAL 2,657,127 MEAN 7,260 MAX 27,600 MIN 120 AC-FT 5,270,000

M Expressed in thousands.

12-4195. Spokane River above Liberty Bridge, near Otis Orchards, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,330	638	2,090	1,190	4,190	5,210	9,550	21,300	16,800	2,750	814	130
2	1,400	1,010	2,090	1,310	4,090	5,130	9,460	20,300	16,300	2,420	622	143
3	1,400	1,860	2,090	1,430	3,900	4,950	9,760	19,500	15,900	2,200	726	116
4	1,400	2,000	2,090	1,400	3,880	4,780	10,900	19,000	15,400	2,810	151	118
5	1,410	2,000	2,090	1,200	3,840	4,370	11,200	18,900	15,000	2,080	436	116
6	1,270	2,010	2,090	1,180	3,840	4,390	12,200	18,500	14,500	1,580	710	114
7	1,160	2,010	2,100	1,230	3,840	4,070	13,800	18,900	13,500	1,600	230	120
8	1,170	2,030	2,120	2,500	3,860	3,810	16,400	18,700	13,200	1,570	830	118
9	1,180	2,030	2,100	3,840	3,710	3,920	18,900	18,900	12,500	2,440	814	116
10	1,180	2,040	2,110	4,370	3,980	3,660	19,900	19,100	12,100	2,610	806	133
11	1,300	2,040	2,120	4,910	4,230	3,570	19,800	19,700	11,800	1,940	790	990
12	1,080	2,060	1,730	4,890	4,410	3,400	19,200	20,100	11,400	1,500	806	1,240
13	490	2,060	1,600	4,530	4,590	3,440	18,700	20,400	11,000	1,500	798	492
14	136	2,060	2,150	4,230	5,080	3,130	17,800	20,300	8,680	1,510	782	151
15	543	2,060	2,150	5,240	5,300	2,930	18,100	20,100	8,100	1,340	574	420
16	1,430	2,070	2,120	5,130	5,480	3,000	19,300	19,700	8,100	1,160	140	540
17	1,390	2,060	1,770	4,740	5,960	2,930	20,100	19,400	7,370	846	138	130
18	136	2,070	1,830	4,740	6,070	2,820	20,200	19,000	4,470	846	123	126
19	126	2,070	1,940	4,720	5,910	2,630	21,000	18,700	3,440	838	123	123
20	126	2,090	1,430	4,700	6,090	2,800	22,000	18,500	2,810	654	125	613
21	126	2,090	1,230	4,720	6,420	2,840	23,300	18,700	2,740	846	126	782
22	126	2,050	1,540	4,910	6,440	2,920	24,100	18,400	2,250	846	122	790
23	231	2,100	1,640	4,930	6,210	2,960	24,100	17,900	1,380	846	126	646
24	1,150	2,100	1,210	4,530	6,000	3,640	23,800	17,700	1,520	846	116	148
25	1,030	2,100	1,210	4,510	5,820	4,020	23,800	17,600	1,860	878	116	159
26	638	2,090	1,210	4,470	5,750	4,910	24,200	17,700	2,510	862	123	458
27	638	2,100	1,300	4,410	5,790	6,280	24,400	17,800	2,750	838	123	738
28	638	2,090	1,730	4,370	5,370	7,420	24,000	17,700	2,740	830	136	1,080
29	638	2,100	1,720	4,330	------	8,800	23,400	17,700	2,750	822	116	1,680
30	774	2,110	1,720	4,310	------	9,110	22,400	17,500	2,740	838	118	1,530
31	1,010	------	1,180	4,270	------	8,400	------	17,200	------	822	123	------
TOTAL	26,776	59,198	55,500	117,240	140,050	136,240	565,770	585,300	246,010	43,668	12,083	14,132
MEAN	864	1,973	1,790	3,782	5,002	4,395	18,860	18,880	8,200	1,409	390	471
MAX	1,430	2,110	2,150	5,240	6,440	9,110	24,400	21,300	16,800	2,810	830	1,680
MIN	126	638	1,180	1,180	3,710	2,630	9,460	17,200	1,380	822	116	114
AC-FT	53,110	117,400	110,100	232,500	277,800	270,200	1,122M	1,161M	488,000	86,610	23,970	28,030

CAL YR 1961: TOTAL 2,588,321 MEAN 7,091 MAX 27,600 MIN 120 AC-FT 5,134,000
WAT YR 1962: TOTAL 2,001,967 MEAN 5,485 MAX 24,400 MIN 114 AC-FT 3,971,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	798	1,420	7,960	5,840	3,790	9,970	11,500	11,000	3,450	1,720	442	151
2	798	1,420	6,020	6,180	3,920	10,000	12,200	11,300	3,470	1,340	162	151
3	806	1,430	6,800	7,170	2,970	9,850	12,400	11,300	3,500	1,820	148	151
4	806	1,420	5,910	7,780	3,740	9,610	12,500	11,300	2,650	2,040	146	217
5	726	1,430	5,210	8,800	6,660	9,490	12,400	11,300	3,240	1,430	146	156
6	458	1,430	5,000	8,600	7,810	9,400	12,400	11,300	4,350	1,310	143	148
7	470	1,300	4,700	7,170	8,940	9,110	12,700	11,300	5,320	217	140	151
8	1,100	814	5,100	4,980	11,000	8,940	13,200	11,300	4,590	806	140	165
9	1,980	1,160	5,100	4,480	12,500	8,690	13,600	11,400	4,590	822	138	165
10	2,140	1,450	5,300	5,500	13,000	8,380	13,900	11,900	4,570	1,200	138	162
11	2,530	1,500	5,700	5,200	13,300	8,080	13,900	11,900	5,900	2,330	138	159
12	3,270	2,050	5,500	5,100	13,200	7,650	13,400	12,000	5,450	1,740	140	140
13	3,270	2,070	5,170	5,100	12,600	7,020	13,000	11,700	4,350	910	140	143
14	4,010	2,060	5,170	4,900	11,500	6,710	12,800	11,800	3,180	1,080	740	148
15	4,440	2,340	5,700	4,570	10,800	6,640	13,300	11,700	3,100	1,160	558	146
16	2,980	2,720	6,210	4,570	10,700	6,610	13,200	11,500	3,080	878	140	168
17	2,380	2,470	6,540	5,040	10,500	6,490	13,200	11,200	3,480	870	140	558
18	2,110	2,470	8,290	5,060	10,100	6,320	13,100	11,100	3,080	870	143	646
19	1,520	2,700	9,820	5,060	9,850	6,180	12,900	11,100	3,060	742	143	170
20	1,500	2,500	10,100	5,040	9,850	6,050	12,000	11,100	2,980	189	143	221
21	1,570	4,040	10,000	5,240	9,940	5,980	11,900	11,100	2,800	507	146	678
22	2,090	6,730	9,490	5,350	10,100	5,910	12,100	11,200	2,140	870	146	670
23	1,490	5,280	8,490	5,350	10,100	5,900	12,000	11,300	1,650	830	146	926
24	1,490	4,050	7,890	5,280	9,790	6,000	12,000	11,300	1,460	670	159	748
25	1,480	3,810	7,730	4,660	9,760	6,000	11,900	11,300	2,160	654	151	574
26	1,490	4,760	6,230	4,270	9,520	5,000	11,700	11,200	2,230	401	151	646
27	1,510	12,000	5,240	4,250	9,640	3,700	11,600	11,000	2,050	162	154	662
28	1,480	9,930	5,540	4,250	9,760	3,900	11,300	10,800	1,920	156	154	560
29	1,490	7,040	5,910	4,230	------	5,920	10,900	7,020	1,890	388	151	419
30	1,440	8,470	5,890	3,960	------	8,080	11,200	3,450	1,890	646	151	686
31	1,420	------	5,860	3,640	------	10,100	------	3,430	------	646	151	------
TOTAL	55,042	102,304	203,570	166,620	265,340	227,680	374,200	331,600	97,580	29,404	5,828	10,685
MEAN	1,776	3,410	6,567	5,375	9,476	7,345	12,470	10,700	3,253	949	188	356
MAX	4,440	12,000	10,100	8,800	13,300	10,100	13,900	12,000	5,900	2,330	740	926
MIN	458	814	4,700	3,640	2,970	3,700	10,900	3,430	1,460	156	138	140
AC-FT	109,200	202,900	403,800	330,500	526,300	451,600	742,200	657,700	193,500	58,320	11,560	21,190

CAL YR 1962: TOTAL 2,221,409 MEAN 6,086 MAX 24,400 MIN 114 AC-FT 4,406,000
WAT YR 1963: TOTAL 1,869,853 MEAN 5,123 MAX 13,900 MIN 138 AC-FT 3,709,000

12-4195. Spokane River above Liberty Bridge, near Otis Orchards, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	699	1,390	2,780	1,920	4,270	2,360	4,950	15,400	24,900	11,300	2,640	783
2	699	1,390	2,800	1,930	4,250	2,390	6,530	15,800	25,300	8,740	2,260	1,720
3	706	1,390	2,800	1,910	4,150	2,310	7,520	16,100	25,700	4,080	1,700	1,750
4	706	1,400	2,800	1,900	4,210	1,930	8,060	15,900	26,100	1,330	1,460	1,460
5	419	1,400	2,800	1,900	4,230	2,480	8,480	15,700	26,100	1,210	1,470	1,230
6	769	1,710	2,820	1,920	4,210	2,250	8,820	15,300	25,900	1,390	1,240	1,260
7	769	2,010	2,800	2,010	4,210	2,300	9,020	14,800	25,600	1,420	1,220	1,100
8	671	2,020	2,820	2,270	4,190	2,260	9,270	14,200	25,700	1,430	918	1,250
9	314	2,040	2,830	2,280	4,150	2,260	9,600	14,000	25,800	1,420	878	1,020
10	487	2,030	2,820	2,300	4,170	2,230	10,600	14,200	27,000	1,410	862	741
11	370	2,310	3,120	2,300	4,130	2,230	11,000	14,800	27,600	1,370	846	678
12	127	2,740	3,510	2,310	3,970	2,250	11,500	15,600	27,400	1,290	755	335
13	258	2,780	3,510	2,310	3,840	2,250	11,700	16,500	26,700	1,370	1,440	636
14	137	2,770	3,510	2,340	3,660	2,250	11,700	17,700	25,700	2,010	1,270	1,080
15	127	2,780	3,140	2,350	3,550	2,320	11,600	18,600	24,700	2,820	1,060	554
16	127	2,800	2,520	2,460	3,500	2,390	12,000	19,600	23,800	4,380	977	515
17	516	2,800	2,520	2,660	3,380	2,540	12,800	20,900	22,900	3,680	762	1,710
18	536	2,800	2,520	2,660	3,190	2,900	13,100	22,300	22,100	2,740	968	2,320
19	357	2,800	2,380	2,660	3,120	3,380	13,100	24,400	21,200	2,740	1,500	1,360
20	130	2,800	1,930	2,660	3,040	3,620	13,000	26,200	20,100	1,980	995	1,720
21	449	2,800	1,930	2,660	2,940	3,750	13,100	28,200	19,200	1,530	806	1,490
22	1,150	2,800	1,930	2,860	2,880	3,980	13,400	30,100	18,100	1,530	741	1,470
23	1,530	2,800	1,930	3,190	2,740	3,980	14,000	30,900	17,300	1,540	727	1,490
24	1,390	2,780	1,930	3,410	2,720	3,980	14,500	30,300	16,400	1,410	720	1,520
25	1,390	2,780	1,950	3,430	2,300	4,040	14,600	29,200	15,600	1,220	734	1,070
26	1,390	2,780	1,930	3,430	1,950	3,720	14,600	27,600	15,000	1,230	741	734
27	1,390	2,780	1,930	3,410	2,120	3,450	14,700	26,300	14,500	1,230	741	748
28	1,390	2,780	1,930	3,640	2,560	3,980	14,800	25,100	14,000	1,230	1,300	741
29	1,390	2,780	1,930	4,250	2,350	3,860	14,900	24,600	13,500	1,240	1,760	734
30	1,390	2,780	1,920	4,250	------	3,050	14,900	24,600	12,200	1,290	1,950	1,310
31	1,390	------	1,920	4,190	------	2,870	------	24,700	------	1,260	1,780	------
TOTAL	23,173	72,020	77,960	83,770	99,920	89,580	347,850	650,200	656,100	72,820	37,221	34,769
MEAN	748	2,401	2,515	2,702	3,446	2,890	11,600	20,970	21,870	2,349	1,201	1,159
MAX	1,530	2,800	3,510	4,250	4,270	4,040	14,900	30,900	27,600	11,300	2,640	2,320
MIN	127	1,390	1,920	1,900	1,950	1,930	4,950	14,000	12,200	1,210	720	335
AC-FT	45,960	142,800	154,600	166,200	198,200	177,700	690,000	1,290M	1,301M	144,400	73,830	68,960

CAL YR 1963: TOTAL 1,682,090 MEAN 4,608 MAX 13,900 MIN 127 AC-FT 3,336,000
WAT YR 1964: TOTAL 2,245,383 MEAN 6,135 MAX 30,900 MIN 127 AC-FT 4,454,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,820	2,090	11,100	21,500	15,100	10,100	6,050	31,600	16,000	3,580	875	660
2	1,740	2,080	15,800	20,000	15,300	10,200	6,140	31,700	15,800	4,310	692	940
3	1,600	2,080	17,200	18,400	15,000	10,300	6,260	30,500	15,300	3,160	2,310	920
4	1,450	2,140	17,800	17,000	14,600	10,200	6,430	29,500	14,900	2,960	1,560	140
5	1,240	2,290	17,600	16,000	14,200	10,100	6,600	28,400	14,600	3,490	679	140
6	846	2,290	17,000	15,000	13,800	10,000	7,100	26,700	14,200	3,560	640	140
7	748	2,300	16,200	14,000	13,400	10,100	7,460	25,200	13,800	3,550	680	420
8	1,240	2,310	14,300	12,300	12,300	10,100	7,620	23,700	13,500	3,100	423	860
9	1,610	2,340	8,900	11,500	12,000	10,600	7,880	22,200	13,200	2,320	759	660
10	1,730	2,320	7,200	11,000	11,500	10,700	8,600	21,100	12,500	1,760	987	500
11	1,730	2,300	7,100	7,000	11,200	10,800	9,160	20,200	12,600	2,930	1,010	155
12	1,560	2,340	6,100	5,400	10,700	10,900	9,720	19,600	12,300	2,310	911	467
13	1,230	2,340	6,100	5,500	10,300	11,000	10,800	19,500	12,100	1,530	1,450	986
14	1,240	2,310	6,000	5,400	9,950	10,900	11,400	19,800	11,700	1,730	770	1,500
15	1,270	2,320	6,000	5,710	9,600	10,800	12,200	20,000	11,400	1,670	140	1,760
16	1,740	2,310	6,000	6,140	9,130	10,600	13,000	20,100	10,600	1,230	930	1,770
17	1,630	2,320	5,300	6,120	8,880	10,500	14,300	20,100	6,720	1,040	930	1,740
18	1,260	2,340	4,800	5,980	8,900	10,300	15,400	20,000	8,140	1,260	360	1,540
19	1,230	2,340	4,300	5,860	8,960	10,000	16,300	19,600	8,600	1,250	480	1,040
20	1,230	2,350	4,800	6,020	9,040	9,720	18,200	19,200	7,500	1,260	2,390	713
21	1,230	2,340	4,800	6,380	9,240	9,440	21,500	18,700	3,950	1,480	1,460	1,070
22	1,220	2,350	8,800	6,600	9,490	9,130	26,700	18,300	3,670	2,010	1,670	659
23	1,240	2,350	17,000	6,530	9,630	8,820	30,400	18,000	3,650	1,370	2,210	798
24	1,360	2,350	23,500	6,550	9,490	8,350	32,200	17,800	3,670	704	1,080	806
25	1,710	4,500	28,800	6,500	9,520	8,040	32,700	17,400	5,020	1,310	1,430	1,000
26	1,750	7,930	30,500	6,480	9,460	7,750	32,600	17,100	5,990	1,610	1,660	699
27	1,830	7,260	30,000	6,380	9,580	7,520	32,100	16,800	5,230	1,750	1,220	629
28	2,100	6,430	28,700	8,320	9,830	7,280	31,600	16,500	3,320	1,290	1,150	325
29	2,310	6,410	26,900	11,200	------	6,740	31,000	16,300	3,200	937	460	1,140
30	2,090	6,430	25,100	13,000	------	6,580	31,300	16,200	3,560	1,220	170	1,030
31	2,080	------	23,400	14,400	------	6,310	------	16,200	------	1,200	160	------
TOTAL	47,064	93,860	447,100	308,170	310,100	293,880	502,720	658,800	287,320	62,781	31,646	25,307
MEAN	1,518	3,129	14,420	9,941	11,080	9,480	16,760	21,250	9,577	2,025	1,021	844
MAX	2,310	7,930	30,500	21,500	15,300	11,000	32,700	31,700	16,000	4,310	2,350	1,770
MIN	748	2,080	4,300	5,400	8,880	6,310	6,050	16,200	3,200	704	140	140
AC-FT	93,350	186,200	886,800	611,200	615,100	582,900	997,100	1,307M	569,900	124,500	62,770	50,200

CAL YR 1964: TOTAL 2,660,254 MEAN 7,268 MAX 30,900 MIN 335 AC-FT 5,277,000
WAT YR 1965: TOTAL 3,068,748 MEAN 8,408 MAX 32,700 MIN 140 AC-FT 6,087,000

M Expressed in thousands.
Note.--No gage-height record Dec. 10 to Jan. 14.

12-4198. Newman Lake near Newman Lake, Wash.

Location.--Lat 47°45'52", long 117°05'47", in NE¼SE¼ sec.10, T.26 N., R.45 E., on southwest shore 3 miles northwest of town of Newman Lake.

Drainage area.--28.6 sq mi (revised).

Records available.--September 1958 to September 1965.

Gage.--Staff gage read occasionally. Altitude of gage is 2,120 ft (from topographic map).

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	May 16, 18, 1961	11.16	Sept.30, 1961	7.62
1962	May 29, 1962	11.23	Nov. 15, 1961	7.36
1963	Apr. 18, 20, 24, 1963	10.78	Sept.30, 1963	7.86
1964	June 8, 1964	11.14	Oct. 20, 1963	7.67
1965	Apr. 25, 26, 27, 1965	11.42	Nov. 23, 1964	8.15

1958-65: Maximum gage height observed, 11.44 ft May 21, 1959, May 28, 1960; minimum observed, 7.36 ft Nov. 15, 1961.

Remarks.--Lake controlled for elevation at medium and low stages at outlet by concrete headworks of Spokane Valley irrigation canal. Many diversions for domestic use.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	7.70	-	-	-	10.96	10.38	-	-	10.46	9.44	8.44
2	-	7.70	8.54	-	-	10.96	10.35	10.74	10.88	10.42	-	8.40
3	8.20	-	-	7.96	-	10.88	-	10.76	10.88	10.38	9.38	8.36
4	-	-	-	7.94	-	-	10.29	10.80	-	-	9.34	8.32
5	8.14	-	-	-	-	10.75	-	-	-	10.36	9.30	-
6	-	-	8.49	7.98	-	10.70	10.29	10.86	-	10.34	-	-
7	-	-	-	-	-	10.66	10.34	10.90	10.88	10.30	-	8.20
8	-	-	-	7.98	-	10.58	10.38	-	10.88	10.26	9.20	8.19
9	8.10	-	8.36	-	-	10.56	10.40	-	-	-	9.16	8.17
10	8.08	-	-	7.98	-	-	10.44	11.04	10.92	10.22	9.14	8.14
11	8.04	-	-	-	9.50	-	-	11.06	-	10.18	9.10	-
12	8.02	-	8.28	-	9.78	10.44	10.52	-	10.90	10.14	9.08	-
13	-	-	8.26	-	-	10.42	10.54	11.09	-	-	-	8.01
14	-	7.86	-	-	10.12	10.46	10.58	11.14	10.90	10.08	9.00	7.99
15	7.95	-	-	-	10.28	10.50	10.60	-	10.88	10.06	8.98	7.96
16	7.92	-	-	-	10.46	-	10.61	11.16	-	-	8.95	7.95
17	-	7.88	-	-	-	10.60	10.62	-	10.86	9.98	8.92	7.91
18	7.86	-	-	-	10.54	-	10.64	11.16	-	-	8.88	-
19	-	7.98	8.22	-	-	-	-	-	-	9.90	-	-
20	-	-	8.19	-	10.70	10.64	10.62	-	10.80	9.86	-	7.84
21	7.80	8.13	8.19	-	10.80	-	10.62	-	10.77	9.84	8.80	7.80
22	-	-	8.17	-	10.90	10.62	10.64	11.14	-	9.80	8.76	7.78
23	-	-	8.14	7.96	10.96	-	-	-	10.70	9.74	-	-
24	7.78	-	8.12	-	11.02	10.62	10.63	-	-	9.74	8.70	-
25	-	8.49	-	-	11.04	-	10.62	11.08	-	9.71	8.67	-
26	-	8.56	-	-	11.04	10.58	10.64	-	10.62	-	8.64	-
27	-	-	-	-	11.02	10.58	10.64	11.04	10.56	-	-	7.66
28	-	8.60	-	-	10.98	10.52	10.63	11.01	-	9.60	8.56	-
29	7.74	-	-	-	------	-	10.63	10.97	-	9.54	8.53	7.64
30	7.73	8.56	8.02	-	------	10.48	10.70	-	10.47	9.52	8.48	7.62
31	-	------	8.01	-	------	-	------	10.94	------	-	-	------

12-4198. Newman Lake near Newman Lake, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	7.40	-	-	-	-	9.74	10.80	-	-	9.66	8.72
2	-	-	-	8.11	-	-	9.78	-	-	10.58	9.62	-
3	-	-	-	8.14	-	8.82	-	10.86	-	10.54	-	-
4	7.55	-	7.60	-	-	-	9.86	-	11.15	-	-	8.68
5	-	-	-	8.16	-	8.82	9.92	10.88	-	-	-	8.64
6	7.49	-	7.62	-	-	-	10.00	10.90	11.14	-	9.52	8.58
7	-	-	-	-	-	8.77	-	-	11.12	10.48	9.50	-
8	-	-	-	8.22	-	-	-	11.00	-	-	-	8.46
9	7.46	-	-	-	-	-	-	11.05	11.10	10.46	9.45	-
10	-	-	-	8.21	-	8.76	10.10	11.08	-	-	-	8.42
11	-	-	-	8.20	-	-	-	-	11.06	-	9.40	-
12	7.46	-	7.64	-	-	-	10.07	11.10	-	10.38	-	8.40
13	-	-	7.62	-	-	8.71	-	-	-	10.32	9.34	-
14	-	7.37	-	-	8.52	-	-	11.10	11.04	10.30	-	-
15	7.44	7.36	-	-	-	8.69	10.06	-	11.04	-	-	8.33
16	-	-	7.62	-	8.68	-	-	11.12	-	10.22	-	-
17	-	-	-	-	-	8.66	10.14	11.12	-	10.18	9.20	-
18	7.40	-	-	-	-	-	-	-	10.99	-	9.16	-
19	-	-	-	-	8.78	8.68	10.28	11.16	10.94	-	-	8.24
20	-	-	-	-	-	8.72	-	11.16	-	10.08	-	-
21	7.38	-	7.94	-	-	-	10.34	-	10.90	-	9.06	8.20
22	-	-	-	-	8.86	8.78	10.38	11.17	-	-	-	8.18
23	7.44	-	-	-	-	-	10.40	11.18	-	10.00	8.98	-
24	-	-	-	-	8.85	8.88	-	-	-	-	8.94	-
25	-	-	-	-	-	9.06	10.48	11.19	10.80	-	-	8.14
26	-	-	-	-	-	-	-	11.20	10.76	9.88	8.88	-
27	-	-	-	-	8.82	9.40	-	-	-	-	-	8.12
28	7.44	-	8.10	-	-	9.50	-	11.20	10.72	-	8.82	-
29	-	-	8.12	-	-------	9.57	-	11.23	-	-	-	-
30	7.42	-	-	-	-------	-	-	-	10.66	-	8.78	-
31	-	-------	-	-	-------	-	-------	-	-------	9.68	-	-------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	8.14	8.59	-	8.44	9.66	10.30	10.68	-	10.08	9.20	8.32
2	8.14	-	-	8.42	-	9.68	-	-	10.55	-	9.18	-
3	-	8.13	8.59	-	-	-	10.32	10.64	-	10.03	9.16	8.26
4	8.10	-	-	8.43	-	9.74	-	10.63	10.52	-	-	-
5	-	8.12	8.55	-	8.78	9.80	10.38	10.61	-	9.97	9.10	8.20
6	-	-	-	-	-	-	10.46	-	10.58	9.95	-	8.16
7	-	-	-	-	-	9.85	10.53	-	-	-	9.03	8.14
8	8.10	8.15	-	8.38	-	9.88	-	10.70	10.56	9.94	-	8.12
9	-	-	-	-	8.92	-	-	-	10.56	9.90	8.96	-
10	8.12	8.18	8.45	8.34	-	-	10.64	10.69	-	-	8.94	8.08
11	-	-	-	-	-	9.92	10.68	-	-	9.90	-	-
12	8.20	8.32	8.40	-	8.98	-	-	10.68	-	-	8.92	8.02
13	8.23	-	-	-	-	9.95	10.70	10.67	-	9.86	-	-
14	-	8.38	8.39	8.27	-	-	10.70	-	-	-	-	8.00
15	8.24	-	-	-	-	9.97	10.74	10.66	-	9.78	8.82	-
16	-	-	8.46	-	9.14	-	-	-	-	-	8.78	7.98
17	-	-	-	-	-	9.97	-	10.68	10.46	9.72	-	7.98
18	-	8.42	-	8.29	-	-	10.78	10.68	10.42	-	8.72	-
19	-	-	8.50	-	9.26	9.95	-	10.69	-	9.66	-	7.95
20	8.20	-	-	-	-	-	10.78	-	10.36	9.62	8.64	7.92
21	-	8.47	8.50	-	9.30	9.96	-	-	10.31	-	9.06	7.92
22	8.20	-	8.48	-	-	-	10.72	10.69	10.28	9.54	8.58	-
23	-	8.49	-	-	9.36	9.96	-	-	-	-	8.54	7.90
24	-	-	-	-	-	10.02	10.78	-	10.24	9.47	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	8.18	8.60	-	-	-	-	10.77	-	10.20	9.42	8.48	-
27	-	-	-	8.34	9.56	10.04	10.76	-	-	9.38	8.44	7.88
28	-	8.60	8.40	-	-	-	10.75	10.64	10.16	-	-	7.87
29	-	-	-	-	-------	10.15	10.70	-	10.12	-	8.40	-
30	8.15	-	-	-	-------	10.20	-	10.62	-	9.28	-	7.86
31	-	-------	8.42	-	-------	-	-------	-	-------	-	8.35	-------

12-4198. Newman Lake near Newman Lake, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	7.70	-	-		-	9.60	10.75	10.96	10.86	10.08	9.31
2	-	-	-	8.36		-	9.70	10.76	10.96	-	-	-
3	7.82	-	-	-		-	9.76	10.76	-	-	10.04	9.28
4	-	7.74	8.08	-		-	9.80	-	-	10.83	10.01	-
5	7.80	7.74	-	-		8.64	9.84	10.78	10.98	-	10.00	9.24
6	-	-	-	8.38		-	9.86	10.79	-	10.77	-	-
7	-	-	-	-		-	9.90	10.79	11.02	-	9.94	9.20
8	-	-	-	8.36		-	9.94	-	11.14	10.73	9.92	-
9	7.76	-	-	-		8.70	9.98	-	11.12	-	-	9.14
10	-	-	-	-		8.72	10.02	10.82	11.10	10.65	9.84	-
11	-	-	8.16	-		8.76	10.05	10.84	11.10	10.63	9.80	-
12	7.74	-	-	-		8.78	-	10.85	-	-	-	9.07
13	7.73	7.92	-	-		8.80	10.08	10.85	11.10	10.58	9.76	-
14	-	-	-	-		-	10.08	10.86	-	10.54	9.72	9.02
15	-	-	-	-		8.86	10.09	10.87	-	10.56	9.69	-
16	7.70	-	8.24	8.36		8.88	10.14	-	-	-	-	-
17	-	-	-	-		8.90	10.16	10.89	11.09	10.50	9.63	8.98
18	7.70	7.98	-	-		9.00	10.16	10.90	-	-	9.64	-
19	7.69	-	8.26	-	8.45	9.04	10.16	-	-	-	9.62	8.98
20	7.67	8.04	-	-		-	-	10.93	11.06	10.42	9.59	-
21	-	-	-	-		9.17	10.18	10.95	-	10.38	9.57	8.98
22	7.74	8.03	-	-		9.20	10.30	10.99	11.06	10.35	-	8.97
23	7.77	-	-	-		9.24	10.42	-	-	-	-	-
24	-	-	-	-		-	-	11.00	11.01	10.30	9.48	-
25	-	-	-	-		9.33	10.50	11.00	10.99	-	-	8.90
26	7.74	8.10	-	-		9.36	10.56	11.00	-	-	9.42	8.87
27	-	-	8.34	-		9.38	-	11.00	-	10.19	9.38	8.84
28	-	8.10	-	-		9.40	10.64	10.99	-	-	-	-
29	-	-	-	-		9.44	10.65	-	10.90	10.14	-	-
30	-	8.10	-	-	------	9.48	10.72	-	10.87	-	9.38	8.79
31	7.70	------	-	-	------	9.52	------	10.96	------	10.08	9.34	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	-	9.74		-	10.39	-	-	10.90	-	-
2	-	8.26	-	-		-	10.41	11.30	11.20	-	9.98	-
3	8.72	-	-	9.80		-	10.40	11.26	-	-	10.00	-
4	-	-	-	9.78		-	10.38	-	11.18	-	9.98	9.28
5	8.67	8.22	-	-		-	10.37	11.17	-	10.80	9.92	-
6	-	-	-	-		-	-	-	-	-	-	9.23
7	-	-	8.94	9.78		-	-	11.14	-	10.72	9.88	-
8	8.62	-	8.96	-		-	10.38	11.16	11.12	-	-	9.16
9	8.64	-	8.97	9.79		10.70	-	11.18	-	10.66	-	-
10	8.64	-	-	-		10.74	10.58	-	-	10.63	-	9.12
11	-	-	9.01	9.74		10.80	10.64	11.18	11.07	-	9.76	9.10
12	-	-	-	9.70		10.84	-	11.16	-	-	-	-
13	-	-	-	9.68		10.88	10.75	-	-	10.54	-	-
14	-	-	9.00	-		10.91	10.80	11.16	11.02	-	9.73	-
15	8.56	-	-	-		10.92	10.85	11.18	-	-	-	-
16	-	8.23	9.03	-		-	-	-	11.05	10.46	-	-
17	8.50	-	-	-		10.92	10.92	-	-	-	9.66	8.99
18	-	8.20	9.02	-	9.70	10.92	-	-	11.14	-	-	-
19	8.48	-	9.03	-		10.88	-	-	-	10.34	9.58	-
20	-	8.18	-	-		-	11.14	11.22	-	-	9.61	8.94
21	-	-	-	-		-	11.27	-	11.10	-	9.59	-
22	-	-	9.20	-		10.82	11.32	11.22	11.07	10.28	-	8.90
23	-	8.15	9.33	-		-	11.37	11.26	-	10.26	-	-
24	-	-	-	-		10.73	11.40	11.27	11.04	10.24	-	-
25	-	-	-	-		10.68	11.42	-	-	-	9.57	8.84
26	-	-	9.52	-		10.64	11.42	11.30	11.00	10.18	-	-
27	8.33	-	-	-		10.60	11.42	-	-	-	-	8.78
28	-	-	-	-		-	-	-	-	10.16	9.50	-
29	8.30	-	-	-	------	10.52	11.40	11.26	10.92	-	-	-
30	8.29	-	-	-	------	10.46	11.38	-	-	-	9.43	-
31	-	------	-	-	------	-	------	11.22	------	-	-	------

12-4200. Liberty Lake at Liberty Lake, Wash.

Location.--Lat 47°39'10", long 117°05'20", in NE¼ sec.22, T.25 N., R.45 E., on right wall of concrete outlet flume at town of Liberty Lake, 15 miles east of Spokane.

Drainage area.--13.3 sq mi (revised).

Records available.--December 1950 to December 1955 (fragmentary), January 1956 to September 1965.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level, datum of 1929. Prior to Oct. 1, 1959, published at datum 2,046.48 ft higher.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Elevation	Date	Elevation
1961	Feb. 24-27, Mar. 1, 1961	2,050.04	Nov. 6, 7, 1960	2,046.64
1962	May 11-14, 1962	2,049.12	Nov. 11-14, 1961	2,046.46
1963	May 9, 1963	2,049.46	Nov. 6, 7, 1962	2,046.72
1964	June 18, 19, 1964	2,049.26	Nov. 3, 1963	2,046.66
1965	May 1-3, 1965	2,049.88	Nov. 1-9, 22, 1964	2,047.36

1950-65: Maximum elevation observed, 2,051.28 ft May 1, 3, 1952; minimum observed, 2,046.34 ft Nov. 1-3, 1958.

Remarks.--Stage controlled by gates at outlet. No known diversion.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.94	46.70	47.36	47.62	47.92	50.04	49.76	49.18	49.34	48.78	47.98	47.26
2	46.92	46.68	47.38	47.62	48.02	49.94	49.74	49.20	49.34	48.76	47.96	47.24
3	46.92	46.68	47.40	47.62	48.06	49.92	49.70	49.22	49.34	48.74	47.94	47.22
4	46.90	46.68	47.40	47.62	48.08	49.86	49.68	49.24	49.32	48.70	47.90	47.20
5	46.90	46.66	47.40	47.66	48.14	49.82	49.70	49.26	49.32	48.70	47.88	47.18
6	46.90	46.64	47.40	47.68	48.18	49.76	49.68	49.28	49.32	48.68	47.86	47.16
7	46.90	46.64	47.42	47.68	48.26	49.74	49.66	49.30	49.32	48.66	47.84	47.12
8	46.88	46.66	47.42	47.68	48.36	49.71	49.64	49.28	49.32	48.64	47.80	47.14
9	46.88	46.68	47.42	47.68	48.46	49.70	49.62	49.26	49.32	48.60	47.76	47.08
10	46.86	46.70	47.42	47.70	48.54	49.68	49.60	49.26	49.32	48.58	47.74	47.06
11	46.84	46.72	47.42	47.70	48.76	49.64	49.60	49.26	49.32	48.56	47.72	47.04
12	46.84	46.74	47.42	47.72	47.96	49.60	49.58	49.26	49.32	48.54	47.70	47.02
13	46.80	46.76	47.40	47.72	49.10	49.58	49.54	49.24	49.30	48.50	47.68	47.00
14	46.80	46.78	47.40	47.72	49.22	49.62	49.50	49.22	49.28	48.48	47.66	46.98
15	46.78	46.76	47.40	47.72	49.34	49.66	49.48	49.22	49.26	48.48	47.64	46.94
16	46.78	46.77	47.40	47.74	49.44	49.70	49.46	49.26	49.24	48.46	47.62	46.92
17	46.78	46.77	47.40	47.74	49.54	49.76	49.44	49.26	49.22	48.44	47.60	46.90
18	46.78	46.76	47.42	47.74	49.62	49.80	49.40	49.28	49.20	48.42	47.58	46.88
19	46.76	46.76	47.42	47.74	49.68	49.80	49.38	49.30	49.18	48.38	47.56	46.88
20	46.76	46.84	47.50	47.76	49.72	49.84	49.34	49.30	49.16	48.33	47.54	46.86
21	46.76	46.94	47.50	47.76	49.82	49.84	49.30	49.34	49.09	48.32	47.50	46.86
22	46.74	47.04	47.52	47.76	49.94	49.84	49.28	49.34	49.08	48.28	47.48	46.84
23	46.74	47.10	47.54	47.78	50.00	49.84	49.26	49.36	49.06	48.26	47.46	46.82
24	46.72	47.14	47.56	47.78	50.04	49.84	49.24	49.34	49.04	48.24	47.44	46.80
25	46.72	47.16	47.58	47.78	50.04	49.82	49.20	49.36	49.02	48.20	47.42	46.78
26	46.72	47.26	47.60	47.76	50.04	49.82	49.18	49.36	48.98	48.18	47.40	46.76
27	46.72	47.28	47.64	47.76	50.04	49.84	49.16	49.36	48.92	48.16	47.38	46.74
28	46.72	47.28	47.66	47.76	50.00	49.82	49.16	49.34	48.88	48.12	47.36	46.74
29	46.72	47.30	47.64	47.76	------	49.80	49.16	49.34	48.84	48.08	47.34	46.74
30	46.72	47.32	47.62	47.82	------	49.78	49.18	49.34	48.82	48.04	47.32	46.72
31	46.70	------	47.62	47.86	------	49.76	------	49.34	------	48.00	47.30	------
MAX	46.94	47.32	47.66	47.86	50.04	50.04	49.76	49.36	49.34	48.78	47.98	47.26
MIN	46.70	46.64	47.36	47.62	47.92	49.58	49.16	49.18	48.82	48.00	47.30	46.72

Note.--Add 2,000 ft to obtain elevation above mean sea level.

12-4200. Liberty Lake at Liberty Lake, Wash.--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.70	46.52	46.56	46.94	47.24	47.70	48.38	48.96	49.04	48.64	47.90	47.26
2	46.70	46.52	46.54	46.96	47.24	47.72	48.40	48.96	49.04	48.60	47.88	47.24
3	46.70	46.52	46.54	46.96	47.24	47.74	48.44	48.98	49.04	48.56	47.84	47.22
4	46.68	46.50	-	46.98	47.24	47.74	48.46	48.98	49.04	48.52	47.82	47.18
5	46.68	46.50	-	47.00	47.26	47.76	48.48	48.98	49.04	48.50	47.80	47.16
6	46.66	46.50	46.54	47.00	47.28	47.78	48.52	48.98	49.04	48.48	47.78	47.16
7	46.66	46.48	46.54	47.04	47.30	47.78	48.56	49.04	49.04	48.48	47.78	47.12
8	46.64	46.48	46.56	47.10	47.32	47.78	48.60	49.04	49.02	48.48	47.76	47.10
9	46.62	46.48	46.58	47.10	47.34	47.78	48.60	49.08	49.02	48.46	47.74	47.08
10	46.62	46.48	-	47.10	47.38	47.78	48.62	49.10	49.02	48.44	47.72	47.06
11	46.62	46.46	-	47.10	47.40	47.78	48.64	49.12	49.00	48.42	47.70	47.06
12	46.60	46.46	-	47.10	47.44	47.78	48.66	49.12	48.98	48.40	47.68	47.04
13	46.58	46.46	-	47.10	47.48	47.78	48.66	49.12	48.98	48.38	47.66	47.02
14	46.58	46.46	-	-	47.52	47.78	48.68	49.12	48.98	48.36	47.64	47.00
15	46.56	-	-	-	47.56	47.78	48.70	49.10	48.98	48.32	47.62	46.98
16	46.56	-	-	-	47.60	47.78	48.70	49.10	48.98	48.29	47.60	46.98
17	46.56	-	-	-	47.62	47.78	48.72	49.08	48.96	48.26	47.58	46.96
18	46.56	-	-	-	47.66	47.78	48.74	49.08	48.94	48.22	47.56	46.94
19	46.54	-	-	-	47.66	47.78	48.78	49.10	48.92	48.18	47.54	46.94
20	46.54	-	-	-	47.68	47.78	48.78	49.08	48.90	48.16	47.52	46.92
21	46.54	-	46.74	-	47.70	47.80	48.78	49.06	48.88	48.14	47.50	46.90
22	46.52	-	46.76	-	47.70	47.82	48.80	49.06	48.86	48.12	47.46	46.90
23	46.54	-	46.76	-	47.70	47.84	48.82	49.06	48.84	48.10	47.42	46.88
24	46.54	-	46.84	-	47.70	47.86	48.82	49.06	48.82	48.08	47.40	46.86
25	46.54	-	46.86	-	47.70	47.90	48.82	49.06	48.80	48.06	47.38	46.84
26	46.54	-	46.88	-	47.70	48.00	48.82	49.06	48.80	48.04	47.36	46.84
27	46.54	-	46.90	-	47.70	48.10	48.84	49.04	48.76	48.02	47.34	46.84
28	46.54	-	46.92	47.18	47.70	48.20	48.88	49.04	48.74	48.00	47.32	46.82
29	46.54	-	46.92	47.20	------	48.28	48.92	49.06	48.72	47.98	47.30	46.82
30	46.54	46.56	46.92	47.22	------	48.34	48.94	49.06	48.68	47.94	47.30	46.82
31	46.52	------	46.92	47.22	------	48.36	------	49.06	------	47.92	47.28	------
MAX	46.70	-	-	-	47.70	48.36	48.94	49.12	49.04	48.64	47.90	47.26
MIN	46.52	-	-	-	47.24	47.70	48.38	48.96	48.68	47.92	47.28	46.82

Note.--Add 2,000 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.82	46.74	46.98	47.58	47.74	48.52	48.78	49.36	49.28	48.70	48.02	47.36
2	46.80	46.74	47.00	47.60	47.78	48.50	48.82	49.34	49.24	48.66	48.00	47.34
3	46.80	46.74	47.02	47.64	47.90	48.50	48.88	49.34	49.22	48.64	47.98	47.32
4	46.78	46.74	47.04	47.66	48.02	48.50	48.92	49.34	49.20	48.62	47.96	47.30
5	46.76	46.74	47.06	47.68	48.12	48.50	48.98	49.32	49.20	48.62	47.94	47.28
6	46.74	46.72	47.08	47.68	48.20	48.50	49.08	49.32	49.20	48.60	47.92	47.26
7	46.74	46.72	47.08	47.68	48.20	48.50	49.14	49.40	49.20	48.58	47.88	47.24
8	46.74	46.74	47.10	47.70	48.22	48.48	49.24	49.44	49.20	48.58	47.86	47.22
9	46.74	46.76	47.12	47.70	48.30	48.48	49.28	49.46	49.20	48.56	47.84	47.22
10	46.74	46.78	47.12	-	48.30	48.48	49.30	49.44	49.20	48.54	47.80	47.20
11	46.74	46.78	47.14	-	48.32	48.46	49.32	49.42	49.20	48.54	47.78	47.18
12	46.76	46.80	47.16	47.70	48.34	48.46	49.34	49.40	49.20	48.52	47.78	47.16
13	46.80	46.80	47.20	47.70	48.36	48.46	49.34	49.40	49.18	48.50	47.76	47.14
14	46.84	46.80	47.24	47.70	48.38	48.44	49.34	49.38	49.16	48.48	47.74	47.14
15	46.82	46.80	47.26	47.70	48.38	48.44	49.36	49.38	49.14	48.46	47.72	47.12
16	46.84	46.80	47.28	47.70	48.38	48.44	49.36	49.40	49.12	48.44	47.70	47.12
17	46.80	46.80	47.32	47.70	48.40	48.42	49.34	49.40	49.10	48.40	47.68	47.10
18	46.78	46.80	47.36	47.70	48.40	48.40	49.32	49.40	49.08	48.38	47.66	47.10
19	46.78	46.80	47.41	47.70	48.44	48.42	49.32	49.38	49.04	48.36	47.64	47.10
20	46.78	46.80	47.44	47.70	48.46	48.42	49.32	49.38	49.00	48.34	47.60	47.08
21	46.78	46.78	46.48	47.70	48.46	48.42	49.32	49.38	48.96	48.32	47.58	47.06
22	46.76	46.76	47.50	47.70	48.48	48.44	49.32	49.36	48.92	48.30	47.56	47.06
23	46.76	46.80	47.52	47.70	48.48	48.44	49.38	49.38	48.88	48.26	47.54	47.06
24	46.76	46.82	47.54	47.70	48.48	48.46	49.40	49.36	48.86	48.24	47.54	47.04
25	46.76	46.86	47.54	47.70	48.48	48.48	49.40	49.36	48.84	48.20	47.52	47.04
26	46.76	46.88	47.54	47.70	48.50	48.48	49.40	49.36	48.80	48.16	47.50	47.04
27	46.76	46.88	47.56	47.70	48.52	48.48	49.42	49.34	48.78	48.14	47.48	47.04
28	46.76	46.92	47.56	47.70	48.52	48.52	49.42	49.32	48.78	48.12	47.46	47.02
29	46.74	46.94	47.56	47.70	------	48.60	49.40	49.32	48.76	48.10	47.44	47.00
30	46.74	46.96	47.58	47.70	------	48.66	49.38	49.30	48.72	48.08	47.40	46.98
31	46.74	------	47.58	47.70	------	48.74	------	49.30	------	48.04	47.38	------
MAX	46.84	46.96	47.58	-	48.52	48.74	49.42	49.46	49.28	48.70	48.02	47.36
MIN	46.74	46.72	46.98	47.58	47.74	48.40	48.78	49.30	48.72	48.04	47.38	46.98

Note.--Add 2,000 ft to obtain elevation above mean sea level.

12-4200. Liberty Lake at Liberty Lake, Wash.--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.96	46.68	46.86	47.10	47.54	47.76	48.20	48.88	49.04	49.02	48.42	47.92
2	46.94	46.68	46.86	47.12	47.56	47.76	48.24	48.88	49.04	49.00	48.40	47.90
3	46.94	46.66	46.86	47.12	47.56	47.76	48.28	48.88	49.04	48.98	48.40	47.88
4	46.92	46.68	46.88	47.12	47.56	47.76	48.32	48.90	49.04	48.96	48.38	47.88
5	46.90	46.68	46.88	47.12	47.58	47.76	48.38	48.90	49.04	48.96	48.38	47.86
6	46.90	46.68	46.88	47.14	47.58	47.78	48.38	48.90	49.06	48.94	48.36	47.86
7	46.90	46.70	46.88	47.14	47.60	47.78	48.40	48.90	49.08	48.90	48.34	47.84
8	46.88	46.74	46.88	47.16	47.62	47.78	48.42	48.90	49.22	48.88	48.32	47.84
9	46.88	46.76	46.90	47.18	47.62	47.78	48.44	48.90	49.24	48.86	48.30	47.82
10	46.88	46.78	46.90	47.20	47.64	47.80	48.48	48.90	49.24	48.84	48.28	47.82
11	46.86	46.78	46.90	47.20	47.66	47.80	48.54	48.90	49.24	48.84	48.26	47.80
12	46.84	46.78	46.90	47.22	47.68	47.80	48.58	48.90	49.24	48.80	48.24	47.78
13	46.82	46.75	46.92	47.22	47.70	47.82	48.58	48.90	49.24	48.78	48.22	47.76
14	46.82	46.74	46.92	47.24	47.72	47.84	48.60	48.90	49.24	48.76	48.20	47.74
15	46.80	46.76	46.92	47.24	47.72	47.86	48.60	48.90	49.22	48.76	48.18	47.74
16	46.80	46.76	46.94	47.24	47.74	47.86	48.62	48.92	49.24	48.76	48.16	47.74
17	46.80	46.76	46.94	47.26	47.74	47.86	48.64	48.92	49.24	48.74	48.12	47.74
18	46.78	46.78	46.94	47.28	47.74	47.94	48.66	48.90	49.26	48.74	48.10	47.74
19	46.78	46.80	46.96	47.28	47.74	47.94	48.66	48.92	49.26	48.72	48.08	47.74
20	46.76	46.80	46.96	47.30	47.74	48.00	48.68	48.94	49.24	48.70	48.07	47.74
21	46.76	46.82	47.00	47.30	47.74	48.04	48.68	48.96	49.22	48.68	48.06	47.72
22	46.76	46.82	47.00	47.32	47.72	48.06	48.70	48.98	49.20	48.66	48.04	47.72
23	46.78	46.82	47.02	47.34	47.72	48.08	48.72	49.00	49.18	48.62	48.04	47.70
24	46.76	46.84	47.02	47.34	47.70	48.10	48.74	49.02	49.16	48.60	48.00	47.70
25	46.78	46.84	47.04	47.36	47.70	48.12	48.78	49.02	49.14	48.58	47.98	47.70
26	46.76	46.84	47.06	47.38	47.72	48.14	48.82	49.03	49.12	48.54	47.96	47.68
27	46.72	46.86	47.08	47.40	47.74	48.14	48.82	49.04	49.10	48.52	47.94	47.66
28	46.70	46.86	47.08	47.44	47.76	48.14	48.84	49.04	49.08	48.50	47.92	47.66
29	46.70	46.86	47.08	47.48	47.76	48.16	48.83	49.04	49.06	48.47	47.92	47.64
30	46.68	46.86	47.10	47.50	------	48.16	48.86	49.04	49.03	48.46	47.92	47.62
31	46.68	------	47.10	47.50	------	48.16	------	49.04	------	48.44	47.92	------
MAX	46.96	46.86	47.10	47.50	47.76	48.16	48.86	49.04	49.26	49.02	48.42	47.92
MIN	46.68	46.66	46.86	47.10	47.54	47.76	48.20	48.88	49.03	48.44	47.92	47.62

Note.--Add 2,000 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	47.60	47.36	47.58	48.58	49.06	49.36	48.98	49.88	49.34	49.08	48.44	48.12
2	47.58	47.36	47.66	48.60	49.12	49.38	49.00	49.88	49.34	49.04	48.40	48.08
3	47.58	47.36	47.74	48.64	49.14	49.38	49.00	49.88	49.32	49.02	48.38	48.06
4	47.58	47.36	47.80	48.70	49.18	49.40	48.98	49.86	49.32	49.00	48.38	48.04
5	47.56	47.36	47.80	48.74	49.20	49.40	48.98	49.84	49.30	49.00	48.40	48.02
6	47.56	47.36	47.82	48.78	49.22	49.40	48.98	49.82	49.28	48.98	48.38	47.98
7	47.56	47.36	47.84	48.84	49.24	49.40	48.98	49.80	49.26	48.96	48.36	47.98
8	47.56	47.36	47.84	48.88	49.28	49.38	48.96	49.76	49.24	48.94	48.34	47.96
9	47.56	47.36	47.84	48.90	49.26	49.38	48.94	49.74	49.22	48.90	48.32	47.94
10	47.56	47.38	47.86	48.92	49.24	49.36	48.96	49.72	49.20	48.88	48.32	47.92
11	47.56	47.40	47.86	48.96	49.24	49.36	49.08	49.70	49.20	48.86	48.30	47.92
12	47.56	47.42	47.88	49.00	49.24	49.36	49.08	49.66	49.18	48.84	48.30	47.92
13	47.56	47.42	47.88	49.02	49.24	49.36	49.08	49.62	49.18	48.80	48.28	47.88
14	47.56	47.42	47.88	49.02	49.22	49.32	49.12	49.58	49.16	48.78	48.28	47.88
15	47.54	47.42	47.88	49.00	49.20	49.30	49.14	49.54	49.16	48.76	48.26	47.88
16	47.52	47.42	47.88	49.00	49.18	49.30	49.18	49.50	49.16	48.74	48.24	47.86
17	47.50	47.40	47.88	48.98	49.18	49.28	49.22	49.46	49.16	48.70	48.22	47.86
18	47.48	47.40	47.88	48.98	49.18	49.24	49.24	49.42	49.28	48.66	48.20	47.84
19	47.48	47.38	48.02	48.96	49.18	49.22	49.28	49.38	49.26	48.64	48.20	47.82
20	47.46	47.38	48.06	48.94	49.20	49.20	49.40	49.38	49.24	48.62	48.20	47.76
21	47.46	47.38	48.10	48.94	49.20	49.18	49.50	49.38	49.24	48.60	48.20	47.73
22	47.44	47.36	48.16	48.94	49.22	49.18	49.58	49.36	49.22	48.58	48.20	47.68
23	47.44	47.38	48.20	48.94	49.24	49.16	49.66	49.34	49.20	48.58	48.22	47.66
24	47.44	47.42	48.24	48.94	49.24	49.14	49.72	49.32	49.18	48.58	48.22	47.62
25	47.44	47.44	48.28	48.96	49.24	49.12	49.76	49.36	49.18	48.56	48.22	47.62
26	47.40	47.46	48.32	48.96	49.24	49.10	49.78	49.36	49.16	48.54	48.18	47.58
27	47.41	47.46	48.38	48.96	49.30	49.06	49.80	49.36	49.16	48.54	48.18	47.58
28	47.40	47.48	48.42	48.96	49.34	49.06	49.82	49.38	49.14	48.52	48.16	47.56
29	47.38	47.50	48.46	48.98	------	49.04	49.82	49.36	49.12	48.50	48.16	47.54
30	47.38	47.54	48.50	48.98	------	49.02	49.86	49.36	49.10	48.48	48.14	47.54
31	47.38	------	48.54	49.02	------	49.00	------	49.34	------	48.46	48.12	------
MAX	47.60	47.54	48.54	49.02	49.34	49.40	49.86	49.88	49.34	49.08	48.44	48.12
MIN	47.38	47.36	47.58	48.58	49.06	49.00	48.94	49.32	49.10	48.46	48.12	47.54

Note.--Add 2,000 ft to obtain elevation above mean sea level.

12-4225. Spokane River at Spokane, Wash.

Location.--Lat 47°39'35", long 117°26'50", in SW¼ sec.13, T.25 N., R.42 E., on right bank at Cochran Street in Spokane, half a mile upstream from Hangman Creek (formerly Latah Creek).

Drainage area.--4,290 sq mi, approximately.

Records available.--April 1891 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,696.6 ft above mean sea level, datum of 1929 (river-profile survey). Prior to July 1, 1921, water-stage recorders and staff or wire-weight gages at several sites within 4 miles of present site at various datums.

Average discharge.--74 years, 6,885 cfs (4,985,000 acre-ft per year), unadjusted.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 28, 1961	28,200	25.95	July 27, 1961	265	16.20
1962	Apr. 27, 1962	27,600	25.79	Aug. 24, 1962	415	16.50
1963	Nov. 27, 1962	18,900	23.89	July 5, 1963	a 170	a 15.9
1964	Nov. 27, 1963	31,800	26.65	Sept.14, 1964	a 199	a 16.0
1965	Apr. 25, 1965	33,200	26.93	Aug. 19, 1965	714	16.93

a Approximately.

1891-1965: Maximum discharge, 49,000 cfs (estimated) May 31, 1894 (see WSP 532); minimum, 95 cfs Sept. 19, 1956 (gage height, 15.60 ft); minimum daily, 740 cfs Sept. 7, 1947.

Remarks.--Records excellent. Flow partly regulated by powerplants of Washington Water Power Co. at Post Falls, Idaho, and at Spokane, and by Coeur d'Alene Lake. Spokane Valley Farms Co.'s Canal and Rathdrum Prairie Canal divert water above station for irrigation. In 1946, approximately 22,600 acres (of which about 15,000 acres utilized surface water) were under irrigation upstream from Spokane.

Cooperation.--Gage-height record collected in cooperation with Washington Water Power Co.

Revisions (water years).--WSP 532: 1891-1904. WSP 1246: Drainage area. WSP 1286: 1907-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,180	2,470	3,840	3,700	3,470	23,300	13,300	13,700	23,100	1,600	1,130	960
2	2,180	2,450	3,820	3,780	4,550	22,200	13,300	14,600	22,700	1,550	1,070	1,420
3	2,550	2,500	3,820	3,570	4,140	21,300	13,300	15,800	22,000	1,590	1,080	1,410
4	2,180	2,480	3,860	3,070	3,840	20,300	14,000	17,100	22,000	1,530	1,070	1,200
5	2,190	2,500	4,020	3,180	3,610	19,200	15,200	18,100	22,200	1,580	1,030	970
6	2,190	2,500	3,900	3,510	3,840	18,200	16,000	18,700	21,700	2,060	1,040	1,130
7	2,070	2,470	3,900	3,320	4,590	17,200	16,500	19,100	21,400	2,310	1,040	1,060
8	2,070	2,280	3,960	3,440	6,290	16,300	16,700	19,300	21,000	2,340	1,030	858
9	2,190	2,260	3,740	3,660	6,300	15,400	16,600	19,200	20,500	1,520	1,250	894
10	2,280	2,320	3,900	4,140	10,300	14,600	16,300	19,400	19,400	2,260	1,140	903
11	2,200	2,310	3,980	4,220	14,600	13,300	15,900	19,400	18,700	2,440	1,030	894
12	2,190	2,200	4,100	3,920	17,600	13,200	15,500	19,600	16,300	2,400	1,030	912
13	2,390	2,220	4,000	4,140	20,200	11,900	15,100	19,700	17,500	2,400	990	921
14	2,190	2,400	4,000	4,140	21,400	12,000	15,000	20,100	16,900	2,400	1,030	912
15	2,400	2,400	4,000	4,140	21,600	12,700	14,900	20,600	16,100	2,470	1,010	940
16	2,390	2,450	3,800	4,160	24,600	13,200	14,700	20,600	15,500	2,340	1,050	930
17	2,550	2,440	3,960	4,180	21,700	13,500	14,500	20,700	14,400	2,280	1,200	950
18	2,440	2,400	3,980	4,140	21,200	13,900	14,200	21,000	13,900	1,750	1,000	940
19	2,450	2,440	3,510	4,100	20,700	14,100	14,400	21,100	13,400	1,750	1,000	1,650
20	2,440	2,470	3,440	4,080	20,000	14,100	14,500	21,000	12,700	1,780	980	1,890
21	2,220	2,450	3,420	4,080	20,000	14,200	14,500	21,500	11,800	1,750	970	1,920
22	2,400	2,640	3,400	4,140	21,300	14,200	14,300	22,300	6,490	1,750	940	1,880
23	2,550	2,600	3,180	4,100	24,200	14,100	14,200	22,400	5,920	1,720	930	1,900
24	2,470	2,850	3,340	4,100	26,700	14,100	13,900	22,600	3,400	1,690	921	1,920
25	2,470	3,070	3,380	4,120	27,400	14,000	13,800	22,800	3,140	1,710	970	1,920
26	2,470	3,900	3,360	4,140	26,800	13,900	13,400	23,000	3,040	1,680	1,060	1,880
27	2,470	3,700	3,590	4,020	25,800	13,700	13,200	23,000	2,340	1,610	903	1,810
28	2,260	3,720	3,440	4,200	24,600	13,800	13,100	23,600	1,830	1,670	921	1,580
29	2,390	3,660	3,940	4,240	------	13,700	13,000	24,000	1,770	1,640	903	1,670
30	2,560	3,800	3,510	3,850	------	13,500	13,200	23,400	1,600	1,610	921	2,010
31	2,500	------	3,700	3,070	------	13,300	------	23,400	------	1,520	885	------
TOTAL	72,480	80,350	115,790	120,660	452,530	473,200	436,500	630,800	414,810	59,100	31,564	40,234
MEAN	2,338	2,678	3,735	3,892	16,160	15,260	14,550	20,350	13,830	1,906	1,018	1,341
MAX	2,560	3,900	4,100	4,240	27,400	23,300	16,700	24,000	23,100	2,470	1,290	2,010
MIN	2,070	2,200	3,180	3,070	3,470	11,900	13,000	13,700	1,600	1,520	885	858
AC-FT	143,800	159,400	229,700	239,300	897,500	938,600	865,800	1,251M	822,800	117,200	62,610	79,800

CAL YR 1960: TOTAL 2,530,360 MEAN 6,914 MAX 27,000 MIN 1,060 AC-FT 5,019,000
WAT YR 1961: TOTAL 2,928,018 MEAN 8,022 MAX 27,400 MIN 858 AC-FT 5,808,000

M Expressed in thousands.

12-4225. Spokane River at Spokane, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,060	1,450	2,710	1,880	4,910	5,820	9,800	22,400	17,800	3,660	1,590	929
2	2,020	1,430	2,710	1,920	4,840	5,770	9,920	21,400	17,300	3,600	1,580	949
3	2,010	2,270	2,730	2,150	4,630	5,600	10,200	20,500	16,800	2,960	1,670	910
4	2,010	2,500	2,730	2,120	4,590	5,490	10,900	19,700	16,300	3,680	1,200	900
5	2,010	2,470	2,740	1,930	4,610	5,190	11,400	19,600	16,000	3,210	1,090	826
6	2,000	2,530	2,730	1,900	4,630	5,170	12,200	19,600	15,400	2,660	1,590	910
7	1,810	2,550	2,730	1,900	4,630	4,930	13,600	19,600	14,800	2,580	1,180	853
8	1,820	2,570	2,740	2,580	4,630	4,630	16,100	19,600	14,200	2,570	1,500	910
9	1,830	2,600	2,740	4,030	4,530	4,720	18,400	19,600	13,600	2,980	1,640	890
10	1,850	2,610	2,710	4,500	4,720	4,550	19,800	19,600	13,200	3,520	1,590	900
11	1,890	2,650	2,710	5,020	4,910	4,420	20,000	20,000	12,800	3,020	1,580	1,090
12	1,920	2,650	2,450	5,060	5,060	4,190	19,600	20,500	12,500	2,470	1,570	1,900
13	1,520	2,660	2,270	5,080	5,260	4,210	19,000	20,500	12,200	2,410	1,550	1,440
14	990	2,610	2,600	4,500	5,600	4,010	18,200	20,500	10,400	2,390	1,540	949
15	1,030	2,650	2,710	5,380	5,910	3,930	18,300	20,900	9,320	2,420	1,550	989
16	1,760	2,650	2,710	5,540	6,280	3,850	19,500	20,600	9,260	1,970	1,080	1,330
17	2,240	2,580	2,580	5,170	6,650	3,750	20,400	20,200	8,820	1,780	949	1,030
18	1,200	2,610	2,390	5,170	6,750	3,730	20,600	19,800	6,250	1,800	968	910
19	1,000	2,650	2,690	5,190	6,650	3,470	21,400	19,400	5,000	1,780	978	881
20	954	2,650	2,320	5,130	6,350	3,580	22,200	19,100	4,070	1,770	968	1,070
21	968	2,680	2,120	5,150	6,860	3,640	23,600	19,300	4,070	1,750	939	1,380
22	999	2,710	2,120	5,350	6,800	3,560	24,600	19,100	3,830	1,710	949	1,430
23	968	2,660	2,440	5,400	6,730	3,910	24,700	18,800	2,740	1,750	929	1,380
24	1,570	2,680	2,000	5,110	6,550	4,070	24,500	18,200	2,780	1,660	939	1,050
25	1,790	2,710	1,970	5,080	6,350	4,610	24,400	18,200	2,960	1,680	900	900
26	1,420	2,680	1,970	5,080	6,300	5,110	24,800	18,200	3,390	1,670	929	920
27	1,420	2,710	1,860	5,080	6,420	6,280	25,200	18,200	3,810	1,640	949	1,430
28	1,370	2,710	2,380	5,040	6,030	7,440	24,900	18,300	3,770	1,620	939	1,440
29	1,420	2,710	2,320	5,040	------	9,050	24,200	18,500	3,810	1,640	939	2,220
30	1,380	2,730	2,380	5,020	------	9,440	23,400	18,300	3,710	1,620	949	2,090
31	1,750	------	2,030	5,000	------	8,990	------	18,100	------	1,580	929	------
TOTAL	48,979	76,320	76,290	132,500	158,180	157,110	575,820	607,100	280,860	71,560	37,653	34,856
MEAN	1,580	2,544	2,461	4,274	5,649	5,068	19,190	19,580	9,363	2,308	1,215	1,162
MAX	2,240	2,730	2,740	5,540	6,860	9,440	25,200	22,400	17,800	3,680	1,670	2,220
MIN	954	1,430	1,860	1,880	4,530	3,470	9,800	18,100	2,740	1,590	900	826
AC-FT	97,150	151,400	151,300	262,800	313,700	311,600	1,142M	1,204M	557,100	141,900	74,680	69,140

CAL YR 1961: TOTAL 2,860,987 MEAN 7,838 MAX 27,400 MIN 858 AC-FT 5,675,000
WAT YR 1962: TOTAL 2,257,258 MEAN 6,184 MAX 25,200 MIN 826 AC-FT 4,477,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,620	2,080	9,280	6,460	4,420	10,600	11,700	11,900	4,500	2,690	1,300	844
2	1,490	2,020	6,510	6,560	4,670	10,700	9,180	12,000	4,460	2,260	949	816
3	1,450	2,080	7,030	7,570	4,460	10,600	12,800	12,000	4,420	2,430	890	807
4	1,430	2,080	6,900	8,100	4,040	10,300	12,900	12,200	3,890	2,960	890	835
5	1,430	2,140	5,750	9,390	6,900	10,200	12,900	12,100	4,230	1,990	910	816
6	1,300	2,060	5,650	9,180	8,160	10,100	12,900	12,000	4,830	2,520	890	826
7	1,190	2,090	5,210	8,300	9,240	9,930	13,100	12,000	6,160	1,300	653	780
8	1,360	1,640	5,630	6,800	11,500	9,690	13,600	12,000	5,510	1,570	871	807
9	2,160	1,700	5,600	4,420	12,700	9,420	13,900	12,200	5,480	1,700	862	780
10	2,640	2,080	5,650	5,990	13,200	9,150	14,300	12,500	5,460	1,860	853	810
11	2,750	2,100	6,210	5,910	13,500	8,880	14,400	12,500	6,260	2,700	844	789
12	3,520	2,520	6,110	5,670	13,600	8,510	14,000	12,600	6,510	2,800	900	835
13	3,580	2,600	5,790	5,630	13,100	7,930	13,500	12,500	5,420	1,830	881	798
14	3,930	2,640	5,790	5,390	12,200	7,490	13,400	12,300	4,230	1,900	1,040	816
15	4,870	2,800	6,060	5,300	11,400	7,350	13,700	12,200	4,090	1,960	1,480	635
16	3,540	3,230	6,740	4,960	11,300	7,350	13,700	12,100	4,010	1,750	958	826
17	3,060	2,940	6,740	5,580	11,100	7,190	13,700	11,800	4,270	1,680	890	968
18	2,700	3,000	8,650	5,580	10,800	6,950	13,700	11,700	4,030	1,700	862	1,260
19	2,290	3,120	9,990	5,580	10,600	6,820	13,600	11,700	3,850	1,630	862	968
20	2,100	3,010	10,600	5,530	10,600	6,770	12,600	11,800	3,850	1,190	835	871
21	2,150	3,560	10,600	5,650	10,700	6,690	12,600	11,700	3,830	1,190	853	1,180
22	2,540	6,740	10,100	5,890	10,800	6,610	12,800	11,800	3,230	1,600	853	1,300
23	2,200	6,100	9,240	5,890	10,800	4,190	12,700	11,800	2,790	1,590	853	1,370
24	2,100	4,870	8,620	5,770	10,600	6,510	12,700	12,100	2,770	1,500	653	1,520
25	2,140	4,010	8,220	5,420	10,600	6,560	12,600	12,000	2,960	1,420	862	1,180
26	1,980	5,000	7,250	4,960	10,300	6,010	12,400	11,900	3,170	1,310	871	1,240
27	2,140	9,840	5,910	4,920	10,200	4,720	12,300	11,700	3,030	1,020	844	1,250
28	2,090	11,600	5,960	4,980	10,500	4,520	12,200	11,500	2,750	978	844	1,280
29	2,100	7,520	6,510	4,870	------	5,700	11,900	9,140	2,750	1,010	844	978
30	2,100	8,130	6,480	4,780	------	8,510	11,700	4,780	2,740	1,330	835	1,240
31	2,050	------	6,480	4,420	------	10,000	------	4,590	------	1,340	826	------
TOTAL	72,000	115,300	221,260	185,450	281,990	245,950	387,480	355,110	125,520	54,708	28,158	29,625
MEAN	2,323	3,843	7,137	5,982	10,070	7,934	12,920	11,460	4,184	1,765	908	988
MAX	4,870	11,600	10,600	9,390	13,600	10,700	14,400	12,600	6,510	2,960	1,480	1,520
MIN	1,190	1,640	5,210	4,420	4,040	4,190	9,180	4,590	2,740	978	826	780
AC-FT	142,800	228,700	438,900	367,800	559,300	487,800	768,600	704,400	249,000	108,500	55,850	58,760

CAL YR 1962: TOTAL 2,464,229 MEAN 6,751 MAX 25,200 MIN 826 AC-FT 4,888,000
WAT YR 1963: TOTAL 2,102,551 MEAN 5,760 MAX 14,400 MIN 780 AC-FT 4,170,000

12-4225. Spokane River at Spokane, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,300	1,900	3,170	2,560	4,570	3,010	5,090	15,800	25,800	13,000	3,220	1,710
2	1,250	1,940	3,190	2,560	4,590	2,960	6,310	16,300	26,200	10,700	3,120	2,050
3	1,270	1,920	3,230	2,520	4,500	2,910	7,570	16,600	26,500	6,140	2,540	2,340
4	1,300	1,970	3,230	2,540	4,630	2,600	8,190	16,600	26,800	3,190	2,280	2,320
5	1,140	1,930	3,240	2,560	4,630	3,000	8,680	16,500	26,900	2,770	2,280	1,800
6	1,280	2,120	3,280	2,560	4,610	2,860	9,000	16,000	26,700	2,760	2,070	1,990
7	1,340	2,460	3,260	2,540	4,630	2,890	9,210	15,700	26,500	2,800	2,130	1,850
8	1,340	2,480	3,280	2,920	4,570	2,820	9,420	15,100	26,800	2,630	1,770	1,650
9	1,090	2,520	3,260	2,940	4,590	2,860	9,870	14,800	26,700	2,640	1,680	1,850
10	989	2,460	3,300	2,910	4,590	2,820	10,700	14,900	27,600	2,580	1,770	1,480
11	1,050	2,690	3,540	2,920	4,520	2,860	11,200	15,700	28,400	2,580	1,660	1,530
12	881	3,030	3,870	2,870	4,380	2,790	11,700	16,000	28,200	2,460	1,590	1,140
13	807	3,100	3,860	2,870	4,290	2,820	12,100	16,800	27,600	2,460	1,880	1,330
14	881	3,100	3,910	2,870	4,170	2,800	12,000	18,000	26,700	2,770	2,020	1,560
15	789	3,010	3,750	2,920	4,050	2,840	12,000	19,200	25,700	3,480	1,850	1,410
16	772	3,100	3,170	2,920	4,050	2,760	12,400	20,200	24,900	4,770	1,670	1,240
17	929	3,060	3,060	3,100	3,930	3,050	13,000	21,200	24,100	4,640	1,610	1,920
18	1,070	3,100	3,080	3,120	3,730	3,300	13,500	22,500	23,400	3,570	1,590	2,790
19	1,030	3,120	3,060	3,160	3,640	3,640	13,400	24,200	22,500	3,550	2,050	2,250
20	844	3,100	2,640	3,170	3,600	4,050	13,400	26,200	21,500	3,170	2,020	2,220
21	816	3,120	2,570	3,160	3,510	4,130	13,500	28,000	20,600	2,500	1,550	2,090
22	1,490	3,140	2,540	3,280	3,470	4,270	13,900	30,000	19,500	2,520	1,560	2,070
23	1,930	3,140	2,560	3,540	3,320	4,360	14,300	31,000	18,500	2,440	1,500	2,100
24	1,860	3,140	2,560	3,830	3,300	4,400	14,800	30,600	17,700	2,430	1,480	2,130
25	1,860	3,140	2,540	3,890	3,100	4,400	15,000	29,800	16,900	2,070	1,470	1,890
26	1,880	3,160	2,540	3,850	2,600	4,230	15,100	28,500	16,200	2,130	1,480	1,470
27	1,890	3,140	2,520	3,830	2,640	4,250	15,200	27,200	15,600	2,090	1,470	1,460
28	1,900	3,170	2,540	4,010	3,140	4,420	15,200	26,100	14,800	2,070	1,710	1,470
29	1,930	3,210	2,520	4,520	2,940	4,290	15,300	25,600	14,300	2,100	2,160	1,400
30	1,930	3,210	2,520	4,520	------	3,830	15,400	25,600	13,600	2,020	2,440	1,650
31	1,940	------	2,540	4,550	------	4,230	------	25,600	------	2,640	2,400	------
TOTAL	40,778	83,680	94,360	99,510	114,290	106,650	356,540	666,300	687,200	107,670	60,020	54,440
MEAN	1,315	2,789	3,044	3,210	3,941	3,440	11,880	21,490	22,910	3,473	1,936	1,815
MAX	1,940	3,210	3,910	4,550	4,630	4,420	15,400	31,000	28,400	13,000	3,220	2,790
MIN	772	1,300	2,520	2,520	2,600	2,600	5,090	14,800	13,600	2,020	1,470	1,140
AC-FT	80,880	166,000	187,200	197,400	226,700	211,500	707,200	1,322M	1,363M	213,600	119,000	108,000

CAL YR 1963: TOTAL 1,912,809 MEAN 5,241 MAX 14,400 MIN 772 AC-FT 3,794,000
WAT YR 1964: TOTAL 2,471,438 MEAN 6,753 MAX 31,000 MIN 772 AC-FT 4,902,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,250	2,520	9,610	22,500	15,600	11,200	6,870	32,400	17,400	4,460	1,850	1,240
2	2,260	2,520	15,400	21,000	16,000	11,300	6,900	32,400	17,100	4,860	1,610	1,620
3	2,120	2,550	16,800	19,500	15,800	11,400	7,060	32,000	16,600	4,350	2,580	1,750
4	2,100	2,520	17,800	18,200	15,600	11,400	7,150	31,000	16,200	3,820	2,650	1,150
5	1,840	2,690	17,600	17,000	15,000	11,300	7,340	29,700	15,900	4,140	1,650	1,050
6	1,620	2,710	17,400	16,200	14,800	11,200	7,620	28,200	15,600	4,330	1,490	992
7	1,480	2,720	16,700	15,400	14,400	11,200	8,160	26,700	15,100	4,290	1,580	983
8	1,600	2,760	15,200	13,900	13,400	11,200	8,340	25,200	14,800	3,980	1,470	1,500
9	2,050	2,790	9,950	13,000	13,000	11,600	8,610	23,900	14,500	3,380	1,320	1,420
10	2,220	2,760	7,320	12,400	12,700	11,800	9,250	22,800	14,200	2,790	1,660	1,470
11	2,220	2,720	7,920	9,220	12,300	11,900	9,910	21,800	13,800	3,420	1,880	1,210
12	2,160	2,720	6,530	6,550	11,900	12,000	10,500	21,100	13,600	3,260	1,640	983
13	1,820	2,760	6,480	6,370	11,500	12,000	11,300	21,000	13,400	2,760	1,980	1,470
14	1,810	2,740	6,450	6,290	11,000	12,000	12,300	21,100	13,100	2,500	2,050	1,950
15	1,780	2,770	6,420	6,450	10,700	11,900	13,000	21,400	12,800	2,660	1,270	2,300
16	2,120	2,740	6,350	6,920	10,200	11,700	13,900	21,500	12,400	2,250	1,240	2,250
17	2,220	2,770	6,320	6,870	9,050	11,600	15,000	21,500	8,580	1,980	1,930	2,280
18	1,850	2,770	6,010	6,760	9,980	11,300	16,000	21,400	8,900	2,180	1,490	2,180
19	1,810	2,800	5,320	6,630	9,580	11,100	17,000	21,100	5,810	2,160	1,120	1,810
20	1,770	2,770	5,240	6,660	10,200	10,800	18,500	20,600	8,500	2,250	2,360	1,490
21	1,780	2,800	5,290	6,840	10,300	10,500	21,800	20,200	5,720	2,160	2,280	1,720
22	1,770	2,790	7,060	7,230	10,600	10,200	26,200	19,700	5,000	2,800	2,130	1,480
23	1,810	2,800	16,300	7,230	10,800	9,880	30,000	19,400	4,880	2,460	2,740	1,520
24	1,880	2,790	21,500	7,230	10,700	9,380	32,000	19,200	4,750	1,770	2,140	1,520
25	2,100	3,800	27,200	7,150	10,700	9,030	32,600	18,800	5,580	1,960	1,820	1,600
26	2,240	7,200	29,900	7,150	10,600	8,710	32,600	18,400	6,790	2,280	2,490	1,460
27	2,280	7,370	29,900	7,010	10,600	8,430	32,400	18,000	6,420	2,580	1,980	1,420
28	2,460	6,480	28,800	8,400	10,900	8,220	32,000	17,800	4,550	2,340	1,920	1,170
29	2,840	6,500	27,100	11,300	------	7,680	32,000	17,500	4,020	1,780	1,680	1,560
30	2,520	6,530	25,600	13,400	------	7,480	32,000	17,500	4,460	1,890	1,250	1,780
31	2,550	------	24,000	14,800	------	7,260	------	17,500	------	2,030	1,110	------
TOTAL	63,330	103,160	449,470	335,560	339,210	326,670	518,310	700,800	324,960	89,870	56,400	46,328
MEAN	2,043	3,439	14,500	10,820	12,110	10,540	17,280	22,610	10,830	2,899	1,819	1,544
MAX	2,840	7,370	29,900	22,500	16,000	12,000	32,600	32,400	17,400	4,860	2,740	2,300
MIN	1,480	2,520	5,240	6,290	9,950	7,260	6,870	17,500	4,020	1,770	1,110	983
AC-FT	125,600	204,600	891,500	665,600	672,800	647,900	1,028M	1,390M	644,500	178,300	111,900	91,890

CAL YR 1964: TOTAL 2,868,580 MEAN 7,838 MAX 31,000 MIN 1,140 AC-FT 5,690,000
WAT YR 1965: TOTAL 3,354,068 MEAN 9,189 MAX 32,600 MIN 983 AC-FT 6,653,000

M Expressed in thousands.

12-4240. Hangman Creek at Spokane, Wash.

Location.--Lat 47°39'10" long 117°26'55", in NW¼ sec.24, T.25 N., R.42 E., on left bank in Spokane, three-quarters of a mile upstream from mouth.

Drainage area.--689 sq mi (revised).

Records available.--April 1948 to September 1965. Prior to October 1958, published as Latah Creek at Spokane.

Gage.--Digital water-stage recorder. Altitude of gage is 1,720 ft (from topographic map). Prior to Nov. 22, 1948, wire-weight gage at site half a mile upstream at different datum. Nov. 22, 1948, to Sept. 30, 1963, graphic water-stage recorder and Oct. 1, 1963, to Jan. 10, 1965, digital water-stage recorder, at present site and datum. Jan. 11 to Mar. 10, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--17 years, 260 cfs (188,200 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (2,500 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 11, 1961	0730	* 6,320	9.20	Feb. 3, 1963	2330	* 20,600	13.35	Feb. 17, 1965	2230	3,350	6.79
Feb. 20, 1961	0900	2,870	6.61					Feb. 27, 1965	1230	2,990	6.48
Feb. 22, 1961	0400	3,160	6.87	Mar. 18, 1964	0230	* 3,900	7.35	Apr. 21, 1965	1330	2,830	6.34
Mar. 14, 1961	1530	3,440	7.08								
				Dec. 23, 1964	1930	* 12,100	11.88				
Mar. 26, 1962	0530	3,720	7.13	Jan. 31, 1965	0230	11,000	11.36				
Mar. 27, 1962	1130	* 4,610	8.05	Feb. 5, 1965	2300	3,600	6.99				

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	July 16, 1961	a 5.0	-	1964	Aug. 16, 1964	a 7.5	-
1962	Aug. 1, 1962	5.1	1.73	1965	Oct. 6, 1964	12	-
1963	-	-	-				

a Minimum daily.

1948-65: Maximum discharge, 20,600 cfs Feb. 3, 1963 (gage height, 13.35 ft); minimum, 3.8 cfs Sept. 4, 5, 8, 1955 (gage height, 2.12 ft).

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. No regulation. Some diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	14	62	44	1,360	855	260	267	56	17	8.5	10
2	10	14	57	47	1,820	1,130	245	217	56	16	8.0	9.5
3	9.5	15	54	61	1,360	741	238	260	53	15	7.5	9.5
4	9.5	15	104	148	881	620	228	248	51	16	7.5	9.5
5	9.5	15	130	74	843	465	204	282	45	16	6.5	9.5
6	10	15	102	798	837	435	198	260	44	16	5.0	9.5
7	11	15	108	540	1,560	570	188	282	47	15	9.0	9.5
8	13	15	153	614	1,000	631	179	238	59	14	7.5	9.5
9	14	15	228	362	1,010	747	198	211	81	14	8.5	9.5
10	13	18	234	282	3,010	959	214	224	71	13	9.0	10
11	12	30	173	231	5,550	855	198	242	59	9.0	9.0	10
12	14	25	41	217	3,950	868	182	198	50	8.0	9.5	9.5
13	14	20	36	211	1,850	1,400	346	162	50	7.0	9.5	9.5
14	12	25	33	204	1,940	2,810	330	146	41	6.0	9.5	10
15	13	30	51	238	1,720	2,330	256	140	37	5.5	9.5	10
16	14	29	93	271	1,680	1,810	217	140	35	5.0	10	10
17	14	29	85	224	1,260	1,430	201	179	32	6.0	10	10
18	14	32	51	191	1,050	1,040	185	211	29	9.0	10	9.5
19	14	34	364	156	986	813	173	156	27	11	9.5	9.0
20	14	64	560	133	2,580	687	165	120	24	11	9.5	9.0
21	14	64	252	100	2,240	614	156	106	23	11	8.5	9.0
22	15	50	162	96	2,840	535	148	98	22	10	9.0	10
23	15	51	123	93	1,800	520	143	93	22	12	8.0	10
24	15	76	96	85	1,130	555	292	85	20	12	9.0	10
25	14	345	83	72	819	636	318	76	19	11	9.5	11
26	14	397	72	62	642	490	252	65	18	11	9.5	11
27	14	228	69	59	565	520	224	61	17	11	9.5	11
28	14	138	71	96	582	430	207	59	17	10	9.5	11
29	14	100	61	148	------	358	179	57	17	10	9.0	12
30	14	74	56	130	------	314	204	56	17	10	9.0	12
31	14	------	48	1,460	------	286	------	56	------	9.5	10	------
TOTAL	401.5	1,992	3,812	7,847	47,065	26,454	6,528	4,995	1,148	347.0	277.5	299.5
MEAN	13.0	66.4	123	253	1,681	853	218	161	38.3	11.2	8.95	9.98
MAX	15	397	560	1,460	5,550	2,810	346	282	81	17	10	12
MIN	9.5	14	33	44	565	286	143	56	17	5.0	6.5	9.0
CFSM	.02	.10	.18	.37	2.44	1.24	.32	.23	.06	.02	.01	.01
IN.	.02	.11	.21	.42	2.54	1.43	.35	.27	.06	.02	.01	.02
AC-FT	796	3,950	7,560	15,560	93,350	52,470	12,950	9,910	2,280	688	550	594

CAL YR 1960: TOTAL 59,730.4 MEAN 163 MAX 2,170 MIN 5.1 CFSM .24 IN 3.22 AC-FT 118,500
WAT YR 1961: TOTAL 101,166.5 MEAN 277 MAX 5,550 MIN 5.0 CFSM .40 IN 5.46 AC-FT 200,700

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4240. Hangman Creek at Spokane, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	15	30	201	250	67	475	104	87	14	5.4	9.5
2	12	16	30	148	231	67	406	91	78	9.0	6.5	9.5
3	11	17	34	300	248	72	366	83	72	6.5	8.0	9.5
4	11	17	36	500	238	65	362	89	67	6.0	9.5	9.0
5	10	16	33	374	198	64	374	98	71	7.5	11	8.5
6	10	15	28	234	168	71	370	91	67	11	11	8.0
7	9.5	15	25	191	151	85	445	93	62	16	12	7.5
8	11	15	23	473	293	90	425	173	62	14	14	8.0
9	11	16	21	362	450	95	346	198	56	10	11	8.5
10	11	17	19	125	520	95	282	234	47	9.0	11	9.5
11	11	17	17	120	440	98	231	198	44	8.5	9.5	11
12	12	17	15	110	397	100	201	148	40	8.0	9.5	10
13	12	17	18	100	565	111	179	125	41	8.0	9.0	11
14	12	16	20	90	670	120	162	108	44	7.5	8.5	11
15	12	16	30	85	560	282	156	96	45	7.5	6.5	10
16	13	15	30	70	510	494	153	89	41	7.0	8.5	9.0
17	13	15	30	50	470	550	162	83	40	7.0	8.0	8.5
18	12	15	35	40	556	550	140	78	37	7.0	7.5	8.0
19	12	15	35	30	609	826	128	81	38	6.5	8.5	8.5
20	13	16	40	25	402	704	118	67	33	6.5	8.5	9.0
21	12	17	70	15	282	786	116	100	28	6.5	6.5	9.0
22	14	22	176	15	204	693	108	118	25	6.5	6.5	8.5
23	15	29	185	15	153	771	102	98	24	6.5	6.5	8.5
24	17	30	275	25	74	788	93	91	24	6.0	6.5	8.5
25	16	27	534	40	70	2,340	80	112	22	6.0	6.0	8.0
26	16	26	275	65	75	3,010	72	204	20	6.0	7.0	8.0
27	17	34	156	200	85	4,060	81	238	19	6.0	8.0	9.0
28	19	33	104	330	81	2,590	154	201	18	6.0	11	12
29	17	30	113	310	------	1,320	204	146	18	6.0	11	12
30	17	30	380	290	------	837	133	120	17	6.0	11	11
31	16	------	322	270	------	598	------	102	------	6.0	10	------
TOTAL	406.5	596	3,139	5,203	8,950	22,399	6,624	3,877	1,287	244.0	275.4	278.0
MEAN	13.1	19.9	101	168	320	723	221	125	42.9	7.87	8.88	9.27
MAX	19	34	534	500	670	4,060	475	238	87	16	14	12
MIN	9.5	15	15	15	70	64	72	78	17	6.0	5.4	7.5
CFSM	.02	.03	.15	.24	.46	1.05	.32	.19	.06	.01	.01	.01
IN.	.02	.03	.17	.28	.48	1.21	.36	.21	.07	.01	.01	.02
AC-FT	806	1,180	6,230	10,320	17,750	44,430	13,140	7,690	2,550	484	546	551

CAL YR 1961: TOTAL 99,102.5 MEAN 272 MAX 5,550 MIN 5.0 CFSM .39 IN 5.35 AC-FT 196,600
WAT YR 1962: TOTAL 53,278.9 MEAN 146 MAX 4,060 MIN 5.4 CFSM .21 IN 2.88 AC-FT 105,700

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	15	64	130	35	323	962	175	31			
2	11	15	76	195	50	283	605	154	31			
3	10	15	217	330	4,000	251	442	143	32			
4	10	15	234	298	10,100	205	363	143	32			
5	10	15	146	201	5,340	184	347	146	35			
6	11	16	130	143	1,320	188	520	138	42			
7	11	17	201	106	1,280	175	620	208	47			6.0
8	12	18	170	96	681	154	590	388	61			
9	14	22	125	81	490	143	510	307	54		17	
10	14	27	104	40	370	132	438	243	49			
11	16	26	87	20	286	122	393	235	46			
12	17	26	80	25	214	114	327	175	41			
13	22	28	72	25	176	105	263	135	38			
14	23	33	67	30	168	98	219	119	35			
15	27	30	72	35	165	98	239	110	31			
16	30	29	201	35	432	110	363	96	30	18		
17	25	30	290	35	500	112	279	85	27			
18	24	29	545	30	538	114	247	74	25			
19	22	29	440	25	1,080	122	219	69	22			
20	22	29	310	25	1,250	122	215	61	21			
21	21	30	245	25	732	178	227	55				
22	20	32	188	30	545	198	188	49				
23	19	35	140	30	429	178	1,150	48				8.0
24	18	37	80	25	367	195	980	44			6.0	
25	17	36	45	25	323	384	575	41				
26	17	40	45	20	367	303	406	38	19			
27	17	51	50	20	465	235	343	38				
28	16	83	54	20	375	291	327	36				
29	16	71	56	20	------	355	255	33				
30	15	61	61	20	------	698	201	32				
31	15	------	89	25	------	1,720	------	32	------			------
TOTAL	534	940	4,684	2,165	32,078	7,890	12,813	3,650	920	558	373.0	212.0
MEAN	17.2	31.3	151	69.8	1,146	255	427	118	30.7	18.0	12.0	7.07
MAX	30	83	545	330	10,100	1,720	1,150	388	61	-	-	-
MIN	10	15	45	20	35	98	188	32	-	-	-	-
CFSM	.03	.05	.22	.10	1.66	.37	.62	.17	.04	.03	.02	.01
IN.	.03	.05	.25	.12	1.73	.43	.69	.20	.05	.03	.02	.01
AC-FT	1,060	1,860	9,290	4,290	63,630	15,650	25,410	7,240	1,820	1,110	740	421

CAL YR 1962: TOTAL 55,295.4 MEAN 151 MAX 4,060 MIN 5.4 CFSM .22 IN 2.98 AC-FT 109,700
WAT YR 1963: TOTAL 66,817.0 MEAN 183 MAX 10,100 MIN - CFSM .27 IN 3.61 AC-FT 132,500

Note.--No gage-height record June 21 to Sept. 30. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4240. Hangman Creek at Spokane, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.0	11	27	60	613	226	1,430	226	35	19	10	12
2	8.0	11	25	268	591	366	1,480	224	34	18	11	11
3	8.5	11	25	425	469	306	944	196	33	17	11	12
4	8.5	12	25	237	389	249	712	200	33	17	11	11
5	9.0	15	26	135	502	367	604	238	33	17	11	12
6	9.0	20	31	115	493	406	524	222	33	17	11	12
7	9.0	27	36	85	324	328	451	176	37	17	10	11
8	9.0	27	36	70	252	280	426	149	63	15	9.6	12
9	9.0	30	40	80	253	231	418	133	87	13	9.3	12
10	9.0	26	30	80	328	243	438	126	116	12	9.1	12
11	9.0	28	23	70	749	310	437	135	73	12	8.7	12
12	9.0	32	24	60	518	1,000	401	147	55	12	8.0	12
13	9.0	26	23	50	387	861	342	136	46	12	7.8	11
14	9.0	28	21	50	269	605	287	122	40	12	7.9	11
15	9.0	24	22	52	269	1,140	255	117	36	12	7.7	11
16	9.0	23	24	56	247	1,890	257	107	36	18	7.5	11
17	9.0	22	25	60	188	1,720	304	97	36	15	7.7	14
18	9.0	22	25	63	179	3,190	278	86	41	12	9.0	14
19	9.0	27	26	84	322	1,910	226	79	75	12	8.0	14
20	9.0	48	27	90	487	1,430	186	78	60	12	8.3	15
21	9.0	52	31	92	337	1,280	167	74	50	11	8.4	15
22	10	46	35	95	290	1,220	167	69	43	11	8.3	16
23	12	55	39	100	277	737	328	68	36	11	7.7	15
24	13	44	49	100	322	465	424	64	32	11	7.9	15
25	14	37	51	97	281	450	375	60	29	12	7.7	15
26	13	34	51	257	201	376	289	54	26	9.9	7.9	15
27	12	42	54	939	184	334	259	50	23	9.8	8.5	15
28	11	36	74	730	190	568	246	47	20	9.7	8.6	14
29	11	32	68	590	213	925	220	43	21	9.7	10	14
30	11	30	59	581	------	1,200	214	39	21	9.3	11	14
31	11	------	56	574	------	1,350	------	37	------	9.3	11	------
TOTAL	304.0	879	1,108	6,345	10,125	26,055	13,149	3,509	1,303	404.7	281.6	390
MEAN	9.81	29.3	35.7	205	349	841	438	116	43.4	13.1	9.08	13.0
MAX	14	55	74	939	749	3,190	1,490	238	116	19	11	16
MIN	8.0	11	21	50	179	226	167	37	20	9.3	7.5	11
CFSM	.01	.04	.05	.30	.51	1.22	.64	.17	.06	.02	.01	.02
IN.	.02	.05	.06	.34	.55	1.41	.71	.19	.07	.02	.02	.02
AC-FT	603	1,740	2,200	12,590	20,080	51,700	26,080	7,140	2,580	803	559	774

CAL YR 1963: TOTAL 62,950.0 MEAN 172 MAX 10,100 MIN -. CFSM .25 IN 3.40 AC-FT 124,900
WAT YR 1964: TOTAL 63,953.3 MEAN 175 MAX 3,190 MIN 7.5 CFSM .25 IN 3.45 AC-FT 126,800

Note.--No gage-height record Oct. 1 to Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	15	111	410	2,480	882	182	258	58	35	19	22
2	14	15	840	330	1,430	714	202	227	54	34	19	21
3	14	15	840	300	1,060	670	355	210	53	34	19	20
4	14	15	954	272	972	654	330	194	49	33	18	21
5	14	15	582	258	2,120	588	330	178	48	31	17	20
6	13	15	340	510	2,000	582	296	171	46	29	19	19
7	13	15	198	1,390	1,120	545	296	154	43	28	17	19
8	13	15	147	924	1,110	510	272	140	42	26	16	18
9	14	17	154	576	1,190	485	262	131	39	23	16	18
10	14	18	355	455	714	465	742	119	38	21	16	17
11	15	19	315	425	566	470	637	111	36	21	16	18
12	15	20	236	370	450	515	495	103	34	20	19	18
13	14	20	143	340	550	450	415	96	33	19	19	19
14	13	19	113	380	882	400	370	91	33	17	25	21
15	13	18	119	571	632	370	335	86	32	16	21	22
16	13	18	116	708	776	340	325	84	32	15	18	21
17	13	16	120	769	2,290	276	420	82	33	14	16	21
18	14	15	130	659	2,250	206	390	78	39	14	16	21
19	14	16	180	588	1,920	202	593	78	258	13	19	20
20	14	15	250	566	1,760	206	2,150	91	161	13	20	21
21	14	14	450	545	1,220	210	2,290	122	106	16	20	20
22	13	13	530	571	1,080	222	1,670	128	75	19	22	19
23	13	14	9,650	530	888	214	1,030	106	63	21	24	19
24	13	16	5,750	560	692	164	764	98	54	22	38	19
25	13	20	1,650	852	725	157	687	93	49	21	32	20
26	13	71	954	769	747	150	582	96	46	21	28	19
27	13	78	1,380	756	1,880	154	470	96	42	25	27	19
28	13	48	1,220	3,150	1,400	154	395	86	39	23	23	19
29	13	36	870	7,810	------	164	340	71	39	21	23	19
30	13	35	642	6,150	------	190	300	65	36	20	22	19
31	13	------	510	6,810	------	194	------	62	------	19	21	------
TOTAL	420	676	29,849	39,304	34,904	11,503	17,925	3,705	1,710	684	645	589
MEAN	13.5	22.5	963	1,268	1,247	371	598	120	57.0	22.1	20.8	19.6
MAX	15	78	9,650	7,810	2,480	882	2,290	258	258	35	38	22
MIN	13	13	111	258	450	150	182	62	32	13	16	17
CFSM	.02	.03	1.40	1.84	1.81	.54	.87	.17	.08	.03	.03	.03
IN.	.02	.04	1.61	2.12	1.88	.62	.97	.20	.09	.04	.03	.03
AC-FT	833	1,340	59,200	77,960	69,230	22,820	35,550	7,350	3,390	1,360	1,280	1,170

CAL YR 1964: TOTAL 92,607.3 MEAN 253 MAX 9,650 MIN 7.5 CFSM .37 IN 5.00 AC-FT 183,700
WAT YR 1965: TOTAL 141,914 MEAN 389 MAX 9,650 MIN 13 CFSM .56 IN 7.76 AC-FT 281,500

12-4270. Little Spokane River at Elk, Wash.

Location.--Lat 48°01'20", long 117°16'20", in SE¼ sec.8, T.29 N., R.44 E., on right bank half a mile upstream northeast of Elk.

Drainage area.--115 sq mi.

Records available.--July 1948 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,870 ft (from topographic map).

Average discharge.--17 years, 58.7 cfs (42,500 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 13, 1961	152	1.89	Jan. 27, 1961	43	1.18
1962	Mar. 25, 1962	88	1.52	Dec. 10, 1961	30	1.00
1963	Feb. 5, 1963	146	1.87	Jan. 30, 1963	a 38	-
1964	Apr. 12, 1964	79	1.48	Dec. 10, 1964	28	.98
1965	Apr. 21, 1965	104	1.63	Dec. 17, 1964	a 26	-

a Minimum daily.

1948-65: Maximum discharge, 152 cfs Feb. 13, 1961; maximum gage height, 3.08 ft Feb. 1, 1956 (backwater from ice); minimum daily discharge, 26 cfs Dec. 17, 1964.

Remarks.--Records excellent except those for winter periods, which are fair. No known regulation or diversion.

Revisions.--WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	50	52	61	53	63	107	107	86	74	59	53	53
2	50	52	61	53	69	103	107	84	74	59	53	54
3	50	51	60	53	66	102	105	83	72	58	53	53
4	50	50	59	53	66	100	103	84	72	58	53	53
5	50	50	58	52	66	98	102	84	71	58	52	53
6	51	50	57	53	69	98	102	84	71	59	52	52
7	52	50	56	54	71	97	102	83	74	59	53	52
8	53	50	56	54	72	95	102	83	75	58	52	52
9	53	49	55	55	83	95	102	83	78	58	52	51
10	53	51	54	55	92	97	100	89	75	58	52	51
11	52	53	54	55	124	98	98	88	72	58	52	51
12	52	54	54	54	141	98	102	86	71	57	51	50
13	52	54	53	54	148	102	102	84	70	57	50	50
14	52	54	53	55	137	108	100	86	70	57	50	50
15	51	54	53	56	131	117	98	86	69	56	51	50
16	51	57	52	58	128	133	97	84	69	56	51	50
17	51	58	53	59	130	137	94	83	68	55	51	50
18	51	61	54	58	124	130	94	82	67	55	52	50
19	51	60	55	57	119	124	92	80	66	55	52	50
20	51	72	55	55	119	121	92	79	64	55	52	50
21	52	76	55	53	122	119	92	80	64	55	52	49
22	52	74	55	52	128	117	92	80	63	55	52	49
23	52	70	55	52	137	117	90	79	62	56	51	49
24	52	83	54	51	130	117	89	78	61	57	51	49
25	52	89	54	50	124	115	89	76	60	57	52	49
26	53	86	54	50	114	114	90	75	60	56	52	49
27	53	76	54	50	110	114	89	74	59	55	52	49
28	55	71	54	50	107	112	88	74	59	54	52	49
29	55	67	54	51	------	110	89	74	59	54	51	49
30	53	63	54	54	------	110	88	74	59	54	51	49
31	53	------	53	63	------	108	------	74	------	53	53	------
TOTAL	1,608	1,837	1,709	1,672	2,990	3,413	2,876	2,519	2,028	1,751	1,606	1,515
MEAN	51.9	61.2	55.1	53.9	107	110	96.5	81.3	67.6	56.5	51.8	50.5
MAX	55	89	61	63	148	137	107	89	78	59	53	54
MIN	50	49	52	50	63	98	88	74	59	53	50	49
CFSM	.45	.53	.48	.47	.93	.96	.84	.71	.59	.49	.45	.44
IN.	.52	.59	.55	.54	.97	1.10	.94	.81	.66	.57	.52	.49
AC-FT	3,190	3,640	3,390	3,320	5,930	6,770	5,740	5,000	4,020	3,470	3,190	3,000

CAL YR 1960: TOTAL 23,468 MEAN 64.1 MAX 133 MIN 40 CFSM .56 IN 7.59 AC-FT 46,550
WAT YR 1961: TOTAL 25,544 MEAN 70.0 MAX 148 MIN 49 CFSM .61 IN 8.26 AC-FT 50,670

12-4270. Little Spokane River at Elk, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	49	52	53	51	55	60	74	70	60	50	47	43
2	49	52	53	51	55	60	75	69	59	50	47	42
3	49	52	53	56	55	60	75	69	59	50	47	42
4	48	51	52	56	56	60	75	70	58	50	47	42
5	48	51	52	56	56	60	76	69	58	50	48	42
6	47	51	51	55	55	60	78	69	58	50	48	42
7	47	51	51	56	55	60	79	71	57	51	48	42
8	47	51	50	54	57	60	79	71	57	51	48	42
9	48	51	49	52	59	60	79	72	56	51	47	42
10	50	51	35	51	63	60	78	72	55	51	47	43
11	51	51	40	49	64	60	78	70	54	50	46	43
12	51	51	49	50	66	59	76	70	54	50	46	44
13	51	50	50	51	67	59	76	69	56	50	46	43
14	51	50	50	51	72	60	76	68	56	50	45	43
15	51	50	50	53	74	60	78	67	56	50	44	43
16	50	50	50	53	74	60	78	67	56	50	44	43
17	49	50	52	52	72	60	76	66	55	49	44	43
18	49	50	52	45	71	61	76	66	55	49	44	43
19	49	50	53	43	71	62	76	68	54	49	44	43
20	48	50	55	41	71	63	75	67	54	49	43	43
21	48	52	60	40	69	64	75	66	53	49	43	43
22	48	54	59	40	67	67	75	64	53	49	43	43
23	54	54	57	42	64	68	74	64	52	48	43	43
24	56	53	62	45	62	75	72	66	52	48	43	43
25	55	52	62	50	61	82	71	64	51	48	44	43
26	55	51	57	56	60	83	71	64	51	48	44	43
27	56	51	54	58	60	83	74	63	51	47	44	43
28	55	52	53	59	60	80	75	62	51	47	44	49
29	54	53	53	58	------	78	74	62	51	47	44	51
30	53	53	52	57	------	76	71	61	51	47	43	50
31	53	------	51	56	------	75	------	61	------	47	43	------
TOTAL	1,569	1,540	1,620	1,587	1,771	2,035	2,265	2,077	1,643	1,525	1,400	1,304
MEAN	50.6	51.3	52.3	51.2	63.3	65.6	75.5	67.0	54.8	49.2	45.2	43.5
MAX	56	54	62	59	74	83	79	72	60	51	49	51
MIN	47	50	35	40	55	59	71	61	51	47	43	42
CFSM	.44	.45	.45	.45	.55	.57	.66	.58	.48	.43	.39	.38
IN.	.51	.50	.52	.51	.57	.66	.73	.67	.53	.49	.45	.42
AC-FT	3,110	3,050	3,210	3,150	3,510	4,040	4,490	4,120	3,260	3,020	2,780	2,590

CAL YR 1961: TOTAL 25,119 MEAN 68.8 MAX 148 MIN 35 CFSM .60 IN 8.12 AC-FT 49,820
WAT YR 1962: TOTAL 20,336 MEAN 55.7 MAX 83 MIN 35 CFSM .48 IN 6.58 AC-FT 40,340

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48	44	56	56	41	63	61	66	55	51	43	40
2	47	44	58	56	42	61	60	63	56	51	43	40
3	45	44	58	57	56	60	59	64	56	51	43	40
4	45	44	57	56	80	59	60	64	56	50	43	40
5	45	44	55	55	102	59	61	64	59	49	43	40
6	45	44	54	54	78	59	63	68	60	48	43	39
7	45	44	54	53	76	59	67	74	60	47	41	39
8	45	46	53	53	71	59	68	75	59	48	41	39
9	46	50	53	53	68	58	68	72	60	48	42	39
10	47	51	52	40	66	58	67	71	59	50	42	39
11	48	54	52	45	62	58	67	69	58	51	42	39
12	49	54	52	47	59	58	67	68	56	50	44	39
13	50	53	52	48	58	57	67	67	55	49	43	40
14	50	51	53	49	56	57	67	66	54	48	43	40
15	49	50	60	49	56	57	70	64	53	47	41	41
16	46	49	60	49	57	56	70	64	52	46	41	44
17	45	48	58	49	57	56	71	63	51	46	40	46
18	44	47	57	40	58	55	71	63	51	46	41	46
19	44	49	56	43	59	56	70	62	51	46	40	44
20	44	50	56	45	61	56	69	61	50	45	41	43
21	43	49	55	46	62	56	68	61	50	45	41	42
22	44	48	53	46	62	57	68	60	51	45	41	42
23	44	48	52	46	62	57	71	60	51	44	41	43
24	44	47	51	46	61	57	71	59	51	44	44	42
25	44	53	50	44	60	57	70	58	51	44	43	42
26	44	60	50	40	63	57	70	57	51	44	42	41
27	44	60	50	41	63	58	69	57	51	44	41	41
28	44	58	50	42	64	58	69	57	50	43	40	41
29	44	54	51	40	------	59	69	56	50	43	40	41
30	44	56	55	38	------	60	69	55	51	43	40	40
31	44	------	56	39	------	61	------	55	------	43	40	------
TOTAL	1,410	1,493	1,679	1,465	1,760	1,798	2,017	1,963	1,618	1,449	1,293	1,232
MEAN	45.5	49.8	54.2	47.3	62.9	58.0	67.2	63.3	53.9	46.7	41.7	41.1
MAX	50	60	60	57	102	63	71	75	60	51	44	46
MIN	43	44	50	38	41	55	59	55	50	43	40	39
CFSM	.40	.43	.47	.41	.55	.50	.58	.55	.47	.41	.36	.36
IN.	.46	.48	.54	.47	.57	.58	.65	.63	.52	.47	.42	.40
AC-FT	2,800	2,960	3,330	2,910	3,490	3,570	4,000	3,890	3,210	2,870	2,560	2,440

CAL YR 1962: TOTAL 20,189 MEAN 55.3 MAX 83 MIN 40 CFSM .48 IN 6.53 AC-FT 40,040
WAT YR 1963: TOTAL 19,177 MEAN 52.5 MAX 102 MIN 38 CFSM .46 IN 6.20 AC-FT 38,040

12-4270. Little Spokane River at Elk, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	45	46	43	47	39	64	67	51	42	41	42
2	39	45	45	43	46	39	67	66	51	42	42	42
3	39	45	45	43	45	40	68	67	49	42	42	42
4	39	45	45	43	45	41	68	68	50	42	42	42
5	42	46	46	42	46	42	68	67	50	42	42	42
6	41	47	47	44	45	42	68	64	50	42	42	42
7	41	50	47	44	45	41	69	62	52	41	42	42
8	42	49	46	45	45	42	71	61	55	40	42	41
9	41	48	46	42	45	42	72	61	54	39	42	41
10	41	48	41	42	46	42	75	61	52	39	41	42
11	41	48	41	42	46	43	76	61	52	39	41	42
12	39	48	42	42	45	43	76	61	52	38	41	42
13	40	48	41	42	46	43	75	61	51	39	40	42
14	40	49	42	42	46	44	74	60	50	39	40	42
15	40	50	42	42	47	46	74	60	50	39	39	42
16	40	49	42	44	47	47	72	60	54	39	39	42
17	40	48	43	45	47	50	71	60	55	38	39	48
18	40	48	43	45	46	53	69	60	57	39	40	48
19	40	54	42	44	46	53	69	58	55	38	40	48
20	40	56	43	44	46	53	68	58	54	38	40	50
21	41	54	43	44	45	54	68	58	52	39	40	48
22	45	53	43	44	45	55	72	57	49	39	39	47
23	47	53	43	43	46	54	75	57	48	39	40	46
24	49	51	43	43	46	53	74	56	46	39	39	46
25	47	51	44	45	46	53	72	55	45	39	39	44
26	45	50	44	47	41	52	71	55	45	38	39	43
27	44	50	44	46	37	52	69	55	44	38	40	42
28	44	48	44	45	37	53	68	55	43	38	42	42
29	45	48	43	45	37	55	67	54	43	39	42	42
30	45	47	43	46	------	58	67	53	43	40	43	42
31	45	------	42	46	------	62	------	52	------	40	43	------
TOTAL	1,302	1,471	1,351	1,357	1,297	1,486	2,117	1,850	1,502	1,225	1,263	1,306
MEAN	42.0	49.0	43.6	43.8	44.7	47.9	70.6	59.7	50.1	39.5	40.7	43.5
MAX	49	56	47	47	47	62	76	68	57	42	43	50
MIN	39	45	41	42	37	39	64	52	43	38	39	41
CFSM	.37	.43	.38	.38	.39	.42	.61	.52	.44	.34	.35	.38
IN.	.42	.48	.44	.44	.42	.48	.68	.60	.49	.40	.41	.42
AC-FT	2,580	2,920	2,680	2,690	2,570	2,950	4,200	3,670	2,980	2,430	2,510	2,590

CAL YR 1963: TOTAL 18,719 MEAN 51.3 MAX 102 MIN 38 CFSM .45 IN 6.05 AC-FT 37,130
WAT YR 1964: TOTAL 17,527 MEAN 47.9 MAX 76 MIN 37 CFSM .42 IN 5.67 AC-FT 34,760

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	41	38	58	44	50	77	67	86	66	52	46	45
2	41	40	61	44	49	74	70	84	66	51	46	45
3	40	40	58	46	47	74	70	84	65	51	47	45
4	40	40	53	44	49	74	70	83	64	51	47	45
5	41	40	51	44	49	76	71	81	62	53	47	45
6	41	40	47	46	50	78	73	81	61	53	46	45
7	41	40	46	46	49	80	73	80	61	52	46	44
8	41	40	46	45	49	80	73	78	61	51	45	44
9	41	44	46	44	49	80	78	78	60	51	45	45
10	41	46	46	44	49	81	86	77	60	51	45	45
11	42	47	44	43	47	83	84	77	58	51	44	45
12	42	46	44	42	47	84	83	76	58	51	45	45
13	42	46	42	42	47	84	83	74	60	51	45	45
14	41	44	42	43	49	84	84	73	61	50	45	47
15	40	42	38	43	49	84	84	73	61	50	45	46
16	40	41	30	44	50	83	86	73	60	49	44	46
17	40	41	26	44	52	80	86	73	61	49	43	45
18	40	40	30	44	53	77	86	71	61	46	43	45
19	40	40	34	44	56	76	92	70	61	46	44	45
20	40	38	36	44	57	74	101	73	60	47	46	45
21	40	38	36	45	58	74	102	73	57	49	45	45
22	38	38	36	44	60	74	98	73	57	51	46	44
23	38	41	40	45	58	73	96	71	56	51	47	43
24	38	45	50	45	57	70	94	71	55	50	47	43
25	38	46	48	46	57	70	93	71	53	49	47	45
26	38	46	46	45	60	70	93	71	53	47	47	46
27	38	44	48	45	74	69	92	70	52	50	47	45
28	38	43	48	49	77	67	90	69	53	49	46	45
29	38	42	46	49	------	67	90	67	53	47	46	45
30	38	47	46	50	------	66	88	67	53	47	45	45
31	37	------	46	50	------	67	------	66	------	46	45	------
TOTAL	1,234	1,263	1,368	1,393	1,498	2,350	2,536	2,314	1,769	1,542	1,412	1,348
MEAN	39.8	42.1	44.1	44.9	53.5	75.8	84.5	74.6	59.0	49.7	45.5	44.9
MAX	42	47	61	50	77	84	102	86	66	53	47	47
MIN	37	38	26	42	47	66	67	66	52	46	43	43
CFSM	.35	.37	.38	.39	.47	.66	.74	.65	.51	.43	.40	.39
IN.	.40	.41	.44	.45	.48	.76	.82	.75	.57	.50	.46	.44
AC-FT	2,450	2,510	2,710	2,760	2,970	4,660	5,030	4,590	3,510	3,060	2,800	2,670

CAL YR 1964: TOTAL 17,268 MEAN 47.2 MAX 76 MIN 26 CFSM .41 IN 5.58 AC-FT 34,250
WAT YR 1965: TOTAL 20,027 MEAN 54.9 MAX 102 MIN 26 CFSM .48 IN 6.48 AC-FT 39,720

12-4275. Diamond Lake near Newport, Wash.

Location.--Lat 48°07'45", long 117°13'00", in SW¼NW¼ sec.2, T.30 N., R.44 E., on north shore of Diamond Lake at Boy Scouts of America Camp Cowles, 8 miles southwest of Newport.

Drainage area.--6.08 sq mi (revised).

Records available.--July 1953 to September 1965 (fragmentary).

Gage.--Staff gage read twice weekly. Altitude of gage is about 2,340 ft (from topographic map). Prior to Sept. 9, 1961, on southeast shore at same datum.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	Feb. 21, 24, 1961	4.94	Sept.28, 1961	3.50
1962	Mar. 30, 1962	4.59	Sept.25, 1962	3.26
1963	May 9, 1963	4.85	Oct. 2, 1962	3.34
1964	Mar. 12, 1964	4.86	Oct. 21, 1963	3.64
1965	Jan. 8, 11, 1965	4.80	Nov. 3, 1964	3.54

1953-65: Maximum gage height observed, 4.95 ft Feb. 25, 1958; minimum observed, 3.22 ft Sept. 30, Oct. 9, 1958.

Remarks.--No known regulation. Some diversion for domestic use.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	-	-	-	-	-	-	-	4.40	4.08	-
2	-	3.88	4.62	4.56	-	-	-	-	-	-	-	3.72
3	3.78	-	-	-	4.66	4.84	-	4.80	4.72	4.38	4.06	-
4	-	3.86	-	-	-	-	4.80	-	-	-	-	3.70
5	3.79	-	-	-	-	-	-	-	-	4.36	-	-
6	-	-	4.58	-	-	-	4.78	4.84	-	-	-	-
7	-	3.87	-	-	-	-	-	-	4.70	-	4.00	3.64
8	3.83	-	4.54	-	-	4.84	4.76	-	-	-	-	3.66
9	-	3.86	-	-	-	-	-	4.84	-	-	3.96	-
10	-	-	-	-	4.80	4.84	-	-	-	4.32	3.94	-
11	-	3.90	-	-	-	-	-	4.88	-	-	-	3.58
12	3.81	-	4.53	4.60	-	-	-	-	4.72	-	-	-
13	-	-	-	-	-	-	-	-	-	4.30	-	3.57
14	3.82	4.00	-	-	-	-	4.78	-	4.66	-	-	-
15	-	-	-	-	-	-	-	-	-	4.26	3.90	-
16	-	4.08	-	-	-	4.90	-	-	-	-	-	-
17	3.82	-	4.50	4.60	-	-	4.76	4.84	-	-	3.88	-
18	-	-	-	-	-	4.88	4.76	-	-	-	3.85	-
19	3.81	4.16	4.54	-	-	-	-	-	4.62	-	-	3.53
20	-	-	-	4.58	-	4.86	-	-	-	4.20	-	-
21	-	-	-	-	4.94	-	4.76	-	4.58	-	-	3.52
22	3.81	-	-	-	-	4.82	-	-	-	-	3.82	-
23	-	4.46	-	-	-	-	-	4.82	4.56	-	-	-
24	-	-	-	-	4.94	-	-	-	-	-	-	-
25	-	-	-	4.62	-	4.82	-	4.78	-	4.18	3.80	-
26	-	4.70	-	-	-	-	4.72	-	-	-	-	3.51
27	3.84	-	-	-	4.86	-	-	4.76	-	-	-	-
28	-	4.66	-	-	-	-	4.72	-	4.44	-	-	3.50
29	3.90	-	-	-	------	-	-	4.76	-	4.12	-	-
30	-	4.62	-	-	------	-	-	-	-	-	-	-
31	-	------	-	-	------	4.82	------	4.74	------	-	-	------

12-4275. Diamond Lake near Newport, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	-		-	4.53				-	-	-
2	-	3.57	-		-	-				-	3.68	-
3	3.46	-	-		-	-				3.72	-	-
4	-	-	3.72		4.34	-				-	-	3.38
5	3.45	-	3.74		-	-				3.72	-	-
6	-	-	-		-	4.53				-	-	3.36
7	-	3.56	3.74		-	-				-	3.66	-
8	-	-	-	4.22	4.38	4.54				-	-	-
9	-	3.55	-		-	-				3.88	3.64	-
10	3.46	-	-		-	-				3.74	-	-
11	-	-	-		-	-				-	-	3.34
12	3.47	-	3.74		-	-				3.74	-	-
13	-	-	-		4.40	4.56				-	3.62	3.36
14	-	3.56	3.74		-	-				-	-	-
15	-	-	-		4.45	4.57				-	-	-
16	-	3.57	-		4.45	-				-	-	-
17	3.49	-	-		-	-				3.72	3.58	-
18	-	-	-		-	-			3.86	-	-	3.34
19	3.50	-	3.76		-	-				3.72	-	-
20	-	-	-		-	-				-	-	3.32
21	-	3.59	3.78		4.51	-				-	3.53	-
22	-	-	-		4.51	-				3.73	-	-
23	-	3.60	-		-	-				3.71	3.53	-
24	3.51	-	-		-	-				3.74	-	-
25	-	-	-		-	-				3.73	-	3.26
26	3.53	-	3.81		-	-				3.72	-	-
27	-	-	-		4.53	-				3.71	-	3.28
28	-	3.61	3.82		-	-				-	3.44	-
29	-	-	-		------	-				-	-	-
30	-	3.72	-		------	4.59				-	3.42	-
31	3.58	------	-		------	-	------		------	3.70	-	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	-	-	4.52		-	-	-	-	-	-
2	3.34	3.54	-	4.44	-		-	4.75	-	-	4.15	-
3	-	-	-	-	-		-	-	-	4.47	-	3.85
4	-	-	4.12	-	-		-	-	-	-	-	-
5	3.36	-	-	-	4.64		-	-	-	-	4.13	-
6	3.36	3.58	4.16	-	-		-	-	-	4.45	-	3.81
7	-	-	-	-	4.60		-	4.81	4.62	-	-	-
8	-	3.64	-	4.46	-		-	-	-	-	4.07	-
9	3.46	-	-	-	-		-	4.85	-	4.43	-	-
10	-	-	-	4.48	-		-	-	-	-	-	-
11	3.52	-	4.20	-	-		-	-	4.67	-	-	-
12	-	-	-	-	4.60		-	-	-	-	-	3.77
13	-	3.73	4.24	-	-		-	-	-	4.43	4.07	-
14	-	-	-	-	4.64		-	4.82	4.65	-	-	-
15	-	3.74	-	4.50	-		-	-	-	-	-	-
16	3.56	-	-	-	-		-	-	-	4.39	-	-
17	-	-	4.31	4.50	-		-	4.77	4.65	-	4.03	-
18	3.56	-	4.30	-	-		4.81	-	-	-	-	-
19	-	-	-	-	-		-	-	-	4.35	-	-
20	-	3.82	4.34	-	-		-	4.75	-	-	-	-
21	-	-	-	-	-		-	-	4.55	-	-	-
22	-	3.86	-	4.47	-		-	-	-	4.29	-	3.80
23	3.56	-	-	-	-		4.73	-	-	-	-	-
24	-	-	4.34	4.48	-		-	-	-	-	-	-
25	3.56	-	-	-	-		4.73	-	-	4.27	-	-
26	-	-	-	-	-		-	-	4.51	-	-	-
27	-	3.90	-	-	-		-	-	-	-	3.92	3.78
28	-	-	-	-	-		-	-	-	-	-	-
29	3.56	3.96	-	-	------		-	-	4.49	4.21	-	-
30	-	-	4.52	4.52	------		4.75	-	-	-	-	-
31	-	------	-	-	------		------	-	------	-	-	------

12-4275. Diamond Lake near Newport, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	3.70	-	-	-	-	-	4.54	-	-	-	3.84
2	-	-	4.20	4.42	-	-	4.46	-	4.44	-	-	-
3	-	-	4.15	-	4.76	4.70	-	-	-	-	4.04	-
4	-	-	-	-	-	-	-	-	-	4.38	-	-
5	-	3.72	-	-	-	4.70	-	4.54	-	-	-	3.82
6	-	-	4.26	4.42	4.72	-	4.48	-	4.42	4.36	-	-
7	3.70	-	-	-	-	-	-	-	-	-	4.02	-
8	-	-	-	-	-	-	-	4.54	-	-	-	3.80
9	-	3.82	-	4.42	-	4.80	-	-	4.44	-	-	-
10	3.68	-	4.32	-	4.72	-	4.51	-	-	4.30	4.00	-
11	-	3.88	-	-	4.64	-	-	4.56	-	-	-	3.76
12	-	-	-	-	-	4.86	-	-	-	-	-	-
13	-	-	4.36	4.42	4.64	-	-	-	4.44	4.28	-	-
14	3.68	-	-	4.42	-	-	4.52	-	-	-	3.98	-
15	-	3.97	-	-	-	-	-	4.56	4.44	-	-	3.74
16	-	-	4.36	4.42	-	-	4.52	-	-	-	-	-
17	-	-	-	-	4.66	-	-	-	-	-	3.96	-
18	3.68	4.00	-	-	-	-	-	-	-	4.24	-	3.70
19	-	-	4.36	-	-	-	-	4.52	4.50	-	-	-
20	-	-	-	4.76	4.66	-	4.51	-	-	4.18	-	-
21	3.64	-	-	-	-	-	4.54	-	-	-	3.94	-
22	-	4.10	-	-	-	-	-	-	-	-	-	3.78
23	3.70	-	4.40	4.76	-	4.56	-	4.52	4.46	-	-	-
24	-	-	-	-	4.62	-	4.54	-	-	4.10	3.90	-
25	-	4.18	-	-	-	-	-	4.50	-	-	-	3.76
26	-	-	4.40	-	-	4.55	-	4.47	4.46	-	-	-
27	-	-	-	4.76	4.62	-	-	-	-	4.06	-	-
28	-	-	-	-	-	-	-	-	-	-	3.86	-
29	3.70	4.20	-	-	-	-	-	4.44	4.40	-	-	3.74
30	-	-	4.44	4.76	------	4.43	-	-	-	-	-	-
31	-	------	-	-	------	-	------	-	------	4.04	3.84	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	4.02	4.66	-	-	-	4.63	-	-	-	-
2	3.72	-	-	-	-	4.46	4.46	-	-	4.42	4.18	-
3	-	3.54	-	-	-	-	-	4.65	-	-	-	3.98
4	-	-	4.08	4.70	-	-	-	-	4.56	-	-	-
5	-	-	-	-	-	4.46	4.46	-	-	4.40	-	-
6	3.65	3.58	-	-	-	-	-	-	-	-	4.18	3.96
7	3.65	-	4.06	4.72	-	-	-	4.67	4.52	-	-	-
8	-	-	-	4.80	-	4.46	-	-	-	-	-	3.96
9	3.64	3.60	-	-	-	-	4.50	-	-	4.38	4.16	-
10	-	-	4.10	-	-	-	-	4.60	-	-	-	3.96
11	-	-	4.16	4.80	-	-	-	-	4.52	-	-	-
12	3.64	-	-	-	-	4.46	4.54	-	-	4.36	-	-
13	-	3.70	-	-	-	-	-	-	-	-	4.14	3.94
14	-	-	-	-	-	-	-	4.63	4.52	-	-	-
15	-	-	4.16	4.74	-	4.44	-	-	-	-	-	-
16	3.62	3.70	-	-	-	-	4.54	-	-	4.30	4.08	-
17	-	-	-	-	4.47	-	-	4.63	-	-	-	3.94
18	-	-	4.16	4.70	-	-	-	-	4.52	-	-	-
19	3.60	-	-	-	4.44	4.44	4.56	-	-	4.26	-	-
20	-	3.68	-	-	-	-	-	-	-	-	4.06	3.94
21	-	-	4.16	-	-	-	-	4.63	4.52	-	-	-
22	-	-	-	-	4.44	4.40	-	-	-	-	-	-
23	3.58	-	-	-	-	-	4.56	-	-	4.24	4.04	-
24	-	3.80	-	-	4.44	-	-	4.58	4.54	-	-	3.92
25	-	-	4.42	-	-	-	-	-	4.52	-	-	-
26	3.56	-	-	-	4.46	4.37	4.63	-	-	4.20	4.04	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	3.80	4.60	-	-	-	-	4.58	4.52	-	-	3.92
29	-	-	-	-	------	4.46	-	-	-	-	-	-
30	3.55	-	-	-	------	4.40	-	-	4.45	4.20	4.00	-
31	-	------	-	-	------	-	------	4.56	------	-	-	------

12-4280. Sacheen Lake near Newport, Wash.

Location.--Lat 48°09'55", long 117°18'05", in NW¼NW¼ sec.30, T.31 N., R.44 E., on concrete wall at southeast corner of bay at Sacheen Lake Resort, 12 miles west of Newport.

Drainage area.--33.5 sq mi (revised).

Records available.--April 1954 to September 1965 (fragmentary).

Gage.--Staff gage read occasionally. Altitude of gage is 2,240 ft (from topographic map).

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	Mar. 18, 1961	5.06	Sept. 9, 13, 16, 20, 23, 1961	3.74
1962	Mar. 30, 31, 1962	4.84	Oct. 4, Nov. 15, 18, 1961	3.80
1963	Oct. 6, 1962	4.78	Aug. 10, 1963	3.72
1964	Apr. 6, 24, 1964	4.80	Sept.12, 15, 17, 1964	3.61
1965	Apr. 21, 1965	5.42	Oct. 27, 1964	3.73

1954-65: Maximum gage height observed, 6.46 ft Apr. 16, 1956; minimum observed, 3.61 ft Sept. 12, 15, 17, 1964.

Remarks.--No known regulation or diversion.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.02	4.10	-	-	-	-	4.78	-	-	3.98	-	-
2	-	-	-	4.20	-	-	-	-	-	-	4.16	3.80
3	4.02	-	-	-	-	-	-	4.52	4.30	-	-	-
4	-	-	4.40	-	4.40	-	4.74	-	-	-	-	-
5	-	4.08	-	-	-	-	-	-	-	3.98	4.08	-
6	-	-	-	-	4.52	-	-	4.56	-	-	-	3.76
7	-	4.06	-	-	-	-	-	-	4.30	-	-	-
8	4.10	-	-	-	-	-	4.68	-	-	3.98	-	-
9	-	4.10	-	-	-	-	-	-	-	-	3.94	3.74
10	-	-	-	-	-	4.72	-	4.58	4.32	3.98	-	-
11	4.08	-	-	-	-	-	4.66	-	-	-	-	-
12	4.10	-	4.21	-	5.14	-	-	-	-	3.94	3.88	-
13	-	-	-	-	-	-	-	4.56	-	-	-	3.74
14	-	-	-	4.26	-	-	-	-	4.24	-	-	-
15	4.06	4.21	-	-	-	-	4.62	-	-	3.92	-	-
16	-	-	-	-	-	-	-	-	-	-	3.84	3.74
17	-	-	-	4.41	-	-	4.50	4.52	4.16	-	-	-
18	4.04	-	-	-	-	5.06	-	-	-	-	3.85	-
19	-	-	-	4.38	-	-	-	-	-	4.00	3.85	-
20	-	-	-	-	-	-	-	4.44	-	-	-	3.74
21	-	4.68	-	-	-	-	-	-	4.10	-	-	-
22	4.06	-	-	-	5.16	-	4.52	-	-	4.10	-	-
23	-	4.56	4.20	-	-	-	-	-	-	-	3.82	3.74
24	-	-	-	4.20	-	-	-	4.36	4.08	-	-	-
25	-	-	-	-	-	4.88	-	-	-	-	-	-
26	4.06	-	-	-	-	-	4.48	-	-	4.20	3.83	-
27	-	-	-	-	4.98	-	-	4.32	-	-	-	3.77
28	-	-	4.18	-	-	-	-	-	4.02	-	-	-
29	4.12	4.62	-	-	------	-	4.44	-	-	4.20	-	-
30	-	-	-	-	------	-	-	-	-	-	3.80	3.79
31	-	------	-	-	------	-	------	4.32	------	-	-	------

12-4280. Sacheen Lake near Newport, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	3.94	-	-	-	-	-	-	-	-	3.84	4.28
2	-	-	3.96	-	-	-	-	4.52	4.20	-	-	-
3	-	-	-	3.96	4.20	4.18	-	-	-	-	-	-
4	3.80	3.94	3.96	-	-	-	-	-	-	3.94	3.84	-
5	-	-	-	-	-	-	-	4.50	-	-	-	4.32
6	-	-	3.96	3.96	-	-	-	-	4.20	-	-	-
7	3.81	-	-	-	4.20	-	4.80	-	-	3.94	-	-
8	-	3.90	-	4.18	-	-	-	-	-	-	3.90	4.34
9	-	-	3.96	-	-	-	-	4.54	4.16	3.95	-	-
10	-	-	-	4.10	-	4.14	-	-	-	-	-	-
11	3.86	3.94	-	-	-	-	-	-	-	-	3.96	-
12	-	-	-	-	-	-	-	4.50	-	-	-	4.46
13	-	-	3.96	4.10	-	-	-	-	-	-	-	-
14	3.86	-	-	-	-	-	4.66	-	4.14	3.90	-	-
15	-	3.80	-	-	4.43	-	-	-	-	-	4.04	4.52
16	-	-	3.96	-	4.46	-	-	4.40	4.14	-	-	-
17	-	-	-	4.20	-	4.12	-	-	-	-	-	-
18	3.88	3.80	-	-	-	-	4.60	-	-	3.84	4.08	-
19	-	-	-	-	4.30	-	-	4.40	-	-	-	4.56
20	-	-	3.96	4.20	-	-	-	-	4.08	-	-	-
21	3.88	-	-	-	-	-	4.56	-	-	3.86	4.14	-
22	-	3.96	-	-	-	-	-	-	-	-	4.14	4.58
23	-	-	3.96	-	-	-	-	4.34	4.04	-	-	-
24	-	-	-	4.20	-	4.38	-	-	-	-	-	-
25	3.94	3.96	-	-	-	-	-	-	-	3.96	4.18	-
26	-	-	-	-	-	-	4.46	4.32	-	-	-	4.60
27	-	-	3.96	4.20	-	-	-	-	4.00	-	-	-
28	3.96	-	-	-	-	-	4.46	-	-	3.94	-	-
29	-	3.96	-	-	-------	-	-	-	-	-	4.22	4.68
30	3.94	-	3.96	-	-------	4.84	-	4.26	4.00	-	-	-
31	-	-------	-	4.20	-------	4.84	-------	-	-------	-	-	-------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	4.32	-	-	-	-	4.32	4.08	-	-	-
2	-	-	-	4.24	-	4.30	-	-	-	-	-	-
3	4.76	3.86	-	-	-	-	4.52	-	-	3.94	3.76	-
4	-	-	-	-	-	4.24	-	4.36	-	-	-	3.78
5	-	-	4.28	4.24	-	-	-	-	4.06	-	-	-
6	4.78	-	-	-	-	-	-	-	-	3.90	-	-
7	-	3.94	-	-	-	4.24	4.66	-	4.14	-	3.76	3.78
8	-	-	4.24	-	-	-	-	4.62	4.14	-	-	-
9	-	-	-	4.18	4.38	4.22	-	-	-	-	-	-
10	4.74	4.08	-	-	-	-	4.72	-	-	3.94	3.72	-
11	-	-	-	-	-	-	-	4.54	-	-	-	3.80
12	-	4.20	4.12	-	-	-	-	-	4.10	-	-	3.80
13	-	-	-	-	-	4.18	4.56	-	-	3.94	-	-
14	4.46	4.20	-	-	4.16	-	-	4.45	-	-	3.76	3.82
15	-	-	4.18	-	-	-	-	4.42	4.06	-	-	-
16	-	-	-	-	4.14	4.18	-	-	-	-	-	-
17	4.12	4.16	4.30	-	-	-	4.58	-	-	3.86	3.74	-
18	-	-	-	-	-	-	4.57	4.32	-	-	-	3.86
19	-	-	4.30	-	-	-	-	-	3.98	-	-	-
20	4.00	-	-	-	4.22	4.16	4.52	-	-	3.84	-	-
21	-	4.14	-	-	-	-	-	-	-	-	3.74	3.86
22	-	-	4.24	3.80	-	-	-	4.22	3.98	-	-	-
23	-	-	-	-	4.22	4.18	-	-	-	-	-	-
24	3.90	4.10	-	-	-	-	4.46	-	-	-	3.78	-
25	-	-	-	-	-	-	-	4.18	-	3.82	-	-
26	-	-	4.10	-	-	-	-	-	3.96	-	-	3.86
27	3.86	-	-	-	4.30	4.32	4.40	-	-	3.78	3.78	-
28	-	4.30	-	-	-	-	-	-	-	-	3.76	3.86
29	-	-	4.08	-	-------	-	-	4.10	3.96	-	-	-
30	-	-	-	-	-------	4.52	-	-	-	-	-	-
31	3.84	-------	-	-	-------	-	-------	-	-------	3.76	3.78	-------

12-4280. Sacheen Lake near Newport, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	-	-	4.12	-	-	-	-	-	3.90	3.67
2	3.84	-	4.06	-	-	-	-	4.61	4.13	-	-	-
3	-	-	4.06	-	-	-	-	-	-	-	-	-
4	-	3.96	-	4.00	-	4.09	-	-	-	3.98	3.93	-
5	3.86	-	-	-	4.12	-	-	4.57	-	-	-	3.64
6	-	-	-	-	-	-	4.80	-	4.12	-	-	-
7	-	4.00	-	-	-	4.07	-	-	-	3.94	-	-
8	-	-	-	4.00	4.12	-	-	-	-	-	3.90	3.62
9	3.88	-	4.02	-	-	-	-	-	4.16	-	-	-
10	-	-	-	-	-	-	-	-	-	3.90	-	-
11	-	4.02	-	4.00	4.09	-	-	-	-	3.90	3.86	-
12	3.88	-	-	-	-	4.10	-	4.40	-	-	-	3.61
13	3.88	-	-	-	-	-	-	-	4.13	-	-	-
14	-	-	-	4.00	-	-	-	-	-	3.89	-	-
15	-	4.02	-	4.02	4.11	-	-	-	-	-	3.77	3.61
16	-	-	-	-	-	4.18	-	4.34	4.13	-	-	-
17	3.88	-	-	-	-	-	-	-	-	-	-	3.61
18	-	-	3.98	4.04	4.12	-	-	-	4.16	3.88	3.70	-
19	-	4.20	-	-	-	-	-	4.31	-	-	3.71	3.78
20	-	-	-	-	-	-	4.74	-	4.18	-	-	-
21	3.90	4.24	-	-	-	-	-	-	-	3.88	-	-
22	-	-	-	4.10	4.13	-	-	-	-	-	3.66	3.88
23	-	-	-	-	-	4.28	-	4.28	4.06	-	-	-
24	-	4.24	3.98	-	-	-	4.80	-	-	-	-	-
25	-	-	-	4.14	-	-	-	4.21	-	3.86	-	4.02
26	3.96	-	-	-	4.13	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	4.07	3.86	-	-
28	-	-	4.00	-	-	-	4.68	-	-	3.85	-	-
29	-	4.14	-	4.10	4.14	-	-	-	-	-	3.65	-
30	-	-	-	-	------	4.33	-	4.17	4.01	-	-	-
31	3.94	------	4.00	-	------	-	------	-	------	-	-	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	4.16	-	-	-	-	5.06	-	-	-	-
2	4.23	-	-	4.04	-	-	-	-	-	-	-	-
3	-	3.74	-	-	-	-	4.71	-	-	4.18	-	-
4	-	-	-	-	-	-	-	-	-	-	-	3.97
5	-	-	4.22	-	-	-	-	-	4.50	-	-	-
6	4.02	-	-	-	4.15	4.56	-	-	-	-	4.08	-
7	-	3.75	-	4.00	-	-	4.78	-	-	-	4.08	-
8	-	-	4.12	-	-	-	-	4.74	-	-	-	3.94
9	-	3.80	-	4.04	-	-	-	-	-	-	-	-
10	3.88	3.82	-	-	-	-	-	4.69	-	4.13	-	-
11	-	-	4.08	-	-	-	-	-	-	-	-	3.97
12	-	-	-	-	-	-	5.18	-	4.48	-	-	-
13	3.84	-	-	-	4.16	4.62	-	-	-	4.09	-	-
14	-	3.88	-	-	-	-	-	-	-	-	4.01	-
15	-	-	4.05	-	-	-	-	4.75	4.46	-	-	-
16	-	-	-	4.05	-	-	-	-	-	-	-	-
17	3.79	-	-	-	4.15	-	5.16	-	-	4.07	-	-
18	-	-	-	-	-	-	-	-	4.50	-	-	4.02
19	-	-	4.04	-	-	-	-	-	-	-	-	4.06
20	-	-	-	-	4.21	4.54	5.35	-	-	-	-	-
21	-	3.80	-	-	-	-	5.42	-	-	-	3.96	-
22	3.75	-	-	-	-	-	-	4.73	-	-	-	-
23	-	-	-	4.06	-	-	-	-	-	-	-	-
24	3.74	3.89	4.08	-	-	-	5.38	-	4.40	4.06	-	-
25	-	-	-	-	-	-	-	-	-	-	-	4.10
26	-	-	-	-	-	-	-	-	4.36	-	-	-
27	3.73	-	-	-	4.40	4.50	-	-	-	-	-	-
28	-	3.99	-	-	-	-	-	-	-	-	3.99	-
29	-	-	-	-	------	-	-	4.66	4.32	-	-	-
30	-	-	-	4.12	------	4.62	-	-	4.28	-	-	-
31	3.74	------	-	-	------	-	------	-	------	4.09	-	------

12-4285. Eloika Lake near Elk, Wash.

Location.--Lat 48°01'45", long 117°22'25", in NE¼ sec.9, T.29 N., R.43 E., on east shore 1½ miles upstream from outlet and 5 miles northwest of Elk.

Drainage area.--101 sq mi (revised).

Records available.--May 1953 to September 1965.

Gage.--Tape gage read once daily. Datum of gage is 1,901.73 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 22, 1965, staff gage at same site and datum.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	Feb. 16, 17, 1961	6.40	Sept. 8, 9, 17-30, 1961	2.55
1962	Apr. 18, 1962	5.26	Sept. 6-13, 1962	2.50
1963	Apr. 13, 1963	5.52	Sept.13, 14, 1963	2.66
1964	Apr. 13-15, 1964	5.88	.....(a)	2.80
1965	Apr. 23, 1965	6.84	Oct. 8, 1964	2.67

a Many days during October 1963, August and September 1964.

1953-65: Maximum gage height observed, 7.77 ft Feb. 28, 1958; minimum observed, 2.32 ft Sept. 3-6, 1955.

Remarks.--No known regulation or diversion.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.76	3.15	4.94	3.56	3.86	5.90	6.06	4.82	4.44	3.24	2.60	2.61
2	2.75	3.15	4.85	3.55	3.88	5.85	6.05	4.82	4.38	3.24	2.59	2.61
3	2.75	3.15	4.74	3.54	4.02	5.74	6.02	4.84	4.30	3.24	2.58	2.61
4	2.76	3.15	4.60	3.53	4.10	5.70	6.00	4.84	4.24	3.24	2.57	2.61
5	2.78	3.15	4.50	3.53	4.20	5.65	6.00	4.86	4.20	3.24	2.58	2.61
6	2.80	3.12	4.40	3.53	4.32	5.62	5.97	4.94	4.14	3.24	2.58	2.60
7	2.84	3.11	4.40	3.53	4.46	5.59	5.92	4.95	4.09	3.24	2.58	2.60
8	2.88	3.10	4.38	3.53	4.60	5.51	5.94	4.99	4.04	3.23	2.58	2.55
9	2.89	3.09	4.36	3.54	4.74	5.34	5.84	5.02	4.08	3.18	2.58	2.55
10	2.89	3.09	4.32	3.55	5.06	5.25	5.74	5.06	4.18	3.14	2.59	2.56
11	2.89	3.18	4.30	3.55	5.50	5.12	5.68	5.12	4.08	3.06	2.59	2.56
12	2.90	3.18	4.20	3.56	5.90	5.12	5.62	5.16	4.04	3.02	2.58	2.56
13	2.91	3.20	4.16	3.56	5.92	5.12	5.57	5.24	4.08	2.96	2.60	2.56
14	2.91	3.26	4.06	3.57	6.20	5.17	5.54	5.39	4.10	2.92	2.60	2.56
15	2.92	3.26	4.02	3.60	6.34	5.46	5.50	5.44	4.07	2.89	2.60	2.56
16	2.93	3.30	3.98	3.64	6.40	5.65	5.50	5.44	4.04	2.89	2.61	2.56
17	2.93	3.31	3.94	3.67	6.40	5.92	5.42	5.34	4.00	2.89	2.62	2.55
18	2.93	3.40	3.84	3.70	6.36	6.12	5.30	5.30	3.97	2.89	2.62	2.55
19	2.94	3.48	3.76	3.76	6.30	6.29	5.24	5.24	3.94	2.88	2.62	2.55
20	2.94	3.66	3.74	3.80	6.20	6.38	5.18	5.16	3.88	2.81	2.62	2.55
21	2.94	3.88	3.70	3.86	6.14	6.40	5.12	5.16	3.85	2.76	2.62	2.55
22	2.96	4.08	3.69	3.84	6.10	6.39	5.04	5.08	3.74	2.72	2.62	2.55
23	2.97	4.27	3.68	3.82	6.12	6.39	5.00	4.96	3.70	2.72	2.62	2.55
24	2.99	4.37	3.66	3.83	6.14	6.37	4.94	4.92	3.60	2.74	2.62	2.55
25	3.00	4.68	3.64	3.84	6.16	6.32	4.90	4.86	3.54	2.72	2.61	2.55
26	3.02	5.04	3.62	3.83	6.10	6.28	4.84	4.76	3.50	2.70	2.61	2.55
27	3.02	5.12	3.60	3.80	6.04	6.26	4.82	4.69	3.44	2.67	2.61	2.55
28	3.08	5.20	3.59	3.76	5.98	6.22	4.76	4.64	3.36	2.64	2.61	2.55
29	3.10	5.12	3.58	3.74	------	6.18	4.72	4.58	3.30	2.62	2.61	2.55
30	3.12	5.04	3.58	3.80	------	6.14	4.76	4.54	3.27	2.62	2.61	2.55
31	3.14	------	3.57	3.84	------	6.10	------	4.48	------	2.62	2.61	------
MAX	3.14	5.20	4.94	3.86	6.40	6.40	6.06	5.44	4.44	3.24	2.62	2.61
MIN	2.75	3.09	3.57	3.53	3.86	5.12	4.72	4.48	3.27	2.62	2.57	2.55

12-4285. Eloika Lake near Elk, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.56	3.00	3.08	3.36	3.30	4.25	-	4.82	4.08	-	2.64	2.53
2	2.57	3.00	3.08	3.36	3.29	4.25	-	4.81	4.06	-	2.64	2.52
3	2.58	2.96	3.08	3.38	3.29	4.25	-	4.79	4.00	-	2.63	2.52
4	2.59	2.97	3.08	3.38	3.29	4.24	-	4.76	3.96	-	2.63	2.51
5	2.59	2.99	3.08	3.38	3.30	4.23	-	4.74	3.90	-	2.65	2.51
6	2.59	3.00	3.09	3.38	3.32	4.22	-	4.71	3.88	-	2.68	2.50
7	2.60	3.02	3.08	3.38	3.34	4.21	-	4.68	3.86	-	2.70	2.50
8	2.61	3.04	3.08	3.39	3.36	4.20	-	4.64	3.85	-	2.71	2.50
9	2.63	3.04	3.08	3.40	3.40	4.19	-	4.68	3.82	-	2.72	2.50
10	2.66	3.04	3.08	3.40	3.48	4.18	-	4.70	3.78	-	2.71	2.50
11	2.68	3.04	3.06	3.40	3.56	4.17	-	4.70	3.74	-	2.70	2.50
12	2.70	3.02	3.04	3.38	3.66	4.15	-	4.75	3.70	3.00	2.70	2.50
13	2.72	3.00	3.02	3.40	3.73	4.16	-	4.81	3.70	2.98	2.70	2.50
14	2.73	2.99	3.00	3.40	3.86	4.16	-	4.86	3.70	2.96	2.69	2.52
15	2.74	2.98	2.98	3.40	3.96	4.16	-	4.86	3.67	2.94	2.68	2.54
16	2.76	2.97	2.98	3.40	4.09	4.16	-	4.84	3.64	2.92	2.67	2.53
17	2.76	2.97	3.04	3.40	4.18	4.16	-	4.80	3.63	2.90	2.66	2.53
18	2.76	2.98	3.12	3.40	4.24	4.16	5.26	4.76	3.62	2.88	2.64	2.53
19	2.77	2.96	3.14	3.40	4.28	4.16	5.22	4.72	3.57	2.86	2.63	2.54
20	2.78	2.92	3.18	3.40	4.28	4.16	5.18	4.70	3.54	2.84	2.62	2.54
21	2.80	2.92	3.22	3.40	4.30	4.24	5.14	4.64	3.53	2.81	2.61	2.55
22	2.81	2.92	3.24	3.40	4.30	4.32	5.04	4.58	3.50	2.80	2.60	2.55
23	2.83	2.92	3.28	3.40	4.29	4.38	4.94	4.52	3.46	2.78	2.59	2.56
24	2.85	2.92	3.30	3.39	4.27	4.56	4.88	4.48	3.40	2.76	2.58	2.56
25	2.86	2.92	3.32	3.37	4.27	4.70	4.78	4.44	3.37	2.74	2.57	2.56
26	2.88	2.94	3.34	3.35	4.25	4.86	4.70	4.40	3.34	2.72	2.57	2.55
27	2.90	2.98	3.36	3.34	4.25	5.08	4.72	4.36	-	2.70	2.56	2.55
28	2.94	3.03	3.36	3.33	4.25	-	4.78	4.30	-	2.69	2.55	2.56
29	2.97	3.06	3.36	3.32	------	-	4.82	4.26	-	2.68	2.55	2.67
30	2.99	3.08	3.36	3.32	------	-	4.85	4.23	-	2.65	2.54	2.66
31	2.99	------	3.36	3.30	------	-	------	4.16	------	2.64	2.54	------
MAX	2.99	3.08	3.36	3.40	4.30	-	-	4.86	-	-	2.72	2.67
MIN	2.56	2.92	2.98	3.30	3.29	-	-	4.16	-	-	2.54	2.50

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.68	3.04	3.58	3.73	3.13	3.88	4.58	4.60	3.90	3.38	2.85	2.73
2	2.68	3.02	3.58	3.73	3.15	3.88	-	4.58	3.84	3.25	2.85	2.72
3	2.68	3.00	3.58	3.75	3.20	3.88	4.74	4.52	3.80	3.23	2.85	2.71
4	2.68	2.99	3.56	3.76	3.21	3.88	4.78	4.52	3.76	3.21	2.85	2.71
5	2.69	2.98	3.54	3.78	3.30	3.86	4.82	4.54	3.76	3.21	2.83	2.71
6	2.69	2.96	3.54	3.80	3.39	3.85	4.90	4.54	3.78	3.19	2.83	2.71
7	2.69	2.95	3.50	3.80	3.50	3.83	5.04	4.58	3.76	3.17	2.75	2.71
8	2.73	2.94	3.49	3.79	3.63	3.80	5.18	4.62	3.76	3.17	2.73	2.70
9	2.78	2.98	3.49	3.78	3.72	3.78	5.32	4.72	3.76	3.15	2.73	2.70
10	2.79	3.00	3.48	3.77	3.79	3.76	5.42	4.80	3.78	3.15	2.71	2.69
11	2.80	3.10	3.48	3.70	3.83	3.75	5.48	4.82	3.76	3.15	2.71	2.67
12	2.98	3.14	3.48	3.66	3.84	3.72	5.50	4.88	3.74	3.15	2.73	2.68
13	3.10	3.16	3.48	3.61	3.83	3.69	5.52	4.94	3.74	3.15	2.75	2.66
14	3.20	3.20	3.48	3.56	3.81	3.68	5.48	4.92	3.70	3.15	2.75	2.66
15	3.28	3.22	3.55	3.52	3.79	3.67	5.40	4.90	3.66	3.13	2.75	2.70
16	3.34	3.22	3.64	3.48	3.79	3.66	5.36	4.84	3.60	3.13	2.75	2.71
17	3.36	3.22	3.72	3.46	3.76	3.63	5.32	4.78	3.60	3.13	2.75	2.76
18	3.36	3.24	3.80	3.44	3.76	3.61	5.32	4.72	3.58	3.11	2.75	2.78
19	3.36	3.26	3.86	3.40	3.76	3.59	5.28	4.64	3.54	3.09	2.75	2.78
20	3.36	3.26	3.92	3.36	3.76	3.57	5.22	4.58	3.50	3.07	2.73	2.78
21	3.31	3.26	3.93	3.32	3.76	3.56	5.16	4.52	3.46	3.05	2.71	2.78
22	3.28	3.24	3.94	3.30	3.76	3.56	5.10	4.48	3.46	3.03	2.71	2.78
23	3.26	3.22	3.93	3.30	3.76	3.60	5.06	4.42	3.44	3.03	2.71	2.78
24	3.22	3.24	3.90	3.26	3.76	3.63	5.00	4.34	3.42	3.01	2.75	2.78
25	3.20	3.30	3.86	3.24	3.76	3.70	4.80	4.28	3.40	2.95	2.75	2.78
26	3.18	3.34	3.80	3.22	3.78	3.76	4.80	4.20	3.38	2.95	2.74	2.76
27	3.16	3.42	3.76	3.19	3.82	3.83	4.76	4.14	3.36	2.95	2.74	2.76
28	3.14	3.46	3.71	3.19	3.84	3.94	4.70	4.10	3.34	2.93	2.74	2.78
29	3.12	3.48	3.70	3.17	------	4.08	4.64	4.06	3.30	2.92	2.74	2.80
30	3.10	3.52	3.71	3.14	------	4.26	4.60	4.06	3.40	2.91	2.73	2.80
31	3.08	------	3.72	3.13	------	4.60	------	3.94	------	2.87	2.73	------
MAX	3.36	3.52	3.94	3.80	3.84	4.60	5.52	4.94	3.90	3.38	2.85	2.80
MIN	2.68	2.94	3.48	3.13	3.13	3.56	4.58	3.94	3.30	2.87	2.71	2.66

12-4285. Eloika Lake near Elk, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	PEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.80	3.04	3.60	3.26	3.42	3.28	4.20	5.26	3.86	3.42	2.83	2.90
2	2.80	3.05	3.60	3.26	3.42	3.28	4.28	5.20	3.80	3.40	2.83	2.90
3	2.80	3.05	3.50	3.26	3.42	3.30	4.50	5.15	3.78	3.38	2.86	2.90
4	2.80	3.05	3.50	3.26	3.40	3.30	4.58	5.15	3.76	3.36	2.86	2.90
5	2.80	3.10	3.50	3.26	3.38	3.30	4.68	5.10	3.76	3.36	2.88	2.90
6	2.82	3.20	3.50	3.26	3.36	3.32	4.80	5.08	3.76	-	2.90	2.90
7	2.84	3.25	3.48	3.28	3.36	3.32	4.94	5.05	3.76	-	2.94	2.90
8	2.86	3.30	3.48	3.26	3.36	3.34	5.10	4.98	3.72	-	2.96	2.90
9	2.88	3.30	3.48	3.26	3.34	3.34	5.30	4.98	3.70	-	2.96	2.90
10	2.88	3.30	3.42	3.26	3.34	3.32	5.48	4.95	3.68	-	2.96	2.90
11	2.88	3.30	3.38	3.24	3.36	3.34	5.52	4.95	3.66	-	2.96	2.90
12	2.88	3.36	3.36	3.24	3.34	3.38	5.80	4.80	3.66	-	2.80	2.87
13	2.88	3.32	3.34	3.24	3.34	3.40	5.88	4.70	3.64	-	2.80	2.84
14	2.88	3.36	3.32	3.24	3.32	3.42	5.88	4.60	3.64	3.00	2.80	2.83
15	2.86	3.38	3.30	3.24	3.32	3.48	5.88	4.60	3.64	-	2.80	2.80
16	2.86	3.38	3.30	3.26	3.32	3.48	5.80	4.58	3.62	-	2.80	2.80
17	2.86	3.38	3.30	3.32	3.32	-	5.80	4.50	3.62	-	2.80	2.80
18	2.86	3.40	3.32	3.36	3.32	-	5.84	4.48	3.64	-	2.80	2.83
19	2.86	3.48	3.34	3.36	-	3.54	5.82	4.20	3.70	-	2.84	2.87
20	2.86	3.60	3.36	3.38	3.30	3.60	5.56	4.20	3.70	-	2.84	2.88
21	2.86	3.62	3.36	3.38	3.30	3.64	5.50	4.20	3.66	2.94	2.82	2.88
22	2.88	3.62	3.36	3.38	3.28	3.70	5.50	4.20	3.66	2.92	2.82	2.89
23	2.88	-	3.34	3.38	3.28	3.72	5.48	4.20	3.64	2.92	2.80	2.88
24	3.00	-	3.32	3.38	3.28	3.74	5.44	4.20	3.60	2.92	2.80	2.87
25	3.00	3.70	3.30	3.38	3.28	3.74	5.42	4.11	3.60	2.90	2.80	2.86
26	3.02	3.70	3.30	3.37	3.28	3.75	5.40	4.08	3.60	2.88	2.80	2.85
27	3.02	3.72	3.30	3.37	3.28	3.75	5.40	4.06	3.60	2.88	2.80	2.82
28	3.04	3.70	3.30	3.38	3.28	3.76	5.35	4.03	3.60	2.83	2.80	2.82
29	3.04	3.68	3.28	3.40	3.28	3.79	5.30	4.00	3.50	2.83	2.80	2.82
30	3.04	3.64	3.28	3.40	------	3.82	5.30	3.98	3.48	2.83	2.90	2.82
31	3.04	------	3.26	3.42	------	3.92	------	3.90	------	2.83	2.90	------
MAX	3.04	3.72	3.60	3.42	3.42	3.92	5.88	5.26	3.86	3.42	2.96	2.90
MIN	2.80	3.04	3.26	3.24	3.28	3.28	4.20	3.90	3.48	-	2.80	2.80

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	PEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.80	2.78	3.38	3.44	3.34	3.86	4.18	6.14	4.01	3.28	2.80	2.86
2	2.78	2.78	3.40	3.44	3.34	4.00	4.20	6.04	3.97	3.26	2.80	2.86
3	2.74	2.78	3.46	3.44	3.34	4.10	4.24	5.92	3.93	3.24	2.80	2.86
4	2.71	2.78	3.52	3.44	3.36	4.20	4.30	5.90	3.87	3.22	2.78	2.86
5	2.70	2.78	3.56	3.44	3.36	4.27	4.40	5.81	3.83	3.20	2.78	2.86
6	2.68	2.78	3.58	3.44	3.38	4.34	4.52	5.71	3.79	3.18	2.78	2.84
7	2.68	2.78	3.58	3.42	3.38	4.40	4.68	5.63	3.73	3.12	2.78	2.84
8	2.67	2.78	3.60	3.42	3.38	4.48	4.92	5.55	3.69	3.10	2.78	2.84
9	2.68	2.78	3.58	3.42	3.38	4.58	4.94	5.45	3.65	3.08	2.78	2.80
10	2.70	2.78	3.58	3.40	3.38	4.65	5.20	5.35	3.61	3.06	2.76	2.80
11	2.72	2.78	3.58	3.38	3.36	4.74	5.52	4.99	3.55	3.02	2.76	2.80
12	2.74	2.78	3.54	3.36	3.36	4.84	5.80	4.91	3.51	2.99	2.76	2.80
13	2.76	2.78	3.50	3.34	3.38	4.86	6.18	4.79	3.49	2.96	2.76	2.81
14	2.76	2.78	3.49	3.32	3.38	4.90	6.34	4.69	3.43	2.94	2.74	2.81
15	2.76	2.78	3.50	3.30	3.40	4.90	6.46	4.67	3.41	2.92	2.72	2.81
16	2.78	2.90	3.46	3.30	3.40	5.00	6.56	4.59	3.41	2.90	2.72	2.80
17	2.78	2.92	3.46	3.30	3.40	-	6.64	4.53	3.41	2.88	2.72	2.80
18	2.78	2.94	3.46	3.30	3.40	-	6.68	4.49	3.39	2.96	2.72	2.80
19	2.79	3.00	3.42	3.28	3.40	-	6.70	4.41	3.37	2.94	2.70	2.82
20	2.78	3.00	3.36	3.28	3.42	-	6.74	4.41	3.37	2.92	2.78	2.84
21	2.78	3.00	3.40	3.28	3.44	-	6.78	4.39	3.35	2.90	2.76	2.84
22	2.78	3.02	3.42	3.28	3.48	-	6.82	4.36	3.35	2.88	2.74	2.85
23	2.78	3.04	3.42	3.28	3.48	-	6.84	4.35	3.35	2.88	2.74	2.85
24	2.78	3.06	3.42	3.28	3.50	-	6.80	4.33	3.35	2.88	2.80	2.85
25	2.78	3.08	3.42	3.28	3.52	-	6.70	4.31	3.33	2.88	2.82	2.85
26	2.78	3.08	3.42	3.28	3.54	-	6.60	4.29	3.31	2.88	2.84	2.85
27	2.78	3.20	3.46	3.30	3.66	-	6.50	4.25	3.31	2.86	2.86	2.85
28	2.78	3.18	3.44	3.32	3.78	-	6.42	4.23	3.31	2.86	2.88	2.85
29	2.78	3.18	3.44	3.34	------	-	6.30	4.19	3.29	2.84	2.88	2.84
30	2.78	3.18	3.44	3.34	------	4.19	6.20	4.15	3.28	2.82	2.88	2.82
31	2.78	------	3.44	3.34	------	-	------	4.09	------	2.80	2.88	------
MAX	2.80	3.20	3.60	3.44	3.78	-	6.84	6.14	4.01	3.28	2.88	2.86
MIN	2.67	2.78	3.36	3.28	3.34	-	4.18	4.09	3.28	2.80	2.70	2.80

12-4310. Little Spokane River at Dartford, Wash.

Location.--Lat 47°47'00", long 117°24'10", in NE¼NW¼ sec.5, T.26 N., R.43 E., on left bank 50 ft upstream from county bridge, half a mile east of Dartford, 7½ miles north of Spokane, and 11 miles upstream from mouth.

Drainage area.--665 sq mi.

Records available.--April 1929 to September 1932, December 1946 to September 1965.

Gage.--Digital water-stage recorder. Altitude of gage is 1,590 ft (from topographic map). Prior to Mar. 16, 1951, staff gage and Mar. 16, 1951, to July 5, 1961, graphic water-stage recorder, at site half a mile downstream at different datum. July 6, 1961, to June 5, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--21 years (1929-32, 1947-65), 329 cfs (238,200 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 12, 1961	1,870	4.41	Aug. 23, 1961	141	a 1.64
1962	Mar. 26, 1962	1,260	5.08	Aug. 25, 1962	131	b 2.10
1963	Feb. 5, 1963	1,950	6.13	Aug. 24, 1963	124	2.07
1964	Apr. 2, 1964	940	4.52	Jan. 8, 1964	109	2.01
1965	Apr. 21, 1965	1,230	5.15	Aug. 18, 19, 1965	117	2.06

a Occurred Oct. 2-6, 1960, site and datum then in use.
b Occurred Sept. 7, 1962.

1929-32, 1946-65: Maximum discharge, 2,460 cfs Feb. 7, 1960 (gage height, 5.07 ft, site and datum then in use); minimum observed, 63 cfs July 24, 1930 (gage height, 1.07 ft, site and datum then in use).

Remarks.--Records excellent. Small diversions for irrigation and domestic use above station. No known regulation. Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.

Revisions (water years).--WSP 1216: Drainage area. WSP 1286: 1930, 1932(M), 1947-49(M). WSP 1446: 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	162	190	416	240	1,010	941	829	676	505	230	154	152
2	159	186	402	240	783	927	816	646	486	226	154	154
3	159	186	402	220	820	868	803	628	471	216	152	154
4	159	183	390	210	476	816	790	640	457	220	148	152
5	159	183	352	220	515	784	784	688	444	216	148	150
6	159	180	327	385	712	784	778	700	439	211	150	150
7	165	180	319	352	842	772	772	712	491	208	150	150
8	177	177	304	343	664	754	748	700	476	200	148	148
9	180	174	296	327	552	754	742	700	491	198	145	148
10	174	190	284	339	1,460	778	730	760	505	195	145	148
11	171	226	281	304	1,500	784	706	888	471	192	143	148
12	171	230	281	292	1,700	746	706	836	452	190	143	145
13	171	216	277	292	1,330	836	742	790	439	187	148	148
14	171	220	277	300	1,300	957	718	796	402	182	148	148
15	168	223	258	398	1,310	1,350	688	822	377	182	143	148
16	168	226	240	520	1,420	1,270	670	784	355	180	148	150
17	168	251	250	407	1,250	1,230	658	760	335	175	152	150
18	168	277	258	348	1,180	1,200	640	748	323	172	150	150
19	168	288	281	319	1,140	1,160	622	712	308	172	150	150
20	168	302	284	304	1,190	1,140	610	676	296	170	148	150
21	168	467	273	292	1,390	1,100	599	646	273	168	150	152
22	171	407	266	284	1,620	1,080	588	652	270	165	150	154
23	174	356	262	284	1,340	1,080	577	628	284	170	145	156
24	174	452	258	284	1,210	1,090	566	594	284	177	143	156
25	174	730	255	273	1,150	1,040	560	577	284	172	145	156
26	177	718	255	258	1,070	1,010	560	560	273	168	148	158
27	177	545	251	244	997	1,020	553	545	262	160	148	158
28	196	486	247	244	962	976	545	540	248	156	145	160
29	203	452	244	266	------	888	535	525	248	154	143	165
30	193	434	244	270	------	855	610	515	237	154	143	163
31	193	------	244	629	------	848	------	520	------	154	145	------
TOTAL	5,345	9,335	8,978	9,688	31,033	29,868	20,247	20,964	11,186	5,720	4,576	4,571
MEAN	172	311	290	313	1,108	967	675	676	373	185	148	152
MAX	203	730	416	629	1,700	1,350	823	888	505	230	154	165
MIN	159	174	240	210	476	754	535	515	237	154	143	148
CFSM	.26	.47	.44	.47	1.67	1.45	1.01	1.02	.56	.28	.22	.23
IN.	.30	.52	.50	.54	1.74	1.68	1.13	1.17	.63	.32	.26	.26
AC-FT	10,600	18,520	17,810	19,220	61,550	59,440	40,160	41,580	22,190	11,350	9,080	9,070

CAL YR 1960: TOTAL 145,448 MEAN 397 MAX 1,900 MIN 159 CFSM .60 IN 8.13 AC-FT 288,500
WAT YR 1961: TOTAL 161,611 MEAN 443 MAX 1,700 MIN 143 CFSM .67 IN 9.04 AC-FT 320,600

12-4310. Little Spokane River at Dartford, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	163	195	230	246	243	322	758	535	358	135	135	139
2	163	192	227	241	243	322	754	484	342	192	135	137
3	163	195	224	287	260	309	754	509	335	190	137	137
4	163	192	219	325	284	306	754	535	332	187	148	137
5	168	187	224	299	269	309	772	524	332	190	156	137
6	168	187	211	281	263	306	776	506	342	190	160	137
7	168	190	205	275	260	307	803	539	328	192	160	135
8	168	187	190	275	293	312	785	543	319	190	160	137
9	168	187	177	249	382	319	754	573	306	187	160	139
10	175	187	141	192	573	303	727	632	296	182	158	145
11	180	185	152	219	535	290	697	648	287	177	156	156
12	182	182	175	243	509	284	672	581	278	175	154	163
13	182	180	180	238	528	284	656	554	290	170	152	160
14	180	185	190	232	681	293	640	539	299	168	148	160
15	180	182	195	219	754	312	636	517	303	165	143	163
16	177	177	187	208	668	335	632	502	290	165	143	160
17	177	175	195	227	644	348	616	495	272	165	143	158
18	177	177	200	185	593	407	604	484	263	163	141	158
19	177	177	205	195	566	425	596	502	252	160	141	156
20	172	177	216	200	558	429	593	480	243	158	139	152
21	177	177	290	190	513	484	581	461	235	156	137	152
22	177	200	278	192	476	465	558	447	230	154	137	150
23	198	203	269	200	415	502	539	433	227	150	135	150
24	227	200	407	222	348	596	528	443	222	145	133	148
25	203	195	440	230	340	995	513	436	219	143	133	150
26	203	182	345	232	328	1,180	502	425	213	143	133	152
27	211	203	269	312	319	1,050	528	411	208	141	133	152
28	216	219	281	287	335	995	660	407	205	139	141	172
29	203	230	266	269	------	844	620	425	203	137	145	208
30	198	227	260	252	------	794	558	393	200	137	143	182
31	195	------	255	243	------	772	------	368	------	135	141	------
TOTAL	5,659	5,732	7,303	7,468	12,180	15,201	19,566	15,331	8,229	5,141	4,480	4,582
MEAN	183	191	236	241	435	490	652	495	274	166	145	153
MAX	227	230	440	325	754	1,180	803	648	358	195	160	208
MIN	163	175	141	185	243	284	502	368	200	135	133	135
CFSM	.27	.29	.35	.36	.65	.74	.98	.74	.41	.25	.22	.23
IN.	.32	.32	.41	.42	.68	.85	1.09	.86	.46	.29	.25	.26
AC-FT	11,220	11,370	14,490	14,810	24,160	30,150	38,810	30,410	16,320	10,200	8,890	9,090

CAL YR 1961: TOTAL 156,647 MEAN 429 MAX 1,700 MIN 141 CFSM .65 IN 8.76 AC-FT 310,700
WAT YR 1962: TOTAL 110,872 MEAN 304 MAX 1,180 MIN 133 CFSM .46 IN 6.20 AC-FT 219,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	170	175	290	355	175	384	514	422	250	175	134	130
2	163	175	284	345	172	369	492	426	244	170	134	129
3	158	172	306	355	349	354	478	430	242	166	133	129
4	156	172	272	368	1,110	339	482	416	239	163	132	127
5	154	175	260	335	1,720	342	489	405	242	158	131	128
6	156	175	266	322	1,180	336	562	426	285	156	131	127
7	160	170	266	312	644	330	656	500	267	153	130	127
8	168	177	257	309	517	321	668	628	255	161	127	128
9	177	203	252	303	422	321	692	573	248	167	127	130
10	190	243	246	208	387	321	692	534	254	166	129	131
11	192	230	243	170	366	318	560	517	241	175	131	129
12	216	263	241	203	342	312	636	510	232	171	134	132
13	224	252	241	235	327	306	612	503	223	165	141	136
14	222	232	249	238	327	303	588	492	215	159	138	136
15	219	213	306	243	321	309	604	472	208	155	135	139
16	205	211	451	246	345	306	628	472	200	153	132	149
17	195	211	397	238	351	298	600	436	195	151	131	160
18	192	205	379	224	348	292	596	416	191	150	129	164
19	192	205	358	175	393	286	592	393	187	148	128	160
20	190	232	351	211	482	289	573	378	182	145	128	154
21	190	222	338	211	393	295	542	363	182	143	129	146
22	190	208	325	213	372	295	524	345	190	142	128	149
23	187	203	306	187	354	300	592	333	195	141	128	156
24	185	198	263	205	348	363	584	321	194	141	134	155
25	185	213	263	195	339	381	534	309	191	141	137	156
26	182	287	269	165	426	351	503	298	185	142	137	161
27	180	312	263	177	440	348	486	289	180	141	138	152
28	180	266	260	180	393	419	468	280	178	139	137	146
29	177	243	260	145	------	461	450	272	176	137	137	143
30	177	249	319	154	------	475	436	266	178	136	134	141
31	175	------	407	182	------	542	------	255	------	135	133	------
TOTAL	5,707	6,492	9,188	7,409	13,343	10,666	16,933	12,680	6,449	4,745	4,107	4,250
MEAN	184	216	296	239	477	344	564	409	215	153	132	142
MAX	224	312	451	368	1,720	542	692	628	285	175	141	164
MIN	154	170	241	145	172	286	436	255	176	135	127	127
CFSM	.28	.33	.45	.36	.72	.52	.85	.62	.32	.23	.20	.21
IN.	.32	.36	.51	.41	.75	.60	.95	.71	.36	.27	.23	.24
AC-FT	11,320	12,880	18,220	14,700	26,470	21,160	33,590	25,150	12,790	9,410	8,150	8,430

CAL YR 1962: TOTAL 113,565 MEAN 311 MAX 1,180 MIN 133 CFSM .47 IN 6.35 AC-FT 225,300
WAT YR 1963: TOTAL 101,969 MEAN 279 MAX 1,720 MIN 127 CFSM .42 IN 5.70 AC-FT 202,300

12-4310. Little Spokane River at Dartford, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	138	153	183	181	215	212	800	514	274	185	148	155
2	138	157	181	188	210	217	900	500	269	183	169	153
3	138	157	179	184	205	212	820	507	264	183	161	153
4	140	163	181	185	201	215	767	511	264	179	159	152
5	142	173	183	181	203	221	731	521	261	177	163	150
6	152	190	185	188	194	219	669	504	264	173	157	150
7	153	234	183	179	192	210	708	479	269	169	153	148
8	153	229	183	144	192	208	713	462	332	167	150	146
9	153	212	181	188	203	219	731	451	332	163	148	146
10	152	192	152	183	205	217	758	441	285	161	146	146
11	152	185	142	183	215	229	758	441	261	159	140	146
12	144	179	181	179	203	261	744	430	269	157	142	146
13	142	177	179	175	215	259	708	416	259	155	144	144
14	144	181	177	175	203	261	682	406	244	157	140	144
15	144	205	177	177	212	288	674	395	234	157	140	144
16	144	196	177	183	212	341	674	389	254	157	140	144
17	144	192	175	196	208	383	666	383	267	153	138	155
18	144	210	177	203	205	525	634	380	277	153	140	175
19	142	210	177	196	205	500	602	377	280	153	159	171
20	148	267	179	199	203	486	582	374	256	150	153	171
21	148	246	183	199	201	500	563	374	249	148	148	177
22	159	215	181	196	199	518	578	371	236	144	144	171
23	185	221	181	194	199	434	606	371	226	144	146	163
24	181	236	179	188	208	392	606	353	217	144	144	161
25	171	226	181	196	196	395	578	338	210	142	140	161
26	161	219	183	203	196	386	560	326	205	142	140	159
27	157	215	183	208	199	377	553	316	201	140	140	155
28	155	208	183	205	201	402	539	305	199	138	146	153
29	155	196	183	208	203	462	532	294	194	140	153	153
30	155	190	181	212	------	553	521	298	190	146	155	155
31	155	------	181	212	------	682	------	283	------	144	155	------
TOTAL	4,689	6,034	5,531	5,862	5,703	10,784	19,987	12,498	7,542	4,863	4,592	4,651
MEAN	151	201	178	190	204	348	666	403	251	157	148	155
MAX	185	267	185	212	215	682	900	521	332	185	169	179
MIN	138	153	142	144	192	208	521	283	190	138	138	144
CFSM	.23	.30	.27	.29	.31	.52	1.00	.61	.38	.24	.22	.23
IN.	.26	.34	.31	.33	.33	.60	1.12	.70	.42	.27	.26	.26
AC-FT	9,300	11,970	10,970	11,630	11,310	21,390	39,640	24,790	14,960	9,650	9,110	9,230

CAL YR 1963: TOTAL 96,836 MEAN 265 MAX 1,720 MIN 127 CFSM .40 IN 5.42 AC-FT 192,100
WAT YR 1964: TOTAL 92,966 MEAN 254 MAX 900 MIN 138 CFSM .38 IN 5.20 AC-FT 184,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	150	152	383	257	364	831	546	760	311	186	147	138
2	148	152	463	249	329	765	593	730	302	184	145	137
3	146	152	409	265	345	710	654	697	289	183	151	136
4	144	156	338	254	326	685	590	677	278	182	159	137
5	144	158	299	257	332	677	593	650	270	179	153	137
6	144	159	271	268	377	730	616	616	264	174	150	135
7	144	156	257	273	351	791	642	590	254	172	147	136
8	150	156	254	263	351	822	627	560	247	169	143	135
9	163	174	254	257	351	818	635	539	240	165	135	145
10	163	204	257	252	302	822	946	514	234	164	120	155
11	158	199	263	249	285	863	1,070	497	229	164	121	156
12	154	194	213	246	317	886	918	476	226	164	126	155
13	152	199	236	244	323	872	923	458	225	163	132	156
14	150	188	226	244	311	863	918	444	221	160	128	160
15	148	178	213	241	296	845	918	430	229	158	124	167
16	148	172	137	241	309	840	937	429	229	154	122	165
17	148	165	150	244	335	739	980	414	229	155	121	162
18	146	167	185	241	402	646	942	398	259	152	120	162
19	148	167	206	244	439	635	946	388	253	149	120	162
20	150	167	209	244	542	631	1,150	405	235	151	134	164
21	150	165	206	246	511	627	1,180	422	226	161	140	164
22	148	163	233	246	493	619	1,120	403	219	177	137	162
23	150	167	293	244	449	593	1,070	387	213	174	146	160
24	150	216	361	246	416	535	1,030	402	208	166	147	158
25	150	252	291	236	419	525	990	399	205	161	147	160
26	150	216	279	249	439	511	942	385	201	160	151	163
27	148	204	291	249	813	490	899	367	197	159	148	161
28	144	192	293	268	980	480	858	350	194	158	143	160
29	150	183	282	317	------	476	827	338	196	155	140	159
30	150	197	273	338	------	497	791	330	194	151	140	160
31	150	------	268	399	------	504	------	319	------	148	139	------
TOTAL	4,638	5,369	8,233	8,071	11,506	21,328	25,851	14,774	7,077	5,101	4,276	4,607
MEAN	150	179	268	260	411	688	862	477	236	165	138	154
MAX	163	252	463	399	980	886	1,180	760	311	189	159	167
MIN	144	152	137	236	285	476	546	319	194	148	120	135
CFSM	.22	.27	.40	.39	.62	1.03	1.30	.72	.35	.25	.21	.23
IN.	.26	.30	.46	.45	.64	1.19	1.45	.83	.40	.29	.24	.26
AC-FT	9,200	10,650	16,450	16,010	22,820	42,300	51,270	29,300	14,040	10,120	8,480	9,140

CAL YR 1964: TOTAL 95,012 MEAN 260 MAX 900 MIN 137 CFSM .39 IN 5.31 AC-FT 188,500
WAT YR 1965: TOTAL 120,891 MEAN 331 MAX 1,180 MIN 120 CFSM .50 IN 6.76 AC-FT 239,800

12-4325. Long Lake at Long Lake, Wash.

Location.--Lat 47°50'15", long 117°50'20", in NW¼SW¼ sec.13, T.27 N., R.39 E., at left end of spillway at Long Lake Dam, 12 miles north of Reardan.

Drainage area.--6,020 sq mi (revised), approximately.

Records available.--October 1913 to September 1965. Prior to October 1950 monthly contents only, published in WSP 1316.

Gage.--Water-stage recorder and staff gage, with long distance indicator in powerhouse. Datum of gage is at mean sea level (levels by Washington Water Power Co.).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	July 10, 1961	104,200	1,536.00	Mar. 30, 1961	67,900	1,528.52
1962	Aug. 3, 1962	104,300	1,536.02	Mar. 30, 1962	17,050	1,516.59
1963	July 5, 1963	103,950	1,535.95	Apr. 7, 1963	7,140	1,513.98
1964	Sept. 1, 1964	104,250	1,536.01	Mar. 16, 17, 1964	8,700	1,514.40
1965	July 18, 1965	104,050	1,535.97	Mar. 8, 1965	95,100	1,534.18

1913-65: Maximum contents, 104,300 acre-ft Aug. 3, 1962 (elevation, 1,536.02 ft); minimum, since filling reservoir in 1920, 7,140 acre-ft Apr. 7, 1963 (elevation, 1,513.98 ft).

Remarks.--Reservoir is formed by concrete dam, completed in 1913 and raised in 1950. Capacity, 104,200 acre-ft between elevations 1,512 (lower limit of normal operation) and 1,536 ft (top of gates). Contents at elevation 1,512 ft by capacity table used prior to October 1915, 148,600 acre-ft. Records given herein represent usable contents. Water used for power. Diversion above station for irrigation of about 25,000 acres in Idaho and Washinton. Other regulation in Coeur d'Alene Lake and at powerplants along Spokane River.

Cooperation.--Lake elevations and capacity table furnished by Washington Water Power Co.

MONTH-END ELEVATION AND CONTENTS, WATER YEARS OCTOBER 1960 TO SEPTEMBER 1965

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1960.....	1,535.25	100,450	+7,650	Oct. 31, 1963.....	1,535.31	100,750	-1,250
Nov. 30.....	1,535.20	100,200	-250	Nov. 30.....	1,534.95	98,950	-1,800
Dec. 31.....	1,534.37	96,050	-4,150	Dec. 31.....	1,535.05	99,450	+500
Calendar year 1960	-	-	-7,550	Calendar year 1963	-	-	-4,100
Jan. 31, 1961.....	1,533.18	90,200	-5,850	Jan. 31, 1964.....	1,535.48	101,600	+2,150
Feb. 28.....	1,528.63	68,400	-21,800	Feb. 29.....	1,524.14	48,100	-52,500
Mar. 31.....	1,528.60	68,250	-150	Mar. 31.....	1,517.04	18,750	-29,350
Apr. 30.....	1,531.00	79,600	+11,350	Apr. 30.....	1,535.16	100,000	+81,250
May 31.....	1,535.20	100,200	+20,600	May 31.....	1,534.80	98,200	-1,800
June 30.....	1,535.67	102,550	+2,350	June 30.....	1,535.37	101,050	+2,850
July 31.....	1,535.50	101,700	-850	July 31.....	1,535.28	100,600	-450
Aug. 31.....	1,535.61	102,250	+550	Aug. 31.....	1,535.75	102,950	+2,350
Sept.30.....	1,534.61	97,250	-5,000	Sept.30.....	1,535.32	100,800	-2,150
Water year 1961...	-	-	+4,450	Water year 1964...	-	-	-1,200
Oct. 31.....	1,535.18	100,100	+2,850	Oct. 31.....	1,535.68	102,600	+1,800
Nov. 30.....	1,535.22	100,300	+200	Nov. 30.....	1,535.90	103,700	+1,100
Dec. 31.....	1,535.92	103,800	+3,500	Dec. 31.....	1,534.44	96,400	-7,300
Calendar year 1961	-	-	+7,750	Calendar year 1964	-	-	-3,050
Jan. 31, 1962.....	1,534.18	95,100	-8,700	Jan. 31, 1965.....	1,534.75	97,950	+1,550
Feb. 28.....	1,528.00	65,500	-29,600	Feb. 28.....	1,535.40	101,200	+3,250
Mar. 31.....	1,517.23	19,500	-46,000	Mar. 31.....	1,535.29	100,650	-550
Apr. 30.....	1,528.00	65,500	+46,000	Apr. 30.....	1,534.35	95,950	-4,700
May 31.....	1,535.30	100,700	+35,200	May 31.....	1,534.99	99,150	+3,200
June 30.....	1,535.90	103,700	+3,000	June 30.....	1,535.49	101,650	+2,500
July 31.....	1,535.89	103,650	-50	July 31.....	1,535.48	101,600	-50
Aug. 31.....	1,535.43	101,350	-2,300	Aug. 31.....	1,535.70	102,700	+1,100
Sept.30.....	1,535.14	99,900	-1,450	Sept.30.....	1,535.13	99,850	-2,850
Water year 1962...	-	-	+2,650	Water year 1965...	-	-	-950
Oct. 31.....	1,535.09	99,650	-250				
Nov. 30.....	1,535.80	103,200	+3,550				
Dec. 31.....	1,535.87	103,550	+350				
Calendar year 1962	-	-	-250				
Jan. 31, 1963.....	1,533.47	91,650	-11,900				
Feb. 28.....	1,534.53	96,850	+5,200				
Mar. 31.....	1,515.00	11,000	-85,850				
Apr. 30.....	1,526.00	56,300	+45,300				
May 31.....	1,535.54	101,900	+45,600				
June 30.....	1,535.54	101,900	0				
July 31.....	1,535.32	100,800	-1,100				
Aug. 31.....	1,535.05	99,450	-1,350				
Sept.30.....	1,535.56	102,000	+2,550				
Water year 1963...	-	-	+2,100				

† Elevation at 2400 hours.

12-4330. Spokane River at Long Lake, Wash.

Location.--Lat 47°50'15", long 117°50'25", in SW¼ sec.13, T.27 N., R.39 E., on left bank at Long Lake powerhouse, 1½ miles upstream from Chamokane Creek and 12 miles north of Reardan.

Drainage area.--6,020 sq mi (revised), approximately.

Records available.--April 1939 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,299.00 ft above mean sea level, datum of 1929.

Average discharge.--26 years, 8,116 cfs (5,876,000 acre-ft per year), adjusted for storage.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 13, 1961	30,600	72.22	Sept.10, 1961	220	-
1962	Apr. 21, 1962	31,300	72.28	Sept. 4, 1962	220	-
1963	May 28, 1963	24,500	69.88	July 14,28,Aug.4,11	350	-
1964	May 25, 1964	32,200	72.59	Oct. 13, 1963	526	-
1965	Apr. 26, 1965	45,600	73.46	July 24, 25, 1965	410	-

1939-65: Maximum discharge recorded, 49,400 cfs May 24, 1948 (gage height, 78.66 ft); minimum daily, 114 cfs Sept. 2, 1956.

Remarks.--Records good. Flow regulated above station by Coeur d'Alene and Long Lakes, and by powerplants of Washington Water Power Co. Water diverted for irrigation above station and is equivalent to that shown for Spokane River at Spokane (see station 12-4225). Records of chemical analyses for the water years 1961-65 and water temperatures for the water years 1961-62 are published in reports of the Geological Survey.

Cooperation.--Records furnished by Washington Water Power Co.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,100	3,360	4,770	4,190	4,640	25,400	14,400	14,600	23,500	2,490	1,500	3,100
2	1,060	3,730	4,560	3,880	5,520	24,300	15,200	15,700	23,600	2,480	1,730	2,330
3	3,670	3,480	4,400	4,820	6,060	23,200	14,500	14,900	23,200	2,460	1,870	1,600
4	4,470	3,770	4,920	4,780	6,950	21,900	15,300	15,700	22,800	2,420	1,550	242
5	3,180	2,180	5,030	4,120	6,980	21,000	16,000	16,300	22,900	2,540	2,650	1,950
6	2,820	1,200	5,210	3,940	7,730	19,500	17,500	16,700	22,300	3,420	445	2,280
7	2,820	3,580	5,110	4,450	8,800	15,200	17,400	19,500	21,900	3,080	1,780	2,620
8	1,670	3,200	5,000	4,340	11,000	18,100	17,800	15,300	21,600	2,290	1,520	2,780
9	1,540	3,970	4,680	4,560	13,100	16,800	18,000	20,400	21,400	1,880	1,950	566
10	3,900	2,870	3,900	5,650	14,500	16,900	17,200	20,200	20,200	3,660	1,710	220
11	3,930	2,950	4,730	5,640	20,500	15,800	17,400	20,600	19,900	2,960	1,940	2,820
12	2,480	1,880	3,960	5,660	21,000	15,400	16,500	20,300	18,900	3,110	1,800	1,100
13	2,840	1,630	3,980	5,700	18,400	14,600	16,500	20,800	18,100	2,820	828	1,220
14	3,270	3,380	4,520	5,410	29,300	15,000	16,500	20,900	18,000	2,820	1,910	1,210
15	1,620	3,600	4,600	4,720	29,400	17,500	15,300	21,500	17,200	2,840	1,680	1,020
16	488	3,520	4,690	4,790	28,900	16,000	15,300	21,400	16,100	2,730	2,000	1,780
17	3,590	3,520	4,400	5,050	24,900	16,300	14,700	21,300	15,200	2,870	1,770	1,620
18	3,360	3,580	4,280	5,100	23,800	16,500	14,600	21,800	14,900	2,260	1,640	2,220
19	3,810	2,940	4,330	5,130	23,200	16,100	14,400	22,000	14,100	2,360	1,790	3,090
20	3,710	1,830	5,360	5,360	23,600	16,000	14,600	22,000	14,000	2,330	1,720	2,510
21	3,940	3,670	4,600	4,790	23,400	16,300	14,800	22,400	12,200	2,460	2,020	3,420
22	1,820	4,060	4,540	4,660	24,900	16,200	15,300	23,600	7,520	2,480	1,910	3,700
23	784	4,020	5,030	5,540	27,900	15,700	15,200	23,800	6,500	2,740	2,630	2,260
24	3,250	3,200	4,700	5,640	28,900	16,100	15,000	23,600	5,660	3,330	2,250	864
25	3,930	4,230	3,110	5,710	29,200	16,000	15,100	23,800	4,360	2,300	741	3,560
26	3,940	5,110	3,540	5,720	29,200	16,000	15,000	24,200	3,480	1,510	527	4,080
27	3,390	4,820	4,550	5,560	27,500	15,400	14,200	24,300	2,880	2,460	1,030	2,870
28	3,920	4,760	4,630	5,750	26,600	15,700	14,000	24,600	2,800	2,500	1,790	1,920
29	2,840	4,990	4,950	5,540	------	15,500	14,400	25,300	2,480	1,930	1,830	2,730
30	1,810	4,620	5,050	4,930	------	15,000	14,600	23,900	2,370	926	1,930	1,960
31	3,260	------	4,610	4,930	------	15,300	------	24,600	------	2,400	1,720	------
TOTAL	88,712	103,650	141,740	156,460	545,880	539,700	466,700	650,000	440,470	79,256	53,001	64,042
MEAN	2,862	3,455	4,572	5,047	19,500	17,380	15,560	20,970	14,680	2,557	1,710	2,135
MAX	4,470	5,110	5,360	5,750	29,400	25,400	18,000	25,300	23,900	3,660	2,650	4,080
MIN	488	1,200	3,110	3,880	4,640	14,600	14,000	14,600	2,370	926	445	220
AC-FT	176,000	205,600	281,100	310,300	1,083M	1,068M	925,700	1,289M	873,700	157,200	105,100	127,000
(†)	+7,650	-250	-4,150	-5,850	-21,800	-150	+11,350	+20,600	+2,350	-850	+550	-5,000
MEAN‡	2,986	3,452	4,505	4,944	19,100	17,370	15,750	21,310	14,720	2,544	1,717	2,050
AC-FT‡	183,600	205,400	277,000	304,400	1,061M	1,068M	937,000	1,310M	876,000	156,400	105,600	122,000

OBSERVED

CAL YR 1960: TOTAL 2,891,458 MEAN 7,900 MAX 27,700 MIN 330 AC-FT 5,735,000
WAT YR 1961: TOTAL 3,328,611 MEAN 9,119 MAX 29,400 MIN 220 AC-FT 6,602,000

ADJUSTED ‡

CAL YR 1960: MEAN 7,890 CFSM 1.33 IN 18.14 AC-FT 5,728,000
WAT YR 1961: MEAN 9,125 CFSM 1.54 IN 20.92 AC-FT 6,606,000

† Change in contents, in acre-feet, in Long Lake.
‡ Adjusted for change in lake contents.
M Expressed in thousands.

12-4330. Spokane River at Long Lake, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	394	2,060	3,400	3,150	5,860	6,970	10,000	23,000	18,300	4,230	2,180	2,260
2	2,130	2,120	3,300	3,140	6,210	7,080	9,830	22,000	19,100	4,140	2,010	2,890
3	2,840	3,430	2,130	3,140	6,220	7,050	11,100	21,200	17,900	3,390	1,620	970
4	3,980	2,560	3,660	3,140	6,260	7,070	11,600	20,900	17,000	4,240	2,280	220
5	3,940	2,530	3,550	3,130	6,180	7,040	12,700	20,900	16,700	4,160	1,120	1,110
6	2,900	3,520	4,100	3,130	6,200	7,020	12,900	20,800	16,500	3,030	2,010	930
7	2,050	3,530	4,600	3,140	6,180	7,000	14,300	20,700	15,500	2,950	1,820	1,180
8	1,630	3,350	4,700	3,670	6,170	6,260	16,200	20,800	14,900	3,640	2,010	1,940
9	3,280	3,420	3,130	5,320	6,220	5,340	15,900	20,900	14,400	3,610	2,170	960
10	1,120	3,390	3,340	5,950	6,200	5,020	15,800	21,100	14,100	3,840	2,220	2,420
11	3,110	2,980	3,990	4,880	6,280	5,080	13,600	19,500	12,800	3,660	1,900	810
12	1,950	1,380	1,220	4,960	6,220	5,630	16,100	14,900	13,500	3,300	2,280	2,650
13	1,410	3,330	2,060	5,750	6,820	6,030	16,400	15,800	12,700	2,650	1,970	2,140
14	2,270	3,140	3,130	5,160	7,350	6,010	18,900	19,200	11,500	1,530	1,980	1,340
15	2,220	3,710	3,130	5,440	7,920	5,940	19,300	21,800	10,100	2,490	2,430	2,000
16	3,650	4,030	3,140	5,830	8,660	5,990	20,500	21,500	9,970	2,590	2,070	1,640
17	1,970	4,440	3,140	6,350	8,890	5,980	21,900	21,000	9,500	2,370	1,870	2,230
18	635	2,550	3,140	5,670	9,300	6,030	23,100	20,800	7,350	2,740	1,320	1,760
19	1,600	2,850	3,130	6,250	9,390	6,340	18,600	20,600	6,040	2,250	1,260	1,460
20	1,780	3,750	3,140	6,260	9,340	6,510	22,300	20,300	4,900	2,200	1,780	1,110
21	2,000	4,410	3,140	6,290	9,290	6,920	23,900	20,700	4,770	1,570	1,610	2,080
22	1,620	3,020	3,140	6,200	9,270	6,860	25,200	20,200	4,860	1,860	1,460	2,280
23	1,810	2,550	3,140	6,270	9,870	6,840	25,300	19,900	3,460	2,160	1,590	1,750
24	2,680	3,830	3,160	6,220	10,100	6,820	25,100	19,300	3,490	2,310	1,690	1,890
25	2,330	3,360	3,150	6,210	8,560	7,920	24,800	18,500	3,540	2,060	1,570	1,480
26	2,580	3,530	3,140	6,220	7,220	13,000	25,000	19,600	4,020	2,390	1,250	1,460
27	1,730	3,500	3,140	6,220	7,220	12,700	25,700	20,200	4,120	2,140	1,780	2,220
28	1,580	3,730	3,140	6,280	7,230	13,100	25,500	19,500	4,420	2,300	1,850	2,360
29	1,800	3,210	3,130	6,130	------	12,100	24,500	19,700	4,290	1,740	1,650	3,570
30	3,570	3,200	3,160	6,200	------	10,800	24,500	19,800	4,100	1,990	1,470	3,900
31	2,580	------	3,140	5,980	------	9,980	------	19,100	------	2,020	2,540	------
TOTAL	69,139	96,410	99,710	161,680	210,630	232,430	570,530	624,200	304,230	85,550	56,760	55,010
MEAN	2,230	3,214	3,216	5,215	7,523	7,498	19,020	20,140	10,140	2,760	1,831	1,834
MAX	3,980	4,440	4,700	6,350	10,100	13,100	25,700	23,000	19,100	4,240	2,540	3,900
MIN	394	1,380	1,220	3,130	5,860	5,020	9,830	14,900	3,460	1,530	1,120	220
AC-FT	137,100	191,200	197,800	320,700	417,800	461,000	1,132M	1,238M	603,400	169,700	112,600	109,100
(†)	+2,850	+200	+3,500	-8,700	-29,600	-46,000	+46,000	+35,200	+3,000	-50	-2,300	-1,450
MEAN‡	2,277	3,217	3,274	5,074	6,990	6,749	19,800	20,700	10,190	2,758	1,794	1,808
AC-FT‡	140,000	191,400	201,300	312,000	388,200	415,000	1,178M	1,273M	606,400	169,600	110,300	107,600

OBSERVED

CAL YR 1961: TOTAL 3,259,768 MEAN 8,931 MAX 29,400 MIN 220 AC-FT 6,466,000
WAT YR 1962: TOTAL 2,566,279 MEAN 7,031 MAX 25,700 MIN 220 AC-FT 5,090,000

ADJUSTED ‡

CAL YR 1961: MEAN 8,941 CFSM 1.51 IN 20.50 AC-FT 6,473,000
WAT YR 1962: MEAN 7,035 CFSM 1.19 IN 16.13 AC-FT 5,093,000

† Change in contents, in acre-feet, in Long Lake.
‡ Adjusted for change in lake contents.
M Expressed in thousands.

12-4330. Spokane River at Long Lake, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,620	1,950	10,600	7,520	6,210	13,300	11,700	12,800	4,370	3,320	2,560	490
2	1,930	2,540	7,120	7,350	6,210	13,100	12,200	12,600	5,130	2,610	1,790	490
3	1,100	2,800	7,410	8,230	8,780	13,000	12,500	12,700	5,220	3,390	705	1,660
4	1,170	2,090	8,470	8,880	17,300	13,400	13,500	13,200	5,920	2,080	350	1,100
5	2,290	2,960	6,470	10,200	16,200	13,500	14,900	12,500	4,700	4,130	494	1,750
6	1,720	3,070	6,510	10,300	11,200	13,100	15,500	13,000	4,700	3,730	2,220	1,880
7	1,960	3,280	6,360	9,600	11,500	12,500	12,900	13,300	4,930	410	1,640	1,380
8	2,240	2,500	6,280	7,430	12,800	12,000	11,700	13,200	6,570	3,090	1,950	491
9	3,000	2,360	6,350	6,480	13,500	12,200	12,900	13,800	6,970	2,630	1,690	848
10	4,000	2,920	6,310	6,100	14,100	10,400	13,400	11,100	4,660	2,170	738	1,800
11	3,650	1,940	6,290	6,270	13,700	9,970	12,100	9,210	5,970	2,710	350	1,450
12	4,490	3,310	6,320	6,270	13,600	9,630	7,900	8,900	7,290	3,510	1,260	1,240
13	4,390	3,150	6,310	6,330	15,400	10,100	7,700	9,090	5,980	1,880	2,040	1,360
14	4,090	3,560	6,600	6,280	10,700	11,600	12,000	9,240	5,360	350	2,160	1,120
15	5,190	3,700	6,500	6,280	11,200	11,300	13,400	8,760	4,590	2,480	1,960	440
16	4,980	3,990	7,470	6,260	11,600	11,100	14,500	10,400	3,920	3,290	1,790	2,900
17	3,900	4,330	7,730	6,260	11,700	10,900	14,300	12,000	4,840	3,340	1,140	1,490
18	3,590	3,030	9,110	6,260	11,200	10,500	14,500	12,100	4,400	1,600	410	1,320
19	3,250	2,860	10,900	6,260	11,800	10,100	14,200	12,700	4,990	1,690	1,710	1,310
20	2,600	3,900	11,500	6,310	12,400	9,530	13,600	11,800	3,410	733	1,600	1,380
21	2,380	4,800	11,400	6,270	12,000	9,140	13,300	12,000	5,090	547	1,500	2,040
22	3,100	5,840	10,900	6,250	11,800	8,800	13,500	12,400	4,330	2,830	1,340	1,240
23	3,180	6,110	10,300	6,250	11,700	8,540	14,100	11,800	2,790	1,890	2,360	2,660
24	3,450	6,020	9,550	6,270	11,600	8,380	14,400	12,000	2,480	1,820	980	1,570
25	3,280	5,430	8,690	6,250	11,200	7,660	13,700	12,800	3,050	2,400	490	1,890
26	2,850	5,000	8,400	6,250	11,100	6,460	13,400	12,300	3,820	2,510	1,680	2,320
27	2,620	8,490	6,480	6,300	11,200	5,850	13,500	15,200	3,720	1,340	1,640	1,850
28	2,580	12,800	6,350	6,250	12,700	7,230	13,100	11,800	3,610	350	2,320	1,290
29	3,060	8,940	7,310	6,230	------	9,950	13,000	7,590	3,420	1,400	1,610	1,550
30	3,190	8,310	7,280	6,240	------	10,800	12,300	6,620	2,820	2,450	1,190	1,960
31	2,950	------	6,980	6,220	------	10,900	------	4,000	------	2,180	490	------
TOTAL	94,800	131,980	244,250	213,650	334,400	324,940	389,700	350,910	139,050	68,860	44,157	44,269
MEAN	3,058	4,399	7,879	6,892	11,940	10,480	12,990	11,320	4,635	2,221	1,424	1,476
MAX	5,190	12,800	11,500	10,300	17,300	13,500	15,500	15,200	7,290	4,130	2,560	2,900
MIN	1,100	1,940	6,280	6,100	6,210	5,850	7,700	4,000	2,480	350	350	440
AC-FT	188,000	261,800	484,500	423,800	663,300	644,500	773,000	696,000	275,800	136,600	87,580	87,810
(†)	-250	+3,550	+350	-11,900	+5,200	-85,850	+45,300	+45,600	0	-1,100	-1,350	+2,550
MEAN‡	3,054	4,459	7,885	6,699	12,030	9,085	13,750	12,060	4,635	2,203	1,402	1,519
AC-FT‡	187,800	265,400	484,800	411,900	668,500	558,600	818,300	741,600	275,800	135,500	86,230	90,360

OBSERVED

CAL YR 1962: TOTAL 2,772,050 MEAN 7,595 MAX 25,700 MIN 220 AC-FT 5,498,000
WAT YR 1963: TOTAL 2,380,966 MEAN 6,523 MAX 17,300 MIN 350 AC-FT 4,723,000

ADJUSTED ‡

CAL YR 1962: MEAN 7,595 CFSM 1.28 IN 17.42 AC-FT 5,499,000
WAT YR 1963: MEAN 6,526 CFSM 1.10 IN 14.97 AC-FT 4,725,000

† Change in contents, in acre-feet, in Long Lake.
‡ Adjusted for change in lake contents.
M Expressed in thousands.

12-4330. Spokane River at Long Lake, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,560	2,940	4,170	2,260	5,330	5,930	5,700	16,400	26,600	12,900	3,310	3,010
2	2,450	2,420	3,740	3,660	5,040	5,840	5,730	16,700	26,500	11,700	2,150	2,400
3	2,610	1,860	3,880	3,990	5,960	5,810	5,830	17,100	26,900	7,620	3,320	2,470
4	2,370	2,570	3,730	3,140	6,230	5,770	5,900	17,100	27,300	4,510	3,650	3,280
5	2,090	2,500	3,700	3,300	6,060	5,740	6,040	17,300	27,300	3,560	2,760	2,510
6	1,320	2,780	3,690	3,660	6,230	5,730	5,980	16,500	27,500	4,360	3,230	1,960
7	1,460	3,130	3,570	4,130	6,210	5,700	6,050	16,300	27,100	4,080	2,660	3,070
8	1,270	2,950	3,450	4,190	6,180	5,720	6,110	15,900	27,800	3,340	1,530	2,860
9	1,910	3,520	3,790	4,340	6,280	5,630	6,140	15,300	26,900	3,700	1,770	3,160
10	1,670	2,640	4,770	4,690	6,170	5,310	6,500	15,300	28,000	3,570	2,890	2,520
11	1,270	3,050	5,120	4,760	6,100	5,430	6,710	15,900	28,800	2,520	2,760	2,600
12	2,010	4,110	5,130	4,810	6,110	5,550	9,780	16,800	28,900	2,650	2,610	1,890
13	526	4,040	4,560	4,790	6,110	5,550	12,600	17,900	28,200	3,540	2,770	718
14	1,740	3,850	5,150	4,230	6,100	5,320	12,800	17,900	27,400	3,900	2,740	2,140
15	1,520	3,940	2,590	3,550	6,080	5,410	12,700	19,600	26,300	4,970	1,970	1,550
16	1,410	3,930	3,080	3,160	6,180	5,630	12,800	21,200	25,300	4,480	1,750	2,550
17	1,770	3,950	4,570	3,490	6,030	5,560	13,900	21,800	24,000	4,270	2,230	2,630
18	1,700	3,910	3,770	1,990	6,060	5,560	14,600	24,000	24,000	3,950	2,200	4,010
19	2,030	3,920	4,300	1,670	6,040	5,630	14,100	25,300	23,700	3,900	2,500	2,960
20	1,580	3,690	3,660	3,750	6,080	5,600	14,200	26,900	22,400	4,490	2,670	1,960
21	2,200	3,750	2,590	3,800	6,030	5,640	14,800	28,000	21,800	3,690	2,170	2,660
22	1,610	3,890	1,040	3,860	6,030	5,690	14,600	30,000	19,600	3,210	2,200	2,800
23	2,650	3,770	3,520	3,770	6,100	5,650	15,000	30,000	19,400	3,250	1,560	2,470
24	2,820	3,560	3,180	3,840	6,000	5,650	15,600	31,100	19,300	3,010	2,600	2,760
25	1,730	3,650	2,540	3,420	5,970	5,640	16,000	30,700	17,600	3,470	2,540	3,020
26	1,820	4,030	3,680	4,000	5,940	5,660	15,700	29,100	16,500	2,790	2,620	2,580
27	2,340	4,120	3,950	5,560	5,930	5,660	15,900	28,000	16,400	2,800	1,820	2,380
28	2,470	4,240	3,270	5,190	5,900	5,630	15,600	26,500	16,200	2,990	2,070	1,890
29	2,790	4,290	2,450	5,670	5,910	5,740	15,600	25,800	15,000	2,780	3,200	1,850
30	2,790	4,170	3,420	5,590	------	5,660	16,000	26,000	14,200	3,020	2,420	2,120
31	2,940	------	3,770	5,170	------	5,700	------	26,000	------	2,790	2,240	------
TOTAL	60,426	105,170	113,830	123,430	174,390	174,800	338,970	682,400	706,900	131,810	77,110	74,778
MEAN	1,949	3,506	3,672	3,982	6,013	5,635	11,300	22,010	23,560	4,252	2,487	2,493
MAX	2,940	4,290	5,150	5,670	6,280	5,930	16,000	31,100	28,900	12,900	3,650	4,010
MIN	526	1,860	1,040	1,670	5,040	5,310	5,700	15,300	14,200	2,520	1,530	718
AC-FT	119,900	208,600	225,800	244,800	345,900	346,700	672,300	1,354M	1,402M	261,400	152,900	148,300
(†)	-1,250	-1,800	+500	+2,150	-53,500	-29,350	+81,250	-1,800	+2,850	-450	+2,350	-2,150
MEAN‡	1,929	3,475	3,680	4,017	5,083	5,162	12,660	21,990	23,610	4,245	2,524	2,457
AC-FT‡	118,600	206,800	226,300	247,000	292,400	317,400	753,600	1,352M	1,405M	261,000	155,200	146,200

OBSERVED

CAL YR 1963: TOTAL 2,189,362 MEAN 5,998 MAX 17,300 MIN 350 AC-FT 4,343,000
WAT YR 1964: TOTAL 2,764,014 MEAN 7,552 MAX 31,100 MIN 526 AC-FT 5,482,000

ADJUSTED ‡

CAL YR 1963: MEAN 5,993 CFSM 1.00 IN 13.51 AC-FT 4,339,000
WAT YR 1964: MEAN 7,551 CFSM 1.25 IN 17.07 AC-FT 5,482,000

† Change in contents, in acre-feet, in Long Lake.
‡ Adjusted for change in lake contents.
M Expressed in thousands.

12-4330. Spokane River at Long Lake, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,390	3,580	11,000	23,500	18,400	13,200	7,890	32,600	17,800	5,360	2,460	2,620
2	2,560	2,870	16,300	22,300	17,900	12,700	8,620	32,900	17,700	5,330	2,520	2,290
3	2,270	3,600	18,800	20,700	17,700	13,100	8,260	32,400	17,200	4,530	3,260	2,810
4	2,520	3,350	19,500	16,900	16,900	12,600	8,810	31,600	16,600	4,360	3,620	1,910
5	3,070	3,410	19,300	19,900	17,300	12,900	8,500	30,000	16,600	4,850	1,990	1,510
6	2,780	3,770	18,400	20,300	18,100	12,600	8,510	29,000	17,600	5,270	2,280	1,390
7	2,670	3,870	14,600	17,500	16,400	12,900	9,300	28,000	18,100	4,580	1,800	1,900
8	2,320	3,220	15,600	12,500	15,100	12,700	9,790	25,900	11,200	4,930	2,220	2,010
9	2,370	3,390	9,660	10,700	15,300	12,900	9,860	24,700	14,500	4,580	2,180	2,720
10	2,290	3,480	7,740	12,200	13,800	13,200	10,500	23,900	14,600	3,990	2,290	1,820
11	2,510	3,570	9,250	9,590	13,400	13,800	11,900	21,400	14,300	2,890	2,720	2,070
12	2,600	3,590	7,360	7,550	12,700	13,500	12,000	21,500	14,100	5,930	2,320	1,270
13	2,620	3,390	7,320	7,190	12,700	13,500	12,200	21,500	14,100	3,400	2,510	2,530
14	2,210	3,390	6,980	7,220	13,000	13,900	13,800	21,700	13,400	4,040	2,440	2,750
15	2,420	3,060	7,510	7,260	10,900	13,100	14,100	22,200	13,600	3,560	2,870	2,980
16	2,820	3,410	6,910	8,270	10,900	13,400	15,400	22,100	11,100	3,450	2,130	3,640
17	2,580	3,610	6,510	8,290	12,400	12,700	16,900	21,800	9,580	1,800	2,640	3,360
18	2,450	3,540	6,530	8,100	13,600	12,200	17,400	21,700	9,960	1,240	2,320	2,710
19	2,540	3,450	6,980	7,900	12,400	12,400	18,800	21,300	10,700	2,920	2,130	1,380
20	2,700	3,540	6,460	7,870	13,300	11,600	21,200	21,200	11,700	3,590	2,640	2,130
21	2,750	3,400	6,320	7,920	12,200	12,000	25,400	20,600	8,390	4,100	3,580	2,110
22	2,750	3,140	12,000	8,670	12,100	10,900	29,100	20,300	5,210	4,550	3,430	2,160
23	3,040	3,170	24,200	8,340	12,200	11,100	31,300	19,800	5,360	3,430	3,450	2,190
24	2,710	3,740	28,900	8,410	12,200	10,700	32,900	19,600	5,630	410	3,240	2,240
25	1,960	4,800	31,200	8,930	11,700	9,690	33,800	19,500	5,020	410	2,430	2,180
26	2,740	6,450	30,900	8,580	11,900	10,000	34,100	19,300	6,830	5,170	3,080	2,370
27	2,990	8,320	30,200	8,350	13,200	9,240	33,000	18,700	7,560	4,520	1,830	3,590
28	3,080	7,650	29,600	11,500	14,100	9,570	33,000	18,600	5,840	2,070	2,360	4,040
29	3,090	6,670	23,500	19,600	------	8,830	32,600	18,200	4,990	1,920	2,270	1,800
30	3,210	7,110	26,000	21,700	------	8,410	33,200	18,000	4,840	2,080	2,420	745
31	2,780	------	24,800	21,800	------	8,430	------	18,000	------	1,810	559	------
TOTAL	81,790	123,540	490,330	389,540	391,800	367,770	562,140	718,000	344,110	111,470	77,989	69,225
MEAN	2,638	4,118	15,820	12,570	13,990	11,860	18,740	23,160	11,470	3,596	2,516	2,308
MAX	3,210	8,320	31,200	23,500	18,400	13,900	34,100	32,900	18,100	5,930	3,620	4,040
MIN	1,960	2,870	6,320	7,190	10,900	8,410	7,890	18,000	4,840	410	559	745
AC-FT	162,200	245,000	972,600	772,600	777,100	729,500	1,115M	1,424M	682,500	221,100	154,700	137,300
(†)	+1,800	+1,100	-7,300	+1,550	+3,250	-550	-4,700	+3,200	+2,500	-50	+1,100	-2,850
MEAN‡	2,667	4,136	15,700	12,590	14,050	11,860	18,650	23,210	11,510	3,594	2,534	2,259
AC-FT‡	164,000	246,100	965,300	774,200	780,400	729,000	1,110M	1,427M	685,000	221,000	155,800	134,400

OBSERVED

CAL YR 1964: TOTAL 3,180,248 MEAN 8,689 MAX 31,200 MIN 718 AC-FT 6,308,000
WAT YR 1965: TOTAL 3,727,704 MEAN 10,210 MAX 34,100 MIN 410 AC-FT 7,394,000

ADJUSTED ‡

CAL YR 1964: MEAN 8,685 CFSM 1.44 IN 19.64 AC-FT 6,305,000
WAT YR 1965: MEAN 10,210 CFSM 1.70 IN 23.03 AC-FT 7,393,000

† Change in contents, in acre-feet, in Long Lake.
‡ Adjusted for change in lake contents.
M Expressed in thousands.

12-4355. Feeder canal at Grand Coulee, Wash.

Location.--Lat 47°57'00", long 118°59'40", on line between secs.1 and 2, T.28 N., R.30 E., on left bank at Grand Coulee, a quarter of a mile downstream from intake and half a mile southwest of Grand Coulee Dam.

Records available.--October 1951 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,550.0 ft above mean sea level, Bureau of Reclamation datum, adjustment of 1937.

Extremes.--Maximum daily discharges, in cubic feet per second, for the water years 1961-65 are contained in the following table:

Water year	Date	Discharge	Water year	Date	Discharge
1961	June 13-15, 17-21, 1961	9,740	1964	June 29, 1964	9,720
1962	June 23, 1962	9,260	1965	May 7-9, 1965	9,070
1963	July 2, Aug. 6, 1963	9,750			

1951-65: Maximum daily discharge, 11,000 cfs July 11, 1954; no flow except during pumping season.

Remarks.--Records excellent. Water is pumped (beginning May 1951) from Franklin D. Roosevelt Lake behind Grand Coulee Dam, through a lift of about 280 ft into feeder canal for a distance of 2 miles into Banks Lake (formerly called equalizing reservoir). From Banks Lake it is distributed through a system of canals to the Columbia Basin project.

Cooperation.--Discharge records furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	5,950	0	0	7,910	9,720	6,400	4,840
2	0	0	0	0	0	5,940	0	0	7,930	9,720	6,400	4,840
3	0	0	0	0	0	5,930	0	0	7,950	9,720	6,400	4,840
4	0	0	0	0	0	192	0	0	7,980	9,710	6,400	4,840
5	0	0	0	0	0	0	0	0	8,000	9,710	6,400	4,840
6	0	0	0	0	0	0	0	0	8,020	9,710	6,400	4,840
7	0	0	0	0	0	0	1,870	0	8,050	9,710	6,400	4,310
8	0	0	0	0	0	0	5,920	0	5,690	9,690	6,400	3,230
9	0	0	0	0	0	0	5,910	0	4,940	9,690	6,410	3,230
10	0	0	0	0	0	0	3,100	0	8,110	9,690	6,420	3,230
11	0	0	0	0	2,970	0	0	0	7,930	9,690	6,430	3,230
12	0	0	0	0	6,010	0	0	0	7,330	9,680	5,890	3,230
13	0	0	0	0	5,660	0	0	0	9,740	9,680	4,820	3,230
14	0	0	0	0	2,770	0	0	0	9,740	9,680	4,810	3,230
15	0	0	0	0	6,000	0	0	0	9,740	9,660	4,800	3,230
16	0	0	0	0	5,980	0	0	0	9,100	9,650	4,800	3,230
17	0	0	0	0	5,990	0	0	0	9,740	9,650	4,810	1,600
18	0	0	0	0	2,940	0	0	0	9,740	9,630	4,000	0
19	0	0	0	0	0	0	0	0	9,740	9,630	4,820	0
20	0	0	0	0	0	0	0	0	9,740	8,690	4,830	0
21	0	0	0	0	0	0	0	0	9,740	7,490	4,830	0
22	0	0	0	0	0	0	0	3,660	9,730	6,430	4,840	0
23	0	0	0	0	0	0	0	7,240	9,730	6,430	4,840	0
24	0	0	0	0	0	0	0	7,770	9,730	6,420	4,840	0
25	0	0	0	0	0	0	0	7,770	9,730	6,410	4,850	0
26	0	0	0	0	0	0	0	7,780	9,720	6,410	4,850	0
27	0	0	0	0	4,710	0	0	7,790	9,720	6,410	4,850	0
28	0	0	0	0	5,970	0	0	7,810	9,720	6,400	4,850	0
29	0	0	0	0	------	0	0	7,840	9,720	6,400	4,850	0
30	0	0	0	0	------	0	0	7,860	9,720	6,400	4,850	0
31	0	------	0	0	------	0	------	7,880	------	6,400	4,840	------
TOTAL	0	0	0	0	49,000	18,012	16,800	73,400	264,380	264,310	167,330	64,020
MEAN	0	0	0	0	1,750	581	560	2,368	8,813	8,526	5,398	2,134
MAX	0	0	0	0	6,010	5,950	5,920	7,880	9,740	9,720	6,430	4,840
MIN	0	0	0	0	0	0	0	0	4,940	6,400	4,000	0
AC-FT	0	0	0	0	97,190	35,730	33,320	145,600	524,400	524,300	331,900	127,000

CAL YR 1960: TOTAL 809,470.00 MEAN 2,212 MAX 9,280 MIN 0 AC-FT 1,606,000
WAT YR 1961: TOTAL 917,252.00 MEAN 2,513 MAX 9,740 MIN 0 AC-FT 1,819,000

12-4355. Feeder canal at Grand Coulee, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	4,500	9,190	7,940	6,430	0
2	0	0	0	0	0	0	0	4,500	9,170	6,810	6,420	0
3	0	0	0	0	0	0	0	4,500	9,170	6,400	6,410	0
4	0	0	0	0	0	0	0	4,510	9,170	6,420	6,400	0
5	0	0	0	0	0	0	0	4,520	9,160	6,430	6,390	0
6	0	0	0	0	0	0	0	4,530	9,150	6,440	6,400	0
7	0	0	0	0	0	0	0	4,530	9,140	6,440	6,360	0
8	0	0	0	0	0	0	0	4,530	9,140	6,440	6,350	0
9	0	0	0	0	0	0	0	4,530	9,140	6,440	6,350	0
10	0	0	0	0	0	0	0	4,530	9,120	6,440	6,390	0
11	0	0	0	0	0	0	0	4,530	9,110	6,440	6,390	0
12	0	0	0	0	0	0	0	4,530	9,110	6,440	6,400	0
13	0	0	0	0	0	0	0	4,530	9,100	6,440	6,400	0
14	0	0	0	0	0	0	0	4,530	9,100	6,450	6,410	0
15	0	0	0	0	0	0	0	4,530	8,670	6,450	5,170	0
16	0	0	0	0	0	0	0	4,540	7,210	6,450	4,820	0
17	0	0	0	0	0	0	804	4,540	6,100	6,450	3,220	0
18	0	0	0	0	0	0	3,150	4,550	6,100	6,450	3,230	0
19	0	0	0	0	0	0	4,480	4,560	6,110	6,450	3,230	0
20	0	0	0	0	0	0	4,480	4,570	6,130	6,450	3,230	0
21	0	1,420	0	0	0	0	4,480	4,580	6,150	6,450	1,580	0
22	0	862	0	0	0	0	4,480	4,600	7,200	6,450	2,120	0
23	0	0	0	0	0	0	4,490	4,610	9,260	6,450	3,240	0
24	0	0	0	0	0	0	4,480	6,260	9,030	6,450	2,180	0
25	0	0	0	0	0	0	4,490	8,640	7,770	6,450	1,620	0
26	0	0	0	0	0	0	4,490	9,170	7,800	6,450	1,620	0
27	0	0	0	0	0	0	4,150	9,180	7,830	6,450	1,620	0
28	0	0	0	0	0	0	4,470	9,180	7,860	6,450	1,620	0
29	0	0	0	0	------	0	4,490	9,180	7,890	6,450	1,620	0
30	0	0	0	0	------	0	4,490	9,180	7,910	6,440	1,630	0
31	0	------	0	0	------	0	------	8,720	------	6,340	1,420	------
TOTAL	0	2,282	0	0	0	0	57,424	173,830	246,080	201,500	132,780	0
MEAN	0	76.1	0	0	0	0	1,914	5,608	8,233	6,500	4,283	0
MAX	0	1,420	0	0	0	0	4,490	9,180	9,260	7,940	6,430	0
MIN	0	0	0	0	0	0	0	4,500	6,100	6,340	1,420	0
AC-FT	0	4,530	0	0	0	0	113,900	344,900	489,900	399,700	263,400	0

CAL YR 1961: TOTAL 919,534.00 MEAN 2,519 MAX 9,740 MIN 0 AC-FT 1,824,000
WAT YR 1962: TOTAL 814,856.00 MEAN 2,232 MAX 9,260 MIN 0 AC-FT 1,616,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0		0	0	0	0	0		6,340	9,490	8,840	9,710
2	0		0	0	0	0	0		6,960	9,750	9,740	9,710
3	0		0	0	0	0	0		9,480	9,720	9,740	7,910
4	0		0	0	0	0	0		9,500	9,720	9,740	7,720
5	0		0	0	0	0	0		9,530	9,720	9,740	8,080
6	0		0	0	0	0	0		9,560	9,720	9,750	8,080
7	0		0	0	0	0	0		9,580	9,720	9,740	8,080
8	0	0	0	0	0	0	0		9,600	9,720	9,740	1,690
9	0		0	0	0	0	0		9,620	9,720	9,740	
10	0		0	0	0	0	0		9,640	9,720	9,740	
11	0		0	0	0	0	0		9,650	9,720	9,740	
12	0		0	0	0	0	0	0	9,670	9,720	9,740	
13	0		0	0	0	0	0		9,680	9,720	9,740	
14	0		0	0	0	0	0		9,690	9,720	9,740	
15	0	1,170	0	0	0	0	0		9,690	9,720	9,740	
16	0	1,800	0	0	0	0	0		9,690	8,160	9,740	
17	0		0	0	0	0	0		9,710	8,120	9,740	
18	0		0	0	0	0	0		9,710	8,110	9,740	
19	0		0	0	0	0	0		9,720	8,740	9,740	
20	0		0	0	0	0	0		9,720	8,950	9,740	0
21	0		0	0	0	0	0		9,730	8,080	9,740	
22	0		0	0	0	0	0		9,740	8,230	9,740	
23	0		0	0	0	0	0		9,740	9,380	9,250	
24	0	0	0	0	0	0	0	3,260	9,740	8,520	9,730	
25	0		0	0	0	0	0	6,240	9,740	8,090	9,720	
26	0		0	0	0	0	0	6,250	9,740	8,500	9,720	
27	0		0	0	0	0	0	6,270	9,740	9,710	9,720	
28	0		0	0	0	0	0	6,280	9,740	9,720	9,720	
29	0		0	0	------	0	0	8,180	9,740	9,720	9,720	
30	0		0	0	------	0	0	9,390	9,740	8,680	9,720	
31	0	------	0	0	------	0	------	8,610	------	8,140	9,720	------
TOTAL	0	2,970	0	0	0	0	0	54,480	284,130	284,850	300,410	60,980
MEAN	0	99.0	0	0	0	0	0	1,757	9,471	9,189	9,691	2,033
MAX	0	1,800	0	0	0	0	0	9,390	9,740	9,750	9,750	9,710
MIN	0	0	0	0	0	0	0	0	6,340	8,080	8,840	0
AC-FT	0	5,890	0	0	0	0	0	108,100	563,600	565,000	595,900	121,000

CAL YR 1962: TOTAL 815,544.00 MEAN 2,234 MAX 9,260 MIN 0 AC-FT 1,618,000
WAT YR 1963: TOTAL 987,820.00 MEAN 2,706 MAX 9,750 MIN 0 AC-FT 1,959,000

12-4355. Feeder canal at Grand Coulee, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	7,030	9,190	9,710	9,580	9,030
2	0	0	0	0	0	0	0	9,050	9,200	9,700	9,560	9,610
3	0	0	0	0	0	0	0	9,070	9,200	9,630	9,540	9,600
4	0	0	0	0	0	0	0	9,090	9,210	9,690	3,090	9,390
5	0	0	0	0	0	0	0	8,260	9,230	9,650	0	9,580
6	0	0	0	0	0	0	0	9,140	9,250	9,690	0	9,580
7	2,150	0	0	0	0	0	0	9,160	9,300	9,630	0	1,930
8	3,280	0	0	0	0	0	0	9,170	9,350	9,680	5,770	0
9	3,280	0	0	0	0	0	0	9,170	9,410	9,680	9,650	0
10	3,280	0	0	0	0	0	0	9,180	9,450	9,680	9,650	0
11	3,280	0	0	0	0	0	0	9,180	9,470	9,690	9,650	0
12	3,280	0	0	0	0	0	0	8,980	9,500	9,680	9,630	0
13	1,130	0	0	0	0	0	0	9,180	9,510	9,680	6,630	0
14	0	0	0	0	0	0	0	8,750	9,530	9,660	0	0
15	0	0	0	0	0	0	0	9,180	9,560	8,960	0	0
16	0	0	0	0	0	0	0	9,180	9,580	9,650	0	0
17	0	0	0	0	0	0	0	9,180	9,600	9,650	6,080	0
18	0	0	0	0	0	0	0	9,180	9,640	9,630	9,660	0
19	0	0	0	0	0	0	0	9,180	9,650	9,630	9,650	0
20	0	0	0	0	0	0	0	9,170	9,670	9,610	9,650	0
21	0	0	0	0	0	0	0	9,170	9,680	9,600	9,640	0
22	0	0	0	0	0	0	0	9,170	9,690	9,590	4,300	526
23	0	0	0	0	0	0	0	9,160	9,710	2,170	0	0
24	0	0	0	0	0	0	0	9,010	9,710	0	0	0
25	0	0	0	0	0	0	0	9,170	9,710	0	0	0
26	0	0	0	0	0	0	0	9,180	9,710	0	4,630	0
27	0	0	0	0	0	0	0	8,540	9,710	5,920	9,670	0
28	0	0	0	0	0	0	0	9,180	9,710	9,630	9,660	0
29	0	0	0	0	0	0	1,970	9,180	9,720	9,620	9,650	0
30	0	0	0	0	------	0	5,360	9,180	9,710	9,600	9,650	0
31	0	------	0	0	------	0	------	9,180	------	9,600	8,180	------
TOTAL	19,680	0	0	0	0	0	7,330	279,630	285,560	258,460	183,170	59,446
MEAN	635	0	0	0	0	0	244	9,020	9,519	8,337	5,905	1,982
MAX	3,280	0	0	0	0	0	5,360	9,180	9,720	9,710	9,670	9,610
MIN	0	0	0	0	0	0	0	7,030	9,190	0	0	0
AC-FT	39,030	0	0	0	0	0	14,540	554,600	566,400	512,600	363,300	117,900

CAL YR 1963: TOTAL 1,004,530.00 MEAN 2,752 MAX 9,750 MIN 0 AC-FT 1,992,000
WAT YR 1964: TOTAL 1,093,276.00 MEAN 2,987 MAX 9,720 MIN 0 AC-FT 2,168,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	0	0	0	3,130	8,670	8,920	7,260	5,650
2	0	0	0	0	0	0	0	3,080	8,670	8,920	7,260	5,650
3	0	0	0	0	0	0	0	3,130	8,670	8,920	7,260	4,590
4	0	0	0	0	0	0	0	4,790	8,720	8,920	7,260	4,030
5	0	0	0	0	0	0	0	5,950	8,720	8,920	7,260	4,030
6	0	0	0	0	0	0	0	7,510	8,720	8,920	7,570	4,030
7	0	0	0	0	0	0	0	9,070	8,720	8,920	8,870	4,030
8	0	0	0	0	0	0	0	9,070	8,770	8,920	8,870	4,030
9	0	0	0	0	0	0	0	9,070	8,770	8,920	8,870	3,330
10	0	0	0	0	0	0	0	8,870	8,770	8,920	6,870	1,010
11	0	0	0	0	0	0	0	8,620	8,770	8,920	8,870	0
12	0	0	0	0	0	0	0	8,620	8,820	8,920	8,870	0
13	0	0	0	0	0	0	0	8,670	8,820	8,920	6,870	0
14	0	0	0	0	0	0	0	8,670	8,870	8,920	8,870	0
15	0	0	0	0	0	0	0	8,670	8,870	8,920	8,870	0
16	0	0	0	0	0	0	0	8,620	8,870	8,920	8,870	0
17	0	0	0	0	0	0	0	8,670	8,870	8,920	8,870	0
18	0	0	0	0	0	0	0	8,670	8,870	8,920	8,870	0
19	0	0	0	0	0	0	0	8,670	8,870	8,920	8,870	0
20	0	0	0	0	0	0	0	8,670	8,870	8,920	8,920	0
21	0	0	0	0	0	0	0	8,670	8,920	8,920	8,870	0
22	0	0	0	0	0	0	0	8,670	8,920	8,920	8,820	0
23	0	0	0	0	0	0	0	8,670	8,920	8,920	8,820	0
24	0	0	0	0	0	0	0	8,670	8,920	8,870	8,820	0
25	0	0	0	0	0	0	0	8,670	8,920	8,870	8,820	0
26	0	0	0	0	0	0	0	8,670	8,920	8,870	8,820	0
27	0	0	0	0	0	0	0	8,670	8,920	8,870	8,070	0
28	0	0	0	0	0	0	101	8,670	8,920	8,870	7,260	0
29	0	0	0	0	------	0	101	8,670	8,920	8,120	7,260	0
30	0	0	0	0	------	0	1,970	8,670	8,920	7,260	6,200	0
31	0	------	0	0	------	0	------	8,670	------	7,260	5,650	------
TOTAL	0	0	0	0	0	0	2,172	245,590	264,900	272,150	255,910	40,380
MEAN	0	0	0	0	0	0	72.4	7,922	8,830	8,779	8,255	1,346
MAX	0	0	0	0	0	0	1,970	9,070	8,920	8,920	8,920	5,650
MIN	0	0	0	0	0	0	0	3,080	8,670	7,260	5,650	0
AC-FT	0	0	0	0	0	0	4,310	487,100	525,400	539,800	507,600	80,090

CAL YR 1964: TOTAL 1,073,596.00 MEAN 2,933 MAX 9,720 MIN 0 AC-FT 2,129,000
WAT YR 1965: TOTAL 1,081,102.00 MEAN 2,962 MAX 9,070 MIN 0 AC-FT 2,144,000

12-4360. Franklin D. Roosevelt Lake at Grand Coulee Dam, Wash.

Location.--Lat 47°57'20", long 118°59'10", in lot 3 sec.1, T.28 N., R.30 E., in block 12 of Grand Coulee Dam at Grand Coulee.

Drainage area.--74,700 sq mi (revised), approximately.

Records available.--April 1938 to September 1965. Prior to October 1943, published as Columbia River Reservoir at Grand Coulee Dam.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, Bureau of Reclamation datum, or 1.425 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels by Bureau of Reclamation). Prior to Apr. 24, 1942, staff gage at site 2,000 ft upstream at same datum.

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	Aug. 24, 1961	9,564,400	1,290.03	Mar. 13, 1961	6,821,500	1,252.43
1962	Sept. 7, 1962	9,580,500	1,290.23	Mar. 24, 1962	6,778,900	1,251.78
1963	June 26, 1963	9,575,700	1,290.17	Mar. 18, 1963	6,995,700	1,255.07
1964	Sept.20, 1964	9,578,100	1,290.20	Apr. 1, 1964	6,748,900	1,251.32
1965	Sept.15, 1965	9,567,600	1,290.07	Apr. 1, 1965	6,997,700	1,255.10

1938-65: Maximum contents recorded, 9,586,200 acre-ft July 17, 1942, June 3, 1945 (elevation, 1,290.3 ft); minimum observed, 16,200 acre-ft Aug. 29, 1938 (elevation, 956.1 ft).

Remarks.--Reservoir is formed by concrete dam; construction of dam began in 1934; completed in 1941; storage began early in construction period. Capacity, 5,071,700 acre-ft between elevations 1,208 (proposed lower limit of operation) and 1,290 ft (top of gates) above mean sea level. Capacity increased to 5,232,000 acre-ft by use of 2-foot flashboards installed after high-water period each year beginning August 1961. Storage below 1,208 ft, 4,330,000 acre-ft. Figures given herein represent total contents. Water is used for power development and diversion by pumping for irrigation of Grand Coulee project (began in May 1951) of Bureau of Reclamation.

Revisions (water years).--WSP 1286: 1942, 1945(M). WSP 1316: 1942 (May month-end contents).

Capacity table, water years 1961-65 (elevation, in feet, and contents, in acre-feet)

1,250	6,663,200	1,270	8,030,700	1,290	9,562,000	

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	87.70	86.80	86.88	77.89	64.04	56.90	53.10	56.39	77.43	89.80	87.05	89.96
2	87.67	86.79	86.74	77.20	63.05	56.79	52.83	57.74	78.68	89.81	87.04	89.80
3	87.68	86.77	86.62	76.44	61.89	56.47	53.03	59.13	79.80	89.75	87.02	89.82
4	87.69	86.79	86.61	75.83	60.91	55.81	53.51	60.67	81.12	89.81	87.00	89.86
5	87.70	86.70	86.48	75.18	59.89	55.06	54.22	61.97	82.35	89.82	87.01	89.87
6	87.62	86.72	86.29	74.96	58.86	54.79	55.19	63.30	83.42	89.81	87.02	89.96
7	87.38	86.75	86.18	74.70	58.32	54.75	55.72	64.59	85.05	89.80	87.12	89.99
8	87.47	86.72	85.91	74.60	57.73	54.55	55.44	65.77	86.50	89.80	87.47	89.98
9	87.44	86.71	85.58	74.27	57.49	54.27	55.18	66.64	87.54	89.80	87.97	89.98
10	87.42	86.79	85.28	74.17	57.42	54.01	55.14	67.03	88.28	89.81	88.30	89.84
11	87.41	86.78	85.05	74.01	57.26	53.28	54.88	67.12	88.86	89.78	88.35	89.78
12	87.42	86.83	84.78	73.82	57.32	52.70	54.52	66.88	89.31	89.76	87.90	89.60
13	87.44	86.82	84.24	73.32	57.15	52.54	54.22	67.10	89.48	89.77	87.38	89.48
14	87.39	86.79	84.01	73.19	57.42	52.68	53.88	67.09	89.51	89.70	86.95	89.20
15	87.39	86.82	83.50	73.00	57.33	52.62	53.63	67.09	89.70	89.38	86.84	88.98
16	87.35	86.85	83.05	73.05	57.30	52.67	53.27	67.13	89.75	89.24	86.84	89.03
17	87.40	86.80	82.73	72.94	57.18	52.62	52.82	66.97	89.75	89.05	86.93	89.12
18	87.46	86.73	82.46	72.73	57.10	52.65	52.65	66.99	89.73	88.93	87.34	89.11
19	87.40	86.65	82.12	72.45	56.95	52.65	52.72	67.29	89.73	88.80	87.80	89.03
20	87.39	86.60	81.82	71.99	56.81	52.70	52.71	67.92	89.81	88.61	88.44	88.92
21	87.37	86.70	81.65	71.48	56.77	52.86	52.84	68.78	89.72	88.43	88.94	88.87
22	87.41	86.73	81.55	71.00	56.52	53.13	52.86	69.48	89.67	88.26	89.39	88.90
23	87.49	86.69	81.28	70.35	56.88	53.29	52.84	70.04	89.72	88.10	89.73	89.13
24	87.53	86.74	81.12	69.69	57.01	53.47	52.63	70.16	89.73	87.90	89.97	89.44
25	87.60	86.86	81.00	69.02	57.20	52.95	52.80	70.01	89.78	87.69	89.91	89.61
26	87.43	86.93	80.68	68.44	57.22	52.57	52.81	70.59	89.77	87.44	89.91	89.73
27	87.43	86.87	80.32	67.81	57.28	52.62	53.08	71.58	89.64	87.24	89.91	89.78
28	87.21	86.81	79.70	67.09	57.19	52.81	53.73	72.64	89.77	87.08	89.87	89.56
29	86.95	86.85	79.16	66.40	------	53.02	54.48	73.69	89.77	87.04	89.85	89.49
30	86.86	86.79	78.72	65.55	------	53.12	55.38	74.93	89.82	87.11	89.83	89.50
31	86.81	------	78.26	64.79	------	53.34	------	76.24	------	87.00	89.80	------
MAX	87.70	86.93	86.88	77.89	64.04	56.90	55.72	76.24	89.82	89.82	89.97	89.99
MIN	86.81	86.60	78.26	64.79	56.52	52.54	52.63	56.39	77.43	87.00	86.84	88.87
(†)	9,307	9,305.4	8,642.6	7,659.2	7,137.3	6,881.2	7,016.3	8,490	9,547.5	9,322	9,545.9	9,521.8
(‡)	-72,400	-1,600	-662,800	-983,400	-521,900	-256,100	+135,100	+1,474M	+1,058M	-225,500	+223,900	-24,100

CAL YR 1960..... ‡ -287,800
WAT YR 1961..... ‡ +142,400

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
M Expressed in thousands.
Note.--Add 1,200 ft to obtain elevation above mean sea level (Bureau of Reclamation).

12-4360. Franklin D. Roosevelt Lake at Grand Coulee Dam, Wash.--Continued

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	89.49	89.29	88.07	81.66	66.20	55.70	55.08	55.11	66.94	85.41	88.31	89.91
2	89.41	89.17	87.96	81.52	65.56	55.30	54.92	55.49	66.91	86.82	87.64	89.90
3	89.36	89.01	87.63	81.41	64.92	55.30	54.90	55.92	66.98	87.93	87.06	89.88
4	89.23	89.07	87.02	81.40	64.28	55.28	54.96	56.41	66.91	88.65	86.52	89.89
5	89.06	89.11	86.73	81.14	63.62	55.20	55.05	56.81	66.90	89.06	86.23	89.96
6	88.98	88.93	86.37	81.15	63.11	55.04	54.92	57.27	66.98	89.26	86.02	89.95
7	88.97	88.72	86.15	81.20	62.60	54.95	54.86	57.57	66.94	89.34	85.97	90.02
8	88.85	88.61	86.10	81.19	62.12	54.52	54.58	57.80	66.95	89.27	86.01	89.97
9	88.71	88.44	86.03	81.28	61.65	54.41	54.44	57.83	67.05	89.14	86.32	89.89
10	88.67	88.22	85.81	81.26	61.11	54.40	54.34	57.87	67.01	89.21	86.71	89.82
11	89.01	88.05	85.44	81.02	60.49	54.36	54.27	57.92	66.88	89.22	87.14	89.97
12	89.37	88.07	85.01	80.70	59.90	54.18	54.24	57.87	66.91	89.44	87.48	89.97
13	89.70	88.06	84.62	80.20	59.24	53.95	54.22	57.94	66.91	89.78	87.93	89.96
14	89.90	88.13	84.08	79.67	58.78	53.58	53.94	58.18	66.99	89.87	88.40	89.95
15	89.74	88.31	83.49	79.11	58.42	53.16	54.01	58.42	66.93	89.90	88.78	89.97
16	89.70	88.41	83.19	78.57	58.28	52.78	54.24	58.74	67.02	89.92	89.05	89.99
17	89.80	88.39	82.72	77.98	58.13	52.70	54.45	59.08	67.26	89.93	89.37	89.95
18	89.97	88.47	82.35	77.17	58.19	52.70	54.02	59.65	68.24	89.91	89.57	89.89
19	89.82	88.47	81.99	76.36	58.10	52.56	53.90	60.30	69.38	89.93	89.78	89.84
20	89.61	88.26	81.82	75.57	57.94	52.29	54.00	61.31	70.54	89.91	89.88	89.91
21	89.60	87.99	81.74	74.74	57.62	52.36	54.32	62.42	71.62	89.86	89.89	89.95
22	89.77	87.80	81.74	74.00	57.72	52.24	54.51	63.43	72.77	89.93	89.92	89.97
23	89.84	87.94	81.74	73.24	57.99	51.82	54.53	64.25	71.81	89.87	89.96	89.94
24	89.90	87.91	81.90	72.55	57.79	51.82	54.40	64.91	74.92	89.85	89.91	89.79
25	89.70	87.90	82.10	71.82	57.33	52.10	54.45	65.44	76.10	89.96	89.92	89.60
26	89.68	87.91	82.04	70.98	56.92	52.33	54.49	65.80	77.74	89.91	89.85	89.50
27	89.73	88.04	82.01	70.18	56.57	52.65	54.68	66.02	79.36	89.94	89.87	89.53
28	89.69	88.06	82.84	69.30	55.99	53.36	54.77	66.25	80.93	89.91	89.96	89.53
29	89.63	88.01	81.70	68.49	------	54.30	54.80	66.54	82.45	89.77	89.82	89.84
30	89.59	88.03	81.67	67.77	------	54.80	55.03	66.81	84.00	89.28	89.98	90.00
31	89.53	------	81.57	66.96	------	55.03	------	66.92	------	88.70	90.01	------
MAX	89.97	89.29	88.07	81.66	66.20	55.70	55.08	66.92	84.00	89.96	90.01	90.02
MIN	88.67	87.80	81.67	66.96	55.99	51.82	53.90	55.11	66.88	85.41	85.97	89.50
(†)	9,524.2	9,404.1	8,896.4	7,812.7	7,056.9	6,993	6,993	7,809.8	9,085.4	9,457.7	9,562.8	9,562
(‡)	+2,400	-120,100	-507,700	-1,083.7M	-755,800	-63,900	0	+816,800	+1,275.6M	+372,300	+105,100	-800

CAL YR 1961..... ‡ +253,800
WAT YR 1962..... ‡ +40,200

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
M Expressed in thousands.
Note.--Add 1,200 ft to obtain elevation above mean sea level (Bureau of Reclamation).

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	89.80	89.97	89.21	82.32	64.54	58.99	57.13	57.11	76.20	89.35	89.85	89.97
2	89.59	89.92	89.05	81.93	64.11	58.88	57.30	57.00	77.32	88.92	89.84	89.93
3	89.58	89.90	88.87	81.74	63.81	58.76	57.09	56.84	78.35	88.98	89.93	89.81
4	89.51	89.89	88.61	81.58	63.46	58.63	56.98	56.82	79.22	88.95	90.00	89.61
5	89.40	89.90	88.24	81.56	63.45	58.36	57.08	56.90	80.24	88.97	89.95	89.55
6	89.58	89.97	88.10	81.51	63.33	57.93	57.18	57.14	81.40	88.92	89.87	89.59
7	89.57	89.98	87.81	81.37	63.49	57.66	57.41	57.30	82.41	88.94	89.91	89.64
8	89.60	89.92	87.62	80.96	63.74	57.60	57.39	57.40	83.33	89.02	89.91	90.02
9	89.71	89.92	87.30	80.85	63.72	57.05	57.31	57.59	84.23	89.00	89.91	89.97
10	89.72	89.88	86.87	80.45	63.60	56.38	57.10	57.81	85.02	88.83	89.83	89.93
11	89.77	89.90	86.45	79.72	63.46	55.87	56.98	58.62	85.68	89.04	89.87	89.91
12	89.70	89.76	86.20	78.81	63.29	55.50	56.90	59.40	86.24	89.02	90.00	90.01
13	89.70	89.86	86.08	77.76	63.26	55.42	56.91	60.56	86.71	88.93	89.92	89.99
14	89.76	90.02	85.96	76.78	63.12	55.38	56.94	61.90	86.96	89.04	89.97	90.02
15	89.78	89.85	85.68	75.92	62.78	55.26	57.03	62.93	87.23	88.98	89.96	89.93
16	89.70	89.88	85.57	75.06	62.52	55.18	57.30	63.78	87.52	88.57	89.95	89.98
17	89.74	89.96	85.51	74.13	62.37	55.18	57.30	64.68	87.87	88.02	89.93	89.89
18	89.85	89.90	85.43	73.18	62.24	55.16	57.38	65.60	88.22	87.43	89.96	89.63
19	89.91	89.76	85.35	72.50	61.89	55.25	57.36	66.61	88.53	86.90	89.98	89.48
20	89.91	89.98	85.36	71.62	61.63	55.55	57.27	67.88	88.95	86.45	89.94	89.62
21	89.91	90.00	85.31	70.53	61.23	55.80	57.08	68.88	89.30	86.35	89.90	89.79
22	89.97	89.99	85.41	69.82	60.85	56.12	56.99	68.91	89.79	86.34	90.01	89.83
23	89.88	89.85	85.30	69.13	60.52	56.43	56.97	69.09	89.93	86.30	89.93	89.92
24	89.79	89.67	85.09	68.52	60.06	56.80	56.98	69.59	89.91	87.05	89.81	89.90
25	89.78	89.54	84.82	67.95	59.69	56.96	56.97	70.31	90.08	87.93	89.85	89.88
26	89.82	89.49	84.50	67.50	59.37	57.03	56.96	71.32	89.83	88.43	89.84	89.89
27	89.75	89.50	84.03	66.99	59.30	57.22	56.93	72.12	89.73	88.88	89.93	89.91
28	89.55	89.61	83.55	66.53	59.10	57.20	56.91	72.77	89.68	89.21	89.91	89.93
29	89.50	89.32	83.13	65.94	------	57.18	56.96	73.55	89.59	89.51	89.96	89.92
30	89.65	89.16	83.04	65.43	------	57.12	57.01	74.18	89.50	89.60	89.99	89.92
31	89.89	------	82.73	64.97	------	57.12	------	75.04	------	89.78	89.97	------
MAX	89.97	90.02	89.21	82.32	64.54	58.99	57.41	75.04	90.08	89.78	90.01	90.02
MIN	89.40	89.16	82.73	64.97	59.10	55.16	56.90	56.82	76.20	86.30	89.81	89.48
(†)	9,553.2	9,494.5	8,986.3	7,671.8	7,266.3	7,132.7	7,125.3	8,400.4	9,521.8	9,544.3	9,559.6	9,555.6
(‡)	-8,800	-58,700	-508,200	-1,314.5M	-405,500	-133,600	-7,400	+1,275.1M	+1,121.4M	+22,500	+15,300	-4,000

CAL YR 1962..... ‡ +89,900
WAT YR 1963..... ‡ -6,400

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
M Expressed in thousands.
Note.--Add 1,200 ft to obtain elevation above mean sea level (Bureau of Reclamation).

12-4360. Franklin D. Roosevelt Lake at Grand Coulee Dam, Wash.--Continued

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	89.98	89.14	89.07	80.35	75.54	57.00	51.38	60.31	65.65	89.73	86.66	89.62
2	90.00	89.12	88.53	80.20	75.33	56.68	51.44	60.90	65.83	89.49	86.13	89.57
3	89.96	89.07	88.22	79.99	74.95	56.47	51.62	61.66	66.04	89.58	86.05	89.68
4	89.93	88.91	87.97	79.71	74.39	56.03	51.79	62.44	66.58	89.69	86.13	89.77
5	89.92	88.91	87.62	79.59	74.22	55.76	51.91	63.27	67.41	89.93	86.60	89.86
6	89.95	88.70	87.15	79.15	73.73	55.38	52.01	64.03	68.88	89.95	87.76	89.81
7	89.78	88.78	86.75	78.90	72.63	55.33	52.17	64.57	70.84	89.83	89.00	89.68
8	89.55	88.88	86.36	78.79	71.82	55.37	52.46	64.77	73.33	89.58	89.50	89.97
9	89.52	89.10	85.86	78.52	70.95	55.30	52.62	64.79	75.46	89.68	89.46	89.95
10	89.34	89.39	85.67	78.37	70.08	55.24	52.69	65.09	77.03	89.61	89.54	89.91
11	89.07	89.56	85.33	78.29	69.34	55.18	52.96	65.09	78.22	89.58	89.71	89.98
12	88.88	89.67	84.92	78.28	68.67	55.35	53.51	64.99	79.22	89.53	89.77	89.84
13	89.97	89.74	84.50	78.03	67.82	55.29	54.08	65.09	80.13	89.51	89.94	89.88
14	89.00	89.77	84.12	77.90	67.20	55.27	54.20	65.05	81.14	89.34	89.81	89.87
15	89.02	89.72	83.83	77.73	66.45	55.44	54.33	65.02	82.09	89.17	89.82	90.00
16	89.01	89.76	83.39	77.62	65.69	55.58	54.19	65.03	83.25	89.11	89.82	90.06
17	88.78	89.88	83.19	77.45	64.84	55.50	54.43	65.17	84.22	89.01	89.80	89.89
18	88.73	89.84	82.98	77.28	63.76	55.34	54.61	65.09	85.15	88.84	89.83	89.97
19	88.72	89.82	82.80	76.91	63.24	55.33	54.81	65.07	86.19	88.69	89.83	90.18
20	88.68	89.88	82.43	76.78	62.52	55.27	54.89	64.88	87.26	88.22	89.84	89.91
21	88.70	89.75	82.11	76.67	61.75	55.07	54.84	64.68	88.10	88.00	89.87	90.06
22	88.80	89.70	81.89	76.48	60.95	54.98	55.13	64.59	88.77	87.99	89.84	89.86
23	89.07	89.71	81.65	76.20	59.99	54.79	55.42	64.56	89.17	88.04	89.78	90.00
24	89.38	89.81	81.56	76.03	59.30	54.57	56.08	64.75	89.37	88.00	89.71	89.94
25	89.60	89.83	81.49	75.93	58.24	54.00	56.47	65.06	89.49	87.99	89.56	89.80
26	89.60	89.75	81.20	76.13	58.10	53.57	57.10	65.23	89.43	87.99	89.79	89.93
27	89.56	89.79	81.07	75.99	57.76	53.22	57.60	65.21	89.50	87.80	89.78	89.97
28	89.46	89.92	80.91	76.08	57.30	52.73	58.44	65.22	89.82	87.91	89.69	89.86
29	89.40	89.74	80.80	76.02	57.03	52.44	59.20	65.22	89.94	87.93	89.81	89.92
30	89.35	89.42	80.63	75.80	------	51.84	59.85	65.26	89.83	87.85	89.88	89.88
31	89.35	------	80.53	75.64	------	51.49	------	65.38	------	87.33	89.83	------
MAX	90.00	89.92	89.07	80.35	75.54	57.00	59.85	65.38	89.94	89.95	89.94	90.18
MIN	88.68	88.70	80.53	75.64	57.03	51.49	51.38	60.31	65.65	87.33	86.05	89.57
(†)	9,509.8	9,515.4	8,816.1	8,445.1	7,126.6	6,760.0	7,317.3	7,700.8	95,483	93,483	95,483	95,524
(‡)	-45,800	+5,600	-699,300	-371,000	-1,318.5	-366,600	+557,300	+383,500	+1,847.5	-200,000	+200,000	+4,100

CAL YR 1963..... ‡ -170,100
WAT YR 1964..... ‡ -3,200

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Add 1,200 ft to obtain elevation above mean sea level (Bureau of Reclamation).

ELEVATION, IN FEET, AT 2400 HOURS, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	89.79	89.36	89.77	87.83	79.96	60.52	55.14	64.72	67.25	88.80	88.78	89.76
2	89.89	89.46	89.76	87.49	79.72	60.63	55.40	64.61	67.46	88.96	89.26	89.76
3	89.93	89.65	89.82	87.01	79.27	60.51	55.46	64.78	68.10	88.96	89.51	89.91
4	89.83	89.51	89.82	86.47	78.80	60.29	55.77	64.70	69.00	89.22	89.71	89.90
5	89.84	89.58	89.90	86.19	77.96	60.03	55.96	64.82	69.99	89.47	89.59	89.86
6	89.80	89.57	89.88	86.19	77.23	59.60	56.28	64.53	71.27	89.69	89.75	89.79
7	89.80	89.66	89.72	86.17	76.46	59.34	56.19	64.93	72.58	89.61	89.78	89.68
8	89.79	89.77	89.63	85.93	75.58	59.10	55.90	64.80	73.73	89.61	89.63	89.68
9	89.79	89.87	89.60	85.46	74.74	58.80	55.65	64.60	74.98	89.84	89.56	89.68
10	89.84	89.94	89.58	84.96	73.75	58.60	55.54	64.52	76.29	89.88	89.61	89.86
11	89.87	89.92	89.78	84.50	72.67	58.47	55.32	65.60	77.63	89.85	89.75	89.91
12	89.80	89.77	89.73	83.95	71.70	58.34	55.20	64.56	79.13	89.73	89.83	89.87
13	89.79	89.75	89.71	83.47	70.67	58.21	55.50	64.52	80.79	89.50	89.94	89.78
14	89.80	89.71	89.41	82.92	70.00	58.10	55.98	64.59	82.37	89.43	89.97	89.74
15	89.83	89.73	89.30	82.39	68.90	57.91	56.40	64.62	83.90	89.49	90.00	89.66
16	89.84	89.70	88.88	82.09	67.82	57.80	56.40	64.48	84.89	89.46	89.88	89.66
17	89.66	89.64	88.29	81.77	67.02	57.64	56.34	64.68	85.33	89.06	89.67	89.66
18	89.55	89.68	87.74	81.32	66.44	57.43	56.33	64.76	85.62	89.02	89.57	89.85
19	89.59	89.71	87.45	80.93	65.80	57.20	56.44	64.63	86.22	89.04	89.59	90.04
20	89.44	89.69	87.02	80.44	65.26	56.86	56.46	64.59	86.70	89.04	89.74	89.82
21	89.53	89.68	86.48	79.99	64.58	56.52	56.54	64.69	87.23	88.74	89.77	89.62
22	89.56	89.52	86.30	79.53	64.08	56.18	56.08	65.05	87.53	88.21	89.75	89.53
23	89.55	89.31	86.54	79.51	63.47	56.40	56.29	65.38	87.68	87.28	89.88	89.49
24	89.50	89.31	87.02	79.24	62.60	56.45	56.63	65.60	86.96	86.40	89.84	89.26
25	89.54	89.45	87.60	78.87	61.62	56.56	57.07	66.04	87.92	85.97	89.70	89.25
26	89.50	89.72	87.94	78.49	61.16	56.58	57.74	66.66	87.92	85.99	89.75	89.23
27	89.52	89.65	88.37	77.95	60.79	56.46	58.75	67.00	88.22	85.98	89.67	89.31
28	89.49	89.57	88.72	77.94	60.61	56.28	60.12	66.98	88.40	86.20	89.79	89.22
29	89.46	89.88	88.87	78.38	------	55.92	61.97	66.86	88.43	86.78	89.87	89.07
30	89.50	89.79	88.62	78.92	------	55.59	63.70	67.06	88.56	87.46	90.03	88.93
31	89.45	------	88.22	79.76	------	55.27	------	67.26	------	88.12	89.82	------
MAX	89.93	89.94	89.90	87.83	79.96	60.63	63.70	67.26	88.56	89.88	90.03	90.04
MIN	89.44	89.31	86.30	77.94	60.61	55.27	55.14	64.48	67.25	85.97	88.78	88.93
(†)	9,517.8	9,545.1	9,419.3	8,757	7,369.3	7,009	7,582.9	7,834.1	9,446.5	9,411.3	9,547.5	9,476.1
(‡)	-34,600	+27,300	-125,800	-662,300	-1,387.7M	-360,300	+573,900	+251,200	+1,612.4M	-35,200	+136,200	-71,400

CAL YR 1964..... ‡ +603,200
WAT YR 1965..... ‡ -76,300

† Contents, in thousands of acre-feet, at end of month.
‡ Change in contents, in acre-feet.
M Expressed in thousands.
Note.--Add 1,200 ft to obtain elevation above mean sea level (Bureau of Reclamation).

12-4365. Columbia River at Grand Coulee Dam, Wash.

Location.--Lat 47°58'00", long 118°58'45", opposite lot 4, sec.36, T.29 N., R.30 E., in pier 3 of highway bridge, 2,500 ft downstream from Grand Coulee Dam and 14 miles upstream from Nespelem River.

Drainage area.--74,700 sq mi (revised), approximately.

Records available.--April 1913 to June 1923 (monthly discharge only), July to December 1923, January 1924 to May 1928 (monthly discharge only), June 1928 to September 1965. Published as "at Grand Coulee, near Nespelem" prior to 1936 and as "at Grand Coulee" 1936-42.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, Bureau of Reclamation adjustment of 1937. June 27 to Dec. 31, 1923, June 12, 1928, to Mar. 31, 1931, staff gages at site half a mile upstream at datum 2.4 ft lower. Apr. 1, 1931, to Dec. 31, 1935, water-stage recorder at site 850 ft downstream at present datum. Since June 12, 1955, auxiliary water-stage recorder 6 miles downstream from base gage.

Average discharge.--52 years, 109,900 cfs (79,560,000 acre-ft per year), unadjusted.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1961	June 9, 1961	502,700	983.60	Jan. 18, 1961	23,800	937.83
1962	June 4, 1962	303,300	971.32	Mar. 25, 1962	34,900	938.96
1963	June 26, 1963	286,300	969.76	Mar. 21, 1963	44,700	940.60
1964	June 20, 1964	417,200	978.92	Apr. 1, 1964	31,300	938.20
1965	June 21, 1965	329,300	972.50	Jan. 29, 1965	27,500	939.52

Annual minimum daily discharge, water years 1961-65

Water year	Date	Discharge	Water year	Date	Discharge
1961	Sept. 24, 1961	42,300	1964	Jan. 26, 1964	41,100
1962	Jan. 1, 1962	38,700	1965	Jan. 30, 1965	45,200
1963	Oct. 6, 1962	49,900			

1913-65: Maximum discharge, 637,800 cfs June 12, 1948 (elevation, 987.90 ft); minimum, 14,900 cfs Dec. 17, 1956 (elevation, 934.37 ft); minimum daily, 15,300 cfs Feb. 1, 1937. Maximum discharge known, 725,000 cfs (estimated) during flood in June 1894.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. Feeder canal (see station 12-4355) diverts water by pumping from Franklin D. Roosevelt Lake for Columbia Basin project. Other diversions above station for irrigation are a small percentage of flow past gage. Flow regulated by Franklin D. Roosevelt Lake (see station 12-4360) and reservoirs in Kootenai, Pend Oreille, and Spokane River basins.

Revisions (water years).--WSP 1286: 1942, 1947.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	63,300	64,600	55,200	50,500	80,800	89,700	100,400	90,400	381,900	279,000	117,700	74,700
2	64,700	65,700	55,400	59,300	84,600	87,800	101,600	92,300	396,700	265,300	116,100	83,900
3	62,300	64,000	50,400	63,500	86,500	87,200	87,700	95,300	407,900	252,100	113,000	74,100
4	66,900	58,100	46,300	63,400	87,400	100,200	82,000	91,000	415,800	236,600	112,600	72,000
5	66,300	58,800	50,900	63,800	87,400	104,000	83,200	104,700	428,800	225,100	107,500	74,200
6	62,700	58,400	51,900	51,300	83,000	86,500	75,800	109,900	444,900	219,000	108,400	69,300
7	63,200	58,400	49,000	49,800	73,600	81,000	87,500	118,900	453,900	212,100	102,000	73,500
8	59,000	59,300	57,400	44,200	70,200	80,100	110,100	124,100	469,600	202,800	90,000	72,400
9	58,600	58,400	60,300	47,400	66,200	78,700	110,000	148,600	484,300	191,900	87,100	68,000
10	60,000	59,100	61,200	46,800	66,800	77,000	101,500	170,600	489,800	188,200	88,500	76,000
11	60,900	59,700	53,000	51,700	69,700	95,200	110,200	187,400	482,800	186,800	100,400	69,800
12	60,800	59,100	54,200	56,800	70,900	97,200	112,800	195,100	479,700	180,800	120,400	70,200
13	64,700	59,500	57,400	59,000	74,900	80,600	112,600	184,900	480,200	167,700	121,700	69,200
14	65,200	59,900	55,300	47,300	84,700	71,000	111,900	201,700	470,100	168,000	118,300	68,600
15	63,600	63,300	60,800	44,100	86,900	73,100	111,100	206,500	445,200	168,200	100,300	69,300
16	63,000	60,200	60,200	45,900	85,300	75,100	112,700	210,200	439,900	164,000	99,100	56,600
17	59,400	63,000	51,300	49,800	85,700	77,500	110,400	222,500	439,700	165,500	94,100	51,800
18	55,100	61,600	48,600	53,400	88,200	76,700	105,800	222,300	441,300	165,900	82,400	59,200
19	56,200	61,600	51,000	57,300	88,700	78,400	102,100	221,000	440,200	166,000	79,300	59,200
20	54,800	59,500	55,500	63,100	87,400	79,500	103,600	216,700	436,400	163,200	74,600	60,500
21	55,700	57,700	52,000	65,400	86,600	82,900	102,100	222,100	436,000	163,200	75,900	59,900
22	48,800	61,800	49,900	65,900	92,500	83,000	104,900	236,500	428,100	160,500	80,100	53,100
23	45,200	66,200	56,200	67,800	89,100	83,300	109,100	248,000	407,000	158,700	85,600	45,300
24	53,200	64,200	52,200	69,400	92,800	83,100	114,300	281,700	394,600	161,100	91,200	42,300
25	66,300	64,700	46,500	69,600	102,900	101,900	106,900	309,500	376,700	162,000	93,400	48,700
26	71,200	71,900	48,500	69,300	107,000	102,700	114,500	312,300	363,700	161,200	90,000	52,400
27	76,600	75,900	53,500	68,600	94,100	84,400	103,000	321,500	346,900	151,100	90,300	55,300
28	76,200	71,300	58,100	69,500	90,400	82,200	91,300	334,800	324,200	143,300	89,900	63,700
29	75,800	65,200	60,000	69,900	------	82,100	89,800	349,600	309,500	129,100	88,400	61,500
30	70,100	65,800	56,400	70,800	------	82,400	90,200	360,400	295,100	125,200	83,300	55,300
31	64,800	------	56,100	80,100	------	82,500	------	368,100	------	128,500	80,300	------
TOTAL	1,934.6M	1,876.9M	1,674.7M	1,834.7M	2,366.3M	2,627.0M	3,059.1M	6,562.6M	12,611M	5,612.1M	2,982.3M	1,910.0M
MEAN	62,410	62,560	54,020	59,180	84,510	84,740	102,000	211,700	420,400	181,000	96,200	63,670
MAX	76,600	75,900	61,200	80,100	107,000	104,000	114,500	368,100	489,800	279,000	121,700	83,900
MIN	45,200	57,700	46,300	44,100	66,200	71,000	75,800	90,400	295,100	125,200	74,600	42,300
AC-FT	3,837M	3,723M	3,322M	3,639M	4,693M	5,211M	6,068M	13,020M	25,010M	11,130M	5,915M	3,788M

CAL YR 1960: TOTAL 41,554,800 MEAN 113,500 MAX 286,000 MIN 45,200 AC-FT 82,420,000
WAT YR 1961: TOTAL 45,051,200 MEAN 123,400 MAX 489,800 MIN 42,300 AC-FT 89,360,000

M Expressed in thousands.

12-4365. Columbia River at Grand Coulee Dam, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	49,500	66,500	54,200	38,700	77,500	65,300	54,700	159,000	290,800	208,600	167,500	86,600
2	53,700	62,500	53,600	43,800	77,200	64,700	57,200	154,300	291,600	207,600	168,400	80,700
3	52,500	58,100	54,200	46,600	77,100	54,100	54,300	146,400	291,300	211,600	167,800	77,800
4	52,900	51,500	59,900	41,300	76,700	54,500	55,800	148,900	287,500	215,600	162,400	74,100
5	59,400	48,600	52,500	48,700	75,300	59,100	61,000	149,600	289,800	215,000	150,500	69,500
6	64,800	56,400	54,500	45,300	78,700	63,200	67,500	148,400	280,800	221,700	146,300	68,400
7	60,100	58,200	51,200	39,100	78,200	60,200	81,500	150,100	279,600	218,300	135,600	73,900
8	57,500	58,000	47,100	43,900	77,800	67,500	81,100	157,500	268,700	217,900	132,800	71,600
9	61,000	61,500	47,900	39,800	77,800	63,400	80,300	156,700	269,000	214,700	123,200	70,600
10	55,000	58,600	50,300	46,200	77,500	59,200	82,000	158,200	276,600	200,200	114,400	71,600
11	47,400	58,500	60,200	56,500	80,800	53,900	81,100	154,900	274,100	190,500	109,900	60,500
12	50,300	58,600	61,100	59,900	76,600	61,000	80,200	153,800	261,300	180,700	105,000	66,800
13	52,300	58,100	61,600	64,600	77,900	56,700	85,300	150,500	260,200	172,800	105,000	65,800
14	49,500	56,100	62,800	63,000	73,600	58,400	92,000	152,900	254,000	180,600	98,500	59,000
15	58,500	56,400	64,700	64,200	68,500	60,900	91,700	153,100	254,600	183,800	101,200	65,300
16	54,700	57,900	59,400	65,400	64,700	59,800	97,100	151,100	246,700	176,900	100,500	60,300
17	61,200	61,900	53,700	69,800	62,500	51,900	112,300	147,700	244,000	176,300	101,100	63,500
18	70,200	55,800	58,800	77,200	56,500	51,600	125,700	146,100	221,500	177,200	100,700	62,800
19	82,900	57,500	55,900	77,300	59,900	54,300	120,400	148,600	217,500	169,200	101,600	61,400
20	73,400	68,700	52,100	78,200	60,500	61,600	120,900	147,700	217,500	166,500	101,300	56,900
21	59,500	69,500	50,100	78,300	66,400	51,500	127,500	146,500	220,700	160,200	107,400	58,900
22	61,300	63,700	48,300	75,900	56,400	50,200	132,300	156,600	222,700	152,100	108,400	57,000
23	60,500	51,600	44,800	77,100	45,200	57,500	144,200	170,600	222,100	153,600	105,600	57,400
24	64,600	57,600	39,300	76,900	66,300	45,100	151,500	186,200	222,800	153,800	104,500	63,700
25	71,200	59,300	39,800	77,900	71,000	39,400	152,200	201,400	215,200	144,100	99,900	62,700
26	63,300	53,200	46,200	79,400	71,200	52,600	154,200	221,900	208,900	147,900	105,600	57,900
27	63,800	55,200	45,600	77,100	70,500	54,600	157,700	233,200	207,500	144,400	95,300	53,000
28	64,400	59,500	48,000	77,200	74,500	50,700	158,100	249,500	208,200	147,300	94,400	57,000
29	64,200	56,800	44,800	77,500	------	41,800	162,000	264,800	208,400	152,800	94,600	44,400
30	63,500	57,900	43,100	78,000	------	49,900	157,900	272,800	208,200	164,500	80,300	53,400
31	61,100	------	43,400	77,000	------	55,000	------	280,300	------	167,800	84,700	------
TOTAL	1,864.2M	1,753.7M	1,609.1M	1,961.8M	1,976.8M	1,735.0M	3,179.7M	5,422.3M	7,432.6M	5,598.2M	3,583.4M	1,932.5M
MEAN	60,140	58,460	51,910	63,280	70,600	55,970	106,000	174,900	247,800	180,600	115,600	64,420
MAX	82,900	69,500	64,700	79,400	80,800	67,500	162,000	280,300	297,500	221,700	168,400	86,600
MIN	47,400	48,600	39,300	38,700	45,200	39,400	54,300	146,100	207,500	144,100	80,300	44,400
AC-FT	3,698M	3,478M	3,192M	3,891M	3,921M	3,441M	6,307M	10,750M	14,740M	11,100M	7,108M	3,833M

CAL YR 1961: TOTAL 44,792,000 MEAN 122,700 MAX 489,800 MIN 39,300 AC-FT 88,840,000
WAT YR 1962: TOTAL 38,049,300 MEAN 104,200 MAX 297,500 MIN 38,700 AC-FT 75,470,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	66,100	58,600	82,500	76,600	67,400	76,100	82,500	120,400	193,500	227,500	123,600	66,800
2	57,800	61,400	81,700	76,000	64,500	76,100	84,300	127,400	194,900	233,400	121,100	67,700
3	56,500	61,200	80,000	72,700	65,500	74,600	88,300	125,100	200,900	224,100	118,800	70,300
4	56,300	57,900	77,700	69,600	65,600	75,800	87,700	125,400	210,000	224,900	111,500	72,100
5	60,900	55,700	73,700	69,300	66,200	79,300	82,400	129,900	209,500	223,600	107,500	62,500
6	49,900	58,300	72,200	69,600	64,800	79,400	81,700	131,600	204,700	217,600	112,900	62,000
7	54,900	61,600	71,900	71,100	65,400	73,700	76,700	142,200	208,100	210,100	111,700	57,600
8	56,700	59,800	73,000	71,600	71,100	70,200	84,900	143,200	218,900	220,100	104,900	52,500
9	54,400	57,500	72,600	75,500	89,700	82,800	86,800	147,200	230,100	213,100	105,000	70,800
10	63,300	61,200	77,200	83,200	90,300	83,300	92,600	138,800	235,300	216,300	103,100	73,200
11	64,300	53,600	74,900	90,700	88,400	79,600	89,000	112,000	242,700	211,000	102,000	75,400
12	61,200	63,300	69,700	91,600	89,400	71,000	82,100	112,000	251,600	201,800	100,600	66,100
13	64,300	54,900	67,100	90,900	86,000	64,600	80,300	97,500	260,400	208,800	102,000	73,700
14	57,800	51,200	65,900	90,400	87,700	62,600	84,100	87,800	269,400	201,000	117,000	75,700
15	63,000	69,500	69,900	90,200	87,300	68,600	86,800	95,900	270,600	198,900	114,500	75,100
16	64,100	55,100	70,300	79,300	79,500	61,000	90,100	98,700	270,800	203,800	112,300	77,500
17	58,000	57,400	69,000	78,300	76,200	58,100	97,900	97,100	271,000	212,300	106,000	83,900
18	57,200	61,400	71,400	78,500	74,800	60,800	102,600	98,900	269,400	215,700	112,900	70,600
19	57,700	55,900	73,600	79,700	82,800	58,800	105,600	97,600	270,800	208,300	107,700	79,200
20	58,400	53,100	73,500	82,700	84,800	56,000	108,400	97,600	270,700	198,200	110,600	64,400
21	56,200	64,500	75,200	90,400	84,400	55,100	109,700	113,700	270,800	190,500	106,100	61,200
22	63,000	69,700	69,100	80,300	83,900	56,800	109,200	158,700	270,900	177,200	101,700	61,500
23	75,900	73,800	70,500	74,700	83,500	55,500	108,200	161,000	270,200	173,400	105,200	63,200
24	73,300	68,500	70,100	74,600	86,300	57,100	106,600	159,800	268,600	166,000	99,700	65,500
25	67,100	70,200	70,000	70,800	84,400	61,100	106,400	159,800	263,200	130,700	88,400	63,700
26	65,200	73,100	73,700	69,300	77,900	64,900	106,800	159,300	267,700	120,100	86,900	62,100
27	67,700	84,600	76,100	67,800	74,000	67,000	107,100	167,400	257,200	125,000	82,900	60,600
28	69,100	87,100	77,600	68,800	77,100	70,800	106,400	186,000	237,200	127,400	80,200	59,100
29	63,600	87,600	76,900	69,100	------	79,600	108,300	190,100	232,200	125,500	76,600	59,200
30	55,700	83,600	65,100	70,700	------	82,000	112,900	193,500	227,100	125,900	79,700	59,700
31	55,800	------	76,300	68,300	------	80,400	------	193,900	------	126,700	75,000	------
TOTAL	1,895.4M	1,931.3M	2,268.4M	2,392.3M	2,198.9M	2,142.7M	2,856.4M	4,174.5M	7,318.4M	5,858.9M	3,188.1M	2,033.1M
MEAN	61,140	64,380	73,170	77,170	78,530	69,120	95,210	134,700	243,900	189,000	102,800	67,770
MAX	75,900	87,600	82,500	91,600	90,300	83,300	112,900	193,900	271,000	233,400	123,600	70,600
MIN	49,900	51,200	65,100	67,800	64,500	55,100	76,700	87,800	193,500	120,100	75,000	52,500
AC-FT	3,759M	3,831M	4,499M	4,745M	4,361M	4,250M	5,666M	8,280M	14,520M	11,620M	6,324M	4,033M

CAL YR 1962: TOTAL 38,917,400 MEAN 106,600 MAX 297,500 MIN 38,700 AC-FT 77,190,000
WAT YR 1963: TOTAL 38,258,400 MEAN 104,800 MAX 271,000 MIN 49,900 AC-FT 75,880,000

M Expressed in thousands.

12-4365. Columbia River at Grand Coulee Dam, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	56,000	55,100	55,600	41,600	48,800	48,500	45,700	64,200	249,400	336,000	184,600	84,600
2	64,000	53,500	60,100	47,800	48,900	56,800	47,800	63,700	261,600	323,600	175,700	74,300
3	63,900	53,600	51,400	49,100	53,700	61,200	47,300	60,100	273,800	296,200	154,500	63,400
4	57,800	55,500	48,400	49,800	59,400	61,500	51,100	63,500	277,100	285,000	151,400	64,500
5	56,900	54,600	58,500	49,200	56,900	62,700	54,700	67,200	273,300	272,600	142,500	62,700
6	55,700	55,200	60,900	53,800	66,300	61,700	54,300	73,800	267,800	286,200	110,700	65,000
7	58,500	55,900	56,500	54,800	83,900	58,200	49,300	83,300	263,000	296,300	100,700	67,100
8	59,100	55,800	55,500	51,600	76,200	53,500	43,900	95,000	264,600	298,200	117,100	65,100
9	55,800	50,800	58,300	51,600	75,200	56,300	51,000	105,600	272,400	293,500	135,800	71,500
10	58,400	47,700	49,300	53,400	74,700	56,600	54,300	103,700	300,100	283,400	125,100	70,400
11	59,600	51,000	54,000	52,600	71,300	57,500	54,900	112,000	328,400	298,200	120,100	75,300
12	61,100	52,400	57,200	48,900	69,300	53,500	50,100	122,500	346,500	295,900	118,300	66,800
13	50,500	55,000	53,300	53,600	78,700	61,500	48,100	123,200	359,600	296,200	117,600	65,100
14	52,800	55,300	53,700	51,600	73,900	54,800	62,600	136,900	372,400	296,500	138,000	66,800
15	48,200	54,400	50,900	54,100	72,600	50,700	69,600	140,700	379,700	283,000	126,000	63,300
16	53,500	49,700	54,000	50,900	71,700	55,200	68,600	146,500	380,400	290,400	127,600	66,700
17	56,600	44,100	52,600	53,200	73,700	58,700	63,700	148,300	388,700	286,300	119,500	61,300
18	51,800	51,900	50,800	49,000	71,700	59,500	64,700	162,700	399,000	285,800	114,600	61,200
19	50,800	53,500	49,500	49,100	71,800	54,700	61,600	172,100	393,400	282,100	111,400	75,500
20	50,000	57,100	54,200	54,400	72,000	56,800	64,100	188,800	392,600	279,600	112,000	59,800
21	48,000	60,500	50,500	49,800	71,200	59,200	67,800	207,700	392,300	259,700	109,900	74,800
22	49,700	56,400	46,700	52,800	72,500	55,400	65,800	213,500	389,800	241,500	110,900	66,400
23	53,800	45,600	49,000	53,800	72,300	57,400	59,700	215,900	391,500	235,000	107,800	74,900
24	54,300	48,900	44,500	53,000	72,300	55,600	58,000	217,500	390,000	224,500	109,000	73,200
25	63,700	48,300	43,300	47,300	81,500	65,700	69,100	220,400	388,900	211,000	98,100	68,300
26	61,000	51,100	52,100	41,100	49,200	62,700	68,300	230,000	380,400	202,800	86,100	70,600
27	59,200	52,700	44,800	49,200	55,500	59,200	69,500	238,000	367,200	197,500	90,500	75,200
28	59,500	48,300	45,500	49,400	57,500	57,000	63,000	232,300	359,300	168,500	90,500	74,100
29	56,900	53,900	42,300	50,900	54,200	54,400	58,900	236,500	355,100	157,400	84,100	75,500
30	52,800	56,100	45,700	54,500	------	58,900	64,700	240,700	351,400	158,300	79,600	77,700
31	51,600	------	43,700	51,300	------	57,000	------	242,700	------	178,000	87,500	------
TOTAL	1,732.5M	1,587.9M	1,594.1M	1,573.2M	1,957.7M	1,782.8M	1,751.4M	4,733.0M	10,231M	8,124.8M	3,662.0M	2,089.8M
MEAN	55,890	52,930	51,420	50,750	67,510	57,510	58,380	152,700	341,000	262,100	118,100	69,660
MAX	64,000	60,500	60,900	54,800	83,900	65,700	69,600	242,700	399,700	336,300	184,600	84,600
MIN	48,000	44,100	42,300	41,100	48,800	48,500	43,900	60,100	249,400	157,400	79,600	59,800
AC-FT	3,436M	3,150M	3,162M	3,120M	3,883M	3,536M	3,474M	9,389M	20,290M	16,120M	7,263M	4,145M

CAL YR 1963: TOTAL 37,077,800 MEAN 101,600 MAX 271,000 MIN 42,300 AC-FT 73,540,000
WAT YR 1964: TOTAL 40,819,900 MEAN 111,500 MAX 399,700 MIN 41,100 AC-FT 80,970,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	82,300	67,000	72,500	81,000	61,800	76,900	61,400	166,900	265,400	242,800	115,000	98,500
2	88,200	61,000	72,600	82,000	76,700	72,400	53,700	216,400	265,000	238,100	120,000	87,500
3	91,300	62,500	73,100	81,000	89,300	87,400	58,400	203,400	265,600	228,700	129,000	86,000
4	88,200	66,500	75,600	83,500	88,800	89,800	65,900	214,400	261,700	220,100	131,000	85,000
5	83,100	65,000	74,000	82,300	104,000	90,800	62,300	211,300	263,400	216,200	152,000	84,000
6	83,500	64,000	74,800	69,300	105,100	91,600	66,500	224,100	261,200	220,000	135,000	82,000
7	80,400	61,000	75,200	69,000	105,400	86,800	83,900	195,000	260,000	230,000	134,000	80,000
8	79,800	61,400	68,400	73,300	105,500	87,900	84,000	208,800	263,200	232,000	133,000	74,000
9	77,700	63,500	59,500	81,000	109,600	88,600	85,400	210,400	263,300	231,800	132,000	72,000
10	75,300	67,200	52,600	80,600	114,600	87,300	84,700	202,300	262,200	235,400	131,000	66,000
11	79,400	73,200	50,000	81,100	115,700	86,300	87,400	198,300	262,200	240,800	125,000	67,000
12	84,400	72,800	53,000	81,500	116,200	83,600	86,000	203,300	261,200	240,500	131,000	70,000
13	84,500	67,700	56,400	82,600	110,600	84,300	85,600	206,500	257,200	241,800	133,000	73,000
14	82,800	61,000	62,600	81,700	95,800	84,600	85,300	208,300	260,100	234,000	133,000	74,000
15	83,700	62,300	63,500	85,500	109,400	85,500	96,100	215,300	271,000	220,000	130,000	72,000
16	87,100	65,100	72,000	75,900	105,600	85,900	107,700	219,800	288,200	218,000	136,000	74,000
17	91,400	66,600	80,100	74,900	97,400	83,300	120,200	219,700	305,100	215,000	135,000	71,000
18	92,000	62,800	78,000	80,800	94,000	84,000	117,800	224,800	304,300	197,800	130,000	66,000
19	85,300	67,200	71,000	75,100	93,700	83,600	116,700	231,100	298,800	196,100	114,000	64,000
20	85,100	65,200	69,000	75,400	93,600	83,400	122,600	234,500	303,500	191,900	116,000	74,000
21	77,000	69,500	75,000	69,900	93,700	82,700	127,900	232,000	308,100	192,200	113,000	73,500
22	74,500	70,200	61,500	81,400	93,200	83,000	154,000	220,500	306,400	199,300	106,000	70,500
23	75,000	68,700	54,500	65,200	99,700	77,400	142,900	220,500	305,600	200,200	104,000	69,000
24	70,500	61,500	49,000	69,700	104,700	86,400	143,900	224,200	300,400	153,700	109,000	74,000
25	70,000	63,000	50,500	74,500	103,900	85,700	144,000	217,700	294,200	176,600	110,000	63,000
26	70,000	73,400	54,500	74,700	93,400	85,700	141,100	210,400	286,100	160,700	112,000	60,500
27	70,500	77,700	54,500	80,500	81,200	86,800	140,200	219,000	276,800	158,000	114,000	65,500
28	72,000	67,400	51,000	62,000	88,500	86,900	137,400	236,200	268,900	138,000	113,000	67,500
29	72,000	68,800	58,000	49,600	------	87,100	135,800	244,700	260,400	125,000	112,000	70,500
30	70,500	75,800	72,500	45,200	------	80,700	138,700	249,500	252,300	117,000	109,000	67,000
31	72,000	------	82,000	45,800	------	74,100	------	256,400	------	116,000	110,000	------
TOTAL	2,480.1M	1,999.0M	2,016.9M	2,296.0M	2,751.1M	2,621.1M	3,121.5M	6,749.1M	8,301.8M	6,268.1M	3,811.0M	2,201.0M
MEAN	80,000	66,630	65,060	74,060	98,250	84,550	104,100	217,700	276,700	202,200	122,900	73,370
MAX	92,000	77,700	82,000	85,500	116,200	91,600	154,000	256,400	308,100	242,800	152,000	98,500
MIN	70,000	61,000	49,000	45,200	61,800	72,400	49,900	169,900	252,300	116,000	104,000	60,500
AC-FT	4,919M	3,965M	4,000M	4,554M	5,457M	5,199M	6,191M	13,390M	16,470M	12,430M	7,559M	4,366M

CAL YR 1964: TOTAL 42,401,400 MEAN 115,900 MAX 399,700 MIN 41,100 AC-FT 84,100,000
WAT YR 1965: TOTAL 44,616,700 MEAN 122,200 MAX 308,100 MIN 45,200 AC-FT 88,500,000

M Expressed in thousands.
Note.--No gage-height record July 27 to Sept. 30.

12-4379. Rufus Woods Lake at Bridgeport, Wash.

Location.--Lat 47°59'40", long 119°38'05", in SW¼ sec.24, T.29 N., R.25 E., in intake structure of Chief Joseph Dam, half a mile upstream from Foster Creek and 1½ miles southeast of Bridgeport.

Drainage area.--75,400 sq mi (revised), approximately.

Records available.--November 1954 to September 1965.

Gage.--Water-stage transmitter and recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to June 28, 1955, staff gage at same site and datum.

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	Aug. 8, 1961	513,300	945.6	Jan. 16, 1961	423,000	933.2
1962	July 14, Aug. 2,1962	532,900	948.2	Mar. 26, 1962	418,100	932.5
1963	Oct. 5, 1962	513,300	945.6	May 2, 1963	419,500	932.7
1964	Oct. 6, 7, 1963	516,300	946.0	Mar. 31, 1964	449,100	931.6
1965	Sept.19, 1965	516,300	946.0	Feb. 13, 1965	400,800	930.0

1954-65: Maximum contents, 532,900 acre-ft July 14, Aug. 2, 1962 (elevation, 948.2 ft); minimum since normal low operating level reached in November 1954, 380,500 acre-ft July 6, 1958 (elevation, 927.0 ft).

Remarks.--Reservoir is formed by concrete gravity-type dam completed in June 1955; storage began in November 1954. Capacity, 287,600 acre-ft between elevations 901.5 (spillway crest and lower limit of operation) and 946.0 ft (normal maximum operating pool). Storage below 901.5 ft, 228,600 acre-ft. Records given herein represent total contents. Water used for power development.

Cooperation.--Lake elevations furnished by Corps of Engineers.

MONTH-END ELEVATION AND CONTENTS, WATER YEARS OCTOBER 1960 TO SEPTEMBER 1965

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1960.....	934.9	435,000	-33,200	Oct. 31, 1963.....	939.5	468,200	-24,200
Nov. 30.....	934.4	431,400	-3,600	Nov. 30.....	945.0	508,800	+40,600
Dec. 31.....	936.2	444,200	+12,800	Dec. 31.....	944.1	502,000	-6,800
Calendar year 1960	-	-	-69,800	Calendar year 1963	-	-	+30,900
Jan. 31, 1961.....	937.1	450,700	+6,500	Jan. 31, 1964.....	942.3	488,700	-13,300
Feb. 28.....	939.9	471,100	+20,400	Feb. 29.....	942.5	490,200	+1,500
Mar. 31.....	942.4	489,500	+18,400	Mar. 31.....	933.2	423,000	-67,200
Apr. 30.....	944.0	501,300	+11,800	Apr. 30.....	938.8	463,000	+40,000
May 31.....	943.0	493,900	-7,400	May 31.....	943.3	496,100	+33,100
June 30.....	942.7	491,700	-2,200	June 30.....	943.2	495,400	-700
July 31.....	942.4	489,500	-2,200	July 31.....	941.8	485,000	-10,400
Aug. 31.....	942.3	488,700	-800	Aug. 31.....	944.4	504,300	+19,300
Sept.30.....	943.9	500,600	+11,900	Sept.30.....	944.6	505,800	+1,500
Water year 1961...	-	-	+32,400	Water year 1964...	-	-	+13,400
Oct. 31.....	943.5	497,600	-3,000	Oct. 31.....	944.3	503,600	-2,200
Nov. 30.....	942.7	491,700	-5,900	Nov. 30.....	935.0	435,700	-67,900
Dec. 31.....	944.6	505,800	+14,100	Dec. 31.....	944.0	501,300	+65,600
Calendar year 1961	-	-	+61,600	Calendar year 1964	-	-	-700
Jan. 31, 1962.....	940.5	475,400	-30,400	Jan. 31, 1965.....	942.5	490,200	-11,100
Feb. 28.....	937.9	456,500	-18,900	Feb. 28.....	934.6	432,900	-57,300
Mar. 31.....	935.8	441,400	-15,100	Mar. 31.....	942.2	488,000	+55,100
Apr. 30.....	938.3	459,400	+18,000	Apr. 30.....	945.1	509,600	+21,600
May 31.....	944.7	506,600	+47,200	May 31.....	942.3	488,700	-20,900
June 30.....	944.5	505,000	-1,600	June 30.....	944.5	505,000	+16,300
July 31.....	948.0	531,400	+26,400	July 31.....	941.1	479,800	-25,200
Aug. 31.....	943.5	497,600	-33,800	Aug. 31.....	944.2	502,800	+23,000
Sept.30.....	941.6	483,500	-14,100	Sept.30.....	945.6	513,300	+10,500
Water year 1962...	-	-	-17,100	Water year 1965...	-	-	+7,500
Oct. 31.....	943.6	498,300	+14,800	† Elevation at 2400 hours.			
Nov. 30.....	937.3	452,200	-46,100				
Dec. 31.....	939.9	471,100	+18,900				
Calendar year 1962	-	-	-34,700				
Jan. 31, 1963.....	941.8	485,000	+13,900				
Feb. 28.....	943.8	499,800	+14,800				
Mar. 31.....	936.8	448,600	-51,200				
Apr. 30.....	934.0	428,600	-20,000				
May 31.....	945.0	508,800	+80,200				
June 30.....	945.0	508,800	0				
July 31.....	940.9	478,400	-30,400				
Aug. 31.....	944.8	507,300	+28,900				
Sept.30.....	942.8	492,400	-14,900				
Water year 1963...	-	-	+8,900				

12-4380. Columbia River at Bridgeport, Wash.

Location.--Lat 48°00'25", long 119°39'50", in SW¼SW¼ sec.14, T.29 N., R.25 E., on left bank at Bridgeport, 1 mile downstream from Foster Creek and 1½ miles downstream from Chief Joseph Dam.

Drainage area.--75,700 sq mi (revised), approximately.

Records available.--April 1952 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Average discharge.--13 years, 117,500 cfs (85,066,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1961	June 11, 1961	495,800	792.15	Oct. 23, 1960	38,400	755.65
1962	June 2, 1962	303,800	781.46	Jan. 10, 1962	31,300	754.07
1963	June 24, 1963	281,600	780.11	Oct. 9, 1962	44,200	756.83
1964	June 17, 1964	416,200	787.90	Jan. 26, 1964	32,200	754.26
1965	June 21, 1965	321,500	782.50	Feb. 1, 1965	22,600	752.7

Annual minimum daily discharge, water years 1961-65

Water year	Date	Discharge	Water year	Date	Discharge
1961	Dec. 4, 1960	45,400	1964	Dec. 25, 1963	38,700
1962	Jan. 9, 1962	36,500	1965	Jan. 31, 1965	34,600
1963	Oct. 9, 1962	49,400			

1952-65: Maximum discharge, 495,800 cfs June 11, 1961; maximum elevation, 792.20 ft June 7, 1956; minimum discharge, 22,600 cfs Feb. 1, 1965 (elevation, 752.7 ft, computed from graph based on fragmentary gage-height record and typical stage-recession curve); minimum daily, 31,000 cfs Jan. 11, 1953.

Remarks.--Records excellent. Feeder canal diverts water by pumping from Franklin D. Roosevelt Lake for Columbia Basin project (see station 12-4355). Other diversions above station for irrigation are a small percentage of flow past gage. Flow regulated by Rufus Woods and Franklin D. Roosevelt Lakes and reservoirs in Kootenai, Flathead, Pend Oreille, and Spokane River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	69,200	63,800	56,700	55,900	79,300	88,700	100,200	92,900	382,000	280,000	119,400	73,500
2	66,700	60,000	53,400	58,600	79,400	86,700	100,100	94,100	396,400	269,400	114,400	74,100
3	68,800	62,100	49,200	60,600	84,500	86,500	86,800	93,400	407,200	257,200	111,200	76,600
4	67,500	58,800	45,400	66,000	84,100	100,200	81,900	95,400	415,800	248,100	110,800	73,800
5	66,800	58,300	52,100	60,800	84,500	100,700	89,000	101,400	427,400	226,000	107,600	73,400
6	64,700	56,400	51,600	56,400	81,800	91,100	84,100	109,400	443,800	212,100	106,600	69,300
7	59,800	56,700	50,200	50,400	70,300	81,300	89,200	120,000	451,800	210,100	92,200	70,700
8	59,200	57,200	54,000	46,700	70,700	79,600	107,200	125,600	463,200	200,900	91,700	72,800
9	59,500	60,300	57,300	46,200	71,900	78,000	107,400	150,100	479,500	194,300	92,800	70,600
10	56,900	60,700	57,400	45,600	67,800	75,800	93,300	168,500	486,400	187,000	90,500	74,900
11	55,000	61,700	54,400	52,300	69,700	94,400	115,600	179,800	483,700	183,800	96,700	72,600
12	60,800	60,100	53,200	55,900	69,400	95,500	111,200	193,800	478,600	184,400	119,400	70,700
13	63,600	58,300	55,500	54,700	74,100	80,100	110,500	193,800	476,100	171,500	121,000	69,100
14	65,600	59,800	56,100	47,900	81,000	71,500	108,600	192,600	470,800	166,300	117,700	67,800
15	65,800	62,000	61,300	45,900	82,200	72,100	110,000	203,800	446,800	167,600	96,700	64,900
16	65,200	58,900	60,900	46,600	85,300	75,600	111,400	210,900	436,800	162,800	95,600	64,100
17	54,700	60,200	53,900	47,200	93,200	78,200	109,800	220,000	437,700	171,300	89,900	57,100
18	52,900	61,900	45,800	53,200	94,300	78,300	104,000	227,800	444,000	167,200	81,100	56,500
19	53,800	63,000	52,800	59,100	91,400	78,900	101,800	218,100	437,300	166,100	79,500	61,800
20	53,000	60,900	54,400	65,100	88,300	82,900	102,200	209,700	433,300	166,500	73,500	59,400
21	54,200	63,300	52,500	64,300	82,600	84,200	101,600	220,000	433,100	161,200	73,400	57,700
22	50,000	64,000	49,300	64,200	86,100	84,200	105,400	241,000	426,600	159,200	78,700	54,100
23	47,600	66,700	50,200	66,200	88,000	84,500	109,800	247,800	407,500	155,400	83,800	51,100
24	54,900	64,000	49,700	68,400	95,200	82,200	115,200	277,600	396,000	155,600	86,400	49,800
25	64,700	63,800	50,000	68,400	96,400	103,400	113,100	308,200	381,600	162,900	91,900	49,500
26	67,800	67,600	48,400	65,400	100,600	104,400	112,400	313,300	365,600	162,700	91,700	48,500
27	73,900	69,700	53,600	68,200	106,000	85,500	101,200	324,600	350,400	150,500	89,400	48,300
28	73,400	69,600	58,700	68,300	96,900	79,900	90,200	336,100	331,400	141,000	89,200	55,800
29	75,600	70,800	58,300	68,500	------	79,800	90,200	353,100	318,600	129,200	84,100	55,400
30	70,000	65,400	57,600	67,300	------	80,500	90,200	362,300	295,000	126,500	82,800	54,600
31	63,600	------	57,400	75,400	------	81,700	------	369,400	------	126,000	81,000	------
TOTAL	1,925.2M	1,866.0M	1,661.3M	1,819.7M	2,355.0M	2,626.4M	3,053.6M	6,554.5M	12,605M	5,622.8M	2,940.7M	1,896.5M
MEAN	62,100	62,200	53,590	58,700	84,110	84,720	101,800	211,400	420,200	181,400	94,860	63,250
MAX	75,600	70,800	61,300	75,400	106,000	104,400	115,600	369,400	486,400	280,000	121,000	76,600
MIN	47,600	56,400	45,400	45,600	67,800	71,500	81,900	92,900	295,000	126,000	73,400	48,300
AC-FT	3,819M	3,701M	3,295M	3,609M	4,671M	5,209M	6,057M	13,000M	25,000M	11,150M	5,833M	3,766M

CAL YR 1960: TOTAL 41,578,400 MEAN 113,600 MAX 286,200 MIN 45,400 AC-FT 82,470,000
WAT YR 1961: TOTAL 44,928,500 MEAN 123,100 MAX 486,400 MIN 45,400 AC-FT 89,110,000

M Expressed in thousands.

12-4380. Columbia River at Bridgeport, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	52,800	60,400	53,200	43,100	77,500	69,400	45,400	155,800	290,500	209,800	168,500	84,200
2	59,800	65,800	55,400	45,200	77,500	58,600	46,500	150,300	295,700	209,700	168,700	85,200
3	57,100	64,000	51,200	47,000	77,500	55,100	50,200	146,100	292,600	211,200	170,600	78,600
4	50,600	55,400	60,100	47,300	77,500	54,500	51,000	146,400	298,400	217,100	164,500	73,500
5	52,500	54,500	55,600	42,400	78,000	56,200	53,000	144,300	292,400	221,600	154,400	74,600
6	57,100	61,700	49,800	40,000	77,500	55,800	60,900	145,100	283,500	223,800	148,300	67,600
7	58,200	59,500	50,800	40,000	77,500	61,300	77,400	147,000	282,400	219,600	146,500	63,800
8	55,800	58,200	52,300	45,200	77,000	60,200	81,500	153,200	275,300	219,200	140,200	70,400
9	62,600	59,000	46,200	36,500	77,500	62,600	81,600	155,800	270,200	213,200	127,400	70,700
10	57,800	59,500	45,700	41,000	77,500	59,800	81,800	155,700	278,000	195,900	118,400	71,300
11	47,500	55,600	60,000	60,200	77,500	53,500	87,300	154,800	278,400	193,300	110,000	62,800
12	45,200	53,600	60,700	60,700	77,500	61,000	84,300	153,700	264,800	184,600	110,300	67,700
13	46,300	63,600	63,500	60,700	78,000	56,200	85,200	152,800	258,400	175,400	106,300	68,400
14	51,800	57,900	57,100	61,500	77,500	51,300	90,800	152,700	256,300	181,200	102,300	66,900
15	48,100	54,800	57,300	66,400	75,100	51,800	90,700	153,100	255,800	184,200	102,300	64,100
16	53,000	50,300	58,300	69,600	70,600	51,900	93,200	149,000	245,700	180,000	100,900	61,400
17	58,400	49,600	56,000	73,600	63,100	50,700	111,100	144,700	249,900	180,900	101,400	62,400
18	71,000	52,800	58,900	76,800	51,800	50,400	123,700	144,900	221,400	176,700	102,300	60,800
19	85,300	54,500	54,000	78,200	62,300	59,400	123,100	147,100	218,800	173,000	102,800	57,900
20	76,800	66,100	51,900	77,500	61,600	64,300	119,700	146,400	217,800	170,800	101,200	57,500
21	61,000	64,000	46,000	78,000	61,100	61,600	125,400	149,800	222,400	162,800	104,800	60,200
22	61,000	60,500	47,400	78,000	62,100	64,100	133,200	152,500	225,000	154,000	106,400	58,000
23	65,800	47,500	43,500	78,000	61,900	67,900	135,400	167,700	224,800	157,100	106,800	57,200
24	66,000	55,700	36,800	77,500	60,700	47,400	137,700	181,300	224,100	154,400	106,000	62,500
25	67,100	60,100	43,800	77,500	60,700	43,600	148,100	196,700	219,200	145,900	102,600	61,000
26	67,300	60,400	44,100	77,500	61,200	53,400	155,300	217,100	208,800	150,300	102,800	63,200
27	70,400	61,700	45,200	77,500	69,400	46,800	158,200	231,400	209,500	146,100	100,800	57,400
28	68,300	57,300	44,800	77,500	81,900	44,200	158,200	246,000	209,700	147,800	96,900	54,700
29	66,200	56,000	45,100	77,500	------	44,200	160,100	259,600	209,800	153,800	92,400	53,700
30	63,700	53,900	44,000	77,500	------	47,900	157,800	274,700	210,400	163,300	85,600	54,100
31	54,700	------	36,700	77,500	------	54,300	------	279,800	------	170,300	82,500	------
TOTAL	1,859.2M	1,737.9M	1,575.4M	1,966.9M	1,989.0M	1,725.4M	3,107.8M	5,355.5M	7,490.0M	5,647.0M	3,635.3M	1,953.4M
MEAN	59,970	57,930	50,820	63,450	71,040	55,660	103,600	172,800	249,700	182,200	117,300	65,110
MAX	85,300	66,800	63,500	78,200	81,900	69,400	160,100	279,800	298,400	223,800	170,600	85,200
MIN	45,200	47,500	36,700	36,500	51,800	43,600	45,400	144,300	208,800	145,900	82,500	53,700
AC-FT	3,688M	3,447M	3,125M	3,901M	3,945M	3,422M	6,164M	10,620M	14,860M	11,200M	7,211M	3,875M

CAL YR 1961: TOTAL 44,648,500 MEAN 122,300 MAX 486,400 MIN 36,700 AC-FT 88,560,000
WAT YR 1962: TOTAL 38,042,800 MEAN 104,200 MAX 298,400 MIN 36,500 AC-FT 75,460,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	53,800	60,600	80,900	77,100	70,000	77,300	81,000	118,800	196,900	229,400	117,900	71,400
2	53,500	65,600	80,800	76,200	66,000	78,000	82,600	118,800	197,200	237,600	113,700	67,300
3	53,500	63,800	81,100	71,600	65,700	77,500	85,100	119,700	207,300	225,600	114,200	68,400
4	54,900	61,100	79,100	72,800	64,800	76,300	86,800	119,700	213,000	223,600	115,300	72,600
5	60,800	62,400	75,700	71,000	65,200	75,800	84,700	123,300	215,800	225,600	110,900	67,500
6	57,900	61,800	72,300	69,900	65,200	77,400	81,400	122,400	204,500	218,700	106,700	66,900
7	57,200	60,500	67,800	69,900	66,700	83,300	79,100	125,100	207,400	208,000	104,400	63,200
8	61,000	60,600	67,800	70,500	70,700	81,000	77,500	134,800	221,000	219,600	102,800	63,200
9	49,400	58,500	69,500	74,900	86,100	81,100	86,500	142,800	229,500	214,000	102,800	67,700
10	55,000	58,300	72,700	84,500	87,100	82,000	88,800	143,500	237,800	214,000	102,800	70,700
11	64,800	58,800	70,200	91,900	86,800	85,100	91,200	113,900	244,600	214,000	102,600	69,800
12	68,000	59,100	68,400	92,000	87,700	87,600	84,600	114,300	253,700	200,000	102,800	68,700
13	67,100	56,000	69,800	89,800	87,300	69,800	81,000	102,600	259,800	208,400	103,200	68,400
14	58,200	52,300	71,400	89,800	87,900	61,600	81,000	90,600	273,200	202,000	108,700	70,500
15	59,200	57,800	72,100	89,800	87,600	63,600	85,400	97,100	273,600	196,400	112,100	71,900
16	62,300	59,000	72,100	79,700	81,200	60,400	86,800	100,900	273,700	203,000	112,000	73,100
17	60,600	61,000	71,200	79,000	77,000	59,400	92,400	101,400	273,700	210,800	111,000	82,300
18	56,400	57,800	74,000	79,000	80,200	58,500	100,900	100,900	273,600	214,900	108,000	89,300
19	56,200	57,200	74,400	79,000	84,000	59,500	103,200	100,000	273,200	209,400	107,000	81,900
20	56,600	54,300	76,100	81,800	83,300	57,000	106,400	100,400	273,600	199,200	106,100	65,600
21	55,700	58,500	76,300	89,800	83,200	55,400	109,000	109,400	273,100	189,000	106,700	62,100
22	59,100	60,400	72,800	80,400	83,800	55,100	109,200	159,300	272,900	186,400	105,400	61,900
23	76,800	74,200	74,700	74,800	83,300	55,700	105,600	162,700	272,600	168,300	104,600	64,300
24	74,400	74,200	72,100	74,800	82,800	53,500	105,600	164,100	272,600	160,600	99,200	66,700
25	70,000	76,300	72,200	72,700	83,100	58,000	103,000	160,000	268,400	137,900	92,700	66,400
26	67,000	76,100	76,800	70,000	80,300	62,700	108,800	161,200	270,200	125,300	86,600	64,500
27	69,800	81,800	75,600	70,100	76,800	65,600	110,600	167,600	263,500	125,100	82,200	61,400
28	69,400	84,300	75,600	71,700	76,400	68,200	110,200	187,000	242,100	125,000	80,700	58,800
29	63,300	84,700	75,500	72,100	------	75,600	111,100	191,900	234,900	124,900	77,700	59,800
30	56,700	82,800	61,700	70,800	------	80,000	113,500	196,700	231,200	124,900	78,200	60,700
31	57,400	------	75,000	71,000	------	80,300	------	196,300	------	123,400	72,600	------
TOTAL	1,886.0M	1,939.8M	2,275.7M	2,408.4M	2,200.2M	2,162.3M	2,833.0M	4,147.2M	7,399.6M	5,865.0M	3,151.6M	2,047.0M
MEAN	60,840	64,660	73,410	77,690	78,580	69,750	94,430	133,800	246,700	189,200	101,700	68,230
MAX	76,800	84,700	81,100	92,000	87,900	87,600	113,500	196,700	273,700	237,600	117,900	89,300
MIN	49,400	52,300	61,700	69,900	64,800	53,500	77,500	90,600	196,900	123,400	72,600	58,800
AC-FT	3,741M	3,848M	4,514M	4,777M	4,364M	4,289M	5,619M	8,226M	14,680M	11,630M	6,251M	4,060M

CAL YR 1962: TOTAL 38,971,800 MEAN 106,800 MAX 298,400 MIN 36,500 AC-FT 77,300,000
WAT YR 1963: TOTAL 38,315,800 MEAN 105,000 MAX 273,700 MIN 49,400 AC-FT 76,000,000

M Expressed in thousands.

12-4380. Columbia River at Bridgeport, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	57,600	52,400	58,600	42,400	50,200	50,900	47,300	62,600	254,400	343,800	188,700	85,700
2	58,100	51,300	61,700	49,100	46,000	56,700	44,600	62,400	266,400	335,400	176,600	81,700
3	62,600	53,200	52,300	51,700	54,000	61,000	44,600	62,800	282,700	307,400	159,900	75,800
4	61,300	55,300	54,100	51,900	54,500	61,300	46,400	64,500	287,200	291,200	152,600	58,600
5	55,400	57,400	58,900	50,600	56,400	62,900	50,800	69,300	280,000	279,500	137,900	66,400
6	56,800	55,600	63,300	55,400	66,200	55,000	58,300	75,800	272,800	292,600	111,100	65,900
7	63,300	60,100	60,800	53,700	82,900	57,100	49,200	83,300	268,300	310,800	101,200	65,500
8	64,800	55,600	59,200	49,500	74,500	56,200	42,000	94,100	264,400	315,600	120,200	65,800
9	59,100	55,600	61,600	50,300	73,800	58,000	45,000	106,100	273,400	304,800	138,000	66,700
10	59,400	50,200	52,500	52,500	74,700	61,900	47,800	103,300	303,500	304,500	132,600	71,400
11	62,000	45,100	55,700	52,600	74,900	54,700	55,500	111,500	336,000	304,500	122,800	76,300
12	63,000	45,800	58,800	50,100	79,600	54,500	53,700	122,900	353,500	305,000	119,600	71,800
13	56,000	48,600	53,300	53,800	83,900	57,700	59,400	118,900	371,200	304,200	120,800	68,900
14	60,600	50,000	56,300	52,900	77,400	52,000	63,400	136,600	383,300	305,000	131,300	68,600
15	58,700	48,200	51,900	54,700	74,600	52,200	67,200	145,300	388,500	308,200	131,500	68,300
16	58,000	47,800	57,700	53,200	74,600	58,200	61,200	145,000	400,000	238,600	131,400	68,100
17	58,600	43,600	53,700	57,900	76,100	59,900	59,700	146,800	412,200	290,400	123,300	67,700
18	56,200	47,800	54,000	52,400	72,800	61,400	60,400	160,000	410,400	291,300	108,700	62,100
19	55,000	54,400	52,400	55,200	72,400	60,600	60,400	180,800	404,000	280,700	107,400	70,400
20	52,000	64,000	55,800	55,700	73,200	60,700	62,400	200,200	400,700	288,100	110,000	64,300
21	50,900	58,300	53,900	51,700	73,200	64,100	70,000	213,600	400,000	272,600	114,700	76,500
22	48,700	52,400	50,800	49,900	73,000	63,200	67,100	217,800	395,500	247,800	116,100	71,000
23	47,300	48,700	50,700	54,000	73,300	69,500	61,900	218,000	401,600	234,900	116,500	80,800
24	52,300	48,200	45,200	52,000	73,100	61,500	61,800	214,900	405,800	229,600	110,000	78,400
25	61,400	47,900	38,700	47,700	81,200	61,300	65,700	224,800	403,100	217,800	103,600	75,300
26	58,300	52,300	54,500	41,600	53,500	60,100	66,200	236,700	393,500	208,700	91,800	74,000
27	58,600	53,400	55,000	49,700	59,900	58,200	66,200	238,500	383,300	196,500	85,900	76,400
28	58,300	49,600	46,800	48,500	57,800	63,100	67,200	239,200	372,300	170,700	85,600	77,700
29	57,200	57,600	44,200	54,700	53,700	62,600	67,800	244,600	367,600	158,600	85,600	79,000
30	55,900	59,700	49,300	54,100	-------	61,000	65,200	246,400	363,300	159,300	85,500	74,600
31	55,300	-------	45,600	53,300	-------	50,600	-------	249,400	-------	182,900	86,000	-------
TOTAL	1,782.7M	1,571.1M	1,667.3M	1,602.8M	1,931.4M	1,828.1M	1,738.4M	4,796.1M	10,503M	8,350.0M	3,707.3M	2,169.0M
MEAN	57,510	52,370	53,780	51,700	68,670	58,970	57,990	154,700	350,100	269,400	119,600	72,300
MAX	64,800	64,000	63,300	57,900	83,900	69,500	70,000	249,400	412,200	343,800	188,700	85,700
MIN	47,300	43,600	38,700	41,600	46,000	50,600	42,000	62,400	254,400	158,600	85,600	62,100
AC-FT	3,536M	3,116M	3,307M	3,179M	3,950M	3,626M	3,448M	9,513M	20,830M	16,560M	7,353M	4,302M

CAL YR 1963: TOTAL 37,235,400 MEAN 102,000 MAX 273,700 MIN 38,700 AC-FT 73,860,000
WAT YR 1964: TOTAL 41,707,100 MEAN 114,000 MAX 412,200 MIN 38,700 AC-FT 82,720,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	84,400	69,600	73,500	86,500	67,800	82,800	67,300	170,200	267,600	249,700	116,100	101,300
2	88,700	66,200	73,000	86,400	88,300	71,600	61,800	220,600	270,200	244,200	121,200	85,900
3	96,400	66,700	72,900	86,100	88,500	83,200	69,500	195,900	271,500	235,000	121,900	90,800
4	89,300	66,900	70,700	86,200	89,200	88,400	57,000	216,300	268,000	227,700	122,400	86,700
5	85,600	69,600	68,800	82,600	100,600	90,400	69,000	224,200	266,400	223,400	154,700	85,800
6	86,400	69,800	69,300	76,300	98,800	89,100	69,300	229,000	264,400	224,100	135,600	83,100
7	83,100	65,500	71,200	76,000	100,800	88,100	77,800	174,200	267,000	229,500	136,100	81,100
8	82,900	73,500	69,600	77,700	104,000	85,500	82,000	209,100	270,200	240,900	136,000	76,900
9	81,200	73,000	65,900	80,100	106,400	87,300	82,200	210,100	265,200	241,600	140,800	67,200
10	81,300	68,800	61,900	79,700	101,300	87,200	76,400	202,400	263,800	242,800	139,600	70,600
11	81,400	71,300	52,500	78,600	111,800	86,600	76,500	196,700	263,600	238,500	146,600	74,200
12	89,200	72,000	54,100	79,500	115,500	81,900	82,100	199,700	259,300	238,600	135,900	67,800
13	91,400	66,700	54,000	80,300	78,500	81,400	82,600	208,100	259,300	241,500	130,000	76,400
14	88,200	63,600	63,500	82,200	70,600	81,200	81,200	213,500	263,600	248,300	117,500	76,000
15	86,300	62,400	61,400	84,900	115,100	81,700	91,400	216,400	271,600	216,100	116,600	71,300
16	86,400	68,100	75,000	73,700	120,400	81,800	103,400	213,700	288,100	214,700	123,600	73,800
17	92,000	65,600	78,200	72,700	116,300	81,700	118,400	213,600	310,600	203,500	133,000	66,400
18	92,700	60,900	75,700	78,400	96,800	81,900	117,800	222,200	306,900	195,200	132,300	66,900
19	88,200	62,300	58,600	74,200	91,600	81,700	114,700	229,200	299,600	182,200	119,700	60,200
20	90,400	60,800	59,000	73,300	91,900	82,300	122,800	231,300	309,600	181,500	119,900	83,300
21	78,900	65,800	64,600	69,600	92,800	83,100	125,500	226,400	317,400	184,800	114,300	77,500
22	76,300	65,600	64,800	76,500	91,000	85,700	143,000	218,800	316,600	194,600	108,600	71,100
23	75,800	69,000	52,000	66,800	95,900	83,300	139,100	221,000	315,600	198,500	108,000	69,800
24	75,400	63,500	39,900	67,000	102,200	85,200	142,400	221,600	309,100	194,200	108,400	70,600
25	73,500	64,300	47,700	72,400	102,200	87,600	146,500	217,400	303,300	191,700	106,100	62,100
26	73,500	77,900	48,100	73,600	94,300	90,000	142,600	211,800	295,000	165,100	117,000	60,200
27	73,800	81,500	59,000	78,400	82,500	88,000	140,800	220,600	283,200	162,800	111,400	65,800
28	71,100	68,600	50,800	58,800	81,200	90,000	136,800	237,300	276,400	138,500	112,200	69,800
29	71,400	69,500	61,000	38,000	-------	89,700	136,700	246,400	267,800	122,700	110,800	72,200
30	71,200	71,600	75,400	35,800	-------	88,500	137,000	255,300	260,000	116,600	108,000	67,400
31	71,100	-------	85,600	34,600	-------	79,200	-------	261,900	-------	116,300	111,200	-------
TOTAL	2,557.5M	2,040.6M	1,977.7M	2,266.9M	2,696.3M	2,626.1M	3,093.6M	6,734.9M	8,450.9M	6,305.2M	3,815.7M	2,232.2M
MEAN	82,500	68,020	63,800	73,130	96,300	84,710	103,100	217,300	281,700	203,400	123,100	74,410
MAX	96,400	81,500	85,600	86,500	120,400	90,400	146,500	261,900	317,400	249,700	154,700	101,300
MIN	71,100	60,800	39,900	34,600	67,800	71,600	57,000	170,200	259,300	116,300	106,100	60,200
AC-FT	5,073M	4,047M	3,923M	4,496M	5,348M	5,209M	6,136M	13,360M	16,760M	12,510M	7,568M	4,428M

CAL YR 1964: TOTAL 43,261,800 MEAN 118,200 MAX 412,200 MIN 39,900 AC-FT 85,810,000
WAT YR 1965: TOTAL 44,797,600 MEAN 122,700 MAX 317,400 MIN 34,600 AC-FT 88,850,000

M Expressed in thousands.

12-4385. Okanagan River at Okanagan Falls, British Columbia

(International gaging station)

Location.--Lat 49°20'26", long 119°34'40", on right bank a quarter of a mile downstream from dam at outlet of Skaha Lake at Oakagan Falls.

Drainage area.--2,650 sq mi, approximately.

Records available.--January 1915 to September 1965 (discontinued). Monthly discharge only for some periods published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 1,092.82 ft above mean sea level (Geodetic Survey of Canada, 1947 joint adjustment). Prior to Oct. 2, 1933, staff gages at sites about 600 to 700 ft upstream at different datums. Oct. 2, 1933, to Apr. 13, 1936, staff gage and Apr. 14, 1936, to Nov. 12, 1954, water-stage recorder, at site 200 ft upstream at same datum.

Average discharge.--50 years, 522 cfs (377,900 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 7, 1961	1,970	2.36	Feb. 15, 16, 1961	242	0.51
1962	June 7, 1962	1,310	1.83	Jan. 29, 1962	217	.44
1963	Dec. 15, 16, 1962	a 422	-	May 15, 16, 1963	b 141	-
1964	June 16, 1964	1,380	1.89	Dec. 22, 1963	156	.31
1965	June 6, 1965	1,640	2.11	Jan. 27, 1965	274	.53

a Maximum daily.
b Minimum daily.

1915-65: Maximum discharge, 2,790 cfs Apr. 25, 1958 (gage height, 2.88 ft); minimum observed, 4.6 cfs Mar. 14, 1931.

Remarks.--Records excellent. Diversions above station for irrigation of approximately 38,000 acres. Flow regulated by control dams at outlets of Okanagan and Skaha Lakes.

Revisions.--WSP 1152: Drainage area.

Cooperation.--This station maintained by Canada under agreement with the United States prior to Feb. 15, 1965.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	514	511	497	497	349	327	332	414	395	490	598	606
2	520	511	497	497	349	327	332	414	932	490	598	598
3	525	511	497	497	349	327	327	414	1,280	490	598	598
4	531	511	497	497	349	327	322	421	1,430	526	598	598
5	538	511	497	497	349	327	313	421	1,520	558	598	598
6	545	511	497	497	349	327	313	421	1,790	558	598	598
7	552	511	497	497	349	327	313	421	1,580	558	598	598
8	559	511	497	497	349	327	313	421	1,320	558	598	590
9	559	511	497	497	355	327	313	428	1,320	558	598	590
10	558	511	497	497	355	327	308	428	1,300	574	598	590
11	558	511	497	490	355	322	298	428	1,280	640	598	590
12	558	511	497	482	355	322	298	428	970	640	606	582
13	558	511	497	490	355	322	303	434	717	648	598	590
14	558	511	497	490	289	322	298	434	717	648	598	598
15	558	511	497	490	242	322	298	434	717	640	598	598
16	558	511	497	497	242	322	298	440	717	640	606	598
17	558	518	497	497	250	322	298	440	717	632	606	590
18	558	518	497	497	250	322	298	440	708	623	606	598
19	558	511	497	497	254	322	366	440	606	623	606	598
20	558	518	497	402	254	322	421	440	526	623	606	598
21	534	504	497	344	254	371	421	447	526	623	606	700
22	490	497	497	344	254	461	421	454	526	623	606	789
23	490	497	497	344	254	461	421	511	526	623	605	789
24	490	497	497	344	254	454	421	648	526	606	606	780
25	490	497	497	344	275	454	421	717	518	574	606	789
26	490	497	497	344	289	447	414	789	504	574	606	657
27	490	497	497	344	303	402	414	827	482	590	606	518
28	504	497	497	344	327	332	414	827	482	590	606	482
29	504	497	497	344	------	332	414	960	490	590	598	482
30	504	497	497	344	------	332	414	1,050	490	590	598	482
31	511	------	497	344	------	332	------	1,040	------	598	606	------
TOTAL	16,478	15,218	15,407	13,586	8,558	10,868	10,537	16,831	25,612	18,298	18,658	18,372
MEAN	532	507	497	438	306	351	351	543	854	590	602	612
MAX	559	518	497	497	355	461	421	1,050	1,790	648	606	789
MIN	490	497	497	344	242	322	298	414	395	490	598	482
AC-FT	32,680	30,180	30,560	26,950	16,970	21,560	20,900	33,380	50,800	36,290	37,010	36,440

CAL YR 1960: TOTAL 193,695 MEAN 529 MAX 1,150 MIN 315 AC-FT 384,200
WAT YR 1961: TOTAL 188,423 MEAN 516 MAX 1,790 MIN 242 AC-FT 373,700

12-4385. Okanagan River at Okanagan Falls, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	481	344	344	255	310	268	716	821	497	483	470	404
2	480	338	338	252	310	273	840	772	497	483	463	404
3	478	338	344	252	315	273	1,030	697	504	483	463	397
4	477	338	338	252	315	273	1,020	635	497	456	463	397
5	476	338	338	252	315	310	997	635	497	435	463	385
6	475	338	338	252	321	326	1,010	635	497	435	456	385
7	474	338	338	255	344	332	1,010	635	497	435	456	391
8	472	332	338	255	372	410	1,010	635	497	442	456	385
9	471	332	338	255	372	449	782	635	497	442	456	385
10	470	332	338	255	372	456	533	635	497	442	463	385
11	470	332	315	255	372	449	533	594	490	442	463	385
12	470	332	301	255	344	456	533	577	497	442	463	385
13	422	332	301	255	321	456	540	577	497	429	470	442
14	397	332	296	255	268	456	548	577	490	435	470	483
15	397	332	296	255	268	456	555	577	483	435	415	483
16	397	338	296	255	273	456	594	577	490	429	404	476
17	397	338	301	255	268	456	669	577	490	397	404	476
18	397	338	282	255	268	456	660	519	483	355	404	476
19	404	338	252	255	273	483	660	483	490	349	404	519
20	404	344	255	255	268	548	660	483	490	349	355	577
21	410	344	255	255	268	610	660	483	490	355	332	570
22	410	344	252	255	268	610	660	483	490	355	332	562
23	416	344	255	252	265	602	706	483	504	366	332	562
24	372	344	255	252	265	602	772	490	504	416	332	562
25	338	344	255	252	265	602	831	490	497	449	332	562
26	338	344	255	245	265	652	831	490	490	456	332	562
27	338	344	255	232	265	753	934	490	490	463	332	562
28	338	344	255	229	268	744	1,250	497	490	463	332	562
29	338	344	252	255	------	734	1,220	497	483	463	355	562
30	338	344	252	315	------	725	1,080	497	483	463	404	562
31	338	------	255	310	------	716	------	497	------	463	404	------
TOTAL	12,883	10,164	9,083	7,937	8,398	15,392	23,844	17,673	14,798	13,310	12,681	14,248
MEAN	416	339	293	256	300	497	795	570	493	429	409	475
MAX	481	344	344	315	372	753	1,250	821	504	483	470	577
MIN	338	332	252	229	265	268	533	483	483	349	332	385
AC-FT	25,550	20,160	18,020	15,740	16,660	30,530	47,290	35,050	29,350	26,400	25,150	28,260

CAL YR 1961: TOTAL 173,450 MEAN 475 MAX 1,790 MIN 242 AC-FT 344,000
WAT YR 1962: TOTAL 160,411 MEAN 439 MAX 1,250 MIN 229 AC-FT 318,200

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	404	301	301	287		244	156	152	260	252	232	268
2	248	301	301	287		244	156	152	260	252	232	273
3	248	301	301	287		244	152	152	256	252	268	273
4	248	296	301	287		244	152	152	256	256	268	273
5	248	296	301	287		224	152	152	256	256	268	273
6	248	296	310	287		159	152	159	256	260	268	273
7	248	296	310	287		159	152	166	256	260	268	273
8	248	296	315	287		156	152	174	252	260	268	273
9	248	301	315	287		156	152	181	252	268	273	273
10	248	301	315	277	248	156	152	188	252	273	273	277
11	277	296	315	287		156	152	188	252	277	273	277
12	306	296	315	287		156	152	188	248	277	277	277
13	292	296	315	287		156	152	188	244	277	277	277
14	292	296	385	287		156	152	159	244	282	273	277
15	292	296	422	268		159	156	141	244	287	298	277
16	292	296	422			159	156	141	244	287	348	277
17	292	296	391			159	156	170	248	277	296	306
18	296	296	296		268	159	156	192	252	277	277	321
19	292	292	296		326	156	156	216	252	273	273	321
20	296	301	296		326	156	156	216	252	268	273	321
21	292	301	306		273	156	156	216	256	264	273	321
22	296	301	292		248	152	156	216	252	236	273	321
23	296	296	292	248	244	152	156	216	252	220	277	292
24	296	292	292		244	152	152	216	252	220	277	273
25	296	296	287		244	152	152	216	252	216	277	273
26	296	296	287		244	152	156	220	252	216	268	273
27	296	321	287		244	152	156	220	252	216	264	273
28	301	310	287		244	156	152	220	252	212	266	277
29	301	296	287		------	156	152	220	252	220	268	277
30	301	301	287		------	156	152	220	256	228	268	277
31	301	------	287		------	156	------	236	------	228	268	------
TOTAL	8,835	8,956	9,714	8,244	7,121	5,250	4,612	5,843	7,564	7,847	8,464	8,517
MEAN	285	299	313	266	254	169	154	188	252	253	273	284
MAX	404	321	422	287	326	244	156	236	260	287	348	321
MIN	248	292	287	-	244	152	152	141	244	212	232	268
AC-FT	17,520	17,760	19,270	16,350	14,120	10,410	9,150	11,590	15,000	15,560	16,790	16,890

CAL YR 1962: TOTAL 155,786 MEAN 427 MAX 1,250 MIN 229 AC-FT 309,000
WAT YR 1963: TOTAL 90,967 MEAN 249 MAX 422 MIN 141 AC-FT 180,400

12-4385. Okanagan River at Okanagan Falls, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	277	321	159	163	240	448	507	550	1,020	914	803	699
2	277	321	159	166	240	448	507	550	1,020	914	803	699
3	277	321	159	166	240	448	507	550	1,070	904	742	733
4	277	321	163	166	240	448	507	558	1,120	904	699	760
5	277	321	163	166	240	448	507	558	1,120	904	699	760
6	277	301	163	166	240	365	522	550	923	877	699	760
7	277	287	163	166	236	303	550	550	803	858	699	760
8	277	264	163	166	228	308	550	550	831	858	699	777
9	277	232	163	166	224	308	550	550	914	849	699	803
10	277	232	163	166	224	308	550	543	942	849	699	803
11	277	232	163	166	372	308	550	543	907	849	699	812
12	277	232	163	166	599	313	550	543	1,140	849	690	803
13	277	232	163	163	559	313	550	536	1,200	831	690	803
14	277	192	163	163	599	313	550	536	1,200	812	690	803
15	260	166	163	163	599	318	550	536	1,180	812	690	674
16	248	166	163	163	590	424	550	536	1,290	812	690	607
17	248	163	163	163	550	507	536	550	1,360	812	690	607
18	248	163	159	163	599	507	536	550	1,350	812	690	599
19	248	166	159	163	582	507	536	558	1,340	812	690	599
20	244	166	159	163	574	507	536	656	1,340	812	682	607
21	244	166	159	163	574	507	536	640	1,340	803	674	631
22	244	166	159	166	566	507	543	733	1,060	803	682	640
23	248	163	159	170	566	507	543	733	914	803	690	640
24	248	163	159	170	566	507	543	733	914	803	690	665
25	244	166	159	170	566	507	543	733	914	803	690	674
26	244	166	159	170	566	507	543	932	914	803	690	682
27	244	163	163	170	558	507	550	1,030	914	803	690	674
28	244	163	163	192	550	507	550	1,030	914	803	690	674
29	244	163	163	240	486	507	550	1,030	914	803	690	665
30	268	163	163	240	------	507	550	1,020	914	803	690	665
31	321	------	163	240	------	507	------	1,020	------	803	699	------
TOTAL	8,167	6,441	5,005	5,384	13,053	13,426	16,152	20,687	31,872	25,877	21,717	21,078
MEAN	263	215	161	174	450	433	538	667	1,062	835	701	703
MAX	321	321	163	240	599	507	550	1,030	1,360	914	803	812
MIN	244	163	159	163	224	303	507	536	803	803	674	599
AC-FT	16,200	12,780	9,930	10,680	25,890	26,630	32,040	41,030	63,220	51,330	43,080	41,810

CAL YR 1963: TOTAL 83,075 MEAN 228 MAX 348 MIN 141 AC-FT 164,800
WAT YR 1964: TOTAL 188,859 MEAN 516 MAX 1,360 MIN 159 AC-FT 374,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	665	529	328	323	284	768	786	1,040	1,390	831	500	461
2	550	467	328	323	284	768	786	1,040	1,490	794	500	461
3	479	365	328	323	284	768	794	1,040	1,550	768	500	461
4	479	365	328	323	284	768	786	1,040	1,550	768	507	461
5	486	365	328	323	284	768	794	1,140	1,590	733	507	461
6	486	365	328	328	284	768	786	1,240	1,620	716	507	461
7	486	365	328	328	284	768	786	1,280	1,590	716	507	461
8	479	359	323	328	436	758	794	1,280	1,580	716	507	461
9	514	355	323	323	574	786	794	1,280	1,570	716	507	461
10	536	365	323	323	574	803	794	1,280	1,570	725	507	550
11	536	371	323	323	623	786	794	1,270	1,520	725	507	663
12	536	371	323	323	640	777	794	1,270	1,470	716	500	665
13	536	359	323	323	631	777	794	1,280	1,470	716	507	665
14	536	359	323	323	631	768	812	1,280	1,470	725	507	665
15	550	359	323	323	631	768	831	1,280	1,470	725	500	665
16	558	354	323	323	640	768	831	1,280	1,490	640	473	665
17	558	354	323	323	631	768	831	1,280	1,430	566	455	665
18	550	354	323	323	699	742	831	1,280	1,390	566	455	665
19	558	354	323	323	768	742	831	1,290	1,390	648	455	665
20	558	354	323	323	768	742	831	1,300	1,380	674	455	665
21	566	354	323	323	768	742	831	1,300	1,270	674	455	665
22	558	354	328	323	768	751	840	1,320	1,110	674	455	665
23	558	354	328	323	768	777	858	1,350	1,030	674	455	674
24	536	359	328	323	768	777	858	1,350	1,030	665	455	631
25	536	339	328	323	768	777	849	1,350	1,030	648	461	615
26	536	328	328	323	768	777	951	1,360	1,040	607	461	615
27	536	328	328	294	768	777	1,010	1,360	1,040	574	461	615
28	536	328	328	284	768	777	1,010	1,370	923	522	461	615
29	536	328	323	284	------	786	1,010	1,380	812	507	461	615
30	536	328	323	284	------	786	1,030	1,390	812	507	461	615
31	529	------	323	284	------	786	------	1,390	------	507	461	------
TOTAL	16,599	10,899	10,083	9,843	16,378	23,894	25,327	39,390	40,067	20,743	14,916	17,674
MEAN	535	363	325	318	585	770	844	1,271	1,336	669	481	589
MAX	665	529	328	328	768	803	1,030	1,390	1,620	831	507	674
MIN	479	328	323	284	284	742	786	1,040	812	507	455	461
AC-FT	32,920	21,620	20,000	19,520	32,490	47,370	50,240	78,130	79,470	41,140	29,590	35,060

CAL YR 1964: TOTAL 206,827 MEAN 565 MAX 1,360 MIN 163 AC-FT 410,200
WAT YR 1965: TOTAL 245,803 MEAN 673 MAX 1,620 MIN 284 AC-FT 487,500

12-4387. Okanagan River near Oliver, British Columbia

(International gaging station)

Location.--Lat 49°07'23", long 119°34'19", approximately 200 ft upstream from drop structure No. 3, below mouth of Testalinden Creek, and 4¼ miles south of Oliver.

Drainage area.--2,870 sq mi.

Records available.--October 1961 to September 1965 in reports of Geological Survey. March 1944 to December 1948 and April 1952 to September 1961 in reports of Department of Northern Affairs and National Resources, Canada.

Gage.--Water-stage recorder.

Average discharge.--15 years, 621 cfs (449,600 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1962-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1962	Apr. 30, 1962	1,210	4.24	July 20, 1962	158	1.35
1963	May 24, 1963	686	3.09	Jan. 30, 1963	55.9	.63
1964	June 18, 1964	1,560	4.95	Dec. 15, 1963	179	1.44
1965	June 3, 1965	2,000	5.85	Feb. 2, 1965	275	1.88

1944-65: Maximum discharge, 2,830 cfs May 25, 1959: minimum, 55.9 cfs Jan. 30, 1963 (gage height, 0.63 ft).

Remarks.--Records excellent except those for winter periods, which are fair. Regulation by control dams at outlets of Okanagan and Skaha Lakes. Diversion for irrigation.

Cooperation.--This station maintained by Canada under agreement with the United States and designated an international gaging station since Feb. 15, 1965.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	454	356	359	278	270	255	752	1,120	630	353	314	290
2	454	353	359	275	270	257	752	942	622	356	311	282
3	462	356	362	275	270	259	847	734	674	350	320	282
4	462	359	359	275	270	260	932	678	622	344	356	282
5	462	359	359	272	270	280	986	598	598	341	374	280
6	482	359	356	280	270	320	982	598	582	365	380	278
7	510	356	359	282	272	359	978	606	558	344	371	275
8	502	359	374	280	275	356	978	630	594	320	380	272
9	502	362	374	280	280	384	978	634	646	308	377	270
10	514	365	371	280	290	474	762	646	602	302	371	278
11	510	362	369	280	310	482	590	686	566	299	371	278
12	506	365	350	280	330	478	542	682	558	288	374	305
13	494	362	335	280	370	478	542	638	566	290	380	302
14	464	365	330	280	371	474	542	638	550	296	368	341
15	454	362	330	280	360	474	542	634	538	293	356	380
16	426	362	330	281	344	474	546	630	530	293	329	412
17	377	359	330	281	330	474	542	650	502	293	311	404
18	398	359	320	281	315	470	562	670	470	272	302	404
19	415	359	308	281	300	462	582	606	436	240	290	458
20	446	359	282	281	280	462	618	586	415	222	262	516
21	454	356	290	282	258	526	642	618	415	230	240	502
22	450	353	230	282	257	618	554	638	404	232	234	498
23	454	359	285	282	256	610	678	666	401	234	230	506
24	450	362	282	282	255	618	856	788	398	245	230	518
25	443	362	285	282	255	614	1,110	870	387	296	230	526
26	440	359	280	281	254	618	991	829	387	305	232	522
27	422	356	278	281	253	662	924	852	390	311	234	518
28	401	359	278	280	252	718	1,030	834	371	314	234	526
29	390	362	278	277	------	762	1,100	784	359	320	234	530
30	384	352	278	274	------	770	1,190	694	359	320	272	530
31	353	------	278	270	------	757	------	658	------	320	290	------
TOTAL	13,935	10,794	9,998	8,655	8,087	15,205	23,730	21,837	15,120	9,296	9,577	11,767
MEAN	450	360	323	279	289	490	791	704	504	300	309	392
MAX	514	365	374	282	371	770	1,190	1,120	674	365	380	530
MIN	353	353	278	270	252	255	542	586	359	222	230	270
AC-FT	27,640	21,410	19,830	17,170	16,040	30,160	47,070	43,310	29,990	18,440	19,000	23,340

CAL YR 1961: TOTAL 187,093 MEAN 513 MAX 2,260 MIN 242 AC-FT 371,100
WAT YR 1962: TOTAL 158,001 MEAN 433 MAX 1,190 MIN 222 AC-FT 313,400

12-4387. Okanagan River near Oliver, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	462	320	315	318	163	258	174	261	315	288	154	186
2	364	318	312	320	163	258	172	266	305	251	158	198
3	315	315	312	322	167	256	170	254	320	230	161	206
4	320	320	312	320	163	256	170	225	310	225	196	202
5	338	315	312	320	161	256	167	219	298	214	192	208
6	322	315	315	320	163	210	176	239	278	202	181	198
7	315	312	318	320	161	196	179	251	273	210	158	200
8	315	315	320	320	161	186	183	239	261	242	159	194
9	318	310	320	320	161	172	185	237	266	258	163	198
10	315	312	320	320	163	172	181	230	266	270	168	204
11	312	312	320	322	165	172	179	223	251	261	177	204
12	312	315	320	324	163	170	181	234	242	232	194	200
13	320	318	318	325	148	168	177	251	230	225	221	206
14	322	318	335	328	168	168	179	251	212	228	225	221
15	320	318	370	330	186	165	192	251	190	221	206	225
16	320	320	379	332	206	163	200	246	183	214	174	237
17	320	318	391	320	228	161	214	266	177	208	239	282
18	320	318	379	302	244	159	202	302	172	217	210	322
19	320	320	338	266	258	159	198	352	159	214	177	305
20	320	322	335	249	266	159	192	415	159	206	181	300
21	320	325	332	221	261	159	192	522	159	200	190	292
22	322	320	332	217	258	154	190	590	183	194	192	292
23	322	315	330	208	254	156	179	614	214	185	188	292
24	322	308	328	192	254	161	159	622	202	177	200	261
25	320	308	325	176	251	158	174	550	196	176	214	256
26	320	312	325	163	254	159	161	474	192	170	210	256
27	320	312	322	158	254	158	163	412	185	163	200	256
28	320	312	322	156	256	163	170	373	177	158	174	288
29	322	310	320	167	------	163	190	361	194	151	176	308
30	322	315	320	151	------	170	242	352	268	149	181	305
31	322	------	320	158	------	170	------	330	------	149	179	------
TOTAL	10,102	9,468	10,217	8,265	5,700	5,635	5,491	10,412	6,837	6,488	5,798	7,302
MEAN	326	316	330	267	204	182	183	336	228	209	187	243
MAX	462	325	391	332	266	258	242	622	320	288	239	322
MIN	312	308	312	151	148	154	159	219	159	149	154	186
AC-FT	20,040	18,780	20,270	16,390	11,310	11,180	10,890	20,650	13,560	12,870	11,500	14,480

CAL YR 1962: TOTAL 153,061 MEAN 419 MAX 1,190 MIN 222 AC-FT 303,600
WAT YR 1963: TOTAL 91,715 MEAN 251 MAX 622 MIN 148 AC-FT 181,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	302	268	198	198	239	489	516	492	1,340	877	766	694
2	300	282	198	198	244	482	516	462	1,370	869	750	654
3	263	288	206	196	246	479	513	462	1,350	908	714	706
4	275	285	300	196	249	472	516	462	1,360	922	626	714
5	278	280	200	196	256	472	516	502	1,370	908	686	714
6	288	282	194	196	254	448	530	509	1,350	904	666	718
7	300	280	186	196	251	364	584	495	1,190	860	615	738
8	320	275	186	196	249	340	574	465	1,140	816	570	795
9	330	263	186	196	251	330	566	499	1,100	804	574	808
10	330	256	185	196	251	320	563	527	1,080	771	588	800
11	330	237	185	196	261	320	563	513	1,080	738	592	795
12	330	219	186	196	496	320	559	523	1,170	738	588	795
13	325	204	186	194	694	312	559	545	1,300	726	596	791
14	330	225	190	194	646	308	559	552	1,290	698	592	787
15	322	228	186	192	599	302	570	556	1,290	726	588	775
16	310	234	186	194	592	320	570	596	1,330	750	581	662
17	302	228	200	194	581	448	570	674	1,480	738	581	545
18	293	217	192	196	570	482	570	738	1,530	722	584	560
19	298	208	194	194	545	496	570	791	1,530	714	607	570
20	288	204	194	194	545	534	566	908	1,490	714	607	596
21	261	202	194	196	532	534	563	1,030	1,450	710	599	626
22	230	204	192	200	552	534	523	1,010	1,260	698	596	642
23	239	210	194	198	559	530	451	958	952	706	596	658
24	263	204	194	198	541	527	455	886	926	702	596	686
25	263	204	196	196	541	520	465	838	931	702	592	726
26	263	204	196	196	541	520	492	882	886	690	599	714
27	263	206	196	200	563	516	541	963	895	654	603	698
28	263	204	196	200	570	516	559	1,080	908	686	611	682
29	251	202	196	202	552	509	566	1,270	898	690	607	658
30	254	200	196	212	------	516	527	1,340	891	690	658	690
31	237	------	196	228	------	516	------	1,340	------	738	706	------
TOTAL	8,901	7,003	6,084	6,134	12,970	13,776	16,192	22,868	36,138	23,609	19,234	21,077
MEAN	287	233	196	198	447	444	540	738	1,205	762	620	703
MAX	330	288	300	228	694	534	584	1,340	1,530	922	766	808
MIN	230	200	185	192	239	302	451	462	886	686	570	545
AC-FT	17,650	13,890	12,070	12,170	25,730	27,320	32,120	45,360	71,680	46,830	38,150	41,810

CAL YR 1963: TOTAL 83,916 MEAN 230 MAX 622 MIN 148 AC-FT 166,400
WAT YR 1964: TOTAL 193,986 MEAN 530 MAX 1,530 MIN 185 AC-FT 384,800

12-4387. Okanagan River near Oliver, British Columbia--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	706	588	382		292	823	877	1,380	1,810	807	385	397
2	694	592	382		290	860	873	1,300	1,840	779	391	407
3	603	538	382		292	856	856	1,240	1,970	727	391	404
4	596	475	382		292	848	856	1,220	1,900	724	397	391
5	588	448	385		298	844	856	1,240	1,860	716	400	391
6	563	416	379		302	844	827	1,300	1,890	675	400	385
7	545	416	373		298	831	819	1,400	1,830	653	397	370
8	548	410	379		342	831	836	1,460	1,810	634	397	382
9	552	410	379		504	815	864	1,470	1,800	579	394	382
10	559	416	379	340	557	803	881	1,520	1,780	564	394	404
11	570	416	379		564	811	877	1,580	1,810	575	400	508
12	570	416	373		612	807	881	1,670	1,810	579	394	557
13	615	416	373		708	811	885	1,700	1,750	586	394	604
14	654	416	373		701	807	885	1,700	1,710	590	394	590
15	698	422			697	811	906	1,700	1,700	572	397	590
16	706	422			690	811	932	1,670	1,690	543	391	604
17	694	422			686	803	940	1,640	1,660	442	348	586
18	686	422			678	807	936	1,620	1,590	438	345	586
19	670	419		343	751	795	940	1,610	1,550	448	345	590
20	642	416		340	864	783	919	1,680	1,540	540	338	601
21	626	416		340	864	783	919	1,720	1,480	564	355	601
22	626	416	340	342	856	787	902	1,760	1,290	582	361	604
23	626	413		342	823	763	927	1,770	1,130	579	422	604
24	626	413		342	791	767	974	1,780	1,120	575	490	604
25	622	379		342	803	763	992	1,780	1,110	568	515	586
26	599	380		340	807	787	1,040	1,810	1,100	536	470	568
27	574	380		342	815	957	1,210	1,840	1,090	490	435	561
28	577	381		338	815	932	1,330	1,900	1,080	464	426	550
29	581	381		325	------	755	1,380	1,950	890	397	426	550
30	588	382		298	------	898	1,400	1,920	827	370	419	550
31	588	------		292	------	890	------	1,820	------	376	407	------
TOTAL	19,092	12,837	11,080	10,446	16,992	25,483	28,720	50,150	46,417	17,672	12,418	15,507
MEAN	616	428	357	337	607	822	957	1,618	1,547	570	401	517
MAX	706	592	385	343	864	957	1,400	1,950	1,970	807	515	604
MIN	545	379	-	292	250	755	819	1,220	827	370	338	370
AC-FT	37,870	25,460	21,980	20,720	33,700	50,540	56,970	99,470	92,070	35,050	24,630	30,760

CAL YR 1964: TOTAL 215,007 MEAN 587 MAX 1,530 MIN 192 AC-FT 426,500
WAT YR 1965: TOTAL 266,814 MEAN 731 MAX 1,970 MIN 290 AC-FT 529,200

12-4390. Osoyoos Lake near Oroville, Wash.

(International gaging station)

Location.--Lat 48°59'15", long 119°27'15", in lot 1, sec.8, T.40 N., R.27 E., on west shore 1 mile south of international boundary and 3 miles north of Oroville.

Drainage area.--3,150 sq mi, approximately.

Records available.--July 1928 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, U.S. Coast and Geodetic Survey datum of 1929. Prior to Sept. 2, 1928, staff gage and Sept. 2, 1928, to Nov. 9, 1929, water-stage recorder, 100 ft south of international boundary. Nov. 10, 1929, to Apr. 11, 1956, staff gage or water-stage recorder at present site. All elevations prior to Oct. 1, 1944. at datum 2.39 ft lower. To convert from present datum to Geodetic Survey of Canada 1934 datum, subtract 1.63 ft; to convert from present datum to 1947 joint adjustment of U.S. Coast and Geodetic Survey and Geodetic Survey of Canada, subtract 0.26 ft.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	June 8, 1961	914.74	Mar. 1, 1961	911.04
1962	May 2, 1962	912.51	Mar. 4, 5, 1962	910.77
1963	Oct. 1, 1962	911.61	Feb. 2, 1963	910.49
1964	June 13, 1964	913.39	Mar. 16, 1964	910.64
1965	June 12, 1965	912.87	Jan. 1, 5, 1965	910.45

1928-65: Maximum elevation, 916.74 ft May 31, 1948; minimum, 908.82 ft (present datum) Oct. 14, 1929.

Flood of May 29, 1894, reached an elevation 918.8 ft ±0.5 ft (present datum), 1 mile below present lake outlet, from floodmark on old Okanogan Hotel building, pointed out in 1930 by Mr. and Mrs. Stansbury, who kept a diary and operated the hotel in 1894.

Remarks.--Approximately 44,000 acres are irrigated above station in Canada. Elevation may occasionally be affected by dam at Zosel's mill in Oroville.

Cooperation.--This station is maintained by the United States under agreement with Canada.

Revisions.--WSP 1346: Drainage area.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11.97	11.88	11.83	11.73	11.49	11.06	11.48	11.59	13.63	11.75	11.70	11.78
2	11.97	11.88	11.84	11.73	11.48	11.05	11.48	11.63	13.54	11.72	11.70	11.78
3	11.98	11.88	11.82	11.72	11.46	11.06	11.48	11.72	13.61	11.69	11.70	11.78
4	12.00	11.86	11.81	11.71	11.44	11.07	11.46	11.80	13.79	11.66	11.71	11.78
5	12.01	11.85	11.80	11.72	11.43	11.08	11.45	11.89	14.04	11.65	11.70	11.80
6	12.02	11.85	11.79	11.73	11.42	11.09	11.45	11.95	14.26	11.68	11.69	11.80
7	12.02	11.84	11.78	11.72	11.42	11.10	11.43	11.99	14.54	11.69	11.69	11.79
8	12.03	11.83	11.77	11.72	11.40	11.10	11.42	12.03	14.73	11.67	11.69	11.76
9	12.03	11.83	11.77	11.72	11.41	11.11	11.41	12.07	14.70	11.66	11.68	11.78
10	12.04	11.83	11.76	11.72	11.42	11.12	11.39	12.14	14.58	11.65	11.66	11.77
11	12.03	11.83	11.75	11.71	11.43	11.14	11.37	12.22	14.46	11.63	11.66	11.75
12	12.03	11.83	11.75	11.71	11.43	11.15	11.37	12.27	14.38	11.62	11.66	11.75
13	12.03	11.83	11.74	11.72	11.42	11.17	11.36	12.31	14.22	11.64	11.67	11.75
14	12.03	11.83	11.75	11.72	11.41	11.19	11.34	12.36	14.01	11.66	11.67	11.75
15	12.02	11.82	11.74	11.72	11.41	11.19	11.31	12.42	13.81	11.68	11.68	11.76
16	12.01	11.82	11.73	11.72	11.38	11.20	11.28	12.49	13.63	11.71	11.74	11.78
17	12.01	11.82	11.73	11.72	11.35	11.20	11.26	12.52	13.45	11.73	11.80	11.79
18	12.01	11.83	11.75	11.72	11.30	11.20	11.26	12.55	13.28	11.74	11.82	11.80
19	12.02	11.81	11.76	11.71	11.27	11.21	11.25	12.60	13.14	11.75	11.82	11.79
20	12.03	11.85	11.76	11.70	11.24	11.26	11.24	12.67	12.97	11.76	11.83	11.80
21	12.04	11.87	11.76	11.70	11.20	11.27	11.24	12.74	12.78	11.78	11.84	11.80
22	12.04	11.86	11.75	11.68	11.18	11.27	11.26	12.83	12.62	11.78	11.84	11.82
23	12.03	11.89	11.75	11.67	11.15	11.27	11.30	12.89	12.49	11.80	11.84	11.88
24	12.03	11.93	11.74	11.65	11.13	11.30	11.34	12.99	12.36	11.81	11.84	11.92
25	11.99	11.93	11.74	11.64	11.13	11.33	11.39	13.06	12.27	11.77	11.83	11.98
26	11.98	11.93	11.75	11.61	11.10	11.35	11.42	13.14	12.17	11.74	11.81	12.01
27	11.95	11.90	11.75	11.60	11.10	11.39	11.44	13.31	12.04	11.73	11.81	12.01
28	11.94	11.88	11.74	11.58	11.08	11.42	11.47	13.44	11.94	11.72	11.81	12.02
29	11.93	11.86	11.73	11.57	------	11.45	11.49	13.48	11.85	11.71	11.81	12.01
30	11.91	11.84	11.73	11.54	------	11.47	11.53	13.51	11.80	11.70	11.80	11.99
31	11.90	------	11.73	11.52	------	11.48	------	13.58	------	11.70	11.78	------
MAX	12.04	11.93	11.84	11.73	11.49	11.48	11.53	13.58	14.73	11.81	11.84	12.02
MIN	11.90	11.81	11.73	11.52	11.08	11.05	11.24	11.59	11.80	11.62	11.66	11.75

Note.--Add 900.00 ft to obtain elevation above mean sea level.

12-4390. Osoyoos Lake near Oroville, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11.96	11.44	11.32	11.03	10.81	10.79	11.80	12.44	11.95	11.24	11.09	11.13
2	11.94	11.38	11.32	11.01	10.81	10.78	11.83	12.49	11.92	11.22	11.10	11.13
3	11.90	11.36	11.33	11.01	10.83	10.78	11.86	12.45	11.89	11.20	11.13	11.10
4	11.88	11.33	11.32	11.01	10.83	10.77	11.92	12.39	11.86	11.18	11.17	11.10
5	11.86	11.30	11.32	10.99	10.82	10.77	12.00	12.30	11.84	11.19	11.21	11.11
6	11.83	11.28	11.33	11.00	10.80	10.78	12.08	12.20	11.79	11.21	11.26	11.12
7	11.83	11.27	11.34	11.05	10.80	10.79	12.15	12.13	11.75	11.20	11.29	11.12
8	11.79	11.27	11.35	11.05	10.80	10.81	12.19	12.08	11.73	11.21	11.35	11.07
9	11.77	11.27	11.34	11.04	10.81	10.85	12.23	12.01	11.73	11.20	11.37	11.07
10	11.78	11.27	11.32	11.01	10.84	10.86	12.26	12.01	11.72	11.20	11.39	11.07
11	11.78	11.29	11.29	11.00	10.87	10.87	12.19	12.00	11.68	11.19	11.40	11.09
12	11.77	11.30	11.28	10.98	10.90	10.98	12.11	12.00	11.68	11.19	11.43	11.10
13	11.78	11.30	11.27	10.96	10.92	11.03	12.03	11.99	11.64	11.17	11.45	11.12
14	11.77	11.32	11.26	10.95	10.98	11.07	11.96	11.99	11.62	11.14	11.45	11.14
15	11.76	11.32	11.24	10.94	11.00	11.11	11.92	11.98	11.63	11.12	11.44	11.17
16	11.75	11.32	11.22	10.94	11.01	11.15	11.86	11.93	11.62	11.11	11.45	11.23
17	11.71	11.31	11.23	10.93	11.02	11.19	11.82	11.91	11.60	11.10	11.43	11.27
18	11.67	11.30	11.22	10.91	11.02	11.23	11.80	11.89	11.57	11.08	11.41	11.30
19	11.64	11.30	11.22	10.89	11.02	11.26	11.79	11.86	11.55	11.07	11.44	11.33
20	11.62	11.30	11.21	10.87	11.00	11.29	11.78	11.82	11.52	11.05	11.38	11.37
21	11.57	11.29	11.20	10.82	10.95	11.32	11.78	11.79	11.49	11.02	11.37	11.39
22	11.56	11.31	11.18	10.83	10.93	11.37	11.78	11.76	11.44	11.00	11.32	11.44
23	11.54	11.32	11.16	10.84	10.91	11.42	11.81	11.76	11.40	10.98	11.27	11.49
24	11.54	11.32	11.15	10.84	10.88	11.50	11.83	11.81	11.38	10.98	11.25	11.51
25	11.51	11.32	11.14	10.84	10.86	11.55	11.96	11.87	11.37	10.98	11.23	11.53
26	11.51	11.31	11.12	10.84	10.84	11.59	12.08	11.95	11.33	11.00	11.19	11.56
27	11.53	11.31	11.10	10.84	10.81	11.62	12.14	12.01	11.32	11.01	11.16	11.57
28	11.52	11.31	11.09	10.84	10.80	11.64	12.20	12.06	11.30	11.04	11.14	11.58
29	11.49	11.32	11.08	10.83	------	11.68	12.27	12.08	11.28	11.06	11.12	11.60
30	11.47	11.32	11.06	10.83	------	11.72	12.36	12.04	11.27	11.06	11.11	11.59
31	11.44	------	11.05	10.82	------	11.76	------	12.01	------	11.08	11.11	------
MAX	11.96	11.44	11.35	11.05	11.02	11.76	12.36	12.49	11.95	11.24	11.45	11.60
MIN	11.44	11.27	11.05	10.82	10.80	10.77	11.78	11.76	11.27	10.98	11.09	11.07

Note.--Add 900.00 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11.60	11.04	11.14	11.04	10.50	10.58	10.77	11.07	11.34	11.03	10.83	10.98
2	11.58	11.04	11.15	11.03	10.49	10.60	10.75	11.10	11.30	11.07	10.82	10.99
3	11.54	11.03	11.14	11.05	10.50	10.63	10.75	11.11	11.26	11.09	10.82	10.98
4	11.48	11.02	11.13	11.05	10.51	10.65	10.76	11.11	11.22	11.10	10.82	10.97
5	11.41	11.03	11.13	11.04	10.54	10.67	10.77	11.10	11.20	11.12	10.83	10.96
6	11.35	11.05	11.13	11.04	10.56	10.69	10.80	11.10	11.15	11.12	10.83	10.95
7	11.29	11.05	11.13	11.03	10.57	10.70	10.81	11.11	11.12	11.13	10.83	10.94
8	11.25	11.06	11.13	11.03	10.58	10.72	10.85	11.11	11.08	11.14	10.82	10.93
9	11.24	11.07	11.13	11.05	10.59	10.74	10.90	11.10	11.06	11.17	10.82	10.92
10	11.22	11.08	11.13	11.06	10.58	10.75	10.91	11.10	11.02	11.19	10.83	10.91
11	11.18	11.08	11.13	11.05	10.57	10.77	10.91	11.09	10.99	11.18	10.84	10.90
12	11.17	11.09	11.12	11.03	10.57	10.77	10.92	11.08	11.00	11.17	10.87	10.89
13	11.16	11.09	11.12	11.01	10.57	10.77	10.92	11.08	10.99	11.16	10.89	10.89
14	11.15	11.10	11.12	10.99	10.57	10.80	10.93	11.07	10.97	11.14	10.90	10.89
15	11.11	11.11	11.14	10.96	10.57	10.81	10.98	11.08	10.94	11.12	10.90	10.90
16	11.08	11.12	11.17	10.94	10.56	10.81	11.03	11.07	10.92	11.09	10.91	10.90
17	11.07	11.12	11.19	10.92	10.56	10.80	11.03	11.06	10.90	11.06	10.93	10.93
18	11.06	11.12	11.20	10.90	10.56	10.79	11.04	11.05	10.88	11.04	10.94	10.96
19	11.06	11.13	11.19	10.86	10.57	10.77	11.05	11.06	10.88	11.04	10.95	11.00
20	11.06	11.15	11.17	10.82	10.58	10.76	11.06	11.11	10.85	11.04	10.95	11.04
21	11.06	11.14	11.17	10.77	10.58	10.75	11.06	11.17	10.84	11.02	10.95	11.06
22	11.06	11.14	11.16	10.72	10.58	10.73	11.05	11.26	10.84	11.00	10.96	11.10
23	11.06	11.13	11.15	10.68	10.57	10.74	11.05	11.36	10.85	10.99	10.96	11.13
24	11.06	11.12	11.12	10.64	10.57	10.73	11.04	11.43	10.86	10.98	10.96	11.14
25	11.06	11.12	11.10	10.62	10.57	10.71	11.04	11.46	10.86	10.96	10.97	11.15
26	11.05	11.13	11.09	10.60	10.57	10.70	11.04	11.48	10.86	10.95	10.99	11.16
27	11.05	11.13	11.08	10.58	10.56	10.70	11.03	11.48	10.85	10.94	11.01	11.19
28	11.05	11.13	11.08	10.57	10.56	10.71	11.02	11.45	10.84	10.92	11.02	11.20
29	11.05	11.11	11.06	10.54	------	10.73	11.02	11.43	10.87	10.90	11.02	11.21
30	11.05	11.13	11.05	10.51	------	10.76	11.04	11.41	10.96	10.87	11.01	11.22
31	11.05	------	11.05	10.51	------	10.76	------	11.38	------	10.85	10.99	------
MAX	11.60	11.15	11.20	11.06	10.59	10.81	11.06	11.48	11.34	11.19	11.02	11.22
MIN	11.05	11.02	11.05	10.51	10.49	10.58	10.75	11.05	10.84	10.85	10.82	10.89

Note.--Add 900.00 ft to obtain elevation above mean sea level.

12-4390. Osoyoos Lake near Oroville, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11.22	11.03	10.86	10.80	10.87	11.29	11.12	11.11	12.02	11.75	11.54	11.48
2	11.21	11.06	10.85	10.81	10.88	11.27	11.10	11.11	12.13	11.71	11.55	11.50
3	11.20	11.06	10.83	10.80	10.88	11.23	11.09	11.09	12.33	11.69	11.56	11.52
4	11.19	11.07	10.84	10.80	10.86	11.20	11.08	11.08	12.59	11.70	11.57	11.54
5	11.18	11.09	10.86	10.79	10.83	11.15	11.08	11.05	12.75	11.70	11.55	11.56
6	11.18	11.11	10.88	10.80	10.80	11.09	11.08	11.05	12.89	11.69	11.54	11.57
7	11.17	11.12	10.87	10.80	10.77	11.00	11.08	11.05	13.01	11.68	11.52	11.57
8	11.16	11.16	10.87	10.78	10.74	10.91	11.10	11.04	13.05	11.67	11.49	11.61
9	11.16	11.15	10.88	10.79	10.71	10.83	11.11	11.04	13.06	11.65	11.45	11.64
10	11.16	11.14	10.85	10.79	10.69	10.74	11.12	11.05	13.14	11.61	11.40	11.67
11	11.16	11.12	10.84	10.79	10.67	10.74	11.13	11.05	13.23	11.58	11.38	11.67
12	11.16	11.10	10.84	10.78	10.66	10.73	11.14	11.06	13.33	11.56	11.37	11.67
13	11.15	11.07	10.83	10.77	10.77	10.71	11.15	11.08	13.38	11.52	11.35	11.66
14	11.16	11.06	10.82	10.77	10.88	10.68	11.15	11.09	13.34	11.48	11.32	11.66
15	11.16	11.04	10.81	10.76	10.97	10.66	11.17	11.10	13.26	11.47	11.30	11.64
16	11.16	11.02	10.81	10.77	11.05	10.65	11.17	11.12	13.18	11.50	11.30	11.61
17	11.16	10.99	10.81	10.78	11.12	10.70	11.18	11.17	13.17	11.53	11.28	11.57
18	11.15	10.97	10.80	10.79	11.16	10.79	11.18	11.22	13.20	11.56	11.29	11.48
19	11.13	10.99	10.79	10.79	11.20	10.86	11.18	11.27	13.17	11.55	11.30	11.42
20	11.10	10.95	10.81	10.80	11.26	10.94	11.19	11.38	13.08	11.55	11.31	11.38
21	11.07	10.92	10.80	10.81	11.30	11.03	11.17	11.48	12.98	11.57	11.32	11.35
22	11.06	10.90	10.79	10.83	11.32	11.12	11.18	11.54	12.85	11.58	11.33	11.35
23	11.07	10.92	10.80	10.83	11.33	11.17	11.17	11.56	12.65	11.58	11.33	11.35
24	11.06	10.92	10.79	10.83	11.33	11.20	11.12	11.57	12.45	11.59	11.31	11.37
25	11.06	10.91	10.79	10.84	11.32	11.19	11.10	11.55	12.26	11.60	11.30	11.39
26	11.06	10.91	10.80	10.83	11.32	11.18	11.08	11.52	12.11	11.59	11.31	11.38
27	11.05	10.91	10.81	10.84	11.31	11.16	11.07	11.53	12.00	11.57	11.30	11.40
28	11.04	10.89	10.81	10.85	11.31	11.14	11.08	11.57	11.91	11.55	11.32	11.40
29	11.05	10.88	10.80	10.85	11.30	11.13	11.09	11.65	11.84	11.55	11.32	11.48
30	11.05	10.87	10.80	10.85	------	11.12	11.11	11.78	11.79	11.56	11.34	11.40
31	11.04	------	10.79	10.86	------	11.11	------	11.92	------	11.54	11.44	------
MAX	11.22	11.16	10.88	10.86	11.33	11.29	11.19	11.92	13.38	11.75	11.57	11.67
MIN	11.04	10.87	10.79	10.76	10.66	10.65	11.07	11.04	11.79	11.47	11.28	11.35

Note.--Add 900.00 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11.40	11.11	11.02	10.46	10.79	11.09	11.54	12.12	12.81	11.62	-	11.15
2	11.41	11.11	11.03	10.47	10.78	11.08	11.56	12.14	12.78	11.56	-	11.13
3	11.38	11.08	11.03	10.50	10.76	11.08	11.54	12.12	12.77	11.48	-	11.10
4	11.34	11.07	11.03	10.47	10.74	11.08	11.52	12.09	12.79	11.42	-	11.07
5	11.32	11.03	11.03	10.46	10.74	11.08	11.51	12.05	12.81	11.37	-	11.04
6	11.28	10.98	11.03	10.46	10.74	11.08	11.50	12.02	12.84	11.31	-	11.01
7	11.26	10.94	11.02	10.48	10.73	11.08	11.48	12.02	12.82	11.26	-	10.98
8	11.23	10.90	11.03	10.50	10.73	11.07	11.48	12.06	12.82	11.23	10.86	10.97
9	11.22	10.87	11.03	10.53	10.75	11.07	11.47	12.10	12.80	11.17	-	10.95
10	11.19	10.85	11.03	10.54	10.81	11.06	11.51	12.13	12.78	11.14	-	10.94
11	11.18	10.84	11.03	10.56	10.88	11.06	11.51	12.18	12.81	11.11	-	10.96
12	11.17	10.82	11.02	10.58	10.94	11.06	11.50	12.26	12.86	11.09	-	10.99
13	11.17	10.83	11.02	10.60	11.03	11.12	11.51	12.33	12.84	11.08	-	11.07
14	11.17	10.85	11.00	10.62	11.13	11.19	11.51	12.38	12.81	11.08	-	11.15
15	11.18	10.86	11.02	10.63	11.21	11.27	11.52	12.40	12.75	11.08	10.92	11.22
16	11.21	10.88	10.98	10.64	11.24	11.34	11.53	12.43	12.72	11.07	-	11.22
17	11.23	10.88	11.02	10.66	11.25	11.34	11.56	12.46	12.66	11.03	-	11.22
18	11.23	10.90	11.02	10.67	11.25	11.34	11.57	12.46	12.62	10.98	10.95	11.24
19	11.24	10.91	10.99	10.68	11.24	11.36	11.59	12.45	12.56	10.93	10.96	11.24
20	11.25	10.93	10.95	10.69	11.22	11.38	11.60	12.48	12.49	10.90	10.99	11.27
21	11.24	10.94	10.91	10.71	11.21	11.39	11.62	12.55	12.43	10.92	11.03	11.30
22	11.23	10.95	10.88	10.72	11.20	11.42	11.63	12.58	12.37	10.94	11.04	11.33
23	11.22	10.96	10.83	10.74	11.18	11.39	11.63	12.61	12.25	10.95	11.11	11.34
24	11.22	10.98	10.77	10.75	11.15	11.37	11.65	12.62	12.15	10.97	11.16	11.35
25	11.21	10.99	10.72	10.76	11.12	11.37	11.68	12.62	12.06	10.98	11.23	11.38
26	11.20	11.02	10.68	10.77	11.10	11.38	11.71	12.63	11.97	10.99	11.27	11.37
27	11.18	11.02	10.65	10.78	11.10	11.40	11.78	12.65	11.87	10.98	11.30	11.35
28	11.15	11.01	10.62	10.78	11.09	11.44	11.90	12.68	11.81	10.96	11.26	11.33
29	11.13	11.01	10.57	10.79	------	11.47	11.97	12.74	11.76	-	11.22	11.32
30	11.13	11.02	10.53	10.80	------	11.47	12.04	12.81	11.68	-	11.20	11.31
31	11.13	------	10.50	10.80	------	11.50	------	12.83	------	-	11.18	------
MAX	11.41	11.11	11.03	10.80	11.25	11.50	12.04	12.83	12.86	-	-	11.38
MIN	11.12	10.82	10.50	10.46	10.73	11.06	11.47	12.02	11.68	-	-	10.94

Note.--Add 900.00 ft to obtain elevation above mean sea level.

12-4391.5. Okanogan River at Bridge Street, at Oroville, Wash.

(International gaging station)

Location.--Lat 48°56'20", long 119°25'35", in SW¼NW¼ sec.27, T.40 N., R.27 E., on right bank in Oroville, 700 ft upstream from Tonasket Creek and 1 mile downstream from Osoyoos Lake.

Drainage area.--3,150 sq mi, approximately.

Records available.--October 1942 to September 1964 (annual maximum and minimum gage heights only), October 1964 to September 1965 (gage heights only). April 1939 to November 1944 (fragmentary) and December 1944 to September 1964 gage heights available in files of district office.

Gage.--Water-stage recorder. Datum of gage is 900 ft above mean sea level, U.S. Coast and Geodetic Survey datum of 1929. Prior to Nov. 14, 1944, staff gage at same site and datum. To convert to Geodetic Survey of Canada 1934 datum, subtract 1.63 ft; to convert to 1947 joint adjustment of U.S. Coast and Geodetic Survey and Geodetic Survey of Canada, subtract 0.26 ft.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1943-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Gage height	Date	Gage height
1943	Dec. 3, 4, 1942	a 14.81	Aug. 20, 21, 1943	a 13.18
1944	June 6, 1944	a 15.09	Sept.13, 1944	a 13.11
1945	June 9, 1945	a 15.95	Sept.19, 1945	a 13.58
1946	May 13, 1946	13.36	Oct. 1, 1945	11.39
1947	Oct. 25, 1946	12.36	May 2, 1947	9.19
1948	May 31, 1948	16.61	Mar. 3, 4, 1948	7.30
1949	May 16, 1949	14.36	Mar. 18, 1949	10.39
1950	June 19, 1950	15.01	Jan. 5, 6, 1950	10.25
1951	May 24, 1951	13.82	Jan. 28, 1951	8.78
1952	May 21, 1952	12.61	Mar. 29, 1952	10.68
1953	Sept. 1, 1953	11.90	Mar. 10, 1953	10.28
1954	May 21, 1954	12.16	Jan. 16, 1954	9.72
1955	June 14, 1955	14.52	Mar. 2, 1955	10.81
1956	May 26, 1956	14.17	Nov. 17, 1955	10.69
1957	May 22, 1957	13.89	Dec. 7, 1956	8.70
1958	Apr. 28, 1958	13.16	July 4, 1958	10.92
1959	June 6, 1959	14.29	Jan. 3, 1959	9.08
1960	May 16, 1960	12.44	Mar. 14, 1960	10.31
1961	June 8, 1961	14.44	Mar. 2, 1961	10.90
1962	May 2, 1962	12.28	Mar. 6, 1962	10.64
1963	Oct. 1, 1962, May 23, 1963	11.41	Jan. 11, 1963	9.13
1964	June 12, 1964	13.17	Mar. 10, 1964	10.47
1965	June 12, 1965	12.32	Dec. 17, 1964	8.59

a Observed.

1944-65: Maximum gage height recorded, 16.61 ft May 31, 1948; minimum recorded, 7.30 ft Mar. 3, 4, 1948.

Remarks.--Stage may be affected at times by dam at Zosel's Mill in Oroville.

Cooperation.--This station maintained by the United States under agreement with Canada and designated an international gaging station since Feb. 9, 1965.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11.10	10.88	10.90	10.25	10.68	10.67	11.27	11.66	12.13	11.17	10.48	10.92
2	11.12	10.89	10.90	10.27	10.66	10.67	11.29	11.69	12.11	11.15	10.41	10.91
3	11.07	10.86	10.91	10.31	10.64	10.67	11.22	11.64	12.12	11.07	10.49	10.89
4	11.05	10.86	10.91	10.25	10.62	10.67	11.20	11.61	12.16	11.00	10.61	10.85
5	11.03	10.83	10.92	10.27	10.63	10.67	11.20	11.57	12.16	10.95	10.64	10.83
6	11.02	10.75	10.91	10.31	10.64	10.67	11.22	11.56	12.22	10.89	10.68	10.78
7	10.99	10.75	10.90	10.38	10.61	10.66	11.19	11.54	12.18	10.92	10.69	10.76
8	10.96	10.70	10.90	10.39	10.61	10.66	11.18	11.57	12.14	10.93	10.69	10.75
9	10.95	10.66	10.91	10.43	10.64	10.65	11.18	11.60	12.11	10.86	10.72	10.74
10	10.93	10.64	10.92	10.44	10.68	10.65	11.23	11.64	12.10	10.84	10.71	10.75
11	10.90	10.63	10.92	10.46	10.75	10.66	11.23	11.67	12.17	10.80	10.71	10.80
12	10.90	10.66	10.89	10.48	10.81	10.79	11.21	11.74	12.28	10.78	10.69	10.84
13	10.88	10.73	10.90	10.50	10.90	10.94	11.23	11.80	12.17	10.76	10.73	10.90
14	10.88	10.73	10.87	10.53	10.99	11.00	11.24	11.84	12.08	10.76	10.76	10.97
15	10.93	10.75	10.99	10.55	11.04	11.11	11.24	11.81	12.02	10.79	10.78	11.12
16	10.94	10.80	9.84	10.56	11.02	11.16	11.24	11.85	11.99	10.79	10.81	11.03
17	10.96	10.78	8.86	10.57	10.99	11.11	11.25	11.87	11.93	10.74	10.86	10.96
18	10.96	10.79	10.69	10.58	10.99	11.10	11.27	11.87	11.91	10.71	10.84	10.97
19	10.99	10.79	10.76	10.59	10.88	11.12	11.30	11.87	11.86	10.66	10.83	10.98
20	10.99	10.81	10.76	10.58	10.82	11.15	11.29	11.92	11.79	10.63	10.86	11.02
21	10.98	10.83	10.73	10.61	10.80	11.16	11.32	11.97	11.79	10.65	10.89	11.05
22	10.98	10.82	10.67	10.62	10.78	11.21	11.31	11.98	11.76	10.66	10.91	11.09
23	10.97	10.83	10.63	10.64	10.75	11.18	11.30	12.00	11.67	10.68	10.98	11.09
24	10.98	10.87	10.57	10.65	10.72	11.11	11.34	12.01	11.61	10.69	11.03	11.11
25	10.98	10.87	10.51	10.65	10.70	11.12	11.37	12.02	11.52	10.69	11.08	11.15
26	10.97	10.89	10.47	10.65	10.69	11.14	11.38	12.03	11.47	10.71	11.10	11.17
27	10.95	10.89	10.46	10.66	10.69	11.17	11.42	12.04	11.33	10.71	11.12	11.14
28	10.92	10.89	10.41	10.66	10.68	11.18	11.54	12.07	11.34	10.69	11.04	11.09
29	10.91	10.89	10.37	10.67	------	11.21	11.55	12.17	11.31	10.66	11.00	11.05
30	10.90	10.89	10.34	10.68	------	11.22	11.58	12.28	11.23	10.61	10.98	11.04
31	10.90	------	10.30	10.68	------	11.25	------	12.22	------	10.53	10.94	------
MAX	11.12	10.89	10.99	10.68	11.04	11.25	11.58	12.28	12.28	11.17	11.12	11.17
MIN	10.88	10.63	8.86	10.25	10.61	10.65	11.18	11.54	11.23	10.53	10.41	10.74

12-4394. Okanogan River at Zosel Millpond, at Oroville, Wash.

(International gaging station)

Location.--Lat 48°56'10", long 119°25'10", in SE¼SW¼ sec.27, T.40 N., R.27 E., on left bank in Oroville, a third of a mile downstream from Tonasket Creek and 1.4 miles downstream from Osoyoos Lake.

Drainage area.--3,210 sq mi, approximately.

Records available.--October 1942 to September 1964 (annual maximum and minimum gage heights only), October 1964 to September 1965 (gage heights only). April 1939 to March 1944 (fragmentary) and April 1944 to September 1964 gage heights available in files of district office.

Gage.--Water-stage recorder. Datum of gage is 900 ft above mean sea level, U.S. Coast and Geodetic Survey datum of 1929. Prior to Mar. 27, 1944, staff gage at same site and datum. To convert to Geodetic Survey of Canada 1934 datum, subtract 1.63 ft; to convert to 1947 joint adjustment of U.S. Coast and Geodetic Survey and Geodetic Survey of Canada, subtract 0.26 ft.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1943-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Gage height	Date	Gage height
1943	Oct. 29, 1942	a 13.93	Jan. 22, 1943	a 12.34
1944	May 31, 1944	14.09	Mar. 10, 1944	a 11.45
1945	June 1, 1945	15.07	Aug. 26, 1945	11.81
1946	May 28, 1946	12.37	Jan. 21, 1946	10.38
1947	May 3, 1947	11.75	May 2, 3, 1947	6.80
1948	May 31, 1948	16.60	Mar. 3, 4, 1948	-
1949	May 17, 1949	14.37	Mar. 20, 1949	9.88
1950	June 18, 1950	14.97	Mar. 1, 1950	b 9.54
1951	May 24, 1951	13.73	Jan. 28, 1951	6.31
1952	Dec. 31, 1951	12.20	Mar. 3, 1952	9.43
1953	June 14, 1953	11.19	Jan. 15, 1953	9.13
1954	May 21, 1954	12.06	Jan. 16, 1954	6.25
1955	June 14, 1955	14.50	Mar. 1, 1955	9.95
1956	May 25, 26, 1956	14.02	Feb. 10, 1956	9.43
1957	May 21, 1957	13.58	Dec. 6, 1956	6.48
1958	Nov. 18, 1957	11.57	Feb. 18, 1958	9.03
1959	June 6, 1959	13.53	Jan. 3, 1959	5.90
1960	Nov. 15, 1959	11.40	Mar. 22, 1960	6.22
1961	June 8, 1961	13.73	Apr. 15, 1961	8.69
1962	Oct. 1, 1961	11.02	Feb. 1, 1962	8.68
1963	Jan. 10, 1963	11.23	Jan. 11, 1963	6.01
1964	June 12, 1964	13.10	Feb. 19, 1964	7.96
1965	June 12, 1965	11.66	-	-

a Observed.
b May have been less during period of no gage-height record.

1944-65: Maximum gage height recorded, 16.60 ft May 31, 1948; minimum not determined, occurred sometime Mar. 3 or 4, 1948.

Remarks.--Elevation may occasionally be affected by dam 25 ft downstream.

Cooperation.--This station maintained by the United States under agreement with Canada and designated an international gaging station since Feb. 9, 1965.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10.82	10.66	10.87	9.87	10.63	9.55	10.93	10.97	10.95	10.69	10.18	10.78
2	10.83	10.68	10.88	9.88	10.60	9.55	10.90	11.01	10.89	10.73	10.11	10.78
3	10.82	10.65	10.88	9.95	10.57	9.54	10.77	10.84	11.10	10.64	10.31	10.75
4	10.78	10.65	10.89	9.90	10.53	9.54	10.75	10.73	11.25	10.56	10.57	10.71
5	10.79	10.62	10.89	9.88	10.55	9.55	10.76	10.69	11.20	10.50	10.63	10.69
6	10.80	10.55	10.88	10.10	10.56	9.55	10.80	10.68	11.30	10.44	10.65	10.64
7	10.78	10.56	10.86	10.31	10.54	9.56	10.78	10.68	11.26	10.60	10.65	10.62
8	10.75	10.50	10.87	10.33	10.53	9.55	10.78	10.69	11.06	10.70	10.65	10.61
9	10.73	10.46	10.88	10.35	10.56	9.54	10.78	10.73	11.01	10.60	10.64	10.60
10	10.71	10.43	10.88	10.37	10.61	9.54	10.82	10.77	11.06	10.57	10.66	10.65
11	10.69	10.42	10.88	10.38	10.67	9.55	10.83	10.78	11.20	10.54	10.67	10.72
12	10.70	10.56	10.84	10.40	10.73	10.16	10.82	10.83	11.57	10.50	10.64	10.75
13	10.67	10.68	10.83	10.43	10.82	10.69	10.85	10.88	11.24	10.48	10.69	10.82
14	10.66	10.69	10.81	10.46	10.91	10.78	10.85	10.90	10.92	10.50	10.71	10.89
15	10.70	10.70	10.89	10.47	10.91	10.86	10.86	10.78	10.77	10.52	10.73	11.02
16	10.73	10.75	-	10.48	10.77	10.93	10.85	10.83	10.73	10.54	10.76	10.88
17	10.75	10.74	-	10.49	10.70	10.81	10.87	10.89	10.70	10.48	10.81	10.79
18	10.75	10.74	-	10.50	10.71	10.80	10.88	10.85	10.75	10.46	10.80	10.79
19	10.77	10.75	10.15	10.51	10.20	10.83	10.91	10.86	10.70	10.39	10.78	10.81
20	10.78	10.77	10.36	10.52	9.91	10.84	10.89	10.91	10.61	10.37	10.83	10.84
21	10.78	10.78	10.40	10.54	9.88	10.85	10.91	10.94	10.81	10.37	10.86	10.87
22	10.78	10.77	10.39	10.55	9.77	10.91	10.89	10.84	10.93	10.40	10.87	10.91
23	10.77	10.80	10.36	10.58	9.66	10.87	10.87	10.84	10.88	10.42	10.94	10.92
24	10.76	10.83	10.32	10.59	9.63	10.78	10.91	10.91	10.88	10.44	10.98	10.94
25	10.76	10.83	10.27	10.59	9.58	10.79	10.93	10.95	10.80	10.44	11.00	10.97
26	10.76	10.85	10.21	10.59	9.57	10.82	10.92	11.00	10.74	10.47	11.02	11.01
27	10.74	10.86	10.15	10.60	9.55	10.84	10.93	11.03	10.57	10.47	11.01	10.97
28	10.71	10.85	10.12	10.61	9.57	10.86	10.96	11.04	10.75	10.45	10.89	10.89
29	10.70	10.85	10.05	10.62	------	10.88	10.85	11.28	10.80	10.43	10.86	10.85
30	10.69	10.86	10.00	10.63	------	10.89	10.87	11.55	10.70	10.37	10.84	10.83
31	10.68	------	9.95	10.63	------	10.92	------	11.28	------	10.25	10.80	------
MAX	10.83	10.86	-	10.63	10.91	10.93	10.96	11.55	11.57	10.73	11.02	11.02
MIN	10.66	10.42	-	9.87	9.55	9.54	10.75	10.68	10.57	10.25	10.11	10.60

12-4395. Okanogan River at Oroville, Wash.
(International gaging station)

Location.--Lat 48°55'55", long 119°25'05", in SW¼ sec.27, T.40 N., R.27 E., on left bank in Oroville, 20 ft downstream from Great Northern Railway trestle, half a mile downstream from Tonasket Creek, and 1½ miles downstream from Osoyoos Lake.

Drainage area.--3,210 sq mi, approximately.

Records available.--October 1942 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 899.77 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 26, 1944, staff gage at Zosel's milldam 200 ft upstream at same datum. Oct. 26, 1944, to Mar. 6, 1948, water-stage recorder on railroad trestle 20 ft upstream at same datum. Auxiliary water-stage recorder half a mile downstream used during high-water periods since Apr. 10, 1948. May 15, 1946, to Apr. 9, 1948, auxiliary staff gage at same site and datum.

Average discharge.--23 years, 694 cfs (502,400 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 9, 1961	2,150	a 12.01	Feb. 28, 1961	194	5.94
1962	May 2, 1962	1,040	b 7.60	Feb. 2, 1962	158	5.91
1963	Oct. 1, 1962	560	c 6.75	Jan. 10, 1963	65	5.54
1964	June 19, 1964	1,610	d 11.12	Jan. 16, 1964	212	e 6.11
1965	June 1, 1965	2,010	f 10.13	Dec. 17, 1964	g 185	-

a Maximum gage height for year, 13.51 ft June 8, 1961, backwater from Similkameen River.
b Maximum gage height for year, 8.88 ft May 28, 1962, backwater from Similkameen River.
c Maximum gage height for year, 9.03 ft May 24, 1963, backwater from Similkameen River.
d Maximum gage height for year, 12.98 ft June 12, 1964, backwater from Similkameen River.
e Occurred Dec. 3, 1963.
f Maximum gage height for year, 11.16 ft June 12, 1965, backwater from Similkameen River.
g Minimum daily.

1942-65: Maximum discharge recorded, 3,430 cfs June 2, 1948 (gage height, 15.28 ft); maximum gage height, 16.50 ft May 31, 1948 (backwater from Similkameen River); maximum daily reverse flow, 2,270 cfs May 29, 1948; minimum gage height, 3.98 ft Mar. 1, 1948.

Remarks.--Records good except those for periods of backwater effect, which are fair. Diversions made to irrigate approximately 44,000 acres in Canada and minor diversions in the United States above station. Natural regulation in several large lakes and artificial regulation in Okanagan Lake as an aid to navigation in that lake, also variations in pondage back of Zosel's milldam at Oroville, 200 ft above gage. Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.

Cooperation.--This station maintained by the United States under agreement with Canada, and designated an international gaging station since Feb. 9, 1965.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	598	563	580	538	470	357	438	592	1,340	600	470	506
2	580	563	589	546	470	357	438	615	1,140	578	470	506
3	589	563	580	546	464	357	458	652	761	570	464	506
4	598	572	580	538	458	357	438	678	627	554	464	498
5	607	554	572	538	451	357	438	704	1,050	546	458	514
6	607	554	572	546	451	362	438	721	1,240	554	451	514
7	598	563	572	546	444	362	438	732	1,640	554	451	530
8	580	554	563	546	425	362	438	738	1,980	554	451	514
9	572	546	563	546	432	362	438	748	2,130	546	444	514
10	572	546	563	546	438	366	432	765	2,120	506	438	522
11	607	546	554	546	444	366	425	792	2,030	484	438	514
12	616	554	554	546	438	370	425	804	1,950	477	438	514
13	607	546	554	538	438	375	432	805	1,880	470	444	514
14	598	546	572	538	432	385	438	830	1,670	470	451	514
15	598	546	563	538	425	385	425	845	1,570	477	464	514
16	616	546	554	546	425	390	415	855	1,460	430	484	522
17	607	554	546	546	415	380	400	855	1,370	490	498	538
18	607	563	546	546	405	375	405	860	1,300	506	498	546
19	598	554	554	546	400	375	400	888	1,230	506	498	546
20	607	580	546	546	395	380	400	911	1,170	506	498	546
21	607	580	554	538	380	380	405	952	1,090	506	498	538
22	607	580	546	530	380	380	420	1,000	995	506	498	538
23	607	589	546	530	375	380	425	998	900	506	498	546
24	598	598	546	530	370	385	451	1,120	850	514	498	546
25	589	598	546	530	370	390	470	1,110	814	514	506	562
26	589	598	546	514	366	400	490	1,090	776	506	490	578
27	580	598	546	506	360	410	514	1,340	726	506	498	570
28	589	589	546	498	350	415	530	1,330	678	498	498	578
29	580	589	546	490	------	420	546	1,370	638	490	506	570
30	563	580	546	484	------	432	562	1,410	608	484	514	554
31	563	------	546	477	------	432	------	1,390	-------	484	506	------
TOTAL	18,434	17,012	17,291	16,499	11,671	11,804	13,372	28,504	38,033	15,952	14,782	15,972
MEAN	595	567	558	532	417	381	446	919	1,268	515	477	532
MAX	616	598	589	546	470	432	562	1,410	2,130	600	514	578
MIN	563	546	546	477	350	357	400	592	608	470	438	498
AC-FT	36,560	33,740	34,300	32,730	23,150	23,410	26,520	56,540	75,440	31,640	29,320	31,680

CAL YR 1960: TOTAL 215,038 MEAN 588 MAX 1,280 MIN -100 AC-FT 426,500
WAT YR 1961: TOTAL 219,326 MEAN 601 MAX 2,130 MIN 350 AC-FT 435,000

Note.--Backwater from Similkameen River May 19 to June 21.

12-4395. Okanogan River at Oroville, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	546	477	385	352	352	356	722	990	741	420	275	347
2	625	444	385	347	342	356	740	1,020	732	405	271	347
3	638	438	385	347	352	356	752	995	722	405	275	347
4	630	432	385	347	356	352	776	984	719	395	280	347
5	622	420	385	342	352	352	903	957	742	395	288	342
6	615	420	385	356	352	352	814	924	734	400	298	342
7	615	400	375	370	347	356	864	886	710	385	298	334
8	600	380	410	375	352	360	880	864	728	375	316	334
9	578	380	438	370	356	365	902	820	657	352	324	334
10	578	375	432	365	360	360	908	825	650	347	334	329
11	578	370	420	360	365	370	891	825	646	347	338	329
12	570	380	420	360	370	380	864	820	683	347	347	324
13	570	380	420	360	380	385	836	808	658	352	380	329
14	578	380	415	356	385	395	814	808	620	342	370	329
15	570	390	415	324	390	405	808	820	606	338	365	334
16	578	390	410	356	395	415	781	808	575	338	365	334
17	570	380	410	356	390	426	770	798	547	338	370	342
18	554	385	405	350	390	432	770	798	543	338	380	360
19	538	385	405	356	395	442	770	798	550	316	380	385
20	546	385	385	330	395	448	764	792	555	306	380	400
21	514	380	375	340	385	454	764	758	562	302	375	405
22	506	385	370	340	380	482	764	746	578	298	370	415
23	498	385	366	340	380	494	776	752	524	298	365	426
24	490	385	366	342	370	518	781	776	518	288	360	432
25	484	385	366	342	370	542	825	750	482	284	360	454
26	470	380	366	342	365	578	864	737	454	280	356	470
27	477	385	366	342	360	620	896	719	454	280	352	506
28	484	385	362	338	356	644	918	751	442	284	352	548
29	477	385	362	338	------	662	935	756	426	288	352	548
30	477	380	357	338	------	686	968	779	420	275	352	548
31	464	------	357	342	------	692	------	757	------	275	347	------
TOTAL	17,040	11,826	12,103	10,823	10,342	14,035	24,720	25,621	17,978	10,393	10,575	11,625
MEAN	550	394	390	349	369	453	824	826	599	335	341	388
MAX	638	477	438	375	395	692	968	1,020	742	420	380	548
MIN	464	370	357	324	342	352	722	719	420	275	271	324
AC-FT	33,800	23,460	24,010	21,470	20,510	27,840	49,030	50,820	35,660	20,610	20,980	23,060

CAL YR 1961: TOTAL 207,558 MEAN 569 MAX 2,130 MIN 350 AC-FT 411,700
WAT YR 1962: TOTAL 177,081 MEAN 485 MAX 1,020 MIN 271 AC-FT 351,200

Note.--Backwater from Similkameen River May 25 to June 5, June 9-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	548	352	370	375	316	224	197	300	436	184	141	240
2	548	356	370	375	316	221	191	310	432	202	132	240
3	542	356	370	385	316	224	191	320	403	212	137	240
4	530	356	365	385	320	224	194	316	394	216	137	235
5	512	338	360	380	302	224	194	302	397	225	137	235
6	500	334	365	380	298	221	194	311	378	225	137	230
7	482	334	365	380	302	210	200	320	406	221	137	230
8	454	334	370	375	302	191	204	316	400	230	128	230
9	437	338	370	370	302	194	214	311	384	268	128	225
10	437	338	365	210	302	188	218	306	348	292	124	221
11	420	338	365	180	293	191	218	302	292	302	124	221
12	415	338	365	400	293	191	221	298	273	297	132	221
13	410	338	365	437	293	188	221	293	265	297	137	221
14	415	342	360	426	288	194	224	288	268	297	141	221
15	410	347	360	420	293	197	235	284	249	283	132	221
16	410	347	375	415	293	197	259	280	244	278	137	221
17	385	347	400	410	293	194	280	275	225	268	141	225
18	370	352	405	410	298	191	284	259	180	225	141	225
19	370	352	405	400	302	200	284	251	176	225	145	235
20	370	356	400	390	306	210	288	247	158	221	145	244
21	370	370	395	380	306	210	284	307	154	212	145	254
22	370	375	395	375	306	207	288	406	150	202	150	263
23	370	370	395	365	306	210	290	406	150	202	150	268
24	370	365	390	352	306	210	290	509	158	194	145	268
25	370	365	385	352	306	210	290	452	158	184	150	268
26	365	365	380	342	306	200	290	495	162	180	154	273
27	360	370	380	338	288	182	290	478	154	171	162	278
28	360	370	380	342	263	179	290	471	145	176	167	278
29	360	365	375	334	------	182	290	465	154	171	227	283
30	356	370	375	320	------	191	300	481	167	162	249	297
31	356	------	375	320	------	194	------	453	------	150	244	------
TOTAL	12,972	10,578	11,695	11,323	8,415	6,249	7,413	10,812	7,860	6,972	4,656	7,311
MEAN	418	353	377	365	301	202	247	349	262	225	150	244
MAX	548	375	405	437	320	224	300	509	436	302	249	297
MIN	356	334	360	180	263	179	191	247	145	150	124	221
AC-FT	25,730	20,980	23,200	22,460	16,690	12,390	14,700	21,450	15,590	13,830	9,240	14,500

CAL YR 1962: TOTAL 171,357 MEAN 469 MAX 1,020 MIN 271 AC-FT 339,900
WAT YR 1963: TOTAL 106,256 MEAN 291 MAX 548 MIN 124 AC-FT 210,800

Note.--Backwater from Similkameen River May 21 to June 7, June 13.

12-4395. Okanogan River at Oroville, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	312	263	254	244	249	572	566	530	974	870	722	650
2	312	268	254	244	254	566	560	530	952	852	722	674
3	312	268	235	240	342	578	560	536	641	768	728	680
4	317	273	235	240	390	620	560	518	785	840	734	652
5	327	278	240	240	384	674	566	524	1,030	778	722	698
6	332	288	244	240	374	680	566	507	1,080	776	722	704
7	327	288	244	240	358	650	560	513	1,030	772	722	710
8	327	318	240	230	348	614	548	507	1,070	729	704	722
9	327	353	254	230	338	596	554	507	1,050	712	692	752
10	332	348	235	230	332	470	554	501	923	727	674	788
11	332	348	230	230	327	394	566	495	983	740	662	824
12	332	343	249	230	327	384	565	507	994	764	662	842
13	327	338	254	230	353	379	566	518	1,250	739	650	836
14	327	332	254	230	379	374	572	518	1,460	730	638	848
15	332	327	254	225	395	374	584	518	1,480	698	620	836
16	327	322	258	221	405	292	578	524	1,540	644	620	824
17	327	317	258	225	422	230	572	536	1,540	650	614	818
18	327	292	254	225	433	246	578	560	1,540	662	620	794
19	317	302	249	225	409	258	578	626	1,580	656	602	776
20	302	288	254	230	416	278	596	673	1,580	644	584	764
21	288	268	254	230	495	297	611	723	1,530	668	584	716
22	268	263	244	235	542	322	542	895	1,420	662	590	710
23	268	268	249	240	548	364	554	950	1,320	668	596	710
24	263	268	249	240	566	490	530	1,000	1,240	668	578	710
25	263	268	244	240	572	558	530	935	1,140	686	578	740
26	263	263	249	240	578	584	530	860	1,050	698	590	728
27	263	268	249	244	578	578	524	860	997	686	578	734
28	258	263	249	244	578	572	518	908	967	680	590	734
29	263	263	244	244	578	566	524	858	922	680	584	722
30	263	258	244	244	------	560	530	816	906	728	608	722
31	263	------	240	244	------	554	------	854	------	728	626	------
TOTAL	9,398	8,804	7,664	7,294	12,270	14,667	16,743	20,307	34,974	22,303	19,916	22,458
MEAN	303	293	247	235	423	473	558	655	1,166	719	642	749
MAX	332	353	258	244	578	680	611	1,000	1,580	870	734	848
MIN	258	258	230	221	249	230	518	495	641	644	578	650
AC-FT	18,640	17,460	15,200	14,470	24,340	29,090	33,210	40,280	69,370	44,240	39,500	44,540

CAL YR 1963: TOTAL 96,877 MEAN 265 MAX 509 MIN 124 AC-FT 192,200
WAT YR 1964: TOTAL 196,798 MEAN 538 MAX 1,580 MIN 221 AC-FT 390,300

Note.--Backwater from Similkameen River May 21-24, May 29 to July 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	722	596	405	484	374	932	950	1,460	1,990	958	536	497
2	728	602	411	484	379	932	992	1,470	1,930	904	519	497
3	722	590	411	489	395	932	1,030	1,490	1,890	880	395	492
4	710	590	411	489	384	932	1,020	1,510	1,910	850	295	480
5	680	578	416	489	390	939	1,010	1,490	1,920	832	300	475
6	662	560	411	390	390	944	994	1,470	1,890	814	315	470
7	656	554	405	317	384	944	988	1,460	1,930	706	345	470
8	644	542	405	322	384	944	976	1,480	1,950	658	360	465
9	638	542	405	322	390	938	976	1,500	1,990	634	405	455
10	632	536	405	327	405	938	994	1,510	1,900	629	385	415
11	614	536	405	327	422	944	1,000	1,550	1,850	618	355	405
12	614	438	416	327	438	776	994	1,580	1,850	618	360	400
13	608	379	438	338	461	680	1,010	1,630	1,970	602	350	410
14	602	379	427	348	495	716	1,020	1,680	1,980	590	350	420
15	620	379	390	358	590	746	1,020	1,710	1,990	585	350	492
16	626	390	260	358	722	806	1,020	1,740	2,000	580	345	536
17	632	384	185	363	770	848	1,030	1,760	1,940	563	335	580
18	632	384	250	363	770	842	1,030	1,710	1,880	558	330	580
19	638	384	480	368	902	848	1,050	1,680	1,860	546	315	585
20	644	384	500	368	980	854	1,050	1,690	1,830	541	315	590
21	644	390	555	374	974	860	1,090	1,710	1,670	546	320	596
22	638	384	542	374	986	878	1,110	1,770	1,550	546	325	607
23	632	384	536	379	974	878	1,120	1,800	1,440	552	330	607
24	632	395	530	379	962	866	1,140	1,830	1,360	546	345	612
25	632	395	518	379	938	872	1,160	1,820	1,290	552	400	624
26	632	400	513	379	932	878	1,190	1,900	1,260	552	425	629
27	626	405	507	384	932	890	1,220	1,870	1,200	552	475	629
28	614	400	501	384	932	902	1,320	1,910	1,090	546	524	634
29	608	400	501	384	------	908	1,410	1,900	1,040	530	519	658
30	602	400	495	374	------	914	1,430	1,890	1,010	530	514	652
31	596	------	489	374	------	926	------	1,940	------	541	502	------
TOTAL	19,880	13,680	13,523	11,795	18,055	27,207	32,344	51,910	51,360	19,659	11,939	15,962
MEAN	641	456	436	380	645	878	1,078	1,675	1,712	634	385	532
MAX	728	602	555	489	986	944	1,430	1,940	2,000	958	536	658
MIN	596	379	185	317	374	680	950	1,460	1,010	530	295	400
AC-FT	39,430	27,130	26,820	23,400	35,810	53,960	64,150	103,000	101,900	38,990	23,680	31,660

CAL YR 1964: TOTAL 218,015 MEAN 596 MAX 1,580 MIN 185 AC-FT 432,400
WAT YR 1965: TOTAL 287,314 MEAN 787 MAX 2,000 MIN 185 AC-FT 569,900

Note.--Backwater from Similkameen River May 27 to June 19.

12-4420. Toats Coulee Creek near Loomis, Wash.

Location.--Lat 48°50'00", long 119°41'50", in SE¼ sec.33, T.39 N., R.25 E., on left bank 600 ft upstream from Deer Creek, 1,800 ft upstream from intake of Whitestone irrigation canal, and 3 miles northwest of Loomis.

Drainage area.--130 sq mi.

Records available.--May 1920 to September 1926 (fragmentary), April 1957 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,880 ft (from topographic map). May 11 to June 2, 1920, staff gage 1,000 ft downstream at different datum. June 3, 1920, to Sept. 30, 1926, water-stage recorder 600 ft downstream at different datum.

Average discharge.--8 years (1957-65), 46.9 cfs (33,950 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (200 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 26, 1961	0800	586	4.43	June 9, 1962	0100	237	2.94	June 16, 1964	1700	* 506	4.34
May 30, 1961	1030	684	4.71					July 30, 1964	2400	236	3.14
June 7, 1961	0400	* 724	4.87	May 23, 1963	2000	* 682	4.83				
June 11, 1961	2300	402	3.85					May 29, 1965	0030	432	3.65
				June 2, 1964	0630	434	4.11	June 3, 1965	0030	412	3.58
May 27, 1962	2400	* 319	3.28	June 8, 1964	1300	423	4.08	June 11, 1965	1800	* 628	4.30

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Nov. 8, 1960	2.7	0.69	1964	Nov. 18, 1963	2.4	0.69
1962	Nov. 2, 1961	1.0	.56	1965	Oct. 27, 1964	2.0	.62
1963	Jan. 11, 1963	a 3.5	-				

a Minimum daily.

1920-26, 1957-65: Maximum discharge, 1,100 cfs May 19, 1957 (gage height, 5.67 ft); minimum, 1.0 cfs Nov. 2, 1961 (gage height, 0.56 ft), result of freezeup.
Flood of May 28, 1948, 6,010 cfs (result of slope-area measurement of peak flow), appears to be the maximum discharge since at least 1894.

Remarks.--Record good except those for periods of no gage-height record and those for winter periods, which are poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.3	10	8.7	6.5	7.0	7.4	13	83	519	51	12	8.9
2	6.3	8.3	8.9	7.0	7.5	7.0	17	84	487	61	11	7.4
3	6.3	7.8	8.9	7.5	7.5	7.0	20	68	454	50	9.9	7.0
4	6.3	8.5	8.5	7.5	7.5	7.0	17	52	419	43	8.9	6.3
5	6.1	8.3	8.0	7.5	7.5	7.0	15	47	398	44	9.2	5.8
6	7.0	8.3	7.5	7.5	7.5	6.9	14	43	398	48	9.3	5.6
7	10	8.3	7.0	7.5	8.0	6.9	12	46	550	41	8.7	5.4
8	9.3	4.8	7.0	7.5	8.0	6.9	13	47	380	36	8.1	5.3
9	8.5	6.7	7.0	7.5	8.1	7.0	13	48	352	32	7.6	5.3
10	8.1	11	7.0	8.0	8.1	7.0	13	68	289	31	7.0	5.2
11	7.8	12	7.0	8.0	8.1	7.2	14	63	297	28	6.7	4.8
12	7.8	8.7	7.5	8.0	7.8	7.0	15	65	320	26	6.5	4.8
13	7.8	9.9	8.0	8.0	7.8	7.0	14	78	249	24	6.1	4.8
14	7.8	9.2	8.0	8.0	7.8	7.4	13	101	221	22	6.0	4.7
15	8.1	8.3	8.0	8.5	7.6	11	13	108	201	30	5.8	4.7
16	8.5	9.2	7.5	8.5	7.6	12	14	127	185	27	10	4.7
17	8.7	9.4	7.5	8.1	7.6	12	18	151	167	28	22	5.0
18	8.5	8.7	8.0	7.8	7.4	11	19	181	161	27	16	5.0
19	8.3	8.1	8.0	7.8	7.4	10	15	244	132	22	12	4.7
20	8.3	8.5	8.0	7.5	7.6	11	13	297	115	20	9.9	4.7
21	8.3	8.0	8.0	7.8	8.1	9.2	14	322	100	18	9.4	4.8
22	8.7	8.0	8.0	7.6	8.1	8.5	14	320	90	18	8.3	5.4
23	9.6	8.5	8.0	7.4	7.6	8.5	15	368	80	16	7.4	5.8
24	11	8.9	8.0	7.4	7.6	8.3	16	313	73	16	6.9	5.8
25	11	8.7	8.0	7.0	7.6	8.3	18	305	64	14	6.7	5.8
26	11	8.5	8.0	6.5	7.6	8.7	23	519	59	14	6.3	5.6
27	10	7.5	7.5	6.5	7.6	8.3	31	484	54	13	6.3	5.4
28	9.9	7.0	7.0	6.5	7.4	8.3	35	385	52	18	6.3	6.0
29	8.5	7.5	6.5	6.5	------	8.9	42	358	51	18	6.1	6.3
30	7.8	8.1	6.5	6.5	------	10	74	582	57	17	6.1	6.1
31	9.2	------	6.5	7.0	------	11	------	547	------	14	6.0	------
TOTAL	261.4	254.7	238.0	230.9	215.0	263.7	576	6,504	6,974	867	269.1	165.1
MEAN	8.43	8.49	7.68	7.45	7.68	8.51	19.2	210	232	28.0	8.68	5.50
MAX	11	12	8.9	8.5	8.1	12	74	582	550	61	22	7.4
MIN	6.1	4.8	6.5	6.5	7.0	6.9	12	43	51	13	5.8	4.7
CFSM	.06	.07	.06	.06	.06	.07	.15	1.61	1.79	.22	.07	.04
IN.	.07	.07	.07	.07	.06	.08	.16	1.86	2.00	.25	.08	.05
AC-FT	518	505	472	458	426	523	1,140	12,900	13,830	1,720	534	327

CAL YR 1960: TOTAL 15,417.1 MEAN 42.1 MAX 514 MIN 4.7 CFSM .32 IN 4.41 AC-FT 30,580
WAT YR 1961: TOTAL 16,818.9 MEAN 46.1 MAX 582 MIN 4.7 CFSM .35 IN 4.81 AC-FT 33,360

Note.--No gage-height record Dec. 12 to Jan. 15. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4420. Toats Coulee Creek near Loomis, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.0	8.1	7.4	6.5	6.0	5.4	8.5	27	146	50	11	7.1
2	6.0	2.3	7.6	6.5	6.0	5.6	9.2	29	150	52	10	6.9
3	5.8	5.0	7.6	6.5	6.0	5.8	10	30	137	50	11	6.3
4	5.8	6.8	7.4	6.5	6.0	6.0	11	26	116	44	31	5.8
5	5.4	7.0	7.1	7.0	6.1	6.0	12	25	110	50	32	5.6
6	5.4	7.4	6.8	7.0	6.2	6.2	11	27	102	68	23	5.4
7	5.8	7.6	6.6	7.8	6.4	6.5	12	23	121	49	28	5.1
8	5.6	8.1	6.0	7.0	7.0	7.0	11	25	166	40	50	4.9
9	6.0	8.1	5.0	6.5	8.0	6.6	11	25	183	44	38	5.1
10	6.7	8.3	4.5	6.0	8.0	6.0	9.7	35	148	38	29	5.4
11	6.9	8.6	4.0	5.5	7.7	5.8	11	36	124	33	24	6.9
12	7.1	8.0	4.5	5.0	7.5	5.6	13	36	124	30	20	7.1
13	8.1	7.8	5.0	4.5	7.3	5.4	18	36	114	28	18	6.7
14	9.2	8.1	5.0	4.0	7.2	5.4	21	36	138	26	16	6.9
15	9.4	7.6	5.0	4.0	7.1	5.4	28	33	150	25	15	6.9
16	8.9	6.0	5.2	4.0	7.0	5.4	27	34	154	25	13	6.3
17	8.3	5.5	5.4	3.5	7.0	5.5	27	41	142	23	12	5.8
18	7.8	5.2	5.6	4.0	7.0	5.7	34	45	121	21	12	5.4
19	7.6	5.2	6.0	4.0	7.0	5.9	48	51	116	20	11	5.1
20	6.7	5.4	6.5	4.0	7.0	6.0	51	54	108	19	11	4.9
21	4.0	5.4	6.5	4.5	6.5	6.3	48	66	99	17	11	4.7
22	5.4	5.2	7.0	4.5	6.0	6.6	45	73	90	16	9.7	4.5
23	8.3	4.5	7.0	4.5	5.8	7.0	50	89	82	14	9.5	4.3
24	4.5	4.0	6.5	5.0	5.5	7.2	66	192	77	16	9.2	4.3
25	7.1	4.5	5.5	5.0	5.2	7.2	56	287	77	15	8.3	4.2
26	8.1	4.8	5.7	5.0	5.0	7.0	44	237	85	14	8.1	4.2
27	8.1	5.2	5.9	6.0	5.0	6.4	37	251	67	13	8.1	4.3
28	7.6	5.5	6.0	6.0	5.2	6.4	34	265	60	14	8.3	5.8
29	5.4	6.0	6.0	5.5	------	6.5	29	233	55	12	9.7	8.9
30	9.2	7.0	6.0	5.5	------	7.0	27	170	51	10	9.2	6.9
31	8.6	------	6.5	6.0	------	7.5	------	162	------	10	7.6	------
TOTAL	214.8	188.2	186.8	167.3	181.7	192.2	819.4	2,699	3,413	886	513.7	173.7
MEAN	6.93	6.27	6.03	5.40	6.49	6.20	27.3	87.1	114	28.6	16.6	5.79
MAX	9.4	8.6	7.6	7.8	8.0	7.5	66	287	183	68	50	8.9
MIN	4.0	2.3	4.0	3.5	5.0	5.4	8.5	23	51	10	7.6	4.2
CFSM	.05	.05	.05	.04	.05	.05	.21	.67	.88	.22	.13	.04
IN.	.06	.05	.05	.05	.05	.05	.23	.77	.98	.25	.15	.05
AC-FT	426	373	371	332	360	381	1,630	5,350	6,770	1,760	1,020	345

CAL YR 1961: TOTAL 16,654.6 MEAN 45.6 MAX 582 MIN 2.3 CFSM .35 IN 4.76 AC-FT 33,030
WAT YR 1962: TOTAL 9,635.8 MEAN 26.4 MAX 287 MIN 2.3 CFSM .20 IN 2.76 AC-FT 19,110

Note.--No gage-height record Nov. 22 to Apr. 4. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.1	15	11	8.6	4.5	11	8.6	44	359	129	45	16
2	7.4	14	13	8.9	5.0	11	8.9	34	324	101	44	36
3	7.6	14	11	8.6	6.0	11	8.6	28	317	90	35	29
4	7.6	13	10	8.6	8.0	11	8.9	24	297	96	32	22
5	8.1	13	13	8.3	16	10	10	35	286	96	32	18
6	7.8	12	12	8.1	15	10	12	54	275	105	28	16
7	8.1	8.6	11	8.1	15	9.5	11	46	257	128	26	15
8	7.8	13	12	8.1	14	9.5	11	41	238	146	24	13
9	9.4	12	12	6.0	13	9.5	11	41	232	173	22	12
10	9.7	8.9	12	5.0	11	9.5	11	36	219	150	21	12
11	11	11	12	3.5	11	9.0	11	36	221	116	22	12
12	13	8.3	11	4.0	9.5	9.0	11	49	219	103	20	11
13	21	9.4	11	5.0	9.0	9.0	14	50	200	94	36	14
14	16	11	11	6.0	8.5	9.0	21	63	179	86	35	16
15	13	10	12	7.0	8.0	9.0	30	88	170	75	31	14
16	10	7.1	12	8.0	8.0	9.0	28	102	155	69	26	15
17	11	10	11	8.5	7.5	9.0	22	130	142	82	22	22
18	11	7.6	10	8.0	7.5	9.0	21	165	132	84	20	19
19	14	12	10	7.5	8.0	9.0	18	217	119	67	20	16
20	15	41	9.7	7.5	9.0	9.5	17	290	110	58	23	14
21	25	27	9.7	7.5	8.5	10	16	372	108	55	22	12
22	30	18	9.0	7.5	8.0	12	17	429	118	56	22	13
23	23	12	8.0	7.5	8.0	11	18	487	130	53	22	17
24	20	16	7.5	7.5	8.0	9.7	17	500	103	48	22	14
25	18	18	7.0	7.0	8.0	9.2	17	452	93	48	22	12
26	17	16	7.0	7.0	8.5	8.9	18	429	84	44	31	11
27	16	8.6	7.5	6.5	9.5	9.7	21	390	81	41	26	10
28	15	12	7.5	6.0	12	10	31	398	82	36	21	9.7
29	16	9.0	7.5	5.5	------	9.7	44	426	107	33	20	9.4
30	16	10	8.0	5.0	------	8.9	56	432	136	32	17	9.2
31	16	------	8.0	4.0	------	8.9	------	423	------	31	14	------
TOTAL	428.6	397.5	313.4	214.3	264.0	300.5	549.0	6,311	5,493	2,525	805	459.3
MEAN	13.8	13.3	10.1	6.91	9.43	9.69	18.3	204	183	81.5	26.0	15.3
MAX	30	41	13	8.9	16	12	56	500	359	173	45	36
MIN	7.4	7.1	7.0	3.5	4.5	8.9	8.6	24	81	31	16	9.2
CFSM	.11	.10	.08	.05	.07	.07	.14	1.57	1.41	.63	.20	.12
IN.	.12	.11	.09	.06	.08	.09	.16	1.81	1.57	.72	.23	.13
AC-FT	850	788	622	425	524	596	1,090	12,520	10,900	5,010	1,600	911

CAL YR 1962: TOTAL 10,185.5 MEAN 27.9 MAX 287 MIN 3.5 CFSM .21 IN 2.91 AC-FT 20,200
WAT YR 1963: TOTAL 18,060.6 MEAN 49.5 MAX 500 MIN 3.5 CFSM .38 IN 5.17 AC-FT 35,820

Note.--No gage-height record Jan. 11 to Mar. 21. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4420. Toats Coulee Creek near Loomis, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.6	11	12	12	11	10	13	22	249	101	52	15
2	8.3	12	12	12	11	10	10	20	362	107	45	14
3	8.1	10	12	12	11	10	10	21	288	181	42	13
4	8.1	12	12	12	11	10	11	36	280	134	55	13
5	8.6	8.0	12	12	11	10	10	42	336	114	40	12
6	10	14	12	12	11	10	10	38	317	106	32	11
7	12	11	12	12	11	10	11	41	327	94	29	11
8	11	9.2	12	12	11	9.7	11	56	352	119	26	13
9	10	11	12	12	11	9.7	13	82	292	101	25	14
10	10	12	12	12	11	9.7	14	83	257	85	24	13
11	10	12	12	11	11	10	14	69	247	74	22	12
12	9.7	12	12	11	11	10	12	82	219	66	20	11
13	9.2	12	12	12	11	10	12	84	198	60	20	10
14	9.4	16	12	12	11	9.7	12	70	215	55	20	10
15	9.4	16	12	11	11	10	15	74	226	60	18	9.6
16	8.9	14	13	12	11	10	13	94	336	53	17	9.6
17	8.6	14	13	12	11	10	11	128	362	50	16	10
18	8.6	5.7	14	12	10	10	11	147	354	46	18	10
19	8.3	6.0	14	11	10	10	12	171	269	41	19	9.9
20	8.3	6.0	14	11	10	10	15	200	245	37	17	12
21	9.2	7.0	13	12	10	10	15	191	243	35	15	13
22	16	7.0	13	12	10	10	14	150	198	33	14	16
23	18	10	13	12	10	9.7	13	128	162	37	13	14
24	15	11	13	12	10	10	14	119	162	32	12	12
25	15	13	13	12	10	10	20	104	146	29	11	10
26	12	13	13	12	10	9.7	22	108	138	27	11	10
27	9.6	13	13	12	10	9.7	19	112	147	25	11	10
28	14	12	12	12	10	9.7	18	147	130	23	13	10
29	9.8	12	12	12	10	11	22	202	118	22	14	9.9
30	8.6	12	12	11	------	11	26	207	110	31	15	10
31	12	------	12	11	------	12	------	223	------	113	16	------
TOTAL	324.3	333.9	387	365	307	311.6	423	3,251	7,285	2,091	702	348.0
MEAN	10.5	11.1	12.5	11.8	10.6	10.1	14.1	105	243	67.5	22.6	11.6
MAX	18	16	14	12	11	12	26	223	362	181	55	16
MIN	8.1	5.7	12	11	10	9.7	10	20	110	22	11	9.6
CFSM	.08	.09	.10	.09	.08	.08	.11	.81	1.87	.52	.17	.09
IN.	.09	.10	.11	.10	.09	.09	.12	.93	2.08	.60	.20	.10
AC-FT	643	662	768	724	609	619	839	6,450	14,450	4,150	1,390	690

CAL YR 1963: TOTAL 17,966.3 MEAN 49.2 MAX 500 MIN 3.5 CFSM .38 IN 5.14 AC-FT 35,640
WAT YR 1964: TOTAL 16,128.8 MEAN 44.1 MAX 362 MIN 5.7 CFSM .34 IN 4.61 AC-FT 31,990

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	10	9.6	5.4	8.1	8.9	9.4	69	251	61	18	23
2	11	11	9.6	6.4	8.1	8.9	11	54	295	57	17	21
3	10	7.3	9.4	7.0	8.1	8.7	9.6	47	322	64	18	20
4	10	10	9.4	6.8	8.1	8.9	9.6	41	275	83	26	21
5	9.9	8.1	8.9	6.2	8.5	8.9	10	36	280	64	36	19
6	9.9	7.4	8.6	6.4	8.5	8.9	9.9	34	278	52	27	18
7	9.6	11	8.4	6.2	8.5	9.2	9.2	40	236	51	22	17
8	10	4.6	8.7	6.0	8.5	9.2	9.4	53	228	46	18	16
9	12	8.7	8.7	6.6	8.5	9.4	12	71	228	41	17	15
10	14	9.6	8.6	7.6	8.5	9.6	12	102	224	41	16	14
11	14	6.7	7.4	8.2	8.3	11	11	119	394	64	15	14
12	12	7.8	7.2	8.4	8.3	10	12	150	324	54	17	14
13	11	6.7	7.4	8.4	8.5	9.9	15	150	251	52	24	14
14	11	5.8	7.4	8.0	8.5	10	14	157	232	43	20	15
15	10	8.1	6.0	8.3	8.5	10	18	155	208	38	16	17
16	10	9.2	2.4	8.5	8.9	8.4	20	154	190	36	14	16
17	9.6	8.9	2.6	8.3	8.9	9.0	18	128	178	32	13	14
18	9.6	8.7	3.2	8.1	8.9	8.0	16	114	170	29	12	14
19	10	8.5	3.8	8.1	9.4	8.6	16	114	155	28	11	14
20	10	7.8	4.4	8.1	9.2	9.2	16	120	138	28	21	14
21	10	7.8	5.2	8.1	9.2	8.7	18	124	126	35	31	14
22	9.9	7.4	5.6	7.8	9.4	8.5	19	130	116	41	22	13
23	9.6	7.4	5.4	7.8	9.4	8.3	20	152	106	35	34	13
24	9.6	8.1	5.2	7.8	9.4	7.4	28	163	97	29	76	12
25	9.6	8.9	3.5	7.6	9.4	8.0	31	190	90	25	85	12
26	7.8	8.5	4.0	7.6	9.4	8.1	38	230	83	24	50	12
27	4.2	8.0	5.0	7.8	9.6	7.8	55	253	74	32	40	12
28	9.4	7.4	6.0	7.8	9.2	7.2	78	312	69	38	34	12
29	10	7.6	6.2	7.8	------	7.6	88	372	66	28	29	12
30	9.9	8.0	5.8	8.1	------	7.8	85	312	65	23	27	11
31	9.9	------	5.6	8.1	------	8.3	------	249	------	20	25	------
TOTAL	314.5	245.0	199.2	233.3	245.8	272.4	718.1	4,395	5,749	1,294	831	453
MEAN	10.1	8.17	6.43	7.53	8.78	8.79	23.9	142	192	41.7	26.8	15.1
MAX	14	11	9.6	8.5	9.6	11	88	372	394	83	85	23
MIN	4.2	4.6	2.4	5.4	8.1	7.2	9.2	34	65	20	11	11
CFSM	.08	.06	.05	.06	.07	.07	.18	1.09	1.47	.32	.21	.12
IN.	.09	.07	.06	.07	.07	.08	.21	1.26	1.64	.37	.24	.13
AC-FT	624	486	395	463	488	540	1,420	8,720	11,400	2,570	1,650	899

CAL YR 1964: TOTAL 15,842.3 MEAN 43.3 MAX 362 MIN 2.4 CFSM .33 IN 4.53 AC-FT 31,420
WAT YR 1965: TOTAL 14,950.3 MEAN 41.0 MAX 394 MIN 2.4 CFSM .32 IN 4.28 AC-FT 29,650

12-4422. Whitestone irrigation canal near Loomis, Wash.

Location.--Lat 48°49'50", long 119°41'25", in SW¼ sec.34,T.39 N., R.25 E., on right bank 200 ft downstream from headworks and 2½ miles northwest of Loomis.

Records available.--April 1957 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,650 ft (from topographic map).

Extremes.--1957-65: Maximum daily discharge, 67 cfs May 31, June 1, 1964; no flow during nonirrigation season.

Remarks.--Records excellent. Canal diverts from Toats Coulee Creek for irrigation of about 2,000 acres in Whitestone Irrigation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.3	11	0	0	0	0	0	33	30	43	15	8.2
2	7.3	8.4	0	0	0	0	0	35	35	44	13	8.9
3	7.1	8.2	0	0	0	0	0	32	32	43	12	8.2
4	7.1	8.8	0	0	0	0	0	27	33	41	11	7.5
5	7.1	8.6	0	0	0	0	0	30	38	40	11	6.8
6	7.9	8.4	0	0	0	0	0	32	40	43	12	6.3
7	11	8.6	0	0	0	0	0	33	42	40	11	6.3
8	11	2.9	0	0	0	0	0	34	41	37	9.2	5.9
9	9.2	0	0	0	0	0	0	34	41	34	8.5	6.1
10	8.8	0	0	0	0	0	3.5	33	40	32	7.9	5.9
11	8.6	0	0	0	0	0	6.8	32	40	30	7.5	5.5
12	8.6	0	0	0	0	0	10	34	40	28	7.3	5.3
13	8.6	0	0	0	0	0	11	34	39	26	7.0	5.3
14	8.4	0	0	0	0	0	10	35	40	25	6.8	5.3
15	8.8	0	0	0	0	0	11	34	40	32	6.5	5.3
16	9.0	0	0	0	0	0	11	37	40	30	11	5.3
17	9.2	0	0	0	0	0	13	39	6.5	31	25	5.3
18	9.0	0	0	0	0	0	16	38	6.0	29	19	5.3
19	9.0	0	0	0	0	0	15	40	28	25	15	4.9
20	9.0	0	0	0	0	0	13	28	39	23	13	5.1
21	9.0	0	0	0	0	0	15	5.3	38	22	12	5.3
22	9.0	0	0	0	0	0	15	8.2	40	20	10	5.7
23	9.4	0	0	0	0	0	16	8.4	35	19	8.9	6.6
24	11	0	0	0	0	0	17	7.7	31	19	8.2	6.3
25	11	0	0	0	0	0	18	15	30	17	7.9	6.3
26	10	0	0	0	0	0	21	30	35	16	7.7	6.1
27	9.9	0	0	0	0	0	26	25	40	15	7.5	5.9
28	9.7	0	0	0	0	0	29	27	42	21	7.2	6.3
29	8.8	0	0	0	------	0	32	33	43	20	7.0	7.0
30	8.2	0	0	0	------	0	32	34	44	19	6.8	6.8
31	9.7	------	0	0	------	0	------	27	------	17	6.8	------
TOTAL	277.7	64.9	0	0	0	0	341.3	894.6	1,068.5	881	318.7	185.0
MEAN	8.96	2.16	0	0	0	0	11.4	28.9	35.6	28.4	10.3	6.17
MAX	11	11	0	0	0	0	32	40	44	44	25	8.9
MIN	7.1	0	0	0	0	0	0	5.3	6.0	15	6.5	4.9
AC-FT	551	129	0	0	0	0	677	1,770	2,120	1,750	632	367

CAL YR 1960: TOTAL 4,395.20 MEAN 12.0 MAX 43 MIN 0 AC-FT 8,720
WAT YR 1961: TOTAL 4,031.70 MEAN 11.0 MAX 44 MIN 0 AC-FT 8,000

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4422. Whitestone irrigation canal near Loomis, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.0	8.6	0	0	0	0	5.1	26	46	39	14	7.8
2	7.0	3.0	0	0	0	0	5.9	27	45	40	13	7.5
3	7.0	5.0	0	0	0	0	8.1	27	44	40	14	7.0
4	6.7	6.8	0	0	0	0	9.7	26	41	38	11	6.7
5	6.2	6.8	0	0	0	0	10	24	46	41	26	6.4
6	6.2	7.0	0	0	0	0	10	24	46	45	25	6.2
7	6.4	7.4	0	0	0	0	11	22	48	43	29	5.9
8	6.4	8.0	0	0	0	0	9.4	20	48	39	40	5.6
9	7.0	8.0	0	0	0	0	8.6	25	48	39	36	5.6
10	7.5	8.0	0	0	0	0	7.8	32	47	38	29	6.4
11	7.8	8.0	0	0	0	0	9.7	33	47	36	24	7.8
12	8.1	8.0	0	0	0	0	13	33	47	33	22	8.1
13	9.1	8.0	0	0	0	0	16	33	47	32	20	7.5
14	11	8.0	0	0	0	0	19	32	46	30	16	8.1
15	10	5.0	0	0	0	0	21	30	49	29	16	7.8
16	9.4	0	0	0	0	0	24	32	49	29	15	7.2
17	8.9	0	0	0	0	0	26	38	48	27	14	6.4
18	8.6	0	0	0	0	0	30	40	24	26	14	6.2
19	8.3	0	0	0	0	0	38	41	41	24	13	5.6
20	7.0	0	0	0	0	0	33	42	46	23	12	5.4
21	3.8	0	0	0	0	0	40	44	46	22	14	5.1
22	5.9	0	0	0	0	0	40	44	45	20	11	4.9
23	8.9	0	0	0	0	0	41	45	44	19	11	4.6
24	4.6	0	0	0	0	0	43	44	44	19	9.7	4.3
25	7.8	0	0	0	0	0	43	43	44	18	9.4	4.3
26	8.6	0	0	0	0	0	39	42	42	17	9.1	4.3
27	8.6	0	0	0	0	0	35	42	33	17	8.9	4.1
28	8.3	0	0	0	0	0	32	42	38	17	9.1	2.5
29	5.9	0	0	0	------	0	28	44	40	15	11	2.0
30	9.7	0	0	0	------	0	26	44	39	14	9.7	.90
31	9.1	------	0	0	------	3.1	------	45	------	14	8.3	------
TOTAL	236.8	105.6	0	0	0	3.1	688.3	1,086	1,321	883	516.2	172.20
MEAN	7.64	3.52	0	0	0	.10	22.9	35.0	44.0	28.5	16.7	5.74
MAX	11	8.6	0	0	0	3.1	43	45	49	45	40	8.1
MIN	3.8	0	0	0	0	0	5.1	20	24	14	8.3	.90
AC-FT	470	209	0	0	0	6.2	1,370	2,150	2,620	1,750	1,020	342

CAL YR 1961: TOTAL 4,031.50 MEAN 11.0 MAX 44 MIN 0 AC-FT 8,000
WAT YR 1962: TOTAL 5,012.20 MEAN 13.7 MAX 49 MIN 0 AC-FT 9,940

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.70	0	0	0	0	0	8.3	42	50	33	36	16
2	.70	0	0	0	0	0	8.3	32	49	16	31	35
3	.90	0	0	0	0	0	7.6	26	49	20	32	25
4	1.0	0	0	0	0	0	5.2	23	47	23	30	20
5	1.1	0	0	0	0	0	9.4	36	47	40	30	17
6	1.0	0	0	0	0	0	9.9	46	46	48	25	16
7	1.4	0	0	0	0	0	9.4	42	45	52	23	15
8	1.0	0	0	0	0	7.4	9.4	40	43	49	21	14
9	2.5	0	0	0	0	7.4	9.4	38	42	49	20	13
10	.90	0	0	0	0	7.4	9.4	34	49	43	20	13
11	1.6	0	0	0	0	7.4	9.4	40	53	41	21	13
12	1.2	0	0	0	0	7.4	9.7	44	52	41	20	13
13	.80	0	0	0	0	7.4	11	45	49	42	28	16
14	.20	0	0	0	0	7.4	15	49	47	41	32	16
15	.20	0	0	0	0	7.4	24	48	43	41	29	14
16	2.0	0	0	0	0	7.4	23	48	41	43	24	15
17	.90	0	0	0	0	7.4	18	43	43	45	21	21
18	1.0	0	0	0	0	7.4	17	41	46	44	19	20
19	1.6	0	0	0	0	7.6	14	43	48	42	19	17
20	1.6	0	0	0	0	7.7	14	40	51	40	21	15
21	0	0	0	0	0	8.4	13	40	53	38	20	14
22	0	0	0	0	0	9.0	14	39	52	44	21	14
23	0	0	0	0	0	9.0	15	38	51	46	22	17
24	0	0	0	0	0	8.3	13	35	48	43	21	15
25	0	0	0	0	0	8.4	14	34	43	44	20	13
26	0	0	0	0	0	8.6	15	39	40	42	30	13
27	0	0	0	0	0	9.2	18	40	44	39	25	12
28	0	0	0	0	0	9.2	26	44	47	34	21	12
29	0	0	0	0	------	8.8	38	46	45	32	19	11
30	0	0	0	0	------	8.4	47	50	43	30	17	11
31	0	------	0	0	------	8.3	------	51	------	30	15	------
TOTAL	22.30	0	0	0	0	192.3	454.4	1,256	1,406	1,215	733	476
MEAN	.72	0	0	0	0	6.20	15.1	40.5	46.9	39.2	23.6	15.9
MAX	2.5	0	0	0	0	9.2	47	51	53	52	36	35
MIN	0	0	0	0	0	0	5.2	23	40	16	15	11
AC-FT	44	0	0	0	0	381	901	2,490	2,790	2,410	1,450	944

CAL YR 1962: TOTAL 4,692.10 MEAN 12.9 MAX 49 MIN 0 AC-FT 9,310
WAT YR 1963: TOTAL 5,755.00 MEAN 15.8 MAX 53 MIN 0 AC-FT 11,410

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4422. Whitestone irrigation canal near Loomis, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	0	0	0	0	0	0		67	49	35	16
2	10	0	0	0	0	0	0		64	55	31	14
3	10	0	0	0	0	0	0		63	46	41	14
4	10	0	0	0	0	0	0		66	33	41	14
5	10	0	0	0	0	0	0		64	30	34	13
6	12	0	0	0	0	0	0	30	55	30	34	12
7	12	0	0	0	0	0	0		43	35	31	12
8	12	0	0	0	0	0	0		40	42	28	14
9	12	0	0	0	0	0	0		36	40	26	15
10	11	0	0	0	0	0	0		36	37	25	14
11	11	0	0	0	0	0	0		37	49	23	12
12	7.1	0	0	0	0	0	0	44	36	52	22	12
13	6.0	0	0	0	0	0	0	45	40	48	22	12
14	5.9	0	0	0	0	0	0	43	45	49	21	11
15	5.6	0	0	0	0	0	0	43	46	54	19	9.6
16	5.4	0	0	0	0	0	0	50	40	51	18	9.6
17	5.3	0	0	0	0	0	0	54	37	48	17	11
18	5.8	0	0	0	0	0	0	49	33	48	16	11
19	6.4	0	0	0	0	0	0	51	30	46	17	11
20	6.5	0	0	0	0	0		57	30	42	17	13
21	6.8	0	0	0	0	0		55	31	40	16	11
22	9.2	0	0	0	0	0		51	34	37	15	11
23	4.3	0	0	0	0	0		55	38	42	13	11
24	0	0	0	0	0	0		55	39	35	12	10
25	0	0	0	0	0	0	14	60	40	31	12	10
26	0	0	0	0	0	0		65	42	28	12	10
27	0	0	0	0	0	0		66	44	26	12	11
28	0	0	0	0	0	0		66	41	24	14	10
29	0	0	0	0	0	0		66	45	23	14	10
30	0	0	0	0	------	0		66	46	30	16	10
31	0	------	0	0	------	0	------	67	------	49	16	------
TOTAL	194.3	0	0	0	0	0	154	1,436	1,308	1,249	670	356.2
MEAN	6.27	0	0	0	0	0	5.13	46.4	43.6	40.3	21.6	11.8
MAX	12	0	0	0	0	0	-	67	67	55	41	16
MIN	0	0	0	0	0	0	0	-	30	23	12	9.6
AC-FT	385	0	0	0	0	0	305	2,850	2,590	2,480	1,330	703

CAL YR 1963: TOTAL 5,927.00 MEAN 16.2 MAX 53 MIN 0 AC-FT 11,760
WAT YR 1964: TOTAL 5,367.50 MEAN 14.7 MAX 67 MIN 0 AC-FT 10,650

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	0	0	0	0	0	0	48	43	42	15	23
2	10	0	0	0	0	0	0	45	47	32	14	20
3	9.7	0	0	0	0	0	0	43	46	42	14	20
4	9.4	0	0	0	0	0	0	42	41	58	24	20
5	9.2	0	0	0	0	0	0	36	41	54	34	18
6	9.0	0	0	0	0	0	0	37	41	46	24	17
7	9.0	0	0	0	0	0	0	40	40	45	19	16
8	9.2	0	0	0	0	0	0	46	43	40	16	16
9	11	0	0	0	0	0	0	49	43	36	14	15
10	11	0	0	0	0	0	0	53	48	36	13	14
11	11	0	0	0	0	0	0	55	51	52	14	14
12	8.5	0	0	0	0	0	0	55	38	48	15	14
13	5.8	0	0	0	0	0	0	51	35	46	22	13
14	4.3	0	0	0	0	0	.10	52	36	38	18	14
15	4.2	0	0	0	0	0	5.0	51	39	32	15	16
16	2.3	0	0	0	0	0	9.7	52	39	30	13	14
17	0	0	0	0	0	0	9.0	50	40	27	12	14
18	0	0	0	0	0	0	8.1	54	40	24	11	14
19	0	0	0	0	0	0	12	54	42	22	10	13
20	0	0	0	0	0	0	14	53	41	22	22	14
21	0	0	0	0	0	0	17	51	47	31	31	13
22	0	0	0	0	0	0	19	51	49	38	22	12
23	0	0	0	0	0	0	20	54	49	30	35	12
24	0	0	0	0	0	0	28	54	48	25	53	11
25	0	0	0	0	0	0	32	51	51	21	54	10
26	0	0	0	0	0	0	35	47	51	19	49	10
27	0	0	0	0	0	0	42	46	49	28	43	11
28	0	0	0	0	0	0	46	48	48	34	36	11
29	0	0	0	0	------	0	48	46	46	25	31	10
30	0	0	0	0	------	0	49	40	45	19	28	10
31	0	------	0	0	------	0	------	39	------	16	25	------
TOTAL	134.6	0	0	0	0	0	393.90	1,493	1,317	1,058	746	429
MEAN	4.34	0	0	0	0	0	13.1	48.2	43.9	34.1	24.1	14.3
MAX	11	0	0	0	0	0	49	55	51	58	54	23
MIN	0	0	0	0	0	0	0	36	35	16	10	10
AC-FT	267	0	0	0	0	0	781	2,960	2,610	2,100	1,480	851

CAL YR 1964: TOTAL 5,307.80 MEAN 14.5 MAX 67 MIN 0 AC-FT 10,530
WAT YR 1965: TOTAL 5,571.50 MEAN 15.3 MAX 58 MIN 0 AC-FT 11,050

12-4423. Sinlahekin Creek above Chopaka Creek, near Loomis, Wash.

Location.--Lat 48°51'10", long 119°38'50", in NE¼ sec.26, T.39 N., R.25 E., on right bank 400 ft upstream from Chopaka Creek, 2 miles upstream from mouth, and 2½ miles north of Loomis.

Drainage area.--256 sq mi.

Records available.--April 1957 to October 1965 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 1,150 ft (from topographic map).

Average discharge.--8 years, 53.8 cfs (38,950 acre-ft per year).

Extremes.--Maximum and minimum discharges October 1960 to October 1965 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 7, 1961	664	7.65	Aug. 25, 26, 1961	9.8	1.00
1962	May 27, 1962	218	4.45	Sept. 7-10, 1962	3.4	.73
1963	May 24, 1963	740	7.85	Sept.12, 1963	4.7	.74
1964	June 16, 1964	450	6.73	May 5, 1964	5.0	.76
1965	June 11, 1965	430	6.63	(a)	7.5	.93
1966	Oct. 22-31, 1965	b 22	-	Oct. 7, 1965	8.7	.98

a July 31, Aug. 2, 3, 17-19, 1965.
b Maximum daily.

1957-65: Maximum discharge, 1,680 cfs May 19, 1957 (gage height, 8.62 ft); minimum, 3.4 cfs Sept. 7-10, 1962.

Remarks.--Records good except those for winter periods, which are fair. Diversion above station by Whitestone irrigation canal (see station 12-4422) and other smaller diversions for irrigation. Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	17	24	19	24	25	28	50	598	40	11	11
2	11	17	26	20	27	25	31	54	570	46	11	11
3	11	17	26	22	26	25	34	48	548	37	11	11
4	11	17	24	21	25	24	32	46	524	20	11	11
5	11	17	21	21	25	24	27	40	494	23	11	11
6	15	17	20	22	27	25	29	35	483	30	11	11
7	20	17	20	22	28	25	28	37	589	24	11	11
8	20	17	20	22	28	24	28	38	476	22	11	11
9	19	18	19	23	29	24	28	40	415	21	11	12
10	18	20	19	24	30	26	25	45	343	19	11	12
11	17	21	20	24	31	26	23	50	327	17	11	12
12	17	21	21	24	30	27	21	50	375	17	11	11
13	17	21	21	24	30	27	19	60	286	16	11	12
14	18	21	21	24	30	27	18	70	239	15	11	12
15	19	20	19	24	30	31	18	80	208	14	12	12
16	19	21	18	24	29	33	17	100	188	16	12	11
17	19	22	21	24	28	32	18	130	208	17	11	15
18	19	22	21	24	27	30	18	158	201	16	12	13
19	18	23	21	23	26	29	16	212	152	15	11	11
20	18	25	21	22	26	33	15	286	119	14	11	12
21	18	26	22	22	26	31	15	375	103	13	11	12
22	18	24	22	21	27	30	14	371	91	13	11	12
23	18	26	22	21	26	29	14	427	85	12	11	12
24	19	28	22	21	26	28	14	392	80	12	10	13
25	19	28	22	18	26	27	13	358	74	12	10	13
26	19	27	22	15	26	27	13	530	60	11	10	13
27	18	24	19	14	26	26	15	595	48	11	10	13
28	19	24	18	17	25	26	14	525	44	12	10	13
29	20	24	17	22	------	26	15	471	40	11	10	13
30	19	23	17	22	------	26	34	582	45	11	10	13
31	17	------	18	23	------	27	------	623	------	11	10	------
TOTAL	532	645	644	669	764	845	634	6,882	8,013	568	336	360
MEAN	17.2	21.5	20.8	21.6	27.3	27.3	21.1	222	267	18.3	10.8	12.0
MAX	20	28	26	24	31	33	34	623	598	46	12	15
MIN	11	17	17	14	24	24	13	35	40	11	10	11
AC-FT	1,060	1,280	1,280	1,330	1,520	1,680	1,260	13,650	15,890	1,130	666	714

CAL YR 1960: TOTAL 15,380 MEAN 42.0 MAX 429 MIN 10 AC-FT 30,510
WAT YR 1961: TOTAL 20,892 MEAN 57.2 MAX 623 MIN 10 AC-FT 41,440

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4423. Sinlahekin Creek above Chopaka Creek, near Loomis, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	16	22	20	19	21	18	9.4	78	12	4.6	5.5
2	14	17	22	20	20	20	18	8.7	80	14	4.2	5.5
3	16	18	22	20	21	20	19	8.5	74	13	3.8	5.0
4	16	18	21	20	21	20	18	9.6	64	11	18	4.6
5	16	19	20	20	20	20	19	8.9	54	13	19	4.4
6	16	19	20	20	20	20	18	8.6	46	23	12	4.4
7	16	20	20	21	15	20	19	8.9	52	18	11	3.8
8	16	20	20	21	19	20	18	9.6	82	15	14	3.4
9	16	21	20	20	23	20	17	8.9	100	13	12	3.4
10	16	21	19	19	36	20	16	9.2	75	11	9.9	5.0
11	16	21	18	18	29	20	15	9.6	59	8.9	8.9	6.4
12	16	21	18	16	26	19	14	11	59	7.6	9.4	4.8
13	17	21	19	14	26	19	15	11	52	7.1	12	4.8
14	17	21	19	13	33	19	15	12	62	7.3	12	5.7
15	17	21	19	12	31	20	19	11	71	7.6	9.9	6.2
16	16	19	19	12	29	20	18	9.4	76	7.8	8.9	6.9
17	16	18	20	11	27	20	13	8.7	69	7.1	8.5	5.6
18	16	17	21	12	26	20	14	8.5	74	7.3	8.0	5.7
19	16	19	21	12	26	21	18	8.5	60	7.1	8.0	5.3
20	16	19	21	13	25	21	18	9.9	48	7.1	7.8	4.2
21	16	18	22	14	23	21	17	15	41	6.6	7.1	4.2
22	16	19	22	15	23	21	13	19	34	6.9	6.6	4.4
23	16	18	22	15	22	20	15	27	29	7.1	6.2	4.8
24	16	17	24	16	20	20	24	96	26	6.9	5.5	6.2
25	16	17	21	16	18	21	21	194	24	6.6	5.3	7.5
26	16	18	20	16	17	21	13	158	29	6.2	5.3	8.2
27	17	19	20	17	19	21	12	170	28	6.0	5.0	8.2
28	17	20	21	17	21	21	12	183	19	5.7	7.1	11
29	17	21	21	19	-------	20	12	161	14	5.3	6.4	13
30	17	22	21	18	-------	20	12	109	12	5.0	6.0	12
31	16	-------	21	19	-------	19	-------	85	-------	4.8	5.7	-------
TOTAL	499	577	636	515	659	625	490	1,417.6	1,991	285.0	268.1	181.2
MEAN	16.1	19.2	20.5	16.6	23.5	20.2	16.3	45.7	53.0	9.19	8.65	6.04
MAX	17	22	24	21	36	21	24	194	100	23	19	13
MIN	14	16	18	11	17	19	12	8.5	12	4.8	3.8	3.4
AC-FT	990	1,140	1,260	1,020	1,310	1,240	972	2,810	3,160	565	532	355

CAL YR 1961: TOTAL 20,783 MEAN 56.9 MAX 623 MIN 10 AC-FT 41,220
WAT YR 1962: TOTAL 7,743.9 MEAN 21.2 MAX 194 MIN 3.4 AC-FT 15,360

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	28	28	26	15	20	15	25	460	120	45	9.7
2	13	28	30	26	15	20	14	21	401	103	27	12
3	13	27	28	27	17	19	13	20	387	88	18	11
4	13	27	26	26	20	19	14	19	342	86	14	9.5
5	14	26	29	26	26	18	12	25	301	78	13	9.3
6	15	26	29	26	26	19	13	42	293	76	12	9.3
7	15	24	28	25	26	18	14	35	270	90	12	9.5
8	16	26	28	25	24	15	15	30	253	113	12	8.6
9	20	26	29	24	24	14	17	27	246	142	11	7.8
10	19	25	29	17	23	13	16	25	226	132	11	6.5
11	22	25	28	15	22	13	16	24	218	102	12	5.7
12	28	25	28	16	21	13	15	26	209	83	12	5.5
13	44	25	28	18	20	13	14	32	189	70	12	9.1
14	42	27	28	19	20	13	15	36	170	61	13	8.4
15	35	26	30	20	19	14	21	59	158	51	9.9	11
16	29	24	30	21	18	14	24	78	146	44	9.3	13
17	27	25	29	21	18	14	21	108	128	48	8.9	11
18	27	24	28	21	18	14	18	165	112	56	8.9	12
19	28	26	27	21	18	13	18	217	96	45	9.1	9.7
20	29	52	27	20	19	13	18	299	76	37	9.7	9.7
21	35	47	27	20	19	13	17	420	78	35	9.3	12
22	41	39	25	20	18	13	16	496	88	33	9.3	13
23	37	32	21	20	19	14	16	559	109	27	9.7	11
24	35	33	20	19	19	14	16	625	87	23	9.9	13
25	33	35	20	19	19	14	15	565	76	23	9.7	14
26	31	35	21	19	19	14	15	634	68	22	9.7	15
27	29	30	21	18	20	14	16	610	61	20	9.3	12
28	28	26	21	17	20	16	17	548	56	18	9.3	13
29	28	23	23	16	-------	18	20	544	77	17	11	14
30	29	26	25	15	-------	17	27	536	113	15	11	10
31	29	-------	26	15	-------	16	-------	518	-------	45	9.3	-------
TOTAL	816	868	817	638	562	472	498	7,368	5,494	1,903	387.3	315.3
MEAN	26.3	28.9	26.4	20.6	20.1	15.2	16.6	238	183	61.4	12.5	10.5
MAX	44	52	30	27	26	20	27	634	460	142	45	15
MIN	12	23	20	15	15	13	12	19	56	15	8.9	5.5
AC-FT	1,620	1,720	1,620	1,270	1,110	936	988	14,610	10,900	3,770	768	625

CAL YR 1962: TOTAL 8,532.9 MEAN 23.4 MAX 194 MIN 3.4 AC-FT 16,920
WAT YR 1963: TOTAL 20,138.6 MEAN 55.2 MAX 634 MIN 5.5 AC-FT 39,940

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4423. Sinlahekin Creek above Chopaka Creek, near Loomis, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	26	23	27	23	23	27	5.4	204	70	31	12
2	13	26	22	28	22	23	26	5.4	315	62	26	12
3	13	26	23	26	23	23	24	5.4	266	137	18	12
4	13	28	23	26	22	23	24	6.1	243	113	25	11
5	13	25	24	26	22	23	22	6.6	301	97	20	12
6	14	30	24	25	22	24	22	5.9	288	88	14	12
7	15	31	22	23	21	23	22	5.5	328	74	12	12
8	15	32	24	22	21	22	22	8.4	346	84	12	13
9	15	30	25	24	23	22	24	24	303	72	12	13
10	15	30	22	23	22	22	27	32	256	61	11	13
11	16	29	23	22	22	24	26	22	242	45	10	12
12	14	28	24	23	22	25	24	27	215	34	9.7	12
13	14	28	25	23	21	24	24	30	190	29	9.7	13
14	14	33	25	22	22	24	21	20	191	24	9.5	12
15	14	36	25	22	23	24	17	20	210	22	9.1	12
16	13	32	25	22	22	24	16	27	296	20	8.9	11
17	13	31	26	23	22	24	14	50	372	18	8.6	12
18	12	26	26	23	22	24	13	74	383	16	11	12
19	12	30	26	22	22	24	12	95	296	15	12	12
20	13	26	26	23	22	25	12	118	260	14	11	13
21	13	21	26	23	22	24	12	119	258	14	9.9	14
22	12	28	26	24	22	24	13	95	203	14	9.5	16
23	19	34	26	23	22	23	11	70	175	13	9.5	15
24	25	34	26	23	22	23	10	64	153	13	8.6	15
25	26	32	22	23	22	22	10	48	134	13	7.8	14
26	24	31	24	22	22	22	10	48	120	12	7.6	13
27	23	32	26	23	22	22	9.7	50	124	12	7.6	13
28	27	30	25	23	22	22	9.3	82	114	11	7.8	13
29	24	27	25	23	22	22	7.6	142	99	10	8.4	13
30	24	26	25	23	------	23	6.1	156	84	10	11	13
31	26	------	25	23	------	24	------	173	------	70	13	------
TOTAL	516	878	759	728	639	721	517.7	1,634.7	6,969	1,287	381.2	382
MEAN	16.6	29.3	24.5	23.5	22.0	23.3	17.3	52.7	232	41.5	12.3	12.7
MAX	27	36	26	28	23	25	27	173	383	137	31	16
MIN	12	21	22	22	21	22	6.1	5.4	84	10	7.6	11
AC-FT	1,020	1,740	1,510	1,440	1,270	1,430	1,030	3,240	13,820	2,550	756	758

CAL YR 1963: TOTAL 19,790.6 MEAN 54.2 MAX 634 MIN 5.5 AC-FT 39,250
WAT YR 1964: TOTAL 15,412.6 MEAN 42.1 MAX 383 MIN 5.4 AC-FT 30,570

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	25	24	19	22	27	23	37	166	21	8.0	13
2	13	24	24	20	21	25	24	26	194	23	8.0	12
3	13	23	23	22	22	25	24	21	224	26	8.0	12
4	13	26	23	22	21	24	23	18	189	24	9.4	13
5	13	27	22	21	22	25	23	16	198	18	13	13
6	13	23	22	21	22	26	23	14	190	15	14	13
7	13	25	22	21	22	26	22	13	155	14	11	12
8	14	22	21	20	22	26	21	18	146	13	9.7	12
9	14	23	21	20	22	26	25	27	144	12	9.0	12
10	15	27	23	20	21	27	33	49	136	12	8.5	12
11	14	25	20	20	21	28	30	63	238	14	7.8	11
12	14	25	17	20	21	28	28	97	259	14	8.0	11
13	14	23	18	20	21	27	29	103	191	13	8.0	11
14	14	20	20	20	21	26	28	111	172	12	7.8	12
15	16	22	18	21	21	26	26	112	146	12	8.5	13
16	18	24	11	22	21	25	24	112	133	11	8.2	13
17	21	23	12	22	21	21	22	91	118	10	7.8	13
18	21	23	13	22	22	23	21	74	111	10	8.0	14
19	22	23	14	22	25	24	19	72	98	10	7.8	14
20	24	22	15	22	25	24	15	79	83	11	8.2	14
21	24	21	16	22	24	23	15	83	69	13	11	13
22	24	21	17	21	24	23	15	84	56	15	13	13
23	24	21	17	22	24	22	14	93	47	14	14	12
24	24	21	16	22	23	21	15	99	42	13	20	12
25	23	21	15	23	24	22	16	117	35	12	38	12
26	22	23	16	21	26	22	20	155	29	11	26	12
27	21	22	17	21	30	22	27	166	27	10	17	11
28	22	21	18	21	29	21	40	207	25	9.7	15	11
29	25	21	18	21	------	22	48	257	23	9.0	15	11
30	24	23	18	23	------	22	48	230	23	8.5	14	11
31	24	------	18	23	------	23	------	173	------	8.2	14	------
TOTAL	569	690	569	657	640	752	741	2,817	3,657	418.4	375.7	368
MEAN	18.4	23.0	18.4	21.2	22.9	24.3	24.7	90.9	122	13.5	12.1	12.3
MAX	25	27	24	23	30	28	48	257	259	26	38	14
MIN	13	20	11	19	21	21	14	13	23	8.2	7.8	11
AC-FT	1,130	1,370	1,130	1,300	1,270	1,490	1,470	5,590	7,250	830	745	730

CAL YR 1964: TOTAL 15,087.6 MEAN 41.2 MAX 383 MIN 5.4 AC-FT 29,930
WAT YR 1965: TOTAL 12,254.1 MEAN 33.6 MAX 259 MIN 7.8 AC-FT 24,310

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1965

DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.	DAY	OCT.
1	11	5	11	9	9.4	13	15	17	18	21	21	25	22	29	22
2	12	6	9.9	10	9.7	14	17	18	18	22	22	26		30	
3	12	7	9.2	11	9.9	15	19	19	19	23	22	27	22	31	
4	12	8	9.9	12	12	16	18	20	20	24	22	28			

TOTAL	513
MEAN	16.5
MAX	-
MIN	9.2
AC-FT	1,020

12-4424. Palmer Lake near Nighthawk, Wash.

Location.--Lat 48°54'30", long 119°36'50", in SW¼NE¼ sec.6, T.39 N., R.26 E., on northeast shore 2 miles east of outlet and 4 miles south of Nighthawk.

Drainage area.--293 sq mi.

Records available.--April 1956 to September 1965.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Elevation	Date	Elevation
1961	June 5, 1961	1,158.84	Jan. 8, 1961	1,144.12
1962	May 30, 31, 1962	1,153.47	Oct. 1, 1961, Sept.16-19, 1962	1,144.26
1963	May 31, 1963	1,154.80	Oct. 1, 1962	1,144.30
1964	June 12, 1964	1,158.66	Sept.30, 1964	1,144.58
1965	June 13, 1965	1,155.58	Sept.26-30, 1965	1,144.32

1956-65: Maximum elevation observed, 1,159.47 ft May 22, 1956; minimum observed, 1,144.12 ft Jan. 8, 1961.

Remarks.--Lake affords natural pondage for high stages of Similkameen River. No known regulation. Diversions for irrigation of about 1,000 acres above station. Whitestone Irrigation District diverts from Toats Coulee Creek for irrigation of about 2,000 acres in Whitestone Creek basin.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44.38	44.45	44.72	44.66				-	57.26	48.64	-	44.36
2	44.34	44.45	44.74	44.59				-	57.70	48.40	-	44.34
3	44.34	44.46	44.76	44.50				-	58.16	48.02	-	44.33
4	44.34	44.46	44.77	44.43				-	58.58	47.88	-	44.32
5	44.34	44.47	44.76	44.37			45.00	-	58.84	47.66	-	44.30
6	44.35	44.47	44.76	44.28				-	58.75	-	-	44.29
7	44.35	44.48	44.75	44.18				-	58.64	-	-	44.28
8	44.34	44.48	44.75	44.12				-	58.44	-	-	44.27
9	44.34	44.48	44.74	-				-	57.70	-	-	44.26
10	44.34	44.49	44.74	-				-	57.00	-	44.67	44.24
11	44.34	44.49	44.72	-				-	56.10	-	-	44.22
12	44.34	44.50	44.70	-				-	55.64	-	-	44.20
13	44.34	44.52	44.70	-				47.78	55.38	-	44.60	44.21
14	44.35	44.54	44.70	-				47.80	55.00	-	44.58	44.23
15	44.36	44.55	44.70	-				47.94	54.46	-	44.58	44.24
16	44.37	44.56	44.70	-				48.22	54.33	-	44.58	44.25
17	44.38	44.57	44.70	-				48.56	54.29	-	44.62	44.25
18	44.39	44.56	44.70	-				49.14	54.07	-	44.60	44.25
19	44.39	44.59	44.70	-				49.86	53.79	-	44.58	44.25
20	44.40	44.61	44.70	-				50.42	53.45	-	44.58	44.24
21	44.41	44.63	44.70	-				51.47	53.25	-	44.56	44.24
22	44.42	44.65	44.71	-				52.63	52.77	-	44.54	44.24
23	44.43	44.67	44.71	-				53.65	52.19	-	44.52	44.24
24	44.44	44.68	44.72	-				54.60	51.52	-	44.50	44.24
25	44.44	44.70	44.72	44.83				55.00	51.05	-	44.48	44.24
26	44.44	44.70	44.72	-				55.50	50.58	-	44.46	44.24
27	44.44	44.70	44.73	-				55.98	50.10	-	44.45	44.24
28	44.44	44.71	44.73	-				56.44	49.66	-	44.44	44.24
29	44.44	44.71	44.73	-	------			56.92	49.20	-	44.42	44.24
30	44.45	44.71	44.73	-	------			56.46	48.92	-	44.40	44.24
31	44.45	------	44.73	-	------		------	56.66	------	-	44.38	------
MAX	44.45	44.71	44.77	-	-	-	-	-	58.84	-	-	44.36
MIN	44.34	44.45	44.70	-	-	-	-	-	48.92	-	-	44.20

Note.--Add 1,100 ft to obtain elevation above mean sea level.

12-4424. Palmer Lake near Nighthawk, Wash.--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44.26	44.79	44.78			-	44.74	47.09	53.32	-	-	44.44
2	44.28	44.80	44.78			-	44.73	46.97	52.93	49.18	45.12	44.42
3	44.30	44.81	44.78			-	44.72	46.85	52.73	48.88	45.04	-
4	44.32	44.83	44.78	44.75		-	44.72	46.76	52.59	-	-	44.40
5	44.34	44.84	44.78			-	44.71	46.64	52.21	-	-	-
6	44.36	44.85	44.79			-	44.71	46.54	52.85	48.10	-	-
7	44.37	44.86	44.79			-	44.70	46.43	52.49	-	44.99	44.32
8	44.37	44.86	44.80			-	44.68	46.36	51.33	47.74	-	-
9	44.38	44.86	44.80			-	44.68	46.26	51.59	47.57	-	-
10	44.39	44.86	44.80			-	44.68	46.19	51.95	-	44.90	44.29
11	44.41	44.86	44.80			-	44.67	46.24	52.07	-	-	-
12	44.43	44.86	44.80			-	44.66	46.24	51.93	-	-	44.28
13	44.45	44.86	44.80			-	44.64	46.24	51.78	-	44.80	-
14	44.48	44.86	44.80			-	44.65	46.28	51.72	46.76	-	44.28
15	44.50	44.86	44.80		46.08	-	44.66	46.38	51.72	-	44.78	44.28
16	44.52	44.86	44.80			-	44.68	46.42	51.93	46.58	44.75	44.26
17	44.53	44.86	44.81			-	-	46.50	52.43	-	-	44.26
18	44.54	44.86	44.83			-	-	46.66	52.73	46.30	44.70	44.26
19	44.55	44.86	44.85			-	44.99	46.82	52.69	46.20	44.67	44.26
20	44.56	44.85	44.86			-	45.18	47.00	52.47	46.08	-	-
21	44.57	44.84	44.86			-	45.44	47.19	52.29	45.98	44.63	44.28
22	44.59	44.83	44.86			-	45.66	47.44	52.02	-	-	44.28
23	44.60	44.82	44.86			-	46.02	47.75	51.73	-	-	44.28
24	44.62	44.81	44.84			-	46.32	48.14	51.43	45.78	-	-
25	44.64	44.79	-			-	46.62	-	51.19	45.64	44.54	44.28
26	44.66	44.78	-			-	46.88	49.96	51.03	45.54	-	-
27	44.68	44.78	-			44.79	47.12	51.39	50.82	45.48	-	-
28	44.70	44.78	-			44.78	47.30	52.01	50.49	-	44.49	44.29
29	44.73	44.78	-		------	44.77	47.28	52.87	50.14	-	-	44.30
30	44.75	44.78	-		------	44.75	47.18	53.47	-	45.30	-	-
31	44.77	------	-		------	44.74	------	53.47	------	45.22	44.46	------
MAX	44.77	44.86	-	-	-	-	-	-	-	-	-	-
MIN	44.26	44.78	-	-	-	-	-	-	-	-	-	-

Note.--Add 1,100 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44.30	45.12	-	-		-	-	45.34	54.78	48.67	46.30	45.00
2	-	-	-	-		-	-	45.46	54.60	48.82	46.22	45.00
3	-	-	-	-		-	-	45.52	54.23	48.80	46.15	44.98
4	44.31	-	45.40	-		-	44.77	45.59	53.83	48.78	46.08	44.95
5	-	45.19	-	44.82		-	44.78	45.66	53.37	48.75	46.00	44.93
6	44.32	-	-	-		-	44.79	45.72	53.11	48.72	45.90	44.91
7	44.34	-	45.26	44.80		-	44.79	45.76	52.85	48.71	45.82	44.88
8	-	45.24	-	-		-	44.80	45.80	52.62	48.69	45.76	44.85
9	-	-	45.22	44.78		-	44.81	45.84	52.37	48.67	45.68	44.82
10	-	-	-	-		-	44.82	45.84	52.13	48.92	45.62	44.80
11	44.46	-	45.16	-		-	44.82	45.84	51.95	49.05	45.56	44.78
12	44.50	45.32	-	44.76		44.75	44.81	45.86	-	49.04	45.50	44.76
13	-	-	-	-		44.74	44.80	45.88	-	48.94	45.44	44.74
14	-	45.34	45.10	44.75		44.73	44.82	45.98	52.08	48.78	45.40	44.72
15	44.60	45.40	-	-		44.72	44.84	46.12	51.93	48.62	45.38	44.70
16	-	45.36	45.08	44.74		-	44.86	46.26	51.83	48.45	45.37	44.70
17	-	-	-	-		-	44.92	46.48	51.70	48.28	45.32	44.69
18	44.69	-	-	-		-	44.94	46.79	51.55	48.11	45.27	44.69
19	-	-	-	-		-	44.96	47.28	51.33	47.92	45.22	44.68
20	44.73	45.52	45.02	-		-	44.98	47.73	50.99	47.78	45.21	44.68
21	-	-	-	-		-	44.99	48.48	50.66	47.65	45.21	44.67
22	44.83	-	-	-		-	44.98	49.76	50.29	47.51	45.20	44.67
23	-	-	45.00	44.81		-	44.98	51.47	49.92	47.38	45.18	44.67
24	44.89	-	-	-		-	44.98	52.51	49.77	47.23	45.16	44.68
25	-	-	-	-		-	44.99	53.65	49.62	47.08	45.13	44.68
26	44.92	45.54	-	-		-	45.01	54.23	49.33	46.98	45.10	44.67
27	-	-	-	-		-	45.02	54.48	49.14	46.88	45.07	44.66
28	44.99	-	-	-	45.05	-	45.02	54.51	48.91	46.74	45.04	44.66
29	-	-	-	-	------	-	45.02	54.48	48.68	46.60	45.02	44.67
30	45.08	45.58	44.90	-	------	-	45.18	54.60	48.60	46.49	45.00	44.68
31	-	------	-	-	------	-	------	54.78	------	46.39	45.00	------
MAX	-	-	-	-	-	-	-	54.78	54.78	49.05	46.30	45.00
MIN	-	-	-	-	-	-	-	45.34	48.60	46.39	45.00	44.66

Note.--Add 1,100 ft to obtain elevation above mean sea level.

12-4424. Palmer Lake near Nighthawk, Wash.--Continued

ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44.68	45.13	45.50	-			-	44.99	54.14	52.14	46.77	44.82
2	44.69	45.12	45.49	-			-	45.02	55.28	51.86	46.64	44.81
3	44.69	45.12	45.48	-			-	45.05	56.50	51.81	46.51	44.81
4	44.69	45.11	45.46	-		44.90	-	45.09	57.62	52.44	46.41	44.80
5	44.70	45.10	45.44	-			-	45.11	57.88	53.06	46.31	44.78
6	44.70	45.10	45.43	45.42			-	45.13	57.94	53.28	46.23	44.76
7	44.70	45.11	45.42	45.41			-	45.18	58.10	53.16	46.13	44.74
8	44.71	45.11	45.40	45.40			-	45.22	58.16	52.92	46.03	44.73
9	44.72	45.12	45.38	45.38			44.74	45.30	58.15	52.92	45.93	44.72
10	44.73	45.12	45.36	45.35			-	45.49	58.54	53.04	45.85	44.70
11	44.73	45.11	45.34	45.32			-	45.67	58.58	52.74	45.77	44.68
12	44.74	45.11	45.32	45.30			44.79	45.91	58.66	52.30	45.69	44.66
13	44.75	45.11	45.30	45.27			44.80	46.13	58.40	51.93	45.61	44.65
14	44.76	45.10	45.26	45.24			44.83	46.43	58.84	51.59	45.53	44.64
15	44.77	45.10	45.26	45.22			44.84	46.68	57.50	51.22	45.47	44.62
16	44.78	45.10	45.26	45.21			44.85	46.93	57.14	50.85	45.42	44.60
17	44.79	45.09	45.26	45.20			44.86	47.23	57.16	50.55	45.37	44.60
18	44.80	45.09	45.24	45.18			44.84	47.65	57.24	50.15	45.32	44.60
19	44.82	45.09	-	45.17			44.83	48.25	56.87	49.83	45.27	44.60
20	44.84	45.09	-	45.17			44.84	49.05	56.26	49.45	45.21	44.60
21	44.86	45.09	-	45.16			44.85	49.85	55.69	49.15	45.17	44.60
22	44.88	45.09	-	45.16			44.85	50.65	55.10	48.81	45.15	44.60
23	44.90	45.09	-	45.15			44.85	51.14	54.58	48.55	45.11	44.60
24	45.00	45.09	-	45.15			44.86	51.26	54.33	48.33	45.05	44.60
25	45.12	45.09	-	45.14			44.86	51.16	54.04	48.06	45.01	44.60
26	45.12	45.19	-	45.12			44.89	50.93	53.74	47.84	44.96	44.60
27	45.12	45.29	-	45.11			44.92	50.72	53.46	47.61	44.90	44.60
28	45.13	45.40	-	45.09			44.94	50.83	53.20	47.40	44.86	44.60
29	45.14	45.50	-	45.08			44.97	51.28	52.94	47.21	44.82	44.59
30	45.14	45.51	-	45.07	------		44.98	52.08	52.40	47.02	44.82	44.58
31	45.14	------	-	-	------		------	53.21	------	46.83	44.82	------
MAX	45.14	45.51	-	-	-	-	-	53.21	58.84	53.28	46.77	44.82
MIN	44.68	45.09	-	-	-	-	-	44.99	52.40	46.83	44.82	44.58

Note.--Add 1,100 ft to obtain elevation above mean sea level.

ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	44.57	44.72	44.76	44.80		-	44.75	47.03	55.01	49.10	45.25	44.58
2	44.57	44.72	44.76	44.80		-	44.75	47.29	54.60	48.84	45.21	44.57
3	44.58	44.72	44.76	44.80		-	44.76	47.76	54.58	48.62	45.17	44.56
4	44.58	44.72	44.76	44.80		44.82	44.77	47.89	55.04	48.46	45.12	44.55
5	44.58	44.72	44.76	44.82		44.83	44.78	47.87	55.16	48.30	45.09	44.55
6	44.58	44.72	44.76	44.82		44.83	44.77	47.85	55.24	48.16	45.06	44.55
7	44.58	44.72	44.76	44.84		44.83	44.76	47.74	55.47	48.02	45.03	44.55
8	44.59	44.72	44.75	44.84		44.83	44.79	47.64	55.20	47.86	44.99	44.55
9	44.59	44.73	44.74	44.86		44.83	44.82	47.72	54.89	47.70	44.95	44.55
10	44.63	44.74	44.74	44.86		44.83	44.85	47.80	54.86	-	44.92	44.54
11	44.67	44.75	44.74	44.86		44.83	44.85	47.88	54.98	47.27	44.89	44.53
12	44.70	44.76	44.74	44.86		44.83	44.85	48.12	55.54	47.11	44.86	-
13	44.75	44.76	-	44.85		44.83	44.85	48.55	55.58	46.96	44.83	-
14	44.80	44.76	-	44.84		44.83	44.85	49.12	55.10	46.83	44.79	-
15	44.79	44.76	-	44.84		44.84	44.85	49.66	54.50	46.70	44.75	-
16	44.77	44.76	-	44.84		44.84	44.87	-	53.98	46.57	44.72	-
17	44.77	44.76	-	44.83		44.83	44.89	50.56	53.46	46.44	44.69	-
18	44.76	44.76	-	44.83		44.82	44.89	50.71	53.22	46.31	44.66	-
19	44.75	44.76	-	44.83		44.80	44.88	50.83	53.12	46.17	44.63	-
20	44.74	44.76	-	44.83		44.79	44.87	50.82	52.86	46.05	44.62	-
21	44.74	44.76	-	44.83		44.78	44.87	50.86	52.62	45.98	44.61	-
22	44.74	44.76	-	44.83		44.77	44.85	50.90	52.21	45.91	44.60	-
23	44.73	44.75	-	44.83		44.76	44.86	-	51.80	45.83	44.59	-
24	44.72	44.74	-	44.84		44.75	44.87	51.23	51.34	45.75	44.60	-
25	44.72	44.73	-	44.84		44.75	44.99	51.44	51.00	45.68	44.61	44.34
26	44.72	44.74	-	44.84	44.77	44.76	45.13	51.80	-	45.61	44.63	44.32
27	44.72	44.75	-	44.84		44.77	45.28	52.22	50.40	45.54	44.63	44.32
28	44.72	44.76	-	-		44.78	45.43	52.88	50.06	45.47	44.64	44.32
29	44.72	44.76	-	-	------	44.78	45.89	53.80	49.74	45.43	44.63	44.32
30	44.72	44.76	-	-	------	44.77	46.53	54.70	49.40	45.35	44.62	44.32
31	44.72	------	-	-	------	44.76	------	55.22	------	45.30	44.60	------
MAX	44.80	44.76	-	-	-	-	46.53	55.22	55.58	49.10	45.25	-
MIN	44.57	44.72	-	-	-	-	44.75	47.03	49.40	45.30	44.59	-

Note.--Add 1,100 ft to obtain elevation above mean sea level.

12-4425. Similkameen River near Nighthawk, Wash.

(International gaging station)

Location.--Lat 48°59'10", long 119°37'00", in NW¼ sec.7, T.40 N., R.26 E., on left bank three-quarters of a mile upstream from Oroville-Tonasket Irrigation District canal intake, 1¾ miles downstream from and northeast of Nighthawk, and 12 miles upstream from mouth.

Drainage area.--3,550 sq mi, approximately.

Records available.--May 1911 to September 1965 (prior to September 1928, mean monthly discharge included Oroville-Tonasket Irrigation District canal). Published as "near Oroville" 1911-28.

Gage.--Water-stage recorder. Datum of gage is 1,137.70 ft above mean sea level, international joint adjustment of 1947. Prior to Sept. 11, 1928, staff gages at sites 7 miles downstream (below Oroville-Tonasket Irrigation District canal) at various datums.

Average discharge.--54 years, 2,279 cfs (1,650,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 5, 1961	22,500	13.69	Dec. 16, 1960	227	2.68
1962	May 28, 1962	12,500	10.48	Dec. 14, 1961	280	2.80
1963	May 24, 1963	13,600	10.85	Jan. 30, 1963	244	2.72
1964	June 12, 1964	22,000	13.43	Oct. 21, 1963	552	3.32
1965	May 29, 1965	15,600	11.53	Dec. 17, 1965	254	2.81

1928-65: Maximum discharge, 38,700 cfs May 30, 1948 (gage height, 17.62 ft); minimum, 120 cfs Jan. 6, 1930 (gage height, 2.05 ft).

Remarks.--Records excellent except those for periods of no gage-height record, which are good, and those for winter periods, which are fair. Flow at high stages regulated by natural diversion into and release from Palmer Lake. Several small diversions above station for irrigation of about 2,900 acres in the United States in 1946 and approximately 10,500 acres in Canada in 1957. Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.

Cooperation.--Sixteen discharge measurements furnished by Canada Department of Mines and Technical Surveys, Water Resources Branch. This station is maintained by the United States under agreement with Canada.

Revisions.--WSP 1182: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	420	594	345	395	600	650	804	3,320	17,800	3,460	946	352
2	415	660	469	385	630	650	888	4,040	19,400	3,350	883	402
3	410	758	504	380	650	650	1,130	4,270	20,800	3,250	834	502
4	405	692	504	380	640	600	1,570	4,140	22,000	3,000	793	576
5	400	642	415	370	640	558	1,650	3,810	22,300	2,840	757	526
6	395	612	335	380	630	540	1,610	3,630	21,700	2,970	729	484
7	390	588	298	390	630	552	1,530	3,460	21,800	3,090	701	466
8	380	552	276	430	650	582	1,490	3,410	19,800	2,860	674	466
9	380	534	284	442	650	582	1,470	3,410	16,100	2,580	641	436
10	415	492	302	442	670	582	1,430	3,500	14,800	2,380	615	414
11	425	510	330	452	660	576	1,390	3,880	13,100	2,240	602	386
12	415	552	345	452	640	558	1,370	3,900	13,300	2,130	582	375
13	405	552	425	452	630	552	1,390	3,930	12,800	2,060	556	370
14	405	528	442	480	620	540	1,360	4,160	11,800	2,000	544	360
15	405	522	355	504	590	558	1,310	4,270	11,700	1,900	520	355
16	410	528	298	516	570	570	1,270	4,690	12,000	1,810	538	350
17	415	516	316	790	570	606	1,260	5,620	11,100	1,720	589	340
18	430	492	375	923	550	636	1,390	6,620	11,000	1,650	736	330
19	430	492	425	881	540	636	1,490	8,070	11,100	1,540	757	320
20	420	528	458	811	540	660	1,450	10,300	9,510	1,430	660	320
21	415	528	458	725	540	660	1,380	12,300	8,150	1,360	608	320
22	415	486	469	606	560	654	1,370	13,000	7,090	1,270	563	325
23	410	436	464	588	770	642	1,350	13,200	6,320	1,230	532	335
24	425	420	464	612	780	680	1,360	14,200	5,850	1,150	508	335
25	540	442	458	552	780	686	1,460	13,200	5,490	1,110	490	335
26	770	480	447	490	720	718	1,600	13,700	5,090	1,050	478	330
27	706	474	436	400	680	744	1,680	16,400	4,670	1,000	466	330
28	680	436	370	380	670	732	1,910	16,800	4,200	978	448	335
29	654	385	350	380	------	725	2,280	15,100	3,860	1,070	430	335
30	642	340	350	436	------	732	2,580	14,700	3,680	1,150	414	380
31	618	------	395	500	------	770	------	16,900	------	1,030	402	------
TOTAL	14,445	15,771	12,162	15,924	17,800	19,581	44,222	251,530	368,310	60,658	19,002	11,530
MEAN	466	526	392	514	636	632	1,474	8,127	12,280	1,957	613	384
MAX	770	758	504	923	780	770	2,580	16,900	22,300	3,460	946	576
MIN	380	340	276	370	540	540	804	3,320	3,680	978	402	320
AC-FT	28,650	31,280	24,120	31,580	35,310	38,840	87,710	499,700	730,500	120,300	37,690	22,870

CAL YR 1960: TOTAL 772,109 MEAN 2,110 MAX 14,600 MIN 276 AC-FT 1,531,000
WAT YR 1961: TOTAL 851,335 MEAN 2,332 MAX 22,300 MIN 276 AC-FT 1,689,000

Note.--No gage-height record Feb. 1 to Mar. 4.

12-4425. Similkameen River near Nighthawk, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	472	514	563	484	869	712	576	2,960	9,310	4,430	1,080	630
2	442	508	550	496	848	751	618	2,860	8,780	4,170	1,030	556
3	419	500	526	450	848	650	680	2,850	8,980	3,820	1,000	565
4	408	473	508	490	2,180	600	751	2,770	8,300	3,510	1,060	536
5	397	506	496	563	2,400	660	923	2,640	7,420	3,300	1,300	515
6	392	484	478	729	1,950	718	1,030	2,520	6,840	3,290	1,400	490
7	490	440	466	841	1,770	790	1,050	2,430	6,660	3,360	1,260	460
8	674	495	448	876	1,840	784	1,250	2,350	7,510	3,220	1,220	450
9	608	539	448	1,070	1,920	744	1,240	2,370	8,780	3,110	1,240	445
10	556	512	370	1,280	1,900	699	1,160	2,400	8,660	3,030	1,170	440
11	674	539	325	1,400	1,770	666	1,050	2,590	8,120	2,900	1,070	450
12	743	652	307	1,250	1,650	642	1,050	2,710	7,710	2,750	994	475
13	687	652	289	986	1,550	618	1,070	2,800	7,730	2,580	923	569
14	764	598	289	799	1,480	612	1,210	2,880	7,930	2,440	874	558
15	962	634	335	764	1,400	612	1,450	2,960	8,120	2,280	853	547
16	876	616	375	556	1,340	612	2,030	3,050	9,260	2,160	790	547
17	799	562	408	508	1,280	606	2,150	3,180	9,960	2,040	751	536
18	778	512	408	470	1,230	606	2,240	3,570	9,310	2,010	713	510
19	757	429	419	450	1,170	606	2,730	3,700	8,740	1,940	700	490
20	715	446	419	400	1,110	618	3,470	3,720	8,300	1,790	689	474
21	674	456	419	420	1,010	618	3,630	4,140	7,990	1,690	677	452
22	641	402	414	450	906	612	3,530	4,650	7,490	1,620	671	425
23	602	380	424	500	800	600	3,600	5,020	7,080	1,550	677	410
24	596	345	460	560	700	588	3,950	6,020	6,840	1,510	659	400
25	589	320	472	630	650	588	4,290	8,810	6,820	1,460	635	390
26	570	300	424	743	600	582	4,050	10,900	6,820	1,410	625	375
27	563	285	408	890	550	576	3,780	11,700	6,260	1,360	613	370
28	563	300	414	930	600	570	3,600	12,100	5,450	1,340	624	370
29	556	570	442	914	------	564	3,420	12,100	4,930	1,290	665	380
30	538	544	466	906	------	552	3,160	11,000	4,700	1,220	725	385
31	514	------	472	898	------	552	------	10,000	------	1,130	701	------
TOTAL	19,019	14,513	13,242	22,743	36,321	19,708	64,818	153,750	230,800	73,710	27,389	14,244
MEAN	614	484	427	734	1,297	636	2,161	4,960	7,693	2,378	884	475
MAX	962	652	563	1,400	2,400	790	4,290	12,100	9,960	4,430	1,400	630
MIN	392	285	289	400	550	552	576	2,350	4,700	1,130	613	370
AC-FT	37,720	28,790	26,270	45,110	72,040	39,080	128,600	305,000	457,800	146,200	54,330	28,250

CAL YR 1961: TOTAL 855,731 MEAN 2,344 MAX 22,300 MIN 285 AC-FT 1,697,000
WAT YR 1962: TOTAL 690,257 MEAN 1,891 MAX 12,100 MIN 285 AC-FT 1,369,000

Note.--No gage-height record Aug. 18 to Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	425	582	1,030	1,110	370	1,330	946	2,340	11,500	4,860	1,730	1,150
2	442	564	1,040	1,090	380	1,280	930	2,310	10,200	4,720	1,580	1,220
3	425	558	1,030	1,070	420	1,220	895	2,220	9,240	4,560	1,790	1,400
4	410	546	986	1,060	500	1,130	895	2,130	8,480	4,560	1,620	1,360
5	415	540	978	994	670	1,100	902	2,080	8,540	4,580	1,500	1,220
6	430	534	1,010	923	1,540	1,130	938	2,090	8,520	4,410	1,430	1,110
7	430	576	1,170	867	2,180	1,100	994	2,150	8,150	4,280	1,380	1,070
8	420	576	1,320	839	2,040	1,060	1,030	2,180	7,820	4,340	1,300	1,000
9	425	564	1,480	839	2,040	1,060	1,030	2,160	7,530	4,920	1,230	962
10	425	606	1,540	550	1,920	1,060	1,010	2,160	7,510	5,100	1,160	916
11	452	594	1,410	450	1,790	1,060	1,000	2,140	7,490	4,860	1,140	895
12	486	582	1,340	360	1,680	1,030	1,020	2,160	7,900	4,720	1,080	930
13	516	588	1,250	380	1,590	1,000	1,040	2,290	8,430	4,340	1,140	962
14	486	564	1,190	410	1,500	986	1,070	2,490	7,930	4,060	1,680	970
15	486	552	1,220	654	1,530	986	1,240	2,770	7,710	3,860	1,850	1,170
16	504	540	1,230	804	1,460	962	1,580	3,070	7,620	3,690	1,560	1,220
17	498	528	1,480	853	1,450	938	1,610	3,250	7,400	3,460	1,370	1,130
18	492	516	1,420	740	1,410	902	1,550	3,840	7,040	3,280	1,260	1,090
19	486	496	1,320	620	1,370	895	1,520	4,900	6,580	3,060	1,410	1,060
20	516	1,800	1,230	560	1,320	874	1,510	6,420	6,020	2,860	1,790	994
21	576	4,000	1,190	530	1,290	867	1,490	8,780	5,410	2,700	1,740	930
22	642	2,520	1,220	520	1,220	881	1,480	11,000	4,950	2,580	1,570	902
23	853	2,020	1,200	510	1,180	954	1,480	12,500	5,080	2,520	1,500	895
24	860	1,620	950	490	1,170	1,010	1,510	13,100	5,110	2,430	1,460	1,000
25	784	1,500	800	480	1,150	978	1,520	12,200	4,740	2,290	1,430	1,020
26	725	1,520	718	460	1,140	994	1,590	11,800	4,330	2,290	1,450	938
27	686	1,580	764	420	1,310	978	1,610	11,400	4,010	2,160	1,540	874
28	654	1,370	860	400	1,400	994	1,660	11,200	3,780	2,010	1,440	839
29	630	1,170	1,080	360	------	1,000	1,820	11,400	3,860	1,870	1,340	804
30	606	1,050	1,070	330	------	986	2,220	12,000	4,330	1,770	1,290	784
31	594	------	1,090	350	------	970	------	12,000	------	1,700	1,200	------
TOTAL	16,779	30,756	35,616	20,023	37,020	31,715	39,090	182,530	207,210	108,840	45,360	30,815
MEAN	541	1,025	1,149	646	1,322	1,023	1,303	5,888	6,907	3,511	1,463	1,027
MAX	860	4,000	1,540	1,110	2,180	1,330	2,220	13,100	11,500	5,100	1,980	1,400
MIN	410	496	718	330	370	867	895	2,080	3,780	1,700	1,080	784
AC-FT	33,280	61,000	70,640	39,720	73,430	62,910	77,530	362,000	411,000	215,900	89,970	61,120

CAL YR 1962: TOTAL 726,634 MEAN 1,991 MAX 12,100 MIN 370 AC-FT 1,441,000
WAT YR 1963: TOTAL 785,754 MEAN 2,153 MAX 13,100 MIN 330 AC-FT 1,559,000

12-4425. Similkameen River near Nighthawk, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	764	1,250	1,810	1,730	954	764	764	1,690	15,500	7,900	2,440	1,350
2	738	1,210	1,760	1,840	930	757	890	1,710	17,200	7,930	2,310	1,650
3	718	1,210	1,600	1,840	909	736	946	1,710	20,200	10,100	2,190	1,440
4	699	1,170	1,550	1,760	923	736	914	1,710	19,900	11,800	2,110	1,380
5	673	1,150	1,560	1,690	916	743	962	1,800	19,300	10,700	2,160	1,270
6	673	1,110	1,680	1,630	888	736	970	1,840	19,500	10,300	2,050	1,180
7	692	1,100	1,630	1,580	895	708	970	1,840	20,200	9,430	1,880	1,110
8	692	1,080	1,480	1,430	874	668	994	1,960	19,700	9,650	1,720	1,090
9	673	1,040	1,400	1,470	895	680	1,090	2,370	20,900	10,000	1,650	1,110
10	654	1,020	1,350	1,380	938	687	1,170	2,910	21,600	9,140	1,620	1,120
11	642	1,000	1,080	1,380	902	680	1,270	3,350	21,600	7,900	1,600	1,070
12	624	946	970	1,300	874	680	1,400	3,420	21,600	7,380	1,510	1,000
13	606	970	1,150	1,250	839	674	1,430	3,630	19,500	7,140	1,430	962
14	606	1,040	1,320	1,280	825	668	1,430	3,900	17,800	6,680	1,400	922
15	618	1,120	1,300	1,250	834	668	1,420	3,870	17,200	6,260	1,360	876
16	642	1,180	1,280	1,230	820	680	1,490	4,090	16,600	5,960	1,260	848
17	618	1,160	1,210	1,230	848	680	1,470	4,750	17,800	5,350	1,210	848
18	588	1,140	1,120	1,200	834	680	1,400	5,960	16,200	4,740	1,180	890
19	582	1,100	1,070	1,110	834	687	1,390	6,940	15,000	4,280	1,180	1,020
20	576	1,010	1,100	1,140	813	674	1,410	8,370	13,300	3,950	1,200	994
21	582	811	1,150	1,110	785	674	1,490	9,340	12,200	3,720	1,170	1,280
22	760	751	1,090	1,050	792	680	1,510	8,710	11,200	3,600	1,080	1,460
23	3,080	1,010	1,150	1,040	785	680	1,520	7,790	10,900	3,430	1,020	1,460
24	2,330	1,110	1,490	994	778	662	1,490	7,200	11,300	3,190	978	1,360
25	1,920	1,110	2,630	1,000	778	650	1,490	6,760	10,800	2,970	930	1,240
26	1,790	1,090	2,400	1,040	736	662	1,590	6,380	10,100	2,800	890	1,310
27	1,610	2,710	2,050	1,040	743	644	1,620	6,640	10,100	2,630	850	1,360
28	1,490	2,810	1,770	1,020	743	638	1,610	7,710	9,530	2,490	962	1,240
29	1,420	2,150	1,690	1,040	736	632	1,610	9,600	8,410	2,370	986	1,150
30	1,350	1,750	1,530	1,030	-------	638	1,650	11,800	7,880	2,340	1,070	1,090
31	1,270	-------	1,510	994	-------	687	-------	13,700	------	2,480	1,070	-------
TOTAL	30,680	37,308	45,880	40,078	24,421	21,233	39,360	163,450	473,020	188,610	44,506	35,080
MEAN	990	1,244	1,480	1,293	842	685	1,312	5,273	15,770	6,084	1,436	1,169
MAX	3,080	2,810	2,630	1,840	954	764	1,650	13,700	21,600	11,800	2,440	1,650
MIN	576	751	970	994	736	632	764	1,690	7,880	2,340	890	848
AC-FT	60,850	74,000	91,000	79,490	48,440	42,120	78,070	324,200	938,200	374,100	88,280	69,580

CAL YR 1963: TOTAL 816,471 MEAN 2,237 MAX 13,100 MIN 330 AC-FT 1,619,000
WAT YR 1964: TOTAL 1,143,626 MEAN 3,125 MAX 21,600 MIN 576 AC-FT 2,268,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,200	1,180	614	584	662	708	662	5,170	11,700	3,980	1,070	800
2	1,580	1,140	841	626	687	662	687	4,630	11,800	3,970	1,010	745
3	1,700	1,120	930	715	687	650	694	4,240	13,100	4,080	978	710
4	1,830	1,070	890	715	674	662	687	3,970	13,600	4,030	1,030	705
5	1,580	1,050	834	701	674	656	680	3,750	13,400	3,920	1,160	725
6	1,470	1,050	778	715	680	650	778	3,530	13,900	3,740	1,110	705
7	1,430	1,010	729	715	722	656	799	3,370	13,500	3,570	1,040	680
8	1,460	1,000	644	708	701	662	771	3,330	12,500	3,500	962	650
9	1,570	938	644	708	687	674	785	3,490	12,500	3,220	914	623
10	1,810	922	729	722	662	694	813	4,010	13,000	2,850	876	600
11	1,780	954	736	750	608	729	834	4,670	13,700	2,720	856	582
12	1,640	898	626	715	602	764	813	5,200	14,800	2,580	883	578
13	1,520	841	554	729	614	799	820	6,320	12,600	2,390	840	574
14	1,420	792	620	715	632	813	883	6,860	10,900	2,260	850	578
15	1,380	785	632	656	626	827	954	7,080	9,840	2,160	866	628
16	1,380	792	520	620	620	841	1,030	7,180	9,380	2,070	815	760
17	1,330	813	272	602	602	841	1,130	7,640	9,340	1,980	760	922
18	1,260	806	290	650	608	764	1,180	6,900	9,720	1,840	710	845
19	1,220	785	290	674	656	694	1,210	6,600	9,650	1,760	675	780
20	1,200	785	380	668	729	750	1,240	6,580	8,760	1,660	655	745
21	1,180	764	566	668	785	806	1,310	6,880	7,990	1,610	670	740
22	1,170	729	614	668	778	827	1,530	6,940	7,440	1,610	740	705
23	1,130	708	674	650	750	771	1,640	7,440	6,880	1,560	780	665
24	1,100	694	632	620	715	715	1,820	7,900	6,620	1,500	944	646
25	1,070	757	584	608	668	674	2,140	8,070	6,420	1,390	1,320	623
26	1,080	785	542	608	701	687	2,500	9,170	6,000	1,330	1,280	600
27	1,050	757	560	620	743	694	3,150	10,700	5,510	1,290	1,120	582
28	986	680	614	620	743	668	4,260	12,300	4,920	1,360	1,010	574
29	986	590	656	626	-------	662	5,520	14,300	4,480	1,370	932	560
30	1,030	566	656	632	-------	650	5,560	15,000	4,160	1,230	883	556
31	1,080	-------	626	656	-------	656	-------	13,200	-------	1,140	850	-------
TOTAL	41,622	25,761	19,277	20,664	19,016	22,306	46,880	216,420	298,110	73,670	28,589	20,185
MEAN	1,343	859	622	667	679	720	1,563	6,981	9,937	2,376	922	673
MAX	1,830	1,180	930	750	785	841	5,560	15,000	14,800	4,080	1,320	922
MIN	986	566	272	584	602	650	662	3,330	4,160	1,140	655	556
AC-FT	82,560	51,100	38,240	40,990	37,720	44,240	92,990	429,300	591,300	146,100	56,710	40,040

CAL YR 1964: TOTAL 1,116,418 MEAN 3,050 MAX 21,600 MIN 272 AC-FT 2,214,000
WAT YR 1965: TOTAL 832,501 MEAN 2,281 MAX 15,000 MIN 272 AC-FT 1,651,000

12-4438. Spectacle Lake near Loomis, Wash.

Location.--Lat 48°48'50", long 119°31'20", in SE¼ sec.2, T.38 N., R.26 E., on east shore 5 miles east of Loomis and 8½ miles northwest of Tonasket.

Drainage area.--17.2 sq mi.

Records available.--April 1956 to September 1965 (fragmentary).

Gage.--Staff gage read occasionally. Datum of gage is 1,353.46 ft above mean sea level, datum of 1929, supplementary adjustments of 1949 and 1960.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	June 23, 1961	11.25	Sept.20, 1961	2.63
1962	June 30, 1962	11.59	Sept.24, 1962	2.72
1963	May 20, July 1, 11, 1963	11.72	Oct. 20, 1962	3.57
1964	July 9, 1964	11.65	Sept.19, 1964	6.54
1965	June 11, 1965	11.64	Sept.14, 1965	5.60

1956-65: Maximum gage height observed, 11.72 ft May 20, July 1, 11, 1963; minimum observed, 2.63 ft Sept. 20, 1961.

Remarks.--Whitestone Irrigation District controls elevation of lake by flow into lake from Whitestone irrigation canal (see station 12-4422) and regulation of outlet gates at headworks of Spectacle Lake diversion for irrigation. Several small diversions for irrigation. Records prior to October 1958 not previously published by the Geological Survey.

GAGE HEIGHT, IN FEET, APRIL 1956 TO SEPTEMBER 1958

Apr. 27, 1956	10.10	Jan. 29, 1957	8.67	Jan. 26, 1958	6.23	June 7, 1958	11.30
May 20	10.09	Feb. 27	8.80	Feb. 24	6.72	9	11.32
July 18	11.36	Apr. 22	9.41	Mar. 30	7.18	12	11.30
Aug. 2	10.44	May 18	10.19	May 2	8.88	14	11.10
Sept.11	7.59	June 20	10.72	26	10.70	July 5	11.02
Oct. 18	7.54	July 24	10.05	27	10.74	27	9.32
19	7.54	Aug. 21	7.68	29	10.80	Aug. 26	6.07
21	7.80	Sept.29	4.10	31	10.90	Sept.18	3.32
28	7.90	Nov. 7	5.20	June 1	11.20	25	3.29
Dec. 7	8.30	Dec. 15	5.66	4	11.26	26	3.32
						27	3.36

Note.--Gage heights only for days listed above (not previously published).

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	5.19	-	-	-	-	-	-	-	-	8.58	-
2	-	-	5.94	-	-	-	-	-	-	-	-	4.18
3	-	-	-	6.28	6.59	6.96	7.22	-	-	10.92	-	4.10
4	4.10	-	-	-	-	-	-	-	10.60	-	-	-
5	-	5.33	6.00	-	-	-	7.20	-	-	-	7.97	-
6	-	-	-	-	-	-	-	9.38	-	-	-	-
7	4.24	-	-	-	-	-	-	-	-	10.89	-	3.54
8	-	5.44	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	7.03	-	-	-	-	7.34	-
10	-	-	-	-	6.73	-	-	9.82	-	10.68	7.15	-
11	-	-	-	-	-	-	7.24	-	10.95	-	-	3.30
12	4.40	5.57	-	-	-	-	-	-	-	-	6.82	-
13	4.40	-	6.08	-	-	-	-	-	-	-	6.66	-
14	-	-	-	6.48	-	7.10	-	10.38	-	10.40	-	-
15	-	5.68	-	-	-	-	-	-	11.15	-	6.35	-
16	-	-	-	-	-	-	7.48	-	-	-	-	3.12
17	4.56	5.69	-	-	-	-	-	-	-	-	-	-
18	-	-	6.14	-	6.88	-	-	-	-	10.12	6.00	-
19	-	-	-	-	-	-	-	-	-	-	5.90	-
20	-	-	-	6.46	-	7.20	-	-	-	-	5.70	2.63
21	-	5.76	-	-	-	-	-	-	-	9.92	-	-
22	4.77	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	10.53	11.25	-	5.12	-
24	-	-	-	-	-	-	7.90	-	-	-	-	-
25	4.90	5.82	-	-	-	-	-	-	-	-	-	-
26	-	-	-	6.46	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	6.22	-	-	7.22	-	10.35	-	-	4.72	2.76
29	5.08	5.89	-	-	------	-	8.28	-	10.90	8.69	-	-
30	-	-	-	-	------	-	-	-	-	-	-	-
31	-	------	-	-	------	-	------	-	------	-	-	------

12-4438. Spectacle Lake near Loomis, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	4.26	4.52	-	-	-	5.48	-	-	-	-	-
2	-	-	-	-	-	-	-	-	10.06	11.55	8.84	-
3	-	-	-	-	-	-	-	8.38	-	-	-	5.01
4	2.96	-	-	-	-	5.32	-	-	-	-	-	-
5	-	-	4.52	4.87	-	-	5.62	-	10.36	-	-	-
6	-	-	-	-	-	-	-	8.53	-	11.50	8.45	4.90
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	4.31	4.56	-	-	-	5.78	-	10.64	11.54	-	-
9	-	-	-	-	-	-	-	8.70	-	-	8.40	-
10	-	-	-	-	-	-	-	-	-	-	-	4.24
11	-	-	-	-	5.12	-	-	-	10.89	11.48	-	-
12	3.16	4.36	-	-	-	5.37	5.93	-	-	-	-	-
13	-	-	-	-	-	-	-	8.77	-	-	8.18	3.84
14	-	-	-	-	-	-	-	-	11.10	-	-	-
15	-	-	-	-	5.20	-	6.22	8.84	-	-	8.09	-
16	3.28	-	-	-	-	-	-	-	-	10.99	-	3.30
17	-	-	-	-	-	-	-	-	11.28	-	-	-
18	-	4.40	-	-	-	-	6.53	-	-	-	7.70	-
19	-	-	-	-	5.24	-	-	-	-	10.70	-	3.20
20	-	-	-	-	-	5.41	-	-	-	-	7.36	3.18
21	-	-	-	-	-	-	6.84	9.16	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	7.34	-	11.32	10.26	6.86	-
24	-	-	-	5.00	-	-	-	-	-	-	-	2.72
25	-	4.44	-	-	-	5.44	-	-	-	-	-	-
26	-	-	-	-	-	-	7.98	9.51	11.50	9.84	-	-
27	-	-	-	-	5.29	5.41	-	-	-	-	6.26	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	------	-	8.16	9.76	-	-	-	-
30	-	-	-	-	------	-	-	-	11.59	9.24	5.78	-
31	-	------	-	-	------	-	------	-	------	-	-	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	3.77	-	4.35	4.49	-	-	8.61	-	11.72	-	-
2	-	-	-	-	-	-	-	-	11.56	-	11.22	-
3	-	-	4.13	-	-	-	5.95	8.94	-	-	-	8.31
4	-	-	-	4.41	4.53	4.68	-	-	-	11.64	11.06	-
5	-	3.81	-	-	-	-	-	-	11.60	-	-	-
6	-	-	4.16	-	-	-	6.03	9.64	-	-	-	-
7	-	-	-	4.43	-	-	-	-	11.60	-	10.85	8.00
8	-	3.83	-	-	4.57	4.74	6.28	-	-	11.62	-	-
9	-	-	-	-	-	-	-	10.12	-	-	-	-
10	-	-	4.18	-	-	-	-	-	11.62	-	-	-
11	-	-	-	-	4.58	4.80	6.50	-	-	11.72	10.40	7.48
12	-	3.90	-	-	-	4.84	-	10.64	-	-	-	-
13	-	-	-	-	-	-	-	-	11.62	-	-	7.23
14	-	-	4.22	-	-	-	6.70	-	-	11.70	-	-
15	-	3.93	-	-	4.61	4.98	-	11.20	-	-	10.20	7.00
16	-	3.94	-	-	-	-	-	-	-	-	-	-
17	-	-	4.27	-	-	-	7.10	-	11.57	11.64	-	-
18	-	-	-	-	4.62	5.18	-	11.60	-	-	-	-
19	3.57	3.96	-	-	-	-	-	-	-	11.66	9.82	6.84
20	-	-	4.28	-	-	-	-	11.72	11.56	-	-	-
21	-	-	-	-	4.63	-	7.38	-	-	-	-	-
22	3.64	3.98	-	-	-	5.28	-	-	-	11.63	9.64	-
23	-	-	-	-	-	-	-	11.70	-	-	-	-
24	-	-	-	4.44	-	-	7.62	-	11.58	-	-	6.82
25	3.67	-	4.30	-	4.65	5.44	-	-	-	11.58	9.35	-
26	-	4.06	-	-	-	-	7.72	-	-	-	-	-
27	-	-	-	-	4.68	-	-	11.58	11.60	-	-	-
28	-	-	4.33	-	-	5.65	7.98	11.55	-	-	9.14	6.86
29	3.72	4.09	-	4.48	------	-	-	-	11.68	-	8.96	-
30	-	-	-	-	------	-	-	11.58	-	11.38	8.90	-
31	-	------	-	-	------	5.86	------	-	------	-	-	------

12-4438. Spectacle Lake near Loomis, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.93	7.50	-	-	-	-	-	9.32	-	-	-	-
2	-	-	7.90	-	-	8.48	-	-	10.90	-	-	-
3	-	-	-	8.15	8.38	-	-	-	-	11.62	-	7.32
4	-	7.54	-	-	-	8.52	8.58	9.38	-	-	10.48	-
5	7.00	-	-	-	-	-	-	-	11.26	-	-	-
6	-	-	7.93	-	-	8.50	8.58	-	-	11.63	-	-
7	7.08	-	-	8.18	8.42	-	-	-	-	-	10.23	7.04
8	-	7.62	-	-	-	-	-	9.44	-	-	-	-
9	-	-	7.94	8.18	-	8.53	8.56	-	11.38	11.65	-	-
10	-	-	-	-	8.43	-	8.56	-	-	-	9.94	-
11	7.20	7.67	-	-	-	-	-	-	-	-	-	6.80
12	7.27	-	-	-	-	-	-	9.60	11.45	-	-	-
13	7.26	-	7.97	8.19	-	8.57	8.54	-	-	11.64	-	-
14	-	-	-	-	8.46	-	-	-	11.48	-	9.58	6.60
15	-	7.71	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	8.57	-	9.66	-	11.61	-	-
17	-	-	-	8.20	-	-	8.66	-	-	-	9.20	-
18	7.34	7.74	8.00	-	8.46	-	-	-	11.50	11.58	-	-
19	-	-	-	-	-	-	-	9.80	-	-	-	6.54
20	-	-	-	8.23	-	8.56	-	-	-	11.51	-	-
21	-	-	-	-	-	-	8.84	-	-	-	8.82	-
22	7.40	7.82	-	-	-	-	-	9.95	11.44	11.41	-	-
23	-	-	8.10	-	-	-	-	-	-	11.48	-	6.63
24	-	-	-	8.28	-	8.57	-	-	-	-	8.48	-
25	7.48	-	-	8.38	-	-	9.00	-	-	-	-	-
26	-	-	-	-	8.47	-	-	10.20	11.46	-	-	-
27	-	-	8.11	-	-	8.57	9.14	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	10.98	7.90	-
29	7.49	7.88	-	-	-	-	-	10.42	-	-	-	6.87
30	-	-	8.12	-	------	8.57	-	-	11.50	-	-	-
31	-	------	-	-	------	-	------	-	------	10.68	7.63	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	-	-	-	8.38	8.40	-	-	-	-	-
2	-	-	-	-	8.30	-	-	-	-	-	9.50	-
3	7.00	7.58	-	-	-	-	-	10.72	11.50	11.44	-	6.50
4	-	-	7.79	-	-	-	-	-	-	-	9.27	-
5	7.10	-	-	-	8.32	8.40	8.41	-	-	-	-	-
6	-	7.60	-	-	-	-	-	-	11.52	11.34	9.06	-
7	-	-	7.82	-	-	-	8.42	-	-	-	-	6.06
8	-	-	-	8.16	8.34	-	-	11.10	11.61	-	8.92	-
9	7.24	7.61	7.82	-	-	8.40	8.42	-	-	-	-	5.88
10	-	-	-	-	-	-	-	-	-	11.28	-	5.84
11	-	-	-	8.17	-	-	-	11.24	11.64	-	-	-
12	7.31	-	7.86	-	8.34	8.40	-	-	-	-	8.32	-
13	-	7.62	-	-	-	-	8.48	-	-	11.22	-	-
14	-	-	-	8.19	-	-	-	-	11.57	-	-	5.60
15	-	-	-	8.19	-	-	-	11.35	-	-	-	-
16	-	-	-	-	8.35	8.40	8.56	-	-	11.26	7.74	-
17	7.44	7.64	-	-	-	-	-	11.42	11.58	-	-	5.61
18	-	-	-	-	-	-	8.62	11.44	-	-	-	-
19	7.45	-	-	8.20	8.35	8.40	-	-	-	-	-	-
20	-	7.64	-	-	-	-	8.74	-	11.55	10.94	7.34	5.64
21	-	-	7.93	-	-	-	-	11.51	11.59	-	-	-
22	-	7.64	-	-	-	8.40	-	-	-	-	-	-
23	7.49	-	-	8.22	8.36	-	-	-	-	-	7.02	-
24	-	-	-	-	-	-	9.28	11.56	-	10.58	-	5.64
25	-	-	7.96	-	-	8.40	-	-	11.58	-	-	-
26	-	-	-	8.25	8.36	-	9.42	-	-	10.34	7.02	-
27	7.52	7.72	-	-	-	-	-	-	-	-	-	-
28	7.50	-	-	-	-	-	-	11.53	-	-	-	-
29	-	-	7.95	-	------	8.40	-	-	11.52	-	-	-
30	-	7.75	-	8.28	------	-	10.10	-	-	9.90	6.86	-
31	7.55	------	7.96	-	------	-	------	11.50	------	-	-	------

12-4440. Whitestone Lake near Tonasket, Wash.

Location.--Lat 48°47'15", long 119°27'50", in SE¼SW¼ sec.17, T.38 N., R.27 E., at outlet of lake, 6½ miles north of Tonasket.

Drainage area.--52.3 sq mi (revised).

Records available.--October 1958 to September 1965. Records fragmentary October 1958 to May 1959.

Gage.--Water-stage recorder. Altitude of gage is 1,250 ft (from topographic map). Prior to May 27, 1959, staff gage at same site and datum.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Gage height	Date	Gage height
1961	Feb. 25, 1961	5.08	Sept.29, 1961	1.17
1962	Mar. 31, 1962	4.59	Oct. 12, 1961	1.44
1963	May 15, 1963	5.20	Sept. 1, 1963	1.46
1964	Apr. 21, 1964	a 5.02	Aug. 17, 1964	2.02
1965	Feb. 3, 4, 1965	5.60	Sept. 8, 1965	1.55

a Affected by wind.

1958-65: Maximum gage height, 5.60 ft Feb. 3, 4, 1965; minimum, 1.17 ft Sept. 29, 1961.

Remarks.--Lake elevation controlled by dam at outlet and by pumping from lake to Whitestone irrigation canal (see station 12-4422).

MEAN GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.03	1.99	2.82	-	4.14	4.89	4.54	4.60	4.04	2.78	1.55	
2	2.04	1.99	2.88	-	4.20	4.85	4.55	4.61	3.98	2.73	1.55	
3	2.04	1.98	2.92	-	4.23	4.81	4.56	4.61	3.92	2.68	1.56	
4	2.04	1.97	2.95	-	4.26	4.76	4.55	4.60	3.88	2.64	-	
5	2.05	1.97	2.97	-	4.30	4.72	4.55	4.63	3.83	2.60	-	
6	2.06	2.00	2.98	-	4.36	4.68	4.56	4.63	3.79	2.56	-	
7	2.07	2.02	3.00	-	4.40	4.64	4.56	4.62	3.84	2.51	-	
8	2.07	2.04	3.01	-	4.43	4.60	4.57	4.60	3.85	2.46	-	
9	2.07	2.07	3.03	-	4.49	4.56	4.57	4.60	3.81	2.41	-	
10	2.07	2.10	3.04	-	4.54	4.54	4.57	4.61	3.77	2.37	-	
11	2.06	2.14	3.04	-	4.59	4.52	4.58	4.64	3.74	2.32	-	
12	2.06	2.16	3.07	-	4.64	4.49	4.59	4.64	3.76	2.30	-	
13	2.06	2.19	3.09	-	4.69	4.48	4.59	4.63	3.75	2.22	-	
14	2.05	2.22	3.11	3.64	4.73	4.46	4.59	4.63	3.72	2.16	-	
15	2.04	2.24	-	3.67	4.78	4.43	4.59	4.62	3.69	2.08	-	
16	2.04	2.28	-	3.70	4.81	4.40	4.60	4.62	3.65	2.01	1.57	
17	2.04	2.32	-	3.74	4.84	4.37	4.60	4.61	3.61	1.94	1.62	
18	2.03	2.35	-	3.76	4.87	4.33	4.59	4.61	3.61	1.86	1.63	
19	2.03	2.37	-	3.79	4.91	4.31	4.60	4.60	3.61	1.76	1.62	
20	2.03	2.42	3.25	3.81	4.94	4.35	4.59	4.59	3.60	1.73	1.59	
21	2.03	2.47	-	3.83	4.97	4.37	4.60	4.54	3.56	1.64	1.58	
22	2.04	2.50	-	3.86	4.99	4.39	4.60	4.52	3.51	1.57	1.58	
23	2.04	2.56	-	3.88	5.01	4.40	4.61	4.46	3.43	-	1.59	
24	2.04	2.63	-	3.91	5.04	4.42	4.61	4.36	3.34	-	1.60	
25	2.03	2.66	-	3.94	5.07	4.44	4.61	4.29	3.27	-	1.58	
26	2.03	2.70	-	3.96	5.03	4.45	4.62	4.25	3.18	-	1.55	
27	2.01	2.73	-	3.99	4.99	4.48	4.62	4.24	3.08	-	-	
28	2.01	2.75	-	4.01	4.94	4.50	4.61	4.23	3.00	-	-	
29	2.00	2.77	-	4.04	------	4.51	4.60	4.21	2.92	-	-	1.17
30	1.99	2.80	-	4.07	------	4.52	4.60	4.15	2.85	-	-	
31	1.99	------	-	4.10	------	4.53	------	4.10	------	-	-	------
MAX	2.07	2.80	-	-	5.07	4.89	4.62	4.64	4.04	-	-	-
MIN	1.99	1.97	-	-	4.14	4.31	4.54	4.10	2.85	-	-	-

12-4440. Whitestone Lake near Tonasket, Wash.--Continued

MEAN GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	1.90	2.40	2.90	-	3.92	4.53	4.27	2.80	1.98	1.77	1.54
2	-	1.91	2.42	2.91	-	3.94	4.45	4.21	2.75	1.96	1.75	1.51
3	-	1.92	2.43	2.91	-	3.96	4.38	4.15	2.72	1.95	1.75	1.47
4	-	1.94	2.45	2.92	-	3.99	4.32	4.08	2.67	1.95	1.78	1.45
5	-	1.95	2.46	2.92	-	4.02	4.27	4.01	2.62	1.96	1.78	1.42
6	-	1.97	2.47	2.93	-	4.05	4.24	3.99	2.59	1.98	1.78	1.39
7	-	1.99	2.49	2.96	-	4.07	4.25	3.99	2.55	1.99	1.78	1.36
8	-	2.01	2.52	2.97	-	4.10	4.26	3.93	2.52	1.98	1.80	1.33
9	-	2.03	2.53	2.97	-	4.12	4.27	3.87	2.51	1.98	1.80	1.33
10	-	2.05	2.54	2.98	3.31	4.14	4.29	3.87	2.46	1.97	1.80	1.35
11	-	2.06	2.55	2.98	3.38	4.17	4.30	3.82	2.42	1.96	1.80	1.38
12	1.44	2.07	2.56	2.99	3.43	4 19	4.32	3.79	2.38	1.95	1.80	1.42
13	1.45	2.09	-	3.00	3.47	4.21	4.32	3.74	2.33	1.93	1.80	1.48
14	-	2.11	-	3.00	3.55	4.24	4.33	3.70	2.30	1.92	1.80	1.54
15	-	2.12	-	3.01	3.59	4.26	4.34	3.63	2.27	1.92	1.80	1.58
16	-	2.13	-	-	3.62	4.28	4.34	3.57	2.24	1.91	1.79	1.62
17	-	2.14	-	-	3.65	4.30	4.35	3.52	2.21	1.90	1.79	1.66
18	-	2.16	-	-	3.68	4.32	4.35	3.45	2.17	1.89	1.78	1.69
19	-	2.18	-	-	3.71	4.34	4.36	3.37	2.14	1.88	1.78	1.71
20	-	2.19	-	-	3.72	4.35	4.37	3.31	2.11	1.88	1.78	1.72
21	-	2.20	2.77	-	3.74	4.36	4.37	3.24	2.07	1.88	1.77	1.72
22	-	2.24	2.79	-	3.76	4.39	4.37	3.17	2.04	1.87	1.77	1.73
23	-	-	2.80	-	3.78	4.41	4.38	3.10	2.03	1.86	1.76	1.73
24	-	-	2.82	-	3.80	4.45	4.39	3.08	2.02	1.85	1.76	1.73
25	-	-	2.83	-	3.82	4.48	4.38	3.07	2.01	1.85	1.73	1.74
26	-	-	2.84	-	3.84	4.50	4.36	3.03	2.00	1.85	1.70	1.74
27	-	-	2.84	-	3.86	4.52	4.36	3.01	1.99	1.84	1.68	1.73
28	-	-	2.85	-	3.89	4.53	4.35	2.98	1.98	1.83	1.65	1.74
29	-	2.35	2.87	-	------	4.55	4.33	2.94	1.99	1.82	1.61	1.76
30	-	2.38	2.88	-	------	4.57	4.30	2.90	1.98	1.80	1.58	1.75
31	-	------	2.89	-	------	4.58	------	2.86	------	1.79	1.56	------
MAX	-	-	-	-	-	4.58	4.53	4.27	2.80	1.99	1.80	1.76
MIN	-	-	-	-	-	3.92	4.24	2.86	1.98	1.79	1.56	1.33

MEAN GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.75	2.81	3.71	3.38	-	3.94	4.52	5.08	3.99	2.78	2.37	1.52
2	1.75	2.84	3.73	3.39	-	3.97	4.53	5.09	3.88	2.79	2.33	1.58
3	1.75	2.86	3.72	3.41	-	3.98	4.56	5.11	3.81	2.82	2.29	1.58
4	1.77	2.88	3.69	3.40	-	4.00	4.57	5.12	3.71	2.98	2.26	1.59
5	1.79	2.92	3.67	3.38	-	4.02	4.60	5.12	3.64	3.10	2.21	1.59
6	1.83	2.95	3.65	3.37	-	4.05	4.63	5.13	3.56	3.08	2.17	1.59
7	1.86	2.98	3.63	3.37	-	4.06	4.66	5.13	3.48	3.05	2.14	1.59
8	1.90	3.00	3.62	3.36	-	4.08	4.71	5.14	3.52	3.03	2.10	1.59
9	1.96	3.05	3.62	3.35	-	4.10	4.79	5.14	3.37	3.00	2.08	1.59
10	2.01	3.07	3.61	3.34	-	4.11	4.82	5.15	3.31	2.99	2.06	1.61
11	2.06	3.11	3.59	-	-	4.13	4.83	5.16	3.25	2.96	2.04	1.65
12	2.13	3.15	3.58	-	-	4.14	4.83	5.17	3.19	2.95	2.03	1.68
13	2.18	3.18	3.57	-	-	4.16	4.86	5.18	3.13	2.91	2.06	1.72
14	2.23	3.21	3.56	-	-	4.18	4.87	5.19	3.09	2.88	2.06	1.75
15	2.27	3.24	3.58	-	-	4.20	4.93	5.19	3.06	2.85	2.04	1.77
16	2.31	3.27	3.57	-	-	4.22	4.96	5.15	3.05	2.82	2.02	1.79
17	2.34	3.31	3.57	-	3.65	4.24	4.97	5.09	3.02	2.81	1.98	1.81
18	2.38	3.33	3.55	-	3.69	4.25	5.00	5.04	2.99	2.83	1.96	1.85
19	2.40	3.36	3.55	-	3.73	4.26	5.01	4.99	2.95	2.79	1.91	1.90
20	2.44	3.39	3.53	-	3.74	4.29	5.02	4.95	2.90	2.78	1.89	1.96
21	2.47	3.42	3.53	-	3.77	4.30	5.03	4.92	2.86	2.77	1.91	1.99
22	2.50	3.44	3.52	-	3.78	4.31	5.04	4.84	2.86	2.74	1.93	2.01
23	2.54	3.47	3.51	-	3.81	4.35	5.06	4.75	2.89	2.69	1.92	2.03
24	2.56	3.49	3.48	3.42	3.82	4.37	5.07	4.65	2.89	2.64	1.88	2.05
25	2.59	3.52	3.47	-	3.84	4.36	5.07	4.57	2.89	2.60	1.83	2.06
26	2.62	3.55	3.46	-	3.87	4.36	5.07	4.49	2.87	2.57	1.77	2.07
27	2.66	3.57	3.44	-	3.90	4.38	5.08	4.43	2.83	2.54	1.72	2.08
28	2.69	3.58	3.43	-	3.92	4.44	5.09	4.34	2.80	2.51	1.67	2.09
29	2.72	3.61	3.42	-	------	4.47	5.10	4.27	2.77	2.48	1.61	2.11
30	2.74	3.67	3.40	-	------	4.49	5.11	4.19	2.78	2.45	1.57	2.11
31	2.78	------	3.39	-	------	4.51	------	4.08	------	2.40	1.53	------
MAX	2.78	3.67	3.73	-	-	4.51	5.11	5.19	3.99	3.10	2.37	2.11
MIN	1.75	2.81	3.39	-	-	3.94	4.52	4.08	2.77	2.40	1.53	1.52

12-4440. Whitestone Lake near Tonasket, Wash.--Continued

MEAN GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.11	3.17	4.23	3.97	3.90	3.82	4.61	4.84	2.94	-	2.18	2.24
2	2.11	3.20	4.23	3.96	3.89	3.82	4.62	4.83	2.88	-	2.18	2.25
3	2.12	3.24	4.25	3.93	3.89	3.82	4.64	4.82	2.81	-	2.19	2.27
4	2.12	3.27	4.25	3.90	3.89	3.82	4.66	4.80	2.76	-	2.20	2.28
5	2.13	3.30	4.25	3.90	3.89	3.85	4.68	4.79	2.71	-	2.20	2.29
6	2.18	3.35	4.26	3.89	3.88	3.88	4.70	4.77	2.66	-	2.20	2.29
7	2.24	3.41	4.26	3.87	3.88	3.92	4.72	4.76	2.63	-	2.19	2.30
8	2.28	3.48	4.27	3.86	3.88	3.95	4.73	4.74	2.59	-	2.19	2.31
9	2.34	3.52	4.27	3.84	3.87	3.97	4.74	4.65	2.57	-	2.18	2.32
10	2.37	3.55	4.27	3.83	3.87	4.00	4.75	4.58	2.54	-	2.17	2.32
11	2.43	3.58	4.27	3.82	3.87	4.06	4.75	4.53	2.51	-	2.17	2.32
12	2.48	3.62	4.25	3.80	3.86	4.10	4.76	4.44	2.48	-	2.14	2.32
13	2.52	3.65	4.23	3.79	3.86	4.13	4.77	4.38	-	-	2.12	2.33
14	2.57	3.72	4.20	3.77	3.86	4.15	4.78	4.30	-	-	2.09	2.33
15	2.60	3.76	4.19	3.76	3.86	4.16	4.80	4.22	-	-	2.07	2.33
16	2.65	3.76	4.18	3.76	3.86	4.17	4.80	4.15	-	-	2.04	2.33
17	2.69	3.80	4.16	3.79	3.86	4.18	4.81	4.07	-	-	2.03	2.34
18	2.73	3.84	4.15	3.78	3.86	4.22	4.82	4.00	-	-	2.05	2.35
19	2.75	3.88	4.14	3.79	3.85	4.26	4.83	3.93	-	-	2.09	2.37
20	2.79	3.90	4.15	3.81	3.85	4.30	4.83	3.85	-	-	2.11	2.40
21	2.82	3.93	4.14	3.81	3.85	4.36	4.84	3.78	-	-	2.12	2.42
22	2.84	4.00	4.10	3.84	3.85	4.40	4.84	3.70	-	2.17	2.13	2.44
23	2.87	4.06	4.09	3.84	3.85	4.44	4.85	3.62	-	2.16	2.13	2.47
24	2.92	4.10	4.08	-	3.84	4.45	4.85	3.54	-	2.16	2.12	2.49
25	2.95	4.15	4.06	3.86	3.84	4.45	4.86	3.45	-	2.15	2.10	2.50
26	2.97	4.17	4.04	3.86	3.83	4.46	4.85	3.38	-	2.15	2.10	2.51
27	3.00	4.18	4.04	3.87	3.83	4.49	4.85	3.32	-	2.16	2.11	2.52
28	3.03	4.19	4.02	3.88	3.82	4.52	4.84	3.23	-	2.15	2.11	2.54
29	3.07	4.20	4.01	3.88	3.82	4.54	4.83	3.16	-	2.16	2.10	2.55
30	3.10	4.22	3.98	3.89	------	4.56	4.85	3.08	-	2.17	2.17	2.56
31	3.12	------	3.97	3.89	------	4.57	------	3.01	------	2.18	2.20	------
MAX	3.12	4.22	4.27	3.97	3.90	4.57	4.86	4.84	-	-	2.20	2.56
MIN	2.11	3.17	3.97	3.76	3.82	3.82	4.61	3.01	-	-	2.03	2.24

MEAN GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.57	3.25	4.17	-	5.55	5.51	5.19	5.40	4.39	3.54	2.06	-
2	2.58	3.28	4.19	-	5.58	5.51	5.20	5.40	4.36	3.50	2.00	-
3	2.58	3.31	4.22	-	5.60	5.50	5.20	5.38	4.30	3.45	1.93	-
4	2.59	3.36	4.24	-	5.59	5.50	5.20	5.37	4.25	3.38	1.89	-
5	2.61	3.40	4.25	-	-	5.49	5.20	5.37	4.19	3.32	1.86	-
6	2.62	3.43	4.27	-	-	5.48	5.20	5.36	4.14	3.26	1.82	-
7	2.64	3.47	4.28	-	-	5.46	5.20	5.34	4.08	3.20	1.78	-
8	2.66	3.49	4.30	-	-	5.44	5.19	5.32	4.04	3.12	1.73	1.55
9	2.68	3.53	4.31	-	-	5.42	5.21	5.30	4.03	3.03	-	1.57
10	2.70	3.58	4.32	-	-	5.40	5.28	5.28	4.07	2.96	-	1.58
11	2.73	3.63	4.33	-	-	5.39	5.30	5.26	4.09	2.89	-	1.60
12	2.75	3.65	4.32	-	-	5.39	5.30	5.22	4.10	2.83	-	1.61
13	2.76	3.68	4.31	-	-	5.39	5.30	5.14	4.09	2.77	-	1.62
14	2.77	3.71	4.32	5.32	-	5.38	5.31	5.07	4.08	2.72	-	1.64
15	2.78	3.74	4.32	5.32	-	5.37	5.32	4.99	4.07	2.72	-	1.65
16	2.79	3.77	4.31	5.34	-	5.35	5.34	4.90	4.06	2.78	-	1.65
17	2.79	3.79	-	5.37	-	5.33	5.36	4.81	4.04	2.71	-	1.66
18	2.81	3.83	-	5.39	-	5.32	5.37	4.74	4.03	2.63	-	1.67
19	2.84	3.85	-	5.41	-	5.31	5.38	4.66	4.02	2.55	-	1.68
20	2.86	3.88	-	5.42	-	5.30	5.40	4.68	4.00	2.49	-	1.71
21	2.89	3.90	-	5.43	-	5.28	5.42	4.67	3.97	2.48	-	1.73
22	2.93	3.93	-	5.45	-	5.27	5.43	4.65	3.93	2.46	-	1.74
23	2.97	3.96	-	5.47	-	5.24	5.44	4.63	3.89	2.44	-	1.75
24	3.00	3.98	-	5.48	-	5.23	5.43	4.60	3.85	2.40	-	1.76
25	3.04	4.00	-	5.49	5.58	5.21	5.42	4.55	3.81	2.35	-	1.77
26	3.06	4.05	-	5.49	5.56	5.21	5.41	4.50	3.75	2.31	-	1.77
27	3.09	4.07	-	5.50	5.53	5.20	5.40	4.47	3.68	2.27	-	1.76
28	3.12	4.09	-	5.51	5.51	5.19	5.40	4.46	3.64	2.23	-	1.76
29	3.14	4.11	-	5.51	------	5.19	5.42	4.44	3.60	2.20	-	1.77
30	3.18	4.14	-	5.53	------	5.18	5.41	4.41	3.57	2.16	-	1.77
31	3.22	------	-	5.54	------	5.18	------	4.40	------	2.12	-	------
MAX	3.22	4.14	-	-	-	5.51	5.44	5.40	4.39	3.54	-	-
MIN	2.57	3.25	-	-	-	5.18	5.19	4.40	3.57	2.12	-	-

12-4441. Whitestone Creek near Tonasket, Wash.

Location.--Lat 48°47'05", long 119°26'00", in NE¼NE¼ sec.21, T.38 N., R.7 E., 1,000 ft upstream from Greenaway Diversion and 6 miles north of Tonasket.

Drainage area.--55.4 sq mi (revised).

Records available.--October 1958 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,180 ft (from topographic map).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	July 13, 1961	6.7	a 6.35	Jan. 26, 1961	0.20	b 5.91
1962	Apr. 3, 1962	8.8	6.42	Apr. 10, 12, 1962	c .40	d 5.75
1963	May 24, 1963	9.3	e 6.50	May 12, 1963	.30	5.74
1964	Oct. 6, 1963	6.7	f 6.47	Apr. 12-20, 1964	.60	-
1965	Feb. 27, 1965	6.9	g 6.48	Dec. 17, 18, 1964	c .20	-

a Maximum gage height for year, 6.77 ft Mar. 10, 1961.
b Occurred Apr. 17, 1961.
c Minimum daily.
d Occurred Feb. 26, 1962.
e Maximum gage height for year, 6.61 ft Jan. 10, 1963, backwater from ice.
f Maximum gage height for year, 6.93 ft Jan. 8, 1964, backwater from ice.
g Maximum gage height for year, 7.62 ft Feb. 11, 1965, backwater from ice.

1958-65: Maximum discharge, 25 cfs Jan. 9, 1959 (gage height, 7.27 ft); maximum gage height, 7.62 ft Feb. 11, 1965 (backwater from ice); minimum discharge, 0.1 cfs Apr. 27 to May 1, 1960.

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. Flow regulated by headworks on Whitestone Lake by Whitestone Water Users' Association. Some diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.5	4.4	2.4	2.1	.70	5.5	1.4	2.6	2.2	3.6	3.6	4.4
2	5.3	4.4	2.9	2.0	1.1	5.3	1.4	3.0	2.1	3.8	2.8	4.4
3	5.2	4.4	2.7	2.0	.70	5.3	1.4	3.2	2.1	3.8	4.0	4.2
4	5.2	4.4	2.6	2.1	.80	5.3	1.4	3.2	2.2	4.0	4.2	4.0
5	5.2	4.1	2.3	2.1	1.0	5.3	1.4	3.2	2.3	4.7	5.4	4.0
6	5.0	1.1	2.0	2.2	1.4	5.3	1.4	2.8	2.3	4.7	5.2	3.8
7	5.0	1.0	1.9	2.6	1.0	5.2	1.4	2.8	2.9	4.4	4.9	3.6
8	5.0	1.0	1.9	2.7	.90	5.3	1.4	2.6	2.6	4.7	4.7	3.5
9	4.8	1.0	1.8	2.8	1.2	5.3	1.4	2.6	2.9	4.0	4.7	3.3
10	4.8	1.2	1.9	2.9	1.0	5.3	1.4	2.8	2.8	3.5	4.0	3.2
11	4.8	1.4	1.9	2.8	1.1	5.3	1.4	2.8	3.2	3.0	4.4	3.0
12	4.8	1.3	2.2	2.8	1.0	5.3	1.4	2.6	3.0	6.0	4.5	3.0
13	4.7	1.3	2.6	2.9	1.2	5.3	1.4	2.6	2.8	6.4	4.5	3.0
14	4.7	1.4	2.6	2.8	1.0	5.3	1.4	2.9	2.8	6.0	4.5	2.9
15	4.7	1.7	2.1	2.7	1.2	5.3	1.4	2.8	2.6	5.6	4.7	2.8
16	4.7	2.0	2.0	.80	1.0	5.2	1.4	2.4	2.8	5.4	4.4	2.8
17	4.7	2.1	1.9	.60	1.0	5.6	1.4	2.2	2.9	4.7	3.9	2.8
18	4.7	2.0	2.0	.50	.70	6.0	1.4	2.1	4.5	4.0	5.2	2.8
19	4.7	1.8	2.1	.40	1.0	5.6	1.4	2.1	4.4	4.4	5.2	2.9
20	4.7	2.2	2.3	.30	1.0	1.8	1.4	2.1	4.0	4.4	5.2	2.9
21	4.7	2.2	2.4	.30	1.0	1.4	1.4	2.2	3.6	4.5	4.9	2.9
22	4.7	2.1	2.4	.30	1.0	1.4	1.4	2.2	4.2	4.5	4.4	2.9
23	4.7	2.1	2.4	.30	.90	1.4	1.4	2.1	4.4	4.5	2.9	2.9
24	4.7	2.7	2.4	.30	1.0	1.4	1.4	3.6	4.4	4.4	3.2	2.9
25	4.7	2.6	2.4	.30	1.5	1.4	1.4	4.0	4.0	3.3	4.5	2.9
26	4.7	2.4	2.4	.30	4.8	1.4	1.4	4.2	4.2	3.6	4.7	2.9
27	4.6	2.3	2.6	.40	5.6	1.4	1.6	4.0	4.4	4.4	4.4	2.9
28	4.6	2.3	2.5	.60	5.5	1.4	2.6	3.8	4.7	4.4	3.3	2.9
29	4.4	2.3	2.6	.60	------	1.4	2.8	3.8	4.2	4.5	3.5	2.8
30	4.4	2.3	2.1	.60	------	1.4	2.6	3.5	3.6	4.4	3.6	2.4
31	4.4	------	2.1	.70	------	1.4	------	2.3	------	4.5	3.2	------
TOTAL	148.8	67.5	70.5	44.80	41.50	119.2	46.0	83.1	99.1	138.1	132.3	95.7
MEAN	4.80	2.25	2.27	1.45	1.48	3.85	1.53	2.87	3.30	4.45	4.27	3.19
MAX	5.5	4.4	2.9	2.9	5.6	6.0	2.8	4.2	4.7	6.4	5.4	4.4
MIN	4.4	1.0	1.9	.30	.70	1.4	1.4	2.1	2.1	3.0	2.8	2.4
AC-FT	295	134	140	89	82	236	91	177	197	274	262	190

CAL YR 1960: TOTAL 1,265.90 MEAN 3.46 MAX 6.6 MIN .10 AC-FT 2,510
WAT YR 1961: TOTAL 1,092.60 MEAN 2.99 MAX 6.4 MIN .30 AC-FT 2,170

12-4441. Whitestone Creek near Tonasket, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.4	2.2	2.2	2.3	2.6	.70	6.9	1.3	2.3	2.8	4.7	4.0
2	2.4	2.2	2.2	2.3	3.0	.70	8.6	1.3	2.4	2.6	4.5	3.6
3	2.4	2.2	2.2	2.3	2.9	.70	9.6	3.0	2.3	2.8	4.9	3.2
4	1.9	2.2	2.2	2.3	2.6	.70	7.4	3.3	2.4	2.9	4.5	3.2
5	1.9	2.2	2.2	2.3	2.5	.70	6.9	3.2	3.3	3.5	4.4	3.2
6	1.9	2.2	2.2	2.4	1.9	.80	4.5	3.5	3.3	3.5	4.4	3.2
7	1.9	2.2	2.2	2.5	.60	.90	.60	3.5	3.3	3.5	4.7	3.0
8	1.9	2.3	2.2	2.5	.60	.80	.50	3.5	3.3	3.6	4.4	2.9
9	1.9	2.3	2.2	2.4	.60	.70	.50	3.5	3.2	3.6	4.4	3.0
10	1.9	2.3	2.0	2.4	.70	.70	.40	4.4	3.2	3.6	4.4	3.2
11	1.9	2.2	1.9	2.4	.70	.70	.50	3.6	3.0	3.8	4.2	3.3
12	2.0	2.2	2.0	2.4	.70	.70	.40	3.6	3.0	4.0	4.9	3.2
13	2.0	2.2	2.1	2.4	.70	.70	1.0	3.5	2.8	4.2	4.5	4.0
14	2.0	2.3	2.2	2.4	.70	.80	1.0	3.5	2.6	4.2	4.2	4.0
15	2.0	2.2	2.3	2.4	.70	.80	1.0	3.3	2.8	4.4	4.2	4.2
16	2.1	2.2	2.3	2.4	.90	.80	1.0	3.2	2.8	4.4	4.7	4.4
17	2.1	2.2	2.4	2.3	.90	.80	1.0	3.0	2.6	4.4	4.7	4.4
18	2.1	2.3	2.3	2.3	.90	.70	1.0	3.0	2.6	4.2	4.5	4.4
19	2.1	2.3	2.4	2.4	.80	.70	1.0	2.8	2.6	4.4	4.5	4.4
20	2.1	2.3	2.4	2.4	.70	.70	1.0	2.9	2.6	4.4	4.5	4.4
21	2.1	2.3	2.4	2.4	.70	.60	1.0	2.9	3.2	4.4	4.5	4.5
22	2.1	2.4	2.4	2.4	.70	.70	1.0	2.5	3.3	4.5	4.7	4.7
23	2.2	2.3	2.4	2.4	.70	.70	1.1	2.6	3.2	4.5	4.5	4.7
24	2.2	2.3	2.5	2.4	.70	.80	1.1	2.9	3.3	4.7	4.5	4.7
25	2.2	2.1	2.1	2.4	.50	.70	1.2	2.6	3.2	4.7	4.7	4.5
26	2.2	2.2	2.2	2.4	.50	.70	1.3	2.6	2.9	4.7	4.9	4.5
27	2.6	2.2	2.3	2.4	.60	.60	1.7	2.4	2.6	4.9	4.7	4.5
28	2.3	2.2	2.3	2.4	.70	.60	1.4	2.4	2.6	4.7	4.5	4.9
29	2.2	2.2	2.4	2.5	------	.60	1.4	2.3	2.8	4.7	4.4	4.5
30	2.2	2.3	2.4	2.6	------	.60	1.4	2.3	2.6	4.7	4.4	4.5
31	2.2	------	2.3	2.6	------	.80	------	2.3	------	4.7	4.2	------
TOTAL	65.4	67.2	69.8	74.4	30.80	22.20	66.40	90.7	86.1	126.0	140.2	119.2
MEAN	2.11	2.24	2.25	2.40	1.10	.72	2.21	2.93	2.87	4.06	4.52	3.97
MAX	2.6	2.4	2.5	2.6	3.0	.90	8.6	4.4	3.3	4.9	4.9	4.5
MIN	1.9	2.1	1.9	2.3	.50	.60	.40	1.3	2.3	2.6	4.2	2.9
AC-FT	130	133	138	148	61	44	132	180	171	250	278	236

CAL YR 1961: TOTAL 1,008.20 MEAN 2.76 MAX 6.4 MIN .30 AC-FT 2,000
WAT YR 1962: TOTAL 958.40 MEAN 2.63 MAX 8.6 MIN .40 AC-FT 1,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.5	.90	.60	3.3			.60	.80	5.8	2.9	4.9	4.4
2	4.5	.90	1.4	3.6			.60	.90	5.6	2.5	4.7	4.5
3	4.5	.90	4.2	3.6			.60	.80	5.6	2.4	4.5	4.2
4	2.8	.90	4.4	3.5			.60	.80	5.4	2.8	4.7	4.2
5	2.2	.90	4.5	3.5	2.0		.70	.80	5.2	2.9	4.5	4.2
6	1.1	.90	4.7	3.3			.70	.80	5.2	3.3	4.2	4.4
7	1.0	.90	4.5	3.3			.70	.80	4.9	3.3	2.8	4.4
8	1.0	.90	4.4	3.3			1.0	.70	4.7	3.2	2.6	4.5
9	1.2	1.0	3.8	3.3			1.2	.60	4.9	2.9	2.4	4.5
10	1.0	1.0	3.6	3.0			.80	.60	4.7	3.0	2.5	4.7
11	1.1	1.1	3.6	1.7		.60	.80	.50	4.2	2.9	2.3	4.9
12	1.1	1.2	3.5	1.9			.80	.50	3.8	2.3	2.2	4.9
13	1.1	1.2	3.5	1.7			.70	.50	3.2	2.9	2.2	5.4
14	1.0	1.2	3.5	1.7			.80	.70	3.8	2.9	2.2	5.2
15	1.0	1.1	3.6	1.7			1.1	1.1	4.0	2.0	2.2	5.4
16	1.0	1.0	3.5	1.7			.90	1.1	3.8	2.8	2.3	5.4
17	1.0	1.0	3.5	1.8			.80	2.2	3.2	4.0	2.2	5.2
18	1.0	1.0	3.5	1.8			.80	1.7	3.0	4.0	2.2	3.3
19	1.0	1.0	3.5	1.8	.60		.80	1.7	3.0	4.0	2.2	.80
20	1.0	1.0	3.5	1.8			.80	1.8	2.9	4.2	2.1	1.2
21	1.0	1.0	3.5	1.8			.80	3.3	3.0	4.2	1.9	4.9
22	1.0	1.0	3.3	1.8			.70	5.4	3.5	4.2	2.1	5.6
23	1.0	1.0	3.3	1.7			.70	7.6	3.0	4.4	3.2	5.8
24	1.0	1.0	3.2	1.7			.70	7.4	2.9	4.2	3.5	5.6
25	1.0	1.0	3.4	1.6			.70	4.2	2.6	4.4	2.9	5.6
26	1.0	1.0	3.5	1.6		1.5	.70	2.9	2.6	3.8	2.8	5.6
27	1.0	.90	3.3	1.6	.60		.70	2.8	2.8	4.0	2.6	5.8
28	1.0	.50	3.3	1.6	.60		.70	2.9	2.8	4.0	2.8	5.8
29	1.0	.50	3.3	1.6	------		.80	3.0	3.2	3.8	2.6	5.8
30	1.0	.50	3.3	1.6	------		.80	4.5	3.5	4.0	2.6	5.8
31	.90	------	3.3	1.6	------		------	5.8	------	4.9	3.3	------
TOTAL	45.00	28.40	108.00	69.5	30.80	28.50	23.10	69.20	116.8	108.6	90.2	142.00
MEAN	1.45	.95	3.48	2.24	1.10	.92	.77	2.23	3.89	3.50	2.91	4.73
MAX	4.5	1.2	4.7	3.6	-	-	1.2	7.6	5.8	4.9	4.9	5.8
MIN	.90	.50	.60	1.6	-	-	.60	.50	2.6	2.4	1.9	.80
AC-FT	89	56	214	138	61	57	46	137	232	215	179	282

CAL YR 1962: TOTAL 937.40 MEAN 2.57 MAX 8.6 MIN .40 AC-FT 1,860
WAT YR 1963: TOTAL 860.10 MEAN 2.36 MAX 7.6 MIN .50 AC-FT 1,710

Note.--No gage-height record Feb. 28 to Apr. 2.

12-4441. Whitestone Creek near Tonasket, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.6		1.7	5.4	2.9	3.3		2.1	2.6	2.4	3.3	4.0
2	5.6		1.7	5.2	2.8	3.3		2.0	2.6	2.5	3.5	4.2
3	5.4		1.9	4.9	2.8	3.3		1.9	2.5	2.5	3.6	4.2
4	5.6		2.4	4.9	2.6	2.9		1.9	2.6	2.5	3.8	4.4
5	5.6		2.5	4.7	2.8	1.3	.70	1.9	2.6	2.4	3.5	4.4
		.80										
6	2.9		2.6	4.7	2.8	1.1		1.9	2.8	2.2	3.5	4.2
7	1.0		2.7	5.2	2.6			1.9	2.8	2.2	3.5	4.5
8	1.0		2.8	5.0	2.4		.70	2.0	2.9	2.2	3.8	4.5
9	1.0		2.9	4.9	2.3		.80	2.0	2.8	2.3	3.8	4.4
10	1.0		2.9	4.7	2.5		.70	2.0	2.6	2.2	3.8	4.2
11	1.0		2.9	4.7	2.5	1.0	.70	1.9	2.6	2.2	3.8	4.0
12	1.0		4.0	4.7	2.6		.70	1.7	2.5	2.3	3.8	4.0
13	1.0		5.2	4.7	2.8		.70	1.5	2.5	2.4	3.8	3.8
14	1.0		5.4	4.5	2.7		.60	1.4	2.4	2.4	3.8	3.8
15	1.0		5.4	4.5	2.6		.60	1.4	2.4	2.4	3.8	3.8
16	1.0		5.4	3.2	2.5		.60	1.4	2.8	2.4	3.6	3.6
17	.70	.90	5.4	2.9	2.5		.60	1.4	2.4	2.5	3.5	3.5
18	.90		5.4	2.8	2.5	1.5	.60	1.3	2.6	2.5	3.5	2.4
19	.90		5.2	2.8	2.8		.70	1.3	2.5	2.4	3.5	2.5
20	.90		4.9	2.9	2.6		1.0	1.3	2.4	2.4	3.5	2.5
21	.90		4.9	2.8	2.6		1.1	1.3	2.4	2.5	3.5	2.6
22	.90		5.2	2.8	2.6		1.1	1.3	2.5	2.6	3.5	2.6
23	.80	1.4	5.2	2.6	2.6	1.0	1.1	1.6	2.6	2.6	3.6	2.5
24	.80	1.7	5.2	2.6	2.5		1.1	2.2	2.8	2.6	3.8	2.5
25	.80	1.8	5.2	2.6	2.5		1.1	2.2	2.9	2.6	3.8	2.5
26	.80	1.7	5.2	2.6	2.5		1.2	2.1	3.0	2.6	3.8	2.5
27	.80	1.7	5.2	2.8	2.5		2.0	2.2	2.9	2.8	3.8	2.5
28	.80	1.7	5.2	2.8	2.5		1.8	3.2	2.8	2.8	4.0	2.5
29	.80	1.7	5.2	2.9	2.9	.70	1.7	2.6	2.5	2.8	4.0	2.5
30	.80	1.7	5.2	2.9	------		1.9	2.4	2.6	2.9	4.5	2.5
31	.80	------	5.2	2.9	------		------	2.6	------	3.0	4.2	------
TOTAL	53.30	32.20	130.2	117.6	75.6	40.90	28.00	57.9	79.1	77.1	115.2	102.2
MEAN	1.72	1.07	4.20	3.79	2.61	1.32	.93	1.87	2.64	2.49	3.72	3.41
MAX	5.6	1.8	5.4	5.4	2.9	3.3	2.0	3.2	3.0	3.0	4.5	4.5
MIN	.80	-	1.7	2.6	2.3	-	-	1.3	2.4	2.2	3.3	2.4
AC-FT	106	64	258	233	150	81	56	115	157	153	229	203

CAL YR 1963: TOTAL 894.40 MEAN 2.45 MAX 7.6 MIN - AC-FT 1,770
WAT YR 1964: TOTAL 909.30 MEAN 2.48 MAX 5.6 MIN - AC-FT 1,800

Note.--No gage-height record Mar. 7 to Apr. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.5	.80	3.0	.30	1.3	4.5	2.3	1.7	2.8	5.1	3.2	4.3
2	2.5	.80	3.4	.30	1.2	4.2	2.3	1.7	2.7	5.2	3.5	4.7
3	2.5	.90	3.6	.40	1.3	4.2	2.2	1.8	2.7	5.0	4.0	4.7
4	2.5	1.0	3.6	.40	1.3	4.3	2.2	1.8	3.0	5.0	4.2	4.5
5	2.5	1.0	3.4	.50	1.4	4.3	2.3	1.8	3.0	5.0	3.8	4.6
6	2.5	.90	3.4	.40	1.5	4.3	2.3	2.0	3.2	5.1	3.7	4.6
7	2.6	.90	3.4	.40	1.5	4.4	2.3	3.3	3.1	5.1	3.8	4.4
8	2.6	.90	3.4	.40	1.5	4.1	2.3	3.3	3.0	5.1	3.6	4.9
9	2.7	1.0	3.3	.40	1.4	4.1	2.4	3.2	3.0	5.0	3.3	5.1
10	2.8	1.2	3.2	.40	1.2	4.5	3.0	3.0	3.2	5.0	3.2	5.1
11	2.7	1.1	3.1	.40	1.3	4.0	2.3	2.6	3.9	5.0	3.1	5.1
12	2.6	1.0	3.2	.40	1.3	3.8	2.2	3.6	3.9	5.0	3.1	5.2
13	2.5	1.0	3.0	.40	1.4	3.8	2.2	3.6	3.8	5.0	2.9	4.9
14	2.5	1.0	2.6	.40	1.5	3.8	1.4	3.3	3.6	4.7	2.7	4.6
15	2.5	.90	.50	.40	1.6	3.8	.80	3.5	3.8	4.5	2.6	4.6
16	2.5	.90	.30	.40	1.9	3.6	.80	4.4	4.9	5.1	2.6	4.4
17	2.5	1.0	.20	.40	1.7	3.6	.80	4.6	5.1	5.8	2.3	4.4
18	2.5	1.0	.20	.50	2.1	3.5	.80	4.6	5.2	5.8	2.6	4.5
19	2.5	1.0	.30	.60	2.7	3.5	.80	4.5	5.0	5.0	3.1	4.5
20	2.5	1.1	.40	.80	3.0	3.5	.90	5.6	5.1	4.3	3.9	4.6
21	2.5	1.1	.40	1.1	2.9	3.5	.80	4.9	5.0	4.7	3.8	4.5
22	1.2	1.2	.40	1.1	2.7	3.5	.80	4.1	5.0	4.3	3.5	4.4
23	.90	1.3	.40	1.1	2.6	3.3	.80	3.7	5.0	4.0	3.8	4.4
24	.90	1.4	.30	1.1	2.5	3.2	.80	3.8	5.0	3.9	3.5	4.5
25	.90	1.5	.30	1.0	3.5	3.2	2.7	3.6	5.1	3.8	3.8	4.4
26	.90	2.2	.30	.90	4.5	3.3	2.9	3.5	5.1	3.8	4.1	4.4
27	.90	2.0	.40	1.0	5.7	3.3	2.0	3.4	5.0	3.6	4.0	4.3
28	.90	1.9	.40	1.1	4.7	3.3	1.6	3.5	5.1	3.3	4.1	4.2
29	.90	2.2	.40	1.1	------	3.4	1.6	3.2	5.1	3.3	4.2	4.2
30	.80	2.6	.30	1.2	------	3.3	1.6	3.2	5.0	3.2	4.2	4.2
31	.90	------	.30	1.3	------	2.6	------	2.8	------	3.2	4.4	------
TOTAL	62.70	36.80	51.40	20.60	61.2	115.7	52.20	103.6	124.4	141.9	108.6	137.3
MEAN	2.02	1.23	1.66	.66	2.19	3.73	1.74	3.34	4.15	4.58	3.50	4.58
MAX	2.8	2.6	3.6	1.3	5.7	4.5	3.0	5.6	5.2	5.8	4.4	5.2
MIN	.80	.80	.20	.30	1.2	2.6	.80	1.7	2.7	3.2	2.3	4.2
AC-FT	124	73	102	41	121	229	104	205	247	281	215	272

CAL YR 1964: TOTAL 844.50 MEAN 2.31 MAX 5.4 MIN - AC-FT 1,680
WAT YR 1965: TOTAL 1,016.40 MEAN 2.78 MAX 5.8 MIN .20 AC-FT 2,020

12-4447. Aeneas Lake near Tonasket, Wash.

Location.--Lat 48°40'45", long 119°30'50", in SW¼NW¼ sec.25, T.37 N., R.26 E., on west shore 4 miles southwest of Tonasket.

Drainage area.--32.4 sq mi.

Records available.--February 1964 to September 1965.

Gage.--Staff gage read occasionally. Altitude of gage is 1,390 ft (from topographic map).

Extremes.--Maximum and minimum gage heights, in feet, for February 1964 to September 1965 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1964	Mar. 17, 20, 24, 27, 31, 1964.....	5.26	Sept. 26, 28, 1964.....	1.25
1965	Apr. 16, 1965.....	2.23	Sept. 24, 27, 1965.....	-2.10

1964-65: Maximum gage height observed, 5.26 ft Mar. 17, 20, 24, 27, 31, 1964; minimum observed, -2.10 ft Sept. 24, 27, 1965.

Remarks.--No known regulation. Pumping from lake during irrigation season.

GAGE HEIGHT, IN FEET, FEBRUARY TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1					-	-	-	-	4.14	-	-	-
2					-	-	-	-	-	3.50	-	-
3					-	5.17	5.25	-	-	-	-	-
4					-	-	-	-	4.06	-	-	1.74
5					-	-	-	-	-	-	-	-
6					5.14	5.20	-	-	-	-	-	-
7					5.14	-	-	-	-	-	2.44	1.60
8					-	-	5.24	-	3.96	-	-	-
9					-	-	-	-	-	3.45	-	-
10					-	5.25	-	-	-	-	2.30	-
11					5.14	-	-	-	3.84	-	-	1.50
12					-	-	-	4.78	3.88	-	-	-
13					-	5.25	-	-	-	3.41	-	-
14					5.16	-	-	-	-	-	2.18	-
15					-	-	-	-	3.78	-	-	-
16					-	-	-	-	-	3.23	-	-
17					-	5.26	-	-	-	-	-	-
18					5.16	-	-	-	3.75	-	-	-
19					-	-	-	-	-	-	2.12	-
20					-	5.26	-	-	-	-	-	-
21					5.17	-	-	-	-	-	-	-
22					-	-	-	-	3.70	-	2.08	-
23					-	-	-	-	-	2.97	-	1.25
24					-	5.26	-	-	-	-	-	-
25					5.17	-	-	4.38	3.58	-	-	-
26					-	-	-	-	-	-	2.00	1.25
27					-	5.26	-	-	-	-	1.99	-
28					5.16	-	-	4.20	-	-	-	1.25
29					-	-	-	-	3.54	-	-	-
30					------	-	-	-	-	-	-	-
31		------			------	5.26	------	-	------	-	1.86	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	-	1.46	1.77	1.93	-	-	-	-	-	-
2	1.18	1.12	-	-	-	-	2.09	-	-	.29	-	-
3	-	-	-	-	-	-	-	2.01	-	-	-.76	-1.56
4	-	-	1.36	1.46	-	-	-	-	1.17	-	-	-
5	1.16	-	-	-	1.77	1.97	2.11	-	-	.23	-	-
6	-	1.16	-	-	-	-	-	-	-	-	-	-1.70
7	-	-	1.38	-	-	-	-	1.93	1.13	-	-	-
8	-	-	-	1.46	1.79	1.97	-	-	-	-	-	-
9	1.16	1.18	-	-	-	-	2.13	-	-	.19	-	-
10	-	-	-	-	-	-	-	1.81	-	-	-	-1.90
11	-	-	1.38	1.73	-	-	-	-	.95	-	-	-
12	1.14	-	-	-	1.83	2.67	2.15	-	-	.15	-	-2.04
13	-	1.20	-	-	-	-	-	-	-	-	-	-
14	-	-	1.38	-	-	-	-	1.77	.87	-	-	-2.06
15	-	-	-	1.75	1.78	2.07	-	-	-	-	-	-
16	1.12	1.22	-	-	-	-	2.23	-	-	-	-	-
17	-	-	-	-	-	-	-	1.73	-	-	-	-
18	-	-	1.40	1.75	-	-	-	-	.71	-	-	-2.08
19	1.12	-	-	-	1.87	2.09	2.19	-	-	-	-	-
20	-	1.22	-	-	-	-	-	1.58	.63	-	-1.44	-2.08
21	-	-	1.44	-	-	-	-	-	.57	-	-	-
22	-	-	-	1.75	1.89	2.09	-	-	-	-.33	-	-
23	1.12	1.26	-	-	-	-	2.19	-	-	-	-1.50	-
24	-	-	-	-	-	-	-	1.43	-	-	-	-2.10
25	-	-	1.44	1.75	1.89	-	-	-	.43	-	-	-
26	1.10	-	-	-	1.93	2.09	2.21	-	-	-.40	-	-
27	-	1.24	-	-	-	-	-	-	-	-	-1.50	-2.10
28	1.10	-	1.46	-	-	-	-	1.35	.31	-	-	-
29	-	-	-	1.75	-------	-	-	-	-	-	-	-
30	1.10	1.34	-	-	-------	2.09	2.07	1.23	-	-.50	-1.54	-
31	-	------	-	-	------	-	------	-	------	-	-	------

12-4450. Okanogan River near Tonasket, Wash.

Location.--Lat 48°38'00", long 119°27'50", in lot 3, sec.8, T.36 N., R.27 E., on right bank 1,000 ft upstream from Chewiliken Creek and 5½ miles south of Tonasket.

Drainage area.--7,280 sq mi (revised), approximately.

Records available.--April 1929 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 860.78 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--36 years, 2,951 cfs (2,136,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 6, 1961	22,300	16.59	Sept.19, 1961	782	4.57
1962	May 30, 1962	12,300	12.50	Sept. 9, 1962	614	4.29
1963	May 25, 1963	12,700	12.70	Jan. 31, 1963	a 680	-
1964	June 12, 1964	22,100	16.30	Oct. 21, 1963	852	4.68
1965	June 12, 1965	16,000	14.08	Dec. 18, 1964	a 550	-

a Minimum daily.

1929-65: Maximum discharge, 40,900 cfs May 31, 1948 (gage height, 21.79 ft, from floodmark); minimum recorded, 126 cfs Sept. 5, 1931 (gage height, 3.43 ft).

Remarks.--Records excellent except those for winter periods, which are fair. Diversions above station for irrigation of about 10,700 acres in the United States and 55,000 acres in Canada. Flow affected by regulation of Okanagan and Skaha Lakes and by natural storage in other lakes. Operated as "international gaging station" prior to Feb. 9, 1965.

Cooperation.--This station maintained by the United States under agreement with Canada prior to Feb. 9, 1965.

Revisions (water years).--WSP 862: 1937. WSP 1316: 1934(M), 1938(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	963	1,210	1,000	920	1,120	1,070	1,300	3,180	17,700	4,060	1,380	806
2	956	1,200	1,020	900	1,140	1,070	1,360	4,020	18,700	3,840	1,300	800
3	1,010	1,290	1,080	900	1,140	1,070	1,460	4,500	19,800	3,800	1,240	806
4	1,020	1,320	1,100	920	1,150	1,070	1,700	4,570	21,000	3,550	1,190	878
5	1,040	1,270	1,090	950	1,160	1,030	2,040	4,430	22,000	3,330	1,140	943
6	1,040	1,220	1,010	1,000	1,240	1,010	2,040	4,240	22,200	3,240	1,100	910
7	1,040	1,210	928	1,070	1,210	995	2,000	4,070	22,200	3,470	1,070	872
8	1,040	1,170	914	1,070	1,150	1,010	1,940	3,980	22,100	3,360	1,040	865
9	1,000	1,150	879	1,100	1,160	1,030	1,900	3,980	20,100	3,150	1,000	872
10	1,000	1,140	886	1,090	1,200	1,050	1,880	4,010	17,600	2,880	976	852
11	1,020	1,110	893	1,070	1,200	1,040	1,830	4,320	15,700	2,660	950	839
12	1,080	1,130	942	1,080	1,190	1,050	1,800	4,490	14,500	2,560	936	813
13	1,070	1,160	977	1,070	1,160	1,050	1,790	4,470	14,300	2,510	924	806
14	1,060	1,160	1,020	1,070	1,140	1,050	1,780	4,640	13,500	2,420	904	800
15	1,060	1,140	1,020	1,120	1,140	1,050	1,780	4,800	12,700	2,320	891	794
16	1,070	1,140	980	1,160	1,110	1,060	1,680	4,980	12,600	2,220	891	794
17	1,080	1,140	930	1,050	1,080	1,070	1,640	5,590	12,600	2,140	969	794
18	1,080	1,140	1,000	1,400	1,070	1,090	1,640	6,460	12,500	2,070	988	800
19	1,100	1,120	1,010	1,480	1,050	1,120	1,810	7,430	12,100	2,010	1,110	788
20	1,100	1,140	1,040	1,430	1,040	1,140	1,830	9,260	11,000	1,910	1,120	800
21	1,100	1,150	1,060	1,390	1,030	1,160	1,790	11,300	9,540	1,820	1,050	806
22	1,100	1,150	1,060	1,290	1,030	1,140	1,750	12,800	8,300	1,710	995	806
23	1,100	1,140	1,070	1,200	1,050	1,140	1,730	12,900	7,370	1,640	956	826
24	1,100	1,130	1,060	1,200	1,190	1,120	1,730	13,900	6,750	1,600	917	852
25	1,110	1,090	1,060	1,100	1,210	1,150	1,750	14,100	6,300	1,560	896	872
26	1,230	1,120	1,060	1,050	1,190	1,180	1,880	13,600	5,850	1,490	878	891
27	1,330	1,130	1,040	1,000	1,150	1,220	2,000	14,900	5,410	1,430	865	917
28	1,280	1,100	900	1,000	1,170	1,240	2,110	16,800	4,960	1,390	872	930
29	1,270	1,070	840	1,050	-------	1,240	2,400	17,100	4,520	1,390	852	936
30	1,240	1,020	900	1,120	-------	1,240	2,740	16,100	4,220	1,480	832	943
31	1,240	-------	940	1,130	-------	1,260	-------	16,200	-------	1,500	820	-------
TOTAL	33,929	34,660	30,709	34,380	31,870	34,215	55,080	257,120	398,120	74,510	31,054	25,411
MEAN	1,094	1,155	991	1,109	1,138	1,104	1,836	8,294	13,270	2,404	1,002	847
MAX	1,330	1,320	1,100	1,480	1,240	1,260	2,740	17,100	22,200	4,060	1,380	943
MIN	956	1,020	840	900	1,030	995	1,300	3,180	4,220	1,390	820	788
AC-FT	67,300	68,750	60,910	68,190	63,210	67,860	109,200	510,000	789,700	147,800	61,590	50,400

CAL YR 1960: TOTAL 978,559 MEAN 2,674 MAX 14,000 MIN 840 AC-FT 1,941,000
WAT YR 1961: TOTAL 1,041,058 MEAN 2,852 MAX 22,200 MIN 788 AC-FT 2,065,000

12-4450. Okanogan River near Tonasket, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,020	1,060	1,010	917	1,370	1,040	1,280	4,010	10,000	4,780	1,280	884
2	1,120	1,060	1,020	910	1,340	1,070	1,320	3,930	9,320	4,540	1,210	820
3	1,130	1,050	1,000	917	1,290	1,100	1,370	3,860	9,120	4,260	1,190	776
4	1,100	1,040	982	910	1,350	1,070	1,430	3,820	9,100	3,980	1,230	740
5	1,080	988	976	904	2,660	1,050	1,550	3,690	8,170	3,710	1,280	716
6	1,070	988	962	988	2,810	1,120	1,730	3,550	7,460	3,580	1,520	692
7	1,070	1,000	956	1,180	2,430	1,140	1,850	3,410	7,020	3,620	1,510	674
8	1,140	943	956	1,240	2,270	1,200	1,960	3,230	7,180	3,620	1,420	644
9	1,270	936	956	1,280	2,460	1,210	2,170	3,170	8,240	3,380	1,420	626
10	1,220	982	900	1,400	2,510	1,140	2,120	3,170	8,960	3,320	1,420	632
11	1,250	976	700	1,350	2,280	1,120	2,060	3,240	8,620	3,220	1,340	626
12	1,280	969	720	1,300	2,060	1,080	1,980	3,410	8,000	3,090	1,280	632
13	1,330	1,070	740	1,200	1,960	1,070	1,910	3,470	7,610	2,900	1,260	668
14	1,280	1,090	760	1,000	1,930	1,060	1,920	3,550	7,630	2,720	1,200	746
15	1,380	1,050	780	900	1,840	1,050	2,040	3,600	8,000	2,580	1,140	758
16	1,520	1,060	820	800	1,770	1,050	2,380	3,710	8,580	2,430	1,100	758
17	1,450	1,070	860	800	1,700	1,060	2,810	3,770	9,640	2,300	1,040	782
18	1,360	1,040	900	850	1,650	1,060	2,950	4,020	9,700	2,210	1,000	806
19	1,340	976	900	800	1,600	1,060	3,060	4,330	8,980	2,170	969	813
20	1,320	924	900	750	1,550	1,070	3,730	4,350	8,530	2,050	943	832
21	1,270	917	920	700	1,480	1,090	4,240	4,490	8,170	1,900	936	838
22	1,230	924	943	800	1,390	1,100	4,210	4,880	7,790	1,800	910	820
23	1,200	917	943	900	1,330	1,100	4,170	5,320	7,370	1,730	891	806
24	1,160	891	962	1,000	1,200	1,120	4,380	5,770	7,040	1,670	891	800
25	1,150	850	900	1,100	1,150	1,130	4,770	7,460	6,890	1,630	878	806
26	1,140	800	800	1,200	1,100	1,140	4,840	9,900	6,890	1,560	846	826
27	1,140	776	830	1,340	1,000	1,200	4,670	11,200	6,720	1,540	806	852
28	1,120	800	865	1,400	1,000	1,240	4,520	12,000	5,980	1,480	806	917
29	1,120	813	917	1,410	------	1,250	4,380	12,200	5,380	1,470	806	943
30	1,110	976	943	1,380	------	1,260	4,190	11,900	5,040	1,400	852	943
31	1,080	------	930	1,380	------	1,270	------	10,700	------	1,330	898	------
TOTAL	37,450	28,936	27,751	33,006	48,520	34,720	85,890	169,110	237,750	81,990	34,272	23,177
MEAN	1,208	965	895	1,065	1,733	1,120	2,963	5,455	7,925	2,645	1,106	773
MAX	1,520	1,090	1,020	1,410	2,810	1,270	4,840	12,200	10,000	4,780	1,520	943
MIN	1,020	776	700	700	1,000	1,040	1,280	3,170	5,040	1,330	806	626
AC-FT	74,280	57,390	55,040	65,470	96,240	68,870	170,400	335,400	471,600	162,600	67,980	45,970

CAL YR 1961: TOTAL 1,035,897 MEAN 2,838 MAX 22,200 MIN 700 AC-FT 2,055,000
WAT YR 1962: TOTAL 842,572 MEAN 2,309 MAX 12,200 MIN 626 AC-FT 1,671,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	950	1,020	1,470	1,480	700	1,630	1,170	2,550	11,800	4,540	1,830	1,260
2	1,020	1,000	1,480	1,510	750	1,550	1,140	2,650	10,800	4,780	1,940	1,260
3	1,070	988	1,460	1,500	878	1,480	1,120	2,610	9,640	4,570	2,040	1,320
4	1,050	982	1,450	1,460	950	1,450	1,100	2,510	8,720	4,590	1,850	1,460
5	1,020	976	1,400	1,450	1,070	1,380	1,110	2,410	8,260	4,610	1,700	1,390
6	1,010	936	1,400	1,390	1,210	1,330	1,140	2,410	8,550	4,530	1,520	1,270
7	1,010	930	1,430	1,330	2,100	1,350	1,150	2,480	8,110	4,390	1,400	1,200
8	1,000	969	1,630	1,280	2,540	1,280	1,240	2,510	7,930	4,360	1,330	1,140
9	982	976	1,720	1,260	2,450	1,260	1,280	2,500	7,550	4,570	1,270	1,090
10	969	962	1,920	962	2,510	1,250	1,240	2,460	7,410	5,120	1,210	1,060
11	956	995	1,900	880	2,400	1,240	1,230	2,440	7,280	5,060	1,150	1,010
12	982	982	1,780	820	2,180	1,220	1,210	2,400	7,440	4,840	1,120	1,000
13	1,000	976	1,720	840	1,990	1,200	1,230	2,490	8,020	4,640	1,080	1,040
14	1,000	969	1,640	950	1,880	1,200	1,240	2,620	7,910	4,330	1,160	1,050
15	982	950	1,600	1,120	1,800	1,180	1,290	2,820	7,530	4,080	1,680	1,080
16	982	950	1,610	1,270	1,830	1,210	1,480	3,110	7,350	4,020	1,720	1,280
17	982	950	1,690	1,380	1,750	1,190	1,750	3,300	7,260	3,880	1,480	1,280
18	950	936	1,870	1,390	1,750	1,160	1,760	3,580	7,010	3,630	1,320	1,240
19	936	924	1,800	1,180	1,700	1,130	1,720	4,340	6,580	3,340	1,250	1,220
20	930	950	1,710	1,210	1,680	1,140	1,710	5,480	6,100	3,080	1,420	1,190
21	962	3,420	1,660	1,140	1,640	1,130	1,680	7,250	5,540	2,860	1,730	1,150
22	1,010	3,540	1,620	1,060	1,630	1,120	1,660	9,440	5,120	2,670	1,630	1,120
23	1,100	2,730	1,650	950	1,550	1,160	1,660	11,200	4,870	2,620	1,500	1,100
24	1,280	2,280	1,600	900	1,520	1,240	1,690	12,300	5,110	2,630	1,460	1,120
25	1,270	1,960	1,470	880	1,500	1,270	1,730	12,500	4,900	2,580	1,400	1,210
26	1,210	1,940	1,250	850	1,470	1,240	1,760	11,800	4,520	2,500	1,400	1,220
27	1,150	1,960	1,160	800	1,480	1,230	1,810	11,500	4,150	2,290	1,420	1,160
28	1,110	1,920	1,340	760	1,400	1,210	1,860	11,100	3,900	2,100	1,490	1,120
29	1,090	1,720	1,330	730	------	1,210	1,940	11,000	3,820	1,960	1,390	1,070
30	1,070	1,580	1,490	700	------	1,240	2,170	11,500	4,100	1,830	1,360	1,050
31	1,040	------	1,470	680	------	1,200	------	11,800	------	1,780	1,310	------
TOTAL	32,073	42,371	48,720	34,112	46,308	39,080	44,280	179,160	207,280	112,780	45,560	35,160
MEAN	1,035	1,412	1,572	1,100	1,654	1,261	1,476	5,779	6,909	3,638	1,470	1,172
MAX	1,280	3,540	1,920	1,510	2,540	1,630	2,170	12,500	11,800	5,120	2,040	1,460
MIN	930	924	1,160	680	700	1,120	1,100	2,400	3,820	1,780	1,080	1,000
AC-FT	63,620	84,040	96,630	67,660	91,850	77,510	87,830	355,400	411,100	223,700	90,370	69,740

CAL YR 1962: TOTAL 871,599 MEAN 2,388 MAX 12,200 MIN 626 AC-FT 1,729,000
WAT YR 1963: TOTAL 866,884 MEAN 2,375 MAX 12,500 MIN 680 AC-FT 1,719,000

12-4450. Okanogan River near Tonasket, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,050	1,520	1,950	1,740	1,240	1,360	1,330	2,100	14,200	8,210	3,060	1,670
2	1,040	1,500	1,820	1,970	1,200	1,390	1,400	2,140	15,600	8,210	2,970	2,070
3	1,030	1,480	1,790	2,060	1,190	1,380	1,530	2,160	17,500	8,780	2,870	2,150
4	1,010	1,480	1,760	2,010	1,270	1,390	1,550	2,150	19,500	11,600	2,740	2,030
5	995	1,420	1,750	1,930	1,300	1,420	1,550	2,170	19,600	11,300	2,720	1,980
6	1,000	1,410	1,810	1,880	1,300	1,480	1,560	2,250	19,700	10,900	2,710	1,870
7	1,030	1,410	1,960	1,820	1,330	1,460	1,560	2,280	20,100	10,200	2,570	1,800
8	1,040	1,410	1,860	1,820	1,300	1,400	1,560	2,290	20,400	9,600	2,420	1,760
9	1,040	1,400	1,660	1,640	1,330	1,350	1,600	2,480	20,400	10,000	2,290	1,740
10	1,030	1,400	1,690	1,640	1,280	1,340	1,660	2,890	21,400	10,000	2,220	1,820
11	1,010	1,370	1,480	1,700	1,280	1,220	1,780	3,470	21,800	8,760	2,160	1,850
12	1,000	1,350	1,470	1,570	1,260	1,190	1,890	3,790	22,000	7,870	2,110	1,840
13	995	1,310	1,570	1,520	1,240	1,180	2,000	3,880	21,600	7,570	2,000	1,780
14	982	1,350	1,700	1,480	1,240	1,160	2,000	4,110	20,100	7,210	1,960	1,750
15	976	1,400	1,660	1,490	1,260	1,140	2,000	4,140	19,000	6,710	1,910	1,700
16	976	1,470	1,620	1,470	1,260	1,140	2,010	4,240	18,300	6,280	1,850	1,660
17	988	1,490	1,600	1,470	1,260	1,040	2,020	4,550	18,100	5,910	1,770	1,650
18	962	1,460	1,480	1,450	1,300	1,010	2,000	5,330	18,700	6,010	1,740	1,630
19	936	1,440	1,400	1,400	1,300	1,010	1,970	6,360	17,300	5,000	1,750	1,670
20	930	1,380	1,350	1,400	1,260	1,040	1,950	7,480	16,000	4,690	1,670	1,750
21	910	1,260	1,370	1,330	1,290	1,040	2,000	8,940	14,400	4,350	1,680	1,750
22	924	1,100	1,380	1,330	1,330	1,060	2,080	9,200	13,200	4,150	1,640	2,080
23	1,910	1,100	1,330	1,280	1,360	1,070	2,050	8,380	12,100	4,000	1,580	2,120
24	2,880	1,330	1,310	1,280	1,360	1,140	2,050	7,800	12,000	3,820	1,520	2,150
25	2,290	1,380	2,080	1,260	1,360	1,240	2,010	7,350	12,000	3,620	1,470	2,040
26	2,110	1,380	2,620	1,340	1,300	1,280	2,020	6,830	11,200	3,470	1,430	1,970
27	1,970	1,540	2,320	1,300	1,350	1,280	2,100	6,790	10,700	3,270	1,390	2,070
28	1,820	3,300	2,080	1,300	1,360	1,280	2,110	7,280	10,500	3,120	1,430	2,040
29	1,710	2,730	1,960	1,280	1,350	1,270	2,090	8,680	9,420	3,000	1,470	1,940
30	1,640	2,260	1,860	1,270	------	1,260	2,120	10,800	8,420	2,900	1,580	1,860
31	1,580	------	1,720	1,260	------	1,280	------	12,600	------	2,960	1,590	------
TOTAL	39,764	45,830	53,410	47,690	37,550	38,300	55,550	164,940	495,240	203,470	62,270	56,190
MEAN	1,283	1,528	1,723	1,538	1,295	1,235	1,852	5,321	16,510	6,564	2,009	1,873
MAX	2,880	3,300	2,620	2,060	1,360	1,480	2,120	12,600	22,000	11,600	3,060	2,150
MIN	910	1,100	1,310	1,260	1,190	1,010	1,330	2,100	8,420	2,900	1,390	1,630
AC-FT	78,870	90,900	105,900	94,590	74,480	75,970	110,200	327,200	982,300	403,600	123,500	111,500

CAL YR 1963: TOTAL 882,724 MEAN 2,418 MAX 12,500 MIN 680 AC-FT 1,751,000
WAT YR 1964: TOTAL 1,300,204 MEAN 3,552 MAX 22,000 MIN 910 AC-FT 2,579,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,870	1,800	1,080	950	1,000	1,660	1,560	6,400	13,900	4,720	1,490	1,220
2	2,130	1,840	1,130	1,000	950	1,620	1,600	5,960	12,800	4,530	1,390	1,170
3	2,300	1,810	1,330	1,100	1,000	1,590	1,670	5,550	13,500	4,530	1,340	1,120
4	2,560	1,800	1,400	1,150	1,090	1,590	1,680	5,300	14,700	4,560	1,160	1,080
5	2,450	1,730	1,350	1,150	1,090	1,590	1,670	5,080	14,700	4,490	1,200	1,080
6	2,250	1,700	1,300	1,150	1,080	1,590	1,770	4,840	14,800	4,380	1,250	1,090
7	2,170	1,680	1,240	1,150	1,100	1,590	1,760	4,620	15,200	4,080	1,200	1,070
8	2,140	1,650	1,190	1,150	1,120	1,590	1,750	4,490	14,400	3,850	1,160	1,040
9	2,170	1,630	1,130	1,120	1,110	1,590	1,740	4,600	13,800	3,710	1,120	1,020
10	2,350	1,590	1,150	1,120	1,100	1,600	1,830	4,840	13,900	3,420	1,080	988
11	2,460	1,590	1,200	1,120	1,080	1,630	1,830	5,510	14,400	3,190	1,040	928
12	2,400	1,560	1,170	1,120	1,050	1,630	1,820	5,830	15,500	3,090	1,090	916
13	2,260	1,360	1,120	1,100	1,070	1,450	1,810	6,730	15,500	2,910	1,100	934
14	2,160	1,300	1,080	1,080	1,100	1,480	1,840	7,510	13,500	2,720	1,050	940
15	2,090	1,270	1,070	1,070	1,150	1,510	1,920	7,910	12,000	2,590	1,070	982
16	2,080	1,280	700	1,070	1,260	1,560	1,950	8,210	11,000	2,490	1,060	1,090
17	2,070	1,260	600	1,080	1,360	1,610	2,080	8,630	10,500	2,410	954	1,320
18	2,020	1,280	550	1,100	1,360	1,610	2,150	8,320	10,700	2,290	940	1,440
19	1,980	1,260	600	1,150	1,420	1,550	2,220	7,750	10,900	2,170	882	1,370
20	1,940	1,260	750	1,170	1,630	1,520	2,270	7,690	10,300	2,080	872	1,330
21	1,920	1,250	900	1,170	1,700	1,590	2,320	7,890	9,690	2,040	860	1,320
22	1,910	1,220	1,000	1,150	1,740	1,650	2,440	8,100	8,650	2,010	877	1,310
23	1,870	1,200	1,050	1,120	1,740	1,630	2,630	8,380	7,960	2,000	982	1,290
24	1,840	1,190	1,000	1,080	1,700	1,590	2,770	8,960	7,460	1,920	1,010	1,260
25	1,810	1,190	950	1,050	1,650	1,550	3,000	8,940	7,280	1,840	1,230	1,250
26	1,790	1,270	800	900	1,630	1,520	3,310	9,460	6,880	1,740	1,590	1,230
27	1,780	1,260	900	950	1,670	1,550	3,720	10,900	6,490	1,680	1,510	1,210
28	1,740	1,220	950	1,050	1,670	1,550	4,530	12,000	5,900	1,670	1,450	1,200
29	1,670	1,160	1,050	1,100	------	1,550	5,880	13,600	5,360	1,720	1,360	1,220
30	1,690	1,090	1,050	1,050	------	1,540	6,490	15,200	4,980	1,670	1,300	1,220
31	1,720	------	1,000	1,000	------	1,550	------	15,300	------	1,560	1,260	------
TOTAL	63,590	42,700	31,790	33,720	36,620	48,830	74,010	244,500	336,650	88,060	35,917	34,638
MEAN	2,051	1,423	1,025	1,088	1,308	1,575	2,467	7,887	11,220	2,841	1,159	1,155
MAX	2,560	1,840	1,400	1,170	1,740	1,660	6,490	15,300	15,500	4,720	1,590	1,440
MIN	1,670	1,090	550	900	950	1,450	1,560	4,490	4,980	1,560	860	916
AC-FT	126,100	84,690	63,050	66,880	72,630	96,850	146,800	485,000	667,700	174,700	71,240	68,700

CAL YR 1964: TOTAL 1,299,280 MEAN 3,550 MAX 22,000 MIN 550 AC-FT 2,577,000
WAT YR 1965: TOTAL 1,071,025 MEAN 2,934 MAX 15,500 MIN 550 AC-FT 2,124,000

12-4473. Okanogan River near Malott, Wash.

Location.--Lat 48°14'20", long 119°43'50", in SE¼ sec.30 T.32 N., R.25 E., on left bank 2 miles downstream from Chilliwist Creek, 4 miles southwest of Malott, and 13 miles upstream from mouth.

Drainage area.--8,220 sq mi (revised), approximately.

Records available.--April 1958 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, supplementary adjustment of 1947.

Average discharge.--7 years, 3,165 cfs (2,291,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 7, 1961	23,700	791.91	Sept.18, 1961	821	788.81
1962	May 30, 1962	12,700	787.00	Sept.11, 1962	684	778.57
1963	May 25, 1963	13,000	787.13	Jan. 31, Feb. 1	a 800	b 779.00
1964	June 13, 1964	22,300	791.47	Oct. 21, 1963	963	779.09
1965	June 13, 1965	16,300	788.89	Dec. 18, 1964	a 600	-

a Minimum daily.
b Occurred Jan. 10, 1963.

1958-65: Maximum discharge, 23,700 cfs June 7, 1961 (elevation, 791.91 ft); minimum daily, 600 cfs Dec. 18, 1964.

Remarks.--Records excellent except those for winter periods, which are fair. Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,090	1,370	1,170	900	1,380	1,190	1,480	3,260	18,100	4,240	1,490	863
2	1,080	1,340	1,170	900	1,390	1,180	1,540	3,880	19,200	4,050	1,400	857
3	1,080	1,310	1,170	930	1,300	1,160	1,590	4,540	20,300	3,880	1,330	857
4	1,120	1,430	1,230	950	1,300	1,180	1,730	4,790	21,600	3,800	1,270	863
5	1,140	1,430	1,240	1,000	1,310	1,150	2,000	4,730	22,800	3,540	1,230	927
6	1,150	1,370	1,220	1,050	1,430	1,130	2,210	4,510	23,500	3,340	1,190	998
7	1,160	1,340	1,140	1,100	1,450	1,110	2,180	4,310	23,600	3,390	1,150	953
8	1,170	1,300	1,070	1,150	1,340	1,090	2,110	4,170	23,600	3,540	1,130	914
9	1,150	1,280	1,020	1,200	1,340	1,100	2,060	4,130	22,600	3,320	1,100	914
10	1,130	1,260	1,000	1,220	1,380	1,140	2,020	4,190	19,700	3,110	1,060	914
11	1,130	1,260	1,000	1,200	1,380	1,160	2,000	4,310	17,800	2,860	1,040	888
12	1,160	1,220	1,020	1,190	1,410	1,160	1,980	4,610	16,000	2,670	1,010	875
13	1,200	1,260	1,040	1,190	1,330	1,150	1,960	4,630	15,500	2,560	992	863
14	1,200	1,280	1,070	1,180	1,300	1,160	1,950	4,690	14,900	2,500	986	851
15	1,190	1,270	1,080	1,220	1,300	1,200	1,930	4,890	13,900	2,430	966	845
16	1,200	1,240	1,050	1,340	1,280	1,220	1,900	4,990	13,500	2,330	966	845
17	1,200	1,250	1,050	1,280	1,240	1,210	1,820	5,360	13,500	2,250	972	839
18	1,200	1,260	1,050	1,300	1,200	1,200	1,800	6,150	13,400	2,180	1,030	845
19	1,200	1,250	1,070	1,540	1,190	1,230	1,840	7,110	13,100	2,120	1,040	845
20	1,210	1,270	1,100	1,590	1,160	1,320	1,880	8,610	12,200	2,030	1,160	845
21	1,220	1,290	1,160	1,530	1,170	1,350	1,880	10,900	10,700	1,940	1,160	851
22	1,220	1,300	1,200	1,460	1,200	1,330	1,940	12,800	9,230	1,830	1,100	863
23	1,220	1,300	1,230	1,370	1,150	1,320	1,920	13,500	8,090	1,740	1,030	875
24	1,210	1,300	1,210	1,300	1,200	1,300	1,930	14,000	7,290	1,710	992	894
25	1,210	1,280	1,200	1,100	1,340	1,300	1,940	14,900	6,760	1,630	953	920
26	1,220	1,250	1,200	1,040	1,320	1,340	2,030	14,500	6,250	1,560	934	960
27	1,380	1,260	1,200	1,000	1,300	1,380	2,200	14,900	5,780	1,520	920	979
28	1,460	1,260	1,050	1,000	1,250	1,400	2,350	16,900	5,340	1,460	914	1,000
29	1,400	1,240	900	1,100	------	1,420	2,560	18,100	4,830	1,430	914	1,020
30	1,380	1,200	930	1,160	------	1,430	2,970	17,300	4,480	1,410	882	1,030
31	1,370	------	940	1,270	------	1,450	------	16,800	------	1,500	863	------
TOTAL	37,450	38,670	34,180	36,760	36,340	38,460	59,700	262,460	427,550	77,870	33,174	26,993
MEAN	1,208	1,289	1,103	1,186	1,298	1,241	1,990	8,466	14,250	2,512	1,070	900
MAX	1,460	1,430	1,240	1,590	1,450	1,450	2,970	18,100	23,600	4,240	1,490	1,030
MIN	1,080	1,200	900	900	1,150	1,090	1,480	3,260	4,480	1,410	863	839
AC-FT	74,280	76,700	67,800	72,910	72,080	76,280	118,400	520,600	848,000	154,500	65,800	53,540

CAL YR 1960: TOTAL 1,000,980 MEAN 2,735 MAX 13,900 MIN 900 AC-FT 1,985,000
WAT YR 1961: TOTAL 1,109,607 MEAN 3,040 MAX 23,600 MIN 839 AC-FT 2,201,000

12-4473. Okanogan River near Malott, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,030	1,180	1,030	1,030	1,940	1,150	1,380	4,120	10,700	4,940	1,350	946
2	1,140	1,150	1,120	1,000	1,950	1,230	1,400	3,960	10,100	4,700	1,280	914
3	1,200	1,150	1,120	1,000	1,910	1,250	1,450	3,840	9,540	4,440	1,240	845
4	1,210	1,140	1,090	1,000	1,870	1,230	1,500	3,830	9,660	4,190	1,260	815
5	1,190	1,120	1,080	1,000	1,980	1,230	1,580	3,720	8,900	3,860	1,250	785
6	1,180	1,080	1,070	1,050	3,520	1,280	1,710	3,630	7,990	3,670	1,360	755
7	1,170	1,120	1,060	1,170	3,530	1,240	1,900	3,460	7,400	3,620	1,600	755
8	1,170	1,090	1,060	1,360	3,190	1,260	1,960	3,310	7,230	3,650	1,510	744
9	1,270	1,040	1,050	1,360	3,070	1,240	2,130	3,200	8,080	3,560	1,470	711
10	1,370	1,080	880	1,350	2,800	1,300	2,250	3,160	9,190	3,370	1,470	694
11	1,310	1,090	780	1,300	2,500	1,260	2,210	3,190	9,140	3,280	1,420	694
12	1,280	1,080	790	1,200	2,300	1,210	2,130	3,350	8,510	3,160	1,370	694
13	1,430	1,030	800	1,100	2,200	1,180	2,070	3,490	8,130	3,030	1,310	700
14	1,420	1,200	920	1,000	2,100	1,180	2,030	3,530	8,150	2,850	1,280	728
15	1,380	1,170	840	950	2,000	1,170	2,080	3,600	8,290	2,690	1,220	803
16	1,550	1,140	980	900	1,950	1,180	2,260	3,630	8,520	2,560	1,170	815
17	1,590	1,180	920	900	1,850	1,200	2,670	3,750	9,620	2,420	1,120	821
18	1,520	1,140	960	950	1,830	1,210	2,920	3,840	10,200	2,300	1,080	845
19	1,460	1,100	960	900	1,770	1,210	2,950	4,190	9,640	2,230	1,040	863
20	1,460	1,050	980	850	1,710	1,200	3,300	4,340	9,030	2,190	1,000	863
21	1,410	1,000	1,000	800	1,640	1,200	3,990	4,340	8,610	2,020	986	875
22	1,370	1,060	1,020	1,000	1,600	1,230	4,230	4,650	8,220	1,920	960	908
23	1,330	1,020	1,020	1,200	1,500	1,220	4,140	5,080	7,750	1,830	927	863
24	1,300	986	1,000	1,400	1,430	1,230	4,190	5,530	7,340	1,760	914	857
25	1,260	920	950	1,600	1,300	1,260	4,510	6,600	7,110	1,710	920	857
26	1,250	880	900	1,800	1,200	1,270	4,840	9,170	7,020	1,640	901	875
27	1,260	840	900	2,100	1,100	1,290	4,800	11,000	6,990	1,600	875	882
28	1,240	800	950	2,140	1,100	1,320	4,630	12,000	6,440	1,640	851	840
29	1,220	850	1,000	2,160	------	1,350	4,440	12,500	5,700	1,540	839	1,020
30	1,210	933	1,030	2,090	------	1,360	4,280	12,600	5,200	1,490	845	1,030
31	1,200	------	1,050	1,980	------	1,370	------	11,700	------	1,440	882	------
TOTAL	40,380	31,699	30,170	39,670	56,880	38,520	85,930	168,310	248,400	85,300	35,700	24,897
MEAN	1,303	1,057	973	1,280	2,031	1,243	2,864	5,429	8,280	2,752	1,152	830
MAX	1,590	1,200	1,120	2,160	3,530	1,370	4,840	12,600	10,700	4,940	1,600	1,030
MIN	1,030	800	780	800	1,100	1,150	1,380	3,160	5,200	1,440	839	694
AC-FT	80,090	62,870	59,840	78,690	112,800	76,400	170,400	333,800	492,700	169,200	70,810	49,380

CAL YR 1961: TOTAL 1,101,556 MEAN 3,018 MAX 23,600 MIN 780 AC-FT 2,185,000
WAT YR 1962: TOTAL 885,856 MEAN 2,427 MAX 12,600 MIN 694 AC-FT 1,757,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,030	1,140	1,660	1,620	800	1,790	1,340	2,490	12,300	4,280	1,910	1,360
2	1,070	1,120	1,590	1,620	840	1,730	1,300	2,730	11,800	4,750	1,920	1,340
3	1,120	1,110	1,590	1,650	900	1,660	1,260	2,750	10,500	4,690	2,090	1,320
4	1,160	1,100	1,540	1,620	1,000	1,610	1,250	2,710	9,450	4,560	2,060	1,430
5	1,140	1,080	1,550	1,590	1,100	1,570	1,240	2,600	8,650	4,610	1,900	1,520
6	1,140	1,080	1,520	1,570	1,300	1,490	1,270	2,550	8,720	4,590	1,740	1,430
7	1,120	1,040	1,530	1,510	1,610	1,470	1,320	2,570	8,610	4,470	1,560	1,320
8	1,130	1,040	1,580	1,450	2,860	1,480	1,340	2,620	8,250	4,370	1,460	1,250
9	1,140	1,080	1,790	1,410	3,320	1,400	1,410	2,630	7,920	4,400	1,400	1,200
10	1,100	1,080	1,880	1,260	3,230	1,380	1,430	2,590	7,650	4,920	1,340	1,160
11	1,100	1,070	2,020	1,100	3,220	1,360	1,390	2,590	7,550	5,110	1,270	1,140
12	1,120	1,120	1,980	1,000	3,040	1,350	1,380	2,550	7,500	4,920	1,220	1,090
13	1,140	1,100	1,880	1,000	2,720	1,340	1,380	2,560	7,510	4,760	1,200	1,080
14	1,140	1,080	1,840	1,050	2,500	1,330	1,380	2,670	8,310	4,440	1,140	1,130
15	1,100	1,080	1,760	1,150	2,360	1,320	1,460	2,840	7,870	4,190	1,340	1,140
16	1,090	1,080	1,750	1,400	2,280	1,300	1,570	3,080	7,580	4,090	1,840	1,200
17	1,090	1,070	1,750	1,450	2,300	1,310	1,770	3,350	7,530	3,960	1,720	1,410
18	1,080	1,050	1,910	1,500	2,190	1,300	1,970	3,530	7,280	3,750	1,510	1,380
19	1,050	1,030	1,990	1,400	1,920	1,270	1,950	4,000	6,870	3,530	1,370	1,320
20	1,030	1,030	1,910	1,300	1,870	1,240	1,950	4,920	6,460	3,230	1,330	1,300
21	1,030	1,250	1,820	1,200	1,820	1,260	1,910	6,420	5,900	3,040	1,570	1,280
22	1,070	4,020	1,770	1,150	1,780	1,240	1,900	8,610	5,380	2,850	1,800	1,240
23	1,110	3,070	1,750	1,100	1,740	1,260	1,870	10,800	5,000	2,710	1,660	1,220
24	1,220	2,560	1,780	1,050	1,690	1,280	1,870	12,200	5,050	2,650	1,560	1,210
25	1,380	2,210	1,640	1,000	1,660	1,380	1,900	12,800	5,050	2,690	1,520	1,240
26	1,370	2,010	1,450	950	1,640	1,390	1,920	12,400	4,730	2,580	1,490	1,330
27	1,300	2,010	1,300	920	1,630	1,370	1,960	12,000	4,350	2,490	1,490	1,320
28	1,230	2,050	1,400	880	1,640	1,390	2,000	11,700	4,060	2,330	1,540	1,250
29	1,210	1,940	1,500	840	------	1,370	2,050	11,500	3,860	2,140	1,550	1,230
30	1,190	1,810	1,550	820	------	1,390	2,180	11,700	3,920	2,020	1,470	1,180
31	1,170	------	1,690	800	------	1,380	------	12,200	------	1,920	1,430	------
TOTAL	35,370	44,510	52,670	38,360	54,960	43,410	48,920	180,660	216,010	115,040	48,400	38,020
MEAN	1,141	1,484	1,699	1,237	1,963	1,400	1,631	5,828	7,200	3,711	1,561	1,267
MAX	1,380	4,020	2,020	1,650	3,320	1,790	2,180	12,800	12,300	5,110	2,090	1,520
MIN	1,030	1,030	1,300	800	800	1,240	1,240	2,490	3,860	1,920	1,140	1,080
AC-FT	70,160	88,280	104,500	76,090	109,000	86,100	97,030	358,300	428,400	228,200	96,000	75,410

CAL YR 1962: TOTAL 916,157 MEAN 2,510 MAX 12,600 MIN 694 AC-FT 1,817,000
WAT YR 1963: TOTAL 916,330 MEAN 2,510 MAX 12,800 MIN 800 AC-FT 1,818,000

12-4473. Okanogan River near Malott, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,140	1,670	2,240	1,810	1,300	1,420	1,380	2,150	13,800	8,570	2,960	1,550
2	1,140	1,640	2,010	1,900	1,300	1,440	1,460	2,200	15,100	8,550	2,960	1,700
3	1,140	1,600	1,950	2,060	1,280	1,440	1,500	2,230	16,900	8,580	2,850	2,090
4	1,120	1,590	1,900	2,120	1,280	1,440	1,600	2,230	18,900	10,500	2,730	2,000
5	1,110	1,570	1,890	2,020	1,370	1,460	1,570	2,230	19,800	12,000	2,630	1,950
6	1,100	1,550	1,880	1,990	1,380	1,490	1,560	2,260	19,800	11,200	2,640	1,850
7	1,120	1,530	1,900	2,000	1,420	1,520	1,570	2,340	20,000	10,800	2,600	1,800
8	1,140	1,530	1,800	1,900	1,430	1,490	1,620	2,360	20,600	10,000	2,430	1,780
9	1,140	1,510	1,800	1,800	1,370	1,460	1,650	2,390	20,600	10,100	2,300	1,730
10	1,140	1,510	1,700	1,800	1,400	1,410	1,680	2,630	21,100	10,300	2,190	1,740
11	1,120	1,500	1,700	1,790	1,390	1,390	1,750	3,080	21,900	9,680	2,140	1,820
12	1,110	1,480	1,700	1,740	1,380	1,300	1,840	3,550	22,000	8,410	2,090	1,820
13	1,100	1,460	1,800	1,660	1,340	1,260	1,930	3,740	22,200	7,820	1,990	1,810
14	1,080	1,450	1,900	1,590	1,300	1,240	2,020	3,830	21,300	7,550	1,920	1,760
15	1,060	1,490	1,900	1,570	1,310	1,220	2,030	4,040	19,900	7,040	1,860	1,740
16	1,060	1,530	1,800	1,580	1,320	1,220	2,020	4,000	19,300	6,560	1,840	1,690
17	1,070	1,560	1,800	1,560	1,320	1,200	2,030	4,130	18,600	6,220	1,770	1,660
18	1,080	1,590	1,700	1,550	1,340	1,090	2,030	4,600	19,200	5,700	1,730	1,640
19	1,050	1,600	1,600	1,510	1,380	1,060	2,010	5,610	18,600	5,200	1,710	1,640
20	1,030	1,530	1,600	1,460	1,370	1,080	1,980	6,640	17,200	4,900	1,680	1,740
21	998	1,470	1,600	1,490	1,340	1,100	1,970	8,060	15,700	4,530	1,630	1,750
22	1,000	1,350	1,500	1,440	1,380	1,100	2,030	9,060	14,200	4,240	1,610	1,850
23	1,000	1,250	1,500	1,420	1,400	1,140	2,080	8,860	13,100	4,070	1,560	2,120
24	2,460	1,280	1,500	1,380	1,440	1,140	2,080	8,160	12,500	3,860	1,500	2,140
25	2,650	1,490	1,500	1,380	1,430	1,220	2,040	7,680	12,600	3,690	1,460	2,120
26	2,270	1,520	1,900	1,260	1,440	1,310	2,030	7,170	12,000	3,470	1,420	2,020
27	2,170	1,500	2,400	1,370	1,440	1,350	2,060	6,870	11,200	3,320	1,390	2,010
28	2,080	2,240	2,400	1,400	1,420	1,360	2,140	7,200	10,500	3,120	1,380	2,110
29	1,880	3,160	2,200	1,400	1,420	1,340	2,140	8,240	10,300	2,990	1,420	2,020
30	1,800	2,610	2,100	1,300	------	1,350	2,120	10,300	9,200	2,880	1,450	1,930
31	1,740	------	2,000	1,300	------	1,350	------	12,100	------	2,860	1,540	------
TOTAL	42,018	48,760	57,170	50,550	39,690	40,390	55,920	159,950	508,500	208,710	61,380	55,620
MEAN	1,355	1,625	1,844	1,631	1,369	1,303	1,864	5,160	16,950	6,733	1,980	1,854
MAX	2,650	3,160	2,400	2,120	1,440	1,520	2,140	12,100	22,200	12,000	2,960	2,140
MIN	998	1,250	1,500	1,260	1,280	1,060	1,380	2,150	9,200	2,860	1,380	1,550
AC-FT	83,340	96,710	113,400	100,300	78,720	80,110	110,900	317,300	1,009M	414,000	121,700	110,300

CAL YR 1963: TOTAL 931,728 MEAN 2,553 MAX 12,800 MIN 800 AC-FT 1,848,000
WAT YR 1964: TOTAL 1,328,658 MEAN 3,630 MAX 22,200 MIN 998 AC-FT 2,635,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,900	1,760	1,170	1,000	1,100	1,790	1,690	6,500	14,800	4,920	1,590	1,320
2	1,920	1,830	1,150	1,100	1,050	1,780	1,710	6,320	13,400	4,700	1,510	1,290
3	2,280	1,860	1,240	1,150	1,050	1,730	1,760	5,880	13,300	4,640	1,430	1,240
4	2,340	1,850	1,440	1,200	1,150	1,710	1,810	5,550	14,400	4,700	1,350	1,180
5	2,580	1,810	1,460	1,200	1,150	1,710	1,820	5,300	15,000	4,620	1,200	1,140
6	2,390	1,750	1,400	1,200	1,150	1,710	1,800	5,080	15,000	4,550	1,260	1,140
7	2,220	1,740	1,360	1,150	1,150	1,710	1,830	4,850	15,300	4,320	1,290	1,140
8	2,170	1,720	1,310	1,150	1,200	1,710	1,880	4,690	15,100	4,010	1,230	1,120
9	2,170	1,700	1,250	1,150	1,200	1,720	1,880	4,600	14,200	3,820	1,190	1,090
10	2,240	1,680	1,210	1,150	1,150	1,740	1,930	4,770	14,100	3,630	1,140	1,060
11	2,420	1,630	1,230	1,150	1,150	1,760	1,970	5,230	14,500	3,320	1,110	1,030
12	2,450	1,640	1,260	1,150	1,200	1,780	1,970	5,900	15,300	3,170	1,060	956
13	2,360	1,570	1,230	1,150	1,210	1,720	1,960	6,380	16,100	3,050	1,130	949
14	2,230	1,420	1,180	1,150	1,220	1,600	1,960	7,360	14,700	2,880	1,140	977
15	2,140	1,370	1,000	1,100	1,260	1,630	1,990	7,940	12,900	2,730	1,120	998
16	2,090	1,350	750	1,100	1,320	1,690	2,050	8,340	11,700	2,610	1,130	1,030
17	2,090	1,360	650	1,150	1,440	1,700	2,110	8,600	11,000	2,500	1,110	1,170
18	2,040	1,360	600	1,200	1,500	1,760	2,200	8,770	10,900	2,420	1,030	1,420
19	2,000	1,360	700	1,200	1,520	1,740	2,280	8,190	11,200	2,310	963	1,480
20	1,980	1,340	900	1,250	1,620	1,670	2,330	7,990	10,900	2,200	914	1,430
21	1,940	1,320	1,000	1,250	1,790	1,680	2,400	8,020	10,200	2,140	900	1,410
22	1,920	1,310	1,100	1,200	1,860	1,740	2,450	8,290	9,280	2,080	893	1,390
23	1,910	1,290	1,150	1,200	1,870	1,780	2,610	8,430	8,550	2,070	963	1,380
24	1,890	1,270	1,150	1,150	1,840	1,760	2,750	8,960	7,940	2,020	1,060	1,360
25	1,840	1,260	1,050	1,150	1,800	1,710	2,930	9,260	7,600	1,930	1,100	1,340
26	1,820	1,290	900	950	1,760	1,680	3,180	9,410	7,300	1,840	1,420	1,320
27	1,820	1,350	1,000	1,050	1,780	1,660	3,480	10,400	6,850	1,780	1,660	1,300
28	1,800	1,320	1,050	1,150	1,810	1,670	4,070	11,700	6,380	1,720	1,560	1,270
29	1,760	1,300	1,100	1,200	------	1,680	5,220	13,100	5,760	1,730	1,510	1,260
30	1,730	1,220	1,100	1,150	------	1,680	6,390	14,800	5,290	1,740	1,440	1,290
31	1,740	------	1,050	1,100	------	1,680	------	15,700	------	1,670	1,380	------
TOTAL	64,180	45,030	34,140	35,600	39,300	53,080	74,410	246,310	348,950	91,820	37,783	36,480
MEAN	2,070	1,501	1,101	1,148	1,404	1,712	2,480	7,945	11,630	2,962	1,219	1,216
MAX	2,580	1,860	1,460	1,250	1,870	1,790	6,390	15,700	16,100	4,920	1,660	1,480
MIN	1,730	1,220	600	950	1,050	1,600	1,690	4,600	5,290	1,670	893	949
AC-FT	127,300	89,320	67,720	70,610	77,950	105,300	147,600	488,500	692,100	182,100	74,940	72,360

CAL YR 1964: TOTAL 1,324,060 MEAN 3,618 MAX 22,200 MIN 600 AC-FT 2,626,000
WAT YR 1965: TOTAL 1,107,083 MEAN 3,033 MAX 16,100 MIN 600 AC-FT 2,196,000

12-4495. Methow River at Twisp, Wash.

Location.--Lat 48°21'40", long 120°06'50", in NW¼ sec.17, T.33 N., R.22 E., on left bank a quarter of a mile downstream from Twisp River and 0.3 mile east of center of Twisp.

Drainage area.--1,330 sq mi, approximately.

Records available.--June 1919 to September 1962 (discontinued). Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Altitude of gage is 1,580 ft (from topographic map). Prior to Oct. 3, 1919, several staff gages in the immediate vicinity at different datum. Oct. 3, 1919, to Sept. 30, 1929, and Oct. 31 to Nov. 6, 1933, chain gage on road bridge 40 ft upstream at same datum as staff gages. Nov. 7 to Dec. 18, 1933, staff gage at present site at different datum.

Average discharge.--43 years, 1,327 cfs (960,700 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-62 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 4, 1961	15,000	8.08	Sept.18, 1961	180	1.26
1962	May 28, 1962	6,280	5.21	Sept.24, 1962	168	1.22

1919-29, 1933-62: Maximum discharge, 40,800 cfs May 29, 1948 (gage height, 12.94 ft in gage well), from rating curve extended above 18,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 134 cfs Sept. 4, 5, 1926, Sept. 9, 10, 1929, but may have been less during period of ice effect Jan. 6 to Mar. 4, 1937.

Remarks.--Records good except those for winter periods, which are fair. A large part of the flow diverted above station for irrigation by two canals of Methow Valley Irrigation District, by Risley ditch, and by many other smaller ditches. Diversions for irrigation of 7,410 acres above station (1946 estimate).

Revisions (water years).--WSP 1316: 1921(M), 1928(M), 1934.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	254	353	315	250	279	289	940	2,930	11,700	1,860	497	225
2	254	342	326	240	284	289	1,190	3,290	12,800	1,880	464	240
3	274	336	315	240	279	284	1,420	3,110	14,000	1,730	432	240
4	320	331	294	250	274	289	1,470	2,820	14,200	1,630	401	240
5	315	326	274	260	269	289	1,370	2,540	13,400	1,750	389	235
6	320	326	250	270	289	289	1,260	2,300	13,500	1,930	389	230
7	336	326	240	284	289	284	1,190	2,120	12,200	1,700	377	225
8	342	320	240	279	284	279	1,160	2,000	9,530	1,530	353	215
9	336	315	240	279	289	279	1,150	1,960	8,400	1,440	329	210
10	336	331	240	279	284	289	1,120	2,120	7,350	1,380	300	200
11	336	342	240	279	279	294	1,140	2,180	7,040	1,320	288	195
12	331	347	240	279	279	299	1,160	2,120	7,400	1,300	278	190
13	326	342	250	274	274	294	1,150	2,280	6,900	1,290	266	190
14	326	342	250	274	279	299	1,100	2,400	6,720	1,280	261	190
15	320	342	240	274	279	347	1,060	2,500	7,270	1,220	256	190
16	320	342	240	279	274	386	1,060	3,020	7,840	1,150	272	190
17	320	342	250	279	274	386	1,100	3,690	7,970	1,080	300	190
18	315	336	260	274	269	386	1,160	4,400	7,710	976	311	185
19	315	331	260	250	274	398	1,150	5,780	6,770	921	294	185
20	309	336	260	240	269	427	1,110	7,520	5,550	880	283	190
21	309	331	260	230	274	433	1,090	8,890	4,580	830	272	195
22	315	315	260	240	294	427	1,080	7,930	3,900	783	266	205
23	315	326	260	240	294	427	1,060	8,570	3,590	747	261	215
24	326	336	260	240	289	433	1,080	8,120	3,500	712	245	215
25	331	326	250	240	289	439	1,090	7,500	3,370	652	240	210
26	331	315	260	240	279	463	1,150	9,500	3,180	598	240	205
27	347	279	250	240	284	475	1,320	11,200	2,800	550	235	210
28	347	304	240	240	284	494	1,600	9,080	2,460	539	225	215
29	347	315	250	260	------	554	1,960	8,140	2,200	560	215	215
30	342	315	250	279	------	670	2,520	8,920	2,040	560	215	215
31	347	------	250	279	------	774	------	10,200	------	532	205	------
TOTAL	9,962	9,870	8,014	8,061	7,857	11,965	37,410	159,130	219,870	35,320	9,359	6,255
MEAN	321	329	259	260	281	386	1,247	5,133	7,329	1,139	302	209
MAX	347	353	326	284	294	774	2,520	11,200	14,200	1,930	497	240
MIN	254	279	240	230	269	279	940	1,960	2,040	532	205	185
AC-FT	19,760	19,580	15,900	15,990	15,580	23,730	74,200	315,600	436,100	70,060	18,560	12,410

CAL YR 1960: TOTAL 491,039 MEAN 1,342 MAX 9,810 MIN 236 AC-FT 974,000
WAT YR 1961: TOTAL 523,073 MEAN 1,433 MAX 14,200 MIN 185 AC-FT 1,037,000

12-4495. Methow River at Twisp, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	261	329	288	245	272	347	401	1,530	4,120	2,330	640	227
2	300	323	283	250	272	347	419	1,470	4,040	2,030	593	222
3	305	323	278	250	335	341	477	1,440	3,890	1,780	608	214
4	305	323	278	245	413	341	590	1,390	3,450	1,620	824	209
5	305	311	272	250	407	353	720	1,290	3,070	1,560	860	204
6	317	317	261	250	407	347	792	1,230	2,810	1,510	788	192
7	305	317	266	250	413	347	965	1,180	2,850	1,420	752	192
8	300	317	256	288	451	335	932	1,130	3,700	1,380	806	188
9	317	311	240	300	477	329	900	1,120	4,440	1,420	806	196
10	317	311	235	294	484	323	860	1,080	4,320	1,460	734	200
11	317	329	235	261	470	311	830	1,090	3,780	1,420	680	200
12	311	323	240	240	470	300	810	1,090	3,680	1,360	632	200
13	305	317	245	230	464	294	850	1,090	3,420	1,300	632	200
14	305	317	250	220	477	294	965	1,080	3,510	1,220	648	196
15	300	305	256	210	464	294	1,220	1,040	4,120	1,120	593	196
16	305	294	240	220	451	300	1,330	1,050	5,080	1,070	510	200
17	329	288	230	220	444	305	1,350	1,150	5,060	1,000	453	200
18	335	300	220	210	438	311	1,470	1,320	4,560	930	417	200
19	335	294	210	200	425	317	1,950	1,430	4,160	860	394	200
20	335	266	210	200	413	329	2,240	1,480	3,990	806	378	200
21	335	266	220	210	383	335	2,180	1,640	3,890	770	350	196
22	335	283	230	220	395	335	2,160	1,930	3,680	770	328	192
23	329	278	230	240	389	341	2,180	2,310	3,550	779	306	188
24	335	278	230	260	320	341	2,480	2,960	3,660	788	290	176
25	341	245	220	270	300	353	2,480	4,460	3,850	779	280	176
26	341	266	210	280	280	353	2,240	5,040	3,760	770	275	176
27	347	288	210	290	270	359	2,160	5,680	3,060	806	270	176
28	347	294	210	305	347	359	1,970	6,020	2,560	815	255	184
29	335	294	220	288	------	353	1,790	5,860	2,410	752	250	196
30	329	288	230	283	------	359	1,650	5,020	2,410	680	240	200
31	329	------	240	278	------	377	------	4,560	------	664	232	------
TOTAL	9,912	8,995	7,443	7,757	11,131	10,330	41,361	70,160	110,920	35,969	15,824	5,896
MEAN	320	300	240	250	398	333	1,379	2,263	3,697	1,160	510	197
MAX	347	329	288	305	484	377	2,480	6,020	5,080	2,330	860	227
MIN	261	245	210	200	270	294	401	1,040	2,410	664	232	176
AC-FT	19,660	17,840	14,760	15,390	22,080	20,490	82,040	139,200	220,000	71,340	31,390	11,690

CAL YR 1961: TOTAL 521,577 MEAN 1,429 MAX 14,200 MIN 185 AC-FT 1,035,000
WAT YR 1962: TOTAL 335,698 MEAN 920 MAX 6,020 MIN 176 AC-FT 665,800

12-4496. Beaver Creek below South Fork, near Twisp, Wash.

Location.--Lat 48°25'45", long 120°01'10", in center of sec.24, T.34 N., R.22 E., on right bank 300 ft downstream from South Fork Beaver Creek and 6½ miles northeast of Twisp.

Drainage area.--62.0 sq mi (revised).

Records available.--April 1960 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map).

Average discharge.--5 years, 14.8 cfs (10,710 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (80 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 26, 1961	0530	* 202	5.97	May 25, 1962	0300	* 68	5.44	June 2, 1964	0430	* 67	a 5.42
May 30, 1961	0530	176	5.87								
June 7, 1961	0330	164	5.82	May 23, 1963	2100	* 200	5.92	May 28, 1965	2100	* 76	5.39

a Maximum gage height for year, 5.61 ft Mar. 25, 1964, backwater from ice.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Dec. 7, 1960	a 5.0	-	1964	Nov. 21, 1963	a 4.0	-
1962	Nov. 2, 1961	b 1.9	-	1965	Dec. 17, 1964	a 2.0	-
1963	Jan. 11, 12, 1963	a 3.0	-				

a Minimum daily.
b Result of discharge measurement.

1960-65: Maximum discharge, 202 cfs May 26, 1961 (gage height, 5.97 ft); minimum, 1.9 cfs Nov. 2, 1961 (result of discharge measurement).

Remarks.--Records good except those for periods of no gage-height record or those for winter periods, which are poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.0	11	11	9.0	7.5	7.5	13	44	137	28	11	8.1
2	7.0	9.9	11	9.0	7.5	7.5	15	44	128	29	11	8.1
3	7.0	9.0	10	9.0	7.5	7.0	16	40	121	27	11	8.4
4	7.0	9.0	10	9.0	7.0	7.0	14	36	112	25	11	8.0
5	7.0	9.0	9.0	9.0	7.5	7.0	12	36	110	26	11	8.0
6	7.0	9.0	7.0	9.0	11	7.0	12	35	106	26	11	8.0
7	7.5	7.5	5.0	9.0	11	7.0	11	35	133	23	11	8.2
8	7.5	7.0	6.0	9.0	8.5	7.0	12	35	99	22	11	8.2
9	8.5	7.0	7.0	9.5	8.0	7.5	12	38	93	21	11	8.2
10	8.5	7.0	8.0	9.5	8.0	7.5	12	50	84	20	11	8.0
11	8.5	7.0	9.0	9.5	8.0	7.5	13	52	89	20	10	5.7
12	8.5	7.0	10	9.5	8.0	7.5	14	49	87	19	10	5.7
13	8.5	7.0	9.0	9.5	8.5	7.5	13	54	77	18	9.7	5.7
14	8.5	7.0	9.0	9.5	8.0	8.0	12	64	68	18	9.7	5.7
15	8.5	7.0	10	10	8.5	13	12	73	64	17	9.3	5.7
16	8.0	7.0	10	10	7.5	12	14	87	60	17	13	5.4
17	8.0	7.0	10	10	7.5	11	15	95	57	16	13	5.4
18	8.0	7.5	8.5	10	7.5	9.5	15	108	54	16	11	5.7
19	8.1	7.5	8.5	8.0	7.5	10	13	126	49	15	9.7	6.0
20	8.5	7.5	8.5	7.0	8.0	11	12	142	46	15	9.3	6.4
21	8.5	7.5	8.5	7.0	8.5	9.5	13	149	44	14	9.3	6.8
22	8.5	7.0	8.5	8.0	8.5	9.5	13	152	42	13	9.3	7.8
23	8.9	7.0	9.0	9.0	8.0	9.5	14	162	38	13	8.9	8.1
24	9.4	7.5	9.0	9.5	8.0	9.5	14	145	36	13	8.1	8.1
25	9.4	8.0	9.0	9.5	8.0	9.5	14	142	34	13	8.1	7.8
26	9.4	7.0	9.0	9.5	7.7	9.5	18	182	32	12	7.8	7.8
27	9.9	7.0	9.0	10	7.7	9.5	19	159	32	12	7.4	8.1
28	9.9	7.5	9.0	11	7.7	9.5	19	140	30	13	7.4	8.5
29	9.4	11	9.0	9.5	------	9.5	26	133	29	13	7.0	8.9
30	9.4	10	9.0	8.5	------	11	46	159	29	13	6.8	9.3
31	9.9	------	9.0	8.0	------	12	------	147	------	12	7.0	------
TOTAL	259.7	236.4	274.5	283.5	226.6	277.5	458	2,913	2,120	559	301.8	203.8
MEAN	8.38	7.88	8.85	9.15	8.09	8.95	15.3	94.0	70.7	18.0	9.74	6.79
MAX	9.9	11	11	11	11	13	46	182	137	29	13	9.3
MIN	7.0	7.0	5.0	7.0	7.0	7.0	11	35	29	12	6.8	5.4
CFSM	.14	.13	.14	.15	.13	.14	.25	1.52	1.14	.29	.16	.11
IN.	.16	.14	.16	.17	.14	.17	.27	1.75	1.27	.34	.18	.12
AC-FT	515	469	544	562	449	550	908	5,780	4,200	1,110	599	404

CAL YR 1960: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1961: TOTAL 8,113.8 MEAN 22.2 MAX 182 MIN 5.0 CFSM .36 IN 4.87 AC-FT 16,090

Note.--No gage-height record Dec. 8 to Jan. 18, Jan. 24 to Feb. 25. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4496. Beaver Creek below South Fork, near Twisp, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.9	5.0	7.8	7.0	6.4	6.0	12	16	27	9.5	4.6	4.0
2	9.9	3.0	8.1	7.0	6.4	6.2	13	17	26	9.1	4.6	4.0
3	9.9	6.0	8.2	7.1	6.4	6.4	13	16	25	8.8	6.3	4.0
4	9.9	7.0	8.1	7.2	6.4	6.6	14	16	25	9.1	16	4.0
5	9.9	7.5	8.0	7.6	6.4	6.9	13	15	23	9.9	11	4.0
6	11	8.0	7.4	8.0	6.6	7.3	12	15	22	13	9.1	4.0
7	13	8.0	6.8	8.5	6.9	7.5	13	15	22	11	8.8	4.0
8	15	7.5	6.0	9.0	7.2	7.1	12	15	22	9.5	9.9	4.3
9	16	7.0	5.5	7.5	7.5	6.7	11	15	22	9.5	8.8	4.6
10	16	7.0	5.0	7.0	7.8	6.3	11	16	20	8.8	8.0	4.8
11	17	7.0	4.7	6.0	7.7	6.2	11	17	19	8.4	7.0	5.7
12	19	7.0	5.0	5.5	7.6	6.1	12	18	19	8.0	7.4	5.1
13	20	7.0	5.2	5.0	7.6	6.0	13	18	20	7.7	7.4	5.4
14	20	6.8	5.4	4.7	7.6	6.0	16	17	24	7.7	6.6	5.7
15	21	6.6	5.6	4.4	7.6	6.0	18	16	20	7.4	6.3	5.4
16	22	6.4	5.8	4.2	7.5	6.0	15	17	19	7.0	6.3	5.1
17	24	6.2	6.0	4.0	7.3	6.0	15	19	17	7.0	6.0	5.1
18	25	5.8	6.2	4.2	7.2	6.2	17	19	16	6.6	5.7	4.8
19	26	5.6	6.5	4.5	7.0	6.4	21	19	15	6.6	5.4	4.6
20	26	5.6	6.8	4.7	6.8	6.7	21	19	15	6.3	5.4	4.6
21	25	5.6	7.1	4.8	6.5	7.0	19	19	14	6.3	5.1	4.6
22	19	5.4	7.4	4.9	6.2	7.4	19	20	14	6.0	5.1	4.6
23	11	5.0	7.1	5.0	6.0	7.7	22	22	13	5.7	4.8	4.8
24	11	4.5	6.8	5.2	5.8	7.8	27	45	13	5.4	4.6	4.6
25	10	4.8	6.2	5.4	5.6	7.8	22	52	13	5.1	4.6	4.8
26	10	5.2	6.0	5.6	5.6	7.6	19	38	12	5.4	4.6	4.8
27	10	5.6	6.3	6.0	5.7	7.4	19	39	11	5.4	4.3	5.1
28	10	6.2	6.5	6.2	5.9	7.2	18	34	11	5.4	4.3	7.0
29	9.5	7.0	6.7	6.0	------	8.0	18	32	11	5.1	4.8	8.8
30	9.0	7.5	6.8	6.0	------	9.5	16	29	5.9	4.8	4.3	8.0
31	8.0	------	6.9	6.2	------	11	------	28	------	4.6	4.0	------
TOTAL	473.0	186.8	201.9	183.4	189.2	217.0	482	692	539.9	230.1	201.1	150.3
MEAN	15.3	6.23	6.51	5.92	6.76	7.00	16.1	22.3	18.0	7.42	6.49	5.01
MAX	26	8.0	8.2	8.5	7.8	11	27	52	27	13	16	8.8
MIN	8.0	3.0	4.7	4.0	5.6	6.0	11	15	9.9	4.6	4.0	4.0
CFSM	.25	.10	.11	.10	.11	.11	.26	.36	.29	.12	.10	.08
IN.	.28	.11	.12	.11	.11	.13	.29	.42	.32	.14	.12	.09
AC-FT	938	371	400	364	375	430	956	1,370	1,070	456	399	298

CAL YR 1961: TOTAL 8,204.9 MEAN 22.5 MAX 182 MIN 3.0 CFSM .36 IN 4.92 AC-FT 16,270
WAT YR 1962: TOTAL 3,746.7 MEAN 10.3 MAX 52 MIN 3.0 CFSM .17 IN 2.25 AC-FT 7,430

Note.--No gage-height record Nov. 24 to Feb. 23, Feb. 27 to May 30. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.0	7.4	8.0	6.0	5.0	7.5	6.5	25	86	29	14	7.1
2	7.7	7.4	7.5	7.0	6.0	7.5	6.5	23	86	26	13	7.7
3	8.4	7.4	7.5	9.0	7.5	7.0	6.5	21	79	24	12	7.4
4	8.4	7.0	7.5	8.5	9.0	7.0	6.5	20	74	25	11	7.1
5	8.4	7.0	7.5	7.5	11	7.0	6.5	30	67	24	10	6.8
6	8.4	7.0	8.5	7.0	11	7.0	8.5	33	61	23	9.8	6.8
7	8.8	7.0	9.9	7.0	10	7.0	11	31	58	27	9.0	6.4
8	9.1	7.0	8.4	6.5	9.5	6.5	13	30	56	28	8.7	6.4
9	11	7.0	8.0	6.0	9.0	6.5	12	29	55	27	8.7	6.1
10	11	7.0	8.0	5.0	9.0	6.5	12	29	53	24	8.7	6.1
11	11	7.0	8.0	3.0	8.5	6.5	11	29	50	22	8.7	6.1
12	12	6.6	7.7	3.0	8.0	6.5	11	31	47	20	8.4	6.1
13	16	7.0	7.4	3.5	7.5	6.5	13	34	44	20	11	6.8
14	9.9	7.1	7.7	4.0	7.0	6.5	17	37	42	18	9.4	6.8
15	8.4	7.4	9.5	4.5	7.0	6.5	30	44	40	18	8.4	6.8
16	7.2	7.7	8.8	5.0	6.5	6.5	18	49	39	17	8.0	8.0
17	7.0	9.9	8.4	5.5	6.5	6.5	15	60	37	17	8.0	11
18	7.0	9.5	8.0	6.0	6.5	6.5	14	77	35	18	7.7	8.7
19	7.7	9.9	7.7	6.5	6.5	6.0	14	94	33	16	7.7	7.7
20	7.4	29	8.0	6.5	6.0	6.0	14	121	32	15	7.7	8.4
21	8.8	13	7.4	6.3	6.0	6.0	14	147	31	14	7.7	7.1
22	8.8	9.9	7.0	6.2	6.0	6.5	15	158	35	14	8.7	7.4
23	8.0	20	7.0	6.0	6.0	7.0	15	171	41	14	8.7	7.7
24	7.7	13	6.5	6.0	6.0	7.0	14	164	33	14	8.4	6.8
25	7.7	9.5	6.5	6.0	6.0	7.0	14	153	31	14	8.0	6.8
26	7.7	9.9	6.0	6.0	6.0	7.5	15	139	29	13	8.4	6.8
27	7.7	10	6.0	5.5	6.5	7.5	19	126	27	13	8.0	6.8
28	7.4	9.5	6.0	5.5	7.0	7.5	21	119	28	12	7.7	6.4
29	7.4	9.0	6.0	5.0	------	7.0	26	114	31	12	7.7	6.4
30	7.4	8.5	6.0	5.0	------	7.0	29	107	32	12	7.6	6.4
31	7.4	------	6.0	5.0	------	7.0	------	98	------	12	7.4	------
TOTAL	268.8	284.6	232.4	179.5	206.5	210.5	428.0	2,343	1,392	582	278.0	212.9
MEAN	8.67	9.49	7.50	5.79	7.38	6.79	14.3	75.6	46.4	18.8	8.97	7.10
MAX	16	29	9.9	9.0	11	7.5	30	171	86	29	14	11
MIN	7.0	6.6	6.0	3.0	5.0	6.0	6.5	20	27	12	7.4	6.1
CFSM	.14	.15	.12	.09	.12	.11	.23	1.22	.75	.30	.14	.11
IN.	.16	.17	.14	.11	.12	.13	.26	1.41	.83	.35	.17	.13
AC-FT	533	565	461	356	410	418	849	4,650	2,760	1,150	551	422

CAL YR 1962: TOTAL 3,670.8 MEAN 10.1 MAX 52 MIN 4.0 CFSM .16 IN 2.20 AC-FT 7,280
WAT YR 1963: TOTAL 6,618.2 MEAN 18.1 MAX 171 MIN 3.0 CFSM .29 IN 3.97 AC-FT 13,130

Note.--No gage-height record Jan. 12 to Apr. 8. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4496. Beaver Creek below South Fork, near Twisp, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.8	8.7				5.5	9.4	12	39	20	9.0	7.7
2	6.4	8.7				5.5	8.7	11	54	20	9.4	7.1
3	6.4	8.7					8.0	12	44	22	9.8	6.8
4	6.4	9.0					8.0	14	44	21	12	6.4
5	6.8	8.4	5.5				8.0	15	44	20	9.8	6.1
6	7.1	9.4					8.4	14	43	19	9.0	6.1
7	7.1	9.0					8.7	15	48	18	8.7	6.1
8	7.1	9.4					9.4	16	54	24	8.4	6.8
9	7.1	9.4				5.5	10	20	45	20	8.0	6.8
10	7.1	9.0					10	21	39	18	8.0	6.4
11	7.1	9.0					10	20	38	17	8.0	6.4
12	7.1	9.0	4.5				9.4	23	38	16	8.0	6.1
13	7.1	9.0			5.5		9.4	23	37	15	8.0	6.4
14	7.1	11					10	22	35	15	7.7	5.8
15	7.1	11		5.5			11	23	35	15	7.7	5.5
16	6.8	11					9.8	26	48	14	7.4	5.5
17	7.1	9.5					9.0	32	47	14	7.1	5.5
18	7.1	9.5					8.7	35	40	13	7.4	5.5
19	7.1	8.4					9.0	40	36	13	7.7	5.5
20	7.1	5.0					9.8	47	34	12	7.4	6.1
21	7.4	4.0	6.0				9.8	41	31	12	7.1	6.1
22	8.4	4.5					9.8	36	30	12	7.4	7.1
23	8.7	4.5				6.5	9.4	34	28	12	6.1	6.1
24	8.7	5.0					9.8	33	26	11	5.8	5.5
25	8.7	5.5					11	31	25	11	6.1	5.8
26	8.4	6.0					12	31	24	10	6.1	5.5
27	7.7	6.0			5.5		11	31	23	9.8	6.4	6.1
28	8.4	5.5					11	33	22	9.4	6.8	5.8
29	8.7	5.5					12	40	22	9.4	6.4	5.8
30	8.0	5.5	5.5		------	7.5	13	39	21	9.4	6.8	5.8
31	8.4	------			------	9.4	------	39	------	9.0	8.0	------
TOTAL	230.5	234.1	169.5	170.5	159.5	190.4	293.5	829	1,094	461.0	241.5	184.2
MEAN	7.44	7.80	5.47	5.50	5.50	6.14	9.78	26.7	36.5	14.9	7.79	6.14
MAX	8.7	11	-	-	-	-	13	47	54	24	12	7.7
MIN	6.4	4.0	-	-	-	-	8.0	11	21	9.0	5.8	5.5
CFSM	.12	.13	.09	.09	.09	.10	.16	.43	.59	.24	.13	.10
IN.	.14	.14	.10	.10	.10	.11	.18	.50	.66	.28	.14	.11
AC-FT	457	464	336	338	316	378	582	1,640	2,170	914	479	365

CAL YR 1963: TOTAL 6,466.5 MEAN 17.7 MAX 171 MIN 3.0 CFSM .29 IN 3.88 AC-FT 12,830
WAT YR 1964: TOTAL 4,257.7 MEAN 11.6 MAX 54 MIN - CFSM .19 IN 2.55 AC-FT 8,450

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.6	7.0	7.5				6.0	22	52	16	6.5	9.0
2	6.3	7.0	7.4				7.0	19	52	15	6.5	8.5
3	5.0	7.0	6.6				6.0	17	52	17	7.0	8.0
4	6.3	7.7	6.3				6.0	15	49	21	9.0	8.0
5	6.3	7.4	6.2				6.2	14	48	17	10	7.5
6	6.3	6.0	6.2	4.0			6.3	14	46	15	9.0	7.0
7	6.0	7.4	6.2				6.0	16	42	14	8.0	6.5
8	6.3	6.3	6.2				6.0	18	40	13	7.0	6.0
9	7.0	7.0	6.0				7.0	24	38	12	6.5	6.0
10	8.0	7.0	6.0				7.7	30	36	13	6.0	5.5
11	6.6	6.3	5.8				7.4	36	49	17	6.0	5.5
12	6.3	6.6	5.6				7.7	45	48	16	7.0	5.5
13	6.0	6.0	5.8				8.4	50	41	15	9.0	5.7
14	6.0	6.5	5.8				8.4	50	38	14	7.0	6.0
15	6.3	7.0	5.0				9.1	48	37	13	6.0	6.5
16	6.0	7.5	2.5		5.0	5.0	9.5	47	34	11	5.5	6.0
17	6.3	7.5	2.0				8.4	45	32	10	5.0	5.5
18	6.3	7.2	2.5				7.7	44	31	9.0	4.5	5.5
19	6.3	7.0	3.0				8.0	42	28	8.0	4.5	5.5
20	6.3	6.3	3.5				8.0	48	27	9.0	8.0	5.5
21	6.3	6.3	4.0	5.0			8.5	48	26	10	10	5.5
22	6.3	6.3	4.5				9.5	48	25	11	9.0	5.0
23	6.3	6.3	4.5				10	48	24	10	10	5.0
24	6.3	6.3	4.5				13	49	23	9.0	15	5.0
25	6.0	7.0	3.0				15	52	22	8.0	20	5.0
26	6.0	6.3	3.0				18	56	21	8.0	15	5.0
27	5.4	6.2	3.5				22	58	20	10	13	5.0
28	6.6	6.0	4.0				26	65	19	11	12	5.0
29	6.3	6.0	4.5		------		27	62	18	10	11	5.0
30	6.6	7.5	4.5		------		25	57	17	9.0	10	4.5
31	6.6	------	4.0		------		------	53	------	7.5	9.5	------
TOTAL	196.2	201.9	150.1	145.0	140.0	155.0	320.8	1,240	1,035	378.5	272.5	179.2
MEAN	6.33	6.73	4.84	4.68	5.00	5.00	10.7	40.0	34.5	12.2	8.79	5.97
MAX	8.0	7.7	7.5	-	-	-	27	65	52	21	20	9.0
MIN	5.4	6.0	2.0	-	-	-	6.0	14	17	7.5	4.5	4.5
CFSM	.10	.11	.08	.08	.08	.08	.17	.65	.56	.20	.14	.10
IN.	.12	.12	.09	.09	.08	.09	.19	.74	.62	.23	.16	.11
AC-FT	389	400	298	288	278	307	636	2,460	2,050	751	541	355

CAL YR 1964: TOTAL 4,171.8 MEAN 11.4 MAX 54 MIN 2.0 CFSM .18 IN 2.50 AC-FT 8,270
WAT YR 1965: TOTAL 4,414.2 MEAN 12.1 MAX 65 MIN 2.0 CFSM .20 IN 2.65 AC-FT 8,760

Note.--No gage-height record Dec. 13 to Jan. 25, Feb. 25 to Apr. 5, June 27 to Sept. 12.

12-4497. Beaver Creek near Twisp, Wash.

Location.--Lat 48°23'50" long 120°02'20", in SE¼ sec.35, T.34 N., R.22 E., on left bank 3 miles downstream from South Fork and 4 miles northeast of Twisp.

Drainage area.--62 sq mi, approximately.

Records available.--May 1956 to September 1961 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 2,250 ft (from topographic map).

Extremes.--Maximum discharge during water year 1961, 244 cfs May 26 (gage height, 2.39 ft); minimum, 3.7 cfs Nov. 8, 15 (gage height, 1.23 ft), result of freezeup.
1956-61: Maximum discharge, 966 cfs May 18, 1957; maximum gage height, 3.35 ft May 16, 1956; minimum discharge, 3.1 cfs Nov. 13, 1959, result of freezeup.

Remarks.--Records good except those for periods of ice effect, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.7	12	12	8.9	7.2	7.2	14	39	150	31	8.9	6.2
2	6.7	12	12	8.9	7.2	7.2	17	40	141	32	8.9	6.2
3	6.7	10	11	8.9	7.2	6.6	17	36	137	30	8.3	6.2
4	6.7	9.5	10	8.9	6.7	6.6	15	35	131	28	8.3	6.2
5	6.7	9.5	9.0	8.9	7.2	6.8	14	35	134	28	8.3	6.2
6	7.2	9.5	7.0	8.9	11	7.7	12	36	128	27	8.3	6.7
7	7.7	8.0	5.0	8.9	10	7.2	12	35	147	25	8.3	6.7
8	7.7	7.0	6.0	8.9	8.3	7.2	12	36	120	23	7.7	6.7
9	8.9	7.0	7.0	9.5	7.7	7.7	12	38	114	22	7.7	6.7
10	8.9	7.0	8.0	9.5	7.7	7.7	12	43	105	21	7.7	7.2
11	8.9	7.5	9.0	9.5	7.7	7.7	14	49	111	19	7.7	7.7
12	8.9	8.0	11	9.5	7.7	7.7	14	47	117	17	7.7	7.7
13	8.9	8.0	9.5	9.5	8.3	7.7	14	54	102	16	7.7	7.2
14	8.9	7.0	9.5	9.5	7.7	8.3	12	62	92	17	7.7	7.7
15	8.9	7.0	10	10	8.3	14	12	68	82	17	7.7	7.7
16	8.3	7.0	10	10	7.2	12	14	95	74	17	8.3	8.3
17	8.3	7.5	11	9.5	7.2	11	16	95	66	16	8.9	8.3
18	8.3	8.0	8.9	8.9	7.2	9.5	15	120	60	16	7.7	7.7
19	8.9	8.0	8.9	8.0	7.2	10	14	144	52	14	7.2	7.7
20	8.9	8.0	8.9	7.0	7.7	12	12	147	49	14	7.2	8.3
21	9.5	8.0	8.9	7.0	8.3	10	13	150	46	14	7.2	8.3
22	9.5	7.5	9.5	8.0	8.3	10	14	171	44	13	6.7	8.3
23	10	7.5	9.5	9.0	7.7	10	14	157	41	12	6.7	8.3
24	10	8.0	9.5	9.5	7.7	10	14	144	39	12	6.7	8.9
25	10	8.5	9.5	9.5	7.7	10	15	144	36	12	6.2	8.9
26	10	7.0	9.5	9.0	7.5	10	18	197	35	12	6.2	8.9
27	11	7.0	9.5	9.5	7.5	10	20	194	34	11	6.2	8.9
28	11	8.0	8.9	9.0	7.2	10	22	160	32	12	6.7	8.3
29	11	12	8.9	8.5	------	10	28	147	31	12	6.7	8.9
30	11	11	8.9	8.3	------	12	43	175	31	11	6.2	9.5
31	11	------	8.9	7.7	------	12	------	160	------	10	6.2	------
TOTAL	275.1	252.0	285.2	276.6	218.3	285.8	475	3,053	2,481	561	231.9	231.1
MEAN	8.87	8.40	9.20	8.92	7.80	9.22	15.8	98.5	82.7	18.1	7.48	7.70
MAX	11	12	12	10	11	14	43	197	150	32	8.9	9.5
MIN	6.7	7.0	5.0	7.0	6.7	6.6	12	35	31	10	6.2	6.2
CFSM	.14	.14	.15	.14	.13	.15	.26	1.59	1.33	.29	.12	.12
IN.	.17	.15	.17	.17	.13	.17	.28	1.83	1.49	.34	.14	.14
AC-FT	546	500	566	549	433	567	942	6,060	4,920	1,110	460	458

CAL YR 1960: TOTAL 8,085.5 MEAN 22.1 MAX 135 MIN 5.0 CFSM .36 IN 4.85 AC-FT 16,040
WAT YR 1961: TOTAL 8,626.0 MEAN 23.6 MAX 197 MIN 5.0 CFSM .38 IN 5.17 AC-FT 17,110

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4499.5. Methow River near Pateros, Wash.

Location.--Lat 48°04'40", long 119°59'00", in SE¼SW¼ sec.20, T.30 N., R.23 E., on right bank 1.2 miles downstream from Black Canyon Creek and 4 miles northwest of Pateros.

Drainage area.--1,772 sq mi (revised).

Records available.--April 1959 to September 1965.

Gage.--Digital water-stage recorder. Altitude of gage is 900 ft (from topographic map). Prior to Dec. 17, 1964, staff gage at same site and datum.

Average discharge.--6 years, 1,503 cfs (1,088,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 4, 1961	17,000	9.77	Dec. 11-13, 1960	270	-
1962	May 29, 1962	6,290	6.83	Jan. 19, 1962	280	a 2.57
1963	May 24, 1963	14,000	9.35	Jan. 29, 30, 1963	340	b 2.61
1964	June 3, 1964	12,700	9.00	(c)	370	d 2.72
1965	June 12, 1965	12,100	8.31	Dec. 16-18, 1964	170	-

a Occurred Sept. 26, 29, 1962.
b Occurred Oct. 1, 1962.
c Feb. 21-23, Sept. 16, 18, 1964.
d Occurred Feb. 2, 21-23, 1964.

1959-65: Maximum discharge, 17,000 cfs June 4, 1961 (gage height, 9.77 ft); minimum daily, 170 cfs Dec. 16-18, 1964.
Maximum discharge known, 46,700 cfs May 29, 1948, from slope-area measurement of peak flow at site 1 mile downstream.

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are fair. No regulation. Diversions for irrigation of about 11,000 acres above station (1959 Bureau of Reclamation land classification). Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	370	435	422	300	390	356	1,240	3,090	11,500	2,440	741	338
2	383	435	409	300	394	356	1,430	3,630	14,300	2,260	732	344
3	383	442	396	310	380	344	1,540	3,680	14,600	2,170	673	356
4	396	435	402	310	368	344	1,580	3,330	16,800	2,030	605	350
5	402	435	370	310	368	344	1,610	2,990	15,700	1,920	589	344
6	416	435	340	320	368	356	1,520	2,640	15,300	2,310	573	332
7	435	422	320	330	368	356	1,480	2,760	14,000	2,110	565	332
8	449	409	300	350	374	350	1,490	2,610	14,700	1,890	525	338
9	449	396	290	350	368	356	1,510	2,460	9,580	1,720	472	332
10	449	390	280	360	380	356	1,430	2,670	8,800	1,640	450	320
11	449	390	270	350	368	380	1,510	2,680	8,680	1,570	422	315
12	456	383	270	350	368	380	1,490	2,610	8,680	1,520	415	310
13	449	428	270	360	368	380	1,440	2,620	8,680	1,490	401	310
14	449	422	340	360	368	380	1,370	2,880	8,140	1,470	394	310
15	442	422	330	380	368	422	1,320	2,800	7,720	1,430	387	315
16	442	422	320	370	368	436	1,320	2,640	8,230	1,340	394	320
17	442	422	310	360	368	518	1,340	3,800	8,530	1,260	387	320
18	435	416	300	350	356	510	1,370	3,870	8,860	1,210	408	320
19	422	409	300	330	344	525	1,450	5,920	8,320	1,170	422	315
20	428	409	310	320	344	573	1,370	7,990	6,540	1,100	394	320
21	422	409	320	310	350	573	1,380	8,500	5,170	1,050	387	326
22	428	409	330	300	362	573	1,380	8,830	4,860	984	394	320
23	422	409	330	310	368	573	1,340	9,160	4,010	955	380	320
24	428	402	330	320	374	573	1,330	9,280	4,820	910	374	320
25	435	396	320	330	380	573	1,340	9,730	3,800	865	362	315
26	442	396	320	330	368	589	1,380	8,740	3,470	811	350	315
27	435	396	310	340	362	622	1,420	13,200	3,290	775	344	320
28	435	396	300	360	356	622	1,540	8,620	2,940	758	344	326
29	435	396	300	370	------	622	1,790	9,340	2,610	750	338	332
30	435	396	310	380	------	766	2,960	9,920	2,490	750	338	332
31	442	------	310	390	------	974	------	13,000	------	741	332	------
TOTAL	13,305	12,362	10,029	10,510	10,298	15,082	44,670	175,990	256,020	43,399	13,892	9,767
MEAN	429	412	324	339	368	487	1,489	5,677	8,534	1,400	448	326
MAX	456	442	422	390	394	974	2,960	13,200	16,800	2,440	741	356
MIN	370	383	270	300	344	344	1,240	2,460	2,490	741	332	310
AC-FT	26,390	24,520	19,890	20,850	20,430	29,910	88,600	349,100	507,800	86,080	27,550	19,370

CAL YR 1960: TOTAL 584,865 MEAN 1,598 MAX 10,300 MIN 270 AC-FT 1,160,000
WAT YR 1961: TOTAL 615,324 MEAN 1,686 MAX 16,800 MIN 270 AC-FT 1,220,000

Note.--No gage-height record Dec. 21 to Jan. 28.

12-4499.5. Methow River near Pateros, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	338	380	356	330	380	446	473	1,730	4,600	2,770	826	368
2	350	374	344	340	390	435	490	1,620	4,310	2,520	810	376
3	368	368	344	340	410	435	513	1,560	4,350	2,290	794	386
4	380	368	326	330	450	425	574	1,550	3,970	2,160	842	405
5	387	374	326	338	470	435	714	1,460	3,640	1,940	958	395
6	394	368	326	338	480	440	834	1,420	3,270	1,850	985	395
7	394	368	320	338	484	435	967	1,300	3,100	1,880	949	386
8	380	356	320	344	519	425	1,060	1,220	3,400	1,740	913	386
9	374	368	320	338	531	425	1,040	1,240	4,500	1,630	886	381
10	368	368	332	332	568	420	985	1,200	4,910	1,650	868	376
11	374	374	315	344	555	415	931	1,200	4,560	1,580	842	350
12	380	368	310	320	543	415	913	1,220	3,970	1,640	834	341
13	380	356	315	310	543	405	913	1,210	3,790	1,570	818	341
14	387	368	320	300	568	410	1,050	1,220	3,970	1,490	834	337
15	368	350	320	290	562	405	1,310	1,200	4,070	1,430	810	345
16	368	332	320	300	555	405	1,450	1,190	6,020	1,330	714	358
17	374	344	310	300	562	405	1,510	1,200	6,020	1,200	614	358
18	374	356	290	290	562	405	1,500	1,330	5,520	1,140	600	354
19	380	352	280	280	549	395	1,860	1,580	4,600	1,080	568	354
20	380	356	290	290	549	410	2,220	1,650	4,370	1,000	525	358
21	380	368	300	300	507	420	2,620	1,760	4,150	931	501	358
22	394	368	310	310	478	435	2,360	1,940	4,160	904	478	350
23	401	368	315	330	484	435	2,240	2,190	4,180	904	456	350
24	380	360	310	350	478	425	2,480	3,040	4,040	913	446	341
25	387	350	300	370	478	435	2,620	4,200	4,150	904	435	341
26	380	350	290	380	470	435	2,480	5,270	4,220	913	430	333
27	387	380	290	390	460	446	2,240	6,020	3,710	931	425	337
28	394	370	290	400	450	440	2,240	6,220	3,170	949	415	337
29	387	368	300	400	------	435	1,980	6,240	2,940	913	405	333
30	380	344	310	390	------	451	1,830	5,600	2,810	877	405	341
31	380	------	320	380	------	468	------	5,030	------	834	390	------
TOTAL	11,748	10,884	9,719	10,392	14,035	13,216	44,397	74,810	124,470	43,863	20,776	10,771
MEAN	379	363	314	335	501	426	1,480	2,413	4,149	1,415	670	359
MAX	401	380	356	400	568	468	2,620	6,240	6,020	2,770	985	405
MIN	338	332	280	280	380	395	473	1,190	2,810	834	390	333
AC-FT	23,300	21,590	19,280	20,610	27,840	26,210	88,060	148,400	246,900	87,000	41,210	21,360

CAL YR 1961: TOTAL 611,979 MEAN 1,677 MAX 16,800 MIN 280 AC-FT 1,214,000
WAT YR 1962: TOTAL 389,081 MEAN 1,066 MAX 6,240 MIN 280 AC-FT 771,700

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	345	505	916	708	360	715	739	2,040	9,190	2,660	838	584
2	355	499	916	700	370	708	715	2,010	8,020	2,580	838	570
3	475	518	880	685	400	708	700	1,950	7,250	2,730	889	584
4	428	605	889	700	795	700	715	1,980	6,420	2,860	854	570
5	440	612	863	685	804	685	708	2,010	5,950	2,830	820	564
6	428	591	829	685	787	685	747	2,040	5,780	2,760	795	557
7	428	570	820	655	723	670	755	2,010	5,780	2,550	763	557
8	440	564	929	626	626	670	763	1,980	5,780	2,490	739	550
9	434	570	838	612	619	670	763	1,860	5,360	2,520	723	544
10	428	577	829	580	612	678	779	1,820	5,200	2,460	708	538
11	418	584	829	550	626	685	779	1,810	5,240	2,490	700	524
12	445	557	812	520	626	692	795	1,800	5,950	2,460	692	505
13	487	544	846	500	633	692	804	1,890	6,740	2,430	708	493
14	499	544	829	500	640	678	812	1,980	6,510	2,400	723	481
15	487	531	812	520	648	692	1,090	2,190	6,650	2,040	708	493
16	493	531	795	540	655	708	1,270	2,490	6,800	1,880	739	505
17	487	518	812	550	648	700	1,240	2,400	6,380	1,770	771	518
18	481	512	804	520	640	685	1,250	3,210	6,150	1,700	771	531
19	481	505	795	500	640	670	1,280	3,760	5,440	1,580	755	538
20	481	715	779	480	640	655	1,300	6,400	5,100	1,520	739	544
21	499	3,520	779	460	633	662	1,290	8,440	4,400	1,470	737	538
22	505	2,500	763	440	626	670	1,280	7,400	4,290	1,330	715	531
23	499	880	747	420	626	795	1,270	11,600	3,570	1,290	692	518
24	518	889	763	400	633	763	1,280	12,400	3,470	1,260	708	512
25	570	795	739	380	640	787	1,280	10,800	3,180	1,220	678	505
26	612	763	708	370	655	829	1,290	9,970	2,940	1,200	670	493
27	633	678	700	360	715	846	1,300	9,490	2,780	1,180	640	493
28	499	626	680	350	731	812	1,350	9,280	2,620	1,140	633	481
29	505	557	700	340	------	779	1,530	9,730	2,660	1,100	626	469
30	499	763	715	340	------	795	1,900	10,100	2,620	1,010	612	463
31	518	------	708	350	------	763	------	9,910	------	916	598	------
TOTAL	14,817	23,123	24,724	16,026	17,751	22,247	31,774	156,750	158,040	59,826	22,704	15,759
MEAN	478	771	798	517	634	718	1,059	5,056	5,268	1,930	732	525
MAX	633	3,520	916	708	804	846	1,900	12,400	9,190	2,860	898	584
MIN	345	499	680	340	360	655	700	1,800	2,620	916	598	463
AC-FT	29,390	45,860	49,040	31,790	35,210	44,130	63,020	310,900	313,500	118,700	45,030	31,260

CAL YR 1962: TOTAL 419,394 MEAN 1,149 MAX 6,240 MIN 280 AC-FT 831,900
WAT YR 1963: TOTAL 563,541 MEAN 1,544 MAX 12,400 MIN 340 AC-FT 1,118,000

12-4499.5. Methow River near Pateros, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	457	544	605	538	428	390	524	1,280	8,800	3,560	1,080	454
2	469	531	605	538	428	396	605	1,280	11,300	4,210	980	466
3	469	524	598	531	418	396	708	1,240	12,400	3,700	980	466
4	457	531	598	524	423	401	771	1,200	9,700	3,860	971	442
5	445	612	598	538	428	401	787	1,330	9,460	3,900	953	430
6	469	640	598	524	406	401	812	1,410	10,200	3,740	899	418
7	457	626	591	531	396	396	854	1,410	10,500	3,700	872	418
8	469	612	598	531	375	401	943	1,440	9,580	3,860	818	406
9	457	584	612	518	385	406	970	1,480	11,400	4,660	818	406
10	445	584	605	505	390	406	1,020	1,580	10,600	3,820	845	406
11	445	570	584	493	396	406	1,050	1,670	11,100	3,340	728	394
12	434	612	584	493	401	401	1,080	1,950	10,900	3,100	704	394
13	423	640	570	493	390	396	1,090	2,130	9,500	3,130	696	394
14	434	670	560	505	401	396	1,050	2,290	8,920	3,000	680	382
15	469	655	560	505	401	406	1,060	2,260	8,780	2,770	664	382
16	481	640	560	505	401	406	1,090	2,360	8,620	2,250	640	370
17	481	640	564	493	390	418	1,070	2,500	10,500	2,110	608	382
18	475	619	564	481	390	418	1,070	3,200	9,170	1,890	576	370
19	475	626	550	499	380	428	1,060	4,820	7,460	1,790	584	382
20	470	633	538	499	380	440	1,050	4,980	6,230	1,710	568	382
21	860	633	538	487	370	451	1,070	5,340	4,920	1,620	539	394
22	1,720	619	524	463	370	463	1,110	4,880	5,180	1,500	518	394
23	1,480	619	524	475	370	475	1,110	4,190	5,100	1,480	478	406
24	1,100	612	524	487	375	451	1,090	3,940	5,500	1,390	466	406
25	900	612	531	480	375	457	1,190	3,490	5,050	1,280	454	406
26	800	612	538	487	375	451	1,220	3,280	5,050	1,200	454	406
27	730	605	538	475	380	440	1,250	3,300	4,700	1,160	442	394
28	680	605	550	463	385	451	1,250	3,620	4,210	1,100	442	394
29	655	612	538	451	390	463	1,240	4,920	3,500	1,050	442	394
30	612	605	531	440	------	475	1,260	7,250	3,630	1,030	442	394
31	598	------	524	428	------	487	------	8,740	------	1,050	442	------
TOTAL	19,316	18,227	17,502	15,380	11,397	13,173	30,454	94,760	242,360	77,960	20,783	12,132
MEAN	623	608	565	496	393	425	1,015	3,057	8,079	2,515	670	404
MAX	1,720	670	612	538	428	487	1,260	8,740	12,400	4,660	1,080	466
MIN	423	524	524	428	370	390	524	1,200	3,630	1,030	442	370
AC-FT	38,310	36,150	34,710	30,510	22,610	26,130	60,400	188,000	480,700	154,600	41,220	24,060

CAL YR 1963: TOTAL 555,922 MEAN 1,523 MAX 12,400 MIN 340 AC-FT 1,103,000
WAT YR 1964: TOTAL 573,444 MEAN 1,567 MAX 12,400 MIN 370 AC-FT 1,137,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	430	442	394	400	338	328	511	3,120	5,840	2,380	776	723
2	466	442	394	400	325	322	531	2,780	6,050	2,520	760	678
3	504	430	394	400	330	316	550	2,500	7,600	2,710	760	650
4	518	430	394	400	337	316	576	2,260	7,750	2,950	768	622
5	518	466	382	400	334	316	589	2,030	7,540	2,930	816	602
6	518	454	382	400	334	316	615	1,870	8,060	2,730	784	583
7	518	442	382	400	328	322	636	1,730	7,540	2,690	738	563
8	576	442	380	400	328	334	636	1,680	6,940	2,690	700	550
9	624	442	380	400	328	346	678	1,750	7,090	2,380	671	524
10	656	442	300	420	316	370	723	2,090	7,780	2,020	636	498
11	656	442	300	420	316	400	700	2,580	9,780	1,850	693	492
12	672	430	300	420	316	436	715	3,190	10,700	1,690	693	492
13	640	418	300	420	322	472	760	3,760	7,420	1,550	715	437
14	624	418	300	420	322	504	808	3,950	6,000	1,460	708	485
15	592	394	300	420	316	553	885	3,990	5,260	1,450	643	485
16	546	406	170	420	316	631	1,090	4,030	4,870	1,430	602	432
17	504	406	170	418	316	651	1,220	4,010	4,990	1,410	570	498
18	490	394	170	406	316	638	1,210	3,740	5,460	1,300	544	498
19	504	394	250	400	322	643	1,220	3,470	5,790	1,230	511	492
20	518	394	320	394	334	659	1,280	3,370	5,110	1,150	537	485
21	532	394	350	394	340	665	1,300	3,210	4,520	1,110	629	479
22	532	394	360	394	340	649	1,320	3,160	4,100	1,090	678	461
23	518	394	360	388	334	620	1,340	3,280	3,780	1,030	715	449
24	504	394	360	382	334	583	1,420	3,430	3,860	975	867	449
25	490	394	360	388	334	583	1,620	3,580	3,620	930	1,120	437
26	478	394	360	418	334	597	1,920	4,320	3,450	912	1,170	431
27	454	394	360	406	352	578	2,320	4,990	3,190	948	1,040	425
28	454	394	360	358	352	551	2,850	6,260	2,850	1,020	957	431
29	454	394	360	342	------	535	3,320	8,250	2,600	948	885	425
30	454	394	360	352	------	511	3,340	8,250	2,410	876	832	419
31	454	------	360	353	------	498	------	6,780	------	824	768	------
TOTAL	16,398	12,468	10,312	12,333	9,214	15,243	36,683	113,410	171,950	51,183	23,286	15,255
MEAN	529	416	333	398	329	492	1,223	3,658	5,732	1,651	751	509
MAX	672	466	394	420	352	665	3,340	8,250	10,700	2,950	1,170	723
MIN	430	394	170	342	316	316	511	1,680	2,410	824	511	419
AC-FT	32,520	24,730	20,450	24,460	18,280	30,230	72,760	224,900	341,100	101,500	46,190	30,260

CAL YR 1964: TOTAL 557,577 MEAN 1,523 MAX 12,400 MIN 170 AC-FT 1,106,000
WAT YR 1965: TOTAL 487,735 MEAN 1,336 MAX 10,700 MIN 170 AC-FT 967,400

12-4500. Alta Lake near Pateros, Wash.

Location.--Lat 48°01'30", long 119°56'30", in NE¼SW¼ sec.10, T.29 N., R.23 E., on west shore 2½ miles southwest of Pateros.

Drainage area.--5.01 sq mi (revised).

Records available.--November 1954 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,175 ft (from topographic map). Prior to Oct. 18, 1962, staff gage and Oct. 18, 1962, to June 13, 1963, tape gage, at same site and datum.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Gage height	Date	Gage height
1961	June 7, 1961	a 12.48	Sept.30, 1961	a 10.85
1962	Apr. 27, 1962	a 10.99	Sept.29, 1962	a 9.26
1963	May 14, 1963	a 9.77	Sept.30, 1963	8.05
1964	Apr. 15, 1964	8.09	Sept.27, 30, 1964	6.42
1965	Apr. 30, May 1, 1965	6.51	Sept.24, 1965	a 4.75

a Observed.

1954-65: Maximum gage height observed, 12.73 ft May 28, June 3, 1960; minimum observed, 4.75 ft Sept. 24, 1965.

Remarks.--Small diversion for irrigation. No known regulation. Lake has no natural surface outlet.

Revisions (water years).--WSP 1716: 1959.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11.30	-	11.15	11.20	11.39	-	11.92	12.28	-	12.22	11.74	11.26
2	-	-	11.20	-	-	11.54	-	-	12.47	-	11.71	11.22
3	-	-	11.19	-	-	11.54	-	-	12.46	12.20	11.69	11.22
4	-	11.13	11.19	-	-	11.51	11.98	12.32	-	-	11.66	11.20
5	11.27	11.13	-	-	-	-	12.00	-	12.46	12.18	11.66	11.18
6	11.27	-	-	-	-	11.43	-	12.33	12.44	-	11.64	11.16
7	-	11.12	-	-	-	-	12.02	-	12.48	12.16	11.62	-
8	11.26	-	11.18	-	-	-	-	-	-	12.13	11.60	11.12
9	11.25	11.11	-	11.22	-	11.42	12.04	-	-	-	-	11.11
10	-	-	11.17	-	-	-	-	-	12.46	-	11.56	11.08
11	-	-	-	11.23	-	-	-	12.42	-	-	11.55	-
12	11.23	11.10	11.19	-	-	-	-	-	-	12.08	11.54	11.06
13	-	-	-	11.23	11.58	-	-	-	-	-	11.53	11.05
14	-	-	11.18	11.24	-	11.61	-	12.42	-	-	11.52	11.04
15	11.21	11.12	11.18	11.24	-	-	12.10	-	-	12.04	-	11.02
16	-	-	11.18	-	-	-	-	-	12.46	-	11.49	11.02
17	-	-	11.18	-	11.66	-	-	-	12.46	12.00	11.48	11.01
18	11.18	-	-	-	11.66	11.65	-	12.44	-	-	11.46	-
19	11.19	11.13	-	-	-	-	12.14	12.45	-	-	11.46	10.98
20	11.17	-	-	-	-	-	-	12.44	12.44	-	-	-
21	-	11.17	-	11.32	-	11.80	-	-	-	-	11.44	10.94
22	11.17	11.16	11.21	-	-	-	-	12.44	12.38	11.92	-	10.94
23	-	-	-	11.31	11.69	-	-	-	-	11.91	11.42	10.92
24	-	-	11.21	11.31	11.69	-	12.20	-	12.36	-	-	10.92
25	11.17	11.17	-	-	-	11.87	-	-	12.34	-	11.40	10.90
26	-	-	-	-	-	-	12.21	-	12.33	11.84	11.37	-
27	-	-	-	-	-	11.88	-	12.46	-	11.82	-	-
28	-	-	-	11.37	-	-	12.24	12.46	-	-	11.34	10.88
29	11.15	-	-	-	------	11.89	-	-	-	11.80	11.32	-
30	-	-	-	-	------	-	-	-	12.24	-	11.31	10.85
31	11.14	------	11.20	-	------	-	------	-	------	11.74	-	------
MAX	-	-	-	-	-	-	-	-	-	-	-	-
MIN	-	-	-	-	-	-	-	-	-	-	-	-

12-4500. Alta Lake near Pateros, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	-	-	-		-	-	10.92	10.54	9.99	-
2	10.84	-	10.72	-	-		10.97	10.93	-	-	-	9.54
3	10.82	10.71	10.71	-	10.60		-	-	10.89	-	9.94	9.50
4	-	10.70	10.71	-	-		-	-	-	10.49	9.98	9.50
5	-	-	-	-	-		-	10.90	10.87	-	-	-
6	-	10.68	-	-	-		-	10.91	10.86	-	-	-
7	10.80	-	-	10.73	-		10.98	-	-	10.44	9.92	-
8	10.78	10.68	-	10.74	-		-	- *	-	10.43	-	9.44
9	-	-	10.70	-	10.60		-	-	-	10.42	9.89	-
10	10.78	-	-	-	10.62		-	-	-	-	-	-
11	-	-	-	-	-		-	-	-	-	9.84	-
12	10.76	10.67	-	-	10.63		-	10.92	10.80	-	9.86	9.38
13	-	-	-	-	-		-	-	-	-	9.84	-
14	10.76	-	-	-	-		10.96	10.92	-	10.32	-	-
15	-	-	-	10.68	-		-	10.92	10.81	10.29	-	9.34
16	-	10.66	10.70	10.68	-		-	-	10.80	-	-	-
17	10.75	-	-	-	10.73		-	-	10.79	-	9.80	9.33
18	-	10.65	-	10.67	-		-	-	-	-	9.78	-
19	-	-	-	-	-		-	-	-	-	9.76	-
20	-	10.65	-	10.67	10.73		-	10.91	10.74	-	-	-
21	10.72	-	-	-	-		10.94	10.90	-	10.16	-	-
22	-	10.70	-	-	-		-	10.90	-	10.15	9.70	-
23	-	10.69	-	-	-		-	-	10.70	10.15	9.69	-
24	-	-	10.82	-	10.72		-	-	-	-	-	-
25	10.71	10.69	-	-	-		10.92	-	10.69	-	9.66	-
26	-	-	-	10.62	-		-	10.98	10.66	-	9.65	-
27	-	-	-	10.63	-		10.99	-	-	-	9.63	9.28
28	-	-	-	-	-		-	-	-	10.08	-	-
29	-	-	-	-	------	10.97	10.96	-	10.60	10.05	9.60	9.26
30	-	-	10.78	-	------		10.93	10.93	10.59	-	-	-
31	-	------	-	-	------		------	-	------	10.00	9.55	------
MAX	-	-	-	-	-	-	-	-	-	-	-	-
MIN	-	-	-	-	-	-	-	-	-	-	-	-

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	9.29	9.30	-	9.39	9.39	-	9.64	9.24	8.76	8.30
2	-	-	-	-	9.23	9.37	-	-	-	9.23	8.74	8.28
3	-	-	9.29	-	9.32	-	-	-	-	9.22	8.73	8.27
4	-	-	-	-	-	9.37	-	9.67	-	9.20	8.73	8.26
5	-	9.24	-	9.30	-	-	-	-	-	9.19	8.71	8.25
6	-	-	-	-	-	-	9.41	-	-	9.18	8.70	8.24
7	-	-	-	9.30	-	-	-	-	-	9.18	8.68	8.23
8	-	-	9.28	-	-	-	-	-	9.54	9.18	8.67	8.22
9	-	-	-	-	9.36	9.35	-	-	-	9.17	8.65	8.22
10	-	-	-	-	-	-	-	-	-	9.17	8.64	8.21
11	-	-	-	-	-	-	-	9.76	-	9.15	8.63	8.20
12	-	-	9.27	9.26	-	9.35	-	9.76	-	9.13	8.62	8.19
13	-	9.25	-	-	-	-	9.46	-	-	9.11	8.61	8.17
14	-	9.25	-	9.26	-	-	9.53	9.77	9.47	9.09	8.58	8.15
15	9.30	-	9.32	-	-	-	-	-	9.46	9.07	8.56	8.14
16	-	-	-	-	9.36	-	-	-	9.45	9.05	8.54	8.13
17	9.32	9.25	9.31	-	9.36	9.36	-	-	9.44	9.03	8.53	8.13
18	9.32	-	-	-	-	-	-	-	9.42	9.02	8.49	8.11
19	-	9.25	-	9.26	-	-	-	-	9.41	8.99	8.48	8.10
20	9.30	-	9.31	-	-	-	9.62	-	9.39	8.97	8.46	8.10
21	-	-	-	9.25	-	-	-	9.74	9.37	8.95	8.45	8.09
22	9.30	-	9.31	9.24	-	-	9.64	-	9.36	8.93	8.43	8.09
23	-	-	9.31	-	9.37	9.36	-	-	9.36	8.90	8.41	8.08
24	-	9.29	-	-	-	-	-	-	9.35	8.89	8.40	8.07
25	-	-	9.30	-	-	-	-	9.72	9.33	8.88	8.38	8.07
26	-	9.28	-	9.24	-	-	-	-	9.31	8.86	8.37	8.06
27	-	-	-	9.24	9.38	9.36	9.61	9.69	9.29	8.86	8.36	8.06
28	9.27	-	-	-	-	-	-	9.68	9.28	8.84	8.35	8.06
29	-	-	9.30	-	------	-	9.67	-	9.27	8.83	8.34	8.06
30	-	-	-	-	------	9.34	-	-	9.25	8.79	8.33	8.05
31	9.26	------	-	-	------	9.34	------	-	------	8.77	8.31	------
MAX	-	-	-	-	-	-	-	-	-	9.24	8.76	8.30
MIN	-	-	-	-	-	-	-	-	-	8.77	8.31	8.05

12-4500. Alta Lake near Pateros, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.04	7.80	7.87	7.89	8.02	7.96	8.04	8.06	7.88	7.62	7.10	6.65
2	8.04	7.79	7.86	7.89	8.02	7.96	8.03	8.06	7.88	7.61	7.11	6.63
3	8.03	7.79	7.86	7.89	8.01	7.96	8.03	8.07	7.87	7.60	7.08	6.59
4	8.01	7.79	7.86	7.89	8.01	7.97	8.03	8.06	7.86	7.59	7.05	6.58
5	8.00	7.79	7.86	7.89	8.01	7.98	8.04	8.05	7.86	7.58	6.98	6.57
6	8.00	7.81	7.87	7.90	8.00	7.98	8.04	8.05	7.86	7.57	6.96	6.56
7	7.99	7.83	7.86	7.90	8.00	7.97	8.04	8.04	7.85	7.56	6.97	6.55
8	7.98	7.86	7.89	7.90	7.99	7.97	8.03	8.04	7.86	7.58	6.94	6.55
9	7.97	7.86	7.90	7.90	7.99	7.97	8.02	8.04	7.86	7.55	6.94	6.54
10	7.96	7.86	7.88	7.90	7.99	7.97	8.02	8.04	7.86	7.53	6.93	6.51
11	7.95	7.86	7.88	7.90	7.99	7.98	8.02	8.03	7.85	7.52	6.89	6.51
12	7.95	7.85	7.89	7.89	7.98	7.99	8.01	8.02	7.86	7.50	6.86	6.52
13	7.94	7.85	7.88	7.89	7.98	7.99	8.01	8.01	7.86	7.49	6.87	6.52
14	7.94	7.88	7.88	7.90	7.98	7.99	8.03	8.00	7.84	7.48	6.86	6.51
15	7.93	7.89	7.87	7.90	7.99	7.99	8.02	8.00	7.82	7.45	6.84	6.49
16	7.93	7.88	7.87	7.91	7.99	7.99	8.02	8.00	7.85	7.42	6.80	6.47
17	7.92	7.87	7.88	7.92	7.99	7.99	8.02	8.00	7.84	7.41	6.81	6.47
18	7.91	7.86	7.88	7.93	7.98	7.99	8.01	7.99	7.83	7.39	6.81	6.47
19	7.90	7.88	7.88	7.95	7.98	7.99	8.01	7.99	7.82	7.37	6.81	6.44
20	7.89	7.89	7.89	7.97	7.97	7.99	8.02	7.98	7.81	7.35	6.80	6.44
21	7.88	7.87	7.88	7.98	7.97	7.99	8.02	7.97	7.78	7.33	6.78	6.43
22	7.87	7.87	7.88	7.98	7.97	8.03	8.03	7.95	7.76	7.30	6.76	6.43
23	7.86	7.88	7.88	7.98	7.97	8.04	8.05	7.94	7.75	7.28	6.74	6.43
24	7.85	7.88	7.88	7.99	7.96	8.04	8.06	7.92	7.73	7.27	6.73	6.43
25	7.84	7.88	7.89	8.01	7.96	8.04	8.06	7.91	7.72	7.26	6.71	6.43
26	7.84	7.89	7.89	8.01	7.96	8.03	8.06	7.90	7.71	7.24	6.71	6.43
27	7.83	7.89	7.89	8.01	7.95	8.03	8.07	7.89	7.68	7.22	6.70	6.42
28	7.82	7.88	7.89	8.01	7.95	8.03	8.06	7.89	7.66	7.21	6.70	6.42
29	7.82	7.88	7.89	8.01	7.95	8.03	8.06	7.89	7.65	7.20	6.68	6.42
30	7.81	7.88	7.89	8.01	------	8.03	8.06	7.89	7.63	7.18	6.66	6.42
31	7.80	------	7.89	8.02	------	8.03	------	7.88	------	7.13	6.66	------
MAX	8.04	7.89	7.90	8.02	8.02	8.04	8.07	8.07	7.88	7.62	7.11	6.65
MIN	7.80	7.79	7.86	7.89	7.95	7.96	8.01	7.88	7.63	7.13	6.66	6.42

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	6.19	-	-	-		6.38	6.50	-	-	-	-
2	-	-	-	-	-		-	6.50	-	-	5.36	-
3	6.36	-	-	-	-		-	6.50	-	-	5.37	-
4	6.36	6.26	6.21	-	-		-	6.50	-	-	-	-
5	-	-	-	-	-		-	6.50	-	-	-	-
6	-	-	-	-	-		-	6.49	-	-	-	-
7	-	-	-	-	-		6.43	6.49	-	-	5.29	-
8	-	6.20	-	6.36	-		6.43	6.49	-	-	-	4.93
9	-	-	6.20	-	-		6.43	6.48	-	-	-	-
10	6.34	-	-	-	-		6.43	6.47	-	-	-	-
11	-	-	-	-	-		6.43	6.47	-	-	-	-
12	-	-	6.20	-	-		6.43	6.47	-	-	-	-
13	-	-	-	-	6.28		6.43	6.46	-	-	-	-
14	-	6.21	-	-	-		6.43	6.46	-	-	-	-
15	-	-	-	-	-		6.43	6.46	-	5.58	-	-
16	-	-	-	6.33	6.22		6.43	6.45	-	-	-	-
17	-	6.20	-	-	-		6.43	6.44	-	-	-	-
18	-	-	-	-	-		6.43	6.43	-	5.55	-	-
19	-	-	-	-	-		6.44	-	5.97	-	-	-
20	6.25	6.18	-	-	-		6.45	-	-	-	-	4.78
21	-	-	-	6.32	-		6.46	-	-	-	-	-
22	-	-	-	-	6.24		6.46	-	-	-	5.11	-
23	-	6.17	-	-	-		6.47	-	-	5.40	5.15	4.76
24	-	-	-	-	-		6.48	-	-	-	-	4.75
25	6.23	-	-	-	-		6.48	-	-	-	-	-
26	-	-	-	-	-		6.49	-	5.89	-	-	-
27	-	-	-	6.34	-		6.49	-	-	-	-	-
28	-	-	-	-	-		6.50	-	-	5.42	5.07	-
29	-	-	-	-	------		6.50	-	-	-	-	-
30	-	6.22	-	-	------		6.51	-	-	-	-	-
31	-	------	-	6.32	------	6.37	------	-	------	-	5.06	------
MAX	-	-	-	-	-	-	-	-	-	-	-	-
MIN	-	-	-	-	-	-	-	-	-	-	-	-

12-4510. Stehekin River at Stehekin, Wash.

Location.--Lat 48°19'30", long 120°41'20", in SE¼ sec.26, T.33 N., R.17 E., on left bank 1,200 ft upstream from Boulder Creek, 1½ miles upstream from Lake Chelan, and 2 miles northwest of Stehekin. Records include flow of Boulder Creek.

Drainage area.--344 sq mi (revised), includes that of Boulder Creek.

Records available.--October 1910 to October 1915, October 1926 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 1,100 ft above mean sea level (unadjusted). Prior to Aug. 17, 1911, staff gage three-eighths of a mile upstream from mouth at Lake Chelan at different datums (datum change made June 13, 1911). Aug. 17, 1911, to Oct. 31, 1915, staff gage a quarter of a mile downstream from Boulder Creek at different datum.

Average discharge.--44 years, 1,408 cfs (1,019,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 3, 1961	12,600	26.93	Jan. 6-10, 1961	236	18.29
1962	June 15, 1962	6,900	23.87	Dec. 11-13, 1962	a 230	-
1963	Nov. 20, 1962	11,200	25.88	Jan. 30, Feb. 3,1963	296	18.39
1964	June 10, 1964	10,100	25.39	Jan. 25, 1964	246	18.36
1965	May 28, 1965	8,230	24.64	Dec. 17, 18, 1964	a 220	b 18.33

a Minimum daily.
b Occurred Jan. 8-14, 1965.

1910-15, 1926-65: Maximum discharge, 18,900 cfs May 29, 1948 (gage height, 29.00 ft), from rating curve extended above 11,000 cfs on basis of slope-area measurement of peak flow; minimum, 56 cfs Jan. 21, 1930.

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. No regulation or diversion.

Cooperation.--Gage-height record collected in cooperation with, and three discharge measurements furnished by Public Utilities District No. 1 of Chelan County.

Revisions (water years).--WSP 412: 1914. WSP 1316: 1911(M), 1914-15(M). WSP 1446: 1912(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	458	810	301	243	335	846	1,360	3,210	9,240	2,220	1,440	1,720
2	444	654	297	243	331	780	1,720	3,210	10,500	2,220	1,460	1,410
3	422	579	289	243	312	732	2,400	2,840	11,100	2,350	1,580	1,170
4	392	522	282	240	301	692	2,160	2,440	11,200	2,690	1,620	1,270
5	379	492	257	240	388	676	1,860	2,150	10,100	3,540	1,690	1,110
6	413	468	246	236	527	648	1,680	1,930	10,000	3,120	1,450	857
7	600	454	254	236	502	621	1,550	1,790	7,440	2,470	1,280	773
8	517	431	257	236	482	605	1,520	1,760	5,680	2,160	1,240	694
9	436	409	257	236	497	584	1,470	1,760	5,240	2,280	1,210	646
10	396	444	243	236	478	568	1,430	1,940	4,540	2,610	1,130	628
11	371	538	254	243	478	563	1,430	1,970	4,660	3,020	1,100	580
12	359	463	264	246	468	553	1,490	1,970	4,750	3,430	1,140	530
13	343	436	271	243	468	532	1,450	2,090	4,720	3,590	1,210	509
14	327	418	301	261	454	558	1,340	2,130	5,260	3,460	1,320	470
15	335	409	257	553	440	709	1,270	2,380	6,860	3,120	1,470	450
16	413	413	250	1,100	422	690	1,260	3,190	8,330	2,800	1,810	476
17	379	413	264	768	409	690	1,410	3,930	9,630	2,380	1,440	492
18	351	409	268	610	392	710	1,410	4,580	8,980	2,250	1,290	520
19	335	405	261	543	396	760	1,340	5,680	7,290	2,330	1,260	481
20	323	426	257	492	473	820	1,260	6,990	5,580	2,560	1,330	628
21	331	396	246	458	1,180	800	1,220	7,520	4,400	2,690	1,340	458
22	584	371	246	436	1,220	780	1,180	5,890	3,940	2,520	1,320	430
23	931	371	246	418	1,060	750	1,190	6,660	4,300	2,430	1,260	390
24	1,120	371	246	405	998	750	1,280	5,560	4,540	2,060	1,210	361
25	804	359	246	384	912	740	1,390	5,130	4,680	1,900	1,020	400
26	709	335	246	363	834	740	1,450	8,150	4,310	1,850	904	343
27	676	293	243	339	792	750	1,660	7,620	3,410	1,840	825	320
28	660	301	243	343	750	760	1,900	5,700	3,020	1,760	832	390
29	594	304	243	347	------	800	2,300	5,390	2,790	1,520	897	380
30	532	297	243	335	------	950	2,830	6,090	2,370	1,410	864	338
31	563	------	243	339	------	1,160	------	7,100	------	1,400	1,640	------
TOTAL	15,497	12,991	8,021	11,615	16,299	22,327	47,210	128,750	188,880	75,980	39,582	19,303
MEAN	500	433	259	375	582	720	1,574	4,153	6,296	2,451	1,277	643
MAX	1,120	810	301	1,100	1,220	1,160	2,830	8,150	11,200	3,590	1,810	1,720
MIN	323	293	243	236	301	532	1,180	1,760	2,370	1,400	825	320
CFSM	1.45	1.26	.75	1.09	1.69	2.09	4.57	12.1	18.3	7.12	3.71	1.87
IN.	1.68	1.40	.87	1.26	1.76	2.41	5.10	13.9	20.4	8.21	4.28	2.09
AC-FT	30,740	25,770	15,910	23,040	32,330	44,280	93,640	255,400	374,600	150,700	78,510	38,290

CAL YR 1960: TOTAL 512,178 MEAN 1,399 MAX 9,530 MIN 210 CFSM 4.07 IN 55.37 AC-FT 1,016,000
WAT YR 1961: TOTAL 586,455 MEAN 1,607 MAX 11,200 MIN 236 CFSM 4.67 IN 63.40 AC-FT 1,163,000

12-4510. Stehekin River at Stehekin, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	348	425	293	260	450	475	540	1,560	3,050	3,260	2,270	746
2	340	398	286	270	1,200	461	664	1,540	3,280	2,510	2,110	734
3	336	398	279	376	2,100	443	833	1,570	3,160	2,210	2,080	664
4	336	380	282	430	1,990	443	1,030	1,480	2,700	2,160	2,060	630
5	425	356	286	380	1,610	425	1,100	1,400	2,420	2,020	1,970	647
6	704	348	279	380	1,380	412	1,450	1,340	2,280	1,980	1,610	658
7	500	340	270	710	1,220	402	1,970	1,280	2,600	1,880	1,530	674
8	438	348	260	1,730	1,100	398	1,670	1,290	3,740	2,310	1,470	576
9	525	344	250	1,280	1,000	389	1,470	1,310	4,060	2,820	1,280	545
10	740	466	240	1,000	945	380	1,340	1,370	3,640	3,030	1,200	734
11	555	475	230	833	889	372	1,250	1,420	3,250	2,880	1,200	772
12	630	425	230	786	954	360	1,220	1,450	3,350	2,850	1,280	586
13	1,660	412	230	704	812	352	1,360	1,450	3,210	2,610	1,260	598
14	1,220	438	240	669	786	352	1,780	1,470	3,700	2,260	1,090	805
15	1,050	398	250	620	753	348	2,300	1,480	5,070	2,140	1,090	669
16	1,020	368	250	586	722	348	2,170	1,640	5,860	2,110	1,190	576
17	861	356	250	555	686	352	2,070	1,950	5,240	2,220	1,130	560
18	716	364	250	520	669	356	2,280	2,080	4,470	1,760	1,180	565
19	642	352	240	485	658	364	2,880	2,090	4,290	1,590	1,160	603
20	576	320	240	443	625	376	2,820	2,200	4,320	1,700	1,180	658
21	530	324	250	430	603	380	2,650	2,390	4,240	1,980	1,250	704
22	495	344	250	410	598	384	2,590	2,660	4,130	2,270	1,010	674
23	505	344	250	400	570	394	2,760	2,880	4,320	2,680	903	636
24	480	324	270	410	535	412	3,120	3,070	4,900	2,830	903	625
25	456	290	260	430	515	407	2,820	4,130	5,400	2,820	917	614
26	438	293	250	450	475	412	2,500	4,610	4,610	2,820	875	620
27	430	316	240	450	490	407	2,280	5,000	3,260	2,720	760	558
28	398	304	240	430	485	402	1,980	5,070	2,860	2,680	779	658
29	380	296	240	410	------	407	1,750	4,440	3,150	2,390	710	652
30	376	296	250	390	------	416	1,630	3,620	3,520	2,240	686	576
31	380	------	260	410	------	452	------	3,330	------	2,270	722	------
TOTAL	18,490	10,842	7,895	17,637	24,720	12,271	56,277	72,570	114,080	74,020	38,855	19,357
MEAN	596	361	255	569	883	396	1,876	2,341	3,803	2,388	1,253	645
MAX	1,660	475	293	1,730	2,100	475	3,120	5,070	5,860	3,280	2,270	805
MIN	336	290	230	260	450	348	540	1,280	2,280	1,590	686	545
CFSM	1.73	1.05	.74	1.65	2.57	1.15	5.45	6.81	11.1	6.94	3.64	1.88
IN.	2.00	1.17	.85	1.91	2.67	1.33	6.08	7.85	12.3	8.00	4.20	2.09
AC-FT	36,670	21,500	15,660	34,980	49,030	24,340	111,600	143,900	226,300	146,800	77,070	38,390

CAL YR 1961: TOTAL 587,173 MEAN 1,609 MAX 11,200 MIN 230 CFSM 4.68 IN 63.48 AC-FT 1,165,000
WAT YR 1962: TOTAL 467,014 MEAN 1,279 MAX 5,860 MIN 230 CFSM 3.72 IN 50.40 AC-FT 926,300

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	555	525	805	716	310	931	680	1,500	4,550	1,670	1,290	1,020
2	550	525	766	792	320	889	664	1,410	3,950	2,480	1,270	1,030
3	642	505	734	819	348	847	658	1,310	3,330	2,810	1,280	889
4	550	520	692	766	686	812	658	1,220	3,300	2,980	1,360	868
5	485	592	680	728	1,180	792	664	1,240	3,160	2,700	1,450	861
6	456	520	680	698	882	766	704	1,230	3,090	2,360	1,550	798
7	443	490	674	680	903	746	698	1,180	3,280	2,280	1,440	786
8	452	586	938	664	889	728	698	1,160	3,210	2,600	1,370	889
9	490	560	903	642	861	728	692	1,150	3,140	2,300	1,420	990
10	461	545	840	535	854	722	686	1,130	3,280	2,110	1,470	998
11	438	555	798	500	847	728	692	1,150	4,020	2,020	1,600	990
12	461	550	772	530	826	710	698	1,280	5,370	1,950	1,790	917
13	525	525	740	545	812	692	710	1,390	4,800	2,140	2,480	1,270
14	475	500	734	550	786	680	875	1,550	4,650	2,180	1,870	1,130
15	434	480	753	535	753	664	1,140	1,760	5,190	1,950	1,390	792
16	412	452	746	505	734	652	1,080	1,870	5,420	1,740	1,160	692
17	407	438	716	480	716	630	1,030	2,130	5,260	1,960	1,100	608
18	470	425	680	461	698	608	990	2,950	4,990	1,970	1,130	540
19	576	2,150	664	430	722	603	990	4,060	4,630	1,970	1,090	500
20	772	6,100	642	430	740	598	990	5,420	3,840	1,820	975	480
21	1,260	2,430	772	420	716	598	968	6,660	3,190	1,650	861	520
22	1,300	1,780	753	416	710	664	975	7,120	2,680	1,760	812	576
23	1,010	1,420	686	398	704	686	998	7,420	2,360	1,460	786	692
24	868	1,270	642	394	704	692	1,010	6,220	2,450	1,300	812	565
25	772	1,230	630	376	710	692	1,010	5,040	2,440	1,280	805	515
26	698	1,190	630	360	924	692	1,010	4,650	2,320	1,290	766	510
27	647	1,050	642	348	960	704	1,080	4,480	1,980	1,460	746	581
28	598	952	647	340	924	740	1,190	4,720	1,900	1,490	786	722
29	581	875	647	312	------	746	1,420	5,390	1,870	1,390	812	753
30	576	868	692	308	------	728	1,530	5,780	1,660	1,350	826	620
31	555	------	704	300	------	710	------	5,400	------	1,280	924	------
TOTAL	18,919	30,608	22,402	15,978	21,219	22,178	27,188	98,970	105,310	59,700	37,421	23,102
MEAN	610	1,020	723	515	758	715	906	3,193	3,510	1,926	1,207	770
MAX	1,300	6,100	938	819	1,180	931	1,530	7,420	5,420	2,980	2,480	1,270
MIN	407	425	630	300	310	598	658	1,130	1,660	1,280	746	480
CFSM	1.77	2.97	2.10	1.50	2.20	2.08	2.63	9.28	10.2	5.60	3.51	2.24
IN.	2.05	3.31	2.42	1.73	2.29	2.40	2.94	10.7	11.4	6.45	4.05	2.50
AC-FT	37,530	60,710	44,430	31,690	42,090	43,990	53,930	196,300	208,900	118,400	74,220	45,820

CAL YR 1962: TOTAL 501,716 MEAN 1,375 MAX 6,100 MIN 260 CFSM 4.00 IN 54.24 AC-FT 995,100
WAT YR 1963: TOTAL 482,995 MEAN 1,323 MAX 7,420 MIN 300 CFSM 3.85 IN 52.22 AC-FT 958,000

12-4510. Stehekin River at Stehekin, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	570	440	655	584	336	336	643	1,120	8,120	4,220	1,840	812
2	530	470	613	562	328	328	661	1,100	8,290	4,920	1,670	812
3	490	435	590	524	316	324	667	1,130	6,670	4,460	1,780	773
4	430	430	556	507	312	328	703	1,200	5,880	4,400	2,150	741
5	407	400	551	490	312	336	728	1,300	6,610	4,980	1,850	726
6	402	395	546	496	300	328	767	1,350	6,890	4,620	1,760	748
7	380	405	496	460	296	320	894	1,350	6,370	4,950	1,850	741
8	352	400	496	445	296	316	978	1,400	6,510	7,030	1,850	651
9	344	390	480	445	296	316	1,120	1,700	7,920	6,320	1,830	625
10	340	385	435	440	300	316	1,200	2,000	8,720	4,400	1,680	578
11	372	372	425	420	300	320	1,210	2,000	8,860	4,590	1,620	540
12	368	376	430	410	296	324	1,130	2,200	7,960	5,920	1,850	524
13	524	415	400	395	292	312	1,040	2,200	7,410	5,900	1,770	496
14	570	502	390	395	288	308	1,040	2,100	7,090	5,020	1,530	485
15	530	507	390	390	288	344	1,190	2,100	7,130	4,490	1,360	507
16	480	475	385	385	284	354	1,080	2,300	8,340	3,640	1,330	637
17	461	480	385	410	288	380	1,000	2,600	6,360	3,140	1,340	852
18	420	455	367	390	288	435	936	2,900	4,700	3,040	1,410	673
19	358	465	354	376	304	420	960	3,400	4,000	2,620	1,250	638
20	348	415	354	367	296	400	1,000	4,320	3,640	2,660	1,110	522
21	1,050	380	340	385	296	395	1,030	4,100	3,480	2,840	1,170	651
22	2,300	390	344	372	296	390	1,010	3,320	3,640	2,620	1,280	685
23	1,000	385	481	354	300	385	1,030	2,740	4,720	2,260	1,390	703
24	859	367	734	349	308	380	1,090	2,460	5,240	2,340	1,310	786
25	793	380	619	324	308	372	1,110	2,210	4,640	2,460	1,280	985
26	655	1,060	551	405	308	367	1,100	2,210	4,510	2,490	1,520	754
27	590	1,220	540	358	312	362	1,120	2,560	4,510	2,550	1,280	649
28	568	887	512	344	316	367	1,150	3,860	3,510	2,880	1,260	584
29	529	773	480	349	320	380	1,170	5,660	3,090	2,950	1,080	562
30	475	709	465	332	------	420	1,160	6,730	3,460	2,580	1,060	1,140
31	445	------	540	328	------	518	------	7,590	------	2,180	894	------
TOTAL	17,950	15,163	14,904	12,791	8,780	11,181	29,917	83,210	178,270	119,470	46,354	21,069
MEAN	579	505	481	413	303	361	997	2,684	5,942	3,854	1,495	702
MAX	2,300	1,220	734	584	336	518	1,210	7,590	8,860	7,030	2,150	1,140
MIN	340	367	340	324	284	308	643	1,100	3,090	2,180	894	485
CFSM	1.68	1.47	1.40	1.20	.88	1.05	2.90	7.80	17.3	11.2	4.35	2.04
IN.	1.94	1.64	1.61	1.38	.95	1.21	3.23	9.00	19.3	12.9	5.01	2.28
AC-FT	35,600	30,080	29,560	25,370	17,410	22,180	59,340	165,000	353,600	237,000	91,940	41,790

CAL YR 1963: TOTAL 459,083 MEAN 1,258 MAX 7,420 MIN 300 CFSM 3.66 IN 49.63 AC-FT 910,600
WAT YR 1964: TOTAL 559,059 MEAN 1,527 MAX 8,860 MIN 284 CFSM 4.44 IN 60.44 AC-FT 1,109,000

Note.--No gage-height record Apr. 19 to May 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	957	496	425	253	530	480	502	2,740	3,700	3,210	2,270	655
2	1,260	480	450	250	500	470	518	2,340	4,640	3,960	2,270	613
3	1,060	465	425	250	480	460	519	2,040	5,700	4,300	2,100	573
4	880	465	390	250	460	450	540	1,850	5,520	4,190	1,960	534
5	806	435	376	250	450	460	584	1,670	5,770	4,140	1,840	507
6	786	415	358	246	480	480	607	1,540	6,160	4,120	1,670	480
7	845	405	344	239	500	510	613	1,520	5,500	4,620	1,600	475
8	1,210	385	349	236	490	550	613	1,620	5,170	3,960	1,770	507
9	1,270	380	354	236	470	600	661	1,960	5,880	2,870	1,890	529
10	1,120	372	358	236	440	670	685	2,540	6,550	2,380	1,850	534
11	971	358	340	236	420	740	703	2,870	7,200	2,100	1,690	524
12	854	344	336	236	410	830	760	3,590	5,520	1,990	1,930	496
13	852	336	336	236	400	915	873	3,770	4,130	2,190	1,980	470
14	901	320	332	236	390	950	964	3,560	3,440	2,470	1,500	859
15	845	332	308	260	380	971	1,210	3,370	3,140	2,670	1,330	943
16	774	328	260	256	370	971	1,520	3,880	3,240	2,660	1,280	691
17	697	332	220	256	390	915	1,530	3,250	4,180	2,560	1,320	556
18	649	328	220	256	420	859	1,450	2,790	5,000	2,350	1,450	480
19	613	324	240	256	450	806	1,470	2,550	4,550	1,990	1,550	435
20	584	320	260	256	480	767	1,790	2,490	3,940	1,780	1,740	430
21	573	320	290	256	510	734	1,850	2,370	3,510	1,640	1,480	470
22	551	320	336	256	520	715	1,810	2,440	3,300	1,540	1,420	496
23	524	324	358	260	510	685	1,810	2,760	3,480	1,700	1,660	470
24	496	372	336	256	490	649	1,950	2,780	3,780	1,920	1,440	475
25	475	354	312	256	470	631	2,230	3,120	3,550	2,150	1,240	470
26	445	344	304	256	500	601	2,600	3,890	3,200	2,470	1,130	435
27	415	328	288	280	520	573	3,240	4,770	2,580	2,680	1,030	390
28	405	320	272	328	500	546	3,880	6,300	2,270	2,360	880	358
29	410	320	264	425	------	529	3,820	6,870	2,280	2,100	780	344
30	445	344	256	475	------	507	3,270	5,190	2,600	1,940	679	340
31	470	------	253	580	------	490	------	3,960	------	2,040	643	------
TOTAL	23,183	10,966	9,950	8,558	12,930	20,514	44,571	96,390	129,490	83,050	47,372	15,539
MEAN	748	366	321	276	462	662	1,486	3,109	4,316	2,679	1,528	518
MAX	1,270	496	450	580	530	971	3,880	6,870	7,200	4,620	2,270	943
MIN	405	320	220	236	370	450	502	1,520	2,270	1,540	643	340
CFSM	2.17	1.06	.93	.80	1.34	1.92	4.32	9.04	12.5	7.79	4.44	1.51
IN.	2.51	1.19	1.08	.93	1.40	2.22	4.82	10.4	14.0	8.98	5.12	1.68
AC-FT	45,980	21,750	19,740	16,970	25,650	40,690	88,410	191,200	256,800	164,700	93,960	30,820

CAL YR 1964: TOTAL 555,141 MEAN 1,517 MAX 8,860 MIN 220 CFSM 4.41 IN 60.02 AC-FT 1,101,000
WAT YR 1965: TOTAL 502,513 MEAN 1,377 MAX 7,200 MIN 220 CFSM 4.00 IN 54.33 AC-FT 996,700

Note.--No gage-height record Jan. 31 to Mar. 12.

12-4516. Safety Harbor Creek near Manson, Wash.

Location.--Lat 48°06'00", long 120°21'50", in N½ sec.17, T.30 N., R.20 E., on right bank 60 ft above irrigation diversion dam and 17½ miles northwest of Manson.

Drainage area.--7.85 sq mi.

Records available.--April 1961 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 4,450 ft (from topographic map).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (100 cfs), April 1961 to September 1965

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 26, 1961	2000	125	3.34	May 30, 1963	1530	* 207	3.77	June 5, 1965	1730	164	3.57
June 2, 1961	1800	* 239	3.90					June 11, 1965	1000	* 234	3.88
June 16, 1961	1630	136	3.41	June 8, 1964	1500	* 255	3.96				
May 28, 1962	1700	* 77	2.94	May 28, 1965	-	159	3.54				

Annual minimum discharge, April 1961 to September 1965

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Sept.19, 1961	1.1	0.79	1964	Nov. 5, 18, 1963	0.90	-
1962	Jan. 11-31, 1962	a .60	-	1965	-	-	-
1963	Oct. 7,8,10, 1962	1.2	-				

a Minimum daily.

1961-65: Maximum discharge, 255 cfs June 8, 1964 (gage height, 3.96 ft); minimum daily, 0.60 cfs Jan. 11-31, 1962.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No regulation or diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, APRIL TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1							3.5	20	180	16	2.9	2.2
2							4.0	18	205	14	2.8	1.9
3							4.5	17	205	13	2.8	1.7
4							4.7	15	209	13	2.8	1.5
5							4.4	14	205	14	2.8	1.4
6							4.1	13	202	14	2.8	1.4
7							3.9	12	166	12	2.7	1.4
8							3.8	12	130	11	2.5	1.3
9		† .70					3.9	12	115	10	2.3	1.3
10							4.0	12	99	9.5	2.2	1.2
11							4.3	11	100	9.0	2.1	1.2
12							4.5	12	92	9.0	2.0	1.2
13							4.4	13	87	9.0	2.0	1.2
14							4.3	14	91	8.8	1.9	1.2
15							4.3	15	107	8.7	1.9	1.2
16							4.5	20	116	8.0	2.1	1.1
17							5.3	26	116	7.0	1.9	1.1
18							5.5	36	93	6.5	1.9	1.1
19							5.4	52	71	6.0	1.8	1.1
20							5.5	71	57	5.5	1.7	1.2
21							5.5	76	46	5.4	1.7	1.2
22							5.4	72	39	5.3	1.7	1.2
23							5.4	82	34	5.1	1.6	1.2
24							5.8	78	31	4.7	1.5	1.2
25							5.8	81	30	4.4	1.5	1.1
26							7.0	111	28	4.0	1.5	1.1
27							9.6	98	25	3.7	1.5	1.2
28							12	88	22	3.5	1.5	1.5
29					------		19	86	20	3.3	1.4	1.3
30					------		20	105	18	3.1	1.4	1.3
31		------			------		------	142	------	3.0	1.6	------
TOTAL							184.3	1,434	2,939	249.5	62.8	39.2
MEAN							6.14	46.3	98.0	8.05	2.03	1.31
MAX							20	142	209	16	2.9	2.2
MIN							3.5	11	18	3.0	1.4	1.1
CFSM							.78	5.89	12.5	1.03	.26	.17
IN.							.87	6.79	13.9	1.18	.30	.19
AC-FT							366	2,840	5,830	495	125	78

† Result of discharge measurement.

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4516. Safety Harbor Creek near Manson, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.3	1.2					1.4	9.8	37	19	3.1	1.7
2	1.3	.90					1.7	9.4	35	18	3.0	1.6
3	1.2						1.9	9.4	33	17	4.5	1.5
4	1.2						3.5	8.7	30	16	3.7	1.4
5	1.3			1.0			3.8	8.2	28	15	3.3	1.4
6	1.4						4.1	8.0	28	14	3.1	1.3
7	1.3						5.0	7.8	34	14	3.8	1.3
8	1.2						4.5	7.6	43	13	3.4	1.3
9	1.3						4.0	7.4	50	12	3.1	1.3
10	1.3						3.6	7.4	48	12	2.8	1.6
11	1.3						3.8	7.2	46	11	2.7	1.6
12	1.6						4.5	7.0	42	10	2.8	1.5
13	2.0						5.5	7.0	39	9.4	2.6	1.5
14	1.7						7.0	7.0	43	8.9	2.5	1.6
15	1.5		.70		1.5	1.2	10	6.9	49	8.0	2.4	1.4
16	1.4	.80					10	7.4	57	7.4	2.4	1.3
17	1.3						11	9.1	55	6.9	2.4	1.3
18	1.3						13	11	50	6.5	2.2	1.2
19	1.3						17	12	48	5.8	2.2	1.2
20	1.1						16	13	46	5.7	2.0	1.1
21	1.1			.60			16	17	42	5.2	2.0	1.1
22	1.1						17	20	39	4.9	1.9	1.0
23	1.2						19	21	38	4.5	1.9	1.0
24	1.2						20	28	37	4.2	1.9	1.0
25	1.2						17	38	36	4.1	1.8	1.0
26	1.2						16	37	31	3.9	1.8	1.0
27	1.3						14	44	27	3.8	1.8	1.0
28	1.1						13	55	24	3.6	2.0	1.7
29	1.1				———		12	51	22	3.5	2.0	1.6
30	1.2				———		11	44	20	3.3	1.8	1.5
31	1.2	———			———		———	39	———	3.2	1.7	———
TOTAL	40.2	24.50	21.70	22.60	42.0	37.2	286.3	565.3	1,157	273.8	78.6	40.0
MEAN	1.30	.82	.70	.73	1.50	1.20	9.54	18.2	38.6	8.83	2.54	1.33
MAX	2.0	-	-	-	-	-	20	55	57	19	4.5	1.7
MIN	1.1	-	-	-	-	-	1.4	6.9	20	3.2	1.7	1.0
CFSM	.17	.10	.09	.09	.19	.15	1.22	2.32	4.91	1.13	.32	.17
IN.	.19	.12	.10	.11	.20	.18	1.36	2.68	5.48	1.30	.37	.19
AC-FT	80	49	43	45	83	74	568	1,120	2,290	543	156	79

CAL YR 1961: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1962: TOTAL 2,589.20 MEAN 7.09 MAX 57 MIN - CFSM .90 IN 12.27 AC-FT 5,140

Note.--No gage-height record Nov. 3 to Apr. 18. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.5	2.2				2.3	2.0	4.6	134	17	4.0	2.4
2	1.4	2.2				2.3	2.0	4.2	100	17	3.5	2.4
3	1.6	2.2					2.0	3.8	85	16	3.3	2.3
4	1.5	2.2						3.6	75	16	3.1	2.2
5	1.4	2.3						3.2	76	16	2.9	2.0
6	1.3	2.2						4.0	75	14	2.9	2.0
7	1.3	2.1					2.6	5.1	70	14	2.7	1.9
8	1.4	2.2						4.8	65	14	2.7	1.8
9	1.7	2.2						4.8	60	13	2.6	1.8
10	1.5	2.0						4.8	66	12	2.6	2.0
11	1.6	2.1						4.6	79	11	2.6	2.2
12	1.7	2.0						5.2	88	11	2.8	1.9
13	2.1	2.1						5.7	87	9.5	5.3	2.0
14	1.7	2.2						7.8	80	9.1	3.7	2.0
15	1.6	2.2						11	76	8.4	3.2	1.9
16	1.6	2.2	2.2	1.8	2.4			14	70	7.8	3.1	1.9
17	1.9	3.0					2.1	19	62	7.7	3.1	1.9
18	2.4	3.0						30	53	7.4	3.3	1.8
19	2.3	3.0						44	43	6.7	3.2	1.7
20	2.9	11						67	34	6.1	2.9	1.6
21	3.4	4.8					3.2	93	29	5.7	2.8	1.6
22	3.1	3.0						116	28	5.7	2.9	2.0
23	2.8	2.6						141	26	5.2	2.8	1.9
24	2.6	2.4						174	23	5.0	2.7	1.7
25	2.6	2.2						146	21	4.8	2.8	1.6
26	2.5	2.1						136	20	4.4	2.9	1.5
27	2.4	2.0						125	19	4.2	2.6	1.4
28	2.4	1.9						131	22	4.0	2.6	1.4
29	2.4	1.8			———			155	19	3.8	2.4	1.4
30	2.4	1.8			———			172	18	3.7	2.4	1.4
31	2.3	———			———		———	164	———	3.8	2.4	———
TOTAL	63.3	79.2	68.2	55.8	67.2	65.5	88.2	1,804.2	1,703	284.0	92.8	55.6
MEAN	2.04	2.64	2.20	1.80	2.40	2.11	2.94	58.2	56.8	9.16	2.99	1.85
MAX	3.4	11	-	-	-	-	-	174	134	17	5.3	2.4
MIN	1.3	1.8	-	-	-	-	-	3.2	18	3.7	2.4	1.4
CFSM	.26	.34	.28	.23	.31	.27	.37	7.41	7.23	1.17	.38	.24
IN.	.30	.38	.32	.26	.32	.31	.42	8.55	8.07	1.35	.44	.26
AC-FT	126	157	135	111	133	130	175	3,580	3,380	563	184	110

CAL YR 1962: TOTAL 2,713.50 MEAN 7.43 MAX 57 MIN .60 CFSM .95 IN 12.86 AC-FT 5,380
WAT YR 1963: TOTAL 4,427.0 MEAN 12.1 MAX 174 MIN 1.3 CFSM 1.55 IN 20.97 AC-FT 8,780

Note.--No gage-height record Nov. 22 to Mar. 1, Mar. 3 to Apr. 2, Apr. 4 to May 6. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4516. Safety Harbor Creek near Manson, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.3	1.3					5.0	11	119	28	4.4	2.4
2	1.3	1.3					4.7	11	153	28	4.2	2.1
3	1.3	1.2					4.5	12	125	26	5.8	2.0
4	1.3	1.3					5.0	13	122	24	5.3	2.0
5	1.8	1.2					5.0	13	128	23	4.6	1.9
6	1.9	1.3					5.0	13	131	20	4.1	1.9
7	1.8	1.2	1.4	1.5	1.3		5.2	14	128	19	3.8	1.9
8	1.7	1.4					5.8	16	193	19	3.7	1.8
9	1.6	1.3					6.0	18	216	17	3.5	1.8
10	1.5	1.3				1.5	6.0	20	193	15	3.3	1.8
11	1.5	1.3					6.4	21	183	14	3.2	1.6
12	1.4	1.3					6.2	21	153	13	3.1	1.6
13	1.6	1.5					6.0	21	132	12	2.9	1.5
14	1.6	1.9					7.0	21	124	12	2.8	1.4
15	1.4	1.6					7.5	20	114	11	2.8	1.4
16	1.4	1.4					7.2	22	160	10	2.7	1.4
17	1.4	1.4					7.0	24	126	9.5	2.6	1.3
18	1.4	1.3					7.0	27	90	8.8	2.6	1.3
19	1.3	1.4					7.8	30	66	8.2	2.6	1.4
20	1.4	1.4					8.5	32	53	7.7	2.4	1.8
21	2.5				1.5	1.7	9.0	31	47	7.4	2.3	1.5
22	2.0		1.3	1.3		1.8	8.6	29	47	6.9	2.2	1.5
23	1.6					1.9	8.4	27	48	6.4	2.1	1.4
24	1.5					2.0	8.6	25	47	6.0	2.0	1.3
25	1.6	1.4				2.2	9.2	25	41	5.7	2.0	1.2
26	1.4					2.3	9.8	27	38	5.3	2.0	1.2
27	1.4					2.5	9.8	31	34	5.0	2.1	1.2
28	1.4					2.8	9.8	42	30	4.8	2.0	1.1
29	1.4					3.5	10	68	28	4.7	2.0	1.1
30	1.3				———	4.0	11	81	27	4.6	2.1	1.8
31	1.3	———	1.5		———	4.8	———	96	———	4.3	2.6	———
TOTAL	47.3	41.3	41.9	43.1	40.7	59.5	217.0	862	3,096	386.3	93.8	47.6
MEAN	1.53	1.38	1.35	1.39	1.40	1.92	7.23	27.8	103	12.5	3.03	1.59
MAX	2.5	-	-	-	-	4.8	11	96	216	28	5.8	2.4
MIN	1.3	-	-	-	-	-	4.5	11	27	4.3	2.0	1.1
CFSM	.19	.18	.17	.18	.18	.24	.92	3.54	13.1	1.59	.39	.20
IN.	.22	.20	.20	.20	.19	.28	1.03	4.08	14.7	1.83	.44	.23
AC-FT	94	82	83	85	81	118	430	1,710	6,140	766	186	94

CAL YR 1963: TOTAL 4,346.8 MEAN 11.9 MAX 174 MIN - CFSM 1.52 IN 20.59 AC-FT 8,620
WAT YR 1964: TOTAL 4,976.5 MEAN 13.6 MAX 216 MIN - CFSM 1.73 IN 23.58 AC-FT 9,870

Note.--No gage-height record Nov. 21 to May 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.7	1.5							90	22	4.0	3.4
2	2.0	1.4							95	23	4.0	3.2
3	1.8	1.2						35	110	24	4.2	3.1
4	1.6	1.6							110	23	4.2	3.1
5	1.6	1.6					5.0		120	20	3.8	3.1
6	1.6	1.5							131	20	3.6	2.9
7	1.6	1.5							118	19	3.5	2.9
8	2.2	1.5	1.2					27	114	17	3.5	2.8
9	2.0	1.5							122	15	3.4	2.6
10	1.9	1.4							136	14	3.4	2.7
11	1.8	1.3							202	13	3.3	2.6
12	1.6								141	12	4.7	2.6
13	1.5			1.0				50	94	11	3.7	2.6
14	1.5								68	10	3.4	2.8
15	1.6				2.0	4.0	8.0		55	9.9	3.2	2.7
16	1.6								52	9.4	3.1	2.6
17	1.6								61	8.7	3.1	2.6
18	1.6							60	77	7.9	3.0	2.6
19	1.7								69	7.3	3.0	2.5
20	1.6								54	8.3	4.9	2.5
21	1.6	1.2							46	7.4	3.7	2.4
22	1.5								40	6.8	3.6	2.3
23	1.5						15	50	39	6.3	4.9	2.2
24	1.5		1.0						36	5.9	5.3	2.2
25	1.4								39	5.5	4.3	2.1
26	1.3								31	5.5	4.0	2.1
27	1.2								27	5.5	3.8	2.2
28	1.5			1.4			30	100	24	5.0	3.7	2.1
29	1.5				———				22	4.7	3.6	2.0
30	1.6				———				22	4.5	3.5	2.0
31	1.5	———			———		———		———	4.2	3.5	———
TOTAL	50.2	38.8	34.0	33.4	56.0	124.0	355.0	1,710	2,345	355.8	116.9	77.5
MEAN	1.62	1.29	1.10	1.08	2.00	4.00	11.8	55.2	78.2	11.5	3.77	2.58
MAX	2.2	1.6	-	-	-	-	-	-	202	24	5.3	3.4
MIN	1.2	-	-	-	-	-	-	-	22	4.2	3.0	2.0
CFSM	.21	.16	.14	.14	.25	.51	1.51	7.03	9.96	1.46	.48	.33
IN.	.24	.18	.16	.16	.27	.59	1.68	8.10	11.1	1.69	.55	.37
AC-FT	100	77	67	66	111	246	704	3,390	4,650	706	232	154

CAL YR 1964: TOTAL 4,969.0 MEAN 13.6 MAX 216 MIN - CFSM 1.73 IN 23.54 AC-FT 9,860
WAT YR 1965: TOTAL 5,296.6 MEAN 14.5 MAX 202 MIN - CFSM 1.85 IN 25.09 AC-FT 10,510

Note.--No gage-height record Nov. 12 to June 5.

12-4516.2. Grade Creek near Manson, Wash.

Location.--Lat 48°04'00", long 120°15'15", in NW¼ sec.31, T.30 N., R.21 E., on left bank 200 ft upstream from irrigation diversion dam and 28.2 miles uplake from Chelan on north side of lake.

Drainage area.--8.45 sq mi.

Records available.--October 1960 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 3,950 ft (from topographic map).

Average discharge.--5 years, 6.10 cfs (4,420 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 20, 1961	60	a 1.29	Nov. 15, 1960	0.60	0.40
1962	May 24, 1962	15	b .93	Nov. 12, 1961	.50	.42
1963	May 25, 1963	57	1.42	Nov. 15, 1962	.20	.38
1964	June 1, 1964	57	c 1.42	(d)	e 1.2	-
1965	May 28, 1965	32	f 1.37	-	-	-

a Maximum gage height for year, 1.61 ft, date unknown, backwater from ice.
b Maximum gage height for year, 1.42 ft, date unknown, backwater from ice.
c Maximum gage height for year, 1.46 ft Nov. 29, 1963, backwater from ice.
d Oct. 11-13, 16-18, Nov. 20, 1963.
e Minimum daily.
f Maximum gage height for year, 1.46 ft Nov. 28, 1964, backwater from ice.

1960-65: Maximum discharge, 60 cfs May 20, 1961 (gage height, 1.29 ft); maximum gage height, 1.61 ft sometime Jan. 26 to Mar. 19, 1961 (backwater from ice); minimum discharge, 0.20 cfs Nov. 15, 1962.

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. No regulation or diversion above station. Most of low flows diverted 200 ft below station by Lake Chelan Reclamation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	4.6	3.2	2.8	2.5	2.9	8.4	29	50	11	3.8	3.0
2	3.0	3.8	3.5	2.8	2.5	2.9	9.8	27	52	11	3.8	2.4
3	3.0	3.5	3.5	2.8	2.5	2.8	9.4	26	48	9.8	3.5	2.2
4	3.0	3.0	3.5	2.9	2.5	2.8	8.0	23	45	9.8	3.3	2.2
5	3.0	3.0	3.0	3.0	2.8	2.8	7.6	21	41	11	3.8	2.2
6	3.0	3.0	2.7	3.1	3.0	2.8	6.4	19	37	9.4	3.5	2.2
7	3.5	2.8	2.5	3.2	3.0	2.8	6.4	19	34	8.9	3.2	2.2
8	3.5	2.7	2.5	3.2	3.0	2.8	7.6	18	30	8.4	3.2	2.2
9	3.5	2.6	2.5	3.2	3.0	2.8	7.6	19	28	8.0	3.2	2.1
10	3.4	3.8	2.6	3.2	3.0	2.8	8.4	20	26	7.6	3.0	2.1
11	3.3	3.5	3.0	3.2	3.0	2.8	8.9	20	26	7.2	3.0	2.1
12	3.2	3.5	3.0	3.0	3.0	2.9	9.4	22	26	6.8	3.0	2.1
13	3.2	3.5	3.0	3.2	3.0	3.0	8.9	24	25	6.8	2.8	2.1
14	3.2	2.8	3.0	3.2	3.0	3.2	8.4	25	25	7.2	2.8	2.1
15	3.2	2.5	3.0	4.4	3.0	3.5	8.4	26	23	6.8	3.0	2.1
16	3.5	2.5	3.0	3.8	3.0	3.5	9.8	29	23	6.8	3.2	2.1
17	3.5	2.5	3.0	3.0	3.0	3.3	12	34	22	6.4	2.8	2.1
18	3.2	2.5	3.0	2.8	3.0	3.3	12	37	21	6.0	2.8	1.9
19	3.2	2.5	3.0	2.8	3.0	3.4	11	42	20	5.6	2.6	1.9
20	3.2	2.5	3.0	3.5	3.2	3.5	9.8	52	18	5.3	2.6	2.1
21	3.2	2.5	3.0	3.2	3.5	3.2	9.4	52	17	5.3	2.4	2.1
22	3.2	2.5	3.0	3.2	3.5	3.2	9.4	52	16	5.0	2.4	2.1
23	3.8	2.5	3.0	3.2	3.5	3.2	9.8	50	15	5.3	2.4	2.1
24	3.8	2.7	3.0	3.2	3.5	3.2	9.4	45	15	4.6	2.4	2.1
25	3.5	2.8	3.0	3.2	3.3	3.2	12	45	14	4.6	2.2	2.1
26	3.5	2.8	3.0	3.0	3.0	3.2	13	52	13	4.6	2.2	2.1
27	3.5	2.8	3.0	2.7	3.0	3.2	15	52	13	4.6	2.2	2.1
28	3.5	2.8	2.9	2.5	3.0	3.3	17	52	13	4.6	2.2	2.2
29	3.5	3.0	2.8	2.5	-------	4.4	26	48	12	4.6	2.1	2.2
30	3.5	3.2	2.8	2.5	-------	5.3	28	46	12	4.4	2.1	2.2
31	4.4	-------	2.8	2.5	-------	6.0	------	50	-------	4.0	2.2	-------
TOTAL	104.0	88.7	91.8	94.8	84.3	102.1	327.2	1,076	761	211.4	87.9	64.7
MEAN	3.35	2.96	2.96	3.06	3.01	3.29	10.9	34.7	25.4	6.82	2.84	2.15
MAX	4.4	4.6	3.5	4.4	3.5	6.0	28	52	52	11	3.8	3.0
MIN	3.0	2.5	2.5	2.5	2.5	2.8	6.4	18	12	4.0	2.1	1.9
CFSM	.40	.35	.35	.36	.36	.39	1.29	4.11	3.00	.81	.34	.26
IN.	.46	.39	.40	.42	.37	.45	1.44	4.74	3.35	.93	.39	.28
AC-FT	206	176	182	188	167	203	649	2,130	1,510	419	174	128

CAL YR 1960: TOTAL	MEAN	MAX	MIN	CFSM	IN	AC-FT
WAT YR 1961: TOTAL 3,023.9	MEAN 8.48	MAX 52	MIN 1.9	CFSM 1.00	IN 13.62	AC-FT 6,140

Note.--No gage-height record Nov. 29 to Dec. 29, Jan. 26 to Mar. 19. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4516.2. Grade Creek near Manson, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.2	2.6					2.4	7.9	10	6.1	2.2	1.5
2	2.2	2.6					2.9	7.6	9.6	5.8	2.2	1.5
3	2.2	2.8					3.6	7.5	9.2	5.8	2.9	1.4
4	2.1	2.6					4.5	7.3	8.8	5.8	3.5	1.4
5	2.2	2.6					4.5	7.0	8.8	5.8	2.7	1.4
6	2.2	2.6		2.0			4.7	7.0	8.8	5.5	2.7	1.2
7	2.2	2.6					5.3	6.7	9.6	5.2	2.9	1.2
8	2.2	2.6					5.0	7.0	10	4.9	2.9	1.4
9	2.2	2.6					4.6	7.0	9.2	4.9	2.7	1.5
10	2.4	2.8					4.6	6.7	8.8	4.6	2.4	1.6
11	2.4	2.6					4.6	6.7	8.8	4.6	2.2	1.5
12	2.8	2.1					4.8	6.7	8.8	4.3	2.2	1.4
13	2.8	2.6					5.3	6.7	9.2	4.3	1.9	1.6
14	2.6	2.6					6.0	6.4	10	4.0	1.9	1.5
15	2.4	2.4					8.2	6.7	9.6	4.0	1.9	1.4
16	2.4	2.4	1.5		2.5	2.0	8.5	7.0	9.6	3.8	1.9	1.2
17	2.2	2.4					9.0	7.3	9.6	3.5	1.9	1.2
18	2.2	2.4					11	7.6	9.2	3.5	1.9	1.2
19	2.2	2.4					12	7.6	8.8	3.5	1.9	1.2
20	2.2	1.9					12	7.6	8.8	3.2	1.9	1.2
21	2.2	2.1		1.5			11	7.9	8.5	3.2	1.9	1.2
22	2.2	2.4					11	8.2	8.5	2.9	1.9	1.2
23	2.2						11	8.5	8.2	2.9	1.9	1.2
24	2.2						11	11	7.9	2.9	1.9	1.2
25	2.4						11	12	7.6	2.7	1.9	1.2
26	2.4	2.0					9.6	11	7.3	2.7	1.9	1.2
27	2.6						8.5	12	7.3	2.7	1.8	1.2
28	2.1						8.2	11	7.0	2.7	1.8	1.9
29	2.4				------		8.2	11	6.7	2.4	1.8	1.8
30	2.8				------		7.9	11	6.4	2.2	1.6	1.6
31	2.8	------			------		------	11	------	2.2	1.6	------
TOTAL	72.6	70.7	46.5	51.5	70.0	62.0	221.0	256.7	260.6	122.6	66.7	41.2
MEAN	2.34	2.36	1.50	1.66	2.50	2.00	7.37	8.28	8.69	3.95	2.15	1.37
MAX	2.8	2.8	-	-	-	-	12	12	10	6.1	3.5	1.9
MIN	2.1	-	-	-	-	-	2.4	6.4	6.4	2.2	1.6	1.2
CFSM	.28	.28	.18	.20	.30	.24	.87	.98	1.03	.47	.25	.16
IN.	.32	.31	.20	.23	.31	.27	.97	1.13	1.15	.54	.29	.18
AC-FT	144	140	92	102	139	123	438	509	517	243	132	82

CAL YR 1961: TOTAL 2,999.2 MEAN 8.22 MAX 52 MIN - CFSM .97 IN 13.20 AC-FT 5,950
WAT YR 1962: TOTAL 1,342.1 MEAN 3.68 MAX 12 MIN 1.2 CFSM .44 IN 5.91 AC-FT 2,660

Note.--No gage-height record Nov. 23 to Apr. 18. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.6	2.2				2.0	2.2	13	29	7.0	4.0	1.8
2	1.8	2.2				2.0	2.6	13	27	7.0	4.3	1.8
3	1.9	2.2			1.8	2.0	2.2	13	27	7.0	4.3	1.8
4	1.9	2.2				2.0	2.6	13	26	6.6	4.3	1.6
5	1.9	2.2				1.8	3.0	13	24	7.0	4.3	1.6
6	1.9	2.2	1.8	2.0		1.8	3.0	13	22	7.0	4.3	1.6
7	1.9	1.9				1.8	2.8	13	21	6.2	4.3	1.6
8	2.2	2.2				1.8	2.8	13	20	6.2	4.3	1.6
9	2.7	2.2				2.0	2.2	13	19	5.9	4.3	1.6
10	2.2	2.2				2.2	2.2	13	18	5.6	4.3	1.6
11	2.7	2.2				2.2	2.4	13	17	5.2	4.3	1.6
12	2.7	1.9				2.0	2.4	13	16	5.2	3.8	1.6
13	2.9	1.9				2.0	2.8	13	15	5.1	4.0	1.8
14	2.4	1.8				2.0	4.9	14	14	5.0	4.0	1.8
15	2.2	1.4				2.0	7.0	16	14	4.9	3.5	1.8
16	2.2	1.2	2.2			2.0	7.0	19	12	4.8	3.5	2.4
17	2.4	1.8			2.1	1.8	7.0	21	11	4.6	3.2	2.2
18	2.9	1.5				1.8	7.0	24	10	4.5	3.2	2.0
19	2.7	4.9				1.6	7.0	28	9.8	4.5	3.0	2.0
20	2.9	5.2				1.8	7.0	33	9.4	4.5	3.0	2.0
21	2.7	3.5		1.5		2.2	7.0	38	9.0	4.3	3.0	1.8
22	2.4	2.4				2.2	7.0	40	9.4	4.1	3.0	2.2
23	2.4	2.2				2.4	7.0	44	9.0	4.0	2.8	2.0
24	2.2	2.0				2.2	7.0	47	8.6	4.0	2.6	1.8
25	2.2	1.9				2.4	7.0	46	7.8	3.9	2.6	1.8
26	2.2	1.8	1.8			2.6	8.0	43	7.4	3.8	2.6	1.6
27	2.2	1.7				2.8	9.0	39	7.4	3.6	2.2	1.6
28	2.2	1.6				2.6	10	36	8.2	3.5	2.0	1.5
29	2.2	1.6			------	2.4	12	36	7.4	3.5	2.0	1.6
30	2.2	1.6			------	2.4	14	34	7.4	3.5	1.8	1.5
31	2.2	------			------	2.2	------	31	------	3.8	1.8	------
TOTAL	71.1	65.8	59.8	51.5	57.3	65.0	168.1	758	442.8	155.8	104.6	53.2
MEAN	2.29	2.19	1.93	1.66	2.05	2.10	5.60	24.5	14.8	5.03	3.37	1.77
MAX	2.9	5.2	-	-	-	2.8	14	47	29	7.0	4.3	2.4
MIN	1.6	1.2	-	-	-	1.6	2.2	13	7.4	3.5	1.8	1.5
CFSM	.27	.26	.23	.20	.24	.25	.66	2.89	1.75	.59	.40	.21
IN.	.31	.29	.26	.23	.25	.29	.74	3.34	1.95	.69	.46	.23
AC-FT	141	131	119	102	114	129	333	1,500	878	309	207	106

CAL YR 1962: TOTAL 1,349.0 MEAN 3.70 MAX 12 MIN 1.2 CFSM .44 IN 5.94 AC-FT 2,680
WAT YR 1963: TOTAL 2,053.0 MEAN 5.62 MAX 47 MIN 1.2 CFSM .67 IN 9.04 AC-FT 4,070

Note.--No gage-height record Nov. 28 to Mar. 1. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4516.2. Grade Creek near Manson, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.4	1.6		1.6			4.6	10	38	18	6.2	3.0
2	1.4	1.6					4.3	9.8	44	18	5.9	2.8
3	1.4	1.6					4.0	11	41	17	6.0	2.8
4	1.4	1.8					4.3	12	41	17	6.6	2.6
5	1.6	1.6					4.6	12	40	16	5.2	2.6
6	1.5	1.8					4.6	12	39	16	4.9	2.4
7	1.5	1.6					4.6	13	38	15	4.6	2.4
8	1.4	1.6	1.6	1.7	1.5		5.2	14	43	14	4.3	2.6
9	1.4	1.6					5.6	17	40	14	4.3	2.6
10	1.4	1.6					5.6	18	39	13	4.3	2.6
11	1.2	1.6					5.0	19	38	12	4.0	2.6
12	1.2	1.8				1.7	5.6	20	36	11	4.0	2.4
13	1.2	1.8					5.2	20	33	11	3.8	2.4
14	1.4	2.8					6.2	19	31	11	3.8	2.4
15	1.4	2.0					7.0	19	30	11	3.5	2.4
16	1.2	1.8					6.6	20	34	10	3.5	2.4
17	1.2	1.8					6.2	22	31	10	3.5	2.2
18	1.2	1.6					6.2	23	28	9.4	3.5	2.2
19	1.4	1.6					7.0	26	27	8.6	3.2	2.4
20	1.4	1.2					7.8	30	26	8.2	3.2	2.6
21	1.8	1.4					8.2	29	24	7.8	3.0	2.4
22	1.8	1.8			1.7		7.8	27	24	7.8	3.0	2.4
23	1.6	1.6	1.5	1.5		1.8	7.4	26	23	7.4	3.0	2.4
24	1.8	1.6				1.9	7.8	25	22	7.0	3.0	2.4
25	1.6	1.6				2.0	8.6	24	21	6.6	3.0	2.4
26	1.6	2.2				2.1	9.0	24	21	6.2	3.0	2.4
27	1.6	1.8				2.2	9.0	25	20	5.9	3.0	2.4
28	1.6	1.8				2.4	9.0	27	20	5.9	3.0	2.4
29	1.5	1.6				2.6	9.8	33	19	5.9	3.0	2.4
30	1.6	1.6			-------	3.5	10	34	19	5.9	3.2	3.2
31	1.6	-------			-------	4.0	------	36	-------	5.9	3.5	------
TOTAL	45.3	51.4	48.0	49.4	46.3	59.9	197.7	656.8	930	332.5	122.6	75.2
MEAN	1.46	1.71	1.55	1.59	1.60	1.93	6.59	21.2	31.0	10.7	3.95	2.51
MAX	1.8	2.8	-	-	-	4.0	10	36	44	18	6.6	3.2
MIN	1.2	1.2	-	-	-	-	4.0	9.8	19	5.9	3.0	2.2
CFSM	.17	.20	.18	.19	.19	.23	.78	2.51	3.67	1.27	.47	.30
IN.	.20	.23	.21	.22	.20	.26	.87	2.89	4.09	1.46	.54	.33
AC-FT	90	102	95	98	92	119	392	1,300	1,840	660	243	149

CAL YR 1963: TOTAL 2,001.0 MEAN 5.48 MAX 47 MIN - CFSM .65 IN 8.81 AC-FT 3,970
WAT YR 1964: TOTAL 2,615.1 MEAN 7.15 MAX 44 MIN - CFSM .85 IN 11.51 AC-FT 5,190

Note.--No gage-height record Nov. 29 to Mar. 26. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	2.6	2.4				2.8	19	25	7.1	3.5	2.5
2	2.6	2.4	2.2				3.0	15	24	6.2	3.5	2.4
3	2.4	2.6	2.2				3.2	14	26	5.9	3.8	2.4
4	2.4	2.8	2.0				3.8	12	26	6.2	3.6	2.2
5	2.4	2.6	1.8				4.6	11	24	5.9	3.6	2.2
						2.2						
6	2.4	2.4	1.8				4.6	10	20	5.6	3.1	2.2
7	2.4	2.6	1.8				4.6	10	19	5.4	3.1	2.2
8	2.6	2.4	1.8				4.3	11	18	5.4	3.1	2.1
9	2.8	2.4	1.8				4.6	13	17	5.4	3.0	2.1
10	2.6	2.4	1.8				4.6	14	17	5.4	2.8	2.4
11	2.6	2.2	1.6				5.2	18	19	5.6	2.8	2.5
12	2.4	2.4					7.0	22	15	5.4	3.3	2.4
13	2.4	2.2				3.7	8.6	24	14	5.4	3.1	2.4
14	2.6	2.1					9.0	24	13	5.2	3.0	2.5
15	2.6	2.4		1.2			9.8	23	12	4.9	2.8	2.5
					2.1							
16	2.4	2.4				3.8	12	23	12	4.7	2.7	2.5
17	2.4	2.4				3.5	12	21	12	4.7	2.4	2.5
18	2.4	2.2				3.2	11	19	11	4.7	2.2	2.5
19	2.4	2.2				3.2	11	19	10	4.4	2.2	2.5
20	2.4	2.2				3.0	12	19	10	5.4	4.2	2.5
21	2.4	2.2	1.4			3.0	13	17	9.2	5.2	3.1	2.5
22	2.2	2.2				3.0	13	17	8.8	5.2	3.0	2.5
23	2.2	2.2				2.8	15	17	8.4	4.7	3.6	2.5
24	2.2	2.4				2.8	17	19	8.1	4.4	3.6	2.5
25	2.2	2.4				2.8	19	19	7.8	4.2	3.1	2.5
26	2.2	2.2				3.0	22	21	8.1	4.9	3.0	2.5
27	2.2	2.0				2.8	24	24	7.8	5.2	2.8	2.5
28	2.4	2.0				2.8	24	27	7.8	4.0	2.7	2.7
29	2.4	2.2			-------	2.8	24	29	7.4	3.8	2.7	2.7
30	2.6	2.2		2.0	-------	2.8	22	28	7.1	3.6	2.5	2.7
31	2.6	-------			-------	2.8	------	26	-------	3.6	2.5	------
TOTAL	75.8	69.9	49.2	40.4	58.8	88.6	330.7	585	424.5	157.7	94.4	73.1
MEAN	2.45	2.33	1.59	1.30	2.10	2.86	11.0	18.9	14.2	5.09	3.05	2.44
MAX	3.0	2.8	2.4	-	-	-	24	29	26	7.1	4.2	2.7
MIN	2.2	2.0	-	-	-	-	2.8	10	7.1	3.6	2.2	2.1
CFSM	.29	.28	.19	.15	.25	.34	1.30	2.23	1.67	.60	.36	.29
IN.	.33	.31	.22	.18	.26	.39	1.46	2.57	1.87	.69	.42	.32
AC-FT	150	139	98	80	117	176	656	1,160	842	313	187	145

CAL YR 1964: TOTAL 2,665.3 MEAN 7.28 MAX 44 MIN - CFSM .86 IN 11.73 AC-FT 5,290
WAT YR 1965: TOTAL 2,048.1 MEAN 5.61 MAX 29 MIN - CFSM .66 IN 9.01 AC-FT 4,060

Note.--No gage-height record Dec. 12 to Mar. 14.

12-4516.5. Gold Creek near Manson, Wash.

Location.--Lat 48°01'30", long 120°11'20", in NW¼SE¼ sec.10, T.29 N., R.21 E., on right bank 150 ft upstream from irrigation diversion dam and 21 miles uplake from Chelan on north side of lake.

Drainage area.--6.30 sq mi.

Records available.--October 1960 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 3,000 ft (from topographic map).

Average discharge.--5 years, 0.76 cfs (550 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 22, 1961	11	0.92	Feb. 4, 1961	0.26	0.46
1962	Apr. 19, 1962	1.5	.63	Many days	.20	-
1963	May 20-23, 1963	3.6	.73	Oct. 2, 3, 4, 1962	a .10	-
1964	May 21, 22, 23	1.9	.63	Many days	a .10	-
1965	Apr. 28, 1965	3.0	b .76	do.	a .10	-

a Minimum daily.
b Maximum gage height for year, 0.78 ft, date unknown, backwater from ice.

1960-65: Maximum discharge, 11 cfs May 22, 1961 (gage height, 0.92 ft); minimum daily, 0.10 cfs Oct. 2, 3, 4, 1962, Oct. 18 to Nov. 13, 1963, Sept. 29, 30, Oct. 6-29, 1964, Dec. 16, 1964, to Jan. 31, 1965.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No regulation or diversion above station. Most of low flows diverted by Lake Chelan Reclamation District 150 ft below station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.50	.80	.60	.40	.40	.50	2.3	5.0	6.8	1.8	1.0	.60
2	.50	.70	.60	.40	.30	.50	2.6	4.7	6.4	1.8	.90	.60
3	.50	.60	.60	.40	.30	.50	2.8	4.0	6.0	1.8	.90	.60
4	.50	.60	.50	.40	.30	.50	2.5	3.8	5.6	1.6	.80	.60
5	.50	.60	.50	.40	.30	.50	2.0	3.6	5.6	1.8	.80	.60
6	.50	.60	.50	.40	.50	.50	1.8	3.4	5.6	1.8	.80	.60
7	.60	.60	.50	.40	.50	.50	1.7	3.4	5.6	1.6	.80	.60
8	.70	.50	.50	.40	.50	.50	1.7	3.4	4.8	1.6	.80	.60
9	.60	.50	.50	.40	.50	.50	1.8	3.6	4.1	1.5	.70	.60
10	.50	.60	.50	.40	.50	.50	1.9	3.8	4.1	1.5	.70	.60
11	.50	.60	.50	.40	.50	.50	2.1	4.1	4.5	1.4	.70	.60
12	.50	.60	.50	.40	.50	.50	2.2	4.1	3.8	1.4	.70	.60
13	.50	.60	.50	.40	.50	.50	2.2	4.5	3.6	1.3	.60	.60
14	.50	.50	.50	.50	.50	.60	2.1	4.8	3.4	1.3	.60	.60
15	.50	.40	.50	.50	.50	.70	2.1	5.6	3.1	1.3	.70	.60
16	.50	.60	.50	.60	.50	.70	2.2	6.8	3.0	1.3	.80	.50
17	.50	.60	.50	.50	.50	.60	2.6	7.6	2.8	1.3	.70	.50
18	.50	.60	.50	.50	.50	.60	2.7	8.4	2.6	1.2	.60	.50
19	.50	.60	.50	.50	.50	.60	2.6	9.2	2.4	1.2	.60	.50
20	.50	.60	.40	.50	.50	.70	2.3	10	2.4	1.2	.50	.50
21	.50	.50	.40	.50	.60	.70	2.2	11	2.4	1.2	.50	.60
22	.50	.30	.40	.50	.60	.70	2.2	11	2.3	1.1	.50	.50
23	.50	.40	.40	.40	.60	.70	2.2	11	2.2	1.1	.50	.50
24	.60	.50	.40	.40	.60	.70	2.3	10	2.0	1.1	.50	.50
25	.60	.50	.40	.40	.60	.70	2.5	9.6	2.0	1.1	.50	.50
26	.50	.60	.40	.40	.50	.70	2.8	9.6	2.0	1.1	.50	.50
27	.60	.50	.40	.40	.50	.70	3.2	9.2	1.9	1.1	.50	.50
28	.60	.60	.50	.40	.50	.80	3.8	8.8	1.9	1.1	.50	.50
29	.60	.60	.50	.40	------	1.0	4.5	8.0	1.9	1.1	.50	.50
30	.60	.60	.40	.40	------	1.3	5.0	8.0	1.9	1.0	.50	.50
31	.70	------	.40	.40	------	1.9	------	7.2	------	1.0	.50	------
TOTAL	16.80	17.00	14.80	13.40	13.60	20.90	74.9	207.2	106.7	41.7	20.20	16.60
MEAN	.54	.57	.48	.43	.49	.67	2.50	6.68	3.56	1.35	.65	.55
MAX	.70	.80	.60	.60	.60	1.9	5.0	11	6.8	1.8	1.0	.60
MIN	.50	.30	.40	.40	.30	.50	1.7	3.4	1.9	1.0	.50	.50
CFSM	.09	.09	.08	.07	.08	.11	.40	1.06	.56	.21	.10	.09
IN.	.10	.10	.09	.08	.08	.12	.44	1.22	.63	.25	.12	.10
AC-FT	33	34	29	27	27	41	149	411	212	83	40	33

CAL YR 1960: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1961: TOTAL 563.80 MEAN 1.54 MAX 11 MIN .30 CFSM .25 IN 3.33 AC-FT 1,120

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4516.5. Gold Creek near Manson, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.50	.60					.60	1.0	.80	.40	.20	.20
2	.50	.40					.60	1.0	.80	.40	.20	.20
3	.50	.50					.70	1.1	.80	.40	.20	.20
4	.50	.40					.90	1.0	.70	.40	.70	.20
5	.50	.40					.90	1.0	.70	.40	.40	.20
6	.50	.40		.60			.90	1.0	.70	.40	.40	.20
7	.50	.50					1.0	1.0	.80	.40	.30	.20
8	.50	.50					1.0	1.0	.80	.30	.30	.20
9	.50	.60					1.0	1.0	.80	.30	.30	.20
10	.50	.60					1.0	1.0	.70	.30	.30	.20
11	.50	.60		.50			1.0	1.0	.70	.30	.30	.20
12	.60	.60		.50			1.0	1.1	.70	.30	.30	.20
13	.60	.60		.50			1.1	1.1	.70	.30	.30	.20
14	.60	.60		.50			1.2	1.0	.70	.20	.30	.20
15	.50	.50		.50			1.3	1.0	.70	.20	.30	.20
16	.50	.40	.50	.50	.60	.50	1.2	1.0	.60	.20	.30	.20
17	.50	.40		.50			1.3	1.0	.60	.20	.30	.20
18	.50	.50					1.3	1.0	.60	.20	.30	.20
19	.60	.50					1.4	1.0	.60	.20	.20	.20
20	.60	.50					1.4	1.0	.50	.20	.20	.20
21	.60	.50					1.3	1.0	.50	.20	.20	.20
22	.60	.50					1.4	.90	.50	.20	.20	.20
23	.60	.50					1.4	1.0	.50	.20	.20	.20
24	.60	.50					1.4	1.1	.40	.20	.20	.20
25	.60	.50		.50			1.3	1.1	.40	.20	.20	.20
26	.60	.50					1.2	1.0	.40	.20	.20	.20
27	.60	.50					1.3	1.0	.40	.20	.20	.20
28	.60	.50					1.1	1.0	.40	.20	.20	.20
29	.50	.50			------		1.1	1.0	.40	.20	.20	.20
30	.60	.50			------		1.0	.90	.40	.20	.20	.20
31	.60	------			------		------	.80	------	.20	.20	------
TOTAL	17.00	15.10	15.50	16.50	16.80	15.50	33.30	31.10	18.30	8.20	8.30	6.00
MEAN	.55	.50	.50	.53	.60	.50	1.11	1.00	.61	.26	.27	.20
MAX	.60	.60	-	-	-	-	1.4	1.1	.80	.40	.70	.20
MIN	.50	.40	-	-	-	-	.60	.80	.40	.20	.20	.20
CFSM	.09	.08	.08	.08	.10	.08	.18	.16	.10	.04	.04	.03
IN.	.10	.09	.09	.10	.10	.09	.20	.18	.11	.05	.05	.04
AC-FT	34	30	31	33	33	31	66	62	36	16	16	12

CAL YR 1961: TOTAL 562.80 MEAN 1.54 MAX 11 MIN .30 CFSM .24 IN 3.32 AC-FT 1,120
WAT YR 1962: TOTAL 201.60 MEAN .55 MAX 1.4 MIN .20 CFSM .09 IN 1.19 AC-FT 400

Note.--No gage-height record Nov. 20 to Jan 13, Jan. 18 to Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	.30		.30	.20	.40	.30	2.3	2.4	1.0	.60	.30
2	.10	.30		.30	.20	.40	.40	2.3	2.3	1.0	.50	.30
3	.10	.30		.30	.20	.40	.40	2.3	2.0	1.0	.50	.30
4	.10	.30		.30	.20	.40	.40	2.3	1.9	1.0	.50	.30
5	.20	.30		.30	.20	.40	.40	2.4	1.9	1.0	.50	.30
6	.20	.30		.30	.20	.40	.40	2.4	1.8	.90	.50	.30
7	.20	.30		.30	.20	.40	.40	2.4	1.8	.90	.50	.30
8	.20	.30		.30		.40	.40	2.4	1.5	.90	.50	.30
9	.20	.30		.30		.40	.40	2.4	1.5	.80	.50	.30
10	.20	.30	.40	.30		.40	.50	2.4	1.5	.80	.50	.30
11	.20	.30		.30		.40	.50	2.6	1.4	.80	.40	.30
12	.30	.30		.30		.40	.50	2.6	1.4	.80	.40	.30
13	.30	.30		.30		.40	.60	2.8	1.2	.80	.40	.30
14	.40			.30	.40	.40	.90	2.8	1.3	.80	.40	.30
15	.40			.30		.40	1.5	3.0	1.2	.80	.40	.30
16	.40	.30		.30		.40	1.4	3.0	1.1	.80	.40	.30
17	.40			.20		.40	1.4	3.1	1.1	.70	.40	.30
18	.40			.20		.40	1.4	3.4	1.0	.70	.40	.30
19	.40			.20		.30	1.4	3.4	1.0	.70	.30	.30
20	.40		.40	.20		.30	1.5	3.4	1.0	.70	.30	.30
21	.40	.50	.40	.20	.40	.30	1.5	3.6	1.1	.70	.30	.30
22	.40		.40	.20	.40	.30	1.6	3.6	1.1	.60	.30	.30
23	.40		.40	.20	.40	.30	1.6	3.6	1.1	.60	.30	.30
24	.40		.40	.20	.40	.30	1.8	3.4	1.1	.60	.30	.20
25	.40		.40	.20	.40	.30	1.8	3.4	1.1	.60	.30	.20
26	.40		.40	.20	.40	.30	1.9	3.4	1.1	.60	.30	.20
27	.40		.40	.20	.40	.30	2.0	3.4	1.1	.60	.30	.20
28	.30	.40	.30	.20	.40	.30	2.0	3.1	1.0	.60	.30	.20
29	.30		.30	.20	------	.30	2.4	3.0	1.0	.60	.30	.20
30	.30		.30	.20	------	.30	2.3	2.6	1.0	.60	.30	.20
31	.30	------	.30	.20	------	.30	------	2.4	------	.60	.30	------
TOTAL	9.30	10.90	12.00	7.80	9.80	11.10	34.00	89.2	41.0	23.60	12.20	8.30
MEAN	.30	.36	.39	.25	.35	.36	1.13	2.88	1.37	.76	.39	.28
MAX	.40	-	-	.30	-	.40	2.4	3.6	2.4	1.0	.60	.30
MIN	.10	-	-	.20	-	.30	.30	2.3	1.0	.60	.30	.20
CFSM	.05	.06	.06	.04	.06	.06	.18	.46	.22	.12	.06	.04
IN.	.05	.06	.07	.05	.06	.07	.20	.53	.24	.14	.07	.05
AC-FT	18	22	24	15	19	22	67	177	81	47	24	16

CAL YR 1962: TOTAL 186.20 MEAN .51 MAX 1.4 MIN .10 CFSM .08 IN 1.10 AC-FT 369
WAT YR 1963: TOTAL 269.20 MEAN .74 MAX 3.6 MIN .10 CFSM .12 IN 1.59 AC-FT 534

Note.--No gage-height record Nov. 14 to Dec. 19.

12-4516.5. Gold Creek near Manson, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	.10	.20	.20				1.1	1.6	.80	.30	.20
2	.20	.10	.20	.20				1.2	1.9	.70	.30	.20
3	.20	.10	.30	.20			.50	1.2	1.8	.70	.30	.20
4	.20	.10	.30	.20				1.2	1.8	.60	.30	.20
5	.20	.10	.30					1.2	1.6	.60	.30	.20
6	.20	.10	.30					1.3	1.5	.60	.30	.20
7	.20	.10	.30					1.3	1.5	.60	.30	.20
8	.20	.10	.30				.60	1.3	1.6	.60	.30	.20
9	.20	.10	.30					1.4	1.8	.60	.30	.20
10	.20	.10	.30			.20		1.5	1.5	.60	.30	.20
11	.20	.10	.30					1.5	1.5	.60	.30	.20
12	.20	.10	.30					1.5	1.5	.60	.30	.20
13	.20	.10	.30					1.6	1.4	.60	.30	.20
14	.20	.20	.30					1.6	1.4	.50	.30	.20
15	.20	.20	.30				.80	1.6	1.3	.50	.30	.20
16	.20	.20	.30		.20			1.5	1.3	.50	.30	.20
17	.20	.20	.30					1.5	1.3	.50	.30	.20
18	.10	.20	.20	.20				1.6	1.3	.50	.30	.20
19	.10	.20	.20				1.0	1.8	1.2	.50	.30	.20
20	.10	.20	.20				1.0	1.8	1.2	.50	.30	.20
21	.10	.20	.20				1.0	1.8	1.2	.40	.30	.20
22	.10	.20	.20				1.0	1.8	1.1	.40	.20	.20
23	.10	.20	.20				1.0	1.8	1.1	.40	.20	.20
24	.10	.20	.20				1.0	1.8	1.0	.40	.20	.20
25	.10	.20	.20			.30	1.0	1.8	1.0	.40	.20	.20
26	.10	.20	.20				1.0	1.8	.90	.40	.20	.20
27	.10	.20	.20				1.0	1.6	.90	.40	.20	.20
28	.10	.20	.20				1.0	1.6	.90	.40	.20	.20
29	.10	.20	.20				1.1	1.6	.80	.30	.20	.10
30	.10	.20	.20		------		1.1	1.6	.80	.30	.20	.10
31	.10	------	.20		------		------	1.6	------	.30	.20	------
TOTAL	4.80	4.70	7.70	6.20	5.80	7.60	24.10	47.8	39.70	15.80	8.30	5.80
MEAN	.15	.15	.25	.20	.20	.25	.80	1.54	1.32	.51	.27	.19
MAX	.20	.20	.30	-	-	-	1.1	1.8	1.8	.80	.30	.20
MIN	.10	.10	.20	-	-	-	-	1.1	.80	.30	.20	.10
CFSM	.02	.02	.04	.03	.03	.04	.13	.24	.21	.08	.04	.03
IN.	.03	.03	.05	.04	.03	.04	.14	.28	.23	.09	.05	.03
AC-FT	9.5	9.3	15	12	12	15	48	95	79	31	16	12

CAL YR 1963: TOTAL 254.20 MEAN .70 MAX 3.6 MIN .10 CFSM .11 IN 1.50 AC-FT 504
WAT YR 1964: TOTAL 178.30 MEAN .49 MAX 1.9 MIN .10 CFSM .08 IN 1.05 AC-FT 354

Note.--No gage-height record Jan. 5 to Apr. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	.20	.20					2.3	1.2	.50	.30	.30
2	.20	.20	.20					2.1	1.0	.50	.30	.30
3	.20	.20	.20				.40	2.0	1.0	.50	.30	.30
4	.20	.20	.20					2.0	1.0	.50	.30	.30
5	.20	.20	.20					1.8	.90	.50	.30	.30
6	.10	.20	.20			.30		1.7	.90	.50	.30	.30
7	.10	.20	.20					1.6	.80	.50	.30	.30
8	.10	.20	.20				.50	1.6	.70	.40	.20	.30
9	.10	.20	.20					1.6	.70	.40	.20	.30
10	.10	.20	.20				.60	1.4	.70	.40	.20	.30
11	.10	.20	.20				.60	1.5	.70	.40	.20	.30
12	.10	.20					.60	1.6	.60	.40	.20	.30
13	.10	.20					.70	1.7	.80	.40	.20	.30
14	.10	.20	.20				.80	1.7	.80	.40	.20	.30
15	.10	.20					1.0	1.7	.80	.40	.20	.30
16	.10	.20		.10	.20	.40	1.2	1.7	.70	.40	.20	.30
17	.10	.20					1.4	1.7	.70	.40	.20	.30
18	.10	.20					1.4	1.7	.70	.40	.20	.30
19	.10	.20					1.4	1.7	.70	.40	.20	.30
20	.10	.20					1.6	1.6	.70	.40	.20	.30
21	.10	.20					1.7	1.5	.70	.30	.20	.30
22	.10	.20					1.8	1.5	.60	.30	.20	.30
23	.10	.20	.10				2.0	1.5	.60	.30	.30	.30
24	.10	.20					2.0	1.5	.60	.30	.30	.30
25	.10	.20					2.1	1.5	.60	.30	.30	.30
26	.10	.20				.30	2.3	1.5	.60	.30	.30	.30
27	.10	.20					2.4	1.5	.60	.30	.30	.30
28	.10	.20					2.6	1.4	.60	.30	.30	.30
29	.10	.20			------		2.8	1.4	.60	.30	.30	.30
30	.20	.20			------		2.4	1.2	.60	.30	.30	.30
31	.20	------			------		------	1.2	------	.30	.30	------
TOTAL	3.80	6.00	4.60	3.10	5.60	10.30	37.40	50.4	22.50	12.00	7.80	9.00
MEAN	.12	.20	.15	.10	.20	.33	1.25	1.63	.75	.39	.25	.30
MAX	.20	.20	-	-	-	-	2.8	2.3	1.2	.50	.30	.30
MIN	.10	.20	-	-	-	-	-	1.2	.60	.30	.20	.30
CFSM	.02	.03	.02	.02	.03	.05	.20	.26	.12	.06	.04	.05
IN.	.02	.04	.03	.02	.03	.06	.22	.30	.13	.07	.05	.05
AC-FT	7.5	12	9.1	6.2	11	20	74	100	45	24	15	18

CAL YR 1964: TOTAL 175.50 MEAN .48 MAX 1.9 MIN - CFSM .08 IN 1.04 AC-FT 348
WAT YR 1965: TOTAL 172.50 MEAN .47 MAX 2.8 MIN - CFSM .08 IN 1.02 AC-FT 342

Note.--No gage-height record Dec. 12 to Apr. 9.

12-4517. Antilon Lake Feeder System near Manson, Wash.

Location.--Lat 47°58'30", long 120°09'30", in SE¼ sec.26, T.29 N., R.21 E., on left bank at tunnel outlet, 500 ft upstream from Antilon Lake and 6 miles north of Manson.

Records available.--March 1958 to September 1965 (seasonal records only).

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,500 ft (from topographic map).

Extremes.--1958-65: Maximum daily discharge, 68 cfs May 17-20, 1958; minimum daily determined, 0.20 cfs Apr. 22-25, Oct. 24-31, 1962, Nov. 5-13, 1964.

Remarks.--Records good. Flow at site represents total diversion from headwaters of 10 streams, which have a drainage area of 52 sq mi and are tributaries to Lake Chelan. Water stored in Antilon Lake is used for irrigation of 4,000 acres near Manson.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.5	8.2					9.7	41	.90	41	13	10
2	6.5	6.8					10	41	.90	40	12	9.3
3	6.5	6.5					10	41	.90	40	12	8.6
4	6.5	6.5					10	40	.70	40	12	7.9
5	6.5	6.5					10	40	.60	41	12	7.6
6	6.8	6.5					10	40	2.6	40	12	7.3
7	6.8	6.5					9.7	40	21	35	12	7.3
8	6.8	6.5					10	41	48	30	11	7.3
9	6.5	6.0	* .50				11	42	60	31	10	7.0
10	6.5	-					12	44	59	29	10	7.0
11	6.5	-					13	47	61	28	10	6.7
12	6.5	-					13	50	58	27	9.7	6.7
13	6.5	-					13	52	55	26	10	6.7
14	6.5	-					12	54	56	25	9.7	6.7
15	6.5	-					12	56	61	24	9.7	6.5
16	6.5	-					14	61	60	23	12	6.5
17	6.5	-					14	62	48	23	10	6.5
18	6.5	-					15	64	54	22	9.7	6.2
19	6.5	-					14	62	49	21	9.7	6.2
20	6.5	-					14	63	44	21	9.7	6.2
21	6.5	-					14	3.5	40	20	8.9	5.7
22	6.3	-					14	1.8	39	19	9.3	6.7
23	6.5	-					14	1.8	39	20	8.6	6.7
24	6.5	-					14	1.0	36	18	8.6	6.7
25	6.5	-					15	.50	34	17	8.2	6.5
26	6.5	-					16	.60	32	16	8.2	6.5
27	6.3	-					20	.80	32	16	8.2	6.5
28	6.5	-					26	.80	37	16	7.9	7.0
29	6.5	-			------		40	.80	40	16	7.6	7.3
30	6.3	-			------		40	.90	40	14	7.6	7.0
31	6.8	------			------	† 7.8	------	.90	------	14	7.9	------
TOTAL	202.1	-	-	-	-	-	449.4	994.4	1,119.6	793.0	307.2	210.8
MEAN	6.52	-	-	-	-	-	15.0	32.1	37.3	25.6	9.90	7.03
MAX	6.8	-	-	-	-	-	40	64	61	41	13	10
MIN	6.3	-	-	-	-	-	9.7	.50	.60	14	7.6	5.7
AC-FT	401	-	-	-	-	-	891	1,970	2,220	1,570	609	418

* Result of field estimate.

† Result of discharge measurement.

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4517. Antilon Lake Feeder System near Manson, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.0	7.3					3.8	24	41	35	8.5	5.5
2	7.0	6.8					3.8	26	41	34	7.9	5.5
3	7.0	5.3					3.8	26	39	33	10	5.3
4	7.0	2.3					3.8	24	36	32	13	5.3
5	7.0	2.3					3.8	24	36	31	9.8	5.3
6	6.8	2.2					4.0	24	37	27	9.2	5.0
7	6.8	1.6					4.0	23	38	27	10	5.0
8	6.8	1.4					4.0	23	39	26	11	5.0
9	7.0	1.4					4.0	23	37	24	9.5	5.3
10	7.0	1.4					4.0	23	37	23	8.8	5.3
11	7.0	1.4					4.0	22	37	21	8.8	5.5
12	7.6	1.4					5.0	22	37	20	9.2	5.0
13	8.2	1.4					5.0	22	37	19	8.5	5.0
14	7.6	1.4					5.0	21	37	18	8.2	5.0
15	7.0	-					6.0	21	39	18	7.6	4.6
16	6.8	-					6.0	22	40	16	7.0	4.4
17	6.5	-					14	24	40	16	7.3	4.2
18	6.3	-					17	25	39	16	6.8	4.2
19	6.3	-					28	26	39	15	6.8	4.2
20	6.3	-					18	29	38	14	6.5	4.2
21	6.5	-					.20	33	38	14	6.3	4.2
22	6.3	-					.20	37	38	14	6.0	4.2
23	6.5	-					.20	42	39	14	6.0	4.0
24	6.5	-					.20	47	40	13	6.0	4.0
25	6.5	-					.20	48	40	12	5.8	4.2
26	6.8	-					.30	51	37	12	6.0	4.2
27	7.3	-					4.6	56	34	12	5.8	4.2
28	7.0	-					14	52	35	12	6.0	6.0
29	7.0	.40			------		13	46	36	10	6.0	5.5
30	7.3	-			------		16	44	36	9.5	5.8	4.8
31	7.6	------			------		------	42	------	8.8	5.5	------
TOTAL	214.3	-	-	-	-	-	195.9	972	1,137	596.3	240.1	144.1
MEAN	6.91	-	-	-	-	-	6.53	31.4	37.9	19.2	7.75	4.80
MAX	8.2	-	-	-	-	-	28	56	41	35	13	6.0
MIN	6.3	-	-	-	-	-	.20	21	34	8.8	5.5	4.0
AC-FT	425	-	-	-	-	-	389	1,930	2,260	1,180	476	286

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.8				-	5.3	6.0	29	53	37	14	6.3
2	4.2				-	5.3	5.8	27	55	30	12	6.5
3	4.8				-	5.0	6.0	26	55	36	12	6.3
4	4.4				-	5.0	6.3	24	51	36	12	6.0
5	4.2				-	5.3	7.6	29	50	35	11	6.0
6	4.0				-	5.5	7.6	29	49	34	10	5.8
7	4.2				-	5.5	7.3	29	47	33	10	5.5
8	4.4				-	5.8	7.3	29	46	34	9.8	5.5
9	5.3				-	6.0	7.3	29	46	31	9.8	5.5
10	4.8				-	5.8	7.6	29	46	31	9.8	5.3
11	5.8				-	6.0	7.6	30	44	29	9.5	6.0
12	5.3				-	6.0	7.6	31	45	27	7.3	5.5
13	6.8				-	5.8	8.5	34	33	26	5.3	6.0
14	5.5				-	5.8	12	36	27	25	7.0	5.8
15	5.0	.10			-	5.0	17	41	44	24	8.8	5.8
16	4.8				-	5.3	14	42	45	22	8.2	6.3
17	4.8				-	5.3	14	47	44	22	8.2	6.0
18	5.8				-	5.3	14	47	44	20	8.2	5.5
19	5.8				-	5.3	11	47	33	19	8.2	5.0
20	6.0		.10		-	5.3	13	44	41	18	7.9	4.2
21	6.8				4.2	6.3	13	47	42	18	7.0	2.8
22	6.5				-	6.5	14	50	44	17	7.9	2.8
23	2.2				-	6.5	15	54	44	16	8.2	3.8
24	.20				-	6.3	14	53	42	16	7.6	5.0
25	.20				4.8	6.3	13	53	40	16	7.9	5.0
26	.20				-	6.5	16	52	39	16	6.3	5.0
27	.20				-	7.0	18	50	39	14	4.2	5.0
28	.20				-	7.0	21	52	43	14	4.0	5.0
29	.20				-	6.3	26	53	39	13	5.5	5.0
30	.20				------	6.3	31	52	38	13	6.5	4.8
31	.20	------			------	6.0	------	52	------	13	6.5	------
TOTAL	117.8	-	-	-	-	180.6	368.5	1,247	1,304	735.0	260.6	159.0
MEAN	3.80	-	-	-	-	5.83	12.3	40.2	43.5	23.7	8.41	5.30
MAX	6.8	-	-	-	-	7.0	31	54	53	37	14	6.5
MIN	.20	-	-	-	-	5.0	5.8	24	27	13	4.0	2.8
AC-FT	234	-	-	-	-	358	731	2,470	2,590	1,460	517	315

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4517. Antilon Lake Feeder System near Manson, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.8	5.5					-	20	66	49	19	9.8
2	4.8	5.5					-	22	66	50	18	9.2
3	4.8	5.3					-	22	67	48	19	8.8
4	5.0	5.5					-	25	65	47	21	8.8
5	5.5	5.5					-	26	60	44	18	7.9
6	6.5	5.3					-	26	56	43	16	7.6
7	6.0	5.0					-	27	55	45	16	7.6
8	5.8	3.8					-	29	58	44	15	7.6
9	6.0	3.2					-	32	57	45	13	7.9
10	5.8	3.2					-	32	56	44	14	7.9
11	5.8	3.2					-	36	54	43	14	7.6
12	5.8	3.2					-	41	52	39	14	7.6
13	5.8	3.4					-	40	53	36	14	7.3
14	5.8	5.0					-	40	54	35	13	7.0
15	5.8	4.0					-	42	54	34	13	7.0
16	5.3	3.6					-	46	57	32	11	6.8
17	5.3	3.6					-	47	53	31	11	5.3
18	5.0	3.4					-	49	54	30	11	4.0
19	5.0	-					6.6	49	55	28	11	4.2
20	5.0	-					8.8	55	50	27	11	4.4
21	5.5	-					8.5	56	48	26	11	4.2
22	4.8	-					8.8	53	49	26	10	4.2
23	5.3	-					8.5	48	49	24	10	4.0
24	5.8	-					8.8	46	48	23	9.8	4.0
25	5.8	-					9.8	44	49	22	9.5	3.8
26	5.3	-					11	49	51	20	8.8	3.8
27	5.0	-					11	57	50	19	8.8	3.6
28	5.3	-					13	62	48	19	8.8	1.8
29	5.3	-					14	66	47	18	8.5	1.1
30	5.3	-			------		17	66	48	18	9.2	1.2
31	5.5	------			------		------	64	------	18	11	------
TOTAL	168.5	-	-	-	-	-	-	1,317	1,629	1,027	397.4	176.0
MEAN	5.44	-	-	-	-	-	-	42.5	54.3	33.1	12.8	5.87
MAX	6.5	-	-	-	-	-	-	66	67	50	21	9.8
MIN	4.8	-	-	-	-	-	-	20	47	18	8.5	1.1
AC-FT	334	-	-	-	-	-	-	2,610	3,230	2,040	788	349

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.1	5.2					-	31	45	38	12	8.2
2	1.0	5.0					-	44	46	36	12	8.2
3	1.0	4.0					-	44	43	34	13	8.2
4	1.0	1.1					-	45	43	35	12	7.8
5	1.0	.20					-	45	44	33	12	8.2
6	1.0	.20					-	43	43	33	11	7.8
7	2.6	.20					-	41	42	34	10	7.5
8	5.8	.20					-	41	43	34	9.6	7.5
9	5.8	.20					-	42	44	33	9.6	7.5
10	6.0	.20					-	45	44	31	9.2	7.5
11	6.5	.20					-	49	44	30	9.2	7.5
12	6.5	.20					-	30	40	27	11	7.5
13	6.0	.20					-	41	40	26	10	7.2
14	6.0	-					-	43	39	25	8.9	7.5
15	6.2	-					-	41	40	23	8.6	7.2
16	6.0	-					-	44	39	22	7.8	7.5
17	6.0	-					-	44	40	21	7.5	7.2
18	5.8	-					-	45	44	20	7.2	7.2
19	5.8	-					-	46	43	20	7.2	7.2
20	5.8	-					-	47	43	21	18	7.0
21	5.5	-					18	46	43	21	11	6.8
22	5.5	-					20	48	44	20	10	6.5
23	5.5	-					24	49	44	19	14	6.2
24	5.5	-					29	49	44	18	15	6.2
25	5.5	-					30	52	45	17	12	6.0
26	5.2	-					35	50	44	18	11	6.0
27	5.2	-					45	52	42	18	10	6.2
28	5.5	-					48	51	41	16	9.2	6.0
29	5.2	-			------		54	50	40	15	8.9	5.5
30	5.2	-			------		43	48	40	14	8.9	4.8
31	5.2	------			------		------	46	------	13	8.6	------
TOTAL	145.9	-	-	-	-	-	-	1,392	1,276	765	324.4	211.6
MEAN	4.71	-	-	-	-	-	-	44.9	42.5	24.7	10.5	7.05
MAX	6.5	-	-	-	-	-	-	52	46	38	18	8.2
MIN	1.0	-	-	-	-	-	-	30	39	13	7.2	4.8
AC-FT	289	-	-	-	-	-	-	2,760	2,530	1,520	643	420

12-4520. Lake Chelan at Chelan, Wash.

Location.--Lat 47°50'00", long 120°03'40", in lot 3, sec.15, T.27 N., R.22 E., on south shore of Lake Chelan at Lakeside, 2 miles west of Chelan.

Drainage area.--924 sq mi (revised).

Records available.--September 1897 to December 1899, January to June 1905 and December 1910 to September 1911 (fragmentary gage heights only); October 1911 to September 1965. Records of change in contents prior to October 1911, published in WSP 482 and 492 in conjunction with records for Chelan River near Chelan, have been found to be unreliable and should not be used. Month-end contents October 1911 to September 1950, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, adjustment of 1912. Prior to Jan. 1, 1900, staff gage at Lakeside about 1 mile west of Chelan at datum 1,070.18 ft above mean sea level, adjustment of 1912. Jan. 1 to June 30, 1905, staff gage at upper highway bridge at Chelan at different datum. Dec. 5, 1910, to Nov. 13, 1927, staff gage at Forest Service boat landing at Chelan at datum 1,076.07 ft above mean sea level, adjustment of 1912.

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	Aug. 16, 1961	676,800	1,100.02	Apr. 1, 1961	78,100	1,081.48
1962	July 24, 1962	676,800	1,100.02	Apr. 1, 1962	136,700	1,083.33
1963	Aug. 12, 1963	677,800	1,100.05	Apr. 7, 1963	312,800	1,088.84
1964	Sept.14, 1964	676,100	1,100.00	Apr. 20, 1964	102,100	1,082.24
1965	Aug. 10, 1965	676,800	1,100.02	Feb. 25, 1965	283,200	1,087.92

1897-99, 1905, 1910-65: Maximum elevation, 1,100.05 ft July 19, 1947, Aug. 12, 1963 (contents, 677,800 acre-ft); minimum since completion of dam in 1927, 1,079.68 ft Apr. 3, 4, 1937 (contents, 21,400 acre-ft). Minimum elevation, 1,076.78 ft Jan. 27, 28, Dec. 2-5, 1898.

Remarks.--Reservoir is formed by low concrete dam at lake outlet, completed Sept. 3, 1927. Usable capacity between elevations 1,079 and 1,100 ft, 676,100 acre-ft. Regulation between these elevations is allowed by stipulation of the Federal Power Commission. Water is used for power development. Elevation of lake maintained between 1,092 and 1,100 ft each year during period Aug. 16 to Sept. 15 for scenic effect and recreational purposes. Diversions for irrigation of about 6,280 acres with an annual depletion of about 11,000 acre-ft (1946 estimate).

Cooperation.--Gage-height record collected in cooperation with Public Utility District No. 1 of Chelan County.

Revisions (water years).--WSP 1246: 1951. WSP 1286: 1952. See also Records available.

Capacity table, water years 1961-65 (elevation, in feet, and contents, in acre-feet)

1,080	31,400	1,090	350,200	1,100	676,100	

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	97.00	94.04	91.28	87.69	84.86	83.40	81.49	83.07	93.41	99.84	99.72	99.88
2	96.92	93.94	91.19	87.56	84.84	83.32	81.53	83.30	94.23	99.79	99.75	99.92
3	96.82	93.80	91.09	87.44	84.75	83.24	81.68	83.56	95.16	99.75	99.76	99.88
4	96.70	93.70	90.98	87.31	84.69	83.13	81.70	83.72	96.12	99.80	99.83	99.85
5	96.60	93.60	90.84	87.23	84.64	83.06	81.73	83.88	97.02	99.91	99.92	99.94
6	96.48	93.49	90.71	87.17	84.61	82.98	81.74	84.04	97.67	99.91	99.91	99.90
7	96.40	93.40	90.59	87.08	84.58	82.90	81.77	84.18	98.00	99.83	99.87	99.78
8	96.32	93.27	90.48	86.98	84.54	82.80	81.80	84.30	98.11	99.82	99.88	99.73
9	96.18	93.16	90.36	86.88	84.52	82.72	81.81	84.43	98.19	99.83	99.84	99.72
10	96.05	93.10	90.22	86.77	84.52	82.63	81.83	84.57	98.14	99.87	99.76	99.71
11	95.96	93.04	90.10	86.68	84.49	82.59	81.89	84.70	98.11	99.93	99.74	99.73
12	95.87	92.92	90.02	86.59	84.43	82.53	81.97	84.82	98.08	99.96	99.76	99.74
13	95.71	92.82	89.90	86.51	84.43	82.46	82.06	84.97	98.08	99.90	99.77	99.75
14	95.59	92.73	89.79	86.42	84.33	82.39	82.08	85.12	98.19	99.86	99.79	99.78
15	95.49	92.63	89.68	86.33	84.28	82.37	82.13	85.29	98.44	99.86	99.86	99.80
16	95.39	92.60	89.56	86.29	84.18	82.31	82.14	85.48	98.78	99.87	99.98	99.75
17	95.28	92.48	89.42	86.23	84.10	82.24	82.20	85.69	99.06	99.81	99.94	99.67
18	95.17	92.42	89.35	86.15	84.01	82.19	82.25	85.98	99.30	99.81	99.95	99.58
19	95.08	92.32	89.24	86.07	83.92	82.12	82.30	86.33	99.41	99.84	99.96	99.44
20	94.99	92.25	89.12	85.99	83.83	82.11	82.32	86.85	99.27	99.89	99.96	99.37
21	94.88	92.18	89.02	85.89	83.79	82.05	82.38	87.48	99.17	99.95	99.96	99.25
22	94.77	92.05	88.89	85.79	83.77	81.98	82.40	88.00	99.19	99.93	99.96	99.12
23	94.70	91.95	88.77	85.69	83.72	81.93	82.41	88.52	99.40	99.88	99.94	99.02
24	94.65	91.89	88.66	85.60	83.69	81.86	82.45	89.00	99.64	99.84	99.92	99.90
25	94.59	91.83	88.54	85.50	83.65	81.80	82.52	89.40	99.87	99.76	99.88	98.80
26	94.52	91.77	88.44	85.40	83.56	81.75	82.53	89.96	99.94	99.76	99.79	98.67
27	94.45	91.68	88.31	85.30	83.50	81.69	82.53	90.65	99.73	99.81	99.74	98.55
28	94.40	91.60	88.18	85.19	83.42	81.62	82.58	91.23	99.77	99.82	99.71	98.47
29	94.22	91.49	88.07	85.09	------	81.58	82.68	91.71	99.83	99.77	99.70	98.35
30	94.13	91.38	87.94	85.02	------	81.53	82.84	92.23	99.87	99.70	99.73	98.21
31	94.05	------	87.81	84.96	------	81.51	------	92.77	------	99.70	99.78	------
MAX	97.00	94.04	91.28	87.69	84.86	83.40	82.84	92.77	99.94	99.96	99.98	99.94
MIN	94.05	91.38	87.81	84.96	83.42	81.51	81.49	83.07	93.41	99.70	99.70	98.21
(†)	481,600	392,900	278,100	186,600	138,200	78,700	124,300	449,600	671,900	667,300	669,900	616,400
(‡)	-98,100	-88,700	-114,800	-91,500	-48,400	-59,500	+45,600	+325,300	+222,300	-4,600	+2,600	-53,500

CAL YR 1960..... ‡ -347,800
WAT YR 1961..... ‡ +36,700

† Contents, in acre-feet, at end of month, based on elevations at 2400 hours at Lakeside.
‡ Change in contents, in acre-feet.
Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4520. Lake Chelan at Chelan, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	98.10	96.30	93.25	89.96	87.39	85.90	83.36	87.78	93.54	99.50	99.97	99.71
2	98.01	96.20	93.13	89.85	87.33	85.82	83.34	87.89	93.82	99.42	99.94	99.74
3	97.92	96.14	93.02	89.78	87.35	85.72	83.37	88.02	94.10	99.35	99.96	99.74
4	97.79	96.01	92.96	89.69	87.36	85.61	83.44	88.13	94.31	99.30	99.92	99.78
5	97.70	95.90	92.85	89.63	87.37	85.56	83.46	88.23	94.55	99.30	99.84	99.83
6	97.65	95.79	92.71	89.53	87.35	85.53	83.53	88.34	94.73	99.31	99.81	99.87
7	97.53	95.68	92.60	89.43	87.33	85.49	83.68	88.45	94.95	99.31	99.79	99.88
8	97.38	95.57	92.48	89.42	87.31	85.45	83.79	88.56	95.22	99.33	99.80	99.87
9	97.27	95.47	92.36	89.40	87.28	85.36	83.92	88.65	95.53	99.42	99.81	99.89
10	97.20	95.36	92.24	89.36	87.24	85.29	84.02	88.75	95.89	99.54	99.79	99.94
11	97.08	95.30	92.09	89.31	87.18	85.24	84.10	88.89	96.11	99.63	99.80	99.97
12	97.03	95.20	91.98	89.23	87.11	85.17	84.19	88.99	96.39	99.70	99.80	99.90
13	96.97	95.06	91.87	89.17	87.08	85.10	84.30	89.12	96.62	99.81	99.80	99.93
14	96.94	94.98	91.76	89.13	87.05	85.00	84.44	89.21	96.91	99.81	99.80	99.94
15	96.87	94.85	91.64	89.04	87.00	84.89	84.59	89.34	97.30	99.83	99.80	99.94
16	96.83	94.76	91.54	88.96	86.94	84.79	84.74	89.45	97.81	99.91	99.82	99.93
17	96.75	94.63	91.46	88.87	86.87	84.72	84.93	89.58	98.26	99.95	99.83	99.93
18	96.65	94.53	91.36	88.76	86.79	84.63	85.11	89.72	98.61	99.93	99.84	99.83
19	96.69	94.43	91.27	88.66	86.71	84.51	85.33	89.87	98.88	99.91	99.84	99.76
20	96.72	94.31	91.20	88.56	86.63	84.43	85.60	90.07	99.06	99.90	99.87	99.69
21	96.71	94.21	91.13	88.47	86.56	84.32	85.79	90.20	99.09	99.90	99.90	99.61
22	96.74	94.20	91.03	88.34	86.47	84.22	86.00	90.38	99.08	99.90	99.87	99.52
23	96.80	94.10	90.94	88.25	86.35	84.12	86.20	90.59	99.07	99.97	99.78	99.42
24	96.70	93.98	90.85	88.15	86.30	84.08	86.46	90.85	99.12	99.99	99.76	99.33
25	96.60	93.85	90.73	88.05	86.25	84.00	86.72	91.15	99.19	99.95	99.76	99.23
26	96.53	93.75	90.63	87.96	86.17	83.90	86.92	91.44	99.30	99.95	99.80	99.14
27	96.50	93.65	90.51	87.86	86.06	83.81	87.17	91.95	99.30	99.93	99.73	99.04
28	96.46	93.55	90.40	87.76	85.98	83.70	87.38	92.35	99.21	99.95	99.69	98.98
29	96.47	93.45	90.29	87.68	------	83.64	87.50	92.67	99.28	99.93	99.63	98.89
30	96.44	93.35	90.18	87.58	------	83.54	87.62	92.99	99.42	99.93	99.61	98.78
31	96.34	------	90.08	87.48	------	83.44	------	93.28	------	99.95	99.66	------
MAX	98.10	96.30	93.25	89.96	87.39	85.90	87.62	93.28	99.42	99.99	99.97	99.97
MIN	96.34	93.35	90.08	87.48	85.98	83.44	83.34	87.78	93.54	99.50	99.61	98.78
(†)	555,300	457,800	350,800	267,800	219,800	138,900	275,800	461,400	658,700	675,100	666,300	634,800
(‡)	-61,100	-97,500	-107,000	-83,000	-48,000	-80,900	+136,900	+185,600	+197,300	+16,400	-8,800	-31,500

CAL YR 1961..... ‡ +72,700
WAT YR 1962..... ‡ +18,400

† Contents, in acre-feet, at end of month, based on elevations at 2400 hours at Lakeside.
‡ Change in contents, in acre-feet.
Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	98.68	96.91	95.53	93.52	90.60	90.91	89.27	90.27	97.71	99.80	99.86	99.83
2	98.60	96.82	95.49	93.46	90.50	90.92	89.15	90.30	98.10	99.85	99.85	99.88
3	98.54	96.73	95.42	93.41	90.54	90.98	89.06	90.36	98.40	99.83	99.85	99.87
4	98.44	96.63	95.32	93.33	90.53	91.00	89.00	90.37	98.64	99.82	99.89	99.87
5	98.33	96.56	95.26	93.26	90.53	91.00	88.92	90.45	98.89	99.82	99.94	99.87
6	98.23	96.48	95.20	93.18	90.52	91.01	88.90	90.52	99.10	99.81	99.96	99.81
7	98.11	96.38	95.12	93.10	90.47	91.02	88.90	90.58	99.34	98.81	99.95	99.79
8	98.02	96.30	95.05	93.03	90.48	91.03	88.92	90.60	99.55	98.87	99.91	99.80
9	97.98	96.22	95.02	92.97	90.51	91.03	88.91	90.66	99.71	99.88	99.92	99.83
10	97.85	96.11	94.98	92.80	90.59	91.04	88.92	90.69	99.78	99.89	99.94	99.83
11	97.72	96.05	94.91	92.70	90.65	91.04	88.92	90.72	99.78	99.84	99.96	99.82
12	97.71	95.97	94.83	92.60	90.68	91.00	88.93	90.82	99.76	99.81	99.92	99.81
13	97.74	95.89	94.77	92.52	90.70	90.94	88.98	90.89	99.78	99.81	99.82	99.80
14	97.79	95.80	94.71	92.44	90.69	90.91	89.05	90.95	99.72	99.84	99.67	99.82
15	97.82	95.70	94.70	92.34	90.68	90.87	89.17	91.06	99.72	99.85	99.65	99.80
16	97.81	95.61	94.66	92.26	90.71	90.81	89.22	91.12	99.77	99.84	99.64	99.81
17	97.83	95.52	94.60	92.18	90.73	90.77	89.27	91.20	99.74	99.85	99.67	99.79
18	97.80	95.41	94.52	92.04	90.76	90.70	89.33	91.36	99.70	99.86	99.74	99.77
19	97.70	95.38	94.45	91.96	90.76	90.63	89.41	91.62	99.68	99.86	99.79	99.76
20	97.66	95.73	94.38	91.87	90.75	90.58	89.53	91.98	99.63	99.89	99.80	99.78
21	97.70	95.86	94.32	91.78	90.75	90.46	89.62	92.40	99.57	99.87	99.77	99.76
22	97.71	95.88	94.24	91.67	90.75	90.32	89.70	92.93	99.60	99.86	99.73	99.79
23	97.67	95.82	94.19	91.55	90.77	90.20	89.74	93.50	99.64	99.82	99.71	99.82
24	97.60	95.79	94.10	91.47	90.81	90.10	89.78	94.08	99.72	99.82	99.69	99.78
25	97.52	95.80	94.01	91.31	90.84	89.99	89.87	94.57	99.78	99.80	99.72	99.80
26	97.44	95.80	93.92	91.21	90.86	89.80	89.89	95.00	99.77	99.81	99.73	99.82
27	97.37	95.77	93.83	91.10	90.88	89.60	89.98	95.42	99.72	99.85	99.72	99.83
28	97.30	95.70	93.75	91.00	90.88	89.48	90.01	95.82	99.76	99.95	99.71	99.83
29	97.18	95.60	93.69	90.90	------	89.45	90.10	96.25	99.80	99.95	99.71	99.87
30	97.09	95.60	93.63	90.79	------	89.37	90.19	96.75	99.80	99.93	99.71	99.84
31	97.00	------	93.59	90.69	------	89.33	------	97.30	------	99.94	99.74	------
MAX	98.68	96.91	95.53	93.52	90.88	91.04	90.19	97.30	99.80	99.95	99.96	99.87
MIN	97.00	95.38	93.59	90.69	90.47	89.33	88.90	90.27	97.71	99.80	99.64	99.76
(†)	577,100	532,100	464,600	371,200	379,300	327,600	357,300	595,400	669,600	673,200	669,600	670,500
(‡)	-57,700	-45,000	-67,500	-93,400	+8,100	-51,700	+29,700	+238,100	+74,200	+3,600	-3,600	+900

CAL YR 1962..... ‡ +113,800
WAT YR 1963..... ‡ +35,700

† Contents, in acre-feet, at end of month, based on elevations at 2400 hours at Lakeside.
‡ Change in contents, in acre-feet.
Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4520. Lake Chelan at Chelan, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	99.77	96.91	94.37	91.65	88.96	85.98	83.15	82.94	89.71	99.36	99.76	99.78
2	99.68	96.85	94.28	91.57	88.85	85.88	83.07	83.07	90.36	99.62	99.75	99.78
3	99.59	96.73	94.19	91.46	88.74	85.78	82.99	83.13	90.94	99.69	99.77	99.74
4	99.47	96.63	94.09	91.38	88.64	85.70	82.94	83.25	91.44	99.56	99.78	99.80
5	99.32	96.52	94.01	91.29	88.56	85.62	82.86	83.31	91.94	99.52	99.75	99.84
6	99.25	96.43	93.94	91.22	88.43	85.51	82.79	83.38	92.51	99.53	99.74	99.87
7	99.14	96.33	94.85	91.12	88.31	85.40	82.76	83.47	93.12	99.55	99.74	99.85
8	99.02	96.27	93.77	91.00	88.22	85.30	82.71	83.58	93.70	99.59	99.77	99.90
9	98.90	96.17	93.71	90.91	88.13	85.22	82.68	83.68	94.29	99.49	99.79	99.86
10	98.80	96.09	93.60	90.82	88.02	85.11	82.65	83.87	94.95	99.47	99.75	99.81
11	98.70	95.89	93.47	90.73	87.89	85.01	82.65	84.02	95.68	99.48	99.72	99.83
12	98.60	95.90	93.38	90.64	87.79	84.92	82.63	84.18	96.27	99.54	99.75	99.85
13	98.47	95.81	93.28	90.54	87.68	84.81	82.58	84.36	96.81	99.51	99.80	99.85
14	98.39	95.76	93.18	90.43	87.57	84.74	82.53	84.54	97.31	99.43	99.74	99.94
15	98.30	95.68	93.07	90.31	87.49	84.64	82.51	84.66	97.74	99.47	99.70	99.87
16	98.21	95.59	92.98	90.27	87.39	84.53	82.46	84.83	98.15	99.44	99.72	99.85
17	98.12	95.50	92.90	90.24	87.30	84.46	82.40	85.06	98.41	99.43	99.72	99.89
18	98.04	95.39	92.80	90.14	87.19	84.39	82.35	85.27	98.52	99.50	99.72	99.84
19	97.88	95.32	92.70	90.04	87.08	84.26	82.29	85.55	98.64	99.46	99.72	99.81
20	97.76	95.21	92.61	89.97	86.95	84.17	82.28	85.89	98.76	99.52	99.64	99.87
21	97.69	95.10	92.51	89.88	86.84	84.08	82.29	86.23	98.87	99.60	99.60	99.88
22	97.74	95.01	92.42	89.81	86.72	83.99	82.35	86.52	98.94	99.60	99.59	99.87
23	97.69	94.94	92.33	89.71	86.67	83.89	82.38	86.73	99.08	99.54	99.62	99.89
24	97.65	94.83	92.27	89.62	86.60	83.81	82.41	86.97	99.28	99.53	99.61	99.88
25	97.61	94.73	92.21	89.59	86.47	83.73	82.53	87.13	99.40	99.56	99.66	99.85
26	97.53	94.69	92.13	89.49	86.36	83.66	82.64	87.26	99.44	99.58	99.77	99.78
27	97.43	94.71	92.04	89.41	86.25	83.53	82.73	87.39	99.32	99.52	99.76	99.78
28	97.35	94.62	91.97	89.31	86.16	83.43	82.77	87.63	99.23	99.56	99.82	99.78
29	97.26	94.53	91.87	89.22	86.03	83.33	82.83	88.00	99.16	99.64	99.81	99.77
30	97.15	94.44	91.79	89.13	------	83.25	82.86	88.48	99.22	99.73	99.78	99.81
31	97.04	------	91.69	89.03	------	83.19	------	89.07	------	99.75	99.75	------
MAX	99.77	96.91	94.37	91.65	88.96	85.98	83.15	89.07	99.44	99.75	99.82	99.94
MIN	97.04	94.44	91.69	89.03	86.03	83.19	82.28	82.94	89.71	99.36	99.59	99.74
(†)	577,100	494,300	403,900	317,300	221,800	132,500	122,400	330,200	651,800	668,200	668,600	671,900
(‡)	-93,400	-82,800	-90,400	-86,600	-95,500	-89,300	-10,100	+207,800	+321,600	+16,400	+400	+3,300

CAL YR 1963..... ‡ -60,700
WAT YR 1964..... ‡ +1,400

† Contents, in acre-feet, at end of month, based on elevations at 2400 hours at Lakeside.
‡ Change in contents, in acre-feet.
Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	99.83	98.13	95.43	92.33	89.45	88.05	88.07	90.72	97.23	99.59	99.89	99.83
2	99.77	98.07	95.35	92.28	89.37	88.03	88.09	90.89	97.47	99.76	99.90	99.87
3	99.68	97.90	95.25	92.19	89.30	88.04	88.05	90.99	97.70	99.82	99.87	99.84
4	99.59	98.07	95.14	92.05	89.22	88.03	88.03	91.15	98.13	99.85	99.87	99.79
5	99.51	98.10	95.04	91.97	89.15	88.03	88.03	91.23	98.36	99.81	99.85	99.79
6	99.45	97.95	94.94	91.92	89.05	88.02	88.01	91.28	98.58	99.84	99.84	99.82
7	99.38	97.84	94.82	91.81	88.93	88.02	88.00	91.35	98.75	99.83	99.80	99.77
8	99.42	97.76	94.72	91.68	88.89	88.02	88.00	91.41	98.91	99.73	99.81	99.79
9	99.43	97.64	94.63	91.56	88.79	88.03	88.01	91.49	99.02	99.72	99.87	99.78
10	99.42	97.55	94.56	91.44	88.69	88.06	88.03	91.75	99.03	99.76	99.90	99.77
11	99.44	97.46	94.49	91.33	88.63	88.07	88.02	91.81	99.04	99.76	99.75	99.76
12	99.42	97.34	94.38	91.20	88.58	88.11	88.03	92.05	98.97	99.73	99.75	99.72
13	99.38	97.26	94.27	91.08	88.54	88.17	88.10	92.32	98.92	99.74	99.82	99.67
14	99.38	97.16	94.11	90.98	88.46	88.24	88.12	92.58	98.93	99.78	99.80	99.70
15	99.39	97.04	93.98	90.88	88.39	88.32	88.19	92.58	99.01	99.77	99.78	99.72
16	99.38	96.95	93.86	90.78	88.33	88.34	88.29	93.14	99.08	99.77	99.78	99.67
17	99.34	96.79	93.77	90.69	88.27	88.31	88.38	93.41	99.10	99.77	99.77	99.67
18	99.36	96.70	93.65	90.58	88.24	88.31	88.46	93.58	99.10	99.74	99.77	99.63
19	99.34	96.59	93.56	90.47	88.23	88.30	88.57	93.76	99.02	99.72	99.78	99.54
20	99.29	96.50	93.45	90.36	88.18	88.27	88.71	93.93	99.04	99.70	99.78	99.50
21	99.19	96.35	93.38	90.27	88.15	88.25	88.84	94.10	99.06	99.70	99.88	99.47
22	99.10	96.25	93.38	90.17	88.10	88.20	88.97	94.29	99.03	99.72	99.88	99.47
23	99.00	96.17	93.30	90.06	88.07	88.15	89.08	94.51	99.03	99.75	99.89	99.46
24	98.91	96.15	93.20	90.00	88.03	88.15	89.21	94.69	99.24	99.83	99.87	99.47
25	98.85	95.98	93.08	89.86	87.95	88.11	89.35	94.87	99.42	99.88	99.82	99.49
26	98.74	95.89	92.99	89.79	87.99	88.09	89.50	95.10	99.51	99.90	99.79	99.55
27	98.59	95.78	92.89	89.79	88.09	88.12	89.71	95.40	99.47	99.92	99.79	99.49
28	98.53	95.68	92.78	89.72	88.08	88.09	89.98	95.82	99.48	99.81	99.78	99.45
29	98.43	95.58	92.67	89.62	------	88.10	90.25	96.35	99.50	99.87	99.76	99.35
30	98.32	95.51	92.54	89.59	------	88.08	90.50	96.76	99.55	99.88	99.75	99.22
31	98.21	------	92.42	89.54	------	88.07	------	97.04	------	99.89	99.76	------
MAX	99.83	98.13	95.43	92.33	89.45	88.34	90.50	97.04	99.55	99.92	99.90	99.87
MIN	98.21	95.51	92.42	89.54	87.95	88.02	88.00	90.72	97.23	99.59	99.75	99.22
(†)	614,800	528,800	426,300	333,100	288,300	288,000	370,600	582,700	661,400	673,200	669,600	647,600
(‡)	-57,100	-86,000	-102,500	-93,200	-44,800	-300	+82,600	+212,100	+78,700	+11,800	-3,600	-22,000

CAL YR 1964..... ‡ +22,400
WAT YR 1965..... ‡ -24,300

† Contents, in acre-feet, at end of month, based on elevations at 2400 hours at Lakeside.
‡ Change in contents, in acre-feet.
Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4525. Chelan River at Chelan, Wash.

Location.--Lat 47°50'05", long 120°00'40", in SE¼ sec.13, T.27 N., R.22 E., near right bank in forebay upstream from control dam at outlet of Lake Chelan, a quarter of a mile south of Chelan.
Drainage area.--924 sq mi (revised).
Records available.--November 1903 to September 1965. Published as "below Chelan Lake" 1904-5. Adjusted records for October 1903 to September 1911, published in WSP 482, 492, and 870 have been found to be unreliable and should not be used.
Gage.--Water-stage recorder and concrete power dam. Datum of gage is at mean sea level, adjustment of 1912. Prior to Jan. 7, 1927, staff gage at site 800 ft downstream at same datum. Jan. 7 to Sept. 30, 1927, staff gage about 500 to 1,000 ft below dam at same datum. Oct. 1, 1927, to Nov. 10, 1928, staff gage and Nov. 11, 1928, to Mar. 19, 1939, water-stage recorder at sites 2½ miles downstream at same datum.
Average discharge.--61 years (1904-65), 2,047 cfs (1,482,000 acre-ft per year), adjusted for storage since October 1911.
Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum daily		Minimum daily	
	Date	Discharge (cfs)	Date	Discharge (cfs)
1961	June 19, 1961	11,200	May 13, 14, 1961	64
1962	June 26, 1962	5,510	Apr. 24, 1962	4.6
1963	Aug. 13, 1963	9,350	Feb. 9, 10, 1963	51
1964	July 14, 1964	11,500	Apr. 25, 26, 1964	1.2
1965	June 11, 1965	12,300	Mar. 14, 1965	53

1903-65: Maximum daily discharge, 16,000 cfs May 30, 1948; no flow part of day Jan. 30, 1917, when lake outlet was blocked with ice, and at other times owing to artificial regulation.
Remarks.--Records good. Unmeasured water that is diverted for irrigation above station is small percentage of total runoff. Chelan County Public Utility District No. 1 diverts water at Chelan to develop about 54,000 horsepower and to irrigate an unknown area near Chelan, which quantity is included in records of daily discharge. Diversions for irrigation of about 6,280 acres, depletion 11,000 acre-ft (1946 estimate). Flow regulated by Lake Chelan (see station 12-4520).
Cooperation.--Records of water used for power and irrigation furnished by Public Utility District No. 1 of Chelan County.
Revisions (water years).--WSP 482: 1904-13. WSP 612: 1924. WSP 1246: 1951. WSP 1286: 1952. See also Records available.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,190	1,860	2,220	2,260	1,900	2,200	2,170	893	756	3,550	1,390	145
2	2,210	2,220	2,220	2,260	1,550	2,180	1,250	576	336	3,680	1,380	1,220
3	2,200	2,220	2,200	2,240	1,420	2,180	1,650	829	66	2,940	1,120	1,250
4	2,200	2,220	2,240	2,240	1,640	2,160	2,190	297	1,800	2,470	742	495
5	2,210	2,220	2,260	2,070	1,680	2,160	2,180	767	1,930	3,110	1,470	1,430
6	2,200	2,220	2,250	1,990	1,700	2,180	2,180	472	6,200	5,670	1,660	1,860
7	2,200	2,210	2,260	2,240	1,500	2,160	1,830	66	7,480	4,070	1,190	1,520
8	2,210	2,220	2,260	2,240	1,400	2,160	2,000	801	7,640	2,800	1,770	891
9	2,230	2,210	2,260	2,070	1,550	2,170	1,690	755	7,620	2,490	1,880	535
10	2,200	2,210	2,260	1,980	1,590	2,170	919	799	7,670	2,470	1,670	69
11	2,200	2,210	2,280	1,900	1,580	2,170	1,010	814	7,650	2,530	1,480	190
12	2,200	2,210	2,250	1,870	1,550	2,170	764	920	7,560	4,600	1,060	70
13	2,200	2,220	2,240	2,020	1,640	2,160	776	64	5,740	5,950	952	70
14	2,220	2,200	2,240	2,210	2,170	2,180	1,010	64	4,890	5,220	1,070	70
15	2,210	2,180	2,240	2,240	2,180	2,180	1,010	928	5,030	4,130	851	603
16	2,220	2,030	2,240	2,070	2,200	2,160	1,010	868	6,180	4,130	1,250	2,050
17	2,220	1,920	2,240	2,100	2,200	2,150	1,120	948	8,570	3,080	1,510	2,050
18	2,210	1,890	2,220	2,200	2,200	2,160	1,060	924	8,950	2,450	1,200	2,040
19	1,760	2,220	2,240	2,200	2,220	2,160	1,010	803	11,200	2,330	1,380	1,990
20	2,220	2,220	2,260	2,200	2,200	2,160	1,060	68	10,600	2,260	1,480	2,020
21	2,200	2,220	2,260	2,220	2,200	2,160	1,630	68	6,610	3,060	1,480	2,020
22	2,220	2,050	2,260	2,220	2,190	2,160	1,360	924	3,510	3,770	1,940	2,020
23	2,220	2,220	2,260	2,210	2,180	2,160	1,240	814	2,370	4,070	1,780	2,020
24	1,920	2,160	2,240	2,200	2,200	2,160	1,420	799	2,380	2,650	1,680	2,050
25	2,050	1,550	2,260	2,170	2,180	2,160	1,440	821	4,530	2,050	1,820	2,050
26	2,050	1,510	2,240	1,910	2,200	2,170	1,490	904	7,770	2,050	1,780	2,040
27	2,030	1,530	2,240	2,210	2,180	2,160	1,730	135	5,670	2,060	1,620	2,000
28	2,220	1,970	2,240	2,190	2,180	2,160	1,450	69	3,110	2,070	1,160	2,040
29	2,220	2,020	2,240	2,200	------	2,170	1,770	900	2,870	2,100	726	2,040
30	2,220	2,240	2,230	2,190	------	2,170	700	66	3,070	2,000	758	2,090
31	2,220	------	2,240	2,180	------	2,160	------	1,150	------	1,480	72	------
TOTAL	67,280	62,580	69,590	66,520	53,780	67,160	42,119	19,315	159,658	97,650	41,321	40,938
MEAN	2,170	2,086	2,245	2,146	1,921	2,166	1,404	623	5,322	3,150	1,333	1,365
MAX	2,230	2,240	2,280	2,260	2,220	2,200	2,190	1,150	11,200	5,970	1,940	2,090
MIN	1,760	1,510	2,200	1,870	1,420	2,150	700	64	66	1,480	72	69
AC-FT	133,400	124,100	138,000	131,900	106,700	133,200	83,540	38,310	316,700	193,700	81,960	81,200
(†)	-98,100	-88,700	-114,800	-91,500	-48,400	-59,500	+45,600	+325,300	+222,300	-4,600	+2,600	-53,500
MEAN‡	574	595	377	657	1,050	1,199	2,170	5,913	9,058	3,075	1,375	466
CFSM‡	.62	.64	.41	.71	1.14	1.30	2.35	6.40	9.80	3.33	1.49	.50
IN ‡	.72	.72	.47	.82	1.18	1.50	2.62	7.38	10.94	3.84	1.72	.56
AC-FT‡	35,300	35,400	23,200	40,400	58,300	73,700	129,100	363,600	539,000	189,100	84,560	27,700

OBSERVED

CAL YR 1960: TOTAL 915,607.60 MEAN 2,502 MAX 8,510 MIN .80 AC-FT 1,816,000
WAT YR 1961: TOTAL 787,911 MEAN 2,159 MAX 11,200 MIN 64 AC-FT 1,563,000

ADJUSTED ‡

CAL YR 1960: MEAN 2,022 CFSM 2.19 IN 29.88 AC-FT 1,468,000
WAT YR 1961: MEAN 2,210 CFSM 2.39 IN 32.47 AC-FT 1,600,000

† Change in contents, in acre-feet, in Lake Chelan.
‡ Adjusted for change in lake contents.

12-4525. Chelan River at Chelan, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,090	1,560	2,090	2,100	2,070	2,010	1,710	59	69	4,150	3,140	70
2	2,090	1,140	2,090	2,090	2,070	2,030	895	60	69	4,940	2,590	70
3	2,080	2,070	2,100	2,100	2,070	2,040	905	60	69	3,560	2,690	70
4	2,080	2,080	2,090	2,090	2,080	2,050	724	60	69	3,360	3,420	70
5	2,080	2,090	2,090	2,100	2,060	1,820	917	60	69	2,660	2,090	67
6	2,070	2,080	2,090	2,100	2,060	1,520	911	60	69	2,440	2,080	218
7	2,050	2,080	2,090	2,110	2,070	1,510	37	60	68	2,170	1,760	404
8	2,060	2,080	2,100	2,090	2,070	1,470	26	60	69	2,080	1,480	67
9	2,050	2,070	2,090	2,090	2,070	1,520	168	61	69	2,070	1,490	67
10	2,050	2,080	2,090	2,100	2,060	1,510	51	61	69	2,080	1,480	557
11	2,050	2,080	2,080	2,090	2,070	1,530	51	61	69	2,080	1,480	890
12	2,050	2,070	2,090	2,090	2,060	1,530	51	61	69	2,070	1,370	552
13	2,050	2,060	2,090	1,510	2,070	1,680	51	61	69	2,290	1,130	551
14	2,050	2,070	2,080	1,780	2,060	2,040	51	61	69	2,250	1,140	546
15	2,070	2,070	2,090	2,060	2,060	2,030	51	61	69	1,490	1,130	538
16	2,050	2,070	2,090	2,070	2,060	2,000	35	667	69	1,640	1,130	490
17	2,050	2,080	2,100	2,060	2,050	2,010	26	67	69	2,070	1,130	1,260
18	1,290	2,080	2,090	2,060	2,060	2,020	27	67	1,300	2,080	1,090	2,050
19	53	2,090	2,090	2,050	2,060	2,000	27	67	2,300	2,080	1,080	1,230
20	53	2,090	2,090	2,060	2,050	2,010	27	67	4,430	2,080	1,130	2,090
21	53	2,090	2,100	2,070	2,060	2,000	27	67	5,370	2,080	1,140	2,090
22	53	2,080	2,090	2,050	2,070	2,000	27	67	5,380	2,090	1,510	2,080
23	1,120	2,090	2,100	2,060	1,760	2,000	9.9	66	5,340	1,750	1,520	2,090
24	2,060	2,080	2,120	2,060	1,510	2,000	4.6	66	5,420	3,530	1,020	2,070
25	1,560	2,080	2,120	2,060	1,520	2,010	54	66	5,410	3,590	950	2,080
26	1,530	2,090	2,090	2,070	1,840	2,000	33	66	5,510	4,760	885	2,070
27	1,540	2,080	2,090	2,070	2,000	2,000	57	66	5,360	2,440	1,130	2,070
28	53	2,090	2,100	2,050	2,000	1,990	58	66	3,700	3,040	1,140	2,080
29	53	2,090	2,090	2,070	------	2,010	58	66	2,500	3,030	1,130	2,080
30	1,560	2,090	2,090	2,070	------	2,010	58	69	3,130	2,100	335	2,080
31	2,080	------	2,100	2,070	------	2,010	------	69	------	2,110	307	------
TOTAL	48,128	60,950	64,900	63,540	56,040	58,360	7,327.5	2,575	56,343	80,160	45,097	32,647
MEAN	1,553	2,032	2,094	2,050	2,001	1,883	244	83.1	1,878	2,586	1,455	1,088
MAX	2,090	2,090	2,120	2,110	2,080	2,050	1,710	667	5,510	4,940	3,420	2,090
MIN	53	1,140	2,080	1,510	1,510	1,470	4.6	59	69	1,490	307	67
AC-FT	95,460	120,900	128,700	126,000	111,200	115,800	14,530	5,110	111,800	159,000	89,450	64,750
(†)	-61,100	-97,500	-107,000	-83,000	-48,000	-80,900	+136,900	+185,600	+197,300	+16,400	-8,800	-31,500
MEAN‡	559	393	353	699	1,138	568	2,545	3,102	5,195	2,853	1,312	559
CFSM‡	.60	.43	.38	.76	1.23	.61	2.75	3.56	5.62	3.09	1.42	.60
IN ‡	.70	.47	.44	.87	1.28	.71	3.07	3.87	6.27	3.56	1.64	.67
AC-FT‡	34,360	23,400	21,700	43,000	63,200	34,900	151,400	190,700	309,100	175,400	80,650	33,250

OBSERVED

CAL YR 1961: TOTAL 762,439 MEAN 2,089 MAX 11,200 MIN 53 AC-FT 1,512,000
WAT YR 1962: TOTAL 576,067.5 MEAN 1,578 MAX 5,510 MIN 4.6 AC-FT 1,143,000

ADJUSTED ‡

CAL YR 1961: MEAN 2,189 CFSM 2.37 IN 32.17 AC-FT 1,585,000
WAT YR 1962: MEAN 1,604 CFSM 1.74 IN 23.55 AC-FT 1,161,000

† Change in contents, in acre-feet, in Lake Chelan.
‡ Adjusted for change in lake contents.

12-4525. Chelan River at Chelan, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,070	2,080	2,080	2,100	2,080	868	2,060	1,140	71	2,120	1,520	301
2	2,070	2,090	2,090	2,080	2,090	327	2,060	1,040	71	2,630	1,240	593
3	2,070	2,080	2,080	2,080	1,590	328	2,060	1,030	1,190	3,980	1,270	694
4	2,070	2,090	2,080	2,080	1,460	860	2,070	980	1,170	3,980	726	988
5	2,070	2,080	2,080	2,080	2,080	861	1,900	696	807	3,960	1,090	1,360
6	2,070	2,070	2,090	2,090	2,090	863	1,520	1,040	785	3,080	1,620	1,600
7	2,070	2,070	2,080	2,080	1,940	867	802	1,040	965	2,530	1,880	652
8	2,070	2,080	2,090	2,080	1,000	811	1,050	1,040	2,030	2,830	1,720	360
9	2,070	2,080	2,090	2,080	51	847	1,020	1,040	2,040	3,000	1,300	914
10	2,070	2,080	2,090	2,080	51	836	970	1,040	3,810	3,230	1,270	1,290
11	2,070	2,080	2,090	2,080	801	1,170	1,020	404	4,620	3,350	2,020	1,240
12	1,020	2,070	2,090	2,090	1,010	1,510	1,020	380	6,810	2,580	3,840	1,300
13	319	2,070	2,090	2,090	1,040	1,510	322	894	7,380	2,300	9,350	977
14	54	2,070	2,080	2,080	1,110	1,500	332	1,040	7,260	2,310	2,180	1,310
15	54	2,080	2,090	2,070	1,130	1,590	658	1,050	6,280	2,300	1,250	163
16	54	2,070	2,100	2,080	324	1,730	564	985	8,070	2,150	1,280	1,290
17	54	2,080	2,090	2,090	328	1,770	572	1,050	7,940	2,090	689	991
18	2,020	2,090	2,090	2,090	1,140	1,780	584	271	7,340	2,080	70	506
19	2,080	2,080	2,090	2,090	1,110	1,770	583	269	7,100	2,090	1,000	616
20	828	2,090	2,080	2,090	1,110	2,440	292	1,060	6,470	2,090	1,100	437
21	835	2,080	2,090	2,080	1,090	3,090	166	1,060	4,570	2,100	1,310	521
22	1,760	2,090	2,080	2,090	1,110	3,020	579	1,070	2,650	2,090	1,090	492
23	2,080	2,080	2,090	2,090	422	2,960	573	1,070	2,340	2,080	1,200	797
24	2,080	2,080	2,080	2,090	467	2,880	572	72	2,340	1,820	730	461
25	2,080	2,090	2,090	2,100	1,150	3,340	573	72	3,120	1,390	72	62
26	2,080	2,080	2,080	2,100	1,110	3,890	605	72	3,650	720	934	62
27	2,080	2,080	2,080	2,100	1,100	3,960	256	72	3,040	72	846	610
28	2,090	2,070	2,080	2,090	863	3,160	258	72	2,130	1,240	958	343
29	2,080	2,080	2,090	2,090	------	2,360	675	72	2,120	2,020	986	1,030
30	2,090	2,080	2,110	2,090	------	2,290	686	71	2,130	1,490	639	1,360
31	2,090	------	2,090	2,090	------	2,070	------	71	------	2,530	68	------
TOTAL	50,598	62,390	64,700	64,690	30,847	57,258	26,402	21,263	110,299	72,232	45,246	23,320
MEAN	1,632	2,080	2,087	2,087	1,102	1,847	880	686	3,677	2,330	1,460	777
MAX	2,090	2,090	2,110	2,100	2,090	3,960	2,070	1,140	8,070	3,980	9,350	1,600
MIN	54	2,070	2,080	2,070	51	327	166	71	71	72	68	62
AC-FT	100,400	123,700	128,300	128,300	61,180	113,600	52,370	42,170	218,800	143,300	89,740	46,250
(†)	-57,700	-45,000	-67,500	-93,400	+8,100	-51,700	+29,700	+238,100	+74,200	+3,600	-3,600	+900
MEAN‡	694	1,323	989	568	1,247	1,007	1,379	4,559	4,924	2,389	1,401	792
CFSM‡	.75	.14	1.07	.61	1.35	1.09	1.49	4.93	5.33	2.59	1.52	.86
IN ‡	.87	1.60	1.23	.71	1.41	1.26	1.67	5.69	5.95	2.98	1.75	.96
AC-FT‡	42,700	78,700	60,800	34,900	69,280	61,900	82,070	280,300	293,000	146,900	86,140	47,150

OBSERVED

CAL YR 1962: TOTAL 579,777.5 MEAN 1,588 MAX 5,510 MIN 4.6 AC-FT 1,150,000
WAT YR 1963: TOTAL 629,245 MEAN 1,724 MAX 9,350 MIN 51 AC-FT 1,248,000

ADJUSTED ‡

CAL YR 1962: MEAN 1,746 CFSM 1.89 IN 25.64 AC-FT 1,264,000
WAT YR 1963: MEAN 1,774 CFSM 1.92 IN 26.08 AC-FT 1,284,000

† Change in contents, in acre-feet, in Lake Chelan.
‡ Adjusted for change in lake contents.

12-4525. Chelan River at Chelan, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,090	2,090	2,100	2,130	2,110	2,120	2,070	166	920	2,650	2,280	770
2	2,080	2,100	2,100	2,110	2,120	2,100	2,070	52	986	3,720	2,290	774
3	2,080	2,100	2,110	2,110	2,110	2,110	2,070	52	1,060	6,550	2,320	518
4	2,070	2,100	2,100	2,110	2,100	2,100	2,070	170	1,070	8,530	2,320	135
5	2,080	2,100	2,100	2,120	2,100	2,090	2,070	668	1,050	6,750	2,320	71
6	2,090	2,100	2,100	2,100	2,100	2,100	2,050	550	71	5,980	2,220	235
7	2,080	2,090	2,100	2,120	2,100	2,100	2,050	562	71	5,900	2,110	1,290
8	2,070	2,090	2,110	2,120	2,090	2,080	2,060	450	1,060	10,610	2,070	810
9	2,080	2,090	2,100	2,120	2,100	2,090	2,070	60	1,050	9,110	2,080	771
10	2,080	2,100	2,100	2,120	2,100	2,100	2,070	60	1,070	5,650	2,100	765
11	2,080	2,100	2,110	2,120	2,100	2,090	2,060	222	1,220	5,650	2,100	541
12	2,090	2,100	2,110	2,120	2,100	2,100	2,050	174	1,920	7,130	1,520	71
13	2,090	2,100	2,100	2,110	2,090	2,110	2,040	192	2,070	9,190	2,010	83
14	2,080	2,110	2,110	2,120	2,090	2,100	2,050	193	2,090	11,500	2,020	1,250
15	2,080	2,100	2,120	2,120	2,090	2,100	2,050	288	3,450	5,650	1,660	895
16	2,090	2,110	2,110	2,120	2,110	2,070	2,050	73	5,230	5,630	1,730	940
17	2,090	2,120	2,110	2,120	2,100	2,070	2,050	73	6,530	2,410	1,690	692
18	2,080	2,100	2,110	2,120	2,080	2,080	2,040	356	5,920	3,920	1,750	1,240
19	2,090	2,100	2,110	2,130	2,090	2,070	2,050	313	4,360	2,740	1,760	764
20	2,090	2,100	2,120	2,120	2,100	2,060	1,160	337	3,510	2,300	1,580	401
21	2,080	2,090	2,110	2,130	2,090	2,060	782	344	3,520	2,890	1,490	594
22	2,090	2,100	2,130	2,120	2,090	2,060	912	556	3,520	3,840	1,470	659
23	2,090	2,110	2,110	2,120	2,100	2,060	1,080	73	3,530	3,290	1,140	838
24	2,090	2,100	2,120	2,110	2,090	2,050	323	73	4,520	2,670	964	968
25	2,080	2,090	2,120	2,120	2,090	2,060	1.2	604	4,620	2,740	778	1,790
26	2,080	2,100	2,130	2,140	2,090	2,070	1.2	1,200	6,930	3,720	772	788
27	2,090	2,100	2,120	2,120	2,110	2,070	564	911	9,460	2,890	776	768
28	2,090	2,100	2,120	2,130	2,100	2,070	972	925	5,620	2,360	1,150	766
29	2,090	2,090	2,130	2,120	2,110	2,060	973	860	3,930	2,310	1,270	763
30	2,090	2,100	2,120	2,120	------	2,050	892	71	4,250	2,310	1,490	1,330
31	2,090	------	2,120	2,110	------	2,050	------	71	------	2,310	994	------
TOTAL	64,620	62,980	65,460	65,700	60,850	64,500	46,750.4	10,699	94,608	152,900	52,624	22,280
MEAN	2,085	2,099	2,112	2,119	2,098	2,081	1,558	345	3,154	4,932	1,698	743
MAX	2,090	2,120	2,130	2,140	2,120	2,120	2,070	1,200	9,460	11,500	2,320	1,790
MIN	2,070	2,090	2,100	2,100	2,080	2,050	1.2	52	71	2,300	772	71
AC-FT	128,200	124,900	129,800	130,300	120,700	127,900	92,730	21,220	187,700	303,300	104,400	44,190
(†)	-93,400	-82,800	-90,400	-86,600	-95,500	-89,300	-10,100	+207,800	+321,600	+16,400	+400	+3,300
MEAN‡	566	708	641	711	438	628	1,389	3,724	8,559	5,199	1,704	798
CFSM‡	.61	.77	.69	.77	.47	.68	1.50	4.03	9.26	5.63	1.84	.86
IN ‡	.71	.85	.80	.89	.51	.78	1.68	4.65	10.33	6.49	2.13	.96
AC-FT‡	34,800	42,100	39,400	43,700	25,200	38,600	82,630	229,000	509,300	319,700	104,800	47,490

OBSERVED

CAL YR 1963: TOTAL 644,617 MEAN 1,766 MAX 9,350 MIN 51 AC-FT 1,279,000
WAT YR 1964: TOTAL 763,971.4 MEAN 2,087 MAX 11,500 MIN 1.2 AC-FT 1,515,000

ADJUSTED ‡

CAL YR 1963: MEAN 1,682 CFSM 1.82 IN 24.74 AC-FT 1,218,000
WAT YR 1964: MEAN 2,088 CFSM 2.26 IN 30.78 AC-FT 1,516,000

† Change in contents, in acre-feet, in Lake Chelan.
‡ Adjusted for change in lake contents.

12-4525. Chelan River at Chelan, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,070	2,090	2,100	2,110	2,100	849	961	1,030	2,260	2,300	2,670	71
2	2,240	2,090	2,100	2,100	2,100	849	858	1,040	2,270	3,910	3,370	807
3	2,080	762	2,100	2,120	2,090	852	1,090	1,040	2,270	4,960	3,130	893
4	2,080	758	2,100	2,090	2,090	858	1,090	1,040	2,190	6,750	2,180	569
5	2,070	758	2,100	2,100	2,080	849	1,090	1,040	3,190	6,530	2,070	71
6	2,080	2,080	2,110	2,110	2,090	850	1,090	1,040	5,150	4,560	2,050	159
7	1,590	2,090	2,110	2,110	2,090	852	1,100	1,030	5,230	9,990	1,750	865
8	1,110	2,100	2,110	2,100	2,080	851	1,100	1,030	5,310	4,980	1,650	543
9	1,190	2,090	2,100	2,100	1,940	861	1,100	1,040	8,420	3,220	2,040	537
10	1,240	2,090	2,030	2,120	1,620	853	1,100	1,040	9,750	2,860	4,090	1,030
11	1,240	2,090	2,120	2,110	1,520	848	1,100	1,040	12,300	3,010	2,050	1,480
12	1,720	2,090	2,120	2,110	1,520	848	713	1,040	10,100	2,680	1,610	1,010
13	1,450	2,100	2,130	2,110	1,520	846	753	1,030	6,350	2,250	1,880	915
14	1,040	2,100	2,120	2,110	1,510	53	747	1,030	4,360	2,740	2,050	824
15	993	2,090	2,120	2,100	1,520	848	748	574	3,680	3,750	1,660	558
16	997	2,090	2,110	2,100	1,520	1,120	953	572	4,080	3,760	1,480	1,050
17	757	2,100	2,110	2,120	1,510	1,520	849	1,030	6,090	3,480	1,480	775
18	756	2,100	2,090	2,110	1,520	1,520	829	1,020	9,840	3,490	1,450	1,400
19	906	2,100	2,100	2,110	1,510	1,520	887	1,030	5,960	2,460	1,000	1,670
20	2,050	2,100	2,120	2,110	1,520	1,520	719	1,020	5,160	2,050	1,290	1,390
21	2,060	2,100	2,110	2,110	1,520	1,520	819	1,030	4,970	2,000	2,050	763
22	2,070	2,110	2,110	2,110	1,520	1,520	816	575	5,870	1,420	2,060	57
23	2,060	2,100	2,120	2,110	1,520	1,520	758	556	3,020	1,380	2,370	666
24	2,070	2,100	2,110	2,110	1,520	1,000	748	1,010	2,300	715	2,450	168
25	2,070	2,110	2,120	2,100	1,250	966	727	1,020	2,600	2,730	2,100	57
26	2,080	2,120	2,100	2,100	848	966	1,160	1,020	4,710	3,220	2,050	57
27	2,080	2,100	2,110	2,110	850	969	1,170	1,020	2,580	5,190	1,540	1,100
28	2,080	2,110	2,110	2,100	844	975	1,130	1,020	2,720	2,100	598	2,060
29	2,080	2,110	2,110	2,110	------	970	1,140	1,600	2,390	2,060	534	2,060
30	2,090	2,100	2,110	2,110	------	973	1,140	2,070	3,920	2,380	160	1,930
31	2,090	------	2,110	2,110	------	975	------	2,200	------	2,060	72	------
TOTAL	52,489	58,928	65,320	65,330	45,322	31,521	28,485	32,877	149,440	104,985	56,934	25,535
MEAN	1,693	1,964	2,107	2,107	1,619	1,017	950	1,061	4,981	3,387	1,837	851
MAX	2,240	2,120	2,130	2,120	2,100	1,520	1,170	2,200	12,300	9,990	4,090	2,060
MIN	756	758	2,030	2,090	844	53	713	556	2,190	715	72	57
AC-FT	104,100	116,900	129,600	129,600	89,890	62,520	56,500	65,210	296,400	208,200	112,900	50,650
(†)	-57,100	-86,000	-102,500	-93,200	-44,800	-300	+82,600	+212,100	+78,700	+11,800	-3,600	-22,000
MEAN‡	764	519	441	592	812	1,012	2,338	4,510	6,304	3,578	1,778	481
CFSM‡	.83	.56	.48	.64	.88	1.10	2.53	4.88	6.82	3.87	1.92	.52
IN ‡	.95	.63	.55	.74	.91	1.26	2.82	5.63	7.61	4.46	2.22	.58
AC-FT‡	47,000	30,900	27,100	36,400	45,090	62,220	139,100	277,300	375,100	220,000	109,300	28,650

OBSERVED

CAL YR 1964: TOTAL 747,648.4 MEAN 2,043 MAX 11,500 MIN 1.2 AC-FT 1,483,000
WAT YR 1965: TOTAL 717,166 MEAN 1,965 MAX 12,300 MIN 53 AC-FT 1,422,000

ADJUSTED ‡

CAL YR 1964: MEAN 2,073 CFSM 2.24 IN 30.55 AC-FT 1,505,000
WAT YR 1965: MEAN 1,931 CFSM 2.09 IN 28.36 AC-FT 1,398,000

† Change in contents, in acre-feet, in Lake Chelan.
‡ Adjusted for change in lake contents.

12-4528. Entiat River near Ardenvoir, Wash.

Location.--Lat 47°48'30", long 120°24'50", in N½NE¼NE¼ sec.27, T.27 N., R.19 E., on left bank 6 miles northwest of Ardenvoir.

Drainage area.--203 sq mi (revised).

Records available.--September 1957 to September 1965.

Gage.--Digital water-stage recorder. Datum of gage is 1,563.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (from Conservation Division planetable survey). Prior to Mar. 13, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--8 years, 367 cfs (265,700 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 4, 1961,	3,590	7.08	Dec. 6, 1960	a 40	-
1962	June 17, 1962	1,550	4.82	Nov. 17, 1961	36	0.70
1963	May 24, 1963	2,360	5.87	Jan. 12, 1963	43	.91
1964	June 11, 1964	2,830	6.34	Dec. 11, 1963	45	.87
1965	June 11, 1965	3,030	6.54	Dec. 17, 1964	a 25	-

a Minimum daily.

1957-65: Maximum discharge, 4,110 cfs May 25, 1958 (gage height, 7.72 ft); minimum daily, 25 cfs Dec. 17, 1964.

Remarks.--Records excellent except those for winter periods, which are fair. No known regulation or diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	82	127	75	55	90	118	182	815	2,750	672	216	166
2	81	101	75	52	87	113	230	840	3,180	640	216	162
3	80	90	70	60	84	90	278	800	3,470	613	214	131
4	78	85	62	62	84	85	290	721	3,470	622	216	122
5	77	84	48	61	86	100	281	680	3,400	710	221	120
6	77	82	40	62	106	105	273	631	3,370	750	219	115
7	91	81	45	66	121	100	262	586	2,950	636	193	108
8	95	82	55	66	105	99	260	577	2,340	564	180	103
9	86	77	55	66	104	97	257	568	2,040	530	174	99
10	83	89	54	66	100	97	252	590	1,830	538	168	97
11	80	91	66	67	100	99	260	595	1,760	554	160	95
12	79	85	70	67	99	97	267	618	1,720	586	156	92
13	77	83	75	67	99	96	265	672	1,700	608	155	89
14	76	80	75	68	96	104	252	680	1,760	600	158	88
15	75	79	65	88	96	148	247	708	2,070	590	164	85
16	75	82	60	125	94	155	252	850	2,430	506	191	84
17	74	82	70	108	91	143	281	1,030	2,710	466	184	83
18	74	80	72	91	88	142	284	1,230	2,730	414	164	82
19	74	82	72	75	89	145	278	1,510	2,400	387	156	82
20	73	87	72	65	91	158	270	1,860	1,920	374	155	85
21	73	83	72	60	131	152	276	2,180	1,580	384	155	87
22	73	71	72	65	137	148	265	1,920	1,350	377	155	83
23	83	73	71	65	124	145	267	2,010	1,270	352	151	79
24	99	74	68	60	122	143	276	1,960	1,270	330	147	76
25	91	76	66	55	117	142	284	1,840	1,260	299	139	74
26	85	65	68	50	110	145	304	2,320	1,210	282	129	73
27	87	60	60	50	111	142	367	2,770	1,060	272	123	71
28	89	65	60	66	108	142	446	2,250	934	269	116	76
29	96	74	55	79	------	148	608	1,970	834	251	115	80
30	82	75	55	82	------	160	760	1,940	735	236	115	74
31	84	------	55	86	------	169	------	2,170	------	219	129	------
TOTAL	2,519	2,445	1,978	2,155	2,870	3,927	9,074	39,891	61,523	14,631	5,134	2,861
MEAN	81.3	81.5	63.8	69.5	103	127	302	1,287	2,051	472	166	95.4
MAX	99	127	75	125	137	169	760	2,770	3,470	750	221	166
MIN	73	60	40	50	84	85	182	568	735	219	115	71
CFSM	.40	.40	.31	.34	.50	.62	1.49	6.34	10.1	2.32	.82	.47
IN.	.46	.45	.36	.39	.53	.72	1.66	7.31	11.3	2.68	.94	.52
AC-FT	5,000	4,850	3,920	4,270	5,690	7,790	18,000	79,120	122,000	29,020	10,180	5,670

CAL YR 1960: TOTAL 137,429 MEAN 375 MAX 2,310 MIN 40 CFSM 1.85 IN 25.18 AC-FT 272,600
WAT YR 1961: TOTAL 149,008 MEAN 408 MAX 3,470 MIN 40 CFSM 2.01 IN 27.30 AC-FT 295,600

12-4528. Entiat River near Ardenvoir, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	73	78	74	63	93	80	97	354	1,090	807	282	95
2	72	74	71	63	100	90	107	377	1,080	715	274	95
3	70	71	69	80	144	92	122	374	1,020	631	277	93
4	69	70	68	99	156	93	139	352	939	590	277	92
5	68	61	68	91	151	92	153	336	851	538	244	89
6	76	67	58	87	149	93	180	324	802	502	221	87
7	66	72	53	100	147	93	248	313	824	474	214	87
8	71	70	50	195	144	91	214	316	958	485	219	87
9	70	68	48	187	140	96	204	313	1,100	522	193	86
10	76	79	46	160	137	83	195	313	1,240	546	180	87
11	74	84	45	130	132	80	193	307	1,180	546	172	102
12	78	69	45	110	131	74	195	307	1,170	534	168	91
13	97	67	50	90	131	76	214	304	1,110	502	170	87
14	98	74	55	80	129	77	256	304	1,090	474	158	91
15	92	62	58	72	125	80	321	307	1,180	440	149	87
16	89	49	61	65	122	79	327	316	1,460	414	149	82
17	88	45	61	62	119	80	333	358	1,500	397	147	78
18	86	47	61	56	118	90	384	400	1,410	367	142	76
19	84	48	63	45	115	82	486	432	1,320	336	137	75
20	82	47	53	45	112	82	518	459	1,280	327	136	75
21	79	50	56	46	108	80	510	522	1,260	336	137	75
22	77	50	64	48	108	79	514	604	1,200	355	132	76
23	82	48	67	50	104	79	546	672	1,180	371	126	76
24	80	50	76	60	90	86	618	780	1,210	377	120	75
25	79	52	70	123	75	86	608	1,020	1,300	380	118	75
26	80	61	65	126	65	86	577	1,100	1,250	367	113	74
27	82	74	60	122	65	85	559	1,210	1,020	361	111	74
28	76	76	64	106	70	83	494	1,380	862	358	107	80
29	72	76	65	98	-------	83	447	1,390	812	327	103	103
30	76	76	65	97	-------	85	414	1,260	818	304	100	89
31	76	-------	66	94	-------	88	-------	1,150	-------	290	97	-------
TOTAL	2,438	1,915	1,896	2,851	3,280	2,603	10,173	17,994	33,656	13,574	5,173	2,545
MEAN	78.6	63.8	61.2	92.0	117	84.0	339	580	1,122	451	167	84.8
MAX	98	84	76	195	156	93	618	1,390	1,500	807	282	103
MIN	66	45	45	45	65	74	97	304	802	290	97	74
CFSM	.39	.31	.30	.45	.58	.41	1.67	2.86	5.53	2.22	.82	.42
IN.	.45	.35	.35	.52	.60	.48	1.86	3.30	6.17	2.56	.95	.47
AC-FT	4,840	3,800	3,760	5,650	6,510	5,160	20,180	35,690	66,760	27,720	10,260	5,050

CAL YR 1961: TOTAL 148,315 MEAN 406 MAX 3,470 MIN 45 CFSM 2.00 IN 27.17 AC-FT 294,200
WAT YR 1962: TOTAL 98,488 MEAN 270 MAX 1,500 MIN 45 CFSM 1.33 IN 18.05 AC-FT 195,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	83	107	182	145	70	154	132	288	1,770	488	228	119
2	80	104	173	144	80	151	128	290	1,590	516	211	130
3	87	103	165	145	100	145	132	280	1,350	572	202	122
4	84	101	158	135	158	144	127	272	1,260	620	198	114
5	78	116	160	130	190	149	135	290	1,190	638	198	110
6	74	110	171	127	213	144	140	298	1,160	576	200	107
7	77	103	156	124	196	142	137	290	1,150	529	200	104
8	79	117	171	124	192	142	137	285	1,210	540	192	101
9	94	111	161	120	180	142	135	285	1,140	508	192	105
10	90	107	160	80	176	140	137	285	1,110	460	192	108
11	90	111	160	60	174	142	142	290	1,220	422	192	111
12	96	114	154	50	173	140	142	306	1,330	411	196	107
13	103	107	160	60	173	137	142	324	1,500	411	339	110
14	96	103	158	75	169	140	158	354	1,470	425	295	122
15	84	101	178	90	163	138	198	404	1,470	387	222	106
16	79	91	178	95	161	135	186	442	1,500	354	190	97
17	78	92	169	90	158	133	180	532	1,470	336	173	94
18	82	91	161	88	156	132	182	706	1,380	333	165	87
19	95	152	160	86	156	132	188	958	1,280	321	163	82
20	92	540	156	88	154	132	196	1,240	1,160	312	154	78
21	125	315	165	88	145	133	192	1,580	997	295	144	75
22	137	262	156	91	144	135	192	1,840	850	295	140	75
23	132	231	108	95	142	140	194	2,090	740	282	138	77
24	128	222	91	92	142	138	198	2,210	688	258	130	75
25	125	228	103	92	142	137	200	1,960	652	243	128	73
26	122	233	85	84	156	135	200	1,780	643	231	127	69
27	119	206	90	83	154	138	206	1,670	602	228	120	68
28	114	178	150	84	151	145	224	1,620	607	238	116	69
29	111	151	169	80	-------	140	260	1,720	580	231	114	74
30	110	173	160	70	-------	138	285	1,880	528	226	113	75
31	108	-------	154	65	-------	135	-------	1,890	-------	217	113	-------
TOTAL	3,052	4,780	4,722	2,980	4,368	4,328	5,205	28,659	33,697	11,902	5,485	2,845
MEAN	98.5	159	152	96.1	156	140	174	924	1,123	384	177	94.8
MAX	137	540	182	145	213	154	285	2,210	1,770	638	339	130
MIN	74	91	85	50	70	132	127	272	528	217	113	68
CFSM	.48	.78	.75	.47	.77	.69	.85	4.55	5.53	1.89	.87	.47
IN.	.56	.88	.87	.55	.80	.79	.95	5.25	6.17	2.18	1.00	.52
AC-FT	6,050	9,480	9,370	5,910	8,660	8,580	10,320	56,840	66,840	23,610	10,880	5,640

CAL YR 1962: TOTAL 104,803 MEAN 287 MAX 1,500 MIN 45 CFSM 1.41 IN 19.20 AC-FT 207,900
WAT YR 1963: TOTAL 112,023 MEAN 307 MAX 2,210 MIN 50 CFSM 1.51 IN 20.52 AC-FT 222,200

12-4528. Entiat River near Ardenvoir, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	70	84	87	113	75	72	108	208	1,900	1,140	315	137
2	68	87	86	111	72	69	117	206	2,000	1,290	288	125
3	66	93	96	101	75	68	114	206	1,900	1,260	295	116
4	64	84	99	101	73	70	116	224	1,820	1,140	306	116
5	64	80	113	99	69	72	122	248	1,960	1,130	278	113
6	70	84	106	100	64	69	122	250	2,040	1,110	262	108
7	66	86	101	80	64	66	127	265	2,040	1,090	252	104
8	62	84	103	68	67	68	132	306	2,040	1,240	250	106
9	61	85	100	99	73	69	135	372	2,270	1,370	245	103
10	60	82	86	103	73	68	150	425	2,500	1,100	236	97
11	59	79	61	101	70	70	160	436	2,690	958	226	94
12	59	76	78	97	66	70	155	468	2,560	1,000	228	91
13	59	82	95	91	67	68	150	468	2,260	1,040	233	87
14	70	113	92	86	66	69	150	456	2,170	958	224	83
15	70	113	96	87	67	77	165	446	2,160	860	208	82
16	67	97	97	83	66	75	160	472	2,380	740	196	82
17	63	95	94	86	67	78	154	548	2,310	634	190	82
18	60	90	92	90	67	82	152	630	1,810	580	188	84
19	59	95	91	82	68	79	154	720	1,520	544	184	83
20	58	90	88	74	67	78	161	870	1,350	512	173	95
21	83	69	83	82	67	78	171	870	1,260	492	165	87
22	208	87	79	86	67	80	176	765	1,260	472	163	84
23	128	88	88	83	67	79	171	715	1,390	428	165	82
24	117	86	124	70	68	72	169	679	1,520	400	167	80
25	120	84	113	61	66	74	182	625	1,420	390	165	80
26	106	110	103	72	68	74	194	634	1,350	387	167	83
27	99	149	100	84	66	74	194	670	1,380	378	158	80
28	95	103	97	83	67	75	194	870	1,200	381	156	79
29	95	86	88	82	69	79	202	1,200	1,070	384	145	77
30	90	82	92	80	------	84	211	1,460	1,060	369	144	108
31	87	------	103	78	------	95	------	1,690	------	342	142	------
TOTAL	2,507	2,716	2,921	2,713	1,981	2,301	4,668	18,432	54,590	24,119	6,514	2,828
MEAN	80.9	90.5	94.2	87.5	69.3	74.2	156	595	1,820	778	210	94.3
MAX	208	149	124	113	75	95	211	1,690	2,690	1,370	315	137
MIN	58	69	61	61	64	66	108	206	1,060	342	142	77
CFSM	.40	.45	.46	.43	.34	.37	.77	2.93	8.96	3.83	1.04	.46
IN.	.46	.50	.54	.50	.36	.42	.86	3.38	10.0	4.42	1.19	.52
AC-FT	4,970	5,390	5,790	5,380	3,930	4,560	9,260	36,560	108,300	47,840	12,920	5,610

CAL YR 1963: TOTAL 107,613 MEAN 295 MAX 2,210 MIN 50 CFSM 1.45 IN 19.71 AC-FT 213,400
WAT YR 1964: TOTAL 126,290 MEAN 345 MAX 2,690 MIN 58 CFSM 1.70 IN 23.14 AC-FT 250,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	133	78	108	59	97	90	117	740	1,490	818	320	133
2	110	79	101	56	88	90	119	667	1,550	900	330	130
3	120	79	90	55	92	85	122	608	1,850	1,010	323	126
4	99	77	82	55	91	85	125	562	1,880	1,010	320	122
5	95	90	75	55	94	85	131	516	1,910	1,000	295	120
6	94	78	64	54	90	90	135	474	2,110	966	275	116
7	97	79	64	54	84	95	135	456	2,060	1,000	252	112
8	113	78	74	52	88	100	135	458	1,930	964	244	109
9	128	77	77	52	84	106	146	484	1,980	795	250	105
10	125	75	73	52	80	120	148	572	2,180	677	252	109
11	117	74	67	52	78	130	148	684	2,700	579	245	108
12	111	72	49	50	83	142	156	874	2,630	528	252	105
13	108	70	73	50	82	144	173	1,000	1,950	493	255	102
14	108	63	66	55	78	150	180	1,050	1,560	500	226	103
15	111	64	61	60	75	157	198	1,060	1,330	515	203	118
16	106	66	45	64	75	162	240	1,130	1,210	519	193	109
17	101	62	25	64	82	157	248	1,060	1,310	490	183	102
18	99	72	30	64	88	152	252	967	1,510	473	181	98
19	96	63	40	62	94	148	267	896	1,650	427	186	95
20	94	63	47	62	100	145	332	829	1,490	396	230	93
21	94	63	53	60	100	143	340	781	1,330	365	219	90
22	90	63	65	60	95	140	338	761	1,210	334	196	88
23	87	66	75	58	95	136	343	796	1,150	319	225	88
24	84	84	80	58	90	128	365	848	1,190	326	221	86
25	83	87	75	58	90	129	412	965	1,120	347	209	85
26	80	78	70	60	95	126	478	1,150	1,080	373	188	86
27	75	68	65	70	100	121	596	1,360	976	445	173	93
28	79	62	62	84	95	117	740	1,720	875	399	162	86
29	83	59	62	96	------	115	821	2,090	812	359	153	83
30	80	73	61	103	------	113	807	1,950	785	329	142	79
31	80	------	60	114	------	113	------	1,660	------	314	136	------
TOTAL	3,080	2,162	2,039	1,948	2,483	3,814	8,747	29,168	46,808	17,970	7,039	3,079
MEAN	99.4	72.1	65.8	62.8	88.7	123	292	941	1,560	580	227	103
MAX	133	90	108	114	100	162	821	2,090	2,700	1,010	330	133
MIN	75	59	25	50	75	85	117	456	785	314	136	79
CFSM	.49	.36	.32	.31	.44	.61	1.44	4.63	7.69	2.86	1.12	.51
IN.	.56	.40	.37	.36	.45	.70	1.60	5.34	8.58	3.29	1.23	.56
AC-FT	6,110	4,290	4,040	3,860	4,920	7,560	17,350	57,850	92,840	35,640	13,960	6,110

CAL YR 1964: TOTAL 125,427 MEAN 343 MAX 2,690 MIN 25 CFSM 1.69 IN 22.98 AC-FT 248,800
WAT YR 1965: TOTAL 128,337 MEAN 352 MAX 2,700 MIN 25 CFSM 1.73 IN 23.51 AC-FT 254,600

12-4537. Columbia River at Rocky Reach Dam, Wash.

Location.--Lat 47°31'30", long 120°18'00", in SW¼ sec.35, T.24 N., R.20 E., on right bank half a mile downstream from Rocky Reach Dam, 1 mile downstream from Swakane Creek, and 7 miles north of Wenatchee.

Drainage area.--87,800 sq mi, approximately.

Records available.--October 1960 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Chelan County Public Utility District). Auxiliary water-stage recorder 2 miles downstream from base gage.

Average discharge.--5 years, 119,700 cfs (86,660,000 acre-ft per year), unadjusted.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum daily		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1961	June 10, 1961	535,000	635.50	Jan. 15, 1961	49,000	-
1962	June 4, 1962	310,800	624.64	Jan. 7, 1962	39,800	-
1963	June 17, 1963	299,400	625.68	Nov. 15, 1962	52,500	-
1964	June 17, 1964	454,500	634.50	Apr. 5, 1964	45,000	-
1965	June 18, 1965	347,700	-	Jan. 29, 1965	45,800	-

1960-65: Maximum discharge, about 535,000 cfs June 10, 1961 (elevation, about 635.50 ft); minimum, 34,500 cfs Dec. 26, 1964 (elevation, 603.80 ft); minimum daily, 39,800 cfs Jan. 7, 1962.

Remarks.--Records good. Feeder canal diverts water by pumping from Franklin D. Roosevelt Lake for Columbia Basin project (see station 12-4355). Other diversions above station for irrigation are small percentage of flow past gage. Flow regulated by Rocky Reach reservoir, Lake Chelan, Rufus Woods Lake, Franklin D. Roosevelt Lake and reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, and Okanogan River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	76,300	67,200	65,000	60,100	81,800	98,000	101,700	99,400	421,600	295,500	126,500	75,900
2	72,500	64,300	59,000	61,200	81,000	90,200	106,500	105,700	440,800	280,100	117,300	74,200
3	69,800	64,100	57,600	61,800	87,000	89,100	105,800	104,300	465,900	265,900	112,600	77,600
4	77,200	63,900	51,400	66,300	85,500	96,200	94,500	106,800	501,500	258,800	110,800	74,100
5	73,500	62,200	52,300	71,800	86,300	100,600	96,200	111,800	474,200	237,200	108,000	73,100
6	67,900	62,800	55,100	57,500	86,900	100,400	96,700	117,700	498,000	228,200	109,700	74,400
7	68,500	61,800	54,300	56,700	77,000	85,600	93,400	124,400	517,400	220,200	92,100	71,900
8	65,500	61,200	52,600	54,900	71,900	81,700	105,000	125,200	520,300	212,500	84,400	75,700
9	65,100	64,800	59,600	51,200	73,100	78,900	115,000	152,100	526,200	203,400	98,300	73,600
10	64,300	64,000	62,300	50,500	72,700	80,200	110,000	174,400	530,000	196,900	89,500	77,400
11	61,200	64,000	60,100	53,000	71,700	85,700	104,900	183,100	525,200	193,500	91,200	75,300
12	60,400	65,000	57,700	56,200	72,900	94,700	112,500	197,200	512,700	193,900	120,000	71,500
13	66,700	65,000	60,000	61,100	72,300	89,500	108,100	203,200	521,800	188,000	126,100	72,000
14	69,500	63,000	62,400	56,500	82,700	75,500	110,500	199,700	517,100	178,200	125,400	73,400
15	70,800	68,700	63,000	49,000	83,300	74,900	105,600	212,400	496,400	177,500	103,200	67,200
16	71,400	64,700	61,800	50,100	84,300	74,800	115,200	230,200	471,600	173,200	94,400	67,500
17	64,300	62,300	59,700	53,600	90,800	77,500	114,000	232,400	479,000	177,000	97,100	65,300
18	56,100	65,300	55,900	50,300	95,500	80,700	103,200	242,700	484,500	175,000	83,800	57,000
19	55,700	67,600	51,100	61,100	93,600	80,700	89,900	244,200	483,100	172,000	83,200	64,600
20	55,400	66,000	54,600	62,200	92,700	84,900	87,300	230,900	474,300	172,000	78,600	63,300
21	57,700	65,800	56,500	64,300	87,400	85,500	89,000	242,200	456,000	169,500	73,400	61,600
22	56,100	71,200	54,000	65,100	87,600	85,300	96,500	265,400	450,200	166,200	78,500	55,900
23	53,900	70,200	53,500	63,700	89,400	87,600	89,000	272,900	424,300	164,300	84,100	55,900
24	52,300	69,800	53,100	65,800	93,300	85,600	95,200	301,400	403,600	150,600	87,000	55,500
25	62,300	68,900	55,000	67,200	98,500	87,300	120,800	320,100	391,500	146,900	89,900	51,100
26	69,700	68,300	53,000	68,900	97,100	96,300	118,900	311,700	381,300	167,400	92,400	49,600
27	70,400	72,200	53,300	63,500	102,000	93,500	117,000	301,200	356,200	158,000	91,300	50,100
28	78,100	73,700	59,900	68,600	107,000	85,500	97,700	325,700	341,000	147,200	90,000	53,300
29	78,700	74,900	63,100	69,000	------	82,500	98,400	395,800	327,500	136,100	86,100	58,500
30	77,200	73,100	62,500	68,200	------	83,500	98,200	411,100	312,200	130,300	82,100	54,300
31	70,000	------	62,700	70,300	------	88,700	------	417,800	------	127,100	81,500	------
TOTAL	2,058.5M	1,996.0M	1,782.1M	1,880.3M	2,405.3M	2,681.1M	3,096.7M	6,863.1M	13,705M	5,891.6M	3,000.3M	1,975.1M
MEAN	66,400	66,530	57,430	60,650	85,500	86,490	103,200	224,600	456,800	190,100	96,780	65,840
MAX	78,700	74,900	65,000	71,800	107,000	100,600	120,800	417,800	530,000	295,500	126,500	77,600
MIN	52,300	61,200	51,100	49,000	71,700	74,800	87,300	99,400	312,200	127,100	73,400	49,600
AC-FT	4,083M	3,959M	3,535M	3,730M	4,771M	5,318M	6,142M	13,810M	27,180M	11,680M	5,951M	3,916M

CAL YR 1960: TOTAL MEAN MAX MIN AC-FT
WAT YR 1961: TOTAL 47,435,500 MEAN 130,000 MAX 530,000 MIN 49,000 AC-FT 94,080,000

M Expressed in thousands.
Note.--No gage-height record June 10.

12-4537. Columbia River at Rocky Reach Dam, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	53,600	55,600	55,200	44,100	82,000	80,700	48,100	162,500	295,200	220,700	172,200	81,900
2	60,500	72,700	58,200	48,300	82,400	65,700	49,000	159,000	297,300	220,700	173,500	82,500
3	59,300	70,300	56,700	49,800	81,200	58,900	52,300	153,100	295,800	217,900	172,700	78,400
4	54,600	66,500	58,000	54,800	82,300	59,100	55,000	152,400	301,600	225,100	172,000	69,600
5	50,900	61,700	66,400	46,800	82,000	56,100	59,600	150,000	307,000	224,600	162,400	69,300
6	52,000	64,800	55,900	40,800	85,600	56,200	58,300	148,400	292,900	229,900	153,500	71,400
7	49,200	65,400	54,600	39,800	84,000	58,900	77,900	146,600	285,900	225,600	150,700	68,700
8	58,600	61,700	55,400	49,300	84,600	62,500	85,300	156,500	281,000	225,300	144,500	64,800
9	63,100	62,200	48,200	48,600	85,600	64,700	83,300	160,100	276,900	224,200	131,400	57,100
10	64,600	62,500	47,300	44,900	88,000	60,800	84,300	159,500	284,500	207,200	121,700	68,600
11	53,800	50,500	62,300	64,600	87,200	56,300	88,100	159,000	288,300	201,900	117,100	65,600
12	46,300	49,700	66,700	62,600	81,700	66,200	86,500	156,800	277,400	194,700	111,200	66,300
13	51,000	71,000	66,900	62,000	83,100	55,200	85,300	157,300	265,300	186,000	109,900	65,200
14	55,500	69,900	58,900	61,600	82,300	58,200	91,200	164,200	264,800	184,900	102,300	76,800
15	50,700	57,100	57,100	67,300	78,100	51,500	94,200	157,800	268,800	189,000	104,100	70,200
16	55,800	59,500	60,600	71,500	76,200	52,400	96,500	154,800	266,200	188,800	99,400	61,500
17	60,400	55,900	61,400	75,100	69,400	48,100	117,600	149,300	267,500	186,600	101,200	71,800
18	75,400	51,400	58,000	78,700	62,100	49,500	130,700	150,500	251,900	182,600	102,800	66,200
19	85,800	62,200	61,400	79,700	67,300	55,900	130,400	151,900	237,500	181,400	101,000	64,600
20	83,200	68,800	60,300	82,600	71,500	65,900	124,800	151,900	238,600	177,000	100,000	63,000
21	61,100	64,400	47,700	79,100	71,400	70,900	129,100	154,300	238,500	166,300	103,500	57,700
22	62,800	64,500	49,200	79,500	67,300	64,400	139,100	160,200	242,200	159,000	108,800	57,200
23	65,400	55,600	48,200	83,800	70,100	68,700	144,000	169,100	242,200	160,600	110,000	55,600
24	67,700	54,800	44,700	77,600	63,200	61,600	144,300	187,800	241,000	160,100	109,200	60,100
25	68,400	57,200	45,400	83,100	64,400	49,800	153,000	204,200	240,300	156,100	102,500	62,000
26	70,600	61,500	48,200	82,600	70,600	51,600	162,300	225,100	227,100	157,300	101,500	65,800
27	71,500	64,800	46,200	81,900	65,700	46,200	166,600	242,700	225,600	151,800	102,500	67,800
28	71,400	65,100	46,100	82,100	76,600	48,300	166,100	262,400	223,400	154,000	89,000	60,700
29	73,100	58,100	47,100	81,200	------	47,000	165,200	281,900	219,900	155,500	91,400	50,000
30	68,900	56,400	45,300	83,000	------	45,800	166,600	281,200	220,700	165,400	86,200	52,800
31	60,300	------	42,500	82,200	------	52,700	------	286,100	------	174,000	79,000	------
TOTAL	1,925.5M	1,841.8M	1,680.1M	2,069.0M	2,145.9M	1,789.8M	3,234.7M	5,556.6M	7,865.3M	5,854.2M	3,687.2M	1,973.2M
MEAN	62,110	61,390	54,200	66,740	76,640	57,740	107,800	179,200	262,200	188,800	118,900	65,770
MAX	85,800	72,700	66,900	83,800	88,000	80,700	166,600	286,100	307,000	229,900	173,500	82,500
MIN	46,300	49,700	42,500	39,800	62,100	45,800	48,100	146,600	219,900	151,800	79,000	50,000
AC-FT	3,819M	3,653M	3,332M	4,104M	4,256M	3,550M	6,416M	11,020M	15,600M	11,610M	7,313M	3,914M

CAL YR 1961: TOTAL 47,046,300 MEAN 128,900 MAX 530,000 MIN 42,500 AC-FT 93,310,000
WAT YR 1962: TOTAL 39,623,300 MEAN 108,600 MAX 307,000 MIN 39,800 AC-FT 78,590,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	66,700	60,000	86,900	80,100	73,000	82,000	85,700	126,200	221,000	235,800	127,200	66,600
2	60,300	65,700	85,700	85,400	69,500	81,700	87,700	124,400	218,500	246,500	119,900	67,800
3	59,800	70,300	86,900	83,500	61,000	83,000	90,300	126,200	221,600	239,000	118,900	63,000
4	61,500	58,000	85,900	86,300	71,900	84,300	91,000	125,600	229,900	234,800	120,000	74,100
5	61,800	66,400	83,600	80,700	72,000	76,700	90,200	126,600	231,100	236,800	118,200	76,300
6	57,800	63,300	82,000	66,900	72,800	80,100	86,000	130,000	222,700	230,900	114,100	68,000
7	58,100	68,200	77,900	84,900	78,200	85,000	84,500	129,500	222,700	221,300	111,300	65,700
8	64,500	73,100	72,900	74,300	66,600	88,100	80,800	138,400	233,500	224,900	108,000	66,500
9	59,300	65,100	77,800	74,700	80,800	84,700	89,200	143,900	241,600	228,500	107,700	66,800
10	53,500	62,200	82,600	88,000	89,900	84,200	91,400	154,600	251,500	223,200	107,500	72,700
11	59,100	57,000	80,900	90,900	92,200	89,100	95,800	124,300	261,100	226,100	107,300	73,100
12	71,200	66,300	78,100	90,200	94,100	92,300	88,900	119,100	272,700	212,200	109,300	72,400
13	63,600	62,600	76,900	93,500	92,500	80,500	84,700	114,300	277,600	215,600	114,100	64,700
14	65,800	57,200	75,200	90,400	91,900	77,700	83,500	97,400	291,200	213,500	116,000	71,100
15	74,800	52,500	77,500	92,700	92,300	65,900	88,000	100,700	290,400	203,400	118,500	71,500
16	65,500	65,400	79,900	96,100	91,500	64,200	91,100	108,500	292,500	209,800	121,000	76,700
17	71,800	68,400	86,000	93,900	85,300	60,600	94,400	109,700	294,600	215,300	119,500	83,600
18	59,200	63,300	76,900	80,200	82,300	61,500	103,900	109,200	292,400	222,200	112,600	78,800
19	65,100	64,200	81,200	75,200	85,600	59,600	105,600	111,400	290,600	220,000	111,200	91,400
20	66,200	61,300	81,200	82,100	86,800	55,300	108,800	116,200	288,800	207,600	111,100	74,900
21	65,000	72,000	83,200	91,700	88,100	61,200	111,400	121,000	285,500	196,900	111,400	62,900
22	70,200	67,700	77,800	90,100	88,600	58,200	113,000	175,600	281,500	195,800	111,600	66,700
23	67,700	70,400	79,500	78,700	88,100	60,800	110,000	189,100	280,200	176,900	111,000	63,800
24	80,200	80,600	81,400	70,800	88,400	53,700	110,400	196,200	282,100	170,900	106,300	64,700
25	79,100	83,200	73,100	73,600	88,500	65,600	104,600	189,400	277,300	150,000	98,100	69,600
26	66,900	84,200	88,700	63,600	86,900	66,200	111,800	187,600	277,200	133,000	95,600	67,100
27	71,400	87,700	80,500	54,600	82,300	67,700	113,500	187,900	273,600	131,200	86,200	63,500
28	70,000	90,800	81,800	64,800	81,500	69,000	114,000	208,200	252,500	130,900	88,700	59,800
29	72,000	91,400	90,900	69,000	------	70,200	114,900	214,400	243,500	133,100	80,700	60,200
30	68,000	89,700	63,400	73,100	------	79,600	114,300	220,900	239,400	132,200	79,300	62,800
31	60,200	------	77,700	74,300	------	84,300	------	221,800	------	131,800	72,500	------
TOTAL	2,038.3M	2,088.2M	2,494.0M	2,494.3M	2,322.6M	2,273.0M	2,939.4M	4,548.3M	7,838.8M	6,150.1M	3,335.1M	2,087.4M
MEAN	65,750	69,610	80,450	80,460	82,950	73,320	97,980	146,700	261,300	198,400	107,600	69,580
MAX	80,200	91,400	90,900	96,100	94,100	92,300	114,900	221,800	294,600	246,500	127,200	91,400
MIN	53,500	52,500	63,400	54,600	61,000	53,700	80,800	97,400	218,500	130,900	72,500	59,800
AC-FT	4,043M	4,142M	4,947M	4,947M	4,607M	4,508M	5,830M	9,021M	15,550M	12,200M	6,615M	4,140M

CAL YR 1962: TOTAL 40,796,400 MEAN 111,800 MAX 307,000 MIN 39,800 AC-FT 80,920,000
WAT YR 1963: TOTAL 40,609,500 MEAN 111,300 MAX 294,600 MIN 52,500 AC-FT 80,550,000

M Expressed in thousands.

12-4537. Columbia River at Rocky Reach Dam, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62,200	60,800	70,700	48,400	58,000	51,000	55,200	72,000	282,900	358,600	193,500	90,000
2	62,800	53,500	63,900	57,300	52,600	56,000	53,000	62,000	291,600	353,100	188,800	79,600
3	63,100	57,000	62,000	57,300	56,200	56,000	47,000	56,000	314,500	330,300	170,500	74,400
4	64,300	61,000	56,400	55,300	56,000	54,000	51,000	67,000	320,000	315,900	160,400	74,000
5	66,000	61,000	59,700	56,600	56,600	60,000	45,000	68,000	316,000	303,100	149,600	61,100
6	58,000	59,100	63,200	59,800	64,900	63,000	72,000	66,000	310,000	308,000	124,200	58,000
7	63,000	63,300	69,000	60,900	80,600	60,200	57,000	71,000	303,000	326,900	109,400	69,800
8	64,000	60,400	65,700	57,500	78,400	58,200	55,100	96,000	303,000	339,400	122,300	71,400
9	67,000	59,600	62,600	57,300	70,100	62,000	52,700	110,000	306,000	331,700	140,200	65,600
10	61,000	54,300	63,100	55,000	78,100	61,900	55,000	109,000	333,000	322,700	141,700	67,700
11	65,000	57,400	60,700	54,700	72,100	60,500	53,700	117,000	368,000	320,300	131,100	71,100
12	68,000	50,900	60,300	52,800	78,200	61,000	52,400	128,800	386,000	319,300	127,200	69,800
13	62,000	51,200	63,000	61,700	74,100	58,800	60,100	130,800	400,000	323,700	127,000	65,100
14	60,000	59,800	58,500	60,600	83,300	57,000	63,500	144,900	414,000	321,800	137,600	66,000
15	68,000	58,100	56,000	57,800	74,600	49,500	72,100	153,500	415,000	320,000	136,900	70,000
16	65,000	53,200	60,700	57,700	72,600	58,700	59,200	151,700	428,000	315,900	137,300	69,000
17	62,900	50,000	62,300	59,700	74,900	66,000	62,300	153,300	441,000	300,500	131,900	60,000
18	61,100	53,000	60,500	63,100	66,900	60,500	58,800	164,400	443,700	298,600	117,200	62,000
19	58,500	55,300	57,400	51,400	72,000	61,300	60,900	189,100	434,200	294,900	113,300	60,000
20	56,000	62,500	56,600	63,000	72,200	60,600	71,900	205,200	422,200	294,900	114,800	63,000
21	56,900	66,500	58,900	60,400	72,600	63,900	66,000	229,000	418,400	282,400	119,000	68,000
22	56,200	59,700	55,700	56,300	70,900	64,700	62,000	234,000	419,500	263,100	121,200	70,000
23	55,900	51,100	55,800	53,200	71,100	70,500	65,000	234,000	417,700	245,300	121,100	71,000
24	54,100	52,000	55,600	54,700	74,000	64,100	64,000	229,000	423,800	237,000	117,900	74,000
25	61,300	51,700	49,000	55,400	72,000	64,200	62,000	234,000	424,500	228,600	109,800	76,000
26	63,600	52,200	54,100	52,200	68,000	64,300	59,000	247,000	417,000	218,800	99,200	74,000
27	63,800	57,900	56,500	53,900	62,000	62,000	72,000	248,000	407,800	209,900	98,600	76,000
28	64,800	56,500	59,000	53,300	57,000	60,400	61,000	251,000	390,500	186,700	93,200	81,000
29	65,100	59,400	51,600	51,100	56,000	55,100	72,000	257,200	382,200	168,800	88,000	73,000
30	58,300	64,500	56,400	56,500	------	67,800	69,000	266,300	377,000	167,700	89,500	74,000
31	61,700	------	50,600	56,300	------	60,500	------	269,500	------	184,300	94,700	------
TOTAL	1,919.6M	1,712.9M	1,835.5M	1,751.2M	1,996.0M	1,873.7M	1,809.9M	5,014.7M	11,311M	8,792.2M	3,907.5M	2,104.6M
MEAN	61,920	57,100	59,210	56,490	68,830	60,440	60,330	161,800	377,000	283,600	126,000	70,150
MAX	68,000	66,500	70,700	63,100	83,300	70,500	72,100	269,500	443,700	358,600	193,500	90,000
MIN	54,100	50,000	49,000	48,400	52,600	49,500	45,000	56,000	282,900	167,700	88,000	58,000
AC-FT	3,807M	3,397M	3,641M	3,473M	3,959M	3,716M	3,590M	9,947M	22,430M	17,440M	7,750M	4,174M

CAL YR 1963: TOTAL 39,457,000 MEAN 108,100 MAX 294,600 MIN 49,000 AC-FT 78,260,000
WAT YR 1964: TOTAL 44,028,300 MEAN 120,300 MAX 443,700 MIN 45,000 AC-FT 87,330,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92,900	73,400	75,800	73,100	73,000	88,800	86,400	165,000	288,800	257,200	121,900	109,600
2	89,400	76,000	77,800	87,900	86,600	74,900	68,800	232,700	288,700	253,300	128,200	84,600
3	99,700	75,900	77,400	87,400	80,100	81,600	61,200	207,200	293,200	247,900	131,800	87,400
4	92,100	69,500	79,300	90,800	93,700	88,900	63,200	224,000	296,000	240,200	141,700	83,300
5	88,100	77,200	74,200	90,900	103,700	89,700	71,100	225,400	292,200	236,900	138,100	80,800
6	87,400	74,700	75,700	89,000	100,300	86,500	79,000	235,600	295,600	231,200	143,300	79,400
7	82,900	74,400	71,700	84,400	101,000	86,000	80,500	190,500	292,300	239,500	140,700	80,500
8	84,500	73,300	69,700	72,900	105,900	92,400	80,100	211,700	298,600	248,700	141,300	77,500
9	82,200	74,400	72,700	84,300	110,500	86,600	85,300	215,600	294,600	250,800	145,500	74,600
10	81,800	76,600	68,000	83,100	103,600	86,400	80,100	212,400	292,000	246,700	146,900	71,400
11	83,300	75,500	68,800	82,800	115,800	81,500	77,800	205,400	294,600	243,200	150,200	92,700
12	87,600	74,400	63,300	85,100	119,800	78,500	79,000	214,100	295,300	243,300	140,600	70,300
13	95,300	75,600	56,100	88,000	92,600	79,100	82,100	229,100	288,000	240,800	143,400	77,600
14	89,000	72,200	64,600	79,100	64,800	81,300	80,200	226,200	284,000	250,600	121,400	77,100
15	87,100	62,800	65,800	88,100	114,800	84,900	83,900	230,200	287,400	250,800	120,400	74,700
16	85,000	73,900	76,200	82,800	124,700	81,500	101,400	228,800	299,900	218,500	124,200	75,200
17	91,600	70,300	75,100	77,500	118,900	84,200	119,500	227,300	325,400	212,200	137,000	75,200
18	90,700	71,400	81,400	77,900	98,300	82,400	122,900	233,600	329,100	203,100	137,700	70,800
19	93,100	65,700	74,000	86,600	90,800	82,700	120,000	237,000	320,100	188,500	124,400	66,600
20	89,200	66,900	55,400	74,200	90,500	83,300	129,000	240,000	321,900	185,600	126,600	75,500
21	86,200	64,900	67,400	79,300	92,300	81,600	131,000	238,000	321,900	186,800	118,000	74,800
22	80,800	69,900	70,800	77,800	90,300	84,300	143,400	228,500	324,700	189,200	111,600	72,300
23	82,800	66,200	62,100	72,600	95,100	81,800	146,100	232,100	323,800	202,100	112,500	71,100
24	78,900	71,400	50,900	62,500	106,700	82,100	150,400	240,500	316,700	198,100	114,700	70,300
25	75,100	80,800	53,500	79,500	101,800	89,300	153,800	233,900	308,300	196,100	115,500	71,000
26	89,900	74,100	53,400	76,500	106,400	91,100	153,700	228,200	302,500	177,800	124,500	63,700
27	75,300	77,100	55,800	78,200	82,500	88,000	151,700	230,300	290,900	173,100	115,600	67,900
28	77,200	77,200	65,300	72,200	82,000	85,900	149,500	254,600	285,800	151,200	114,000	67,300
29	73,600	70,400	72,500	45,800	------	90,800	150,000	265,300	275,100	131,200	112,000	72,600
30	76,900	71,600	71,700	48,800	------	90,500	150,000	276,200	259,900	123,200	113,700	68,400
31	76,400	------	83,200	48,400	------	82,100	------	284,000	------	121,600	112,300	------
TOTAL	2,646.0M	2,177.7M	2,130.6M	2,407.5M	2,746.5M	2,619.3M	3,231.8M	7,106.4M	8,997.6M	6,526.8M	3,970.5M	2,273.8M
MEAN	85,350	72,590	68,730	77,660	98,090	84,490	107,700	229,200	299,900	210,500	128,100	75,790
MAX	99,700	80,800	83,200	90,900	124,700	91,100	153,800	284,000	329,100	257,200	150,200	109,600
MIN	73,600	62,800	50,900	45,800	64,800	74,900	61,200	165,000	259,900	121,600	111,600	63,700
AC-FT	5,248M	4,319M	4,226M	4,775M	5,448M	5,195M	6,410M	14,100M	17,850M	12,950M	7,875M	4,510M

CAL YR 1964: TOTAL 45,514,600 MEAN 124,400 MAX 443,700 MIN 45,000 AC-FT 90,280,000
WAT YR 1965: TOTAL 46,834,500 MEAN 128,300 MAX 329,100 MIN 45,800 AC-FT 92,890,000

M Expressed in thousands.
Note.--No gage-height record June 6 to July 21.

12-4540. White River near Plain, Wash.

Location.--Lat 47°52'30", long 120°52'10", in NE¼ sec.5, T.27 N., R.16 E., on left bank 200 ft downstream from Forest Service bridge (revised), 1½ miles downstream from Sears Creek, 4 miles upstream from Wenatchee Lake, and 12½ miles northwest of Plain.

Drainage area.--150 sq mi.

Records available.--May 1911 to September 1912, July to August 1913, and October 1913 to March 1914 (monthly discharge only); April to September 1914, August 1954 to September 1965. Published as "near Chiwaukum" 1911-14.

Gage.--Digital water-stage recorder. Altitude of gage is 1,880 ft (from river-profile map). May 1911 to September 1914, staff gage at same site at different datum. August 1954 to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--11 years (1954-65), 832 cfs (602,300 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (3,500 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 21, 1961	0300	4,050	11.42	Nov. 20, 1962	0700	* 5,030	12.90	July 13, 1964	0200	4,250	11.68
May 26, 1961	0830	3,920	11.20	May 23, 1963	0030	3,770	10.73				
June 4, 1961	0300	* 5,430	13.39					May 29, 1965	0100	3,830	10.98
June 18, 1961	0130	5,200	13.10	June 2, 1963	0500	4,170	11.55	June 11, 1965	0130	* 3,980	11.18
				June 11, 1963	0500	* 4,480	12.05				
June 16, 1962	0030	* 3,270	10.04	July 8, 1964	2400	4,190	11.59				

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Sept. 27, 1961	128	2.35	1964	Oct. 9, 10, 1964	119	2.28
1962	Dec. 20, 1961	125	2.33	1965	Jan. 13, 1965	160	2.61
1963	Sept. 20, 1963	159	2.50				

1911-14, 1954-65: Maximum discharge, 5,780 cfs May 26, 1958 (gage height, 13.25 ft.); maximum gage height, 13.39 ft June 4, 1961; minimum discharge, 104 cfs Mar. 10, 1956; minimum observed gage height, 2.16 ft Oct. 18, 1957.

Remarks.--Records excellent except those for period of no gage-height record and those for winter periods, which are fair. No regulation or diversion above station.

Revisions (water years).--WSP 1316: 1914.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	176	761	210	150	440	610	758	1,720	4,060	1,330	642	650
2	170	450	208	145	410	544	926	1,740	4,660	1,370	642	556
3	166	393	206	140	380	527	1,310	1,510	5,020	1,470	698	355
4	156	348	202	145	360	510	1,340	1,320	5,150	1,740	678	426
5	150	322	192	150	420	502	1,250	1,180	4,670	2,230	706	372
6	180	308	190	160	618	470	1,150	1,060	4,610	1,770	602	299
7	333	292	185	170	560	440	1,100	994	3,720	1,460	524	259
8	235	268	180	180	520	420	1,050	994	2,940	1,340	506	235
9	188	248	180	185	490	400	1,000	1,010	2,800	1,450	510	224
10	168	320	170	185	460	380	970	1,120	2,460	1,650	478	224
11	152	393	165	190	440	370	940	1,140	2,520	1,830	450	214
12	150	320	165	195	420	360	910	1,180	2,460	1,950	443	209
13	144	305	170	195	400	360	880	1,250	2,480	2,020	460	201
14	142	285	180	200	380	380	860	1,230	2,900	1,880	492	188
15	148	278	190	782	370	430	840	1,360	3,710	1,650	540	183
16	192	285	170	1,240	360	460	840	1,780	4,360	1,480	674	190
17	166	285	180	794	350	457	880	2,060	4,840	1,290	496	201
18	152	282	190	646	350	457	870	2,340	4,760	1,230	464	214
19	147	290	195	558	380	468	850	2,860	4,120	1,220	478	201
20	144	292	200	513	440	510	810	3,350	3,230	1,300	488	233
21	142	275	190	478	994	513	800	3,650	2,650	1,320	482	203
22	226	258	190	447	910	506	790	3,000	2,380	1,210	460	173
23	414	252	185	417	774	499	810	3,230	2,640	1,180	446	155
24	548	255	180	390	722	496	830	2,640	2,770	986	426	147
25	348	250	180	366	650	492	860	2,560	2,820	862	341	148
26	336	235	175	354	580	492	900	3,590	2,540	834	310	136
27	325	220	170	310	555	492	950	3,180	2,010	838	277	131
28	315	218	165	330	520	488	1,100	2,620	1,800	770	293	171
29	300	218	160	360	------	524	1,440	2,660	1,680	662	325	178
30	265	214	155	390	------	594	1,670	2,920	1,430	626	325	160
31	461	------	150	420	------	674	------	3,140	------	626	648	------
TOTAL	7,139	9,120	5,628	11,185	14,253	14,825	29,684	64,388	98,190	41,574	15,304	7,278
MEAN	230	304	182	361	509	478	989	2,077	3,273	1,341	494	243
MAX	548	761	210	1,240	994	674	1,670	3,650	5,150	2,230	706	650
MIN	142	214	150	140	350	360	758	994	1,430	626	277	131
CFSM	1.54	2.03	1.21	2.41	3.39	3.19	6.60	13.8	21.8	8.94	3.29	1.62
IN.	1.77	2.26	1.40	2.77	3.53	3.68	7.36	16.0	24.3	10.3	3.79	1.80
AC-FT	14,160	18,090	11,160	22,190	28,270	29,400	58,880	127,700	194,800	82,460	30,360	14,440

CAL YR 1960: TOTAL 258,768 MEAN 707 MAX 3,530 MIN 140 CFSM 4.71 IN 64.16 AC-FT 513,300
WAT YR 1961: TOTAL 318,568 MEAN 873 MAX 5,150 MIN 131 CFSM 5.82 IN 78.98 AC-FT 631,900

Note.--No gage-height record Dec. 6 to Jan. 14.

12-4540. White River near Plain, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	163	259	187	250	344	264	331	842	1,470	1,700	978	262
2	158	226	180	250	572	259	412	842	1,680	1,300	882	259
3	153	226	178	870	1,060	250	482	878	1,570	1,200	890	241
4	155	216	181	740	1,030	246	572	826	1,310	1,180	874	224
5	198	207	178	650	906	239	602	782	1,200	1,140	806	222
6	276	205	169	638	830	233	842	742	1,130	1,070	674	220
7	212	201	166	1,180	742	224	1,130	706	1,330	1,070	686	235
8	187	197	150	1,890	670	239	934	718	1,860	1,340	662	214
9	361	207	145	1,390	614	220	850	726	1,620	1,660	555	197
10	443	408	140	1,110	569	218	774	762	1,430	1,730	516	284
11	274	319	140	946	541	214	730	798	1,700	1,630	506	351
12	533	269	135	830	513	203	726	778	1,750	1,560	520	230
13	766	267	135	722	492	201	882	750	1,640	1,460	496	228
14	692	304	135	654	478	201	1,070	782	1,780	1,250	432	392
15	572	259	140	586	454	199	1,170	830	2,450	1,230	436	262
16	534	233	140	538	429	199	1,130	934	2,500	1,180	474	220
17	440	237	140	506	412	201	1,110	1,100	2,660	1,100	436	209
18	341	237	148	468	392	207	1,250	1,090	2,310	890	454	207
19	307	224	158	400	382	210	1,470	1,030	2,190	898	436	209
20	274	205	141	330	363	218	1,350	1,080	2,250	1,030	457	224
21	257	200	163	300	350	218	1,250	1,210	2,220	1,180	468	237
22	239	220	163	300	344	218	1,220	1,300	2,170	1,300	382	235
23	248	220	170	320	325	220	1,340	1,540	2,260	1,350	347	220
24	230	210	240	330	280	224	1,520	1,550	2,580	1,400	338	220
25	233	200	260	350	260	228	1,350	1,650	2,750	1,380	338	220
26	228	190	210	360	250	228	1,200	1,960	2,300	1,350	319	224
27	230	180	190	369	250	224	1,120	2,210	1,650	1,290	274	214
28	214	180	190	344	260	220	1,000	2,410	1,470	1,270	282	310
29	207	180	270	322	------	224	902	2,030	1,660	1,130	246	369
30	218	185	300	319	------	233	838	1,670	1,880	1,040	235	293
31	237	------	270	319	------	262	------	1,580	------	1,020	241	------
TOTAL	9,779	6,871	5,512	18,581	14,112	6,944	29,557	36,306	57,170	39,328	15,640	7,432
MEAN	315	229	178	599	504	224	985	1,171	1,906	1,269	505	248
MAX	966	408	300	1,890	1,060	264	1,520	2,410	2,900	1,730	978	392
MIN	153	180	135	250	250	199	331	706	1,130	890	235	197
CFSM	2.10	1.53	1.19	4.00	3.36	1.49	6.57	7.81	12.7	8.46	3.36	1.65
IN.	2.42	1.70	1.37	4.61	3.50	1.72	7.33	9.00	14.2	9.75	3.88	1.84
AC-FT	19,400	13,630	10,930	36,850	27,990	13,770	58,630	72,010	113,400	78,010	31,020	14,740

CAL YR 1961: TOTAL 318,843 MEAN 874 MAX 5,150 MIN 131 CFSM 5.82 IN 79.05 AC-FT 632,400
WAT YR 1962: TOTAL 247,232 MEAN 677 MAX 2,900 MIN 135 CFSM 4.52 IN 61.30 AC-FT 490,400

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	292	302	524	637	210	713	398	725	2,170	889	570	344
2	276	299	500	765	220	661	387	693	1,870	1,250	538	347
3	378	279	473	857	693	613	387	632	1,570	1,320	528	310
4	299	315	450	757	1,350	577	381	580	1,570	1,440	570	299
5	252	404	466	693	1,770	549	398	641	1,570	1,240	594	294
6	236	350	552	645	1,020	528	453	649	1,590	1,110	577	276
7	229	317	504	602	985	510	428	621	1,640	1,090	542	269
8	259	460	697	570	889	497	428	598	1,570	1,230	535	269
9	310	375	637	538	821	493	422	609	1,520	1,030	538	315
10	276	375	594	483	773	493	419	588	1,610	937	552	325
11	289	390	566	400	725	490	428	617	2,000	961	584	334
12	292	381	542	400	693	463	425	681	2,420	949	633	310
13	328	355	521	410	653	447	431	733	2,720	1,070	1,090	392
14	299	336	507	420	609	437	556	845	2,300	1,040	757	467
15	272	325	717	398	570	413	729	937	2,580	865	518	284
16	264	307	705	369	538	398	609	921	2,720	785	437	240
17	310	304	621	350	510	375	570	1,100	2,680	865	410	213
18	416	284	584	336	497	367	549	1,510	2,490	885	410	187
19	425	1,270	563	300	609	364	542	1,920	2,320	857	401	171
20	574	3,560	535	280	617	369	546	2,450	1,870	785	353	169
21	729	1,570	594	270	570	375	518	2,900	1,490	701	315	173
22	669	1,160	552	270	556	466	521	3,140	1,220	817	299	196
23	535	937	514	274	546	440	514	3,170	1,100	621	304	218
24	480	833	460	267	546	425	504	2,780	1,210	584	302	194
25	434	817	430	262	552	428	497	2,400	1,170	570	294	185
26	401	805	440	255	885	419	507	2,220	1,100	594	299	187
27	372	713	450	230	765	428	556	2,130	961	649	276	213
28	347	629	437	220	721	453	617	2,220	941	653	279	252
29	347	577	450	210	------	440	789	2,540	901	617	294	262
30	334	570	584	200	------	428	773	2,660	789	584	294	218
31	317	------	625	200	------	410	------	2,560	------	538	315	------
TOTAL	11,241	19,599	16,794	12,868	19,893	14,469	15,282	46,770	51,662	27,526	14,408	7,958
MEAN	363	653	542	415	710	467	509	1,509	1,722	888	465	265
MAX	729	3,560	717	857	1,770	713	789	3,170	2,720	1,440	1,090	487
MIN	229	279	430	200	210	364	381	580	789	538	276	169
CFSM	2.42	4.36	3.61	2.77	4.74	3.11	3.40	10.1	11.5	5.92	3.10	1.77
IN.	2.79	4.86	4.16	3.19	4.93	3.59	3.79	11.6	12.8	6.82	3.57	1.97
AC-FT	22,300	38,870	33,310	25,520	39,460	28,700	30,310	92,770	102,500	54,600	28,580	15,780

CAL YR 1962: TOTAL 272,704 MEAN 747 MAX 3,560 MIN 197 CFSM 4.98 IN 67.61 AC-FT 540,900
WAT YR 1963: TOTAL 258,470 MEAN 708 MAX 3,560 MIN 169 CFSM 4.72 IN 64.08 AC-FT 512,700

12-4540. White River near Plain, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	204	245	434	689	222	222	361	633	3,870	2,530	1,040	350
2	194	255	407	574	220	218	355	598	3,880	2,970	982	381
3	185	238	392	542	218	213	364	605	3,200	2,550	1,240	363
4	161	245	378	504	218	218	387	653	3,090	2,590	1,350	355
5	150	234	384	480	218	211	387	641	3,530	2,940	1,080	352
6	163	236	372	463	209	209	401	665	3,460	2,750	1,030	355
7	140	238	347	425	209	202	434	725	3,220	2,950	1,090	350
8	124	234	344	401	207	202	456	880	2,970	3,850	1,050	328
9	120	231	325	390	204	200	500	1,100	3,320	3,280	994	288
10	122	229	292	378	209	200	518	1,180	3,880	2,480	918	274
11	150	220	285	358	209	202	521	1,110	4,190	2,750	930	262
12	131	220	280	342	202	196	507	1,160	3,710	3,530	1,050	255
13	247	294	274	331	200	194	486	1,120	3,620	3,560	958	255
14	272	378	267	317	200	224	497	1,030	3,460	3,080	810	251
15	229	347	264	312	198	231	570	1,020	3,580	2,910	740	247
16	202	323	255	307	198	227	524	1,130	4,100	2,260	722	302
17	183	347	250	299	196	252	493	1,420	3,210	3,000	722	408
18	169	325	238	285	196	245	490	1,520	2,580	1,890	722	312
19	138	325	234	286	200	236	504	1,830	2,290	1,600	610	295
20	138	299	231	282	196	234	538	2,190	2,120	1,680	558	436
21	737	284	220	276	198	231	535	1,960	2,060	1,790	610	310
22	1,090	284	218	272	204	229	554	1,620	2,240	1,560	660	330
23	440	274	495	255	207	222	521	1,390	2,900	1,340	719	330
24	413	264	532	238	213	218	538	1,300	3,010	1,490	684	372
25	390	274	428	250	213	213	613	1,180	2,540	1,620	638	450
26	336	870	378	344	215	211	613	1,230	2,640	1,660	772	340
27	302	813	361	282	218	209	594	1,480	2,480	1,760	597	298
28	299	566	342	252	220	213	605	2,100	1,900	1,890	575	276
29	284	500	323	236	222	234	657	2,910	1,760	1,790	520	271
30	262	463	331	234	------	267	645	3,200	2,140	1,540	540	642
31	250	------	591	231	------	325	------	3,450	------	1,250	450	------
TOTAL	8,225	10,055	10,472	10,859	6,039	6,908	15,168	43,039	91,050	72,850	25,365	10,080
MEAN	265	335	338	350	208	223	506	1,388	3,035	2,350	818	336
MAX	1,090	870	591	689	222	325	657	3,450	4,190	3,850	1,350	642
MIN	120	220	218	231	196	194	355	598	1,760	1,250	450	247
CFSM	1.77	2.23	2.25	2.34	1.39	1.49	3.37	9.26	20.2	15.7	5.45	2.24
IN.	2.04	2.49	2.60	2.69	1.50	1.71	3.76	10.7	22.6	18.1	6.29	2.50
AC-FT	16,310	19,940	20,770	21,540	11,980	13,700	30,090	85,370	180,600	144,500	50,310	19,990

CAL YR 1963: TOTAL 239,588 MEAN 656 MAX 3,170 MIN 120 CFSM 4.38 IN 59.40 AC-FT 475,200
WAT YR 1964: TOTAL 310,110 MEAN 847 MAX 4,190 MIN 120 CFSM 5.65 IN 76.89 AC-FT 615,100

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	516	277	747	200	479	371	319	1,560	2,040	1,940	898	253
2	821	267	635	190	444	357	318	1,290	2,490	2,340	918	249
3	607	251	539	200	417	346	315	1,110	3,000	2,510	870	249
4	514	290	483	190	421	340	335	990	2,940	2,530	775	238
5	478	279	444	190	481	338	350	873	3,120	2,530	719	222
6	482	259	411	190	465	344	351	801	3,310	2,540	656	212
7	507	257	388	180	433	357	351	779	3,080	2,760	611	199
8	703	242	393	190	436	381	349	841	2,930	2,240	663	199
9	648	239	392	180	404	408	382	1,070	3,220	1,600	653	210
10	557	229	367	170	383	457	381	1,390	3,440	1,290	674	210
11	486	223	339	170	363	507	389	1,640	3,640	1,110	646	210
12	450	216	325	163	348	535	440	2,000	2,880	1,110	789	200
13	424	210	317	162	349	541	506	2,050	2,190	1,240	747	220
14	527	190	303	200	334	557	524	1,960	1,850	1,380	555	250
15	478	196	283	220	320	566	684	1,860	1,770	1,450	498	240
16	439	189	240	227	315	561	878	2,460	1,970	1,420	486	220
17	394	191	220	227	344	523	825	1,930	2,580	1,310	486	210
18	364	185	200	226	369	491	781	1,600	2,860	1,150	510	200
19	351	191	180	226	428	462	848	1,420	2,570	934	543	190
20	338	178	170	225	459	442	1,550	1,370	2,260	846	558	190
21	330	176	200	225	451	428	1,470	1,280	2,000	765	474	180
22	311	173	230	218	436	413	1,330	1,370	1,870	740	471	180
23	294	180	280	220	417	397	1,290	1,600	1,990	850	570	170
24	281	295	280	226	402	377	1,390	1,600	2,060	922	504	170
25	272	254	260	222	388	365	1,540	1,860	1,920	1,010	429	180
26	253	233	260	211	406	352	1,750	2,270	1,670	1,150	390	200
27	234	220	240	273	426	336	2,100	2,660	1,310	1,160	369	190
28	250	210	240	280	391	324	2,420	3,210	1,220	1,020	318	180
29	259	208	220	397	------	315	2,240	3,270	1,320	878	280	170
30	271	426	200	467	------	305	1,910	2,590	1,600	807	247	170
31	267	------	200	569	------	304	------	2,080	------	830	233	------
TOTAL	13,106	6,914	9,986	7,224	11,309	12,800	28,316	52,784	71,100	44,362	17,540	6,161
MEAN	423	230	322	233	404	413	944	1,703	2,370	1,431	566	205
MAX	821	426	747	569	481	566	2,420	3,270	3,640	2,760	918	253
MIN	234	173	170	162	315	304	315	779	1,220	740	233	170
CFSM	2.82	1.54	2.15	1.55	2.69	2.75	6.29	11.4	15.8	9.54	3.77	1.37
IN.	3.25	1.71	2.48	1.79	2.80	3.17	7.02	13.1	17.6	11.0	4.35	1.53
AC-FT	26,000	13,710	19,810	14,330	22,430	25,390	56,160	104,700	141,000	87,990	34,790	12,220

CAL YR 1964: TOTAL 311,364 MEAN 851 MAX 4,190 MIN 170 CFSM 5.67 IN 77.20 AC-FT 617,600
WAT YR 1965: TOTAL 281,602 MEAN 772 MAX 3,640 MIN 162 CFSM 5.14 IN 69.82 AC-FT 558,500

12-4545. Wenatchee Lake near Plain, Wash.

Location.--Lat 47°49'50", long 120°46'30", in sec.19, T.27 N., R.17 E., on north (left) shore 2⅝ miles uplake from outlet, 7½ miles northwest of Plain, and 33 miles upstream from Leavenworth.

Drainage area.--273 sq mi (revised).

Records available.--January 1932 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Jan. 4, 1935, staff gage at same site and datum.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	June 5, 1961	1,876.74	Sept.28, 1961	1,869.60
1962	June 17, 1962	1,873.67	Oct. 5, 1961	1,869.67
1963	Nov. 20, 1962	1,874.74	Sept.27, 1963	1,869.71
1964	June 2, 1964	1,875.42	Oct. 13, 1963	1,869.55
1965	June 11, 1965	1,874.49	Sept.30, 1965	1,869.69

1932-65: Maximum elevation recorded, 1,879.65 ft May 29, 1948; minimum, 1,869.27 ft Dec. 1, 1936.

Remarks.--No regulation or diversion.

Revisions (water years).--WSP 1396: 1944.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	69.75	70.70	70.01	69.85	70.41	70.95	71.04	72.44	74.55	71.82	70.53	70.24
2	69.73	70.79	70.02	69.84	70.45	70.98	71.24	72.67	75.35	71.72	70.51	70.44
3	69.72	70.66	70.00	69.83	70.40	70.90	71.61	72.66	76.10	71.71	70.51	70.36
4	69.70	70.51	69.98	69.82	70.36	70.81	71.96	72.42	76.64	71.80	70.52	70.27
5	69.67	70.40	69.95	69.87	70.41	70.74	71.92	72.14	76.62	72.12	70.52	70.20
6	69.67	70.31	69.88	69.90	70.68	70.69	71.79	71.87	76.22	72.34	70.50	70.13
7	69.73	70.24	69.87	69.92	70.88	70.62	71.66	71.69	75.76	72.05	70.43	70.04
8	69.83	70.17	69.87	69.94	70.88	70.57	71.57	71.59	74.84	71.79	70.38	69.97
9	69.83	70.13	69.85	69.96	70.86	70.53	71.50	71.58	74.14	71.68	70.33	69.92
10	69.80	70.20	69.82	69.97	70.82	70.50	71.42	71.66	73.66	71.72	70.31	69.88
11	69.77	70.40	69.81	69.97	70.75	70.48	71.35	71.74	73.41	71.83	70.29	69.86
12	69.72	70.45	69.86	69.98	70.70	70.46	71.33	71.76	73.28	71.94	70.26	69.83
13	69.71	70.40	69.89	70.01	70.67	70.44	71.32	71.80	73.23	72.03	70.23	69.81
14	69.68	70.34	69.96	70.08	70.63	70.44	71.27	71.81	73.33	72.06	70.24	69.78
15	69.68	70.30	70.06	70.47	70.58	70.54	71.17	71.88	73.87	71.93	70.25	69.75
16	69.69	70.32	69.93	71.68	70.53	70.63	71.11	72.18	74.55	71.74	70.34	69.74
17	69.72	70.32	69.93	71.88	70.48	70.65	71.16	72.67	75.13	71.54	70.35	69.74
18	69.72	70.33	69.96	71.56	70.43	70.65	71.22	73.09	75.52	71.39	70.29	69.73
19	69.70	70.34	69.99	71.26	70.46	70.66	71.17	73.63	75.39	71.30	70.25	69.72
20	69.68	70.40	70.00	71.04	70.55	70.73	71.10	74.31	74.76	71.27	70.23	69.72
21	69.67	70.38	69.99	70.88	71.14	70.75	71.06	74.87	73.97	71.30	70.21	69.75
22	69.69	70.31	69.96	70.76	71.80	70.75	71.03	74.70	73.34	71.30	70.21	69.74
23	69.85	70.27	69.93	70.66	71.67	70.74	71.03	74.62	73.13	71.20	70.19	69.72
24	70.15	70.30	69.92	70.58	71.51	70.73	71.04	74.39	73.18	71.12	70.17	69.68
25	70.33	70.25	69.92	70.52	71.33	70.72	71.07	73.99	73.23	70.97	70.11	69.66
26	70.28	70.19	69.91	70.45	71.14	70.72	71.11	74.32	73.20	70.88	70.06	69.63
27	70.29	70.12	69.90	70.37	71.02	70.73	71.18	74.68	72.80	70.81	70.00	69.61
28	70.30	70.07	69.89	70.31	70.91	70.71	71.32	74.33	72.43	70.74	69.96	69.63
29	70.31	70.05	69.88	70.33	------	70.73	71.61	73.95	72.21	70.67	69.95	69.68
30	70.26	70.02	69.86	70.35	------	70.81	72.12	73.99	72.02	70.60	69.94	69.69
31	70.24	------	69.85	70.36	------	70.91	------	74.04	------	70.55	70.02	------
MAX	70.33	70.79	70.06	71.88	71.80	70.98	72.12	74.87	76.64	72.34	70.53	70.44
MIN	69.67	70.02	69.81	69.82	70.36	70.44	71.03	71.58	72.02	70.55	69.94	69.61

Note.--Add 1,800 ft to obtain elevation above mean sea level.

12-4545. Wenatchee Lake near Plain, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	69.69	70.01	69.90	70.45	70.39	70.20	-	71.34	72.37	72.36	71.02	69.93
2	69.69	70.03	69.89	70.42	70.46	70.19	-	71.35	72.33	72.11	70.93	69.92
3	69.69	70.05	69.88	70.72	70.90	70.17	-	71.37	72.46	71.84	70.85	69.92
4	69.68	70.02	69.89	71.22	71.39	70.17	-	71.38	72.26	71.70	70.89	69.90
5	69.68	69.99	69.94	71.22	71.51	70.16	-	71.31	72.02	71.59	70.87	69.88
6	69.78	69.97	69.89	71.20	71.42	70.12	-	71.22	71.86	71.52	70.80	69.86
7	69.89	69.95	69.84	71.35	71.29	70.10	-	71.14	71.83	71.41	70.72	69.84
8	69.88	69.93	69.85	72.25	71.17	70.09	-	71.11	72.14	71.49	70.69	69.83
9	69.87	69.92	69.80	72.55	71.05	70.08	-	71.12	72.62	71.72	70.61	69.82
10	70.18	70.05	69.77	72.20	70.97	70.06	-	71.15	72.78	71.97	70.51	69.83
11	70.25	70.28	69.74	71.83	70.87	70.05	-	71.18	72.63	72.04	70.46	69.94
12	70.25	70.29	69.73	71.54	70.80	70.02	-	71.19	72.56	71.97	70.42	69.97
13	70.78	70.24	69.72	71.32	70.75	70.01	-	71.16	72.49	71.87	70.40	69.94
14	71.00	70.23	69.73	71.15	70.72	69.99	-	71.16	72.45	71.70	70.36	69.97
15	70.88	70.21	69.73	71.02	70.68	-	-	71.21	72.70	71.57	70.32	70.01
16	70.72	70.16	69.74	70.89	70.62	-	71.83	71.29	73.34	71.49	70.31	69.97
17	70.58	70.11	69.80	70.80	70.57	-	71.76	71.45	73.61	71.41	70.28	69.91
18	70.43	70.09	69.79	70.70	70.53	-	71.79	71.57	73.43	71.27	70.27	69.87
19	70.32	70.07	69.82	70.56	70.50	-	72.03	71.58	73.20	71.12	70.27	69.84
20	70.23	70.05	69.83	70.43	70.47	-	72.17	71.55	73.10	71.10	70.27	69.82
21	70.16	70.03	69.87	70.33	70.44	-	72.08	71.59	73.10	71.18	70.26	69.83
22	70.10	70.08	69.86	70.27	70.39	-	72.00	71.73	73.03	71.30	70.22	69.84
23	70.12	70.03	69.87	70.26	70.37	-	72.00	71.98	73.03	71.40	70.17	69.80
24	70.12	70.01	69.98	70.29	70.32	-	72.22	72.28	73.17	71.46	70.14	69.80
25	70.08	69.96	70.13	70.37	70.28	-	72.32	72.42	73.39	71.50	70.11	69.80
26	70.06	69.91	70.18	70.43	70.22	-	72.16	72.62	73.41	71.48	70.07	69.80
27	70.06	69.90	70.15	70.49	70.19	-	72.01	72.91	72.90	71.45	70.04	69.78
28	70.03	69.91	70.13	70.51	70.20	-	71.84	73.25	72.42	71.39	70.02	69.83
29	70.00	69.91	70.19	70.47	------	-	71.62	73.27	72.23	71.30	70.02	70.00
30	69.97	69.90	70.41	70.43	------	-	71.43	72.89	72.32	71.18	69.98	70.08
31	69.97	------	70.49	70.40	------	-	------	72.57	------	71.09	69.94	------
MAX	71.00	70.29	70.49	72.55	71.51	-	-	73.27	73.61	72.36	71.02	70.08
MIN	69.68	69.90	69.72	70.26	70.19	-	-	71.11	71.83	71.09	69.94	69.78

Note.--Add 1,800 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	70.07	70.20	70.87	71.16	-	71.24	70.61	71.13	73.19	71.07	70.43	69.98
2	70.04	70.16	70.80	71.35	-	71.17	70.56	71.13	72.88	71.19	70.42	69.99
3	70.04	70.13	70.72	71.58	70.28	71.15	70.53	71.06	72.52	71.34	70.41	69.99
4	70.09	70.11	70.65	71.57	71.06	71.01	70.52	70.97	72.25	71.46	70.41	69.99
5	70.04	70.19	70.61	71.41	71.80	70.93	70.54	70.96	72.18	71.48	70.42	69.98
6	69.98	70.28	70.74	71.25	71.94	70.87	70.62	71.04	72.13	71.38	70.43	69.96
7	69.94	70.30	70.83	71.12	71.81	70.82	70.76	71.02	72.14	71.29	70.41	69.95
8	69.96	70.36	70.90	71.03	71.66	70.78	70.66	70.99	72.12	71.30	70.40	69.93
9	70.04	70.44	71.00	70.94	71.48	70.74	70.65	70.97	72.07	71.27	70.39	69.93
10	70.11	70.45	70.98	70.83	71.36	70.72	70.63	70.95	72.02	71.16	70.38	69.95
11	70.11	70.49	70.94	70.66	71.25	70.69	70.62	70.94	72.24	71.08	70.39	69.96
12	70.16	70.55	70.88	70.54	71.16	70.67	70.62	70.98	72.57	71.03	70.42	69.97
13	70.22	70.54	70.83	70.53	71.08	70.63	70.62	71.03	72.71	71.05	70.66	69.97
14	70.26	70.48	70.80	70.59	71.01	70.61	70.66	71.12	72.72	71.10	70.77	70.17
15	70.21	70.43	70.85	70.60	70.93	70.58	70.92	71.26	72.84	71.05	70.63	70.18
16	70.16	70.38	71.07	70.54	70.87	70.54	71.00	71.36	73.03	70.92	70.48	70.08
17	70.13	70.34	71.07	70.47	70.82	70.52	70.96	71.45	73.09	70.87	70.36	69.99
18	70.15	70.29	71.00	70.42	70.77	70.47	70.92	71.76	72.99	70.87	70.28	69.92
19	70.26	70.57	70.93	70.36	70.82	70.46	70.89	72.27	72.83	70.87	70.20	69.86
20	70.31	73.70	70.92	70.31	71.07	70.47	70.89	72.81	72.56	70.83	70.15	69.82
21	70.51	74.08	70.88	70.29	71.06	70.47	70.86	73.43	72.21	70.77	70.11	69.77
22	70.70	72.92	70.87	70.27	71.00	70.53	70.82	73.91	71.87	70.73	70.06	69.76
23	70.73	72.14	70.83	70.24	70.95	70.63	70.80	74.13	71.62	70.74	70.04	69.76
24	70.66	71.68	70.74	70.21	70.92	70.65	70.78	73.97	71.54	70.65	70.03	69.75
25	70.57	71.49	70.66	70.19	70.89	70.64	70.77	73.62	71.48	70.59	70.01	69.74
26	70.50	71.44	70.61	70.15	71.10	70.63	70.77	73.26	71.45	70.54	70.00	69.72
27	70.43	71.31	70.59	70.09	71.31	70.63	70.76	73.00	71.33	70.54	69.98	69.71
28	70.37	71.14	70.60	-	71.28	70.67	70.79	72.95	71.23	70.56	69.96	69.72
29	70.31	71.00	70.64	-	------	70.69	70.94	73.08	71.22	70.53	69.95	69.75
30	70.28	70.95	70.80	-	------	70.69	71.08	73.32	71.14	70.50	69.95	69.75
31	70.24	------	71.05	-	------	70.65	------	73.40	------	70.45	69.96	------
MAX	70.73	74.08	71.07	-	-	71.24	71.08	74.13	73.19	71.48	70.77	70.18
MIN	69.94	70.11	70.59	-	-	70.46	70.52	70.96	71.14	70.45	69.95	69.71

Note.--Add 1,800 ft to obtain elevation above mean sea level.

12-4545. Wenatchee Lake near Plain, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	69.72	70.08	70.71	70.76	70.16	70.12	70.33	71.02	75.04	73.23	71.77	70.51
2	69.70	70.08	70.61	71.13	70.12	70.11	70.41	70.97	75.36	73.69	71.65	70.45
3	69.67	70.07	70.54	71.06	70.08	70.08	70.46	70.93	75.16	73.74	71.60	70.40
4	60.65	70.07	70.47	70.97	70.07	70.12	70.50	70.93	74.69	73.51	71.77	70.37
5	69.64	70.05	70.43	70.87	70.06	70.16	70.53	70.96	74.77	73.65	71.69	70.34
6	69.64	70.04	70.41	70.83	70.05	70.12	70.54	70.97	74.89	73.67	71.56	70.31
7	69.63	70.05	70.36	70.76	70.03	70.08	70.58	70.99	74.79	73.65	71.50	70.29
8	69.62	70.07	70.34	70.66	70.01	70.06	70.63	71.09	74.50	74.17	71.47	70.28
9	69.61	70.06	70.31	70.61	70.02	70.06	70.71	71.32	74.42	74.43	71.40	70.25
10	69.61	70.04	70.25	70.58	70.01	70.05	70.79	71.60	74.83	73.92	71.34	70.20
11	69.60	70.02	70.15	70.53	70.02	70.07	70.85	71.71	75.24	73.57	71.28	70.16
12	69.58	70.00	70.11	70.46	69.98	70.06	70.90	71.75	75.17	73.87	71.27	70.13
13	69.57	70.00	70.11	70.41	69.97	70.04	70.91	71.79	74.94	74.32	71.26	70.11
14	69.67	70.11	70.09	70.38	69.96	70.07	70.87	71.73	74.76	74.26	71.18	70.08
15	69.72	70.27	70.10	70.37	69.97	70.17	70.94	71.65	74.80	74.01	71.07	70.05
16	69.73	70.29	70.10	70.39	69.98	70.19	70.96	71.66	75.03	73.63	70.98	70.05
17	69.72	70.36	70.11	70.38	70.02	70.20	70.89	71.85	75.04	73.15	70.93	70.10
18	69.68	70.39	70.08	70.35	70.01	70.25	70.83	72.13	74.35	72.87	70.90	70.14
19	69.65	70.40	70.05	70.32	70.01	70.25	70.80	72.40	73.78	72.56	70.86	70.13
20	69.62	70.36	70.04	70.28	70.02	70.24	70.80	72.91	73.42	72.41	70.76	70.21
21	69.72	70.30	70.03	70.26	70.02	70.22	70.80	73.19	73.14	72.39	70.70	70.25
22	70.58	70.28	70.02	70.24	70.02	70.22	70.86	73.01	73.07	72.33	70.71	70.22
23	70.74	70.25	70.10	70.21	70.03	70.20	70.86	72.63	73.39	72.12	70.74	70.21
24	70.82	70.20	70.42	70.23	70.03	70.17	70.84	72.33	73.95	72.03	70.77	70.21
25	70.85	70.18	70.57	70.23	70.03	70.15	70.87	72.11	73.96	72.11	70.77	70.24
26	70.51	70.40	70.55	70.16	70.03	70.15	70.94	72.00	73.78	72.17	70.79	70.27
27	70.36	71.16	70.51	70.18	70.02	70.13	70.97	72.07	73.74	72.20	70.78	70.22
28	70.28	71.16	70.44	70.18	70.04	70.12	70.96	72.50	73.35	72.28	70.74	70.17
29	70.22	70.99	70.38	70.18	70.06	70.13	70.98	73.31	72.93	72.32	70.68	70.12
30	70.17	70.83	70.34	70.16	------	70.16	71.01	74.00	72.88	72.20	70.64	70.33
31	70.12	------	70.43	70.15	------	70.21	------	74.52	------	71.99	70.59	------
MAX	70.74	71.16	70.71	71.13	70.16	70.25	71.01	74.52	75.36	74.43	71.77	70.51
MIN	69.57	70.00	70.02	70.15	69.96	70.04	70.33	70.93	72.88	71.99	70.59	70.05

Note.--Add 1,800 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	70.97	70.20	71.02	70.12	71.24	70.72	70.41	72.88	73.16	72.13	70.92	69.96
2	71.14	70.22	71.47	70.11	71.08	70.66	70.42	72.49	73.18	72.44	70.93	69.92
3	71.37	70.23	71.40	70.08	70.94	70.61	70.42	72.17	73.64	72.71	70.93	69.88
4	71.16	70.26	71.21	70.06	70.85	70.57	70.43	71.96	73.93	72.82	70.89	69.86
5	70.97	70.29	71.04	70.06	70.88	70.54	70.48	71.75	74.07	72.88	70.81	69.85
6	70.84	70.27	70.90	70.05	70.94	70.52	70.49	71.59	74.30	72.83	70.75	69.83
7	70.76	70.25	70.80	70.03	70.90	70.51	70.50	71.47	74.32	72.89	70.69	69.81
8	70.80	70.22	70.76	70.01	70.89	70.52	70.51	71.44	74.11	72.83	70.65	69.81
9	70.87	70.20	70.79	70.00	70.84	70.55	70.57	71.54	74.08	72.41	70.64	69.79
10	70.85	70.18	70.76	69.98	70.74	70.60	70.61	71.84	74.24	72.01	70.64	69.82
11	70.76	70.16	70.71	69.96	70.67	70.68	70.62	72.17	74.44	71.73	70.65	69.83
12	70.68	70.14	70.62	69.94	70.61	70.78	70.65	72.59	74.26	71.58	70.67	69.82
13	70.60	70.14	70.57	69.95	70.59	70.84	70.75	72.90	73.58	71.49	70.77	69.81
14	70.58	70.10	70.51	69.95	70.56	70.88	70.82	73.01	73.02	71.58	70.73	69.88
15	70.66	70.08	70.47	70.03	70.53	70.92	70.97	72.94	72.65	71.63	70.61	70.00
16	70.68	70.05	70.36	70.08	70.52	70.93	71.25	73.13	72.53	71.66	70.51	70.03
17	70.63	70.04	70.22	70.09	70.53	70.92	71.44	73.25	72.80	71.61	70.44	70.00
18	70.56	70.02	70.17	70.09	70.59	70.87	71.46	72.87	73.18	71.53	70.42	69.94
19	70.50	70.01	70.16	70.09	70.67	70.82	71.49	72.54	73.23	71.38	70.43	69.88
20	70.45	69.99	70.15	70.08	70.78	70.76	72.05	72.36	73.08	71.20	70.44	69.83
21	70.42	69.98	70.19	70.08	70.83	70.72	72.65	72.27	72.82	71.09	70.43	69.81
22	70.39	69.97	70.29	70.07	70.84	70.69	72.62	72.21	72.62	70.97	70.39	69.78
23	70.36	69.97	70.32	70.10	70.79	70.66	72.44	72.30	72.49	70.95	70.41	69.77
24	70.32	70.17	70.35	70.12	70.74	70.63	72.34	72.37	72.58	70.99	70.45	69.76
25	70.29	70.35	70.31	70.11	70.69	70.60	72.38	72.48	72.54	71.05	70.40	69.76
26	70.24	70.35	70.27	70.12	70.70	70.58	72.52	72.80	72.40	71.13	70.31	69.78
27	70.20	70.30	70.22	70.31	70.85	70.54	72.84	73.25	72.11	71.21	70.25	69.81
28	70.17	70.25	70.19	70.49	70.81	70.49	73.22	73.84	71.88	71.21	70.26	69.80
29	70.17	70.23	70.16	70.72	------	70.45	73.43	74.38	71.82	71.12	70.10	69.73
30	70.16	70.37	70.15	70.70	------	70.42	73.23	74.20	71.88	71.01	70.04	69.71
31	70.20	------	70.12	71.27	------	70.40	------	73.61	------	70.92	69.99	------
MAX	71.37	70.37	71.47	71.27	71.24	70.93	73.43	74.38	74.44	72.89	70.93	70.03
MIN	70.16	69.97	70.12	69.94	70.52	70.40	70.41	71.44	71.82	70.92	69.99	69.71

Note.--Add 1,800 ft to obtain elevation above mean sea level.

12-4570. Wenatchee River at Plain, Wash.

Location.--Lat 47°45'50", long 120°39'30", in lot 8, sec.12, T.26 N., R.17 E., on left bank at Plain, a quarter of a mile downstream from Beaver Creek, 7½ miles downstream from Nason Creek, and 12 miles north of Leavenworth.

Drainage area.--591 sq mi.

Records available.--October 1910 to September 1965. Published as "near Leavenworth" 1910-31.

Gage.--Digital water-stage recorder. Altitude of gage is 1,805 ft (from river-profile map). Prior to Jan. 8, 1932, staff gages at site a quarter of a mile downstream at different datum. Jan. 8, 1932, to Oct. 1, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--55 years, 2,221 cfs (1,608,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 4, 1961	15,100	9.87	Sept.27, 1961	376	1.82
1962	June 17, 1962	7,910	7.18	Oct. 5, 1961	414	1.89
1963	May 23, 1963	9,330	7.77	Sept.27, 1963	415	1.88
1964	June 11, 1964	11,900	8.74	Oct. 12, 13, 1963	350	1.75
1965	June 11, 1965	10,300	8.14	Sept.30, 1965	515	1.93

1910-29, 1931-65: Maximum discharge, 22,700 cfs May 29, 1948 (gage height, 12.43 ft, from high-watermark in well); minimum, 168 cfs Nov. 30, 1952 (gage height, 1.31 ft).

Remarks.--Records excellent except those for period of no gage-height record, which are fair. Wenatchee Park Land & Irrigation Co. diverts water from the Chiwawa River above station for irrigation of about 1,400 acres near Plain. Natural regulation by Wenatchee Lake.

Revisions (water years).--WSP 482: 1911-14. WSP 1316: 1914(M), 1916(M), 1919(M), 1921-23(M), 1927(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	458	1,650	712	529	1,300	1,850	2,500	5,340	10,100	3,740	1,190	986
2	448	1,600	719	511	1,200	1,900	2,940	5,740	12,000	3,520	1,170	1,220
3	436	1,380	705	505	1,100	1,800	3,700	5,590	13,500	3,500	1,160	1,070
4	426	1,200	691	529	1,050	1,700	4,100	5,070	14,800	3,660	1,190	962
5	414	1,070	642	548	1,400	1,600	3,920	4,590	14,700	4,300	1,200	898
6	414	986	587	600	1,800	1,500	3,660	4,160	13,800	4,660	1,170	803
7	481	930	554	677	1,700	1,400	3,430	3,840	12,800	4,020	1,100	733
8	594	874	587	656	1,600	1,350	3,310	3,680	10,500	3,500	1,040	670
9	554	810	535	670	1,550	1,300	3,200	3,660	8,990	3,300	994	628
10	523	930	499	670	1,500	1,250	3,060	3,860	7,890	3,380	970	600
11	487	1,320	535	684	1,450	1,230	2,950	4,030	7,430	3,550	938	574
12	475	1,240	594	698	1,400	1,210	2,940	4,030	7,140	3,740	898	542
13	470	1,130	635	712	1,360	1,200	2,900	4,180	7,010	3,920	882	511
14	442	1,070	712	768	1,330	1,250	2,770	4,160	7,230	3,950	882	499
15	436	1,020	677	1,350	1,300	1,500	2,600	4,270	8,390	3,660	898	487
16	442	1,050	600	3,310	1,270	1,700	2,550	4,870	9,950	3,370	1,030	475
17	453	1,100	663	3,280	1,230	1,800	2,760	5,810	11,200	2,950	1,050	475
18	448	1,080	684	2,710	1,160	1,700	2,800	6,640	12,000	2,670	970	470
19	431	1,070	712	2,250	1,200	1,700	2,690	7,670	11,500	2,490	922	458
20	420	1,120	719	1,930	1,400	1,800	2,530	9,060	9,700	2,410	898	470
21	414	1,100	698	1,700	2,570	1,800	2,460	10,500	8,160	2,480	898	453
22	431	1,000	670	1,530	3,420	1,800	2,450	10,000	6,850	2,420	890	481
23	568	962	663	1,420	3,060	1,750	2,520	9,720	6,440	2,280	874	453
24	842	978	649	1,330	2,770	1,750	2,550	9,300	6,560	2,100	850	426
25	994	962	628	1,200	2,490	1,750	2,630	8,460	6,640	1,840	775	414
26	938	898	628	1,100	2,200	1,730	2,730	9,470	6,600	1,680	740	387
27	962	789	614	1,000	2,000	1,710	2,890	10,700	5,680	1,610	705	382
28	986	761	594	960	1,800	1,720	3,190	9,470	4,940	1,530	670	392
29	1,020	747	568	1,000	------	1,830	3,920	8,580	4,480	1,410	656	470
30	938	726	535	1,050	------	1,980	4,870	8,660	4,180	1,300	642	458
31	938	------	535	1,150	------	2,180	------	8,850	------	1,230	712	------
TOTAL	18,283	31,553	19,544	37,027	47,610	50,740	91,520	203,650	271,370	90,170	28,964	17,887
MEAN	590	1,052	630	1,194	1,700	1,637	3,051	6,579	9,046	2,909	934	596
MAX	1,020	1,650	719	3,310	3,420	2,180	4,870	10,700	14,800	4,660	1,200	1,220
MIN	414	726	499	505	1,050	1,200	2,450	3,660	4,180	1,230	642	382
CFSM	1.00	1.78	1.07	2.02	2.88	2.77	5.16	11.1	15.3	4.92	1.58	1.01
IN.	1.15	1.99	1.23	2.33	3.00	3.19	5.76	12.8	17.1	5.67	1.82	1.13
AC-FT	36,260	62,580	38,760	73,440	94,430	100,600	181,500	404,500	538,300	178,800	57,450	35,480

CAL YR 1960: TOTAL 779,587 MEAN 2,130 MAX 10,100 MIN 414 CFSM 3.60 IN 49.06 AC-FT 1,546,000
WAT YR 1961: TOTAL 908,628 MEAN 2,489 MAX 14,800 MIN 382 CFSM 4.21 IN 57.18 AC-FT 1,802,000

Note.--No gage-height record Feb. 26 to Mar. 27.

12-4570. Wenatchee River at Plain, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	453	747	656	1,180	1,130	940	956	3,000	5,080	4,750	1,930	604
2	448	754	642	1,140	1,260	932	1,100	3,040	5,020	4,220	1,820	558
3	436	761	635	1,500	2,030	918	1,260	3,050	5,220	3,690	1,710	585
4	431	740	628	2,300	2,800	902	1,460	3,020	4,730	3,480	1,770	573
5	426	712	684	2,230	2,860	880	1,680	2,830	4,310	3,260	1,720	549
6	535	684	643	2,250	2,630	865	2,160	2,700	3,990	3,080	1,600	537
7	656	670	621	2,730	2,430	858	3,580	2,570	4,040	2,840	1,500	525
8	614	656	594	4,500	2,250	858	3,660	2,540	4,810	3,050	1,480	507
9	594	649	535	4,670	2,050	828	3,260	2,560	5,780	3,460	1,380	501
10	938	796	499	4,030	1,930	798	2,870	2,650	6,020	3,880	1,260	519
11	962	1,080	448	3,350	1,800	790	2,600	2,650	5,600	3,880	1,170	657
12	954	994	458	2,950	1,700	762	2,480	2,650	5,500	3,740	1,130	664
13	1,730	938	470	2,600	1,620	741	2,560	2,620	5,310	3,560	1,100	630
14	1,860	946	475	2,300	1,600	734	2,900	2,620	5,280	3,240	1,060	650
15	1,660	914	487	2,000	1,520	727	3,580	2,720	5,840	2,980	1,000	671
16	1,460	834	481	1,800	1,460	727	3,720	2,840	7,300	2,840	996	637
17	1,300	775	505	1,600	1,400	734	3,640	3,200	7,720	2,770	964	585
18	1,120	782	523	1,400	1,360	741	3,770	3,410	7,210	2,500	940	555
19	1,030	761	542	1,200	1,330	769	4,340	3,440	6,640	2,250	932	531
20	938	719	542	1,100	1,280	790	4,610	3,410	6,470	2,210	925	519
21	858	705	587	1,050	1,220	805	4,370	3,500	6,420	2,320	918	519
22	796	677	580	1,060	1,190	805	4,260	3,800	6,200	2,520	880	525
23	842	726	600	1,080	1,140	805	4,340	4,340	6,180	2,660	820	501
24	842	726	740	1,120	1,070	865	4,820	4,860	6,440	2,760	790	489
25	789	649	922	1,180	1,010	888	4,900	5,260	6,970	2,790	755	483
26	768	645	898	1,220	948	888	4,510	5,700	6,950	2,690	727	477
27	782	649	842	1,310	925	880	4,240	6,320	5,800	2,630	720	477
28	754	649	818	1,320	948	850	3,880	7,100	4,770	2,530	692	519
29	712	663	914	1,240	------	835	3,460	7,060	4,480	2,390	699	699
30	684	656	1,180	1,170	------	850	3,110	6,200	4,750	2,160	650	734
31	691	------	1,230	1,140	------	880	------	5,560	------	2,030	618	------
TOTAL	27,063	22,657	20,385	59,720	44,891	25,645	98,476	117,220	170,840	93,150	34,650	17,020
MEAN	873	755	658	1,926	1,603	827	3,283	3,781	5,695	3,005	1,118	567
MAX	1,960	1,080	1,230	4,670	2,860	940	4,900	7,100	7,720	4,750	1,930	734
MIN	426	645	448	1,050	925	727	956	2,540	3,990	2,030	618	477
CFSM	1.48	1.28	1.11	3.26	2.71	1.40	5.55	6.40	9.64	5.08	1.89	.96
IN.	1.70	1.43	1.28	3.76	2.82	1.61	6.20	7.38	10.8	5.86	2.18	1.07
AC-FT	53,680	44,940	40,430	118,500	89,040	50,870	195,300	232,500	338,800	184,800	68,740	33,760

CAL YR 1961: TOTAL 905,353 MEAN 2,491 MAX 14,800 MIN 382 CFSM 4.22 IN 57.22 AC-FT 1,804,000
WAT YR 1962: TOTAL 731,733 MEAN 2,005 MAX 7,720 MIN 426 CFSM 3.39 IN 46.05 AC-FT 1,451,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	699	828	1,840	2,220	660	2,310	1,420	2,360	6,990	2,130	1,110	639
2	664	730	1,720	2,620	750	2,200	1,350	2,350	6,240	2,410	1,090	646
3	678	765	1,610	3,080	1,000	2,070	1,310	2,210	5,420	2,650	1,050	639
4	727	748	1,520	2,870	2,250	1,550	1,300	2,050	4,880	2,880	1,030	613
5	671	850	1,470	2,560	3,520	1,840	1,360	2,000	4,730	2,880	1,040	606
6	644	955	1,770	2,310	3,400	1,770	1,500	2,250	4,600	2,670	1,040	582
7	618	932	1,790	2,110	3,180	1,680	1,540	2,170	4,630	2,520	1,020	552
8	657	996	1,960	1,990	2,940	1,610	1,520	2,140	4,580	2,580	1,000	546
9	730	1,090	2,080	1,870	2,700	1,580	1,500	2,130	4,460	2,480	985	546
10	865	1,080	2,020	1,610	2,500	1,560	1,480	2,120	4,310	2,250	993	570
11	828	1,130	1,910	1,500	2,320	1,550	1,480	2,130	4,860	2,110	993	600
12	872	1,220	1,810	1,300	2,170	1,490	1,490	2,230	5,640	2,030	1,030	606
13	918	1,160	1,740	1,350	2,070	1,450	1,490	2,300	5,940	2,050	1,460	600
14	925	1,090	1,720	1,400	1,960	1,410	1,600	2,490	5,880	2,130	1,570	842
15	858	1,040	1,820	1,400	1,870	1,370	2,050	2,770	6,040	2,010	1,280	793
16	798	980	2,100	1,300	1,780	1,320	2,080	2,900	6,440	1,800	1,090	704
17	762	940	2,050	1,250	1,690	1,260	1,980	3,100	6,470	1,720	961	626
18	783	902	1,930	1,200	1,610	1,220	1,930	3,790	6,220	1,710	885	582
19	902	1,530	1,860	1,150	1,800	1,220	1,950	4,840	5,820	1,700	828	534
20	932	7,980	1,760	1,100	2,150	1,240	1,970	6,060	5,200	1,650	793	492
21	1,210	7,630	1,770	1,050	2,050	1,240	1,910	7,480	4,420	1,550	737	469
22	1,430	5,290	1,840	1,010	1,950	1,330	1,860	8,490	3,750	1,500	704	464
23	1,430	3,910	1,710	972	1,850	1,460	1,830	9,140	3,240	1,510	684	469
24	1,310	3,140	1,550	940	1,830	1,480	1,800	8,850	3,120	1,370	678	447
25	1,200	2,830	1,440	925	1,820	1,460	1,790	7,840	2,970	1,320	665	436
26	1,110	2,940	1,390	858	2,210	1,440	1,790	7,130	2,930	1,240	658	430
27	1,050	2,600	1,400	812	2,480	1,440	1,800	6,490	2,690	1,240	646	425
28	988	2,270	1,460	812	2,360	1,520	1,840	6,400	2,520	1,280	620	430
29	940	2,030	1,500	762	------	1,550	2,090	6,820	2,560	1,240	613	452
30	902	1,970	1,740	700	------	1,530	2,340	7,350	2,320	1,190	606	436
31	865	------	2,140	620	------	1,480	------	7,520	------	1,140	600	------
TOTAL	28,026	61,621	54,420	45,651	58,910	48,030	51,350	137,990	139,870	59,000	28,459	16,776
MEAN	904	2,054	1,755	1,473	2,104	1,549	1,712	4,451	4,662	1,903	918	559
MAX	1,430	7,980	2,140	3,080	3,520	2,310	2,340	9,140	6,990	2,880	1,570	842
MIN	618	748	1,390	620	660	1,220	1,300	2,050	2,320	1,140	600	425
CFSM	1.53	3.48	2.97	2.49	3.56	2.62	2.90	7.53	7.89	3.22	1.55	.95
IN.	1.76	3.88	3.42	2.87	3.71	3.02	3.23	8.68	8.80	3.71	1.79	1.06
AC-FT	55,590	122,200	107,900	90,550	116,800	95,270	101,900	273,700	277,400	117,000	56,450	33,270

CAL YR 1962: TOTAL 805,695 MEAN 2,207 MAX 7,980 MIN 477 CFSM 3.74 IN 50.70 AC-FT 1,598,000
WAT YR 1963: TOTAL 730,103 MEAN 2,000 MAX 9,140 MIN 425 CFSM 3.38 IN 45.94 AC-FT 1,448,000

12-4570. Wenatchee River at Plain, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	425	717	1,340	1,560	786	737	1,130	2,140	10,900	6,840	3,110	1,160
2	420	724	1,210	2,030	751	717	1,200	2,080	11,600	7,790	2,900	1,090
3	415	717	1,130	1,830	724	698	1,230	2,020	11,100	7,740	2,800	1,040
4	400	710	1,080	1,690	710	730	1,280	2,080	10,100	7,210	3,140	1,000
5	380	704	1,060	1,540	704	758	1,330	2,160	10,400	7,520	2,940	961
6	400	704	1,060	1,530	678	744	1,340	2,170	10,600	7,500	2,690	938
7	395	717	993	1,400	672	724	1,400	2,260	10,400	7,390	2,610	915
8	380	724	985	1,250	658	704	1,490	2,520	9,870	8,560	2,560	908
9	370	717	953	1,220	658	710	1,670	2,950	9,900	9,060	2,440	870
10	365	698	878	1,180	658	698	1,790	3,500	10,800	7,080	2,300	828
11	365	678	779	1,130	665	717	1,880	3,610	11,700	7,020	2,210	800
12	355	672	772	1,060	652	717	1,990	3,720	11,600	7,650	2,250	772
13	355	672	786	1,020	646	691	1,870	3,820	11,000	8,460	2,230	751
14	415	807	765	985	626	717	1,830	3,610	10,400	8,150	2,080	730
15	452	969	779	969	632	849	2,050	3,480	10,400	7,590	1,910	658
16	447	953	786	993	632	856	2,010	3,580	10,900	6,750	1,780	698
17	425	1,010	786	969	652	878	1,870	4,090	10,900	5,760	1,710	724
18	415	1,020	765	945	658	953	1,780	4,610	9,230	5,330	1,680	779
19	400	1,020	737	908	678	922	1,760	5,200	7,980	4,730	1,620	758
20	385	977	730	878	672	900	1,800	6,230	7,240	4,460	1,480	870
21	464	878	710	863	665	878	1,910	6,730	6,750	4,460	1,410	878
22	1,370	863	698	849	665	870	1,950	6,220	6,620	4,310	1,440	835
23	1,360	842	779	821	672	849	1,900	5,360	7,410	3,850	1,470	826
24	1,210	807	1,100	807	678	814	1,870	4,860	8,430	3,710	1,470	814
25	1,340	800	1,170	744	678	900	1,970	4,350	8,370	3,850	1,420	856
26	1,130	1,060	1,160	772	684	800	2,080	4,270	7,980	3,930	1,490	863
27	953	2,220	1,100	807	678	786	2,070	4,490	7,960	3,560	1,460	814
28	878	1,980	1,040	807	684	786	2,050	5,520	7,040	4,070	1,430	786
29	835	1,680	985	800	691	814	2,140	7,300	6,100	4,150	1,320	737
30	779	1,480	953	779	------	870	2,160	8,730	6,100	3,910	1,340	1,010
31	744	------	1,050	779	------	953	------	8,800	------	3,500	1,230	------
TOTAL	19,027	28,520	29,139	33,905	19,607	24,640	52,600	133,550	279,840	186,890	61,920	25,711
MEAN	614	951	940	1,094	676	795	1,753	4,308	9,328	6,029	1,997	857
MAX	1,370	2,220	1,340	2,030	786	953	2,160	9,800	11,700	9,060	3,140	1,160
MIN	355	672	638	744	626	691	1,130	2,020	6,100	3,500	1,230	698
CFSM	1.04	1.61	1.59	1.85	1.14	1.34	2.97	7.29	15.8	10.2	3.38	1.45
IN.	1.20	1.79	1.83	2.13	1.23	1.55	3.31	8.40	17.6	11.8	3.90	1.62
AC-FT	37,740	56,570	57,800	67,250	38,890	48,870	104,300	264,900	555,100	370,700	122,800	51,000

CAL YR 1963: TOTAL 662,722 MEAN 1,816 MAX 9,140 MIN 355 CFSM 3.07 IN 41.70 AC-FT 1,314,000
WAT YR 1964: TOTAL 895,349 MEAN 2,446 MAX 11,700 MIN 355 CFSM 4.14 IN 56.34 AC-FT 1,776,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,800	794	2,090	758	2,200	1,420	1,170	6,310	7,050	4,470	1,920	724
2	1,950	818	2,570	729	1,910	1,340	1,190	5,480	7,240	5,090	1,960	704
3	2,280	821	2,300	714	1,720	1,280	1,190	4,840	8,300	5,650	1,970	678
4	1,890	850	1,980	715	1,600	1,230	1,240	4,420	8,800	5,770	1,890	653
5	1,620	885	1,740	717	1,700	1,200	1,320	4,020	9,040	5,900	1,740	635
6	1,450	859	1,540	710	1,760	1,180	1,360	3,660	9,590	5,690	1,630	623
7	1,360	841	1,410	696	1,650	1,160	1,360	3,500	9,520	5,880	1,500	605
8	1,420	816	1,380	698	1,650	1,210	1,360	3,500	8,950	5,710	1,470	600
9	1,540	799	1,440	687	1,560	1,250	1,460	3,720	9,040	4,720	1,440	594
10	1,490	786	1,380	668	1,440	1,340	1,530	4,420	9,400	3,970	1,430	600
11	1,360	763	1,310	653	1,350	1,480	1,550	5,120	10,100	3,440	1,440	605
12	1,260	743	1,210	635	1,270	1,620	1,640	6,090	9,540	3,130	1,460	605
13	1,180	730	1,170	628	1,270	1,700	1,830	6,710	7,810	3,060	1,620	589
14	1,150	698	1,110	644	1,220	1,770	1,930	6,860	6,610	3,150	1,500	623
15	1,260	675	1,070	726	1,180	1,840	2,240	6,650	5,820	3,260	1,330	800
16	1,260	661	850	752	1,160	1,880	2,850	7,050	5,520	3,330	1,220	800
17	1,200	648	750	751	1,230	1,810	3,120	7,030	6,190	3,180	1,140	730
18	1,130	643	700	750	1,330	1,730	3,070	6,250	7,010	3,040	1,110	678
19	1,070	628	700	740	1,410	1,650	3,210	5,630	7,150	2,740	1,140	635
20	1,030	614	750	733	1,560	1,570	4,790	5,280	6,710	2,480	1,150	600
21	993	601	833	730	1,610	1,530	5,670	5,090	6,090	2,290	1,140	589
22	961	595	886	722	1,590	1,510	5,460	4,980	5,630	2,090	1,070	561
23	925	611	994	721	1,510	1,470	5,120	5,250	5,370	2,060	1,160	556
24	890	876	1,010	732	1,440	1,400	5,020	5,390	5,630	2,100	1,200	556
25	869	1,010	919	738	1,390	1,350	5,210	5,690	5,450	2,200	1,120	550
26	829	949	898	740	1,410	1,320	5,550	6,510	5,120	2,320	1,040	556
27	791	886	865	979	1,580	1,270	6,360	7,390	4,480	2,450	982	611
28	775	835	836	1,210	1,550	1,210	7,180	8,730	4,020	2,430	910	583
29	778	823	815	1,640	------	1,170	7,560	9,950	3,870	2,240	863	556
30	776	1,080	796	1,920	------	1,140	7,090	9,400	3,990	2,040	800	530
31	802	------	766	2,460	------	1,130	------	8,010	------	1,930	758	------
TOTAL	38,089	23,337	37,068	26,696	42,280	44,190	99,630	182,930	209,080	107,810	41,103	18,729
MEAN	1,229	778	1,196	861	1,510	1,425	3,321	5,901	6,969	3,478	1,326	624
MAX	2,280	1,080	2,570	2,460	2,200	1,880	7,560	9,950	10,100	5,900	1,970	800
MIN	775	595	700	628	1,160	1,130	1,170	3,500	3,870	1,930	758	530
CFSM	2.08	1.32	2.02	1.46	2.55	2.41	5.62	9.96	11.8	5.88	2.24	1.06
IN.	2.40	1.47	2.33	1.68	2.66	2.78	6.27	11.5	13.2	6.78	2.59	1.18
AC-FT	75,550	46,290	73,520	52,950	83,860	87,650	197,600	362,800	414,700	213,800	81,530	37,150

CAL YR 1964: TOTAL 917,157 MEAN 2,506 MAX 11,700 MIN 595 CFSM 4.24 IN 57.71 AC-FT 1,819,000
WAT YR 1965: TOTAL 870,942 MEAN 2,386 MAX 10,100 MIN 530 CFSM 4.04 IN 54.81 AC-FT 1,727,000

12-4580. Icicle Creek above Snow Creek, near Leavenworth, Wash.

Location.--Lat 47°32'25", long 120°42'55", in SE¼ sec.28, T.24 N., R.17 E., on right bank three-eighths of a mile upstream from Snow Creek and 4½ miles southwest of Leavenworth.

Drainage area.--193 sq mi.

Records available.--September 1936 to September 1965.

Gage.--Digital water-stage recorder. Altitude of gage is 1,450 ft (from river-profile map). Prior to Oct. 16, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--29 years, 624 cfs (451,800 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (2,500 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
May 21, 1961	0130	3,800	9.28	June 25, 1962	0200	2,640	8.28	June 10, 1964	2300	* 4,380	9.87
May 26, 1961	1800	3,590	9.10					June 24, 1964	0030	2,800	8.55
June 3, 1961	0030	* 5,530	10.58	Nov. 20, 1962	0600	* 6,610	11.40				
June 16, 1961	2230	3,680	9.18	May 22, 1963	2300	3,040	8.86	May 28, 1965	2400	3,140	8.81
								June 6, 1965	0015	3,200	8.86
June 16, 1962	0200	* 2,780	8.43	June 2, 1964	0100	4,080	9.63	June 11, 1965	1300	* 3,850	9.44

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Oct. 6, 1960	85	2.11	1964	Oct. 20, 1963	104	2.31
1962	Dec. 11, 1961	a 100	-	1965	Sept.30, 1965	107	2.39
1963	Sept. 7, 1963	115	b 2.42				

a Minimum daily, result of freezeup.
b Occurred Sept. 30, 1963.

1936-65: Maximum discharge, 11,600 cfs May 28, 1948 (gage height, 13.93 ft), from rating curve extended above 7,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 44 cfs Nov. 30, 1936.

Remarks.--Records good except those for winter periods, which are fair. No diversion. Some regulation in headwater lakes for irrigation.

Revisions (water years).--WSP 1246: 1936-41. WSP 1286: 1948. WSP 1446: 1943(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	94	472	177	120	321	499	579	1,530	3,820	924	313	259
2	92	343	174	120	293	477	726	1,590	4,640	920	305	352
3	90	278	167	125	276	439	956	1,410	5,070	928	297	239
4	87	239	164	130	265	400	924	1,230	4,880	976	297	206
5	86	216	120	142	352	400	828	1,090	4,420	1,420	305	182
6	86	200	120	259	579	384	776	972	4,340	1,260	286	166
7	100	189	130	267	565	364	740	908	3,720	980	261	145
8	123	178	130	220	494	350	730	892	2,940	864	243	140
9	113	169	130	208	464	339	708	908	2,680	844	234	133
10	101	221	140	200	446	329	674	990	2,340	884	222	131
11	96	469	150	200	427	321	656	985	2,370	904	210	130
12	97	325	160	195	406	313	660	956	2,250	924	202	127
13	106	276	203	189	397	311	638	980	2,290	936	200	125
14	98	248	220	208	378	337	586	976	2,620	920	198	124
15	96	234	183	532	367	432	556	1,080	3,260	820	200	123
16	110	301	160	656	350	427	572	1,400	3,730	740	247	121
17	110	337	160	698	337	406	677	1,860	4,030	670	215	120
18	103	223	174	535	321	400	660	2,200	3,740	652	195	113
19	98	284	182	454	335	413	614	2,690	3,220	600	186	105
20	95	295	177	390	393	432	572	3,210	2,560	559	180	102
21	92	267	167	330	768	418	568	3,370	2,130	562	176	132
22	106	238	164	300	756	411	562	2,840	1,880	553	173	123
23	150	232	160	280	607	406	572	3,010	1,950	547	170	121
24	272	229	154	260	565	404	586	2,640	1,980	508	163	118
25	245	252	154	250	523	400	604	2,620	1,940	454	151	114
26	211	190	151	220	477	402	607	3,500	1,780	425	142	111
27	230	140	135	200	459	397	670	3,080	1,420	409	137	106
28	243	140	130	220	429	397	748	2,700	1,240	389	133	105
29	236	150	125	240	-------	418	1,170	2,620	1,120	362	132	120
30	198	170	125	260	-------	449	1,470	2,720	990	341	130	112
31	223	-------	120	280	-------	499	-------	2,800	-------	325	163	-------
TOTAL	4,187	7,505	4,806	8,688	12,350	12,374	21,389	59,757	85,350	22,600	6,466	4,305
MEAN	135	250	155	280	441	399	713	1,928	2,845	729	209	144
MAX	272	472	220	698	768	499	1,470	3,500	5,070	1,420	313	352
MIN	86	140	120	120	265	311	556	892	990	325	130	102
CFSM	.70	1.30	.80	1.45	2.29	2.07	3.69	9.99	14.7	3.78	1.08	.74
IN.	.81	1.45	.93	1.67	2.38	2.38	4.12	11.5	16.4	4.35	1.25	.83
AC-FT	8,300	14,890	9,530	17,230	24,500	24,540	42,420	118,500	169,300	44,830	12,830	8,540

CAL YR 1960: TOTAL 195,623 MEAN 534 MAX 3,650 MIN 86 CFSM 2.77 IN 37.70 AC-FT 388,000
WAT YR 1961: TOTAL 249,777 MEAN 684 MAX 5,070 MIN 86 CFSM 3.55 IN 48.13 AC-FT 495,400

12-4580. Icicle Creek above Snow Creek, near Leavenworth, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	115	216	173	297	319	260	254	796	1,480	1,420	547	156
2	112	205	164	284	439	260	288	808	1,570	1,200	505	151
3	110	205	160	691	744	265	323	812	1,480	1,050	488	146
4	107	192	163	752	832	259	382	776	1,280	1,030	467	140
5	106	164	178	610	760	257	437	730	1,160	976	508	135
6	164	180	167	582	694	254	773	705	1,110	912	456	131
7	194	174	158	1,060	638	250	1,390	663	1,280	880	434	129
8	166	169	136	2,110	590	245	960	666	1,780	985	425	125
9	158	170	120	1,470	553	236	812	677	2,150	1,160	391	122
10	403	263	110	1,060	526	229	726	708	2,040	1,210	360	137
11	297	297	100	872	485	222	677	691	1,820	1,130	339	197
12	290	241	104	780	464	211	663	670	2,220	1,060	329	183
13	646	230	107	694	449	210	722	642	1,710	985	325	156
14	541	263	110	624	439	208	876	656	1,700	884	301	162
15	439	236	115	565	422	208	1,150	702	2,070	844	280	158
16	364	182	120	517	404	205	1,030	726	2,620	840	261	144
17	321	180	125	469	389	203	995	840	2,520	808	256	133
18	276	190	131	416	378	203	1,140	852	2,290	716	250	129
19	247	170	153	310	367	205	1,410	832	2,170	660	245	125
20	223	160	155	290	352	206	1,360	796	2,190	674	241	124
21	206	155	154	290	339	203	1,230	828	2,190	719	238	122
22	195	160	151	300	339	205	1,220	932	2,110	772	225	121
23	220	170	169	310	323	202	1,340	1,240	2,110	816	208	117
24	216	160	300	320	276	215	1,540	1,250	2,310	828	198	116
25	205	150	395	330	240	218	1,390	1,350	2,440	804	192	115
26	195	150	305	350	240	218	1,210	1,570	2,170	764	183	114
27	200	160	263	354	250	211	1,100	1,930	1,600	740	184	114
28	184	165	247	325	260	206	968	2,270	1,380	716	180	143
29	170	170	297	311	------	206	872	2,050	1,440	652	184	218
30	173	170	367	305	------	211	808	1,640	1,560	596	170	188
31	184	------	331	303	------	222	------	1,540	------	582	160	------
TOTAL	7,427	5,697	5,728	17,951	12,511	6,913	28,046	31,348	55,950	27,413	9,530	4,251
MEAN	240	190	185	579	447	223	935	1,011	1,865	884	307	142
MAX	646	297	395	2,110	832	265	1,540	2,270	2,620	1,420	547	218
MIN	106	150	100	284	240	202	254	642	1,110	582	160	114
CFSM	1.24	.98	.96	3.00	2.32	1.16	4.84	5.24	9.66	4.58	1.59	.73
IN.	1.43	1.10	1.10	3.46	2.41	1.33	5.40	6.04	10.8	5.28	1.84	.82
AC-FT	14,730	11,300	11,360	35,610	24,820	13,710	55,630	62,180	111,000	54,370	18,900	8,430

CAL YR 1961: TOTAL 252,131 MEAN 691 MAX 5,070 MIN 100 CFSM 3.58 IN 48.58 AC-FT 500,100
WAT YR 1962: TOTAL 212,765 MEAN 583 MAX 2,620 MIN 100 CFSM 3.02 IN 41.00 AC-FT 422,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	158	223	520	532	180	534	310	560	1,860	554	243	138
2	146	216	483	550	213	506	300	520	1,650	618	236	142
3	206	208	451	705	836	468	300	490	1,350	653	227	134
4	203	205	422	593	1,080	448	310	500	1,290	666	224	131
5	171	252	427	529	1,260	430	320	520	1,310	647	221	126
6	155	252	596	494	949	411	350	520	1,230	602	218	120
7	153	230	538	461	882	394	327	510	1,200	578	211	116
8	171	313	635	441	791	383	313	500	1,180	584	202	117
9	230	303	624	429	724	374	301	490	1,180	546	202	120
10	234	286	586	333	673	369	295	476	1,160	511	202	126
11	218	286	556	299	627	371	293	481	1,440	503	208	178
12	225	290	532	300	584	358	289	506	1,760	487	222	142
13	247	267	508	330	554	341	297	511	1,720	490	371	136
14	229	248	511	350	531	330	400	572	1,650	492	346	304
15	205	236	688	369	506	320	600	679	1,800	479	255	248
16	192	222	740	319	481	310	500	724	1,950	430	221	206
17	183	213	670	315	455	300	450	832	1,750	406	202	194
18	210	205	614	293	440	290	440	1,120	1,530	394	193	171
19	269	835	568	250	518	290	430	1,550	1,390	380	195	156
20	280	4,380	535	267	587	310	420	2,040	1,160	356	180	146
21	375	1,740	541	290	520	330	410	2,520	949	337	170	138
22	432	1,120	520	272	495	390	410	2,740	836	354	160	137
23	391	872	441	243	471	370	410	2,730	748	341	158	135
24	343	760	386	247	458	360	400	2,440	720	317	177	131
25	309	800	391	247	455	350	410	2,110	703	319	165	126
26	291	936	397	211	596	340	430	1,930	686	295	182	123
27	282	756	434	202	584	340	460	1,760	634	286	161	121
28	261	646	404	216	546	350	520	1,880	624	282	150	121
29	256	553	399	170	------	340	620	2,150	653	269	143	122
30	248	556	511	160	------	330	600	2,280	578	255	138	118
31	236	------	547	160	------	320	------	2,190	------	244	136	------
TOTAL	7,509	18,409	16,175	10,577	16,996	11,357	11,915	38,831	36,691	13,675	6,319	4,423
MEAN	242	614	522	341	607	366	397	1,253	1,223	441	204	147
MAX	432	4,380	740	705	1,260	534	620	2,740	1,950	666	371	304
MIN	146	205	386	160	180	290	289	476	578	244	136	116
CFSM	1.26	3.18	2.70	1.77	3.15	1.90	2.06	6.49	6.34	2.29	1.06	.76
IN.	1.45	3.55	3.12	2.04	3.28	2.19	2.30	7.48	7.07	2.64	1.22	.85
AC-FT	14,890	36,510	32,080	20,980	33,710	22,530	23,630	77,020	72,780	27,120	12,530	8,770

CAL YR 1962: TOTAL 236,006 MEAN 647 MAX 4,380 MIN 114 CFSM 3.35 IN 45.48 AC-FT 468,100
WAT YR 1963: TOTAL 192,877 MEAN 528 MAX 4,380 MIN 116 CFSM 2.74 IN 37.17 AC-FT 382,600

12-4580. Icicle Creek above Snow Creek, near Leavenworth, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	116	146	272	541	192	180	297	405	3,650	2,180	624	261
2	114	163	232	579	188	177	293	400	3,650	2,460	579	248
3	113	154	230	456	180	176	290	400	3,110	2,040	576	250
4	112	151	239	411	180	183	301	405	3,160	2,000	660	230
5	112	147	254	380	184	182	301	415	3,420	2,130	572	234
6	116	150	257	375	162	178	301	420	3,280	2,010	526	205
7	114	149	250	347	180	173	313	440	2,900	2,170	497	195
8	112	154	234	317	171	170	333	520	2,920	2,520	485	205
9	111	151	229	307	170	171	373	690	4,110	2,180	461	194
10	111	146	174	301	171	171	395	765	4,050	1,770	432	180
11	112	141	183	284	170	177	402	790	3,880	1,810	404	167
12	111	140	236	270	163	176	389	810	3,370	2,130	409	159
13	111	141	195	259	166	173	375	832	3,210	2,100	404	151
14	113	238	189	250	163	176	378	772	3,160	1,920	378	145
15	113	261	194	245	162	213	418	768	3,160	1,880	343	141
16	112	225	195	270	160	206	395	852	3,690	1,460	323	141
17	111	220	189	265	164	211	371	1,090	2,850	1,240	309	144
18	107	208	186	259	169	223	358	1,240	2,380	1,170	311	159
19	107	208	178	248	176	210	355	1,540	2,090	1,000	311	149
20	106	183	173	230	169	202	360	1,960	1,860	976	284	245
21	139	169	160	245	169	197	360	1,810	1,740	972	269	218
22	271	180	163	230	170	194	370	1,420	1,850	880	267	203
23	236	177	259	215	171	186	365	1,190	2,430	772	267	200
24	236	170	305	205	174	169	360	1,120	2,540	768	267	190
25	295	174	278	188	164	186	370	1,000	2,290	784	269	184
26	222	340	252	239	173	177	385	1,050	2,260	764	288	174
27	190	553	241	220	166	178	400	1,250	2,130	740	291	162
28	177	378	229	208	176	182	405	1,890	1,700	768	323	151
29	169	311	215	202	174	192	410	2,510	1,540	776	303	144
30	160	288	213	197	------	213	415	2,840	1,790	733	315	323
31	151	------	257	190	------	248	------	3,180	------	674	288	------
TOTAL	4,480	6,216	6,861	8,933	4,977	5,850	10,838	34,774	84,170	45,777	12,035	5,752
MEAN	145	207	221	288	172	189	361	1,122	2,806	1,477	388	192
MAX	295	553	305	579	192	248	418	3,180	4,110	2,520	660	323
MIN	106	140	160	188	160	169	290	400	1,540	674	267	141
CFSM	.75	1.07	1.15	1.49	.89	.98	1.87	5.81	14.5	7.65	2.01	.99
IN.	.86	1.20	1.32	1.72	.96	1.13	2.09	6.70	16.2	8.82	2.32	1.11
AC-FT	8,890	12,330	13,610	17,720	9,870	11,600	21,500	68,970	166,900	90,800	23,870	11,410

CAL YR 1963: TOTAL 168,341 MEAN 461 MAX 2,740 MIN 106 CFSM 2.39 IN 32.44 AC-FT 333,900
WAT YR 1964: TOTAL 230,663 MEAN 630 MAX 4,110 MIN 106 CFSM 3.26 IN 44.45 AC-FT 457,500

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	388	166	902	197	610	338	296	1,520	1,850	1,250	427	161
2	458	177	740	176	512	328	290	1,220	2,150	1,470	430	152
3	477	173	538	210	462	318	284	1,060	2,540	1,590	419	144
4	371	194	436	197	443	311	297	942	2,580	1,600	388	139
5	321	212	380	194	504	306	315	842	2,810	1,550	359	132
6	290	185	341	186	490	305	313	778	2,900	1,450	349	128
7	272	177	318	183	446	310	310	754	2,680	1,500	352	124
8	293	169	315	178	434	320	307	774	2,500	1,350	342	121
9	317	166	317	174	403	337	328	866	2,660	1,060	336	120
10	303	163	296	166	379	368	327	1,100	2,780	894	338	125
11	274	160	260	162	358	405	326	1,360	3,470	802	327	121
12	257	155	256	158	344	432	350	1,730	2,720	750	347	119
13	241	148	267	156	339	441	395	1,840	2,070	774	388	116
14	250	130	249	193	330	450	412	1,750	1,760	802	342	128
15	269	132	213	247	318	459	512	1,600	1,530	838	296	267
16	257	124	147	236	311	459	723	1,850	1,480	806	273	247
17	243	126	128	237	345	433	733	1,540	1,900	758	257	180
18	228	128	161	232	366	410	695	1,300	2,150	718	249	153
19	218	120	211	228	385	393	761	1,220	2,060	642	243	137
20	210	120	228	228	404	386	1,740	1,220	1,890	595	257	129
21	204	119	219	228	399	374	1,570	1,160	1,670	562	243	124
22	196	119	209	222	389	366	1,330	1,160	1,510	508	226	123
23	188	119	404	213	373	352	1,250	1,200	1,570	502	286	119
24	182	302	342	223	361	333	1,290	1,190	1,630	517	309	115
25	179	280	279	221	353	328	1,390	1,350	1,450	532	298	113
26	172	223	262	219	358	319	1,600	1,670	1,270	562	230	112
27	164	193	246	312	376	306	1,960	2,060	1,070	583	212	118
28	163	187	229	384	356	295	2,190	2,640	978	559	205	113
29	163	173	214	630	------	286	2,100	2,750	987	493	210	110
30	163	485	204	654	------	279	1,840	2,270	1,070	454	188	109
31	173	------	194	779	------	279	------	1,920	------	427	171	------
TOTAL	7,884	5,325	9,505	8,023	11,148	11,026	26,234	44,636	59,685	26,898	9,297	4,099
MEAN	254	178	307	259	398	356	874	1,440	1,990	868	300	137
MAX	477	485	902	779	610	459	2,190	2,750	3,470	1,600	430	267
MIN	163	119	128	156	311	279	284	754	978	427	171	109
CFSM	1.32	.92	1.59	1.34	2.06	1.84	4.53	7.46	10.3	4.50	1.55	.71
IN.	1.52	1.03	1.83	1.55	2.15	2.12	5.06	8.60	11.5	5.18	1.79	.79
AC-FT	15,640	10,560	18,850	15,910	22,110	21,870	52,030	88,530	118,400	53,350	18,440	8,130

CAL YR 1964: TOTAL 235,820 MEAN 644 MAX 4,110 MIN 119 CFSM 3.34 IN 45.44 AC-FT 467,300
WAT YR 1965: TOTAL 223,760 MEAN 613 MAX 3,470 MIN 109 CFSM 3.18 IN 43.12 AC-FT 443,800

12-4590. Wenatchee River at Peshastin, Wash.

Location.--Lat 47°34'50", long 120°37'00", in SE¼SW¼ sec.8, T.24 N., R.18 E., on right bank 1 mile northwest of Peshastin and 3½ miles upstream from Peshastin Creek.

Drainage area.--1,000 sq mi, approximately.

Records available.--October 1928 to February 1929 (monthly discharge only), March 1929 to September 1965.

Gage.--Digital water-stage recorder. Datum of gage is 1,028.04 ft above mean sea level, datum of 1929. Prior to Mar. 24, 1932, staff gage at site 1¼ miles downstream at different datum. Mar. 24, 1932, to Oct. 2, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--37 years, 3,070 cfs (2,223,000 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (11,000 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
June 5, 1961	0030	* 21,500	12.33	Nov. 20, 1962	1100	* 14,200	9.82	June 24, 1964	0900	11,600	8.81
June 18, 1961	0200	16,600	10.69	May 23, 1963	2300	12,900	9.30	July 9, 1964	0600	12,000	8.98
June 17, 1962	0730	* 10,900	8.51	June 11, 1964	2100	* 16,700	10.71	May 29, 1965	1100	13,800	9.65
								June 11, 1965	1730	* 15,400	10.25

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Sept.27, 1961	476	1.81	1964	Oct. 13, 1963	470	1.80
1962	Oct. 5, 1961	569	1.96	1965	Sept.30, 1965	614	2.03
1963	Sept.27, 1963	569	1.96				

1929-65: Maximum discharge, 32,300 cfs May 28, 1948 (gage height, 15.88 ft); minimum, 183 cfs Oct. 14, 1939; minimum gage height, 1.24 ft Nov. 1, 1952; minimum daily discharge, 270 cfs Oct. 2, 1929, Nov. 30, 1936, Dec. 1, 1952.

Remarks.--Records excellent except those for period of no gage-height record, which are good. Numerous diversions upstream for irrigation of an estimated 3,200 acres above station and domestic use above and below station. Diversion by Icicle Creek irrigation canal 8 miles upstream from station is used for irrigation of a substantial part of the 22,000 acres irrigated below station.

Revisions (water years).--WSP 1316: 1929-32(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	550	1,940	937	700	1,700	2,590	3,400	7,370	14,500	4,940	1,630	1,160
2	569	2,040	944	700	1,600	2,740	4,020	7,790	17,300	4,670	1,590	1,570
3	562	1,750	923	700	1,500	2,540	5,030	7,530	19,700	4,620	1,560	1,380
4	543	1,530	909	750	1,400	2,310	5,500	6,790	20,900	4,780	1,560	1,170
5	530	1,340	846	800	1,800	2,230	5,170	6,170	20,600	5,500	1,590	1,100
6	518	1,240	770	1,070	3,000	2,120	4,810	5,580	19,600	6,000	1,550	1,000
7	550	1,160	770	1,030	2,800	2,020	4,470	5,070	18,000	5,400	1,430	923
8	712	1,080	751	930	2,600	1,910	4,310	4,870	14,600	4,580	1,340	839
9	738	1,020	706	920	2,400	1,840	4,160	4,850	12,500	4,230	1,260	784
10	692	1,080	692	910	2,300	1,780	3,980	5,160	11,000	4,310	1,220	744
11	660	1,710	680	910	2,200	1,770	3,860	5,320	10,400	4,500	1,160	712
12	621	1,650	758	920	2,100	1,750	3,840	5,280	9,910	4,740	1,080	680
13	614	1,460	839	940	2,050	1,710	3,790	5,470	9,750	4,990	1,070	654
14	608	1,360	916	1,000	1,950	1,760	3,590	5,470	10,100	5,070	1,050	634
15	595	1,310	923	1,500	1,870	2,260	3,380	5,690	12,000	4,720	1,080	608
16	595	1,340	853	3,900	1,770	2,450	3,320	6,630	14,100	4,280	1,250	595
17	614	1,520	881	4,000	1,700	2,400	3,580	8,070	15,800	3,820	1,320	588
18	602	1,470	895	3,500	1,610	2,340	3,680	9,250	16,400	3,460	1,180	562
19	595	1,400	888	3,000	1,620	2,420	3,520	10,800	15,600	3,220	1,120	569
20	588	1,490	930	2,600	1,840	2,600	3,320	12,900	13,200	3,090	1,080	569
21	569	1,430	902	2,200	3,090	2,590	3,260	14,600	10,900	3,130	1,060	621
22	562	1,320	867	2,000	4,450	2,540	3,230	13,800	9,210	3,120	1,040	614
23	680	1,250	860	1,800	3,920	2,470	3,290	13,600	8,700	3,010	1,020	582
24	1,010	1,290	839	1,650	3,580	2,480	3,320	12,800	8,830	2,840	1,000	556
25	1,280	1,260	811	1,500	3,280	2,450	3,410	11,700	8,900	2,510	951	524
26	1,180	1,170	804	1,350	2,890	2,480	3,500	13,600	8,790	2,290	888	506
27	1,230	1,000	797	1,200	2,690	2,500	3,740	14,600	7,610	2,180	846	482
28	1,260	986	758	1,250	2,500	2,470	4,100	13,100	6,610	2,070	790	482
29	1,310	993	738	1,350	------	2,560	5,300	12,000	5,960	1,950	770	536
30	1,190	951	725	1,450	------	2,770	6,830	12,000	5,480	1,810	751	614
31	1,160	------	718	1,600	------	3,010	------	12,300	------	1,690	777	------
TOTAL	23,487	40,540	25,630	48,130	66,210	71,860	120,710	280,160	376,950	117,520	36,013	22,378
MEAN	758	1,351	827	1,553	2,365	2,318	4,024	9,037	12,570	3,791	1,162	746
MAX	1,310	2,040	944	4,000	4,450	3,010	6,830	14,600	20,900	6,000	1,630	1,570
MIN	518	951	680	700	1,400	1,710	3,230	4,850	5,480	1,690	751	482
AC-FT	46,590	80,410	50,840	95,460	131,300	142,500	239,400	555,700	747,700	233,100	71,430	44,390

CAL YR 1960: TOTAL 1,025,780 MEAN 2,803 MAX 13,900 MIN 518 AC-FT 2,035,000
WAT YR 1961: TOTAL 1,229,588 MEAN 3,369 MAX 20,900 MIN 482 AC-FT 2,439,000

12-4590. Wenatchee River at Peshastin, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	521	1,020	909	1,550	1,550	1,340	1,340	4,060	7,230	6,630	2,670	770
2	614	1,060	888	1,450	1,750	1,330	1,550	4,130	7,150	5,960	2,520	758
3	608	1,040	874	2,130	2,770	1,300	1,760	4,110	7,270	5,130	2,350	738
4	588	1,040	860	3,220	3,870	1,280	1,980	4,060	6,610	4,830	2,350	718
5	576	958	951	2,980	3,900	1,270	2,340	3,840	6,000	4,550	2,340	699
6	660	951	916	2,940	3,620	1,240	2,870	3,650	5,580	4,310	2,200	666
7	909	930	874	3,590	3,340	1,210	5,830	3,460	5,710	4,030	2,040	647
8	867	916	811	6,810	3,060	1,190	5,210	3,400	6,910	4,160	1,970	621
9	811	902	738	6,810	2,840	1,160	4,550	3,420	8,340	4,760	1,840	608
10	1,210	1,020	690	5,600	2,580	1,130	4,000	3,520	8,660	5,390	1,690	614
11	1,350	1,440	600	4,620	2,510	1,110	3,620	3,560	8,000	5,430	1,550	758
12	1,270	1,340	620	4,000	2,400	1,070	3,440	3,560	7,900	5,210	1,500	874
13	2,180	1,240	640	3,460	2,310	1,040	3,530	3,470	7,630	4,940	1,450	811
14	2,590	1,260	640	3,100	2,250	1,040	4,050	3,470	7,530	4,520	1,390	804
15	2,310	1,230	650	2,840	2,180	1,030	5,100	3,600	8,160	4,160	1,310	923
16	2,020	1,110	660	2,560	2,070	1,020	5,280	3,740	10,200	3,970	1,250	797
17	1,770	1,040	700	2,370	1,980	1,020	5,100	4,240	10,700	3,780	1,240	744
18	1,550	1,070	720	2,180	1,940	1,040	5,320	4,580	10,100	3,410	1,200	693
19	1,380	1,040	740	1,950	1,910	1,080	6,230	4,600	9,360	3,090	1,180	666
20	1,260	972	770	1,700	1,840	1,090	6,530	4,500	8,160	3,010	1,160	647
21	1,160	944	800	1,600	1,740	1,130	6,150	4,620	8,120	3,120	1,160	634
22	1,080	951	810	1,600	1,710	1,130	6,000	5,050	8,830	3,380	1,130	647
23	1,120	1,000	832	1,660	1,640	1,120	6,150	5,080	8,720	3,620	1,060	634
24	1,160	1,020	1,020	1,700	1,520	1,200	6,790	6,710	8,120	3,730	993	608
25	1,100	930	1,390	1,750	1,440	1,250	6,790	7,230	8,800	3,790	951	595
26	1,060	860	1,330	1,800	1,340	1,260	6,240	7,860	8,630	3,700	930	588
27	1,080	895	1,180	1,770	1,340	1,250	5,850	8,770	8,070	3,580	902	588
28	1,040	923	1,130	1,760	1,350	1,210	5,370	9,960	6,750	3,420	867	614
29	979	930	1,190	1,690	------	1,190	4,740	9,840	6,400	3,240	881	874
30	951	923	1,550	1,610	------	1,190	4,260	8,570	6,710	2,960	846	986
31	951	------	1,640	1,560	------	1,240	------	7,790	------	2,940	790	------
TOTAL	36,815	30,955	28,123	84,360	62,820	36,160	137,970	159,350	241,380	128,810	45,710	21,330
MEAN	1,188	1,032	907	2,721	2,244	1,166	4,599	5,140	8,046	4,155	1,475	711
MAX	2,580	1,440	1,640	6,810	3,900	1,340	6,790	9,960	10,700	6,630	2,670	986
MIN	576	860	600	1,450	1,340	1,020	1,340	3,400	5,580	2,940	790	588
AC-FT	73,020	61,400	55,780	167,300	124,600	71,720	273,700	316,100	478,800	255,500	90,660	42,310

CAL YR 1961: TOTAL 1,235,824 MEAN 3,386 MAX 20,900 MIN 482 AC-FT 2,451,000
WAT YR 1962: TOTAL 1,013,783 MEAN 2,777 MAX 10,700 MIN 576 AC-FT 2,011,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	923	1,140	2,580	2,900	900	3,150	1,920	3,080	9,660	2,950	1,430	777
2	895	1,090	2,410	3,300	1,100	2,980	1,830	3,060	8,720	3,160	1,390	750
3	923	1,060	2,260	3,700	1,650	2,810	1,770	2,510	7,630	3,520	1,340	757
4	1,000	1,020	2,120	3,500	3,810	2,680	1,750	2,730	6,970	3,780	1,320	764
5	930	1,100	2,040	3,200	5,000	2,560	1,840	2,820	6,830	3,860	1,330	738
6	867	1,250	2,380	3,000	4,500	2,430	2,040	3,100	6,570	3,560	1,330	718
7	846	1,260	2,500	2,900	4,100	2,320	2,120	2,890	6,550	3,360	1,320	706
8	860	1,340	2,720	2,600	3,900	2,250	2,070	2,890	6,450	3,380	1,260	652
9	993	1,520	2,910	2,400	3,700	2,190	2,030	2,840	6,340	3,300	1,240	642
10	1,120	1,460	2,780	2,200	3,500	2,160	1,990	2,780	6,110	3,020	1,240	699
11	1,090	1,490	2,640	2,000	3,300	2,130	1,970	2,780	6,870	2,820	1,240	770
12	1,150	1,610	2,540	1,700	3,000	2,080	1,950	2,870	7,900	2,720	1,270	784
13	1,210	1,570	2,420	1,700	2,800	1,990	1,960	2,940	8,320	2,710	1,680	764
14	1,220	1,460	2,380	1,800	2,600	1,960	2,130	3,150	8,170	2,800	2,120	1,040
15	1,120	1,380	2,680	1,800	2,500	1,900	2,770	3,560	8,340	2,720	1,660	1,140
16	1,050	1,330	3,030	1,750	2,400	1,830	2,780	3,840	8,920	2,450	1,420	972
17	1,000	1,260	2,940	1,700	2,300	1,780	2,630	4,180	8,830	2,300	1,250	888
18	1,010	1,220	2,740	1,600	2,250	1,720	2,560	5,140	8,380	2,280	1,160	797
19	1,190	1,840	2,600	1,500	2,400	1,700	2,550	6,690	7,900	2,250	1,090	738
20	1,280	12,500	2,430	1,400	2,900	1,720	2,620	8,320	7,130	2,170	1,030	692
21	1,610	10,300	2,370	1,350	2,800	1,720	2,540	10,300	6,090	2,060	951	660
22	1,940	7,270	2,470	1,300	2,700	1,830	2,430	11,700	5,170	1,970	923	640
23	1,960	5,410	2,290	1,250	2,600	1,980	2,410	12,500	4,470	1,980	874	640
24	1,810	4,330	2,060	1,210	2,500	2,060	2,380	12,300	4,190	1,820	874	628
25	1,670	3,950	1,990	1,170	2,500	1,970	2,340	10,900	4,050	1,740	860	602
26	1,550	4,300	1,920	1,130	2,800	1,940	2,320	9,960	3,950	1,650	867	588
27	1,450	3,680	1,880	1,100	3,100	1,960	2,320	9,100	3,660	1,610	839	576
28	1,370	3,200	1,940	1,050	3,230	2,050	2,380	9,010	3,460	1,630	797	588
29	1,290	2,840	1,950	1,000	------	2,070	2,680	9,520	3,470	1,600	784	602
30	1,240	2,740	2,060	900	------	2,070	3,030	10,300	3,200	1,550	770	614
31	1,180	------	2,500	850	------	1,990	------	10,500	------	1,460	758	------
TOTAL	37,747	85,920	74,530	58,860	80,840	65,980	68,110	188,760	194,300	78,180	36,417	22,096
MEAN	1,218	2,864	2,404	1,899	2,887	2,128	2,270	6,089	6,477	2,522	1,175	737
MAX	1,960	12,500	3,030	3,700	5,000	3,150	3,030	12,500	9,660	3,860	2,120	1,140
MIN	846	1,020	1,880	850	900	1,700	1,750	2,730	3,200	1,460	758	576
AC-FT	74,870	170,400	147,800	116,700	160,300	130,900	135,100	374,400	385,400	155,100	72,230	43,830

CAL YR 1962: TOTAL 1,116,087 MEAN 3,058 MAX 12,500 MIN 588 AC-FT 2,214,000
WAT YR 1963: TOTAL 991,740 MEAN 2,717 MAX 12,500 MIN 576 AC-FT 1,967,000

12-4590. Wenatchee River at Peshastin, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	628	937	1,770	1,940	1,070	1,010	1,670	2,760	15,100	9,230	4,060	1,430
2	609	937	1,610	2,810	1,040	1,000	1,750	2,690	16,000	10,500	3,710	1,360
3	602	937	1,490	2,480	1,000	986	1,740	2,580	15,100	10,400	3,530	1,300
4	582	930	1,430	2,280	979	1,010	1,810	2,680	14,000	9,630	3,980	1,240
5	576	930	1,430	2,100	986	1,060	1,770	2,780	14,400	10,000	3,790	1,170
6	588	937	1,430	2,070	923	1,020	1,860	2,770	14,700	9,430	3,460	1,140
7	588	937	1,360	1,930	937	993	1,930	2,850	14,100	9,620	3,260	1,110
8	550	958	1,340	1,740	923	972	2,030	3,190	13,500	11,200	3,230	1,090
9	536	937	1,310	1,660	916	972	2,240	3,740	14,900	11,800	3,080	1,080
10	524	923	1,190	1,630	909	958	2,420	4,530	15,700	10,000	2,920	1,000
11	494	909	1,060	1,580	909	993	2,520	4,670	16,600	9,140	2,740	944
12	482	888	1,040	1,470	895	1,000	2,500	4,810	16,000	9,860	2,740	916
13	476	874	1,070	1,400	888	972	2,460	4,940	15,100	10,800	2,770	895
14	524	1,020	1,050	1,340	874	979	2,420	4,690	14,500	10,500	2,600	881
15	588	1,290	1,050	1,320	874	1,140	2,570	4,500	14,400	9,980	2,360	860
16	588	1,260	1,080	1,350	867	1,200	2,640	4,650	15,500	8,830	2,150	853
17	569	1,270	1,080	1,350	909	1,210	2,470	5,410	14,700	7,610	2,070	874
18	543	1,310	1,050	1,320	902	1,330	2,350	6,190	12,400	7,030	2,000	944
19	530	1,310	1,010	1,280	944	1,320	2,300	7,050	10,800	6,280	1,970	930
20	512	1,280	993	1,200	937	1,250	2,350	8,490	9,660	5,880	1,790	1,070
21	569	1,150	958	1,210	930	1,240	2,380	8,860	9,030	5,810	1,770	1,160
22	1,230	1,140	930	1,170	930	1,230	2,510	8,130	8,880	5,580	1,780	1,070
23	1,810	1,120	1,020	1,130	944	1,190	2,450	7,110	10,100	5,030	1,750	1,050
24	1,560	1,080	1,430	1,120	958	1,140	2,370	6,510	11,400	4,720	1,790	1,020
25	1,800	1,050	1,580	1,040	944	1,130	2,510	5,880	11,100	4,830	1,770	1,030
26	1,520	1,310	1,560	1,140	958	1,120	2,680	5,690	10,700	4,500	1,810	1,060
27	1,300	2,720	1,490	1,120	951	1,100	2,680	6,020	10,600	4,890	1,780	1,010
28	1,160	2,590	1,410	1,110	958	1,110	2,630	7,550	9,270	5,030	1,750	944
29	1,110	2,190	1,320	1,080	965	1,150	2,720	9,930	8,150	5,170	1,610	916
30	1,050	1,930	1,250	1,070	------	1,240	2,770	11,800	8,170	4,960	1,640	1,080
31	986	------	1,330	1,060	------	1,400	------	13,400	------	4,500	1,520	------
TOTAL	25,183	37,054	39,121	46,500	27,220	34,425	69,600	176,840	384,560	243,840	77,260	31,427
MEAN	812	1,235	1,262	1,500	939	1,110	2,320	5,705	12,820	7,866	2,492	1,048
MAX	1,810	2,720	1,770	2,810	1,070	1,400	2,770	13,400	16,600	11,800	4,060	1,430
MIN	476	874	930	1,040	867	958	1,670	2,580	8,150	4,500	1,520	853
AC-FT	49,950	73,500	77,600	92,230	53,990	68,280	138,000	350,800	762,800	483,600	153,200	62,330

CAL YR 1963: TOTAL 894,901 MEAN 2,452 MAX 12,500 MIN 476 AC-FT 1,775,000
WAT YR 1964: TOTAL 1,193,030 MEAN 3,260 MAX 16,600 MIN 476 AC-FT 2,366,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,160	1,010	2,940	1,100	3,130	2,030	1,770	8,490	9,670	5,830	2,320	875
2	2,230	1,030	3,520	1,000	2,700	1,930	1,810	7,440	9,990	6,710	2,340	843
3	2,920	1,050	3,070	1,000	2,430	1,840	1,910	6,610	11,600	7,430	2,360	814
4	2,420	1,090	2,620	1,000	2,240	1,780	1,850	6,010	12,300	7,690	2,260	777
5	2,080	1,140	2,300	1,000	2,350	1,740	1,940	5,450	12,600	7,860	2,110	752
6	1,860	1,110	2,050	1,000	2,430	1,720	2,020	4,980	13,300	7,550	1,960	730
7	1,730	1,070	1,880	1,000	2,300	1,730	2,010	4,680	13,100	7,690	1,830	708
8	1,750	1,040	1,810	1,000	2,260	1,770	2,000	4,630	12,300	7,600	1,770	686
9	1,950	1,020	1,860	950	2,190	1,840	2,100	4,870	12,400	6,350	1,740	683
10	1,910	1,010	1,810	950	2,030	1,980	2,190	5,730	12,000	5,280	1,720	685
11	1,760	978	1,730	900	1,900	2,180	2,210	6,740	14,700	4,520	1,720	699
12	1,630	955	1,580	900	1,810	2,400	2,270	8,070	13,700	4,050	1,730	691
13	1,530	940	1,570	850	1,770	2,510	2,480	8,980	10,900	3,890	1,920	679
14	1,470	900	1,480	993	1,740	2,590	2,630	9,120	9,180	3,990	1,870	688
15	1,590	873	1,410	1,030	1,670	2,680	2,960	8,800	8,040	4,170	1,620	973
16	1,610	856	1,190	1,070	1,630	2,750	3,740	9,230	7,550	4,230	1,470	1,030
17	1,550	831	850	1,080	1,720	2,670	4,230	9,200	8,350	4,040	1,370	935
18	1,460	837	900	1,070	1,920	2,550	4,180	8,200	9,590	3,850	1,310	857
19	1,380	812	950	1,060	2,010	2,450	4,240	7,450	9,890	3,470	1,330	795
20	1,320	795	1,100	1,050	2,250	2,370	6,420	7,050	9,250	3,130	1,370	746
21	1,270	783	1,200	1,050	2,270	2,290	7,690	6,780	8,410	2,920	1,370	713
22	1,230	774	1,470	1,040	2,230	2,260	7,430	6,600	7,710	2,630	1,290	689
23	1,180	782	1,710	1,030	2,140	2,210	6,980	6,870	7,390	2,520	1,410	667
24	1,140	1,080	1,770	1,040	2,040	2,120	6,860	7,030	7,690	2,570	1,500	659
25	1,110	1,460	1,590	1,070	1,970	2,060	7,120	7,420	7,380	2,670	1,380	652
26	1,070	1,290	1,400	1,040	1,970	2,010	7,570	8,490	6,950	2,840	1,270	648
27	1,020	1,180	1,300	1,320	2,210	1,950	8,650	9,760	6,090	3,020	1,180	708
28	987	1,110	1,200	1,670	2,200	1,870	9,740	11,700	5,410	3,050	1,100	709
29	985	1,080	1,200	2,340	------	1,810	10,300	13,600	5,170	2,770	1,060	669
30	981	1,420	1,100	2,720	------	1,760	9,590	12,800	5,220	2,510	991	635
31	1,010	------	1,100	3,500	------	1,730	------	10,900	------	2,340	926	------
TOTAL	48,293	30,306	51,660	37,723	59,510	65,580	136,790	243,880	288,720	139,230	49,597	22,395
MEAN	1,558	1,010	1,666	1,217	2,125	2,115	4,560	7,867	9,624	4,491	1,600	747
MAX	2,920	1,460	3,520	3,500	3,130	2,750	10,300	13,600	14,700	7,860	2,360	1,030
MIN	981	774	850	850	1,630	1,720	1,770	4,630	5,170	2,340	926	635
AC-FT	95,790	60,110	102,500	74,820	118,000	130,100	271,300	483,700	572,700	276,200	98,370	44,420

CAL YR 1964: TOTAL 1,221,931 MEAN 3,339 MAX 16,600 MIN 774 AC-FT 2,424,000
WAT YR 1965: TOTAL 1,173,684 MEAN 3,216 MAX 14,700 MIN 635 AC-FT 2,328,000

12-4614. Mission Creek above Sand Creek, near Cashmere, Wash.

Location.--Lat 47°25'45", long 120°30'45", in SE¼NW¼ sec.6, T.22 N., R.19 E., on left bank 400 ft upstream from Sand Creek, 3 miles downstream from East Fork, and 7 miles south of Cashmere.

Drainage area.--39.8 sq mi (revised).

Records available.--December 1958 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,750 ft (from topographic map).

Average discharge.--6 years, 12.9 cfs (9,340 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (60 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Feb. 2, 1961	-	-	a 3.25	Jan. 20, 1962	-	-	a 4.39	Feb. 7, 1964	-	-	b 3.04
Feb. 21, 1961	0930	* 137	2.56	Apr. 6, 1962	1530	* 101	2.41	June 8, 1964	1800	* 83	2.31
Mar. 16, 1961	0100	65	2.08	May 24, 1962	2130	81	2.28			(c)	
Mar. 20, 1961	0030	64	2.07			(a)			-	-	b 4.01
Apr. 3, 1961	0330	87	2.31		-	* 155	2.71	Jan. 30, 1965	2230	* 140	2.55
Apr. 29, 1961	2100	76	2.24	Feb. 3, 1963	-	-	a 3.67	Apr. 20, 1965	1700	68	2.14
May 20, 1961	2330	65	2.16	Apr. 14, 1963	1830	81	2.28	July 3, 1965	2030	114	2.41
May 26, 1961	0830	115	2.50								
June 3, 1961	2100	77	2.25	Nov. 14, 1963	1000	73	2.22				

a Nov. 19 or 20, 1962.
b Backwater from ice.
c Sometime Dec. 25, 1964, to Jan. 30, 1965.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Sept.14, 15, 1961	1.5	1.15	1964	Sept.24, 25, 26	1.7	b 1.20
1962	Sept.21, 22, 1962	1.9	a 1.21	1965	Dec. 17, 1964	c 1.0	-
1963	Sept.27, 28, 29, 30	2.0	1.22				

a Occurred Oct. 5, 1961.
b Occurred Sept. 14-18, 24-26, 1964.
c Minimum daily.

1958-65: Maximum discharge, 240 cfs Nov. 22, 1959; maximum gage height, 4.39 ft Jan. 20, 1962 (backwater from ice); minimum daily discharge, 1.0 cfs Dec. 17, 1964.

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.4	4.4	5.2	3.4	8.4	25	61	62	45	12	4.8	3.0
2	2.4	3.4	5.5	3.6	8.2	26	71	54	48	12	4.5	2.4
3	2.4	3.4	5.5	3.8	8.0	23	77	48	48	11	4.5	2.2
4	2.4	3.2	5.0	4.2	8.0	21	60	41	49	11	4.2	2.0
5	2.4	3.2	4.5	4.6	9.0	19	49	37	45	14	4.2	2.0
6	3.2	2.8	4.0	5.0	25	17	41	33	43	13	4.0	1.9
7	3.2	2.8	3.5	5.4	25	16	34	30	39	12	3.8	1.9
8	2.8	2.8	3.0	6.0	20	15	33	30	33	12	3.8	1.9
9	2.8	2.8	3.0	6.2	21	15	30	38	30	11	3.8	1.8
10	3.2	4.1	3.2	6.4	27	15	29	45	28	9.9	3.8	1.8
11	2.8	5.5	3.8	5.6	28	15	28	42	28	9.5	3.6	1.8
12	2.8	3.8	4.6	5.4	27	16	28	40	25	9.1	3.6	1.7
13	2.8	4.4	4.8	5.4	25	16	27	39	23	9.1	3.4	1.6
14	3.2	3.8	4.8	6.2	22	25	25	39	22	8.7	3.4	1.6
15	3.2	3.8	4.2	7.2	19	58	24	40	20	8.7	3.8	1.6
16	2.8	6.2	3.8	7.8	17	56	27	45	20	8.3	7.6	1.7
17	2.8	6.2	4.0	7.4	16	46	32	49	19	8.0	4.2	1.7
18	2.8	6.6	4.2	6.6	15	42	29	53	19	7.6	3.6	2.2
19	2.8	5.2	4.0	5.8	16	45	25	55	18	7.2	3.2	2.4
20	2.8	7.2	3.8	5.4	36	61	23	60	18	7.2	3.2	2.6
21	2.8	6.9	3.8	5.0	94	49	23	58	17	7.2	3.0	2.8
22	2.8	5.5	3.5	5.0	76	42	22	54	16	6.9	2.8	2.8
23	3.2	5.2	3.6	5.2	45	36	25	53	16	6.6	2.6	2.8
24	3.2	12	3.4	5.2	34	34	26	48	15	6.6	2.6	2.6
25	3.2	11	3.6	5.2	29	34	25	45	15	6.2	2.6	2.6
26	3.4	7.0	3.6	5.0	25	36	28	65	14	5.9	2.6	2.6
27	3.4	5.5	3.6	4.8	23	44	29	55	14	5.6	2.6	2.6
28	4.1	5.5	3.6	4.8	20	45	32	48	13	5.6	2.6	3.0
29	3.4	5.5	3.4	5.4	-------	46	58	45	13	5.3	2.4	3.0
30	3.4	5.2	3.4	6.2	-------	50	66	45	12	5.3	2.4	2.8
31	4.1	-------	3.4	7.0	-------	53	-------	43	-------	5.0	2.4	-------
TOTAL	93.0	154.9	123.4	170.2	727.5	1,041	1,087	1,437	765	267.5	109.6	67.4
MEAN	3.00	5.16	3.98	5.49	26.0	33.6	36.2	46.4	25.5	8.63	3.54	2.25
MAX	4.1	12	5.5	7.8	94	61	77	65	49	14	7.6	3.0
MIN	2.4	2.8	3.0	3.4	8.0	15	22	30	12	5.0	2.4	1.6
CFSM	.08	.13	.10	.14	.65	.84	.91	1.16	.64	.22	.09	.06
IN.	.09	.14	.12	.16	.68	.97	1.02	1.34	.71	.25	.10	.06
AC-FT	184	307	245	338	1,440	2,060	2,160	2,850	1,520	531	217	134

CAL YR 1960: TOTAL 6,555.8 MEAN 17.9 MAX 116 MIN 2.3 CFSM .45 IN 6.13 AC-FT 13,000
WAT YR 1961: TOTAL 6,043.5 MEAN 16.6 MAX 94 MIN 1.6 CFSM .42 IN 5.65 AC-FT 11,990

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4614. Mission Creek above Sand Creek, near Cashmere, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.8	4.0	3.0	5.5	10	7.0	21	19	26	12	4.8	2.3
2	2.6	4.2	2.8	6.0	12	7.3	25	19	23	11	4.4	2.3
3	2.6	4.2	2.6	5.9	17	7.6	26	19	21	11	7.8	2.2
4	2.4	4.2	2.6	3.4	17	7.8	31	18	19	11	6.4	2.2
5	2.3	4.5	3.0	3.0	16	8.0	32	17	18	11	5.7	2.2
6	2.4	3.8	2.8	4.0	14	8.2	55	17	17	9.6	5.4	2.2
7	2.8	3.2	2.6	10	13	8.5	62	16	17	9.2	5.1	2.2
8	2.8	3.6	2.8	15	11	8.3	42	17	18	8.8	4.8	2.2
9	2.8	4.0	3.0	10	11	6.6	29	18	18	8.4	4.4	2.3
10	3.0	4.5	2.5	8.0	9.9	5.3	21	19	17	8.0	4.2	2.6
11	2.6	4.0	2.5	7.0	9.5	4.5	17	18	17	7.6	3.6	2.6
12	4.0	4.2	2.5	6.0	9.9	7.2	14	18	16	7.2	3.9	2.4
13	3.6	4.2	3.0	5.0	13	8.0	15	17	26	7.2	3.6	2.6
14	3.4	3.6	3.1	4.5	15	8.3	22	17	21	7.2	3.4	2.4
15	3.4	3.4	3.3	4.0	15	8.7	31	17	20	7.2	3.2	2.3
16	3.2	3.0	3.5	3.5	15	5.6	24	18	19	6.8	3.2	2.2
17	3.0	3.0	4.0	3.1	15	7.2	21	19	18	6.8	3.0	2.2
18	3.0	3.4	4.5	2.8	14	8.0	23	19	18	6.8	3.0	2.1
19	3.0	3.2	4.5	2.5	14	12	27	19	17	6.8	3.0	2.0
20	3.0	3.0	4.3	2.6	13	13	25	18	17	6.4	3.0	2.0
21	3.2	3.0	4.0	2.7	13	13	32	19	16	6.4	2.8	2.0
22	3.0	3.0	3.6	3.0	12	12	31	19	15	6.1	2.7	2.0
23	3.2	3.5	4.0	4.0	11	12	35	34	15	5.7	2.7	2.0
24	3.4	4.0	6.0	6.0	9.0	11	41	39	14	6.1	2.6	2.0
25	3.4	3.5	6.0	10	7.0	12	33	73	14	5.7	2.8	2.0
26	3.4	3.2	5.8	8.0	5.0	14	28	60	14	5.4	2.6	2.0
27	3.6	3.0	5.6	8.0	6.0	16	29	50	14	5.4	2.6	2.0
28	3.2	3.0	5.0	8.0	6.5	15	23	44	13	5.1	2.6	4.4
29	3.2	3.0	5.0	7.5	-------	15	20	38	12	4.8	2.6	2.7
30	3.6	3.0	5.5	7.5	-------	15	19	32	12	4.8	2.6	2.3
31	3.8	-------	5.0	8.0	-------	17	------	29	------	4.8	2.4	------
TOTAL	95.7	107.4	118.4	184.5	333.8	309.1	854	796	522	230.3	114.7	68.9
MEAN	3.09	3.58	3.82	5.95	11.9	9.97	28.5	25.7	17.4	7.43	3.70	2.30
MAX	4.0	4.5	6.0	15	17	17	62	73	26	12	7.8	4.4
MIN	2.3	3.0	2.5	2.5	5.0	4.5	14	16	12	4.8	2.4	2.0
CFSM	.08	.09	.10	.15	.30	.25	.72	.65	.44	.19	.09	.05
IN.	.09	.10	.11	.17	.31	.29	.80	.74	.49	.22	.11	.06
AC-FT	190	213	235	366	662	613	1,690	1,580	1,040	457	228	137

CAL YR 1961: TOTAL 5,993.7 MEAN 16.4 MAX 94 MIN 1.6 CFSM .41 IN 5.60 AC-FT 11,890
WAT YR 1962: TOTAL 3,734.8 MEAN 10.2 MAX 73 MIN 2.0 CFSM .26 IN 3.49 AC-FT 7,410

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.3	3.1	9.0	8.0	4.5	13	7.6	29	28	9.6	4.4	2.7
2	2.3	3.1	8.0	9.2	10	12	7.2	21	26	8.8	4.4	3.0
3	2.3	3.0	8.0	10	20	12	7.2	16	24	8.0	4.2	2.8
4	2.2	2.9	8.8	8.4	30	11	7.6	13	24	7.6	3.9	2.7
5	2.3	2.9	9.6	7.6	40	11	13	24	23	7.6	3.6	2.7
6	2.3	3.0	15	7.2	35	10	17	36	22	7.6	3.6	2.6
7	2.8	3.3	15	7.2	33	9.0	19	37	21	7.6	3.6	2.6
8	3.0	3.2	25	6.8	29	8.5	21	33	21	8.4	3.4	2.4
9	5.1	3.2	21	6.4	25	8.0	21	28	19	7.6	3.4	2.4
10	3.4	3.2	18	6.0	22	7.5	21	25	18	7.6	3.4	2.3
11	6.9	3.5	17	5.0	19	7.2	22	23	18	7.2	3.4	2.4
12	10	4.0	15	6.0	18	7.0	26	21	17	7.2	3.2	2.3
13	11	3.6	14	6.4	17	6.8	30	23	17	6.8	3.2	2.3
14	8.4	3.4	14	7.0	16	6.6	39	26	15	6.4	3.2	2.4
15	6.1	3.6	14	6.4	15	6.4	31	26	14	6.4	3.0	2.6
16	4.4	3.6	18	5.8	14	6.3	22	19	14	6.1	3.0	2.6
17	3.9	3.6	17	5.4	14	6.2	17	15	14	5.7	2.8	2.8
18	3.8	3.6	17	5.0	13	6.1	14	19	13	5.7	2.8	2.7
19	4.0	25	15	4.8	15	6.1	13	23	12	5.7	2.8	2.6
20	4.2	80	14	5.3	14	6.1	18	24	12	5.7	3.0	2.4
21	5.0	36	14	6.0	13	6.1	29	42	12	5.7	3.0	2.4
22	5.5	23	13	5.7	12	6.4	34	43	12	5.4	3.9	2.3
23	5.0	17	11	5.4	12	8.8	33	38	13	5.4	3.6	2.3
24	4.5	14	8.0	5.2	11	8.4	30	45	12	5.4	3.4	2.2
25	4.2	16	8.0	5.0	13	7.6	27	43	11	5.4	3.4	2.2
26	4.0	20	8.0	4.7	15	7.6	25	39	10	5.1	3.4	2.2
27	3.8	15	8.0	4.4	14	8.4	24	35	10	4.8	3.2	2.1
28	3.6	12	8.0	4.2	13	8.8	24	32	12	4.8	3.0	2.1
29	3.5	11	8.5	4.0	-------	8.0	36	32	12	4.8	2.8	2.1
30	3.4	9.5	8.8	3.8	-------	8.0	43	31	11	4.4	2.7	2.1
31	3.2	-------	7.6	3.8	-------	7.6	------	29	------	4.4	2.7	------
TOTAL	136.4	338.3	395.3	186.1	506.5	252.5	678.6	890	487	198.9	103.4	73.3
MEAN	4.40	11.3	12.8	6.00	18.1	8.15	22.6	28.7	16.2	6.42	3.34	2.44
MAX	11	80	25	10	40	13	43	45	28	9.6	4.4	3.0
MIN	2.2	2.9	7.6	3.8	4.5	6.1	7.2	13	10	4.4	2.7	2.1
CFSM	.11	.28	.32	.15	.45	.20	.57	.72	.41	.16	.08	.06
IN.	.13	.32	.37	.17	.47	.24	.63	.83	.46	.19	.10	.07
AC-FT	271	671	784	369	1,000	501	1,350	1,770	966	395	205	145

CAL YR 1962: TOTAL 4,283.3 MEAN 11.7 MAX 80 MIN 2.0 CFSM .29 IN 4.00 AC-FT 8,500
WAT YR 1963: TOTAL 4,246.3 MEAN 11.6 MAX 80 MIN 2.1 CFSM .29 IN 3.97 AC-FT 8,420

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4614. Mission Creek above Sand Creek, near Cashmere, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.0	6.8	6.5	7.0	5.0	8.4	33	13	23	6.4	5.4	2.7
2	2.1	7.2	6.0	8.0	5.0	8.0	25	12	22	6.8	5.1	2.4
3	2.1	6.8	5.0	7.6	5.0	7.6	21	12	19	6.4	4.4	2.2
4	2.1	7.6	5.0	6.4	5.0	8.4	20	13	19	6.4	4.2	2.2
5	2.2	8.0	5.0	6.1	5.0	8.4	19	14	19	6.4	3.9	2.1
6	2.6	11	5.5	6.1	5.5	8.0	18	13	18	6.1	3.6	2.0
7	2.4	9.6	5.0	5.0	5.5	7.6	18	13	16	6.1	3.4	1.9
8	2.4	10	5.0	4.5	6.0	7.6	21	15	38	6.1	3.2	2.1
9	2.2	9.6	5.0	4.5	8.0	7.6	24	19	32	6.4	3.0	2.1
10	2.2	9.2		4.5	12	7.6	24	18	23	5.7	3.0	2.0
11	2.2	10		4.0	13	8.0	21	16	21	5.4	3.0	2.0
12	2.1	10		3.9	12	8.0	18	16	18	5.4	3.0	2.0
13	2.1	11		3.9	10	7.6	17	16	16	5.1	3.0	1.9
14	2.1	37		4.0	10	8.4	17	14	14	5.4	2.8	1.9
15	2.0	15		4.0	9.6	11	19	13	13	5.4	2.7	1.9
16	1.9	9.6	4.0	4.0	9.2	12	17	16	14	5.1	2.6	1.9
17	1.9	9.2		4.0	8.8	14	16	20	12	5.1	2.5	1.8
18	1.9	7.6		3.9	9.2	16	15	21	11	5.1	2.4	1.9
19	2.0	8.0		4.0	11	14	14	23	10	5.1	2.6	2.1
20	2.7	7.6		4.0	11	14	14	24	9.2	4.8	2.6	2.1
21	3.2	7.5		4.0	11	13	13	21	8.8	4.8	2.4	2.0
22	6.4	7.0		3.9	12	13	14	17	8.4	4.8	2.3	2.0
23	5.4	6.8		4.0	12	12	15	14	8.0	4.4	2.3	1.9
24	7.2	6.4		4.0	11	12	14	13	7.6	4.4	2.1	1.8
25	9.2	13		4.0	9.5	11	16	12	7.6	4.2	2.1	1.7
26	6.8	28		4.0	9.5	10	16	12	7.2	3.9	2.2	1.9
27	6.4	21	5.0	4.5	8.5	9.6	15	13	6.8	3.9	2.4	1.9
28	6.4	13		4.5	9.0	10	14	17	7.2	3.6	2.4	1.9
29	6.4	11		4.5	8.4	12	15	23	6.8	3.6	2.2	1.9
30	6.4	7.0		4.5	------	16	14	23	6.4	3.9	2.4	4.2
31	6.8	------		5.1	------	26	------	23	------	3.9	2.4	------
TOTAL	113.8	331.5	144.0	146.4	255.7	336.8	537	509	442.0	160.1	91.7	62.4
MEAN	3.67	11.1	4.65	4.72	8.82	10.9	17.9	16.4	14.7	5.16	2.96	2.08
MAX	9.2	37	6.5	8.0	13	26	33	24	38	6.8	5.4	4.2
MIN	1.9	6.4	-	3.9	5.0	7.6	13	12	6.4	3.6	2.1	1.7
CFSM	.09	.28	.12	.12	.22	.27	.45	.41	.37	.13	.07	.05
IN.	.11	.31	.13	.14	.24	.31	.50	.48	.41	.15	.09	.06
AC-FT	226	658	286	290	507	668	1,070	1,010	877	318	182	124

CAL YR 1963: TOTAL 3,965.6 MEAN 10.9 MAX 45 MIN 1.9 CFSM .27 IN 3.71 AC-FT 7,870
WAT YR 1964: TOTAL 3,130.4 MEAN 8.55 MAX 38 MIN 1.7 CFSM .21 IN 2.93 AC-FT 6,210

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.4	2.1	8.8	1.8	52	24	14	28	22	7.4	2.5	2.3
2	2.7	2.1	8.0	2.1	34	22	15	26	22	7.0	3.2	2.3
3	2.4	2.4	6.1	2.3	25	21	15	24	22	14	3.4	2.3
4	2.3	2.8	5.4	2.6	22	21	16	21	21	10	3.2	2.3
5	2.2	2.7	3.9	2.8	22	19	17	19	20	7.8	2.9	2.1
6	2.2	2.3	3.6	2.7	22	18	17	18	19	7.0	2.5	2.1
7	2.1	2.2	3.4	2.7	21	19	16	18	19	6.2	2.5	2.1
8	2.4	2.2	3.6	2.6	22	19	16	18	18	5.8	2.3	2.3
9	2.4	2.2	3.4	2.6	21	20	19	19	17	5.8	2.1	2.1
10	2.4	2.3	3.6	2.6	21	22	20	23	17	5.4	2.1	2.3
11	2.3	2.2	3.0	2.5	20	24	20	25	19	5.4	2.3	2.7
12	2.3	2.2	2.9	2.5	19	25	21	27	17	5.4	2.9	2.5
13	2.2	2.2	2.8	2.6	18	24	23	28	16	5.4	2.5	2.1
14	2.2	2.0	2.5	3.4	16	23	24	26	15	5.4	2.3	1.9
15	2.2	2.1	1.8	4.4	16	22	31	25	14	5.1	2.3	2.1
16	2.2	2.1	1.1	4.6	15	21	40	25	14	4.8	2.1	2.7
17	2.2	2.3	1.0	4.6	22	20	32	22	13	4.5	1.9	2.3
18	2.2	2.2	1.3	4.6	33	18	27	21	13	4.2	1.9	2.3
19	2.2	2.2	2.0	4.6	38	17	38	21	12	4.5	1.9	2.1
20	2.2	2.1	2.4	4.6	47	16	66	22	12	5.1	2.9	1.9
21	2.2	2.1	2.7	4.6	37	15	56	20	11	5.1	2.5	1.9
22	2.1	2.1	3.0	4.4	30	14	44	21	10	4.5	2.9	1.9
23	2.1	2.2	3.2	4.4	26	14	39	22	10	4.2	9.0	1.9
24	2.1	10	3.0	4.2	23	14	41	21	9.0	4.2	5.1	1.9
25	2.1	6.1	2.8	4.0	21	13	39	22	9.0	3.9	3.9	1.7
26	2.1	3.9	2.6	4.6	21	13	44	24	8.6	3.9	3.4	1.9
27	2.1	3.6	2.4	8.0	25	12	50	25	8.2	4.2	3.2	2.1
28	2.1	3.4	2.2	26	25	12	52	26	8.2	3.6	2.9	1.9
29	2.1	3.2	2.0	55	------	12	42	26	7.8	3.6	2.9	1.7
30	2.1	4.4	1.8	75	------	11	34	25	7.8	2.9	2.9	1.7
31	2.1	------	1.6	84	------	13	------	23	------	2.9	2.5	------
TOTAL	70.9	85.9	97.9	337.4	714	558	928	711	430.6	169.2	90.9	63.4
MEAN	2.29	2.86	3.16	10.9	25.5	18.0	30.9	22.9	14.4	5.46	2.93	2.11
MAX	4.4	10	8.8	84	52	25	66	28	22	14	9.0	2.7
MIN	2.1	2.0	1.0	1.8	15	11	14	18	7.8	2.9	1.9	1.7
CFSM	.06	.07	.08	.27	.64	.45	.78	.58	.36	.14	.07	.05
IN.	.07	.08	.09	.32	.67	.52	.87	.66	.40	.16	.08	.06
AC-FT	141	170	194	669	1,420	1,110	1,840	1,410	854	336	180	126

CAL YR 1964: TOTAL 2,795.8 MEAN 7.64 MAX 38 MIN 1.0 CFSM .19 IN 2.61 AC-FT 5,550
WAT YR 1965: TOTAL 4,257.2 MEAN 11.7 MAX 84 MIN 1.0 CFSM .29 IN 3.98 AC-FT 8,440

12-4625. Wenatchee River at Monitor, Wash.

Location.--Lat 47°29'55", long 120°25'30", in NE¼SW¼ sec.11, T.23 N., R.19 E., on right bank 1 mile north of Monitor and 7 miles upstream from mouth.

Drainage area.--1,301 sq mi.

Records available.--August to November 1897, October 1962 to September 1965. Published as "near Wenatchee" 1897.

Gage.--Water-stage recorder. Altitude of gage is 680 ft (from topographic map). Aug. 7 to Nov. 7, 1897, staff gage 1 mile downstream at different datum.

Extremes.--Maximum and minimum discharges for the water years 1963-65 are contained in the following table:

Annual maximum discharge (*), peak discharges above base (11,000 cfs), and annual minimum discharge

Water year	Maximum				Minimum		
	Date	Time	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1963	Nov. 20, 1962	1000	* 17,900	23.29	Sept.27, 1963	a 540	-
	May 31, 1963	0500	13,300	22.26			
1964	June 11, 1964	2200	* 18,200	24.50	Oct. 12-14, 1963	464	17.12
1965	Apr. 29, 1965	0830	11,500	22.67	Sept.30, 1965	578	17.31
	May 29, 1965	1230	14,700	23.59			
	June 11, 1965	1730	* 16,400	24.05			

a Minimum daily.

1897, 1962-65: Maximum discharge, 18,200 cfs June 11, 1964 (gage height, 24.50 ft); minimum, 464 cfs Oct. 12-14, 1963 (gage height, 17.12 ft).

Remarks.--Records good. Numerous diversions for irrigation and domestic use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	894	1,200	3,140	2,660	1,100	3,280	2,020	3,100	11,700	2,600	1,270	700
2	876	1,150	2,930	2,860	1,090	3,200	1,940	3,140	10,100	2,860	1,230	720
3	876	1,110	2,730	3,240	1,540	3,080	1,890	3,120	8,370	3,130	1,170	730
4	930	1,060	2,560	3,520	3,120	2,930	1,860	2,960	7,070	3,270	1,130	720
5	921	1,120	2,450	3,420	6,340	2,820	1,870	2,950	6,680	3,610	1,120	700
6	958	1,270	2,610	3,200	6,700	2,690	2,000	3,140	6,410	3,570	1,130	680
7	840	1,320	2,770	3,000	6,070	2,610	2,150	3,180	6,350	3,490	1,130	660
8	831	1,330	2,890	2,840	4,800	2,520	2,170	3,100	6,320	3,450	1,090	650
9	912	1,540	3,160	2,710	4,300	2,450	2,150	3,020	6,200	3,410	1,050	650
10	1,060	1,490	3,140	2,490	3,980	2,370	2,120	2,960	5,930	3,170	1,060	650
11	1,060	1,510	3,040	2,150	3,700	2,330	2,090	2,930	6,680	2,950	1,050	680
12	1,140	1,600	2,930	1,970	3,500	2,290	2,090	2,950	7,760	2,830	1,070	740
13	1,250	1,630	2,800	1,920	3,340	2,230	2,090	2,960	8,300	2,700	1,310	740
14	1,260	1,520	2,750	2,000	3,160	2,170	2,140	3,000	8,340	2,700	1,550	900
15	1,200	1,450	2,910	2,000	2,980	2,140	2,490	3,200	8,370	2,690	1,550	1,030
16	1,110	1,390	3,220	1,940	2,890	2,040	2,710	3,500	9,040	2,570	1,300	885
17	1,050	1,320	3,300	1,860	2,730	1,990	2,730	3,700	9,070	2,370	1,120	810
18	1,040	1,280	3,180	1,760	2,640	1,930	2,690	4,080	8,510	2,230	1,010	740
19	1,200	1,600	2,840	1,640	2,620	1,870	2,660	4,350	7,910	2,120	960	690
20	1,310	14,300	2,860	1,570	2,910	1,860	2,710	6,040	7,190	2,040	921	640
21	1,550	12,300	2,770	1,510	2,980	1,860	2,730	8,520	5,880	1,920	880	610
22	1,880	9,260	2,750	1,480	2,890	1,870	2,680	11,000	4,800	1,820	840	600
23	1,990	7,030	2,610	1,430	2,840	1,970	2,660	12,600	3,550	1,840	810	600
24	1,850	5,650	2,440	1,370	2,780	2,060	2,660	12,800	2,930	1,670	790	590
25	1,720	4,880	2,310	1,350	2,710	2,030	2,620	11,400	2,650	1,590	780	580
26	1,590	5,050	2,200	1,280	2,870	1,990	2,590	10,900	2,430	1,480	780	560
27	1,520	4,550	2,150	1,220	3,240	1,990	2,560	11,200	2,230	1,420	770	540
28	1,420	4,020	2,170	1,170	3,300	2,060	2,540	11,400	2,050	1,430	750	550
29	1,350	3,560	2,140	1,140	------	2,100	2,660	11,700	2,060	1,420	720	570
30	1,280	3,360	2,250	1,070	------	2,140	2,960	13,000	2,480	1,360	710	580
31	1,240	------	2,490	1,060	------	2,090	------	13,300	------	1,310	700	------
TOTAL	38,108	99,850	84,490	62,930	93,120	70,960	71,230	195,200	187,360	75,020	32,151	20,495
MEAN	1,229	3,328	2,725	2,027	3,326	2,289	2,374	6,297	6,245	2,420	1,037	683
MAX	1,990	14,300	3,300	3,520	6,700	3,280	2,960	13,300	11,700	3,610	1,550	1,030
MIN	831	1,060	2,140	1,060	1,090	1,860	1,960	2,930	2,050	1,310	700	540
AC-FT	75,590	198,000	167,600	124,800	184,700	140,700	141,300	387,200	371,600	148,800	63,770	40,650

CAL YR 1962: TOTAL MEAN MAX MIN AC-FT
WAT YR 1963: TOTAL 1,030,814 MEAN 2,824 MAX 14,300 MIN 540 AC-FT 2,045,000

12-4625. Wenatchee River at Monitor, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	600	1,010	1,820	1,890	1,130	1,110	1,950	2,840	15,500	9,170	4,080	1,610
2	580	990	1,670	2,920	1,120	1,120	2,100	2,790	16,900	10,700	3,790	1,540
3	560	1,000	1,550	2,600	1,080	1,080	1,990	2,720	16,000	10,600	3,570	1,530
4	580	990	1,480	2,340	1,050	1,090	2,040	2,810	14,400	9,830	3,850	1,340
5	550	990	1,470	2,160	1,050	1,150	2,120	2,970	14,700	10,100	3,810	1,180
6	560	1,000	1,480	2,120	1,000	1,120	2,020	2,930	15,500	10,100	3,600	1,130
7	560	990	1,450	1,980	980	1,090	2,100	3,010	14,900	9,830	3,420	1,100
8	534	1,030	1,410	1,810	980	1,050	2,220	3,370	14,200	11,100	3,370	1,060
9	527	1,000	1,360	1,710	980	1,050	2,430	3,950	16,600	11,900	3,210	1,050
10	520	980	1,250	1,690	970	1,040	2,600	4,900	17,000	10,300	3,060	990
11	485	960	1,100	1,620	980	1,090	2,720	5,150	18,000	9,110	2,880	920
12	464	950	1,120	1,540	970	1,100	2,670	5,180	17,400	9,850	2,760	874
13	464	940	1,120	1,460	950	1,060	2,600	5,300	16,300	10,900	2,760	829
14	478	1,100	1,080	1,420	940	1,060	2,520	5,080	15,300	10,600	2,640	820
15	548	1,390	1,110	1,390	940	1,220	2,790	4,780	15,300	10,100	2,420	811
16	555	1,370	1,130	1,430	940	1,330	2,810	4,900	16,400	8,900	2,280	811
17	548	1,360	1,130	1,460	960	1,330	2,620	5,650	15,800	7,480	2,180	775
18	555	1,400	1,110	1,400	960	1,460	2,430	6,500	13,400	6,880	2,120	820
19	590	1,400	1,060	1,350	1,020	1,340	2,370	7,400	11,500	6,100	2,110	847
20	583	1,370	1,040	1,280	1,030	1,420	2,430	9,100	10,300	5,580	2,060	910
21	614	1,240	1,020	1,280	1,020	1,360	2,470	9,600	9,380	5,480	1,900	1,110
22	1,070	1,210	980	1,260	1,030	1,340	2,550	8,760	9,140	5,370	1,790	1,030
23	1,860	1,210	1,060	1,200	1,040	1,320	2,550	7,610	10,300	4,970	1,700	1,010
24	1,590	1,150	1,430	1,170	1,070	1,230	2,450	6,860	11,600	4,640	1,700	1,000
25	1,810	1,110	1,590	1,070	1,060	1,220	2,600	6,050	11,500	4,690	1,680	1,000
26	1,620	1,260	1,590	1,150	1,060	1,210	2,810	5,750	11,000	4,780	1,670	1,020
27	1,370	2,620	1,530	1,200	1,060	1,220	2,790	6,020	10,800	4,800	1,790	990
28	1,240	2,650	1,470	1,170	1,050	1,220	2,760	7,580	9,500	4,840	1,720	930
29	1,160	2,260	1,400	1,160	1,060	1,270	2,790	10,600	8,260	4,950	1,700	883
30	1,120	1,990	1,340	1,130	------	1,400	2,900	12,800	8,070	4,820	1,670	940
31	1,050	------	1,360	1,120	------	1,590	------	14,500	------	4,400	1,680	------
TOTAL	25,325	38,920	40,710	48,480	29,480	37,690	74,200	187,460	404,850	242,880	78,970	30,880
MEAN	817	1,297	1,313	1,564	1,017	1,216	2,473	6,047	13,500	7,835	2,547	1,029
MAX	1,860	2,650	1,820	2,920	1,130	1,590	2,900	14,500	18,000	11,900	4,080	1,610
MIN	464	940	980	1,070	940	1,040	1,950	2,720	8,070	4,400	1,670	775
AC-FT	50,230	77,200	80,750	96,160	58,470	74,760	147,200	371,800	803,000	481,700	156,600	61,210

CAL YR 1963: TOTAL 913,321 MEAN 2,502 MAX 13,300 MIN 464 AC-FT 1,812,000
WAT YR 1964: TOTAL 1,239,825 MEAN 3,388 MAX 18,000 MIN 464 AC-FT 2,459,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,060	1,080	3,010	1,110	3,570	2,340	1,800	9,200	10,100	5,650	2,160	784
2	2,160	1,080	3,700	1,130	3,060	2,220	1,870	7,930	10,300	6,600	2,180	748
3	2,880	1,110	3,240	1,090	2,820	2,140	1,940	6,930	12,000	7,430	2,210	722
4	2,450	1,150	2,790	1,050	2,480	2,080	1,940	6,250	12,900	7,680	2,150	690
5	2,120	1,200	2,450	1,080	2,580	2,010	2,060	5,600	13,200	7,900	1,990	666
6	1,880	1,200	2,180	1,080	2,710	1,980	2,150	5,060	14,000	7,480	1,840	642
7	1,740	1,150	2,010	1,040	2,580	1,980	2,140	4,750	13,800	7,650	1,750	626
8	1,720	1,110	1,910	1,060	2,530	2,020	2,120	4,710	12,700	7,510	1,640	602
9	1,940	1,090	1,920	1,040	2,450	2,110	2,260	4,950	12,900	6,220	1,620	594
10	1,940	1,080	1,900	1,020	2,280	2,270	2,360	5,840	13,500	5,130	1,590	610
11	1,790	1,050	1,830	1,000	2,150	2,470	2,380	6,960	15,300	4,380	1,590	626
12	1,640	1,020	1,640	960	2,080	2,680	2,440	8,460	14,500	3,940	1,610	626
13	1,560	1,000	1,640	940	1,990	2,790	2,740	9,560	11,400	3,750	1,750	626
14	1,480	970	1,580	950	1,970	2,880	2,910	9,710	9,410	3,770	1,760	626
15	1,580	910	1,510	1,100	1,880	2,930	3,280	9,260	8,010	3,940	1,510	838
16	1,660	910	1,230	1,200	1,840	3,010	4,280	9,650	7,350	3,980	1,350	970
17	1,610	892	940	1,200	1,880	2,890	4,780	9,680	8,260	3,790	1,240	901
18	1,540	892	850	1,200	2,150	2,720	4,580	8,490	9,680	3,580	1,150	829
19	1,470	874	950	1,190	2,320	2,600	4,620	7,620	10,200	3,260	1,160	766
20	1,410	856	1,000	1,180	2,610	2,480	7,270	7,190	9,470	2,910	1,260	714
21	1,340	856	1,100	1,160	2,660	2,400	8,660	6,880	8,460	2,740	1,270	674
22	1,320	847	1,260	1,140	2,580	2,360	8,150	6,670	7,620	2,470	1,180	650
23	1,260	838	1,580	1,150	2,440	2,270	7,560	7,010	7,270	2,320	1,300	634
24	1,220	1,080	1,720	1,130	2,330	2,140	7,430	7,170	7,590	2,380	1,450	618
25	1,180	1,620	1,530	1,160	2,260	2,090	7,760	7,560	7,300	2,440	1,340	618
26	1,120	1,440	1,440	1,140	2,210	2,020	8,260	8,810	6,830	2,610	1,220	610
27	1,080	1,320	1,360	1,530	2,530	1,970	9,500	10,200	5,910	2,790	1,120	650
28	1,040	1,220	1,290	1,950	2,550	1,850	10,700	12,400	5,220	2,880	1,050	674
29	1,030	1,190	1,240	2,580	------	1,800	11,300	14,500	4,970	2,630	990	634
30	1,030	1,440	1,210	3,100	------	1,780	10,500	13,600	5,000	2,400	920	594
31	1,050	------	1,160	3,940	------	1,780	------	11,500	------	2,220	847	------
TOTAL	49,300	32,475	53,170	41,600	67,490	71,060	149,740	254,100	295,150	134,430	46,197	20,562
MEAN	1,590	1,083	1,715	1,342	2,410	2,292	4,991	8,197	9,838	4,336	1,490	685
MAX	2,880	1,620	3,700	3,940	3,570	3,010	11,300	14,500	15,300	7,900	2,210	970
MIN	1,030	838	850	940	1,840	1,780	1,800	4,710	4,970	2,220	847	594
AC-FT	97,790	64,410	105,500	82,510	133,900	140,900	297,000	504,000	585,400	266,600	91,630	40,780

CAL YR 1964: TOTAL 1,269,815 MEAN 3,469 MAX 18,000 MIN 775 AC-FT 2,519,000
WAT YR 1965: TOTAL 1,215,274 MEAN 3,330 MAX 15,300 MIN 594 AC-FT 2,410,000

12-4626. Columbia River below Rock Island Dam, Wash.

Location.--Lat 47°19'50", long 120°04'55", in NE¼NW¼ sec.9, T.21 N., R.22 E., on left bank 1.1 miles downstream from Rock Island Dam and 12 miles southeast of Wenatchee.

Drainage area.--89,400 sq mi, approximately.

Records available.--January to December 1910 (gage heights only); May 1913 to December 1916, at two sites about 13 miles upstream, published as "at Wenatchee"; October 1930 to May 1961, at site 11 miles downstream, published as "at Trinidad"; June 1961 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Jan. 1, 1916, staff gage 1 mile upstream from highway bridge at Wenatchee at datum 583 ft above mean sea level, unadjusted. Jan. 1 to Dec. 31, 1916, staff gage on pier of highway bridge at Wenatchee at datum 579.30 ft above mean sea level, unadjusted. Oct. 1, 1930, to May 31, 1961, water-stage recorder half a mile southwest of Trinidad at datum 499.3 ft above mean sea level (river-profile survey). Since May 21, 1963, auxiliary water-stage recorder 2 miles downstream.

Average discharge.--38 years, 121,700 cfs (88,110,000 acre-ft per year), unadjusted.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 9, 1961	547,100	585.52	Sept.18, 1961	43,200	546.65
1962	June 5, 1962	325,400	574.75	Nov. 11, 1961	32,100	544.11
1963	June 17, 1963	317,200	577.09	Mar. 22, 1963	29,000	543.40
1964	June 17, 1964	462,300	585.00	Jan. 1, 1964	33,400	a 561.71
1965	June 18, 1965	b 343,600	-	-	-	-

a Occurred Sept. 19, 1964.
b Maximum daily.

Annual minimum daily discharge, water years 1961-65

Water year	Date	Discharge	Water year	Date	Discharge
1961	Sept.27, 1961	52,000	1964	Jan. 1, 1964	34,300
1962	Dec. 25, 1961	47,900	1965	Jan. 29, 1965	49,700
1963	Sept.29, 1963	54,200			

1913-16, 1930-65: Maximum discharge, 692,600 cfs June 12, 1948 (gage height, 59.35 ft, site and datum then in use); minimum, 4,120 cfs Feb. 10, 1932 (gage height, 11.40 ft, site and datum then in use).

Maximum discharge known, about 740,000 cfs June 7, 1894 (from high watermarks at Wenatchee).

Remarks.--Records good except those for period of no gage-height record, which are fair. Diversion above station for irrigation of about 500,000 acres is small percentage of flow past gage. Some diurnal fluctuation caused by powerplants at Rock Island, Rocky Reach, Chief Joseph, and Grand Coulee Dams. Flow regulated by Rufus Woods and Franklin D. Roosevelt Lakes, and reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, Okanogan, and Chelan River basins.

DISCHARGE, IN CUBIC FEET PER SECOND, JUNE TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1									419,000	304,800	130,900	80,000
2									445,000	290,100	121,600	77,000
3									460,000	274,600	115,900	80,000
4									475,000	268,100	114,300	78,000
5									485,000	246,200	112,700	76,000
6									505,000	236,500	112,700	78,000
7									520,000	227,100	99,500	72,600
8									519,000	215,600	96,800	75,800
9									530,000	209,500	103,400	76,200
10									540,000	203,300	95,400	72,900
11									532,300	200,200	90,500	77,100
12									525,000	200,500	118,300	70,700
13									524,300	195,600	124,100	73,400
14									512,600	184,600	123,900	74,000
15									500,400	183,600	106,600	68,500
16									482,000	180,000	98,200	67,200
17									486,600	182,900	97,500	68,700
18									493,800	181,800	88,200	57,800
19									493,200	178,500	84,000	62,800
20									484,800	178,500	79,900	65,000
21									468,500	175,300	75,300	62,000
22									464,300	172,800	79,300	58,000
23									438,300	170,800	85,200	54,000
24									419,100	164,500	89,800	58,000
25									406,100	172,800	92,800	55,000
26									394,100	174,300	93,900	53,000
27									370,500	163,400	93,500	52,000
28									359,000	153,200	91,200	53,000
29					------				342,800	142,200	89,900	50,000
30					------				323,600	134,400	85,400	56,000
31		------			------		------		------	130,800	83,700	------
TOTAL									13,921M	6,096.5M	3,074.4M	2,012.7M
MEAN									464,000	196,700	99,170	67,090
MAX									540,000	304,800	130,900	80,000
MIN									323,600	130,800	75,300	52,000
AC-FT									27,610M	12,090M	6,098M	3,992M

M Expressed in thousands.

12-4626. Columbia River below Rock Island Dam, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	58,000	54,200	58,000		82,600			172,000	312,200	229,800	179,500	86,300
2	58,000	70,900	61,600		83,000			164,500	316,000	230,400	181,000	86,900
3	58,000	73,700	58,900		81,900			154,500	314,600	226,500	180,400	93,500
4	58,000	67,300	61,500		82,500		55,000	152,200	317,600	234,700	181,600	78,900
5	58,000	63,100	64,400		84,700			148,600	318,000	231,700	169,400	76,700
6	58,000	63,900	58,500		87,000			147,500	299,300	238,300	158,500	78,100
7	58,000	67,900	59,700	55,000	85,900			148,000	298,500	233,500	158,500	78,200
8	58,000	64,900	57,900		84,200			160,000	294,600	232,600	151,400	68,700
9	58,000	63,300	52,000		84,900			167,000	289,700	231,400	136,300	66,000
10	58,000	62,000	49,400		86,500			166,900	297,800	215,000	126,400	73,800
11	58,000	56,000	59,700		85,600		92,000	166,500	301,800	208,800	115,800	73,600
12	58,000	52,000	69,600		80,900			165,000	292,800	202,700	115,100	71,500
13	58,000	67,000	69,800		85,700			165,300	275,300	193,700	113,700	69,400
14	58,000	69,900	60,800		85,500			171,300	275,900	190,300	104,800	69,900
15	58,000	60,000	59,100		81,600			165,900	274,800	195,700	107,400	66,200
16	73,000	63,400	61,800		78,100	61,000		163,100	274,200	194,900	103,400	60,200
17	73,000	60,600	65,900		70,800			157,600	276,600	193,300	104,500	69,900
18	73,000	56,200	61,400		65,600		124,000	157,600	258,400	190,800	105,700	65,500
19	73,000	65,200	63,900	78,000	67,600			159,800	247,800	189,200	105,300	66,600
20	73,000	69,000	64,100		70,400		132,500	160,000	248,600	184,400	104,000	64,000
21	67,700	58,000	52,600		72,800		137,100	160,900	250,400	174,600	106,600	59,800
22	64,800	67,800	50,500				148,000	168,600	253,400	166,900	110,800	60,300
23	69,700	59,400	51,900				152,900	175,800	253,400	168,900	113,200	57,600
24	71,400	57,400	48,300				152,600	195,800	252,600	166,900	112,400	64,100
25	72,200	60,800	47,900	81,700	67,000		162,100	212,800	251,800	162,600	106,400	66,800
26	72,900	64,600	51,700	82,500			172,900	235,200	239,400	164,800	105,100	69,200
27	73,200	68,100	50,700	82,200			176,200	252,500	235,900	159,700	105,900	71,300
28	74,800	67,400	51,100	83,300			174,800	268,500	232,800	161,900	95,900	64,700
29	73,700	61,200	51,000	82,200	------		174,000	285,400	229,200	162,300	95,700	53,700
30	71,800	60,100	51,000	83,400	------		175,000	297,000	228,600	172,000	91,300	54,800
31	61,400	------	48,000	83,500	------		------	302,000	------	182,100	83,700	------
TOTAL	2,008.6M	1,905.3M	1,772.7M	2,174.8M	2,157.2M	1,891.0M	3,412.1M	5,767.8M	8,212.4M	6,090.4M	3,830.5M	2,076.2M
MEAN	64,790	63,510	57,180	70,150	77,040	61,000	113,700	186,100	273,700	196,500	123,600	69,210
MAX	74,800	73,700	69,800	83,500	87,000	-	176,200	302,000	318,000	238,300	181,600	86,900
MIN	58,000	52,000	47,900	-	65,600	-	-	147,500	228,600	159,700	83,700	53,700
AC-FT	3,984M	3,779M	3,516M	4,314M	4,279M	3,751M	6,768M	11,440M	16,290M	12,080M	7,598M	4,118M

CAL YR 1961: TOTAL MEAN MAX MIN AC-FT
WAT YR 1962: TOTAL 41,299,000 MEAN 113,100 MAX 318,000 MIN 47,900 AC-FT 81,920,000

M Expressed in thousands.
Note.--No gage-height record Feb. 22 to Apr. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	64,800	60,300	87,900	78,500	74,200	84,200	86,500	129,800	231,400	239,800	126,000	70,400
2	59,100	67,100	87,600	87,000	69,900	84,200	87,700	128,600	228,100	250,500	118,400	64,500
3	59,000	70,700	87,700	82,600	62,400	83,800	90,700	130,100	228,700	245,000	121,500	66,500
4	59,900	64,400	86,100	89,200	73,500	87,000	92,300	129,600	236,600	240,600	120,700	72,100
5	60,600	67,000	83,400	79,800	73,800	78,700	91,600	131,400	238,800	242,000	119,800	77,800
6	62,700	67,800	82,200	66,300	77,000	83,900	86,800	134,300	230,200	236,300	113,000	70,000
7	63,300	66,800	77,400	84,000	80,700	86,100	87,000	133,000	229,200	226,800	109,800	65,500
8	65,200	72,400	72,500	77,700	72,600	89,600	82,300	143,500	240,600	227,700	105,300	61,900
9	64,200	67,000	76,600	77,500	83,400	86,200	90,900	148,900	249,300	234,000	106,900	69,700
10	57,800	63,900	83,100	88,100	93,000	86,600	92,400	160,900	260,000	227,700	106,600	72,300
11	59,100	59,700	79,700	91,500	94,700	89,600	97,500	125,500	270,000	229,700	108,300	75,300
12	70,900	66,100	77,200	92,900	96,100	93,600	91,500	122,800	284,300	217,600	110,400	73,300
13	65,000	66,700	76,800	94,300	94,000	85,000	86,500	117,100	291,700	219,200	113,500	69,500
14	62,700	61,500	76,200	91,900	92,700	79,300	85,600	99,800	307,800	218,700	117,500	72,700
15	72,300	55,200	77,000	92,900	90,900	71,100	90,000	103,000	309,500	208,600	117,300	72,500
16	63,100	64,800	80,200	97,200	92,700	66,300	93,200	110,500	311,400	214,400	120,800	75,900
17	69,300	69,600	85,800	96,600	86,300	61,800	96,700	111,600	312,300	219,400	119,500	83,700
18	61,900	64,500	77,000	84,300	84,800	68,400	105,800	112,700	308,400	226,200	113,000	82,800
19	61,800	66,200	81,700	82,700	85,900	67,700	109,200	116,000	307,200	225,200	110,700	94,100
20	63,700	67,200	80,100	85,700	87,700	61,700	111,200	121,200	303,000	212,200	110,200	76,400
21	62,900	75,400	83,500	94,500	89,400	62,700	114,100	135,000	298,500	202,100	110,800	64,400
22	69,100	75,100	81,300	88,500	90,300	63,100	115,600	185,000	292,800	200,100	109,100	69,400
23	67,300	78,900	80,800	81,500	89,000	62,300	112,600	210,000	291,100	184,300	107,400	71,000
24	82,500	82,700	81,700	81,000	88,600	59,900	113,000	205,700	291,900	181,600	106,000	67,900
25	80,400	81,600	76,600	82,000	89,400	70,500	106,800	197,800	285,400	156,800	93,100	73,200
26	71,900	85,200	88,100	78,000	88,800	71,000	113,900	195,900	284,400	137,900	94,700	71,300
27	74,500	88,400	80,000	73,000	84,300	68,300	116,300	195,500	282,200	132,600	82,900	68,100
28	71,700	93,000	84,200	74,000	83,600	71,800	116,600	215,900	260,500	130,800	87,500	60,500
29	74,200	92,800	90,600	78,500	------	76,600	118,100	223,400	250,600	138,600	79,700	54,200
30	67,900	90,500	65,300	76,000	------	82,600	118,900	230,900	247,600	137,800	80,000	61,200
31	63,200	------	76,800	74,200	------	83,900	------	231,000	------	130,900	79,200	------
TOTAL	2,052.0M	2,152.5M	2,505.1M	2,601.9M	2,369.7M	2,367.5M	3,001.3M	4,740.4M	8,163.5M	6,295.1M	3,319.6M	2,128.1M
MEAN	66,190	71,750	80,810	83,930	84,630	76,370	100,000	152,900	272,100	203,100	107,100	70,940
MAX	82,500	93,000	90,600	97,200	96,100	93,600	118,900	231,000	312,300	250,500	126,000	94,100
MIN	57,800	55,200	65,300	66,300	62,400	59,900	82,300	99,800	228,100	130,800	79,200	54,200
AC-FT	4,070M	4,269M	4,969M	5,161M	4,700M	4,696M	5,953M	9,402M	16,190M	12,490M	6,584M	4,221M

CAL YR 1962: TOTAL 42,322,000 MEAN 116,000 MAX 318,000 MIN 53,700 AC-FT 83,940,000
WAT YR 1963: TOTAL 41,696,700 MEAN 114,200 MAX 312,300 MIN 54,200 AC-FT 82,700,000

M Expressed in thousands.

12-4626. Columbia River below Rock Island Dam, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	65,500	64,500	77,400	34,300	65,900	56,900	57,200	81,300	291,500	374,900	201,400	99,000
2	69,400	56,700	71,900	58,100	62,300	70,300	58,400	74,900	297,600	367,800	198,800	85,200
3	67,800	64,000	69,200	60,500	55,200	60,000	53,300	67,800	325,300	345,200	182,900	83,500
4	70,300	70,000	61,500	54,600	61,700	56,000	55,300	82,400	331,300	333,200	167,800	93,200
5	70,900	69,300	64,400	62,000	63,400	63,600	41,000	78,400	326,600	317,700	161,000	71,600
6	65,500	63,200	69,400	71,100	69,400	63,400	70,600	77,200	322,500	322,400	133,100	72,000
7	75,700	68,200	76,100	65,300	80,400	63,600	66,200	76,400	313,700	340,100	118,500	84,700
8	70,300	64,900	70,300	58,100	80,100	51,000	61,800	100,900	311,700	352,600	126,500	83,300
9	76,000	68,200	71,400	61,900	82,100	63,000	57,500	115,000	314,800	347,600	145,000	84,400
10	65,800	60,200	66,900	59,300	81,300	72,300	63,100	110,300	341,500	339,400	148,400	83,700
11	69,600	66,000	63,600	61,000	82,000	67,300	61,200	118,200	376,200	337,300	138,700	84,800
12	62,600	61,600	63,000	59,800	91,200	71,700	60,500	130,200	392,900	336,400	133,200	81,400
13	71,700	54,200	68,200	69,000	81,200	68,500	71,300	136,000	405,000	339,000	133,000	78,500
14	66,300	64,000	59,800	67,500	85,900	67,300	73,900	145,700	418,600	337,200	143,600	83,400
15	72,500	61,400	57,300	61,300	79,400	50,800	78,500	155,200	423,400	335,600	143,000	92,700
16	66,000	57,900	61,200	59,800	77,200	65,300	69,600	153,400	438,100	332,200	143,200	79,700
17	64,800	56,400	64,400	63,700	82,700	68,800	69,300	155,800	453,300	315,100	135,700	67,300
18	64,600	59,800	62,300	66,000	78,100	66,700	70,300	166,100	440,700	313,200	129,700	68,700
19	61,200	60,100	56,200	41,600	78,300	67,800	66,600	191,900	443,500	310,200	120,900	67,800
20	60,900	65,200	65,400	73,800	77,500	64,100	81,700	212,500	434,000	308,700	119,900	69,000
21	64,500	59,300	64,200	70,400	79,800	66,300	79,800	234,700	430,600	296,300	123,600	87,500
22	64,500	70,100	62,800	65,300	77,200	69,000	79,200	238,700	429,800	276,900	128,100	97,900
23	63,200	58,700	60,500	60,100	80,500	80,000	71,200	239,800	429,600	257,800	127,200	96,400
24	62,400	61,300	60,200	59,900	83,400	72,700	68,000	232,000	436,000	247,900	123,000	72,500
25	67,200	60,800	55,400	54,500	80,300	70,100	68,600	235,700	439,500	238,500	115,200	93,400
26	65,000	64,000	59,900	50,200	75,300	68,100	69,200	252,400	429,400	229,700	103,000	84,300
27	68,200	64,700	59,900	60,300	73,000	67,700	80,600	254,100	423,300	223,500	102,400	81,700
28	71,900	65,100	59,700	57,600	75,500	65,700	71,200	256,300	407,700	197,200	98,100	101,700
29	71,800	68,100	48,200	53,400	71,000	63,600	79,900	262,700	396,800	177,700	77,700	92,700
30	63,500	68,500	60,900	63,400	-------	74,700	79,200	275,900	391,600	173,800	93,600	98,600
31	63,800	-------	56,900	65,700	-------	67,900	-------	277,300	-------	188,900	105,000	-------
TOTAL	2,083.4M	1,896.4M	1,968.5M	1,869.6M	2,211.3M	2,044.2M	2,034.2M	5,189.2M	11,627M	9,215.0M	4,127.2M	2,476.6M
MEAN	67,210	63,210	63,500	60,310	76,250	65,940	67,810	167,400	387,600	297,300	133,100	82,550
MAX	76,000	70,100	77,400	73,800	91,200	80,000	81,700	277,300	453,300	376,900	201,400	101,700
MIN	60,900	54,200	48,200	34,300	55,200	50,800	41,000	67,800	291,500	173,800	77,700	67,300
AC-FT	4,132M	3,761M	3,904M	3,708M	4,386M	4,055M	4,035M	10,290M	23,060M	18,280M	8,186M	4,912M

CAL YR 1963: TOTAL 40,935,400 MEAN 112,200 MAX 312,300 MIN 48,200 AC-FT 81,190,000
WAT YR 1964: TOTAL 46,742,400 MEAN 127,700 MAX 453,300 MIN 34,300 AC-FT 92,710,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	96,000	75,000	81,300	74,800	78,400	92,300	85,100	178,800	304,000	265,700	125,100	110,600
2	92,600	77,600	83,400	89,600	91,200	78,200	71,600	244,600	304,100	263,200	131,500	85,700
3	104,000	77,600	82,300	89,000	84,300	84,800	66,100	217,600	311,200	259,000	135,100	88,500
4	95,800	71,200	83,500	92,400	97,400	92,000	66,100	233,400	315,400	251,700	144,900	84,300
5	91,300	79,000	77,900	92,500	107,600	92,700	74,200	233,800	312,000	248,700	141,100	81,800
6	90,200	76,500	79,000	90,600	104,400	89,500	82,200	243,200	316,600	242,400	146,100	80,400
7	85,500	76,100	74,700	86,000	104,900	89,000	83,700	197,600	313,000	251,000	143,300	81,400
8	87,100	75,000	72,600	74,500	109,700	85,400	83,300	218,800	317,600	260,000	143,800	78,400
9	85,100	76,000	75,600	85,900	114,200	89,800	89,300	223,000	314,000	260,100	147,900	75,700
10	84,700	78,200	70,800	84,600	107,000	89,800	83,600	221,200	312,200	254,400	149,300	72,300
11	86,000	77,100	71,500	84,300	119,000	85,200	81,400	215,800	317,600	249,800	152,600	83,600
12	90,100	75,900	65,800	86,500	122,900	82,500	82,700	226,800	317,100	249,200	143,000	71,200
13	97,600	77,100	58,600	89,400	95,600	83,300	86,200	243,400	305,100	246,400	146,000	78,500
14	91,200	73,700	67,000	80,500	67,800	85,600	84,600	240,800	298,100	256,500	124,000	78,000
15	89,500	64,200	68,100	89,700	117,600	89,300	88,800	244,100	299,400	233,900	122,700	76,000
16	87,500	75,300	78,000	84,600	127,500	86,000	107,800	243,300	310,900	224,500	126,200	76,700
17	94,000	71,600	76,500	79,300	121,700	88,500	126,800	241,800	337,800	217,900	138,900	76,600
18	93,000	72,700	82,700	79,700	101,500	86,500	129,800	246,300	343,600	208,500	139,400	72,000
19	95,300	67,000	75,400	88,400	94,300	86,600	126,900	248,400	335,400	193,400	126,100	67,700
20	91,300	68,200	56,900	76,000	94,400	87,000	139,900	250,800	336,100	190,000	128,500	76,600
21	88,200	66,200	69,000	81,000	96,300	85,200	144,000	248,300	334,600	190,900	119,900	75,800
22	82,800	71,200	72,700	79,500	94,200	88,400	155,600	238,500	336,100	202,900	113,400	73,300
23	84,700	67,500	64,500	74,300	98,800	85,200	157,400	242,600	334,700	205,600	114,500	72,100
24	80,700	73,000	53,500	64,200	110,200	85,300	161,500	251,300	328,100	201,700	116,900	70,900
25	76,900	83,200	55,800	81,200	105,200	92,400	165,400	245,200	319,300	199,800	117,500	71,900
26	91,600	76,300	55,600	78,200	109,700	94,100	166,100	241,400	313,100	181,700	126,700	64,600
27	76,900	79,100	57,800	80,500	86,300	91,000	165,900	245,600	299,700	177,300	117,300	68,600
28	78,800	79,000	67,200	75,100	85,800	88,700	165,500	273,200	293,600	155,500	115,600	68,300
29	75,100	72,200	74,400	49,700	-------	93,500	167,000	287,100	282,600	135,100	113,500	73,600
30	78,400	73,800	73,500	53,400	-------	93,200	165,800	299,600	277,400	126,800	115,100	69,300
31	78,000	-------	84,900	54,300	-------	84,800	-------	301,200	-------	124,900	113,600	-------
TOTAL	2,719.9M	2,226.5M	2,210.5M	2,469.7M	2,847.9M	2,725.8M	3,456.3M	7,487.5M	9,440.4M	6,728.5M	4,039.9M	2,304.6M
MEAN	87,740	74,220	71,310	79,670	101,700	87,930	115,200	241,500	314,700	217,000	130,300	76,820
MAX	104,000	83,200	84,900	92,500	127,500	94,100	167,000	301,200	343,600	265,700	152,600	110,800
MIN	75,100	64,200	53,500	49,700	67,800	78,200	64,100	178,800	277,400	124,900	113,400	64,600
AC-FT	5,395M	4,415M	4,384M	4,899M	5,649M	5,407M	6,855M	14,850M	18,720M	13,350M	8,013M	4,571M

CAL YR 1964: TOTAL 47,951,000 MEAN 131,000 MAX 453,300 MIN 34,300 AC-FT 95,110,000
WAT YR 1965: TOTAL 48,657,500 MEAN 133,300 MAX 343,600 MIN 49,700 AC-FT 96,510,000

M Expressed in thousands.

12-4630. Douglas Creek near Alstown, Wash.

Location.--Lat 47°35'00", long 120°00'50", in S½ sec.12, T.24 N., R.22 E., on left bank 1½ miles northwest of Alstown and 2.9 miles south of Douglas.

Drainage area.--99.9 sq mi (revised).

Records available.--June 1949 to September 1955. Annual maximum, water years 1956-60, March 1963 to September 1965.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,260 ft (by barometer). Oct. 1, 1955, to Sept. 30, 1960, crest-stage gage at same site and datum.

Average discharge.--8 years (1949-55, 1963-65), 4.38 cfs (3,170 acre-ft per year).

Extremes.--Maximum and minimum discharges for March 1963 to September 1965 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1963	Apr. 20, 1963	5.3	2.13	Many days	0	-
1964	Mar. 19, 1964	2.8	2.08	do.	0	-
1965	Mar. 18, 1965	3.7	2.08	do.	0	-

1949-60, 1963-65: Maximum discharge, 3,360 cfs Mar. 18, 1957 (gage height, 8.7 ft), from rating curve extended above 320 cfs on basis of slope-area measurement of peak flow.
1949-55, 1963-65: No flow for many days in each year 1963-65.
Flood of June 10, 1948, reached a stage of 13.05 ft, from floodmarks (discharge, 6,420 cfs, on basis of slope-area measurement).

Remarks.--Records fair except those for periods of no gage-height record and those for winter periods, which are poor. No regulation. Possible diversions for domestic and irrigation use above station.

DISCHARGE, IN CUBIC FEET PER SECOND, MARCH TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1						-	1.2	1.8	.40	.10	.10	0
2						-	1.4	1.8	.40	.10	.10	0
3						-	1.4	1.8	.40	.10	0	0
4						-	1.2	1.8	.40	.10	.10	0
5						-	1.4	2.0	.50	.10	0	0
6						-	1.6	2.0	.40	.10	0	0
7						-	1.8	1.8	.40	.20	0	0
8						-	1.8	1.8	.40	.20	0	0
9						-	1.8	1.6	.40	.10	0	0
10						-	1.8	1.4	.50	.10	0	0
11						-	1.8	1.4	.40	.10	0	0
12						-	1.8	1.4	.40	.10	0	0
13						-	1.8	1.4	.40	0	0	0
14						-	2.0	1.4	.40	0	0	0
15						-	2.2	1.4	.30	.10	0	0
16						-	2.2	1.4	.20	.10	0	0
17						-	2.0	1.2	.20	.10	0	0
18						-	2.2	1.0	.20	.10	0	0
19						-	3.0	1.0	.10	0	0	0
20						-	3.7	.90	.20	0	0	0
21						-	3.0	.90	.10	0	0	0
22						-	2.2	.80	.20	0	0	0
23						-	2.2	.60	.30	0	0	0
24						1.0	2.2	.60	.20	0	0	0
25						1.0	2.0	.60	.20	0	0	0
26						1.0	2.0	.60	.10	0	0	0
27						1.4	1.8	.50	.10	0	0	0
28						1.6	1.8	.50	.20	0	0	.10
29					------	1.8	1.8	.50	.20	0	0	.10
30					------	1.6	1.8	.40	.20	0	0	.10
31		------			------	1.4	------	.40	------	0	0	------
TOTAL						-	58.9	36.70	8.80	1.80	0.30	0.30
MEAN						-	1.96	1.18	.29	.058	.010	.010
MAX						-	3.7	2.0	.50	.20	.10	.10
MIN						-	1.2	.40	.10	0	0	0
AC-FT						-	117	73	17	3.6	.6	.6

12-4630. Douglas Creek near Alstown, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.40	.40				1.0	.90	.10	0	0	0
2	.10	.40	.40				.90	.90	.10	0	0	0
3	.10	.50					.90	.90	.10	0	0	0
4	.10	.40				.80	.80	.80	.20	0	0	0
5	.10	.40			.40		.80	.50	.20	0	0	0
6	.30	.60					.80	.50	.20	0	0	0
7	.20	.50				.90	.80	.50	.20	0	0	0
8	.20	.50					.80	.60	.60	0	0	0
9	.20	.40				.90	.80	.50	.60	0	0	0
10	.20	.40					.90	.50	.50	0	0	0
11	.20	.50				1.0	.80	.50	.40	0	0	0
12	.20	.50			.50	1.2	.80	.50	.40	0	0	0
13	.20	.60				1.0	.90	.40	.30	0	0	0
14	.20	.60				1.0	1.2	.40	.30	0	0	0
15	.20	.50				1.0	1.0	.50	.30	0	0	0
16	.20	.50		.40		1.2	1.0	.40	.40	0	0	0
17	.20	.60	.40			1.4	.90	.50	.40	0	0	0
18	.20	.40			.60	1.4	.90	.50	.40	0	0	0
19	.20	.60				1.0	.90	.50	.30	0	0	0
20	.20	.60				1.0	1.0	.40	.30	0	0	0
21	.20	.60				1.0	.90	.40	.30	0	0	0
22	.30	.60				1.2	1.2	.40	.30	0	0	0
23	.30	.60			.70	1.0	1.6	.30	.20	0	0	0
24	.30	.60				1.0	1.6	.30	.20	0	0	0
25	.20	.60				1.0	1.4	.30	.20	0	0	0
26	.30	.60				.90	1.2	.20	.20	0	0	0
27	.30	.50			.80	.90	1.2	0	.10	0	0	0
28	.30	.50				1.0	1.0	0	.10	0	0	0
29	.30	.50				1.0	.90	.10	.10	0	0	0
30	.40	.50			------	1.0	.90	.10	0	0	0	0
31	.30	------			------	1.0	------	.10	------	0	0	------
TOTAL	6.80	15.50	12.40	12.40	16.40	30.60	29.80	13.40	8.00	0	0	0
MEAN	.22	.52	.40	.40	.57	.99	.99	.43	.27	0	0	0
MAX	.40	.60	-	-	-	1.4	1.6	.90	.60	0	0	0
MIN	.10	.40	-	-	-	-	.80	0	0	0	0	0
AC-FT	13	31	25	25	33	61	59	27	16	0	0	0

CAL YR 1963: TOTAL MEAN MAX MIN AC-FT
WAT YR 1964: TOTAL 145.30 MEAN .40 MAX 1.6 MIN 0 AC-FT 288

Note.--No gage-height record Dec. 3 to Mar. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.20	.30			.30	.80	.40	0	0	0	0
2	0	.20	.40			.40	.80	.40	0	0	0	0
3	0	.20	.30			.50	.80	.30	0	0	0	0
4	0	.30	.30			.60	.80	.30	0	0	0	0
5	0	.20	.30		.20	.70	.80	.20	0	0	0	0
6	0	.20	.30			.80	.80	.20	0	0	0	0
7	0	.30	.40			.90	.80	.10	0	0	0	0
8	0	.20	.40			1.0	.60	.10	0	0	0	0
9	0	.40	.30			1.2	.90	.10	0	0	0	0
10	0	.40	.30			1.4	.80	.10	0	0	0	0
11	0	.30	.30			1.4	.80	.10	0	0	0	0
12	0	.30	.60			1.4	.90	.10	0	0	0	0
13	0	.30	.30			1.4	.90	.10	0	0	0	0
14	0	.20	.30			1.4	.80	.10	0	0	0	0
15	0	.20	.20	.20		1.4	.60	.10	0	0	0	0
16	0	.30	.10			1.2	.80	0	0	0	0	0
17	0	.20				1.2	.60	0	0	0	0	0
18	0	.30				1.0	.80	0	0	0	0	0
19	0	.30				.90	.90	0	0	0	0	0
20	0	.30			.30	.90	1.2	0	0	0	0	0
21	.10	.30				.60	1.0	0	0	0	0	0
22	.10	.20				.80	.90	0	0	0	0	0
23	.10	.20				.60	.80	0	0	0	0	0
24	.10	.30	.10			.90	.80	0	0	0	0	0
25	.10	.20				.80	.70	.20	0	0	0	0
26	.10	.20				.60	.70	.10	0	0	0	0
27	.10	.20				.80	.60	.10	0	0	0	0
28	.10	.20				.90	.60	.10	0	0	0	0
29	.10	.20			------	.90	.50	.10	0	0	0	0
30	.20	.30		.50	------	.80	.50	.10	0	0	0	0
31	.20	------		1.0	------	.90	------	.10	------	0	0	------
TOTAL	1.30	7.60	6.60	7.30	7.40	28.60	23.30	3.50	0	0	0	0
MEAN	.042	.25	.21	.24	.26	.92	.78	.11	0	0	0	0
MAX	.20	.40	.60	1.0	-	1.4	1.2	.40	0	0	0	0
MIN	0	.20	-	-	-	.30	.50	0	0	0	0	0
AC-FT	2.6	15	13	14	15	57	46	6.9	0	0	0	0

CAL YR 1964: TOTAL 126.10 MEAN .34 MAX 1.6 MIN 0 AC-FT 250
WAT YR 1965: TOTAL 85.60 MEAN .23 MAX 1.4 MIN 0 AC-FT 170

Note.--No gage-height record Dec. 17 to Mar. 7, Apr. 24 to May 31.

12-4645. Columbia River at Trinidad, Wash.

Location.--Lat 47°13'30", long 120°00'50", in SE¼ sec.13, T.20 N., R.22 E., on left bank half a mile southwest of Trinidad, 8½ miles downstream from Colocham Creek, and 12 miles downstream from Rock Island Dam.

Drainage area.--89,700 sq mi, approximately.

Records available.--January to December 1910 (gage heights only), May 1913 to April 1963 (discontinued). Published as "at Wenatchee" 1910, 1913-16, and as "at Vernita" 1917-30.

Gage.--Water-stage recorder. Datum of gage is 499.3 ft above mean sea level (river-profile survey). Prior to Jan. 1, 1916, staff gage 1 mile upstream from highway bridge at Wenatchee (24 miles upstream) at datum 583 ft above mean sea level, unadjusted. Jan. 1 to Dec. 31, 1916, staff gage on pier of highway bridge at Wentachee at datum 579.30 ft above mean sea level, unadjusted. Jan. 14, 1917, to Sept. 30, 1930, staff gages at ferry at Vernita (50 miles downstream) at datum 388.7 ft above mean sea level, unadjusted.

Average discharge.--49 years (1913-62), 120,400 cfs (87,170,000 acre-ft per year), unadjusted.

Extremes.--Maximum and minimum discharges for October 1960 to April 1963 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 10, 1961	544,000	54.12	Dec. 27, 1960	38,800	19.70
1962	June 5, 1962	324,000	44.25	Nov. 11, 1961	35,300	19.06
1963	Jan. 10, 1963	110,800	29.20	Mar. 22, 1963	32,500	18.53

1913-63: Maximum discharge, 692,600 cfs June 12, 1948 (gage height, 59.35 ft); minimum, 4,120 cfs Feb. 10, 1932 (gage height, 11.40 ft).
Maximum discharge known, about 740,000 cfs June 7, 1894 (based on information obtained at other points).

Remarks.--Records excellent. Diversion above station for irrigation of about 500,000 acres is small percentage of flow past gage. Some diurnal fluctuation caused by powerplants at Rock Island, Rocky Reach, Chief Joseph, and Grand Coulee Dams. Flow regulated by Rufus Woods Lake (see station 12-4379), Franklin D. Roosevelt Lake (see station 12-4360), and reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, Okanogan, and Chelan River basins.

Corrections.--WSP 1716: Daily discharges in 1915 and 1932.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	79,000	69,500	70,200	59,600	79,200	103,000	96,200	107,600	418,600	307,600	133,800	80,300
2	73,600	69,500	61,500	61,700	85,100	96,300	109,800	112,300	442,700	292,800	124,600	78,000
3	70,100	66,000	56,700	62,300	88,700	95,400	110,600	112,600	457,500	277,900	119,100	82,300
4	77,100	64,800	50,800	67,300	90,000	98,300	98,600	112,300	470,700	271,600	117,600	79,100
5	72,900	63,800	54,300	70,500	89,800	107,900	97,800	115,800	481,500	249,500	115,500	76,800
6	67,500	63,900	56,100	66,500	83,300	108,500	102,200	123,200	503,000	240,000	115,900	79,500
7	69,900	63,400	55,800	56,600	85,900	94,500	96,400	130,500	518,000	229,300	102,400	81,100
8	63,500	62,000	54,200	54,700	77,500	88,400	106,700	136,400	519,300	222,600	100,000	77,000
9	64,100	63,600	59,100	51,300	79,100	86,400	119,300	154,400	529,700	213,000	104,400	77,300
10	64,000	65,500	61,700	51,300	79,100	85,200	116,900	180,600	537,000	205,800	98,100	73,500
11	60,800	65,800	60,100	50,700	76,300	87,900	103,800	191,400	533,600	202,000	93,000	78,300
12	60,800	68,700	60,300	57,500	77,900	101,800	116,900	203,000	521,000	201,200	121,100	71,100
13	66,200	65,400	57,800	61,300	78,500	99,600	113,800	213,600	523,600	198,500	127,400	74,300
14	69,100	65,400	60,000	58,800	83,100	84,600	116,600	207,600	512,000	185,400	127,400	75,100
15	72,100	68,300	61,200	56,000	88,200	81,600	109,900	218,400	503,000	184,500	109,000	68,400
16	71,900	66,300	66,200	51,100	90,300	80,300	120,700	235,500	476,800	181,400	101,600	67,100
17	67,000	65,000	62,000	56,400	92,000	84,200	119,100	241,300	486,800	183,400	100,700	68,300
18	56,800	65,300	58,400	56,800	95,000	86,600	112,000	252,800	492,300	183,000	89,900	56,100
19	56,800	68,300	53,800	62,000	97,000	86,400	96,600	255,400	462,600	179,200	86,300	63,700
20	56,300	68,600	56,900	67,100	97,000	89,400	88,600	243,200	483,700	179,100	81,700	66,200
21	59,700	66,200	58,600	70,500	93,000	92,400	89,700	250,700	467,800	176,700	76,300	63,900
22	56,500	70,700	56,800	71,800	95,000	92,600	98,200	273,100	464,200	173,100	82,200	68,300
23	56,400	70,800	53,900	62,900	98,000	93,100	90,500	286,900	439,100	171,300	87,300	62,300
24	52,900	70,900	54,600	73,500	99,000	93,800	91,400	303,100	418,600	165,900	92,200	60,100
25	62,700	69,700	54,000	73,600	101,000	94,800	123,100	331,500	406,300	173,100	95,400	55,800
26	70,800	69,700	53,700	75,300	103,000	111,100	121,200	357,200	396,600	174,900	97,000	54,600
27	71,800	73,600	52,300	71,000	104,000	111,100	120,100	361,000	372,600	165,100	95,700	52,400
28	82,800	74,700	52,200	73,500	105,000	92,800	100,600	369,800	354,600	155,500	93,600	55,000
29	80,200	75,000	61,900	74,300	------	88,600	102,900	384,600	340,800	145,100	90,500	63,500
30	81,500	74,500	62,600	74,000	------	89,300	104,600	394,500	325,000	137,100	86,500	57,000
31	74,700	------	62,400	75,000	------	89,900	------	407,800	------	133,800	85,300	------
TOTAL	2,083.5M	2,034.9M	1,800.1M	1,974.9M	2,511.0M	2,895.8M	3,194.8M	7,268.5M	13,892M	6,159.8M	3,151.5M	2,057.0M
MEAN	67,400	67,830	58,070	63,710	89,680	93,410	106,500	234,500	463,100	198,700	101,700	68,570
MAX	82,800	75,000	70,200	75,300	105,000	111,100	123,100	407,800	537,000	307,600	133,800	82,300
MIN	52,900	62,000	50,800	50,700	76,300	80,300	88,600	107,600	325,000	133,800	76,300	52,400
AC-FT	4,144M	4,036M	3,570M	3,917M	4,980M	5,744M	6,337M	14,420M	27,550M	12,220M	6,251M	4,080M

CAL YR 1960: TOTAL 45,867,100 MEAN 125,300 MAX 310,500 MIN 50,800 AC-FT 90,980,000
WAT YR 1961: TOTAL 49,029,800 MEAN 134,300 MAX 537,000 MIN 50,700 AC-FT 97,250,000

M Expressed in thousands.

12-4645. Columbia River at Trinidad, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	56,900	52,700	56,600	45,500	84,500	82,700	49,400	171,400	312,100	231,800	180,400	88,000
2	62,500	70,700	60,300	49,400	84,100	67,500	49,100	168,000	315,500	232,400	182,200	89,200
3	63,400	74,700	57,800	51,300	83,000	62,300	54,600	162,200	315,000	228,600	180,600	85,500
4	59,900	67,200	61,000	57,500	84,200	62,600	57,000	160,200	317,800	236,000	183,100	80,700
5	52,600	62,400	63,700	54,800	86,200	62,500	58,400	157,600	319,100	233,600	172,000	77,100
6	56,000	63,300	57,400	45,400	88,400	60,000	61,800	156,600	301,500	240,200	159,000	79,000
7	51,500	67,500	58,700	45,200	87,300	62,500	82,100	151,400	301,500	236,200	160,000	79,900
8	61,600	64,800	56,200	51,100	85,500	66,700	90,300	163,400	296,600	235,400	154,000	68,300
9	63,000	62,600	50,400	53,600	86,500	67,500	89,900	167,500	292,500	234,100	139,500	66,700
10	68,000	61,700	49,000	51,100	88,300	65,700	91,200	167,800	299,800	217,200	129,200	72,300
11	57,200	53,800	59,000	63,600	87,300	60,200	94,400	167,400	303,600	210,300	119,000	75,500
12	50,900	50,200	69,000	68,100	82,900	70,800	94,400	165,400	295,300	204,600	118,500	71,100
13	52,000	66,700	70,000	65,500	87,100	62,400	91,500	166,100	279,600	195,300	117,100	70,000
14	55,400	70,100	60,500	64,300	97,300	61,800	100,100	171,600	276,700	191,300	107,900	69,500
15	55,100	58,900	58,500	65,900	82,900	56,300	102,500	167,200	276,200	197,400	110,300	66,200
16	55,800	62,400	61,000	74,800	79,500	55,800	101,900	164,200	277,500	196,600	106,400	60,100
17	62,100	59,500	65,500	78,400	71,300	52,600	121,000	158,700	278,000	194,100	107,200	69,000
18	72,600	54,700	60,400	83,300	66,100	53,100	138,600	158,800	263,200	192,000	109,000	66,800
19	82,300	63,200	63,200	84,700	66,700	58,700	140,000	161,000	250,900	191,100	108,200	65,700
20	91,400	68,700	63,600	84,300	70,200	68,400	134,400	161,200	250,300	195,600	106,600	63,700
21	68,600	68,300	51,000	81,500	73,500	75,500	138,600	162,000	252,700	175,600	104,300	58,800
22	63,800	67,500	49,700	80,700	69,800	69,200	148,200	160,800	256,000	168,800	114,200	59,400
23	69,900	55,700	50,200	86,500	70,500	72,300	152,600	175,700	255,500	169,400	116,000	56,500
24	71,600	55,600	47,800	82,300	63,900	65,900	153,000	196,300	255,100	168,400	116,000	63,100
25	72,800	59,600	46,200	82,400	65,200	56,000	161,500	213,100	254,600	164,200	109,800	66,500
26	73,500	63,500	49,900	83,900	69,800	52,500	172,000	235,200	241,900	165,100	108,000	68,300
27	74,200	67,500	49,000	83,500	66,000	49,800	176,200	252,700	237,800	161,200	108,900	71,100
28	75,700	68,700	49,300	84,600	78,300	52,300	175,600	269,500	235,100	162,600	97,200	65,000
29	74,400	60,800	47,800	83,800	------	52,600	173,200	287,600	231,700	162,900	97,400	52,600
30	73,100	55,000	48,800	85,100	------	50,100	174,900	296,800	230,500	172,300	93,600	52,500
31	60,200	------	45,300	84,900	------	52,900	------	302,500	------	182,600	85,300	------
TOTAL	2,008.0M	1,886.5M	1,736.8M	2,158.0M	2,196.3M	1,909.2M	3,428.4M	5,828.9M	8,276.6M	5,136.9M	3,905.9M	2,076.8M
MEAN	64,770	62,880	56,030	69,610	78,440	61,590	114,300	188,000	275,900	198,000	126,000	69,250
MAX	91,400	74,700	70,000	86,500	88,400	82,700	176,200	302,500	319,100	240,200	183,100	99,200
MIN	50,900	50,200	45,300	45,200	63,900	49,800	49,100	151,400	230,500	161,200	85,300	52,500
AC-FT	3,983M	3,742M	3,445M	4,280M	4,356M	3,787M	6,800M	11,560M	16,420M	12,170M	7,747M	4,123M

CAL YR 1961: TOTAL 48,736,600 MEAN 133,500 MAX 537,000 MIN 45,300 AC-FT 96,670,000
WAT YR 1962: TOTAL 41,550,300 MEAN 113,800 MAX 319,100 MIN 45,200 AC-FT 82,410,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1962 TO APRIL 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	61,500	60,000	89,300	78,500	75,000	85,500	87,300					
2	59,000	64,700	88,700	88,400	74,000	85,700	87,300					
3	59,000	69,900	88,900	82,800	66,000	84,700	91,500					
4	59,000	64,300	88,300	91,700	76,000	88,100	93,500					
5	61,000	66,700	84,400	78,800	74,900	79,500	93,700					
6	63,000	67,100	83,700	66,700	78,500	85,200	88,200					
7	63,000	64,600	78,500	84,100	81,700	86,700	88,700					
8	64,000	72,100	72,200	77,300	73,200	90,800	83,100					
9	63,000	65,900	77,100	77,000	85,200	86,600	-					
10	58,000	62,600	83,900	87,100	94,800	87,500	-					
11	60,000	59,400	80,900	91,600	95,500	90,800	-					
12	70,000	66,000	77,700	95,200	97,500	95,200	-					
13	68,000	66,500	76,900	96,000	95,300	87,600	-					
14	63,000	60,200	77,900	93,000	94,600	79,500	-					
15	72,000	54,200	76,600	94,000	92,600	71,600	-					
16	64,000	63,400	80,900	96,000	94,100	64,700	-					
17	69,000	69,100	87,500	98,000	86,700	62,200	-					
18	63,000	63,100	77,700	86,000	85,600	67,700	-					
19	62,000	65,400	83,000	85,000	87,700	67,900	-					
20	62,000	65,100	82,300	88,000	89,200	60,900	-					
21	61,000	75,000	83,100	92,000	90,400	62,000	-					
22	66,000	75,500	83,200	90,000	91,800	62,900	-					
23	68,000	78,400	81,900	82,000	90,300	61,600	-					
24	80,000	84,600	82,400	82,000	90,200	58,800	-					
25	82,000	83,600	78,100	80,000	90,500	70,000	-					
26	72,000	86,700	87,600	78,000	90,100	71,300	-					
27	74,000	88,900	80,900	74,000	85,500	68,100	-					
28	70,000	94,300	81,400	74,000	84,700	71,900	-					
29	73,000	94,400	89,800	77,000	------	77,300	-					
30	68,000	91,900	65,400	79,000	------	83,500	-					
31	63,600	------	75,700	75,000	------	85,200	------		------			------
TOTAL	2,041.1M	2,143.6M	2,525.9M	2,618.2M	2,411.6M	2,381.0M	-					
MEAN	65,840	71,450	81,480	84,460	86,130	76,810	-					
MAX	82,000	94,400	89,800	98,000	97,500	95,200	-					
MIN	58,000	54,200	65,400	66,700	66,000	58,800	-					
AC-FT	4,048M	4,252M	5,010M	5,193M	4,783M	4,723M	-					

CAL YR 1962: TOTAL 42,629,600 MEAN 116,800 MAX 319,100 MIN 45,200 AC-FT 84,550,000
WAT YR 1963: TOTAL MEAN MAX MIN AC-FT

M Expressed in thousands.

12-4646.69. West Medical Lake near Medical Lake, Wash.

Location.--Lat 47°34'15", long 117°42'15", in NE¼SW¼ sec.13, T.24 N., R.40 E., at Eastern State Hospital irrigation pumping plant on east shore of lake and 1 mile west of town of Medical Lake.

Drainage area.--1.84 sq mi.

Records available.--November 1963 to September 1965.

Gage.--Cantilever chain gage read occasionally. Altitude of gage is 2,420 ft (from topographic map).

Extremes.--Maximum and minimum gage heights, in feet, for November 1963 to September 1965 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1964	Apr. 24, May 1, 5, 8, 1964.....	7.56	Sept.15, 1964.....	5.34
1965	Apr. 27, 30, May 4, 1965.....	8.60	Oct. 6, 1964.....	5.32

1963-65: Maximum gage height observed, 8.60 ft Apr. 27, 30, May 4, 1965; minimum observed, 5.32 ft Oct. 6, 1964.

Remarks.--Some pumping from lake for irrigation. Effluent from Eastern State Hospital sewage-treatment plant discharged into lake. Lake has no surface outlet.

GAGE HEIGHT, IN FEET, NOVEMBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		-	-	-	-	-	-	7.56	-	-	-	5.48
2		-	-	-	-	-	-	-	7.08	-	-	-
3		-	5.88	6.28	-	7.00	7.48	-	-	6.88	-	-
4		5.60	-	-	6.74	-	-	-	-	-	6.14	5.42
5		-	-	-	-	-	-	7.56	7.04	-	-	-
6		-	-	-	-	7.02	-	-	-	-	-	-
7		-	-	6.32	6.75	-	7.50	-	-	6.80	6.12	-
8		-	-	-	-	-	-	7.56	-	-	-	5.38
9		-	-	-	-	-	-	-	7.16	-	-	-
10		-	-	6.34	-	7.06	7.52	-	-	6.74	-	5.36
11		-	5.98	-	6.76	-	-	-	-	-	6.06	-
12		-	-	-	-	-	-	7.55	7.06	-	-	-
13		5.73	6.02	6.35	-	7.16	-	-	-	-	-	-
14		-	-	6.36	6.83	-	7.54	-	-	6.64	5.98	-
15		-	-	-	-	-	-	7.54	-	-	-	5.34
16		-	-	-	-	-	-	-	7.12	-	-	-
17		-	6.10	6.40	-	7.24	7.54	-	-	6.56	-	-
18		-	-	-	6.88	-	-	-	-	-	5.79	5.36
19		-	-	-	6.90	-	-	7.40	7.20	-	-	-
20		-	6.14	-	-	7.34	-	-	-	-	5.76	-
21		-	-	6.48	6.90	-	7.54	-	-	6.44	5.72	-
22		-	-	-	-	-	-	7.30	-	-	-	5.36
23		-	-	-	-	-	-	-	7.08	-	-	-
24		5.84	6.18	6.54	-	7.38	7.56	-	-	6.34	-	-
25		-	-	-	6.92	-	-	-	-	-	5.64	5.37
26		-	-	-	-	-	-	7.16	7.02	-	-	-
27		-	6.22	-	-	7.40	-	-	-	6.26	-	-
28		-	-	6.65	6.94	-	7.56	-	-	6.26	5.54	-
29		-	-	-	-	-	-	7.13	6.96	-	-	5.37
30		-	-	-	------	-	-	-	6.94	-	-	-
31		------	6.24	6.70	------	7.46	------	-	------	6.20	-	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	5.72	6.40	-	-	-	-	8.20	-	-	-
2	5.37	-	-	-	7.04	7.86	8.26	-	-	7.74	-	-
3	-	5.38	-	-	-	-	-	-	-	-	7.20	6.54
4	-	-	5.80	-	-	-	-	8.60	8.12	-	-	-
5	-	-	-	6.46	7.12	7.94	-	-	-	-	-	-
6	5.32	5.38	-	-	-	-	8.30	-	-	7.70	7.16	-
7	-	-	-	-	-	-	-	8.56	-	-	-	6.54
8	-	-	5.82	6.54	-	-	-	-	8.12	-	-	-
9	5.33	-	-	-	7.22	8.02	8.34	-	-	7.58	-	-
10	-	5.44	-	-	-	-	-	-	-	-	7.06	6.52
11	-	-	5.84	-	-	-	-	8.48	-	-	-	-
12	-	-	-	6.56	-	8.06	-	-	8.08	-	-	-
13	5.34	5.50	-	-	7.30	-	8.40	8.40	-	7.44	6.96	-
14	-	-	-	-	-	-	-	8.40	-	-	-	6.48
15	-	-	5.85	6.60	7.34	-	-	-	8.04	-	-	-
16	-	-	-	-	7.40	8.10	8.44	-	-	7.36	-	-
17	5.34	5.52	-	-	-	-	-	-	-	-	6.82	6.44
18	-	-	5.90	-	-	8.12	-	-	8.26	-	-	-
19	-	-	-	6.66	7.50	-	-	-	-	8.00	-	-
20	5.34	5.52	-	-	-	-	8.50	-	-	7.28	6.80	-
21	-	-	-	-	-	-	-	8.26	7.97	-	-	6.44
22	-	-	6.14	6.70	-	-	-	-	7.94	-	-	-
23	5.35	-	-	-	7.58	8.14	8.58	-	-	7.34	-	-
24	-	5.58	-	-	-	-	-	-	-	-	6.68	6.40
25	-	-	6.24	-	-	-	-	8.26	7.90	-	-	-
26	5.33	-	-	6.76	7.68	8.16	-	-	-	-	-	-
27	5.35	5.64	-	-	-	-	8.60	-	-	7.32	6.64	-
28	-	-	-	-	-	-	-	8.26	-	-	-	6.40
29	-	-	6.34	6.92	------	8.18	-	-	7.80	-	-	-
30	5.36	-	-	-	------	8.20	8.60	-	-	7.28	-	-
31	-	------	-	-	------	-	------	-	------	-	6.60	------

12-4646.7. Clear Lake near Medical Lake, Wash.

Location.--Lat 47°32'30", long 117°41'20", in NW¼SW¼ sec.30, T.24 N., R.41 E., on north shore of lake, 2 miles south of town of Medical Lake.

Drainage area (revised).--9.51 sq mi, including that of West Medical Lake.

Records available.--September 1958 to September 1965.

Gage.--Chain gage read occasionally. Altitude of gage is 2,300 ft (from topographic map). Prior to Sept. 10, 1964, staff gage at same site and datum.

Extremes.--Maximum and minimum gage heights, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum observed		Minimum observed	
	Date	Gage height	Date	Gage height
1961	May 2, 1961	43.43	Nov. 10, 1960	40.57
1962	May 28, 1962	43.19	Oct. 25, 28, 1961	40.97
1963	May 12, 14, 18, 1963	43.43	Oct. 5, 8, 12, 1962	40.94
1964	May 4, 1964	42.56	Sept.29, 1964	40.76
1965	Apr. 20, 23, 1965	44.01	Nov. 20, 1964	40.54

1958-65: Maximum gage height observed, 44.01 ft Apr. 20, 23, 1965; minimum observed, 40.54 ft Nov. 20, 1964.

Remarks.--No known regulation. Some pumping for domestic use.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	40.61	-	-	41.15	42.45	-		-	-	-	41.60
2	-	-	-	41.20	-	-	-	43.43	-	-	42.35	-
3	-	40.61	-	-	41.17	42.49	43.33		-	43.13	-	41.58
4	-	-	-	41.20	-	-	-		-	-	42.31	-
5	-	40.61	41.03	-	-	-	43.34		-	43.07	-	-
6	-	-	-	41.22	41.19	42.57	-		-	43.05	-	41.53
7	-	-	41.04	-	-	-	43.35		-	43.03	-	-
8	-	-	-	-	41.25	42.63	-		-	-	-	-
9	-	-	41.04	41.24	-	-	-		-	-	42.15	41.47
10	40.73	40.57	-	-	41.51	42.65	-		-	42.95	-	-
11	-	-	41.04	41.26	-	-	-		-	-	42.10	-
12	40.71	-	-	-	-	-	-		-	42.87	-	41.42
13	-	-	41.04	41.28	41.85	42.85	-		-	-	-	-
14	40.67	-	41.06	-	-	-	-		-	42.84	42.05	-
15	-	-	-	-	41.91	42.97	-		-	-	-	41.35
16	40.65	40.67	41.06	41.30	-	-	-		-	-	42.01	-
17	-	-	-	-	41.98	43.03	-		-	42.75	-	-
18	40.65	-	-	41.28	-	-	-		-	-	41.93	41.32
19	-	-	41.12	-	42.03	-	-		43.31	42.70	-	-
20	40.65	-	41.12	41.24	-	43.07	-		43.23	42.70	41.87	-
21	-	-	41.13	-	42.21	-	-		43.29	-	-	41.25
22	40.67	-	-	-	42.25	43.11	-		-	-	41.88	-
23	-	-	41.14	41.18	-	-	-		43.25	-	41.85	-
24	-	-	-	-	42.33	43.13	-		-	42.65	-	41.23
25	40.65	-	-	41.14	-	-	-		-	-	-	-
26	-	-	41.14	-	-	-	-		43.23	42.55	41.83	-
27	40.65	-	-	41.10	42.37	43.25	-		-	-	41.77	41.19
28	-	-	41.14	-	-	-	-		43.19	42.50	-	-
29	40.63	-	-	-	------	43.35	-		43.21	-	-	41.15
30	-	-	41.14	41.07	-------	-	-		43.15	-	-	41.14
31	40.63	------	-	-	------	43.43	------		------	42.39	-	------

12-4646.7. Clear Lake near Medical Lake, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	41.13	-		-	-	-	42.83	43.05	43.15	-	41.95	-
2	-	-		-	-	-	42.85	-	43.15	42.61	-	-
3	-	-		-	-	-	42.85	43.05	-	-	-	-
4	41.11	-	41.01	-	-	-	-	-	43.13	42.51	41.91	-
5	-	-		41.15	-	-	42.87	43.08	-	-	-	-
6	41.10	-		-	-	-	-	-	43.11	42.49	41.85	-
7	-	-		-	-	-	42.91	43.09	-	-	-	-
8	-	-		41.51	-	-	-	-	43.07	42.49	41.83	-
9	41.05	-		-	-	-	42.93	43.15	43.05	-	-	-
10	-	-		-	-	-	42.95	-	-	42.43	41.79	41.19
11	41.03	-		-	-	-	-	43.17	43.05	-	-	-
12	-	-		-	41.83	42.19	42.95	-	-	42.39	-	-
13	-	-		-	-	-	-	43.17	43.03	-	-	-
14	-	-		-	-	-	42.95	-	-	-	-	-
15	-	40.99		-	-	42.19	-	43.17	-	42.33	41.73	41.15
16	-	-		-	-	-	42.97	-	-	42.29	41.69	-
17	-	-		-	-	-	42.98	43.17	42.99	-	41.65	41.11
18	41.00	-		-	-	-	-	-	42.97	42.23	-	-
19	-	-		-	-	-	42.99	43.17	-	-	-	-
20	-	-		-	-	-	-	-	43.95	42.19	41.61	-
21	-	-		-	42.00	42.29	42.99	43.17	-	-	-	41.07
22	-	-		-	-	-	42.99	-	-	-	-	-
23	-	-		-	-	42.35	42.99	43.17	43.85	42.13	-	-
24	-	-		-	-	42.37	42.99	-	-	-	-	41.03
25	40.97	-		-	-	-	-	-	-	42.08	-	-
26	-	-		-	-	-	42.98	43.17	42.79	-	-	-
27	-	-		-	-	42.67	43.07	-	-	42.07	-	-
28	40.97	-		-	-	42.72	43.07	43.19	42.73	-	-	41.05
29	-	40.99		-	------	42.75	43.05	-	-	-	-	-
30	-	-		41.65	------	42.77	-	43.17	42.67	41.99	-	-
31	-	------		-	------	42.79	------	-	------	-	-	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	41.01	-	-	-	41.49	42.35	42.75	-	43.23	42.73	-	-
2	-	40.98	-	-	-	-	42.75	-	-	-	42.05	41.43
3	-	-	41.28	-	41.78	-	42.75	-	43.20	42.69	-	-
4	-	-	-	41.54	41.87	42.36	42.76	43.23	-	-	-	41.41
5	40.94	40.98	41.29	-	41.96	42.37	42.78	-	43.21	-	42.00	-
6	-	-	-	-	42.04	42.38	-	43.28	-	42.63	-	41.37
7	-	-	41.30	41.54	42.03	42.38	42.86	43.39	-	-	41.96	-
8	40.94	-	-	-	42.06	42.39	42.87	-	43.17	42.63	-	-
9	-	41.01	-	-	-	-	42.88	-	-	-	41.89	41.34
10	-	-	41.30	-	42.07	-	42.89	-	43.15	42.57	-	-
11	-	-	-	41.54	42.07	42.39	42.90	43.41	-	-	-	41.30
12	40.94	41.08	-	-	42.09	42.40	42.91	43.43	-	42.55	41.85	-
13	-	-	-	-	42.09	42.41	-	-	43.13	-	-	41.27
14	-	-	41.32	41.54	42.11	42.43	-	43.43	-	-	41.83	-
15	41.04	-	-	41.50	42.13	42.45	42.94	-	43.09	42.49	-	-
16	-	41.08	-	-	-	-	42.95	-	-	-	-	41.27
17	-	-	41.44	-	42.15	-	42.97	-	43.07	42.45	41.75	-
18	-	-	41.44	41.54	42.17	42.45	42.97	43.43	-	-	-	41.27
19	41.04	41.11	-	-	42.19	42.45	43.02	-	43.03	42.40	41.69	-
20	-	-	-	-	42.21	42.47	-	43.39	-	-	-	41.24
21	-	-	41.44	41.50	42.23	-	-	-	-	-	-	-
22	41.00	-	-	-	42.23	42.47	43.05	-	42.93	42.33	-	-
23	-	41.12	-	-	-	-	43.12	-	42.95	-	41.61	41.21
24	-	-	41.46	-	42.25	42.57	43.14	-	-	42.27	-	-
25	-	-	-	41.50	42.27	42.58	43.17	43.35	-	-	-	41.19
26	40.99	41.19	-	-	42.28	42.58	43.19	-	42.93	42.21	41.57	-
27	-	-	-	-	42.31	42.59	-	43.31	-	-	-	41.18
28	-	-	41.48	41.50	42.33	42.61	-	-	-	-	41.54	-
29	40.99	-	-	-	------	42.67	43.19	-	42.77	42.17	-	-
30	-	41.21	-	-	------	-	43.23	43.27	-	42.13	41.49	-
31	-	------	41.50	-	------	42.71	------	-	------	42.11	-	------

12-4646.7. Clear Lake near Medical Lake, Wash.--Continued

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	41.00	-	-	-	-	-	42.54	-	-	-	41.00
2	41.12	-	41.09	-	-	-	42.45	-	42.28	-	-	-
3	-	-	-	41.30	41.60	-	42.45	-	-	42.03	-	-
4	41.10	41.00	41.08	-	-	-	-	42.56	-	-	41.46	40.96
5	-	-	-	-	41.62	-	-	-	42.24	-	-	-
6	-	41.02	41.14	41.28	-	-	42.48	-	-	-	-	-
7	41.08	-	-	-	41.60	-	-	-	-	41.94	41.42	-
8	-	41.06	-	41.28	-	-	-	42.54	-	-	-	40.84
9	41.06	-	41.14	-	-	40.93	-	-	42.37	-	-	-
10	-	-	41.14	41.30	41.58	-	42.50	-	-	41.91	-	40.86
11	41.06	41.08	41.14	-	-	-	-	42.52	-	-	41.35	40.86
12	-	-	-	-	-	-	-	-	42.35	-	-	-
13	-	41.06	41.14	41.31	-	-	-	-	-	-	-	-
14	41.02	-	-	-	-	-	42.54	-	-	41.85	41.30	-
15	-	41.09	-	41.32	-	-	-	42.48	-	-	-	40.82
16	41.00	-	41.16	-	-	-	-	-	42.35	-	-	-
17	-	-	-	41.40	-	-	42.52	-	-	41.78	-	-
18	-	41.10	41.20	-	-	-	-	42.45	-	-	41.23	40.84
19	40.98	-	-	-	41.77	-	-	-	42.31	-	-	-
20	-	41.10	41.22	41.42	-	-	42.48	-	-	-	-	-
21	40.98	-	-	-	-	-	-	-	-	41.70	41.22	-
22	-	41.10	-	41.44	-	-	-	42.42	42.22	-	-	40.86
23	41.00	-	41.21	-	-	-	-	-	-	-	-	-
24	-	-	-	41.44	-	42.34	42.54	-	-	41.61	-	40.81
25	41.01	41.11	41.20	-	-	-	-	42.36	-	-	41.12	40.86
26	-	-	-	-	-	-	-	-	42.16	-	-	-
27	-	41.11	41.26	41.56	-	-	-	-	-	41.55	-	-
28	40.98	-	-	-	-	-	42.52	-	-	41.52	41.09	-
29	-	41.10	-	41.60	-	-	-	42.39	42.07	-	-	40.76
30	41.00	-	41.26	-	------	42.40	-	-	42.08	-	-	-
31	-	------	-	41.62	------	-	------	-	------	41.50	-	------

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	-	-	40.74	-	-	-	-	-	43.68	-	-	-
2	40.77	-	-	-	41.85	43.14	43.79	-	-	43.21	-	-
3	-	40.55	-	-	-	-	-	-	-	-	42.62	42.24
4	-	-	40.78	-	-	-	-	43.94	43.62	-	42.62	-
5	-	-	-	41.29	41.91	43.26	-	-	-	-	-	-
6	40.65	40.55	-	41.35	-	-	43.83	-	-	43.13	42.58	-
7	-	-	-	-	-	-	-	43.86	-	-	-	42.16
8	-	-	40.78	41.35	-	-	-	-	43.54	-	-	-
9	40.65	-	-	-	42.14	43.34	43.83	-	-	43.05	-	-
10	-	40.59	-	-	-	-	-	-	-	-	42.46	42.13
11	-	-	40.78	-	-	-	-	43.82	43.50	-	-	-
12	-	-	-	41.37	-	43.46	-	-	-	-	-	-
13	40.63	40.60	-	-	42.20	-	43.91	43.78	-	42.93	42.38	-
14	-	-	-	-	-	-	-	43.76	-	-	-	42.09
15	-	-	40.80	-	42.17	-	-	-	43.41	-	-	-
16	40.63	-	-	-	42.20	43.56	43.91	-	-	42.89	-	-
17	-	40.58	-	-	-	-	-	-	-	-	42.34	42.03
18	-	-	40.84	-	-	-	-	43.61	43.45	-	-	-
19	-	-	-	41.43	42.36	43.64	-	-	-	-	-	-
20	40.61	40.54	-	-	-	-	44.01	-	-	42.79	42.35	-
21	-	-	-	-	-	-	-	43.74	43.39	-	-	42.01
22	-	-	41.08	-	-	-	-	-	43.37	-	-	-
23	40.59	-	-	41.43	42.64	43.65	44.01	-	-	42.85	-	-
24	-	40.62	-	-	-	-	-	-	-	-	42.34	41.97
25	-	-	41.12	-	-	-	-	43.76	43.33	-	-	-
26	40.55	-	-	41.37	42.76	43.65	-	-	-	-	-	-
27	40.57	40.62	-	-	-	-	43.99	-	-	42.76	42.36	-
28	-	-	-	-	-	-	-	43.74	-	-	-	41.93
29	-	-	-	41.67	------	43.70	-	-	43.23	-	-	-
30	40.55	-	-	-	------	43.67	43.97	-	-	42.72	-	-
31	-	------	-	-	------	-	------	-	------	-	42.28	------

12-4648. Coal Creek at Mohler, Wash.

Location.--Lat 47°24'20", long 118°19'00", on line between secs.7 and 8, T.22 N., R.36 E., on left bank 0.3 mile east of Mohler and 15 miles upstream from mouth.

Drainage area.--64.7 sq mi.

Records available.--April 1963 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 2,000 ft (from topographic map).

Extremes.--Maximum and minimum discharges for April 1963 to September 1965 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1963	Apr. 11, 1963	4.8	0.84	Many days	0	-
1964	Mar. 1, 1964	77	1.50	do.	0	-
1965	Feb. 27, 1965	292	2.22	Several days	0	-

1963-65: Maximum discharge, 292 cfs Feb. 27, 1965 (gage height, 2.22 ft); no flow for long periods in each year.

Flood of Feb. 3, 1963, reached a stage of 4.42 ft, from crest-stage gage (discharge, 1,060 cfs from slope-area measurement of peak flow).

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are fair. No known regulation. Some diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, APRIL TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1							-	1.7	.20	0	0	0
2							-	1.7	.20	0	0	0
3					† 1,060		-	1.7	.20	0	0	0
4					† 646		-	1.5	.20	0	0	0
5							-	1.7	.20	0	0	0
6					† 43		-	2.3	.20	0	0	0
7							-	3.8	.10	0	0	0
8							-	4.1	.10	0	0	0
9							-	3.8	.10	0	0	0
10							-	3.8	.10	0	0	0
11							4.8	2.8	.10	0	0	0
12							4.4	2.5	.10	0	0	0
13							4.1	2.3	.10	0	0	0
14							4.1	2.0	.10	0	0	0
15							4.1	1.8	.10	0	0	0
16							3.8	1.7	.10	0	0	0
17							3.8	1.5	.10	0	0	0
18							3.8	1.4	.10	0	0	0
19							4.1	1.2	0	0	0	0
20							4.1	1.1	0	0	0	0
21							3.8	.80	0	0	0	0
22							3.4	.70	0	0	0	0
23							4.4	.60	0	0	0	0
24							4.4	.60	0	0	0	0
25							3.8	.50	0	0	0	0
26							3.1	.50	0	0	0	0
27							2.8	.50	0	0	0	0
28							2.3	.40	0	0	0	0
29					------		2.0	.40	0	0	0	0
30					------		1.8	.40	0	0	0	0
31		------			------		------	.20	------	0	0	------
TOTAL							-	50.00	2.40	0	0	0
MEAN							-	1.61	.080	0	0	0
MAX							-	4.1	.20	0	0	0
MIN							-	.20	0	0	0	0
AC-FT							-	99	4.9	0	0	0

† Result of discharge measurement.

12-4648. Coal Creek at Mohler, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	.30	.10	.60	20	2.9	1.2	.70	.10	0	0
2	0	0	.30	.10	.60	12	2.6	1.2	.70	.10	0	0
3	0	0	.30	.10	.60	4.0	2.4	1.3	.70	.10	0	0
4	0	0	.30	.10	.60	6.4	2.4	1.3	.70	.10	0	0
5	0	0	.30	.10	.60	9.0	2.4	1.2	.70	.10	0	0
6	0	0	.30	.10	.60	4.0	2.4	1.2	.70	.10	0	0
7	0	0	.30	.10	.60	3.2	2.2	1.2	.70	.10	0	0
8	0	0	.30	.10	.60	1.8	2.2	1.0	1.3	0	0	0
9	0	0	.30	.10	.60	4.4	2.1	.90	1.5	0	0	0
10	0	0	.30	.10	1.7	5.7	2.1	.90	1.0	0	0	0
11	0	0	.20	.20	1.1	23	2.0	.80	.90	0	0	0
12	0	0	.20	.20	.40	3.6	2.0	.90	.90	0	0	0
13	0	0	.20	.20	.30	1.6	1.9	.90	.70	0	0	0
14	0	0	.20	.20	.40	9.2	1.8	.90	.60	0	0	0
15	0	0	.20	.20	.40	14	1.7	.80	.60	0	0	0
16	0	0	.20	.20	.40	2.8	1.6	.90	.60	0	0	0
17	0	0	.20	.20	.40	0	1.5	.80	.60	0	0	0
18	0	0	.10	.20	1.9	11	1.5	.70	.70	0	0	0
19	0	0	.10	.20	1.6	7.4	1.5	.70	.70	0	0	0
20	0	0	.10	.20	.80	5.6	1.5	.70	.60	0	0	0
21	0	0	.10	.20	1.6	5.3	1.5	.70	.50	0	0	0
22	0	0	.10	.20	1.3	5.0	1.6	.80	.40	0	0	0
23	0	0	.10	.20	2.4	5.6	1.8	.80	.40	0	0	0
24	0	0	.10	.30	2.0	6.4	1.6	.80	.40	0	0	0
25	0	.10	.10	.30	1.6	3.6	1.6	.80	.20	0	0	0
26	0	.10	.10	.30	1.8	2.6	1.5	.80	.20	0	0	0
27	0	.10	.10	.30	4.8	3.2	1.5	.80	.20	0	0	0
28	0	.20	.10	.30	2.2	3.2	1.5	.80	.20	0	0	0
29	0	.20	.10	.30	1.2	2.9	1.3	.70	.20	0	0	0
30	0	.20	.10	.40	------	2.9	1.2	.70	.20	0	0	0
31	0	------	.10	.50	------	2.9	------	.70	------	0	0	------
TOTAL	0	0.90	5.80	6.30	33.70	192.3	55.8	27.90	18.50	0.70	0	0
MEAN	0	.030	.19	.20	1.16	6.20	1.86	.90	.62	.023	0	0
MAX	0	.20	.30	.50	4.8	23	2.9	1.3	1.5	.10	0	0
MIN	0	0	.10	.10	.30	0	1.2	.70	.20	0	0	0
AC-FT	0	1.8	12	13	67	381	111	55	37	1.4	0	0

CAL YR 1963: TOTAL MEAN MAX MIN AC-FT
WAT YR 1964: TOTAL 341.90 MEAN .93 MAX 23 MIN 0 AC-FT 678

Note.--No gage-height record Oct. 1 to Dec. 3, Jan. 9 to Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	.10	.40	.60	1.3	18	8.4	3.4	.90	.50	.10	.10
2	0	.10	.40	.50	1.2	18	9.0	3.2	.90	.40	.10	.10
3	0	.10	.30	.50	1.0	17	8.4	3.2	.80	.40	.10	.10
4	0	.10	.30	.40	1.2	16	7.9	3.2	.80	.40	.10	.10
5	0	.10	.30	.50	1.8	16	7.4	2.9	.80	.40	.10	.10
6	0	.10	.30	.40	2.2	14	7.2	2.9	.80	.30	.10	.10
7	0	.10	.30	.40	2.0	17	7.2	2.9	.70	.20	.10	.10
8	0	.10	.30	.40	2.2	20	6.8	2.6	.70	.20	0	.10
9	0	.10	.40	.40	2.2	24	7.2	2.4	.70	.20	0	.10
10	.10	.10	.40	.40	1.8	27	9.0	2.2	.70	.20	0	.10
11	0	.10	.30	.40	1.8	26	7.9	2.0	.70	.20	0	.10
12	0	.20	.30	.30	1.6	25	7.2	1.8	.70	.20	0	.20
13	0	.20	.20	.30	2.0	20	6.8	1.8	.70	.20	0	.20
14	0	.20	.30	.30	2.6	18	6.4	1.6	.80	.20	.10	.20
15	0	.20	.30	.30	2.9	17	6.0	1.6	.80	.20	.10	.20
16	.10	.20	.10	.30	3.2	16	6.0	1.6	.70	.20	.10	.20
17	.10	.20	.10	.30	5.6	13	6.0	1.3	.90	.20	.10	.20
18	.10	.20	.10	.30	12	13	5.6	1.3	1.2	.10	.10	.20
19	.10	.20	.20	.30	29	11	7.2	1.3	1.2	.10	.10	.20
20	.10	.20	2.0	.30	22	11	7.9	1.5	.90	.20	.10	.20
21	.10	.20	3.2	.30	11	11	7.4	1.5	.80	.30	.10	.20
22	.10	.20	4.2	.30	9.6	11	6.8	1.5	.70	.40	.10	.20
23	.10	.20	5.0	.30	7.4	9.0	6.0	1.5	.60	.20	.10	.20
24	.10	.30	3.6	.30	7.9	9.0	5.6	1.5	.50	.20	.10	.20
25	.10	.20	2.6	.20	12	9.0	5.3	1.6	.50	.20	.20	.20
26	.10	.20	2.2	.20	13	9.0	5.0	1.5	.40	.20	.20	.20
27	.10	.20	1.6	.30	94	8.4	4.6	1.5	.40	.10	.10	.20
28	.10	.20	.80	.50	27	8.4	4.2	1.3	.40	.10	.10	.20
29	.10	.20	.60	.50	------	9.0	4.0	1.2	.50	.10	.10	.20
30	.10	.30	.60	.80	------	7.9	3.4	1.0	.50	.10	.10	.20
31	.10	------	.60	1.3	------	7.9	------	.90	------	.10	.10	------
TOTAL	1.70	5.10	32.30	12.60	281.5	456.6	197.8	59.70	21.70	7.00	2.70	4.90
MEAN	.055	.17	1.04	.41	10.1	14.7	6.59	1.93	.72	.23	.087	.16
MAX	.10	.30	5.0	1.3	94	27	9.0	3.4	1.2	.50	.20	.20
MIN	0	.10	.10	.20	1.0	7.9	3.4	.90	.40	.10	0	.10
AC-FT	3.4	10	64	25	558	906	392	118	43	14	5.4	9.7

CAL YR 1964: TOTAL 374.30 MEAN 1.02 MAX 23 MIN 0 AC-FT 742
WAT YR 1965: TOTAL 1,083.60 MEAN 2.97 MAX 94 MIN 0 AC-FT 2,150

12-4650. Crab Creek at Irby, Wash.

Location.--Lat 47°21'30", long 118°51'00", in NW¼ sec.31, T.22 N., R.32 E., on right bank 8 ft upstream from highway bridge at Irby, 5 miles downstream from Lake Creek, and 7 miles west of Odessa.

Drainage area.--1,042 sq mi (revised).

Records available.--September 1942 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,386.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--23 years, 83.8 cfs (60,670 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (300 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Jan. 8, 1961	1700	670	4.55	Jan. 8, 1962	1900	305	3.20	Feb. 5, 1963	0300	* 7,750	11.40
Feb. 1, 1961	1730	* 1,970	7.93	Jan. 29, 1962a	-	-	-	Mar. 25, 1964	1200	* 124	2.65
Feb. 12, 1961a	-	1,000	-	Feb. 11, 1962	1330	* 580	4.23	Mar. 1, 1965	0400	* 599	4.36

a About.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Nov. 3, 1960	4.0	1.77	1964	Oct. 30 to Nov. 6, Nov. 7, 9-11,1963	5.3	1.78
1962	Dec. 10, 1961a	3.2	1.74				
1963	Sept.20, 1963	5.3	1.78	1965	Dec. 17, 1964	b 4.4	-

a About.
b Minimum daily.

1942-65: Maximum discharge, 8,370 cfs Feb. 27, 1957 (gage height, 11.94 ft); minimum, 2.0 cfs Jan. 12, 1948 (gage height, 1.80 ft).

Remarks.--Records good except those for periods of no gage-height record, which are poor. No regulation. Some diversion above station for irrigation. Records of chemical analyses for the water year 1962 are published in reports of the Geological Survey.

Revisions (water years).--WSP 1446: 1949-51.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.1	7.4	8.1	14	1,330	170	159	80	35	26	16	11
2	7.4	7.4	8.8	14	1,360	160	154	78	32	26	15	11
3	7.4	5.2	8.8	14	997	150	149	76	32	26	15	11
4	7.4	6.0	8.8	14	558	150	140	74	32	26	15	11
5	7.4	6.0	8.8	14	342	150	142	73	32	26	15	10
6	8.1	6.0	8.8	15	265	160	137	72	32	24	14	10
7	8.1	6.0	8.8	149	248	190	132	70	32	24	14	10
8	8.1	6.0	9.5	612	222	180	128	68	30	24	13	10
9	8.1	6.0	9.5	578	209	170	123	67	30	24	13	10
10	7.4	6.7	9.5	342	200	160	121	66	30	22	13	10
11	7.4	6.7	9.5	249	350	170	119	65	30	22	12	9.7
12	7.4	6.7	9.5	196	800	190	117	64	30	22	12	9.7
13	7.4	6.7	9.5	155	700	220	110	60	30	22	12	9.0
14	7.4	6.7	9.5	126	650	220	112	60	30	22	12	9.0
15	7.4	7.4	10	103	600	230	112	59	30	22	12	9.0
16	7.4	7.4	11	86	550	210	110	58	28	22	12	8.3
17	7.4	7.4	11	81	520	194	106	56	28	21	12	7.6
18	7.4	8.1	11	67	500	189	104	51	30	21	12	8.3
19	7.4	8.1	11	63	500	186	102	46	28	21	12	8.3
20	7.4	8.1	11	55	520	175	100	44	28	21	12	8.3
21	7.4	8.1	11	51	560	177	98	44	28	21	12	8.3
22	7.4	7.4	11	50	600	180	96	44	28	19	11	8.3
23	7.4	8.1	11	46	500	180	95	43	28	21	11	8.3
24	7.4	8.8	11	44	350	180	93	41	28	19	11	8.3
25	7.4	8.8	12	43	250	180	92	40	28	19	12	8.3
26	7.4	7.4	12	42	220	180	90	41	26	19	12	8.3
27	7.4	7.4	12	37	200	177	88	40	26	19	11	8.3
28	7.4	7.4	12	43	180	175	86	40	26	19	11	8.3
29	7.4	7.4	12	42	------	172	84	38	26	19	11	8.3
30	8.1	8.1	13	37	------	170	82	38	26	18	11	8.3
31	8.1	------	13	119	------	164	------	40	------	18	11	------
TOTAL	234.3	214.9	326.4	3,501	14,281	5,559	3,381	1,736	879	676	393	277.2
MEAN	7.56	7.16	10.5	113	510	179	113	56.0	29.3	21.8	12.7	9.24
MAX	8.1	8.8	13	612	1,360	230	159	80	35	26	16	11
MIN	7.4	5.2	8.1	14	180	150	82	38	26	18	11	7.6
AC-FT	465	426	647	6,940	28,330	11,030	6,710	3,440	1,740	1,340	781	550

CAL YR 1960: TOTAL 21,040.7 MEAN 57.5 MAX 1,050 MIN 5.2 AC-FT 41,730
WAT YR 1961: TOTAL 31,459.8 MEAN 86.2 MAX 1,360 MIN 5.2 AC-FT 62,400

Note.--No gage-height record Feb. 10 to Mar. 16. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4650. Crab Creek at Irby, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.3	6.9	15	83	270	72	145	35	30	24	12	11
2	8.3	6.9	17	80	260	72	135	33	30	22	12	11
3	7.6	6.9	20	76	270	64	126	33	30	22	12	11
4	7.6	6.9	22	123	270	72	119	30	30	22	13	10
5	7.6	7.6	20	152	260	76	112	28	28	22	12	10
6	7.6	6.9	18	172	230	87	104	28	28	22	12	10
7	7.6	6.9	16	158	200	117	93	33	28	22	12	10
8	7.6	6.9	15	222	220	119	102	30	28	22	12	10
9	7.6	6.9	14	145	270	119	99	30	28	21	12	10
10	7.6	6.9	13	104	400	138	97	30	28	21	12	10
11	7.6	6.9	12	70	550	145	99	33	26	21	11	10
12	7.6	6.9	12	50	470	140	112	34	26	20	11	10
13	7.6	6.9	12	35	369	133	108	35	26	20	10	10
14	7.6	6.9	12	40	313	128	97	36	26	20	9.3	10
15	7.6	6.9	12	45	281	124	82	36	26	20	9.3	10
16	7.6	6.0	12	40	241	130	72	35	26	20	9.9	10
17	7.6	5.0	13	35	204	138	67	35	24	19	9.9	11
18	7.6	5.5	12	32	178	140	61	35	24	18	9.9	11
19	7.6	6.0	13	30	158	135	56	37	26	18	9.9	11
20	7.6	5.5	13	31	142	124	53	38	26	17	9.9	11
21	7.6	6.0	14	32	133	112	52	37	26	16	9.9	11
22	7.6	8.0	13	33	124	110	48	36	26	15	9.9	11
23	7.6	11	13	34	108	99	46	35	26	15	10	10
24	7.6	15	17	35	74	97	42	33	26	15	10	10
25	7.6	14	28	36	89	97	37	33	26	16	10	10
26	7.6	12	24	60	87	126	35	32	24	15	10	10
27	7.6	11	47	100	72	163	36	30	24	15	10	10
28	7.6	11	43	200	74	172	35	30	24	14	10	10
29	7.6	12	47	330	------	163	33	28	24	14	10	10
30	7.6	13	87	310	------	158	35	28	24	13	10	10
31	6.9	------	89	290	------	152	------	30	------	13	10	------
TOTAL	236.3	245.2	721	3,183	6,317	3,722	2,338	1,016	794	576	340.4	322
MEAN	7.62	8.17	23.3	103	226	120	77.9	32.8	26.5	18.6	11.0	10.8
MAX	8.3	15	89	330	550	172	145	38	30	24	13	11
MIN	6.9	5.0	12	30	72	64	33	28	24	13	9.3	10
AC-FT	469	486	1,430	6,310	12,530	7,380	4,640	2,020	1,570	1,140	675	640

CAL YR 1961: TOTAL 31,887.2 MEAN 87.4 MAX 1,360 MIN 5.0 AC-FT 63,250
WAT YR 1962: TOTAL 19,811.9 MEAN 54.3 MAX 550 MIN 5.0 AC-FT 39,300

Note.--No gage-height record Jan. 11 to Feb. 12. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	7.4	8.7	12	17	112	66	56	32	26	13	7.4
2	9.9	7.4	8.7	12	18	110	66	50	32	26	13	7.4
3	9.3	7.4	8.7	12	19	104	64	46	32	26	13	7.4
4	9.3	7.4	8.7	13	2,590	99	64	44	32	26	13	6.7
5	9.3	7.4	8.7	14	6,480	97	66	44	32	26	13	6.7
6	9.3	7.4	8.7	14	2,650	93	67	43	32	26	13	7.4
7	9.3	6.7	8.7	14	874	91	67	41	32	26	13	7.4
8	9.3	6.7	8.7	15	532	89	67	40	32	26	12	7.4
9	9.3	7.4	8.7	15	402	87	69	36	32	26	12	7.4
10	9.3	7.4	8.7	13	321	82	69	34	32	24	12	6.7
11	9.9	8.0	8.7	10	273	82	70	33	32	24	12	6.7
12	9.9	8.0	9.3	10	229	80	70	34	32	22	12	6.7
13	9.9	8.0	9.3	11	214	78	70	34	32	22	12	6.7
14	9.3	8.0	9.3	12	181	76	70	36	32	21	12	6.7
15	9.3	8.0	9.3	13	166	74	70	36	32	21	11	6.7
16	9.3	8.0	9.3	14	160	72	70	35	30	19	11	6.7
17	8.7	8.0	9.3	16	150	70	70	34	30	19	11	6.7
18	8.7	8.0	9.9	15	142	69	70	33	30	19	11	6.7
19	8.7	8.0	9.9	14	138	69	70	33	30	19	10	6.7
20	8.0	7.4	10	13	133	67	70	32	28	19	10	6.1
21	8.0	7.4	10	14	133	67	70	32	28	19	9.9	6.1
22	8.0	7.4	11	15	133	66	69	32	28	19	9.9	6.1
23	8.0	7.4	11	17	130	64	69	32	28	19	9.9	6.1
24	8.0	7.4	12	16	128	64	67	32	28	19	9.9	6.1
25	8.0	7.4	12	15	124	64	67	32	28	18	9.9	6.1
26	8.0	7.4	12	17	117	62	67	32	28	16	9.9	6.1
27	8.0	7.4	12	17	114	66	69	32	28	16	9.3	6.1
28	8.0	7.4	12	16	114	66	69	32	26	16	8.7	6.1
29	8.0	8.0	12	16	------	66	67	32	26	15	8.7	6.1
30	8.0	8.7	12	16	------	66	64	32	26	15	8.7	6.1
31	8.0	------	12	16	------	66	------	32	------	14	8.0	------
TOTAL	274.5	227.9	311.3	440	16,681	2,418	2,043	1,126	902	650	346.8	199.3
MEAN	8.85	7.60	10.0	14.2	596	78.0	68.1	36.3	30.1	21.0	11.2	6.64
MAX	10	8.7	12	17	6,480	112	70	56	32	26	13	7.4
MIN	8.0	6.7	8.7	10	17	62	64	32	26	14	8.0	6.1
AC-FT	544	452	617	874	33,090	4,800	4,050	2,230	1,790	1,290	688	395

CAL YR 1962: TOTAL 19,422.6 MEAN 53.2 MAX 550 MIN 6.7 AC-FT 38,520
WAT YR 1963: TOTAL 25,620.8 MEAN 70.2 MAX 6,480 MIN 6.1 AC-FT 50,820

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4650. Crab Creek at Irby, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.1	5.3	6.1	8.7	13	33	91	51	33	22	12	8.7
2	6.1	5.3	6.7	9.3	13	47	91	52	33	22	12	8.7
3	6.1	5.3	6.7	9.3	13	56	99	52	32	22	12	8.7
4	6.1	5.3	6.7	9.9	13	44	87	51	30	22	12	8.7
5	6.1	5.3	6.7	11	13	44	85	51	30	21	12	8.0
6	6.1	5.7	6.7	11	13	53	83	51	30	21	12	8.7
7	6.1	5.7	6.7	11	13	46	82	50	28	20	12	7.4
8	6.1	5.7	7.4	11	13	43	78	50	30	19	11	7.4
9	6.1	5.7	7.4	11	13	43	78	48	29	19	11	8.0
10	6.1	5.3	7.4	11	13	44	74	48	29	19	11	8.0
11	5.7	5.3	7.4	11	14	44	72	47	26	19	11	8.0
12	5.7	5.7	7.4	11	14	70	69	46	26	18	11	8.7
13	5.7	5.7	7.4	11	14	53	66	44	26	16	9.3	8.0
14	5.7	5.7	7.4	11	15	48	62	43	26	15	9.3	8.0
15	5.7	6.1	7.4	11	16	61	59	43	24	15	9.3	8.0
16	5.7	6.1	8.0	11	16	69	56	42	24	14	8.7	7.4
17	5.7	6.1	8.0	11	16	56	55	41	24	14	8.7	7.4
18	5.7	6.1	8.0	11	17	52	55	40	24	13	9.3	7.4
19	5.7	6.1	8.0	11	18	55	53	38	24	13	9.3	6.7
20	6.1	6.1	8.0	11	22	64	53	37	24	13	8.7	6.7
21	6.1	6.1	8.0	11	26	76	52	37	24	12	8.7	6.7
22	6.1	5.7	8.0	11	28	85	52	37	24	13	8.7	7.4
23	6.1	5.7	8.0	11	28	97	53	37	24	13	8.7	7.4
24	6.1	5.7	8.0	11	28	99	52	37	22	13	8.0	7.4
25	5.7	6.1	8.0	12	30	104	51	37	22	12	8.0	6.7
26	5.7	6.1	8.7	12	30	106	51	36	22	12	8.0	6.1
27	5.7	6.1	8.7	12	30	110	51	36	22	12	8.0	5.7
28	5.7	6.1	8.7	12	30	106	51	35	22	12	8.0	6.1
29	5.7	6.1	8.7	12	33	99	51	35	22	13	8.7	6.1
30	5.3	6.1	8.7	13	------	97	51	33	22	12	9.3	6.1
31	5.3	------	8.7	13	------	95	------	33	------	12	9.3	------
TOTAL	181.9	173.4	237.7	343.2	555	2,099	1,953	1,318	776	493	305.6	224.3
MEAN	5.87	5.78	7.67	11.1	19.1	67.7	65.1	42.5	25.9	15.9	9.86	7.48
MAX	6.1	6.1	8.7	13	33	110	91	52	33	22	12	8.7
MIN	5.3	5.3	6.1	8.7	13	33	51	33	22	12	8.0	5.7
AC-FT	361	344	471	681	1,100	4,160	3,870	2,610	1,540	978	606	445

CAL YR 1963: TOTAL 25,400.1 MEAN 69.6 MAX 6,480 MIN 5.3 AC-FT 50,380
WAT YR 1964: TOTAL 8,660.1 MEAN 23.7 MAX 110 MIN 5.3 AC-FT 17,180

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.1	5.3	6.5	12	14	562	142	61	33	27	16	9.3
2	6.1	5.3	6.5	12	14	479	135	57	32	27	18	9.3
3	6.1	5.3	6.5	12	14	420	133	54	32	27	17	8.2
4	6.1	5.7	6.5	11	14	388	133	52	33	27	17	8.5
5	6.1	5.7	6.5	11	15	392	133	51	33	27	17	8.4
6	6.1	5.5	6.5	11	15	392	130	50	32	27	17	8.3
7	6.1	5.5	6.5	11	15	413	128	48	32	26	17	8.9
8	6.1	5.5	6.5	9.9	16	434	124	47	32	26	16	8.3
9	6.1	5.5	6.5	9.9	16	416	121	42	32	26	16	8.3
10	6.7	6.0	6.7	9.9	17	381	119	39	32	26	16	8.3
11	6.1	6.5	6.1	11	17	365	114	38	32	25	16	7.4
12	6.1	6.5	6.7	11	18	353	114	36	32	25	16	8.0
13	6.1	6.5	7.4	11	20	333	114	35	32	25	15	7.4
14	6.1	6.5	7.4	11	21	317	112	35	32	24	15	7.4
15	6.1	6.5	6.1	11	22	297	110	34	32	24	14	7.2
16	6.1	6.5	5.0	11	24	281	108	34	32	23	13	6.9
17	6.1	6.5	4.4	11	35	277	104	34	33	22	15	7.1
18	5.7	6.5	5.0	11	64	257	102	34	32	22	16	6.7
19	5.7	6.5	8.0	11	108	233	101	34	31	22	15	6.7
20	5.7	6.5	9.0	11	204	222	99	35	31	22	15	6.7
21	5.7	6.5	9.9	11	277	211	100	34	30	22	15	6.3
22	5.3	6.5	9.9	11	277	197	103	35	30	23	15	5.8
23	5.3	6.5	9.3	12	249	194	102	35	30	22	15	5.7
24	5.3	6.5	9.3	12	222	187	98	35	30	21	15	5.7
25	5.3	6.5	9.3	12	204	181	84	35	29	21	12	5.7
26	5.3	6.5	9.9	12	214	175	78	34	29	21	10	5.7
27	5.3	6.5	11	12	305	166	73	33	29	21	9.8	5.7
28	5.3	6.5	11	13	532	163	61	33	28	20	9.8	5.5
29	5.3	6.5	11	13	------	158	69	34	27	20	9.8	4.9
30	5.3	6.5	11	13	------	152	75	33	27	20	9.7	5.0
31	5.3	------	11	14	------	148	------	33	------	19	9.5	------
TOTAL	180.1	185.3	242.9	354.7	2,963	9,144	3,219	1,226	931	730	449.6	213.9
MEAN	5.81	6.18	7.84	11.4	106	295	107	39.5	31.0	23.5	14.5	7.13
MAX	6.7	6.5	11	14	532	562	142	61	33	27	18	9.3
MIN	5.3	5.3	4.4	9.9	14	148	61	33	27	19	9.5	4.9
AC-FT	357	368	482	704	5,880	18,140	6,380	2,430	1,850	1,450	892	424

CAL YR 1964: TOTAL 8,675.4 MEAN 23.7 MAX 110 MIN 4.4 AC-FT 17,210
WAT YR 1965: TOTAL 19,839.5 MEAN 54.4 MAX 562 MIN 4.4 AC-FT 39,350

Note.--No gage-height record Nov. 6 to Dec. 9.

12-4655. Wilson Creek at Wilson Creek, Wash.

Location.--Lat 47°26', long 119°06', in SW¼ sec.6, T.22 N., R.30 E., on right bank 1 mile upstream from mouth and 1 mile northeast of town of Wilson Creek.

Drainage area.--427 sq mi (revised).

Records available.--February 1951 to March 1957, October 1958 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,280 ft (from Great Northern Railway). Prior to flood of Feb. 26, 1957, water-stage recorder and Feb. 28 to Mar. 25, 1957, staff gage, at same site and datum.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 2, 1961	1,430	10.12	Long periods	0	-
1962	Feb. 10, 1962	1,920	10.50	do.	0	-
1963	Feb. 5, 1963	2,700	11.18	do.	0	-
1964	(a)	-	-	Entire year	0	-
1965	(a)	-	-	do.	0	-

a No flow for entire year.

1951-57, 1958-65: Maximum discharge, 12,900 cfs Feb. 26, 1957 (gage height, 20.74 ft), result of slope-area measurement of peak flow; no flow for long periods in each year.

Remarks.--Records fair. No flow since Feb. 12, 1963. Some regulation by small dams above station. Numerous diversions for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	1,000	0	6.1	3.2	0	0	0	0
2	0	0	0	0	500	0	6.7	1.6	0	0	0	0
3	0	0	0	0	151	0	5.8	1.2	0	0	0	0
4	0	0	0	0	51	0	6.1	.60	0	0	0	0
5	0	0	0	0	494	0	7.0	0	0	0	0	0
6	0	0	0	0	168	49	7.4	0	0	0	0	0
7	0	0	0	0	130	3.4	7.0	0	0	0	0	0
8	0	0	0	0	39	.20	6.1	0	0	0	0	0
9	0	0	0	0	167	0	5.5	0	0	0	0	0
10	0	0	0	0	432	0	5.2	0	0	0	0	0
11	0	0	0	0	411	0	4.6	0	0	0	0	0
12	0	0	0	0	178	56	4.6	.90	0	0	0	0
13	0	0	0	0	80	28	6.1	0	0	0	0	0
14	0	0	0	0	65	33	7.0	0	0	0	0	0
15	0	0	0	0	27	71	3.8	0	0	0	0	0
16	0	0	0	94	28	46	3.0	0	0	0	0	0
17	0	0	0	18	45	27	2.0	0	0	0	0	0
18	0	0	0	.60	46	21	1.4	0	0	0	0	0
19	0	0	0	0	39	19	1.6	0	0	0	0	0
20	0	0	0	0	33	18	1.8	0	0	0	0	0
21	0	0	0	0	37	19	2.0	0	0	0	0	0
22	0	0	0	0	30	16	2.0	0	0	0	0	0
23	0	0	0	0	9.8	15	1.6	0	0	0	0	0
24	0	0	0	0	1.7	15	1.0	0	0	0	0	0
25	0	0	0	0	.10	14	.60	0	0	0	0	0
26	0	0	0	0	0	12	0	0	0	0	0	0
27	0	0	0	0	0	11	0	0	0	0	0	0
28	0	0	0	0	0	10	0	0	0	0	0	0
29	0	0	0	0	------	7.8	0	0	0	0	0	0
30	0	0	0	0	------	8.2	0	0	0	0	0	0
31	0	------	0	50	------	7.4	------	0	------	0	0	------
TOTAL	0	0	0	162.60	4,175.60	507.00	106.00	7.50	0	0	0	0
MEAN	0	0	0	5.25	149	16.4	3.53	.24	0	0	0	0
MAX	0	0	0	94	1,000	71	7.4	3.2	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	323	8,280	1,010	210	15	0	0	0	0

CAL YR 1960: TOTAL 7,614.90 MEAN 20.8 MAX 1,790 MIN 0 AC-FT 15,100
WAT YR 1961: TOTAL 4,958.70 MEAN 13.6 MAX 1,000 MIN 0 AC-FT 9,840

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4655. Wilson Creek at Wilson Creek, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	260	16	9.6	0	0	0	0	0
2	0	0	0	0	252	17	8.2	0	0	0	0	0
3	0	0	0	0	357	17	6.4	0	0	0	0	0
4	0	0	0	0	213	17	5.1	0	0	0	0	0
5	0	0	0	0	138	17	4.5	0	0	0	0	0
6	0	0	0	0	93	20	3.9	0	0	0	0	0
7	0	0	0	0	95	30	3.6	0	0	0	0	0
8	0	0	0	0	100	29	4.5	0	0	0	0	0
9	0	0	0	0	479	27	4.2	0	0	0	0	0
10	0	0	0	0	1,160	25	3.6	0	0	0	0	0
11	0	0	0	0	507	25	3.1	0	0	0	0	0
12	0	0	0	0	462	18	2.8	0	0	0	0	0
13	0	0	0	0	394	17	2.2	0	0	0	0	0
14	0	0	0	0	608	16	.70	0	0	0	0	0
15	0	0	0	0	404	18	.40	0	0	0	0	0
16	0	0	0	0	200	22	.10	0	0	0	0	0
17	0	0	0	0	69	22	.10	0	0	0	0	0
18	0	0	0	0	42	18	.10	0	0	0	0	0
19	0	0	0	0	39	17	.10	0	0	0	0	0
20	0	0	0	0	43	5.3	.10	0	0	0	0	0
21	0	0	0	0	35	0	.10	0	0	0	0	0
22	0	0	0	0	25	0	0	0	0	0	0	0
23	0	0	0	0	18	0	0	0	0	0	0	0
24	0	0	0	0	16	0	0	0	0	0	0	0
25	0	0	0	0	14	0	0	0	0	0	0	0
26	0	0	0	0	13	0	0	0	0	0	0	0
27	0	0	0	51	14	0	0	0	0	0	0	0
28	0	0	0	144	15	0	0	0	0	0	0	0
29	0	0	0	213	------	38	0	0	0	0	0	0
30	0	0	0	335	------	19	0	0	0	0	0	0
31	0	------	0	261	------	12	------	0	------	0	0	------
TOTAL	0	0	0	1,004	6,065	462.3	63.40	0	0	0	0	0
MEAN	0	0	0	32.4	217	14.9	2.11	0	0	0	0	0
MAX	0	0	0	335	1,160	38	9.6	0	0	0	0	0
MIN	0	0	0	0	13	0	0	0	0	0	0	0
AC-FT	0	0	0	1,990	12,030	917	126	0	0	0	0	0

CAL YR 1961: TOTAL 4,958.70 MEAN 13.6 MAX 1,000 MIN 0 AC-FT 9,840
WAT YR 1962: TOTAL 7,594.70 MEAN 20.8 MAX 1,160 MIN 0 AC-FT 15,060

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

Discharge, in cubic feet per second, water years October 1962 to September 1965

Feb. 4, 1963... 15
5..... 1,960
Feb. 6, 1963... 1,100
7..... 286
Feb. 8, 1963... 55
9..... 30
Feb. 10, 1963... 10
11..... 5.0
12..... 1.0

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
Calendar year 1962	7,594.70	1,160	0	20.8	15,060
February 1963	3,462.0	1,960	0	124	6,870
Water year 1962-63	3,462.0	1,960	0	9.48	6,870
Calendar year 1963	3,462.0	1,960	0	9.48	6,870

Note.--Flow occurred only on days listed above.

12-4670. Crab Creek near Moses Lake, Wash.

Location.--Lat 47°11'25", long 119°16'00", in NW¼NE¼ sec.35, T.20 N., R.28 E., on left bank on downstream side of highway bridge, 3 miles upstream from Parker Horn and 4 miles north of town of Moses Lake.

Drainage area (revised).--2,228 sq mi, of which 219 sq mi in the vicinity of Long Lake Reservoir is noncontributing.

Records available.--September 1942 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,070.39 ft above mean sea level (Bureau of Reclamation bench mark). Prior to July 14, 1956, at site 300 ft upstream at same datum.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 9, 1961	534	3.89	Jan. 26, 1961	8.8	1.45
1962	Feb. 16, 17, 1962	347	a 3.67	Jan. 21-23, 1962	b 8	-
1963	Feb. 7, 1963	4,200	5.94	Jan. 10, 1963	6.6	1.45
1964	Aug. 28, 1964	56	c 2.48	Mar. 24, 25, 1964	b 4.6	-
1965	Mar. 12, 1965	245	3.40	Mar. 7, 1965	9.9	1.54

a Maximum gage height for year, 3.74 ft Feb. 25, 1962, backwater from ice.
b Minimum daily.
c Maximum gage height for year, 2.83 ft Dec. 10, 1963, backwater from ice.

1942-65: Maximum discharge, 10,400 cfs Feb. 28, 1957 (gage height, 6.81 ft); no flow for several months in each year prior to 1952, and part of each day Jan. 14, 15, 1953.

Remarks.--Records excellent except those for winter periods, which are poor. Numerous small diversions for irrigation and domestic use above station. Most of natural flow from upper basin passes this station underground. No regulation. Beginning in 1952, return flow from irrigation on Columbia Basin project has increased runoff during summer months. Records of chemical analyses for the water year 1962 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	33	26	21	13	22	148	83	74	18	28	34	39
2	32	26	22	12	21	138	79	71	17	29	34	38
3	32	26	20	12	18	135	83	63	17	30	35	37
4	32	24	19	12	17	130	68	60	15	31	36	39
5	32	24	18	12	38	130	68	57	15	32	36	39
6	34	24	17	13	211	135	65	54	16	32	37	38
7	32	24	16	15	270	130	62	50	18	32	36	38
8	30	24	17	16	382	128	65	48	18	32	35	37
9	31	23	16	17	520	132	90	54	18	32	34	38
10	31	24	16	16	478	135	112	54	18	32	34	38
11	30	25	15	15	441	138	117	51	20	32	36	37
12	30	24	16	14	423	148	121	44	21	32	36	37
13	29	26	15	14	423	150	121	38	20	32	37	36
14	29	24	15	14	423	145	102	36	20	32	37	37
15	29	26	14	16	405	138	102	33	20	32	38	39
16	29	27	14	15	394	132	104	30	20	32	38	39
17	29	26	14	14	388	128	104	28	20	32	38	38
18	28	24	16	12	361	128	99	26	19	32	38	37
19	27	23	16	12	335	125	96	25	18	32	38	37
20	28	24	16	12	305	125	94	24	19	32	39	38
21	29	25	15	11	273	117	91	24	20	32	39	37
22	28	23	15	11	247	117	91	25	21	32	39	38
23	28	26	16	11	219	117	94	24	21	34	38	38
24	26	31	15	11	204	110	94	23	21	34	39	37
25	26	26	15	11	187	106	90	21	21	34	39	37
26	26	23	15	11	177	102	84	22	22	34	39	38
27	29	21	14	9.1	168	99	80	21	24	34	39	39
28	29	20	14	9.1	153	96	78	20	25	34	39	39
29	27	20	14	9.3	------	93	76	20	25	34	39	40
30	27	20	13	9.3	------	90	75	19	26	34	38	40
31	27	------	13	11	------	87	------	18	------	34	39	------
TOTAL	909	729	492	389.8	7,503	3,832	2,688	1,157	593	1,000	1,153	1,139
MEAN	29.3	24.3	15.9	12.6	268	124	89.6	37.3	19.8	32.3	37.2	38.0
MAX	34	31	22	17	520	150	121	74	26	34	39	40
MIN	26	20	13	9.1	17	87	62	18	15	28	34	36
AC-FT	1,800	1,450	976	773	14,880	7,600	5,330	2,290	1,180	1,980	2,290	2,260

CAL YR 1960: TOTAL 22,245.3 MEAN 60.8 MAX 1,210 MIN 8.0 AC-FT 44,120
WAT YR 1961: TOTAL 21,584.8 MEAN 59.1 MAX 520 MIN 9.1 AC-FT 42,810

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4670. Crab Creek near Moses Lake, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	29	22	15	12	98	44	17	13	25	37	44
2	40	28	22	15	12	91	48	16	14	25	37	43
3	40	28	21	15	13	85	51	15	15	25	42	42
4	39	27	20	14	13	79	54	15	15	28	44	42
5	40	26	19	15	18	72	56	14	15	28	43	43
6	39	26	18	15	54	66	56	14	15	28	44	42
7	39	26	19	17	91	60	56	14	16	30	46	41
8	39	25	18	16	102	55	48	17	16	30	46	40
9	39	25	15	15	102	49	46	20	16	30	46	42
10	39	25	12	14	102	46	43	17	16	30	46	44
11	39	24	10	13	108	46	39	15	16	32	46	43
12	39	23	10	13	209	46	36	14	17	31	50	43
13	38	23	10	12	317	47	34	13	18	32	50	44
14	37	23	11	13	337	50	31	13	19	33	49	44
15	37	22	12	13	332	52	30	12	19	34	48	44
16	36	21	13	12	347	54	30	12	19	34	47	44
17	35	21	15	12	327	57	32	12	19	34	46	43
18	34	21	17	11	268	58	33	12	19	37	46	42
19	34	21	17	10	286	59	33	12	19	38	46	42
20	33	20	18	9.0	322	62	32	11	19	36	46	42
21	32	20	22	8.0	268	61	27	11	20	36	45	42
22	32	21	20	8.0	229	66	25	11	20	35	44	41
23	32	22	21	8.0	190	65	24	11	21	35	43	40
24	31	21	24	9.0	160	59	23	12	21	34	43	39
25	30	21	19	10	140	64	21	14	20	34	42	39
26	30	20	17	12	120	63	19	13	21	34	42	39
27	32	19	16	14	110	58	24	12	22	34	42	40
28	30	19	16	14	100	51	23	12	22	35	43	47
29	29	20	16	13	------	46	20	13	23	36	44	45
30	29	21	15	13	------	44	18	14	24	36	44	43
31	29	------	15	12	------	42	------	13	------	37	44	------
TOTAL	1,092	688	520	390.0	4,689	1,851	1,056	421	549	1,006	1,381	1,269
MEAN	35.2	22.9	16.8	12.6	167	59.7	35.2	13.6	18.3	32.5	44.5	42.3
MAX	40	29	24	17	347	98	56	20	24	38	50	47
MIN	29	19	10	8.0	12	42	18	11	13	25	37	39
AC-FT	2,170	1,360	1,030	774	9,300	3,670	2,090	835	1,090	2,000	2,740	2,520

CAL YR 1961: TOTAL 21,754.8 MEAN 59.6 MAX 520 MIN 9.1 AC-FT 43,150
WAT YR 1962: TOTAL 14,912.0 MEAN 40.9 MAX 347 MIN 8.0 AC-FT 29,580

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	43	34	24	23	19	90	24	43	13	28	36	45
2	43	33	24	20	20	86	22	41	13	30	37	44
3	43	32	22	19	21	80	21	41	14	29	37	45
4	43	32	23	17	22	75	22	40	15	30	37	45
5	43	32	23	17	24	73	22	39	16	29	37	43
6	43	31	22	16	26	70	26	42	16	30	38	43
7	45	30	21	16	1,360	68	25	40	16	31	38	43
8	46	31	21	17	3,470	64	22	35	16	33	38	43
9	46	34	20	15	2,200	61	21	32	17	32	39	43
10	46	31	20	11	1,460	60	24	30	18	34	40	42
11	47	32	20	12	972	56	24	29	17	33	39	41
12	51	32	20	12	705	51	22	26	17	33	40	42
13	52	32	20	13	542	47	22	24	18	32	39	43
14	51	30	23	14	423	45	22	22	17	32	40	42
15	47	30	21	15	324	46	27	21	18	33	39	43
16	44	30	20	16	265	42	24	19	18	34	40	46
17	43	29	21	18	222	40	27	17	18	34	41	46
18	43	29	20	17	197	37	43	15	19	36	41	46
19	42	28	19	16	174	34	55	14	20	34	42	46
20	41	29	18	15	155	34	62	13	20	34	43	46
21	39	26	18	16	139	33	61	11	22	34	43	46
22	38	25	17	17	135	32	56	10	22	34	44	46
23	38	24	16	19	123	32	54	10	23	34	46	45
24	37	24	15	18	112	36	51	9.4	24	36	46	44
25	37	24	14	17	114	31	51	9.4	24	36	46	44
26	36	24	13	19	114	28	51	10	24	36	47	43
27	36	24	14	19	98	27	50	10	25	35	46	43
28	34	23	14	19	94	31	46	11	26	37	45	42
29	34	23	15	18	------	27	46	11	27	36	46	41
30	34	25	17	18	------	26	44	11	27	36	45	41
31	34	------	18	18	------	24	------	13	------	36	45	------
TOTAL	1,299	863	593	517	13,530	1,486	1,067	698.8	580	1,031	1,280	1,312
MEAN	41.9	28.8	19.1	16.7	483	47.9	35.6	22.5	19.3	33.3	41.3	43.7
MAX	52	34	24	23	3,470	90	62	43	27	37	47	46
MIN	34	23	13	11	19	24	21	9.4	13	28	36	41
AC-FT	2,580	1,710	1,180	1,030	26,840	2,950	2,120	1,390	1,150	2,040	2,540	2,600

CAL YR 1962: TOTAL 15,367.0 MEAN 42.1 MAX 347 MIN 8.0 AC-FT 30,480
WAT YR 1963: TOTAL 24,256.8 MEAN 66.5 MAX 3,470 MIN 9.4 AC-FT 48,110

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4670. Crab Creek near Moses Lake, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	43	40	23	19	14	7.4	6.0	6.8	23	31	51	54
2	44	40	22	18	13	6.6	6.5	7.4	26	32	49	53
3	40	38	22	17	13	6.4	7.0	7.8	27	34	46	53
4	37	38	22	17	13	6.6	7.5	8.1	28	34	48	53
5	41	37	24	16	12	7.1	8.1	8.4	30	34	48	53
6	41	41	29	17	11	6.6	8.1	9.2	31	33	47	51
7	37	40	26	15	11	6.1	6.8	9.7	32	34	46	52
8	36	42	26	14	11	6.1	6.0	10	36	32	46	52
9	34	38	26	15	11	6.1	5.9	11	35	32	45	53
10	36	35	24	15	11	5.9	6.1	11	32	33	46	54
11	38	32	20	14	11	6.4	5.9	11	31	33	46	53
12	38	32	19	13	11	5.7	5.7	12	30	33	47	53
13	38	34	19	14	10	5.4	5.7	12	32	33	48	53
14	38	40	19	14	10	5.4	5.9	13	32	35	50	52
15	38	36	20	14	11	5.2	5.7	13	30	39	48	51
16	37	34	20	15	11	4.8	5.4	14	31	38	47	51
17	40	32	21	16	11	5.2	5.7	14	30	38	47	52
18	46	31	21	15	11	5.7	5.7	14	31	39	48	51
19	43	31	21	15	12	5.0	5.7	15	31	39	48	51
20	43	30	23	16	20	5.0	5.7	14	32	39	48	53
21	45	28	23	15	11	4.8	5.2	14	31	40	48	54
22	45	28	23	14	9.2	4.8	5.7	16	30	42	48	55
23	44	28	22	13	8.4	4.7	6.8	17	29	44	48	53
24	43	26	21	13	8.4	4.6	7.4	17	20	44	48	52
25	43	25	21	14	7.4	4.6	8.6	18	29	45	50	51
26	42	26	20	15	7.4	4.8	6.1	19	29	45	52	49
27	41	25	20	15	7.4	4.8	5.9	18	28	44	52	49
28	41	24	20	14	7.4	5.0	6.1	21	28	45	55	50
29	41	23	20	16	7.4	5.0	7.4	22	29	45	55	51
30	40	23	20	15	------	5.5	6.6	23	30	46	54	51
31	40	------	19	14	------	5.5	------	23	------	48	55	------
TOTAL	1,253	977	676	467	312.0	172.8	198.9	430.4	902	1,183	1,516	1,563
MEAN	40.4	32.6	21.8	15.1	10.8	5.57	6.30	13.9	30.1	38.2	48.9	52.1
MAX	46	42	29	19	20	7.4	8.1	23	36	48	55	55
MIN	34	23	19	13	7.4	4.6	5.2	6.8	23	31	45	49
AC-FT	2,490	1,940	1,340	926	619	343	375	854	1,790	2,350	3,010	3,100

CAL YR 1963: TOTAL 24,407.8 MEAN 66.9 MAX 3,470 MIN 9.4 AC-FT 48,410
WAT YR 1964: TOTAL 9,641.1 MEAN 26.3 MAX 55 MIN 4.6 AC-FT 19,120

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	50	42	35	21	24	12	103	53	30	36	54	74
2	49	40	30	20	20	12	103	50	30	36	54	74
3	49	40	28	21	18	11	101	48	30	38	55	73
4	49	45	27	22	18	11	101	48	29	39	55	73
5	49	43	25	22	20	11	96	46	31	40	55	72
6	50	40	25	22	22	10	91	45	32	41	55	71
7	51	39	24	21	21	10	86	44	31	41	55	72
8	50	39	25	20	23	84	83	42	32	42	54	72
9	53	41	25	19	20	194	83	40	34	43	54	71
10	54	42	24	18	18	217	85	40	32	43	54	72
11	52	39	22	18	16	228	81	39	33	44	56	79
12	51	42	19	18	16	238	78	37	35	44	58	72
13	49	38	22	18	19	238	75	37	34	45	58	71
14	39	36	23	18	19	234	74	34	36	45	60	72
15	43	35	23	18	17	224	71	32	42	46	61	72
16	46	34	18	18	18	214	72	32	40	46	62	70
17	47	32	15	18	19	191	68	32	48	48	62	71
18	47	32	15	20	18	204	66	31	49	46	63	72
19	47	32	17	31	18	210	68	32	42	47	65	72
20	47	32	20	22	16	191	69	33	39	51	64	72
21	46	31	23	21	15	182	66	32	39	58	66	72
22	46	30	23	20	15	170	64	32	36	66	67	69
23	45	30	23	20	14	153	61	33	36	66	70	68
24	46	30	22	20	13	148	61	32	37	60	71	68
25	46	29	17	16	13	142	60	30	37	57	71	69
26	46	28	18	18	14	140	59	30	37	56	71	67
27	45	28	19	19	16	132	58	31	39	56	71	68
28	43	27	20	21	14	125	58	30	37	56	71	68
29	43	28	21	23	------	117	56	30	37	55	71	68
30	44	30	21	32	------	114	55	30	38	54	72	67
31	43	------	21	31	------	108	------	30	------	54	72	------
TOTAL	1,465	1,054	690	646	494	4,275	2,252	1,135	1,082	1,479	1,927	2,130
MEAN	47.3	35.1	22.3	20.8	17.6	138	75.1	36.6	36.1	48.4	62.2	71.0
MAX	54	45	35	32	24	238	103	53	49	66	72	79
MIN	39	27	15	16	13	10	55	30	29	36	54	67
AC-FT	2,910	2,090	1,370	1,280	980	8,480	4,470	2,250	2,150	2,970	3,820	4,220

CAL YR 1964: TOTAL 9,944.1 MEAN 27.2 MAX 55 MIN 4.6 AC-FT 19,720
WAT YR 1965: TOTAL 18,649 MEAN 51.1 MAX 238 MIN 10 AC-FT 36,990

12-4680. Park Lake near Coulee City, Wash.

Location.--Lat 47°34'41", long 119°25'05", in SE¼NW¼ sec.15, T.24 N., R.27 E., on southeast shore 0.4 mile northeast of outlet and 6½ miles southwest of Coulee City.

Drainage area.--317 sq mi, of which 281 sq mi in the vicinity of Banks Lake is noncontributing.

Records available.--March 1938 to December 1956 (fragmentary), January 1957 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Prior to Dec. 20, 1956, staff gage at site half a mile uplake at same datum.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	May 10, 1961	1,095.97	Oct. 13, 1960	1,095.43
1962	Apr. 23, 1962	1,096.12	Oct. 26, 1961	1,095.44
1963	Apr. 23, 1963	1,095.99	Nov. 30, 1962	1,095.42
1964	Oct. 3, 1963	1,095.86	Nov. 5, 1963	1,095.20
1965	Jan. 4, 1965	1,096.76	Apr. 8, 1965	1,095.58

1938-65: Maximum elevation, 1,096.76 ft Jan. 4, 1965; minimum observed, 1,094.17 ft Sept. 30, 1939.
Maximum elevation known, 1,101.3 ft (from well-defined alkali line at gage), date unknown.

Remarks.--Some diversion from tributary for irrigation. Some regulation by flashboards on fish-screen structure at outlet.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	95.44	95.51	95.65	95.76	95.62	95.72	95.71	95.88	95.92	95.71	95.67	95.68
2	95.44	95.51	95.65	95.77	95.64	95.72	95.70	95.88	95.91	95.72	95.67	95.67
3	95.45	95.50	95.65	95.77	95.64	95.70	95.69	95.89	95.90	95.72	95.65	95.66
4	95.45	95.50	95.65	95.77	95.63	95.70	95.67	95.89	95.90	95.73	95.66	95.66
5	95.45	95.50	95.64	95.78	95.63	95.71	95.65	95.89	95.90	95.75	95.65	95.67
6	95.46	95.50	95.63	-	95.65	95.72	95.64	95.90	95.90	95.75	95.65	95.66
7	95.47	95.52	95.63	-	95.65	95.72	95.62	95.90	95.91	95.74	95.65	95.65
8	95.46	95.51	95.61	-	95.66	95.72	95.61	95.90	95.91	95.74	95.65	95.64
9	95.46	95.51	95.61	95.74	95.70	95.73	95.59	95.93	95.89	95.74	95.63	95.66
10	95.45	95.51	95.60	95.72	95.72	95.73	95.58	95.96	95.88	95.73	95.63	95.67
11	95.44	95.52	95.60	95.69	95.78	95.75	95.58	95.96	95.89	95.72	95.63	95.67
12	95.44	95.53	95.60	95.67	95.79	95.77	95.59	95.95	95.90	95.72	95.64	95.68
13	95.43	95.53	95.60	95.65	95.79	95.79	95.58	95.94	95.91	95.72	95.65	95.69
14	95.44	95.53	95.60	95.63	95.78	95.83	95.58	95.94	95.90	95.72	95.66	95.69
15	95.44	95.55	95.59	95.62	95.78	95.84	95.58	95.94	95.89	95.72	95.67	95.70
16	95.45	95.56	95.60	95.61	95.77	95.83	95.59	95.99	95.89	95.72	95.67	95.72
17	95.46	95.57	95.62	95.60	95.78	95.83	95.59	95.94	95.88	95.72	95.67	95.73
18	95.47	95.58	95.65	95.59	95.77	95.82	95.58	95.93	95.88	95.71	95.68	95.73
19	95.48	95.58	95.67	95.58	95.76	95.82	95.57	95.92	95.85	95.71	95.68	95.72
20	95.49	95.59	95.68	95.57	95.75	95.83	95.60	95.92	95.82	95.72	95.69	95.72
21	95.50	95.58	95.69	95.57	95.74	95.82	95.64	95.92	95.79	95.72	95.70	95.72
22	95.51	95.58	95.70	95.56	95.73	95.83	95.68	95.93	95.79	95.71	95.70	95.73
23	95.52	95.61	95.71	95.55	95.73	95.83	95.71	95.90	95.79	95.72	95.69	95.73
24	95.52	95.65	95.71	95.54	95.72	95.83	95.74	95.89	95.78	95.69	95.68	95.74
25	95.52	95.67	95.72	95.54	95.72	95.83	95.76	95.89	95.77	95.68	95.68	95.73
26	95.52	95.67	95.73	95.54	95.71	95.83	95.77	95.90	95.75	95.68	95.69	95.72
27	95.51	95.66	95.73	95.55	95.72	95.82	95.78	95.90	95.72	95.68	95.69	95.72
28	95.52	95.66	95.74	95.56	95.72	95.80	95.79	95.90	95.70	95.67	95.70	95.73
29	95.51	95.65	95.75	95.57	------	95.78	95.81	95.90	95.69	95.67	95.70	95.76
30	95.51	95.64	95.75	95.58	------	95.75	95.86	95.91	95.69	95.67	95.69	95.78
31	95.51	------	95.76	95.60	------	95.73	------	95.92	------	95.67	95.69	------
MAX	95.52	95.67	95.76	-	95.79	95.84	95.86	95.99	95.92	95.75	95.70	95.78
MIN	95.43	95.50	95.59	-	95.62	95.70	95.57	95.88	95.69	95.67	95.63	95.64

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4680. Park Lake near Coulee City, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	95.82	95.51	95.70	95.76	95.63	95.76	95.70	95.64	95.86	95.90	95.91	95.50
2	95.85	95.51	95.71	95.76	95.64	95.76	95.69	95.65	95.89	95.89	95.90	95.49
3	95.90	-	95.71	95.76	95.64	95.75	95.69	95.71	95.91	95.89	95.92	95.46
4	95.93	-	95.71	95.76	95.64	95.75	95.70	95.75	95.93	95.90	95.94	95.46
5	95.96	-	95.72	-	95.64	95.77	95.67	95.78	95.94	95.91	95.95	95.47
6	95.90	95.54	95.72	-	95.64	95.77	95.66	95.82	95.96	95.92	95.96	95.48
7	95.83	95.55	95.72	-	95.66	95.77	95.65	95.84	95.95	95.93	95.98	95.47
8	95.77	95.56	95.72	95.75	95.67	95.77	95.62	95.87	95.92	95.94	95.99	95.48
9	95.74	95.57	95.72	95.75	95.70	95.77	95.60	95.90	95.88	95.94	96.00	95.51
10	95.70	95.57	95.72	95.75	95.74	95.77	95.59	95.93	95.86	95.93	96.00	95.54
11	95.66	95.57	95.72	-	95.75	95.77	95.61	95.94	95.83	95.93	96.00	95.55
12	95.64	95.67	95.72	-	95.76	95.77	95.67	95.92	95.81	95.93	96.02	95.55
13	95.62	95.58	95.73	-	95.78	95.76	95.73	95.88	95.79	95.91	95.98	95.57
14	95.60	95.59	95.73	-	95.79	95.76	95.79	95.87	95.79	95.90	95.93	95.59
15	95.59	95.59	95.73	95.72	95.80	95.75	95.84	95.84	95.81	95.90	95.89	95.59
16	95.57	95.58	95.74	95.71	95.80	95.75	95.89	95.83	95.81	95.90	95.85	95.61
17	95.55	95.60	95.78	95.71	95.80	95.75	95.93	95.81	95.81	95.88	95.81	95.63
18	95.54	95.61	95.77	95.71	95.80	95.74	95.97	95.79	95.82	95.87	95.77	95.64
19	95.52	95.62	95.78	95.72	95.80	95.73	95.99	95.78	95.83	95.88	95.74	95.64
20	95.50	95.62	95.79	95.68	95.79	95.73	96.01	95.78	95.83	95.88	95.73	95.66
21	95.48	95.62	-	95.63	95.79	95.73	96.05	95.77	95.84	95.88	95.69	95.67
22	95.47	95.64	-	95.62	95.79	95.74	96.09	95.75	95.84	95.88	95.66	95.69
23	95.45	95.65	-	95.61	95.79	95.74	96.10	95.75	95.87	95.89	95.68	95.69
24	95.45	95.65	-	95.60	95.78	95.73	96.04	95.77	95.90	95.90	95.65	95.70
25	95.45	95.64	-	95.60	95.77	95.73	95.86	95.81	95.91	95.90	95.62	95.68
26	95.45	95.63	95.77	95.60	95.76	95.74	95.88	95.81	95.90	95.91	95.59	95.66
27	95.47	95.66	-	95.61	95.75	95.72	95.86	95.81	95.90	95.92	95.57	95.65
28	95.47	95.67	-	95.61	95.76	95.71	95.81	95.79	95.91	95.92	95.54	95.65
29	95.47	95.68	95.77	95.61	------	95.71	95.74	95.78	95.92	95.92	95.53	95.64
30	95.48	95.70	95.77	95.62	------	95.71	95.69	95.80	95.91	95.92	95.51	95.63
31	95.50	------	95.77	95.63	------	95.71	------	95.84	------	95.91	95.51	------
MAX	95.96	-	-	-	95.80	95.77	96.10	95.94	95.96	95.94	96.02	95.70
MIN	95.45	-	-	-	95.63	95.71	95.59	95.64	95.79	95.87	95.51	95.46

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	95.61	95.45	95.44	95.54	-	95.46	95.58	95.82	95.82	95.76	95.69	95.72
2	95.59	95.45	95.44	95.54	-	95.46	95.57	95.80	95.81	95.76	95.70	95.71
3	95.57	95.44	95.44	95.53	-	95.46	95.54	95.78	95.80	95.75	95.71	95.72
4	95.55	95.45	95.43	95.52	-	95.45	95.53	95.76	95.80	95.76	95.71	95.73
5	95.53	95.45	95.44	95.51	95.50	95.46	95.53	95.77	95.80	95.75	95.70	95.73
6	95.51	95.44	95.44	95.51	95.52	95.46	95.54	95.80	95.80	95.75	95.71	95.73
7	95.49	95.44	95.44	95.51	95.53	95.46	95.53	95.82	95.80	95.76	95.70	95.73
8	95.48	95.45	95.44	95.50	95.54	95.47	95.51	95.82	95.80	95.78	95.70	95.73
9	95.48	95.46	95.43	95.50	95.53	95.47	95.50	95.82	95.80	95.78	95.71	95.74
10	95.47	95.45	95.43	-	95.53	95.47	95.50	95.82	95.80	95.77	95.71	95.74
11	95.49	95.46	95.43	-	95.52	95.46	95.49	95.80	95.80	95.76	95.73	95.74
12	95.51	95.46	95.43	-	95.51	95.46	95.52	95.80	95.80	95.76	95.74	95.74
13	95.52	95.47	95.44	-	95.51	95.45	95.57	95.80	95.80	95.76	95.73	95.73
14	95.50	95.47	95.46	-	95.51	95.45	95.62	95.80	95.79	95.75	95.72	95.72
15	95.48	95.47	95.48	-	95.50	95.45	95.67	95.80	95.78	95.74	95.71	95.71
16	95.47	95.48	95.48	-	95.50	95.45	95.71	95.82	95.77	95.73	95.72	95.73
17	95.46	95.48	95.50	-	95.50	95.45	95.75	95.85	95.78	95.73	95.72	95.74
18	95.46	95.48	95.50	-	95.50	95.45	95.82	95.88	95.78	95.73	95.72	95.75
19	95.45	95.48	95.50	-	95.50	95.45	95.88	95.89	95.76	95.73	95.69	95.76
20	95.45	95.46	95.49	-	95.50	95.47	95.93	95.90	95.74	95.71	95.68	95.77
21	95.45	95.45	95.48	-	95.49	95.48	95.95	95.89	95.74	95.70	95.67	95.78
22	95.44	95.45	95.48	-	95.49	95.50	95.97	95.88	95.75	95.70	95.67	95.79
23	95.44	95.44	95.48	-	95.49	95.55	95.98	95.88	95.76	95.70	95.66	95.80
24	95.44	95.44	95.49	-	95.48	95.61	95.97	95.87	95.76	95.68	95.67	95.81
25	95.44	95.44	95.50	-	95.48	95.65	95.95	95.87	95.75	95.68	95.69	95.82
26	95.44	95.44	95.51	-	95.48	95.64	95.94	95.87	95.75	95.69	95.69	95.83
27	95.44	95.44	95.52	-	95.47	95.63	95.92	95.85	95.74	95.71	95.69	95.84
28	95.45	95.43	95.52	-	95.47	95.64	95.90	95.85	95.74	95.72	95.70	95.85
29	95.45	95.43	95.52	-	------	95.64	95.88	95.85	95.74	95.71	95.72	95.85
30	95.45	95.44	95.53	-	------	95.61	95.85	95.84	95.75	95.69	95.72	95.86
31	95.45	------	95.54	-	------	95.59	------	95.83	------	95.69	95.72	------
MAX	95.61	95.48	95.54	-	-	95.65	95.98	95.90	95.82	95.78	95.74	95.86
MIN	95.44	95.43	95.43	-	-	95.45	95.49	95.76	95.74	95.68	95.66	95.71

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4680. Park Lake near Coulee City, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	95.85	95.21	95.50	95.57	95.54	95.65	95.63	95.67	95.62	95.49	95.48	95.49
2	95.85	95.21	95.51	95.56	95.54	95.66	95.64	95.66	95.62	95.50	95.49	95.49
3	95.85	95.21	95.52	95.56	95.53	95.65	95.64	95.66	95.60	95.51	95.51	95.50
4	95.84	95.21	95.52	95.55	95.53	95.65	95.65	95.67	95.60	95.51	95.52	95.51
5	95.83	95.20	95.54	95.55	95.53	95.65	95.66	95.66	95.60	95.51	95.52	95.52
6	95.83	95.22	95.58	95.55	95.52	95.64	95.67	95.65	95.60	95.52	95.52	95.52
7	95.83	95.23	95.59	95.54	95.52	95.65	95.66	95.65	95.59	95.51	95.53	95.53
8	95.79	95.25	95.62	95.53	95.52	95.62	95.67	95.65	95.62	95.50	95.52	95.53
9	95.75	95.26	95.63	95.54	95.51	95.61	95.68	95.65	95.62	95.49	95.51	95.53
10	95.71	95.27	95.62	95.53	95.52	95.60	95.68	95.65	95.62	95.49	95.50	95.52
11	95.68	95.28	95.62	95.53	95.51	95.60	95.69	95.65	95.60	95.49	95.50	95.52
12	95.63	95.28	95.62	95.53	95.51	95.60	95.69	95.66	95.59	95.50	95.51	95.53
13	95.59	95.29	95.61	95.53	95.51	95.60	95.69	95.65	95.59	95.48	95.51	95.54
14	95.54	95.33	95.60	95.54	95.50	95.59	95.69	95.65	95.57	95.47	95.50	95.54
15	95.51	95.35	95.60	95.54	95.51	95.58	95.69	95.66	95.56	95.47	95.51	95.54
16	95.47	95.35	95.60	95.54	95.51	95.58	95.68	95.67	95.55	95.47	95.52	95.55
17	95.44	95.35	95.60	95.54	95.50	95.59	95.68	95.66	95.54	95.47	95.52	95.56
18	95.40	95.35	95.60	95.53	95.50	95.60	95.68	95.65	95.52	95.46	95.51	95.55
19	95.37	95.36	95.59	95.54	95.50	95.59	95.69	95.65	95.50	95.45	95.50	95.55
20	95.35	95.36	95.60	95.55	95.50	95.59	95.70	95.65	95.48	95.46	95.50	95.55
21	95.34	95.37	95.60	95.55	95.52	95.60	95.69	95.64	95.48	95.45	95.50	95.56
22	95.32	95.39	95.60	95.55	95.52	95.60	95.70	95.64	95.47	95.44	95.51	95.58
23	95.31	95.41	95.59	95.54	95.55	95.61	95.72	95.64	95.47	95.44	95.50	95.59
24	95.30	95.43	95.59	95.55	95.58	95.61	95.72	95.63	95.46	95.46	95.49	95.60
25	95.27	95.45	95.58	95.56	95.58	95.61	95.72	95.62	95.46	95.47	95.50	95.60
26	95.26	95.46	95.58	95.55	95.60	95.61	95.71	95.62	95.46	95.46	95.49	95.61
27	95.25	95.47	95.58	95.55	95.62	95.61	95.69	95.62	95.46	95.44	95.50	95.62
28	95.24	95.48	95.58	95.55	95.64	95.61	95.68	95.62	95.46	95.45	95.50	95.62
29	95.23	95.48	95.57	95.55	95.65	95.61	95.68	95.62	95.46	95.46	95.50	95.64
30	95.22	95.49	95.57	95.54	------	95.62	95.67	95.62	95.48	95.46	95.50	95.64
31	95.22	------	95.57	95.54	------	95.63	------	95.62	------	95.46	95.50	------
MAX	95.85	95.49	95.63	95.57	95.65	95.66	95.72	95.67	95.62	95.52	95.53	95.64
MIN	95.22	95.20	95.50	95.53	95.50	95.58	95.63	95.62	95.46	95.44	95.48	95.49

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	95.63	95.74	95.86	96.70	95.74	95.68	95.62	96.05	95.65	95.80	95.87	95.77
2	95.63	95.74	95.86	96.73	95.73	95.68	95.61	96.05	95.67	95.80	95.87	95.76
3	95.63	95.73	95.86	96.75	95.74	95.67	95.60	96.06	95.70	95.81	95.86	95.75
4	95.62	95.77	95.86	96.74	95.74	95.67	95.60	96.06	95.73	95.83	95.85	95.75
5	95.62	95.78	95.85	96.65	95.74	95.67	95.60	96.05	95.75	95.82	95.84	95.73
6	95.63	95.78	95.85	96.55	95.73	95.68	95.59	96.06	95.77	95.81	95.84	95.72
7	95.63	95.78	95.85	96.46	95.73	95.69	95.59	96.04	95.78	95.80	95.84	95.72
8	95.64	95.78	95.85	96.37	95.73	95.70	95.58	95.99	95.79	95.78	95.84	95.73
9	95.65	95.78	95.85	96.28	95.73	95.71	95.60	95.97	95.81	95.77	95.83	95.74
10	95.67	95.80	95.85	96.19	95.72	95.72	95.61	95.95	95.82	95.76	-	95.74
11	95.68	95.81	95.84	96.14	95.71	95.73	95.61	95.92	95.82	95.76	-	95.75
12	95.69	95.82	95.83	96.08	95.71	95.74	95.60	95.89	95.82	95.77	-	95.75
13	95.70	95.83	95.83	96.03	95.71	95.74	95.61	95.86	95.81	95.77	-	95.75
14	95.70	95.81	95.83	95.98	95.71	95.73	95.61	95.84	95.81	95.78	-	95.76
15	95.70	95.80	95.85	95.94	95.70	95.72	95.61	95.82	95.82	95.77	-	95.76
16	95.69	95.80	95.86	95.90	95.70	95.70	95.66	95.80	95.83	95.77	-	95.74
17	95.69	95.80	95.86	95.88	95.70	95.69	95.70	95.78	95.84	95.77	95.78	95.74
18	95.69	95.80	95.90	95.85	95.69	95.69	95.74	95.77	95.86	95.75	95.78	95.76
19	95.70	95.80	95.96	95.83	95.69	95.69	95.81	95.76	95.87	95.75	95.78	95.76
20	95.70	95.81	96.01	95.81	95.69	95.69	95.85	95.76	95.87	95.76	95.78	95.78
21	95.71	95.81	96.08	95.79	95.69	95.69	95.88	95.76	95.85	95.82	95.77	95.78
22	95.71	95.81	96.16	95.78	95.69	95.69	95.91	95.75	95.84	95.86	95.79	95.78
23	95.72	95.82	96.24	95.78	95.69	95.68	95.94	95.73	95.84	95.88	95.82	95.78
24	95.73	95.82	96.31	95.78	95.68	95.66	95.97	95.72	95.83	95.89	95.84	95.78
25	95.73	95.82	96.35	95.76	95.68	95.65	95.99	95.71	95.83	95.91	95.84	95.79
26	95.72	95.82	96.43	95.74	95.68	95.65	96.01	95.70	95.80	95.92	95.83	95.80
27	95.72	95.82	96.48	95.74	95.69	95.64	96.03	95.70	95.79	95.91	95.81	95.79
28	95.72	95.81	96.53	95.73	95.68	95.63	96.04	95.70	95.78	95.89	95.78	95.79
29	95.72	95.83	96.59	95.73	------	95.63	96.04	95.69	95.78	95.89	95.77	95.80
30	95.72	95.84	96.64	95.75	------	95.63	96.05	95.67	95.79	95.88	95.76	95.81
31	95.73	------	96.67	95.74	------	95.63	------	95.66	------	95.88	95.76	------
MAX	95.73	95.84	96.67	96.75	95.74	95.74	96.05	96.06	95.88	95.92	95.87	95.81
MIN	95.62	95.73	95.83	95.73	95.68	95.63	95.58	95.66	95.65	95.75	95.76	95.72

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4685. Park Creek below Park Lake, near Coulee City, Wash.

Location.--Lat 47°34'20", long 119°25'10", in SW¼ sec.15, T.24 N., R.27 E., on left bank at highway crossing, 100 ft upstream from mouth, 500 ft downstream from Park Lake, and 6½ miles southwest of Coulee City.

Drainage area.--317 sq mi (revised), of which 281 sq mi in vicinity of Banks Lake is noncontributing.

Records available.--July 1945 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 1,091.52 ft above mean sea level (Bureau of Reclamation bench mark).

Average discharge.--20 years, 10.4 cfs (7,530 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Mar. 27, 1961	23	2.58	Sept.30, 1961	2.4	1.79
1962	Apr. 23, 1962	28	2.74	Aug. 21-24, 1962	a 0	-
1963	Mar. 25, 1963	20	3.08	Mar. 25, 1963	2.8	1.80
1964	(b)	c 18	d 2.94	July 30, 31, 1964	7.2	2.16
1965	Jan. 4, 1965	40	4.42	Dec. 16, 17, 1964	e 2.2	-

a For part of each day.
b Oct. 8-15, 1963, Apr. 13-15, Apr. 25 to May 1, May 18, 19, 1964.
c Maximum daily.
d Occurred Oct. 8, 1963.
e Minimum daily.

1945-65: Maximum discharge, 47 cfs Feb. 9, 1951 (gage height, 2.71 ft); maximum gage height, 4.42 ft Jan. 4, 1965; no flow for part of each day Aug. 21-24, 1962.

Remarks.--Records good. Some diversion during summer months for irrigation above Park Lake. Occasional regulation by operation of fish screen at outlet of Park Lake.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	13	15	10	16	16	17	15	14	7.1	5.6	7.1
2	12	13	15	10	17	15	18	15	14	6.4	5.8	6.9
3	12	13	15	10	17	14	19	16	14	6.6	5.8	6.4
4	12	13	15	10	16	16	19	16	15	7.3	5.8	6.2
5	12	13	15	10	17	17	18	16	15	8.0	5.6	6.0
6	13	13	15	11	17	17	17	16	14	8.6	5.4	5.6
7	13	13	15	13	17	17	17	16	13	8.0	5.6	5.0
8	12	13	15	13	17	17	17	16	13	7.8	5.8	4.8
9	12	13	15	16	18	17	17	17	13	7.6	5.2	4.8
10	12	13	17	18	19	17	17	17	13	7.6	5.0	4.8
11	12	13	17	18	20	18	17	16	13	7.3	5.0	5.0
12	12	13	17	18	21	18	18	14	13	7.1	4.5	5.0
13	12	14	17	18	21	18	18	14	13	6.9	4.1	5.0
14	12	14	13	18	20	19	19	15	12	6.9	4.1	5.0
15	12	14	12	18	20	18	18	15	12	6.6	4.6	5.0
16	12	14	11	17	20	18	18	15	12	6.2	4.8	5.2
17	12	14	11	17	20	18	18	14	12	5.8	4.3	5.4
18	13	14	11	17	20	18	18	14	12	5.6	4.6	5.4
19	14	14	11	17	20	18	13	15	11	5.4	5.0	5.2
20	14	15	11	16	20	18	8.8	14	10	5.6	5.4	5.4
21	14	14	11	16	20	17	9.3	14	9.6	5.8	5.8	5.6
22	14	14	11	16	19	16	10	14	9.3	5.8	5.1	5.8
23	15	15	11	16	19	17	10	14	9.3	5.8	6.0	6.0
24	15	15	13	15	19	17	11	13	9.3	5.6	6.2	6.2
25	15	16	12	14	18	15	11	13	9.3	5.4	6.2	6.6
26	14	16	12	12	14	13	11	12	8.8	5.4	6.6	7.1
27	14	16	11	11	14	17	12	13	8.3	5.6	6.9	7.3
28	14	16	11	13	15	19	13	13	7.8	5.6	7.1	5.0
29	13	15	10	13	------	20	14	13	7.3	5.6	7.3	3.8
30	13	15	10	14	------	20	15	13	6.9	5.4	7.3	2.8
31	13	------	10	15	------	19	------	13	------	5.6	7.3	------
TOTAL	406	430	412	455	515	539	462.6	458	346.9	200.5	174.8	167.4
MEAN	13.1	14.3	13.3	14.7	18.4	17.4	15.4	14.8	11.6	6.47	5.64	5.58
MAX	15	16	17	18	21	20	19	17	15	8.6	7.3	7.1
MIN	12	13	10	10	14	13	8.8	12	6.9	5.4	4.1	2.8
AC-FT	806	853	818	902	1,020	1,070	918	908	688	398	347	332

CAL YR 1960: TOTAL 5,269.5 MEAN 14.4 MAX 23 MIN 5.6 AC-FT 10,450
WAT YR 1961: TOTAL 4,568.7 MEAN 12.5 MAX 21 MIN 2.8 AC-FT 9,060

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4685. Park Creek below Park Lake, near Coulee City, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.4	9.8	13	14	14	14	16	17	4.3	5.8	5.6	7.6
2	2.6	8.8	13	14	14	14	15	2.5	5.2	5.6	5.6	7.0
3	3.0	9.6	13	14	14	14	16	3.5	6.1	5.6	6.0	6.2
4	3.0	9.9	13	14	14	14	16	5.0	6.4	5.8	6.2	6.4
5	10	9.9	13	14	14	14	17	7.1	6.6	6.0	6.6	6.6
6	16	10	13	14	14	14	17	8.3	8.4	6.2	6.6	6.6
7	15	10	13	14	14	14	17	9.1	14	6.6	7.1	3.8
8	14	11	13	14	14	14	17	9.9	15	6.9	7.3	2.7
9	15	12	13	14	14	14	15	11	14	7.1	7.6	3.4
10	16	12	13	14	16	14	12	12	13	6.9	7.3	4.0
11	15	12	14	14	16	14	4.6	16	12	6.9	7.6	4.4
12	15	12	14	14	16	15	4.1	19	12	6.9	11	4.7
13	14	12	14	14	16	16	3.0	18	11	6.6	18	5.3
14	14	12	14	14	16	16	3.8	18	8.3	6.4	17	5.9
15	14	12	14	14	16	16	3.6	17	6.2	6.4	16	6.4
16	13	11	14	14	17	16	4.8	16	6.4	6.4	14	6.8
17	13	11	15	14	17	16	4.1	15	6.4	6.0	11	7.4
18	12	12	15	14	17	16	9.9	15	6.9	6.0	10	7.4
19	12	12	16	17	17	16	10	15	6.2	6.0	10	7.8
20	12	12	16	16	17	16	4.3	14	4.8	6.0	11	8.4
21	11	12	16	15	16	16	3.1	14	5.2	6.0	9.4	8.6
22	11	13	16	15	15	16	5.0	14	5.4	5.8	4.7	8.6
23	11	13	16	15	16	16	21	13	6.0	5.6	.10	8.6
24	11	13	16	15	15	16	27	13	6.4	5.6	8.7	11
25	11	11	15	15	15	16	26	14	6.2	5.6	11	15
26	11	11	15	14	15	16	24	14	6.0	5.8	10	16
27	11	12	15	14	14	16	24	14	5.8	6.2	9.6	15
28	10	12	15	14	14	16	24	13	5.4	6.0	5.0	16
29	8.8	12	14	14	------	16	23	9.2	6.0	6.0	8.6	16
30	9.6	12	14	14	------	15	23	4.1	6.2	6.0	8.0	16
31	10	------	14	14	------	15	------	4.3	------	5.8	8.0	------
TOTAL	353.9	347.5	450	455	435	480	413.8	380.0	233.3	190.5	281.10	250.6
MEAN	11.4	11.6	14.5	14.7	15.5	15.5	13.8	12.3	7.78	6.15	9.07	8.35
MAX	16	13	16	17	17	16	27	19	15	7.1	18	16
MIN	2.4	8.8	13	14	14	14	3.0	2.5	4.3	5.6	.10	2.7
AC-FT	702	689	893	902	863	952	821	754	463	378	558	497

CAL YR 1961: TOTAL 4,471.1 MEAN 12.2 MAX 21 MIN 2.4 AC-FT 8,870
WAT YR 1962: TOTAL 4,270.70 MEAN 11.7 MAX 27 MIN .10 AC-FT 8,470

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	13	14	14	15	15	16	16	10	7.5	6.3	6.8
2	16	12	14	15	15	14	17	16	9.8	7.4	6.4	6.7
3	16	12	14	15	15	14	17	15	9.8	7.2	6.7	6.8
4	16	12	14	15	15	14	17	15	9.6	7.1	6.5	7.0
5	15	12	14	15	15	14	17	15	9.5	7.1	6.4	7.0
6	15	12	14	15	16	14	17	16	9.6	7.2	6.4	7.0
7	15	12	14	15	16	14	17	16	9.6	7.2	6.3	7.1
8	15	13	14	16	16	14	17	16	9.3	7.5	6.4	7.2
9	15	13	14	15	16	14	17	16	8.8	7.4	6.5	7.4
10	15	13	14	4.0	16	14	17	16	8.2	7.4	6.7	7.5
11	15	13	14	11	16	14	14	15	8.0	7.4	7.0	7.5
12	15	13	14	14	16	14	8.0	15	8.0	7.2	7.2	7.5
13	16	13	14	15	16	14	7.7	14	8.0	7.4	6.8	7.4
14	15	13	15	15	16	14	7.4	13	7.8	7.2	6.7	7.1
15	15	13	15	14	16	14	7.8	11	7.5	7.1	6.5	7.1
16	14	13	15	14	16	14	8.0	9.6	7.7	7.0	6.7	7.2
17	14	14	15	14	16	14	8.4	7.7	7.7	6.8	6.8	7.4
18	14	14	15	14	16	13	9.2	7.1	7.7	6.8	6.7	7.7
19	14	14	16	14	16	13	10	8.1	7.4	6.8	6.5	7.8
20	14	14	16	14	16	13	11	10	7.2	6.7	6.1	7.8
21	14	14	15	14	16	12	12	11	7.1	6.5	6.1	7.8
22	13	14	14	14	16	11	12	13	7.2	6.3	6.1	8.1
23	13	14	12	14	16	3.8	16	12	7.5	6.3	6.1	8.1
24	13	14	10	15	16	3.1	18	12	7.7	6.1	6.1	8.6
25	13	14	11	15	16	11	17	12	7.5	6.1	6.4	8.6
26	13	14	12	15	15	19	17	11	7.7	6.3	6.5	8.7
27	13	14	13	15	15	17	18	11	7.2	6.3	6.7	8.8
28	12	14	14	14	15	15	18	11	7.2	6.5	6.8	8.7
29	12	14	14	14	------	17	17	11	7.4	6.4	7.0	9.2
30	12	14	14	14	------	19	17	10	7.4	6.1	7.0	9.2
31	13	------	14	14	------	18	------	10	------	6.1	7.0	------
TOTAL	449	401	442	444.5	446	427.9	428.0	397.5	245.1	212.4	203.4	230.8
MEAN	14.5	13.4	14.3	14.3	15.9	13.8	14.3	12.8	8.17	6.85	6.56	7.69
MAX	16	14	16	16	16	19	18	16	10	7.5	7.2	9.2
MIN	12	12	10	4.0	15	3.1	7.4	7.1	7.1	6.1	6.1	6.7
AC-FT	891	796	877	882	886	849	849	788	486	421	403	458

CAL YR 1962: TOTAL 4,411.80 MEAN 12.1 MAX 27 MIN .10 AC-FT 8,750
WAT YR 1963: TOTAL 4,328.6 MEAN 11.9 MAX 19 MIN 3.1 AC-FT 8,590

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4685. Park Creek below Park Lake, near Coulee City, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.0	12	13	16	17	13	16	18	15	8.4	7.5	7.7
2	9.2	12	13	16	17	14	17	17	15	8.6	7.7	7.7
3	9.8	12	13	16	17	15	16	17	15	8.7	8.0	8.0
4	11	12	13	16	17	17	17	17	15	8.8	8.0	8.2
5	11	12	14	16	17	17	17	17	15	8.8	8.1	8.2
6	11	11	14	16	17	17	17	17	15	9.0	8.4	8.4
7	13	12	15	16	17	17	17	17	15	9.0	8.4	8.4
8	18	12	15	16	17	17	17	17	15	9.2	8.2	8.4
9	18	12	14	15	16	17	17	17	15	8.8	8.1	8.4
10	18	12	13	15	16	17	17	16	15	9.0	8.0	8.4
11	18	12	15	16	16	16	17	16	16	9.2	8.1	8.2
12	18	12	17	16	16	16	17	16	16	9.5	8.2	8.4
13	18	13	16	16	16	16	18	16	16	9.0	8.2	8.6
14	18	14	16	16	16	16	18	16	16	8.8	8.1	8.6
15	18	15	16	16	16	16	18	17	16	8.6	8.2	8.4
16	17	15	17	16	16	16	17	17	16	8.4	8.2	8.7
17	17	15	17	16	16	16	17	17	15	8.6	8.4	8.8
18	16	15	16	16	16	16	17	18	15	8.2	8.2	8.7
19	15	14	16	17	14	16	17	18	15	8.0	8.1	8.7
20	15	10	17	17	14	16	17	17	14	8.0	8.1	8.7
21	14	10	17	17	13	16	17	17	11	7.7	8.2	8.8
22	14	10	17	17	9.0	16	17	17	11	7.5	8.4	9.2
23	14	11	16	17	8.8	16	17	17	9.8	7.4	8.2	9.5
24	13	11	16	17	10	16	17	17	8.8	7.7	8.1	9.7
25	12	12	17	17	9.5	16	18	17	8.8	8.0	8.1	9.5
26	12	12	16	17	9.8	16	18	16	8.8	7.8	8.0	9.2
27	12	12	16	17	11	16	18	16	8.6	7.5	7.8	9.5
28	12	13	16	17	12	16	18	16	8.6	7.5	7.8	9.8
29	12	13	16	17	12	16	18	16	8.6	7.5	7.7	10
30	12	13	16	17	------	16	18	15	8.4	7.4	7.7	10
31	12	------	16	17	------	16	------	15	------	7.4	7.8	------
TOTAL	437.0	371	479	507	420.1	497	517	517	397.4	258.0	250.0	262.8
MEAN	14.1	12.4	15.5	16.4	14.5	16.0	17.2	16.7	13.2	8.32	8.06	8.76
MAX	18	15	17	17	17	17	18	18	16	9.5	8.4	10
MIN	9.0	10	13	15	9.0	13	16	15	8.4	7.4	7.5	7.7
AC-FT	867	736	950	1,010	833	986	1,030	1,030	788	512	496	521

CAL YR 1963: TOTAL 4,323.1 MEAN 11.8 MAX 19 MIN 3.1 AC-FT 8,570
WAT YR 1964: TOTAL 4,913.3 MEAN 13.4 MAX 18 MIN 7.4 AC-FT 9,750

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.1	14	16	10	17	16	16	11	9.1	7.9	8.3	7.4
2	9.4	14	16	10	17	16	15	11	4.0	7.9	8.3	7.0
3	9.6	13	16	11	17	16	15	11	4.1	8.1	7.9	6.8
4	9.6	14	16	27	17	16	15	11	4.6	8.7	7.9	7.0
5	9.4	14	16	39	17	14	15	11	4.7	8.5	7.6	7.0
6	9.8	14	16	38	17	13	15	13	4.9	8.0	7.6	6.6
7	10	14	16	36	17	11	15	19	4.7	7.6	8.1	6.5
8	10	13	16	35	17	12	15	18	4.9	7.2	8.3	6.8
9	10	14	16	33	17	12	16	18	7.4	6.7	7.6	7.0
10	10	14	16	31	17	13	16	17	8.9	6.2	7.4	7.2
11	10	15	15	30	16	12	15	16	8.9	5.8	6.8	7.4
12	10	15	15	28	16	13	15	16	8.7	5.8	6.6	7.2
13	10	15	15	27	16	16	15	15	8.7	6.0	6.6	7.4
14	11	14	15	26	16	16	15	15	8.7	6.0	6.8	7.6
15	11	14	10	25	17	16	15	14	8.9	5.8	7.2	7.4
16	11	14	2.2	24	18	14	14	14	8.9	5.6	7.0	7.0
17	11	14	2.2	23	17	13	6.9	14	9.6	5.5	7.0	6.8
18	11	14	3.0	21	17	14	3.4	14	10	5.3	6.8	7.2
19	11	14	4.0	21	17	14	4.2	14	10	4.9	7.0	7.4
20	11	14	4.2	20	17	14	5.1	13	10	5.3	7.2	7.6
21	12	14	3.1	20	17	14	5.5	13	9.6	6.4	7.2	7.9
22	12	14	2.7	20	16	12	6.6	13	9.1	7.2	7.9	8.1
23	12	14	2.3	20	16	13	7.4	12	9.1	7.6	8.7	7.9
24	12	14	2.8	19	16	17	8.3	12	8.9	8.3	9.1	8.1
25	13	14	3.5	19	16	18	8.7	12	8.9	8.9	9.1	8.3
26	13	14	3.1	18	16	16	9.4	12	8.3	8.7	8.9	7.9
27	13	14	2.9	18	16	16	9.8	12	7.9	8.5	8.3	8.3
28	13	14	3.2	18	16	16	10	12	7.6	8.3	7.4	8.5
29	13	14	3.8	18	------	16	10	11	7.6	8.1	7.0	8.5
30	13	15	4.9	18	------	16	11	11	7.6	8.1	7.2	8.7
31	13	------	6.6	18	------	16	------	10	------	8.1	7.2	------
TOTAL	342.9	422	284.5	721	466	451	349.3	415	234.3	221.0	236.0	224.6
MEAN	11.1	14.1	9.18	23.3	16.6	14.5	11.6	13.4	7.81	7.13	7.61	7.49
MAX	13	15	16	39	18	18	16	19	10	8.9	9.1	8.7
MIN	9.1	13	2.2	10	16	11	3.4	10	4.0	4.9	6.6	6.6
AC-FT	680	837	564	1,430	924	895	693	823	465	438	468	445

CAL YR 1964: TOTAL 4,675.7 MEAN 12.8 MAX 18 MIN 2.2 AC-FT 9,270
WAT YR 1965: TOTAL 4,367.6 MEAN 12.0 MAX 39 MIN 2.2 AC-FT 8,660

12-4690. Blue Lake near Coulee City, Wash.

Location.--Lat 47°34'21", long 119°25'30", in SW¼SW¼ sec.15, T.24 N., R.27 E., on northeast shore near mouth of Park Creek, 6½ miles southwest of Coulee City.

Drainage area.--334 sq mi, of which 281 sq mi in the vicinity of Banks Lake is noncontributing.

Records available.--March 1938 to November 1956 (fragmentary), December 1956 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Prior to Nov. 16, 1956, staff gage at site 0.3 mile downlake at same datum.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	Mar. 20, 1961	1,093.62	Sept.30, 1961	1,092.92
1962	Nov. 20, 1961	1,093.69	Oct. 5, 1961	1,092.88
1963	Sept.30, 1963	1,093.53	Oct. 1, 1962	1,093.12
1964	Sept.30, 1964	1,093.56	July 6, 1964	1,093.09
1965	Jan. 9-11, 1965	1,093.77	Oct. 29, 1964	1,093.14

1938-65: Maximum elevation, 1,093.81 ft Jan. 24, 1959; minimum observed, 1,090.50 ft Nov. 10, 1939.
Maximum elevation known, 1,101.2 ft (from alkali line at former staff gage), date unknown.

Remarks.--Some diversion from tributaries for irrigation.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	93.15	93.27	93.45	93.41	93.43	93.52	93.58	93.34	-	93.05	93.11	93.13
2	93.15	93.27	93.47	93.41	93.44	93.52	93.58	93.35	-	93.03	93.10	93.10
3	93.16	93.26	93.46	93.40	93.44	93.52	93.58	93.34	-	93.02	93.10	93.09
4	93.17	93.25	93.45	93.40	93.44	93.51	93.56	93.35	-	93.02	93.11	93.09
5	93.17	93.26	93.45	93.41	93.45	93.52	93.55	93.36	93.44	93.03	93.12	93.09
6	93.18	93.26	93.44	93.41	93.46	93.52	93.53	93.36	93.44	93.03	93.10	93.07
7	93.19	93.27	93.44	93.43	93.46	93.51	93.52	93.37	93.44	93.02	93.10	93.04
8	93.19	93.27	93.43	93.44	93.47	93.51	93.51	93.37	93.43	93.00	93.08	93.02
9	93.18	93.27	93.43	93.45	93.48	93.51	93.49	93.40	93.43	93.00	93.05	93.03
10	93.16	93.28	93.43	93.47	93.49	93.51	93.48	93.43	93.40	93.00	93.05	93.02
11	93.16	93.30	93.43	93.48	93.54	93.53	93.47	93.43	93.41	93.00	93.06	93.01
12	93.16	93.31	93.43	93.49	93.55	93.54	93.48	93.42	93.41	93.01	93.07	93.01
13	93.16	93.32	93.43	93.51	93.56	93.55	93.47	93.42	93.40	93.03	93.07	93.02
14	93.16	93.32	93.42	93.51	93.56	93.59	93.45	93.41	93.40	93.04	93.08	93.02
15	93.17	93.33	93.40	93.53	93.57	93.59	93.45	93.41	93.39	93.04	93.10	93.03
16	93.18	93.35	93.40	93.53	93.57	93.59	93.45	93.42	93.39	93.05	93.10	93.04
17	93.19	93.36	93.40	93.53	93.59	93.59	93.45	93.42	93.38	93.04	93.10	93.05
18	93.20	93.37	93.43	93.53	93.60	93.58	93.44	93.43	93.37	93.05	93.11	93.04
19	93.21	93.37	93.44	93.52	93.59	93.59	93.43	93.43	93.35	93.06	93.11	93.04
20	93.22	93.38	93.43	93.51	93.59	93.60	93.40	93.44	93.32	93.07	93.12	93.04
21	93.23	93.39	93.43	93.51	93.59	93.59	93.37	93.44	93.28	93.08	93.13	93.03
22	93.24	93.39	93.43	93.50	93.58	93.59	93.35	93.43	93.26	93.09	93.14	93.02
23	93.25	93.42	93.43	93.50	93.57	93.59	93.35	93.43	93.25	93.11	93.13	93.00
24	93.26	93.45	93.43	93.49	93.56	93.58	93.34	93.41	93.23	93.09	93.13	93.00
25	93.26	93.47	93.43	93.48	93.55	93.57	93.33	93.40	93.21	93.08	93.13	92.98
26	93.27	93.47	93.43	93.46	93.54	93.57	93.31	93.41	93.19	93.08	93.13	92.97
27	93.27	93.46	93.42	93.44	93.54	93.56	93.31	-	93.13	93.09	93.13	92.98
28	93.27	93.45	93.42	93.43	93.53	93.57	93.30	-	93.10	93.09	93.12	92.97
29	93.26	93.45	93.42	93.43	------	93.57	93.31	-	93.08	93.09	93.13	92.95
30	93.26	93.45	93.42	93.43	------	93.58	93.34	-	93.06	93.09	93.13	92.93
31	93.27	------	93.41	93.43	------	93.58	------	-	------	93.10	93.14	------
MAX	93.27	93.47	93.47	93.53	93.60	93.60	93.58	-	-	93.11	93.14	93.13
MIN	93.15	93.25	93.40	93.40	93.43	93.51	93.30	-	-	93.00	93.05	92.93

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4690. Blue Lake near Coulee City, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92.91	93.18	93.48	93.47	93.48	93.46	93.48	93.51	93.30	93.12	93.09	93.26
2	92.90	93.18	93.47	93.47	93.48	93.46	93.48	93.47	93.28	93.09	93.10	93.20
3	92.90	93.22	93.46	93.47	93.48	93.46	93.48	93.44	93.26	93.09	93.12	93.16
4	92.89	93.23	93.45	93.49	93.47	93.46	93.48	93.39	93.24	93.09	93.15	93.14
5	92.89	93.25	93.44	93.49	93.47	93.48	93.49	93.35	93.22	93.09	93.15	93.13
6	92.93	93.27	93.42	93.49	93.47	93.48	93.50	93.33	93.21	93.09	93.17	93.12
7	92.96	93.30	93.42	93.50	93.47	93.48	93.50	93.31	93.22	93.09	93.19	93.07
8	92.98	93.33	93.41	93.50	93.48	93.48	93.49	93.30	93.24	93.10	93.22	93.04
9	93.01	93.37	93.41	93.50	93.49	93.48	93.48	93.30	93.26	93.12	93.24	93.02
10	93.04	93.40	93.40	93.49	93.52	93.48	93.47	93.30	93.25	93.12	93.25	93.01
11	93.06	93.44	93.39	93.49	93.52	93.48	93.43	93.30	93.25	93.12	93.25	93.00
12	93.08	93.46	93.39	93.49	93.52	93.48	93.39	93.32	93.27	93.13	93.29	92.98
13	93.11	93.49	93.40	93.49	93.53	93.48	93.36	93.33	93.28	93.11	93.32	92.97
14	93.14	93.52	93.40	93.48	93.55	93.48	93.33	93.34	93.31	93.10	93.35	92.97
15	93.16	93.54	93.41	93.48	93.55	93.48	93.30	93.35	93.32	93.10	93.39	92.96
16	93.18	93.56	93.42	93.47	93.55	93.48	93.26	93.35	93.32	93.10	93.43	92.96
17	93.18	93.59	93.47	93.47	93.55	93.48	93.23	93.35	93.31	93.09	93.45	92.96
18	93.18	93.62	93.47	93.46	93.55	93.48	93.21	93.35	93.30	93.07	93.46	92.96
19	93.20	93.65	93.47	93.46	93.55	93.48	93.21	93.35	93.29	93.07	93.47	92.96
20	93.18	93.68	93.48	93.45	93.54	93.48	93.20	93.35	93.27	93.07	93.48	92.96
21	93.17	93.65	93.50	93.45	93.52	93.48	93.18	93.35	93.25	93.06	93.45	92.96
22	93.17	93.63	93.49	93.46	93.51	93.50	93.17	93.35	93.23	93.06	93.42	92.97
23	93.17	93.61	93.49	93.47	93.50	93.50	93.20	93.36	93.22	93.06	93.39	92.97
24	93.17	93.59	93.48	93.48	93.49	93.50	93.29	93.38	93.21	93.05	93.41	92.96
25	93.17	93.55	93.48	93.49	93.48	93.50	93.34	93.40	93.21	93.05	93.44	92.98
26	93.18	93.52	93.47	93.50	93.47	93.51	93.40	93.41	93.19	93.06	93.43	93.01
27	93.20	93.51	93.47	93.50	93.46	93.50	93.49	93.42	93.17	93.07	93.39	93.04
28	93.19	93.51	93.48	93.50	93.46	93.49	93.51	93.41	93.14	93.08	93.35	93.08
29	93.18	93.50	93.47	93.50	------	93.49	93.50	93.40	93.14	93.07	93.33	93.10
30	93.17	93.49	93.47	93.49	------	93.48	93.50	93.36	93.14	93.08	93.30	93.12
31	93.17	------	93.47	93.49	------	93.48	------	93.33	------	93.08	93.28	------
MAX	93.20	93.68	93.50	93.50	93.55	93.51	93.51	93.51	93.32	93.13	93.48	93.26
MIN	92.89	93.18	93.39	93.45	93.46	93.46	93.17	93.30	93.14	93.05	93.09	92.96

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	93.13	93.29	93.30	93.28	93.28	93.30	93.25	93.29	93.28	93.41	93.37	93.37
2	93.15	93.28	93.30	93.28	93.29	93.29	93.25	93.28	93.28	93.41	93.37	93.37
3	93.17	93.28	93.30	93.29	93.31	93.27	93.26	93.27	93.28	93.42	93.37	93.38
4	93.18	93.28	93.29	93.29	93.31	93.26	93.27	93.27	93.30	93.43	93.37	93.39
5	93.19	93.28	93.29	93.29	93.32	93.25	93.29	93.28	93.31	93.43	93.37	93.40
6	93.20	93.27	93.29	93.30	93.33	93.25	93.32	93.31	93.34	93.43	93.38	93.40
7	93.21	93.27	93.30	93.30	93.33	93.25	93.33	93.33	93.35	93.44	93.37	93.41
8	93.22	93.27	93.30	93.30	93.34	93.25	93.33	93.32	93.35	93.45	93.37	93.42
9	93.24	93.28	93.30	93.29	93.34	93.25	93.33	93.32	93.35	93.45	93.37	93.43
10	93.25	93.28	93.30	93.28	93.34	93.24	93.34	93.32	93.36	93.45	93.38	93.44
11	93.27	93.28	93.30	93.28	-	93.23	93.34	93.32	93.38	93.45	93.39	93.44
12	93.30	93.29	93.30	93.30	-	93.23	93.32	93.32	93.40	93.45	93.40	93.45
13	93.32	93.29	93.30	93.33	93.32	93.22	93.29	93.31	93.40	93.45	93.40	93.45
14	93.31	93.29	93.33	93.35	93.32	93.22	93.27	93.30	93.39	93.45	93.39	93.43
15	93.31	93.30	93.34	93.36	93.32	93.23	93.28	93.29	93.38	93.43	93.38	93.41
16	93.30	93.31	93.34	93.36	93.32	93.23	93.24	93.25	93.39	93.43	93.38	93.42
17	93.30	93.31	93.35	93.36	93.32	93.23	93.22	93.22	93.39	93.43	93.38	93.42
18	93.30	93.31	93.35	93.35	93.33	93.22	93.22	93.18	93.40	93.43	93.38	93.43
19	93.30	93.32	93.35	93.33	93.33	93.22	93.23	93.17	93.40	93.43	93.37	93.45
20	93.30	93.32	93.35	93.32	93.33	93.21	93.23	93.17	93.40	93.42	93.37	93.45
21	93.30	93.31	93.35	93.32	93.33	93.21	93.23	93.17	93.40	93.41	93.35	93.46
22	93.30	93.30	93.33	93.31	93.32	93.20	93.22	93.17	93.40	93.41	93.35	93.47
23	93.30	93.29	93.31	93.30	93.32	93.20	93.22	93.17	93.41	93.40	93.33	93.48
24	93.30	93.29	93.29	93.30	93.31	93.17	93.23	93.16	93.42	93.38	93.34	93.48
25	93.30	93.29	93.27	93.29	93.32	93.14	93.24	93.16	93.41	93.37	93.34	93.49
26	93.31	93.30	93.26	93.28	93.33	93.16	93.25	93.18	93.41	93.38	93.35	93.50
27	93.30	93.29	93.26	93.28	93.32	93.20	93.26	93.20	93.39	93.39	93.35	93.50
28	93.30	93.28	93.26	93.28	93.31	93.23	93.27	93.22	93.41	93.39	93.36	93.50
29	93.29	93.28	93.26	93.27	------	93.23	93.28	93.25	93.41	93.38	93.37	93.51
30	93.29	93.30	93.27	93.26	------	93.25	93.30	93.26	93.41	93.38	93.37	93.52
31	93.29	------	93.28	93.27	------	93.25	------	93.27	------	93.37	93.37	------
MAX	93.32	93.32	93.35	93.36	-	93.30	93.34	93.33	93.42	93.45	93.40	93.52
MIN	93.13	93.27	93.26	93.26	-	93.14	93.22	93.16	93.28	93.37	93.33	93.37

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4690. Blue Lake near Coulee City, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	93.51	93.12	93.14	93.33	93.38	93.20	93.31	93.28	93.19	93.13	93.34	93.38
2	93.51	93.12	93.14	93.33	93.38	93.20	93.29	93.28	93.20	93.12	93.35	93.38
3	93.51	93.12	93.14	93.32	93.37	93.21	93.28	93.28	93.19	93.11	93.36	93.38
4	93.51	93.11	93.15	93.33	93.37	93.22	93.29	93.29	93.21	93.11	93.38	93.39
5	93.52	93.11	93.18	93.33	93.36	93.23	93.29	93.28	93.22	93.11	93.37	93.40
6	93.49	93.12	93.20	93.32	93.36	93.24	93.29	93.27	93.24	93.09	93.38	93.40
7	93.44	93.13	93.20	93.31	93.36	93.24	93.30	93.26	93.23	93.11	93.39	93.41
8	93.43	93.14	93.24	93.31	93.36	93.25	93.30	93.27	93.25	93.13	93.39	93.42
9	93.42	93.13	93.23	93.31	93.36	93.25	93.30	93.26	93.27	93.14	93.39	93.42
10	93.41	93.13	93.21	93.31	93.36	93.25	93.30	93.25	93.28	93.15	93.37	93.41
11	93.40	93.12	93.21	93.31	93.36	93.27	93.30	93.23	93.29	93.18	93.37	93.41
12	93.39	93.11	93.22	93.31	93.34	93.27	93.30	93.23	93.31	93.22	93.39	93.43
13	93.38	93.11	93.23	93.30	93.34	93.27	93.30	93.22	93.35	93.23	93.39	93.44
14	93.37	93.14	93.24	93.32	93.34	93.28	93.29	93.21	93.37	93.25	93.38	93.45
15	93.36	93.16	93.25	93.32	93.34	93.28	93.29	93.20	93.39	93.25	93.39	93.45
16	93.35	93.15	93.27	93.33	93.34	93.27	93.28	93.21	93.43	93.25	93.40	93.47
17	93.35	93.15	93.28	93.33	93.35	93.28	93.27	93.21	93.45	93.26	93.41	93.48
18	93.32	93.15	93.28	93.33	93.34	93.28	93.27	93.20	93.46	93.27	93.42	93.47
19	93.30	93.16	93.29	93.34	93.33	93.28	93.27	93.21	93.44	93.25	93.41	93.47
20	93.29	93.13	93.31	93.35	93.32	93.28	93.27	93.23	93.41	93.27	93.40	93.47
21	93.27	93.11	93.31	93.35	93.31	93.28	93.26	93.22	93.38	93.28	93.41	93.48
22	93.25	93.11	93.31	93.35	93.29	93.30	93.26	93.22	93.36	93.27	93.39	93.49
23	93.24	93.12	93.32	93.35	93.27	93.29	93.27	93.22	93.34	93.25	93.35	93.51
24	93.23	93.12	93.32	93.36	93.26	93.29	93.27	93.20	93.31	93.26	93.35	93.52
25	93.20	93.13	93.32	93.38	93.22	93.29	93.27	93.20	93.27	93.29	93.37	93.52
26	93.17	93.14	93.32	93.37	93.21	93.28	93.28	93.20	93.26	93.29	93.37	93.52
27	93.16	93.13	93.32	93.37	93.20	93.28	93.27	93.20	93.23	93.27	93.38	93.52
28	93.15	93.13	93.33	93.37	93.20	93.29	93.27	93.19	93.19	93.29	93.38	93.53
29	93.14	93.13	93.33	93.37	93.21	93.29	93.28	93.19	93.16	93.31	93.38	93.54
30	93.13	93.14	93.33	93.37	------	93.29	93.28	93.19	93.15	93.32	93.38	93.55
31	93.13	------	93.33	93.38	------	93.30	------	93.19	------	93.32	93.38	------
MAX	93.51	93.16	93.33	93.38	93.38	93.30	93.31	93.28	93.46	93.32	93.42	93.55
MIN	93.13	93.11	93.14	93.30	93.20	93.20	93.26	93.19	93.15	93.09	93.34	93.38

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	93.55	93.16	93.29	93.40	93.51	93.41	93.36	93.39	93.38	93.41	93.46	93.44
2	93.55	93.16	93.29	93.43	93.49	93.41	93.37	93.40	93.36	93.42	93.47	93.43
3	93.52	93.15	93.29	93.45	93.49	93.41	93.36	93.40	93.37	93.43	93.49	93.42
4	93.48	93.18	93.28	93.48	93.49	93.41	93.37	93.40	93.28	93.44	93.48	93.42
5	93.43	93.19	93.28	93.58	93.48	93.40	93.37	93.40	93.27	93.45	93.48	93.42
6	93.39	93.19	93.28	93.65	93.47	93.39	93.37	93.40	93.22	93.45	93.48	93.41
7	93.36	93.20	93.29	93.69	93.46	93.38	93.37	93.41	93.19	93.45	93.48	93.41
8	93.34	93.19	93.30	93.73	93.45	93.37	93.37	93.44	93.18	93.45	93.49	93.42
9	93.32	93.19	93.30	93.75	93.45	93.37	93.38	93.47	93.18	93.42	93.48	93.42
10	93.31	93.22	93.30	93.77	93.44	93.36	93.40	93.51	93.18	93.42	93.46	93.43
11	93.29	93.23	93.29	93.76	93.44	93.35	93.40	93.53	93.20	93.41	93.45	93.44
12	93.28	93.24	93.28	93.75	93.44	93.35	93.40	93.52	93.22	93.40	93.45	93.43
13	93.27	93.25	93.28	93.74	93.44	93.35	93.40	93.51	93.22	93.40	93.44	93.43
14	93.26	93.24	93.29	93.73	93.43	93.35	93.40	93.50	93.24	93.42	93.43	93.43
15	93.24	93.23	93.27	93.70	93.43	93.37	93.40	93.50	93.27	93.41	93.44	93.42
16	93.21	93.23	93.24	93.69	93.43	93.34	93.42	93.50	93.29	93.40	93.44	93.40
17	93.20	93.23	93.22	93.67	93.42	93.34	93.42	93.48	93.32	93.40	93.42	93.40
18	93.19	93.23	93.22	93.65	93.43	93.34	93.39	93.48	93.38	93.40	93.40	93.41
19	93.19	93.23	93.25	93.63	93.43	93.33	93.37	93.49	93.38	93.38	93.41	93.41
20	93.18	93.23	93.27	93.62	93.43	93.33	93.37	93.51	93.39	93.39	93.42	93.43
21	93.18	93.23	93.29	93.61	93.42	93.33	93.35	93.52	93.39	93.43	93.42	93.43
22	93.18	93.24	93.34	93.60	93.42	93.33	93.34	93.52	93.38	93.45	93.44	93.43
23	93.18	93.24	93.34	93.60	93.41	93.31	93.33	93.51	93.40	93.46	93.48	93.41
24	93.18	93.26	93.34	93.59	93.41	93.31	93.33	93.49	93.40	93.47	93.50	93.42
25	93.17	93.25	93.34	93.57	93.41	93.32	93.34	93.46	93.41	93.49	93.50	93.44
26	93.16	93.25	93.34	93.56	93.41	93.33	93.35	93.45	93.41	93.49	93.50	93.43
27	93.15	93.24	93.35	93.54	93.41	93.34	93.36	93.45	93.39	93.48	93.48	93.41
28	93.15	93.24	93.35	93.53	93.41	93.34	93.38	93.43	93.38	93.47	93.46	93.43
29	93.15	93.25	93.36	93.52	------	93.35	93.38	93.42	93.39	93.45	93.43	93.44
30	93.15	93.27	93.38	93.54	------	93.35	93.39	93.41	93.40	93.46	93.43	93.45
31	93.15	------	93.39	93.52	------	93.36	------	93.38	------	93.46	93.43	------
MAX	93.55	93.27	93.39	93.77	93.51	93.41	93.42	93.53	93.41	93.49	93.50	93.45
MIN	93.15	93.15	93.22	93.40	93.41	93.31	93.33	93.38	93.18	93.38	93.40	93.40

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4695. Lenore Lake near Soap Lake, Wash.

Location.--Lat 47°31', long 119°30', in SW¼ sec.1, T.23 N., R.26 E., on east shore 300 ft downlake from outlet gate on Alkali Lake and 8.3 miles north of town of Soap Lake.

Drainage area.--367 sq mi, of which 281 sq mi in the vicinity of Banks Lake is noncontributing.

Records available.--July 1936, March 1938 to December 1956 (fragmentary), January 1957 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Prior to Dec. 20, 1956, reference point and various staff gages 800 ft uplake at same datum.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	Apr. 19, 1961	1,080.34	Sept.30, 1961	1,074.43
1962	Apr. 6, 1962	1,078.49	Oct. 20, 1961	1,073.96
1963	May 22, 1963	1,079.13	Oct. 2, 1962	1,074.20
1964	June 16, 1964	1,078.99	Oct. 1, 1963	1,074.60
1965	Apr. 20, 1965	1,080.72	Sept.26, 27, 1965	1,075.91

1936, 1938-65: Maximum elevation observed, 1,087.73 ft June 12, 1953; minimum, 1,072.72 ft Jan. 2, 1959 (affected by wind).
Maximum elevation known, 1,092.2 ft (from well-defined alkali line at gage), date unknown.

Remarks.--Some diversion from tributaries for irrigation and pumping into and out of lake.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	75.21	75.25	75.99	76.90	77.87	78.91	80.00	80.29	79.73	78.40	76.78	75.21
2	75.20	75.25	76.04	76.92	77.92	78.94	80.03	80.28	79.70	78.35	76.73	75.15
3	75.18	75.24	76.07	76.95	77.95	78.95	80.07	80.26	79.67	78.33	76.68	75.10
4	75.17	75.27	76.09	76.98	77.98	78.97	80.11	80.24	79.65	78.30	76.63	75.05
5	75.16	75.28	76.11	77.01	78.03	79.01	80.12	80.24	79.62	78.28	76.58	75.00
6	75.16	75.30	76.14	77.05	78.08	79.05	80.14	80.25	79.59	78.21	76.50	74.92
7	75.16	75.32	76.16	77.08	78.11	79.07	80.16	80.27	79.57	78.15	76.45	74.81
8	75.14	75.33	76.19	77.11	78.13	79.09	80.18	80.28	79.52	78.09	76.38	74.81
9	75.11	75.35	76.22	77.14	78.19	79.13	80.20	80.30	79.48	78.04	76.29	74.82
10	75.10	75.37	76.25	77.18	78.24	79.18	80.21	80.29	79.43	77.96	76.26	74.77
11	75.09	75.39	76.27	77.21	78.32	79.24	80.23	80.27	79.40	77.90	76.20	74.80
12	75.08	75.40	76.30	77.24	78.37	79.28	80.26	80.25	79.37	77.86	76.16	74.80
13	75.07	75.44	76.33	77.27	78.42	79.33	80.27	80.24	79.33	77.83	76.11	74.80
14	75.07	75.46	76.35	77.30	78.44	79.41	80.28	80.21	79.30	77.78	76.07	74.79
15	75.07	75.49	76.37	77.34	78.48	79.45	80.28	80.20	79.27	77.72	76.03	74.80
16	75.07	75.54	76.40	77.38	78.52	79.48	80.29	80.18	79.24	77.65	75.98	74.80
17	75.08	75.56	76.43	77.41	78.57	79.50	80.29	80.16	79.20	77.59	75.92	74.80
18	75.08	75.59	76.49	77.44	78.60	79.54	80.30	80.14	79.17	77.54	75.87	74.76
19	75.08	75.61	76.54	77.47	78.64	79.58	80.30	80.13	79.11	77.49	75.82	74.77
20	75.09	75.63	76.57	77.50	78.70	79.64	80.30	80.11	79.06	77.44	75.78	74.76
21	75.11	75.66	76.59	77.53	78.72	79.65	80.29	80.08	78.99	77.39	75.75	74.71
22	75.13	75.67	76.62	77.56	78.74	79.68	80.28	80.06	78.94	77.34	75.71	74.70
23	75.14	75.72	76.64	77.59	78.76	79.73	80.30	80.03	78.90	77.29	75.66	74.66
24	75.15	75.80	76.67	77.62	78.79	79.77	80.30	79.98	78.85	77.22	75.62	74.64
25	75.16	75.84	76.70	77.65	78.82	79.80	80.30	79.96	78.80	77.13	75.56	74.61
26	75.18	75.86	76.74	77.68	78.84	79.83	80.29	79.95	78.71	77.10	75.50	74.57
27	75.19	75.88	76.77	77.71	78.86	79.85	80.28	79.90	78.63	77.06	75.45	74.55
28	75.19	75.91	76.79	77.73	78.88	79.88	80.27	79.86	78.57	76.99	75.41	74.52
29	75.20	75.93	76.82	77.77	------	79.91	80.27	79.82	78.51	76.93	75.37	74.50
30	75.21	75.96	76.84	77.81	------	79.94	80.30	79.78	78.45	76.89	75.31	74.46
31	75.23	------	76.87	77.84	------	79.97	------	79.77	------	76.84	75.27	------
MAX	75.23	75.96	76.87	77.84	78.88	79.97	80.30	80.30	79.73	78.40	76.78	75.21
MIN	75.07	75.24	75.99	76.90	77.87	78.91	80.00	79.77	78.45	76.84	75.27	74.46

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4695. Lenore Lake near Soap Lake, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	74.43	74.09	74.54	75.48	76.38	77.36	78.23	78.03	76.96	75.60	74.36	74.21
2	74.40	74.10	74.55	75.52	76.40	77.39	78.25	77.99	76.94	75.55	74.36	74.12
3	74.38	74.11	74.58	75.56	76.44	77.41	78.27	77.96	76.89	75.50	74.36	74.15
4	74.36	74.12	74.61	75.59	76.46	77.44	78.30	77.93	76.84	75.45	74.37	74.16
5	74.34	74.13	74.62	75.62	76.49	77.49	78.32	77.89	76.80	75.40	74.36	74.16
6	74.31	74.14	74.62	75.65	76.52	77.53	78.35	77.86	76.75	75.35	74.36	74.15
7	74.28	74.17	74.64	75.70	76.58	77.55	78.34	77.81	76.72	75.30	74.37	74.09
8	74.23	74.19	74.67	75.73	76.62	77.58	78.36	77.79	76.68	75.26	74.36	74.12
9	74.21	74.20	74.68	75.75	76.66	77.61	78.37	77.77	76.63	75.21	74.36	74.12
10	74.19	74.25	74.70	75.78	-	77.64	78.36	77.76	76.58	75.17	74.36	74.13
11	74.16	74.24	74.73	75.82	-	77.66	78.35	77.73	76.54	75.13	74.36	74.13
12	74.14	74.23	74.76	75.85	76.82	77.69	78.35	77.69	76.49	75.07	74.37	74.12
13	74.12	74.24	74.79	75.87	76.86	77.72	78.35	77.67	76.47	74.99	74.36	74.12
14	74.11	74.24	74.83	75.90	76.92	77.74	78.35	77.63	76.43	74.93	74.35	74.12
15	74.10	74.22	74.85	75.93	76.95	77.77	78.34	77.57	76.40	74.89	74.35	74.12
16	74.08	74.25	74.90	75.95	77.01	77.80	78.33	77.54	76.35	74.84	74.35	74.13
17	74.06	74.25	74.98	75.98	77.04	77.83	78.33	77.51	76.30	74.76	74.35	74.13
18	74.02	74.27	75.02	76.02	77.08	77.85	78.33	77.46	76.25	74.71	74.34	74.14
19	74.00	74.28	75.06	76.05	77.10	77.88	78.32	77.42	76.20	74.67	74.33	74.14
20	73.97	74.29	75.09	76.07	77.10	77.91	78.30	77.38	76.14	74.62	74.32	74.15
21	73.98	74.31	75.14	76.09	77.14	77.94	78.29	77.34	76.07	74.57	74.30	74.15
22	73.99	74.34	75.16	76.11	77.16	77.99	78.28	77.30	76.02	74.53	74.28	74.16
23	74.00	74.35	75.21	76.13	77.18	78.03	78.27	77.25	75.98	74.49	74.28	74.16
24	74.01	74.37	75.24	76.16	77.21	78.04	78.23	77.25	75.95	74.44	74.28	74.16
25	74.02	74.38	75.26	76.18	77.22	78.06	78.19	77.25	75.93	74.40	74.27	74.16
26	74.04	74.39	75.30	76.21	77.26	78.10	78.15	77.22	75.89	74.38	74.24	74.17
27	74.06	74.43	75.32	76.24	77.30	78.11	78.17	77.19	75.82	74.37	74.22	74.19
28	74.06	74.46	75.36	76.26	77.33	78.14	78.12	77.15	75.76	74.37	74.20	74.22
29	74.07	74.48	75.39	76.28	------	78.15	78.08	77.09	75.72	74.35	74.21	74.22
30	74.08	74.51	75.42	76.32	------	78.18	78.05	77.04	75.67	74.36	74.22	74.21
31	74.09	------	75.45	76.35	------	78.20	------	77.01	------	74.36	74.21	------
MAX	74.43	74.51	75.45	76.35	77.33	78.20	78.37	78.03	76.96	75.60	74.37	74.22
MIN	73.97	74.09	74.54	75.48	76.38	77.36	78.05	77.01	75.67	74.35	74.20	74.09

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	74.22	74.60	75.23	76.04	76.72	77.59	78.19	78.89	79.02	77.55	75.93	74.61
2	74.23	74.61	75.26	76.06	76.76	77.60	78.21	78.90	78.99	77.52	75.89	74.59
3	74.23	74.63	75.28	76.08	76.81	77.63	78.22	78.89	78.95	77.45	75.85	74.60
4	74.22	74.65	75.30	76.11	76.84	77.66	78.24	78.90	78.95	77.43	75.80	74.60
5	74.22	74.67	75.34	76.13	76.88	77.68	78.28	78.93	78.93	77.36	75.75	74.61
6	74.23	74.67	75.36	76.15	76.92	77.70	78.31	78.97	78.93	77.31	75.70	74.61
7	74.24	74.69	75.38	76.18	76.95	77.73	78.34	78.98	78.89	77.27	75.65	74.61
8	74.25	74.72	75.40	76.22	76.97	77.76	78.36	78.99	78.83	77.24	75.61	74.61
9	74.26	74.75	75.43	76.20	77.01	77.77	78.39	79.02	78.75	77.18	75.56	74.62
10	74.27	74.77	75.46	76.18	77.04	77.78	78.43	79.03	78.70	77.12	75.52	74.62
11	74.31	74.79	75.48	76.25	77.07	77.80	78.47	79.04	78.66	77.07	75.49	74.61
12	74.33	74.82	75.51	76.27	77.09	77.80	78.49	79.06	78.61	77.01	75.45	74.61
13	74.38	74.84	75.53	76.29	77.12	77.81	78.52	79.07	78.55	76.97	75.42	74.62
14	74.37	74.86	75.59	76.32	-	77.84	78.55	79.08	78.48	76.89	75.38	74.58
15	74.38	74.89	75.62	76.34	-	77.87	78.59	79.08	78.42	76.84	75.33	74.57
16	74.38	74.92	75.65	76.35	-	77.88	78.61	79.08	78.38	76.80	75.28	74.59
17	74.39	74.94	75.68	76.37	-	77.89	78.63	79.09	78.32	76.74	75.25	74.59
18	74.40	74.97	75.72	76.39	77.26	77.92	78.67	79.09	78.27	76.70	75.19	74.59
19	74.42	75.03	75.74	76.41	77.30	77.92	78.70	79.10	78.19	76.65	75.14	74.59
20	74.43	75.03	75.77	76.43	77.32	77.94	78.73	79.10	78.13	76.60	75.09	74.60
21	74.45	75.02	75.78	76.45	77.35	77.96	78.75	79.10	78.07	76.53	75.04	74.60
22	74.46	75.03	75.81	76.47	77.38	77.98	78.77	79.11	78.02	76.47	74.99	74.62
23	74.47	75.06	75.81	76.50	77.41	78.01	78.78	79.11	77.98	76.39	74.94	74.63
24	74.48	75.08	75.85	76.52	77.45	78.03	78.79	79.10	77.94	76.33	74.92	74.62
25	74.50	75.13	75.87	76.55	77.47	78.05	78.81	79.08	77.89	76.28	74.88	74.62
26	74.51	75.13	75.88	76.57	77.52	78.07	78.83	79.08	77.83	76.24	74.84	74.63
27	74.52	75.14	75.91	76.59	77.54	78.10	78.85	79.07	77.76	76.20	74.80	74.63
28	74.53	75.15	75.93	76.61	77.57	78.17	78.85	79.07	77.72	76.15	74.76	74.63
29	74.55	75.17	75.95	76.63	------	78.18	78.87	79.07	77.66	76.10	74.72	74.64
30	74.57	76.20	75.99	76.65	------	78.18	78.88	79.05	77.61	76.05	74.68	74.64
31	74.58	------	76.02	76.68	------	78.17	------	79.03	------	75.98	74.64	------
MAX	74.58	76.20	76.02	76.68	-	78.18	78.88	79.11	79.02	77.55	75.93	74.64
MIN	74.22	74.60	75.23	76.04	-	77.59	78.19	78.89	77.61	75.98	74.64	74.57

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4695. Lenore Lake near Soap Lake, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	74.65	74.89	75.48	76.22	77.09	77.78	78.29	78.65	78.82	78.83	77.44	76.41
2	74.65	74.91	75.49	72.24	77.12	77.79	78.31	78.67	78.84	78.79	77.40	76.40
3	74.64	74.92	75.51	76.27	77.14	77.82	78.32	78.68	78.84	78.74	77.37	76.41
4	74.64	74.94	75.53	76.30	77.16	77.84	78.33	78.68	78.85	78.71	77.33	76.41
5	74.64	74.95	75.56	76.32	77.19	77.87	78.36	78.69	78.87	78.67	77.28	76.42
6	74.65	74.99	75.59	76.34	77.22	77.87	78.38	78.70	78.87	78.62	77.24	76.41
7	74.65	75.02	75.59	76.37	77.23	77.89	78.41	78.71	78.87	78.59	77.21	76.41
8	74.65	75.05	75.63	76.38	77.26	77.93	78.43	78.72	78.89	78.56	77.15	76.42
9	74.64	75.07	75.65	76.41	77.28	77.93	78.44	78.71	78.92	78.51	77.10	76.41
10	74.65	75.09	75.67	76.43	77.32	77.95	78.46	78.70	78.93	78.47	77.04	76.39
11	74.67	75.10	75.70	76.46	77.34	77.99	78.44	78.72	78.93	78.42	77.01	76.40
12	74.67	75.12	75.72	76.48	77.36	77.98	78.46	78.73	78.93	78.39	76.97	76.40
13	74.68	75.14	75.74	76.51	77.38	77.99	78.47	78.73	78.94	78.34	76.93	76.41
14	74.69	75.19	75.76	76.55	77.41	78.01	78.49	78.74	78.94	78.30	76.88	76.40
15	74.70	75.24	75.78	76.57	77.44	78.00	78.49	78.75	78.94	78.24	76.84	76.40
16	74.71	75.26	75.81	76.60	77.47	78.02	78.51	78.76	78.98	78.19	76.79	76.41
17	74.72	75.27	75.84	76.63	77.49	78.05	78.52	78.77	78.98	78.14	76.76	76.39
18	74.73	75.27	75.86	76.65	77.52	78.05	78.53	78.78	78.98	78.09	76.72	76.40
19	74.74	75.26	75.88	76.69	77.54	78.07	78.55	78.79	78.97	78.03	76.65	76.39
20	74.74	75.28	75.92	76.73	77.56	78.09	78.55	78.78	78.97	77.98	76.61	76.38
21	74.82	75.30	75.94	76.76	77.59	78.11	78.56	78.78	78.96	77.93	76.57	76.38
22	74.77	75.32	75.96	76.79	77.61	78.14	78.56	78.79	78.96	77.88	76.54	76.39
23	74.78	75.34	76.00	76.81	77.62	78.15	78.59	78.79	78.96	77.83	76.46	76.39
24	74.81	75.36	76.02	76.85	77.63	78.17	78.59	78.78	78.95	77.79	76.45	76.40
25	74.80	75.38	76.04	76.88	77.67	78.18	78.59	78.78	78.94	77.74	76.44	76.38
26	74.79	75.40	76.06	76.91	77.69	78.18	78.59	78.79	78.94	77.69	76.43	76.39
27	74.80	75.41	76.09	76.94	77.71	78.21	78.62	78.79	78.94	77.64	76.44	76.39
28	74.82	75.42	76.11	76.97	77.74	78.22	78.63	78.77	78.92	77.60	76.43	76.40
29	74.83	75.44	76.14	76.99	77.77	78.24	78.64	78.80	78.90	77.57	76.43	76.41
30	74.85	75.47	76.16	77.03	------	78.26	78.64	78.82	78.87	77.53	76.42	76.43
31	74.87	------	76.19	77.07	------	78.29	------	78.82	------	77.47	76.42	------
MAX	74.87	75.47	76.19	77.07	77.77	78.29	78.64	78.82	78.98	78.83	77.44	76.43
MIN	74.64	74.89	75.48	76.22	77.09	77.78	78.29	78.65	78.82	77.47	76.42	76.38

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	76.39	76.60	77.21	78.00	79.02	79.83	80.31	80.22	78.88	77.53	76.36	76.15
2	76.39	76.61	77.24	78.04	79.06	79.86	80.33	80.17	78.84	77.48	76.36	76.13
3	76.38	76.62	77.26	78.06	79.10	79.88	80.34	80.13	78.80	77.44	76.36	76.11
4	76.38	76.66	77.29	78.08	79.13	79.91	80.36	80.10	78.77	77.40	76.35	76.11
5	76.39	76.68	77.31	78.11	79.17	79.94	80.38	80.04	78.74	77.37	76.34	76.11
6	76.39	76.69	77.33	78.14	79.20	79.96	80.39	79.97	78.67	77.32	76.33	76.11
7	76.40	76.70	77.35	78.15	79.23	79.99	80.40	79.93	78.63	77.27	76.33	76.11
8	76.41	76.71	77.38	78.17	79.26	80.00	80.42	79.89	78.60	77.22	76.34	76.11
9	76.42	76.74	77.40	78.19	79.30	80.00	80.44	79.85	78.56	77.15	76.32	76.11
10	76.43	76.77	77.43	78.22	79.33	80.02	80.47	79.82	78.52	77.10	76.28	76.12
11	76.44	76.80	77.44	78.24	79.36	80.02	80.47	79.77	78.47	77.04	76.28	76.11
12	76.45	76.83	77.48	78.26	79.39	80.05	80.50	79.73	78.43	76.96	76.28	76.11
13	76.46	76.84	77.49	78.29	79.41	80.07	80.51	79.67	78.37	76.91	76.26	76.11
14	76.48	76.84	77.51	78.32	79.44	80.08	80.52	79.63	78.33	76.88	76.25	76.11
15	76.47	76.86	77.50	78.35	79.47	80.08	80.54	79.60	78.29	76.84	76.25	76.07
16	76.46	76.89	77.50	78.38	79.50	80.06	80.57	79.56	78.23	76.78	76.24	76.07
17	76.47	76.90	77.55	78.41	79.53	80.09	80.59	79.49	78.22	76.74	76.22	76.08
18	76.46	76.92	77.57	78.45	79.55	80.10	80.60	79.45	78.22	76.66	76.20	76.08
19	76.46	76.94	77.61	78.48	79.58	80.11	80.61	79.42	78.15	76.61	76.21	76.07
20	76.47	76.95	77.64	78.52	79.61	80.12	80.61	79.39	78.10	76.58	76.19	76.08
21	76.48	76.98	77.70	78.56	79.64	80.13	80.57	79.35	78.04	76.57	76.19	76.07
22	76.49	76.99	77.77	78.60	79.66	80.13	80.54	79.31	77.99	76.55	76.20	76.07
23	76.50	77.02	77.80	78.65	79.69	80.13	80.51	79.26	77.95	76.51	76.23	76.08
24	76.51	77.04	77.82	78.71	79.71	80.16	80.47	79.20	77.89	76.46	76.24	76.09
25	76.52	77.07	77.85	78.74	79.74	80.16	80.43	79.17	77.84	76.43	76.24	76.07
26	76.52	77.10	77.88	78.77	79.76	80.18	80.40	79.14	77.78	76.39	76.22	76.06
27	76.53	77.10	77.91	78.81	79.79	80.20	80.38	79.10	77.71	76.35	76.21	76.04
28	76.54	77.12	77.92	78.85	79.81	80.21	80.34	79.07	77.64	76.34	76.17	76.07
29	76.55	77.14	77.94	78.88	------	80.24	80.30	79.02	77.61	76.34	76.16	76.07
30	76.56	77.17	77.97	78.94	------	80.26	80.27	78.97	77.57	76.35	76.15	76.07
31	76.58	------	77.99	78.98	------	80.28	------	78.92	------	76.35	76.15	------
MAX	76.58	77.17	77.99	78.98	79.81	80.28	80.61	80.22	78.88	77.53	76.36	76.15
MIN	76.38	76.60	77.21	78.00	79.02	79.83	80.27	78.92	77.57	76.34	76.15	76.04

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4700. Soap Lake near Soap Lake, Wash.

Location.--Lat 47°24'10", long 119°29'10", in NW¼SW¼ sec.18, T.22 N., R.27 E., on east shore half a mile north of town of Soap Lake.

Drainage area.--413 sq mi, of which 281 sq mi in the vicinity of Banks Lake is noncontributing.

Records available.--May to August 1936, March 1938 to February 1957 (fragmentary), March 1957 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Prior to Feb. 4, 1953, staff gage or reference point at site 0.2 mile uplake. Feb. 4, 1953, to June 8, 1954, staff gage at site 1.5 miles uplake and June 9, 1954, to June 21, 1957, water-stage recorder at site 0.2 mile uplake.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	May 20, 1961	1,074.88	Oct. 1, 1960	1,073.10
1962	Apr. 1, 1962	1,075.12	Oct. 1, 2, 1961	1,073.58
1963	Apr. 29, 1963	1,075.31	Oct. 7, 1962	1,073.71
1964	Mar. 18, 1964	1,075.04	Sept.30, 1964	1,073.54
1965	Mar. 11, 1965	1,074.56	Sept.27, 1965	1,073.20

1936, 1938-65: Maximum elevation observed, 1,079.20 ft Jan. 28, 1953; minimum observed, 1,070.87 ft Oct. 21, 1939.
Maximum elevation known, 1,083.1 ft (from well-defined alkali line at gage), date unknown.

Remarks.--Some diversion from tributaries for irrigation. Water pumped from lake to reduce or limit high stages.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	73.10	73.20	73.48	73.70	74.02	74.42	74.78	74.83	74.84	74.51	74.10	73.88
2	73.11	73.21	73.50	73.71	74.02	74.42	74.78	74.83	74.84	74.49	74.10	73.85
3	73.12	73.20	73.50	73.72	74.03	74.42	74.78	74.83	74.84	74.49	74.10	73.82
4	73.13	73.20	73.51	73.73	74.04	74.43	74.75	74.84	74.84	74.48	74.10	73.81
5	73.13	73.20	73.51	73.74	74.06	74.44	74.75	74.83	74.84	74.47	74.08	73.80
6	73.13	73.20	73.51	73.75	74.09	74.46	74.75	74.83	74.83	74.46	74.06	73.77
7	73.14	73.20	73.51	73.76	74.10	74.47	74.75	74.83	74.84	74.44	74.06	73.74
8	73.14	73.20	73.52	73.77	74.12	74.48	74.74	74.83	74.83	74.42	74.05	73.72
9	73.13	73.21	73.52	73.78	74.14	74.49	74.73	74.86	74.83	74.41	74.02	73.72
10	73.13	73.22	73.52	73.79	74.17	74.50	74.73	74.87	74.82	74.40	74.01	73.72
11	73.13	73.23	73.53	73.79	74.22	74.53	74.72	74.87	74.82	74.38	74.01	73.71
12	73.12	73.24	73.54	73.79	74.24	74.56	74.73	74.86	74.81	74.37	74.01	73.70
13	73.11	73.26	73.55	73.81	74.25	74.60	74.72	74.85	74.81	74.37	74.00	73.69
14	73.12	73.27	73.55	73.82	74.26	74.63	74.71	74.85	74.81	74.35	74.00	73.68
15	73.12	73.28	73.55	73.84	74.28	74.64	74.71	74.85	74.80	74.34	74.00	73.68
16	73.13	73.30	73.55	73.85	74.29	74.65	74.72	74.86	74.80	74.32	73.99	73.68
17	73.13	73.31	73.56	73.85	74.32	74.65	74.72	74.86	74.80	74.29	73.98	73.68
18	73.14	73.32	73.60	73.86	74.33	74.66	74.72	74.86	74.79	74.28	73.97	73.67
19	73.15	73.32	73.62	73.87	74.35	74.67	74.71	74.87	74.78	74.28	73.97	73.65
20	73.16	73.34	73.65	73.88	74.35	74.69	74.70	74.87	74.76	74.27	73.97	73.64
21	73.17	73.35	73.64	73.88	74.35	74.70	74.70	74.87	74.72	74.27	73.97	73.63
22	73.18	73.35	73.64	73.89	74.36	74.71	74.70	74.86	74.71	74.25	73.97	73.63
23	73.18	73.37	73.65	73.90	74.37	74.72	74.71	74.85	74.70	74.23	73.97	73.62
24	73.19	73.41	73.65	73.91	74.38	74.73	74.73	74.85	74.68	74.20	73.96	73.62
25	73.19	73.43	73.66	73.92	74.39	74.74	74.73	74.85	74.67	74.18	73.95	73.61
26	73.19	73.44	73.67	73.93	74.39	74.75	74.72	74.84	74.63	74.17	73.95	73.60
27	73.19	73.45	73.68	-	74.41	74.75	74.72	74.84	74.58	74.16	73.94	73.60
28	73.19	73.46	73.69	-	74.42	74.76	74.72	74.83	74.56	74.14	73.93	73.59
29	73.19	73.46	73.70	-	------	74.76	74.75	74.83	74.54	74.13	73.93	73.58
30	73.19	73.47	73.70	-	------	74.77	74.83	74.84	74.52	74.12	73.91	73.58
31	73.20	------	73.70	74.00	------	74.77	------	74.84	------	74.11	73.90	------
MAX	73.20	73.47	73.70	-	74.42	74.77	74.83	74.87	74.84	74.51	74.10	73.88
MIN	73.10	73.20	73.48	-	74.02	74.42	74.70	74.83	74.52	74.11	73.90	73.58

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4700. Soap Lake near Soap Lake, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	73.58	73.68	73.99	74.34	74.56	74.85	75.11	75.00	74.86	74.47	74.10	73.83
2	73.58	73.68	74.00	74.36	74.56	74.85	75.10	75.00	74.85	74.44	74.11	73.81
3	73.59	73.69	74.01	74.37	74.57	74.86	75.10	75.00	74.85	74.43	74.12	73.78
4	73.60	73.68	74.02	74.38	74.58	74.87	75.10	74.99	74.83	74.41	74.14	73.78
5	73.60	73.69	74.02	74.39	74.59	74.89	75.10	74.98	74.82	74.41	74.13	73.78
6	73.60	73.69	74.03	74.40	74.60	74.90	75.10	74.98	74.81	74.40	74.12	73.77
7	73.60	73.70	74.04	74.40	74.62	74.91	75.08	74.97	74.81	74.39	74.12	73.74
8	73.59	73.70	74.05	74.41	74.64	74.91	75.07	74.98	74.80	74.39	74.11	73.71
9	73.59	73.70	74.05	74.42	74.67	74.93	75.07	74.99	74.79	74.38	74.10	73.71
10	73.60	73.70	74.05	74.42	74.70	74.93	75.06	75.00	74.77	74.36	74.10	73.70
11	73.60	73.71	74.06	74.43	74.72	74.94	75.06	75.00	74.76	74.35	74.09	73.70
12	73.60	73.71	74.06	74.43	74.73	74.95	75.05	74.99	74.75	74.33	74.10	73.68
13	73.62	73.71	74.07	74.44	74.75	74.95	75.05	74.98	74.74	74.29	74.10	73.68
14	73.63	73.72	74.09	74.45	74.77	74.96	75.05	74.98	74.74	74.26	74.09	73.68
15	73.64	73.72	74.10	74.46	74.79	74.97	75.05	74.96	74.74	74.25	74.09	73.67
16	73.65	73.72	74.12	74.46	74.80	74.98	75.05	74.95	74.72	74.22	74.08	73.67
17	73.65	73.73	74.16	74.47	74.81	74.98	75.05	74.95	74.70	74.19	74.07	73.68
18	73.65	73.75	74.18	74.48	74.82	74.99	75.05	74.94	74.68	74.16	74.05	73.68
19	73.66	73.77	74.20	74.48	74.83	75.00	75.04	74.93	74.67	74.15	74.03	73.68
20	73.66	73.78	74.22	74.48	74.84	75.02	75.02	74.92	74.65	74.15	74.02	73.69
21	73.65	73.80	74.23	74.49	74.83	75.03	75.01	74.90	74.62	74.14	74.00	73.69
22	73.65	73.83	74.25	74.49	74.84	75.06	75.01	74.90	74.61	74.14	73.97	73.70
23	73.65	73.85	74.25	74.49	74.84	75.07	75.00	74.90	74.60	74.15	73.96	73.70
24	73.65	73.88	74.27	74.50	74.84	75.07	75.00	74.92	74.60	74.15	73.95	73.71
25	73.65	73.89	74.28	74.51	74.83	75.08	74.99	74.95	74.59	74.15	73.94	73.70
26	73.65	73.90	74.29	74.51	74.83	-	74.98	74.95	74.57	74.15	73.91	73.71
27	73.68	73.93	74.30	74.52	74.83	75.10	75.01	74.95	74.55	74.14	73.88	73.70
28	73.68	73.95	74.31	74.53	74.83	75.11	75.01	74.93	74.52	74.14	73.86	73.72
29	73.68	73.97	74.32	74.53	------	75.11	75.01	74.91	74.52	74.12	73.85	73.74
30	73.68	73.98	74.33	74.54	------	75.11	75.00	74.90	74.50	74.12	73.85	73.74
31	73.68	------	74.34	74.55	------	75.11	------	74.89	------	74.11	73.84	------
MAX	73.68	73.98	74.34	74.55	74.84	75.11	75.11	75.00	74.86	74.47	74.14	73.83
MIN	73.58	73.68	73.99	74.34	74.56	74.85	74.98	74.89	74.50	74.11	73.84	73.67

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	73.74	74.08	74.43	74.70	74.75	75.00	75.02	75.28	74.98	74.52	74.15	73.88
2	73.74	74.09	74.44	74.70	74.77	75.00	75.01	75.27	74.96	74.52	74.14	73.87
3	73.74	74.10	74.44	74.70	74.80	75.00	75.01	75.26	74.93	74.51	74.13	73.87
4	73.73	74.11	74.44	74.70	74.80	75.00	75.01	75.26	74.91	74.50	74.12	73.87
5	73.73	74.12	74.45	74.70	74.82	75.01	75.02	75.26	74.89	74.49	74.12	73.87
6	73.72	74.12	74.46	74.70	74.82	75.01	75.04	75.27	74.88	74.48	74.12	73.86
7	73.72	74.13	74.47	74.71	74.83	75.01	75.05	75.26	74.86	74.48	74.10	73.86
8	73.73	74.15	74.48	74.72	74.83	75.01	75.05	75.25	74.84	74.49	74.09	73.86
9	73.74	74.17	74.48	74.72	74.84	75.01	75.06	75.25	74.82	74.48	74.09	73.86
10	73.75	74.18	74.49	74.70	74.85	75.01	75.07	75.25	74.80	74.46	74.09	73.86
11	73.77	74.20	74.50	74.70	74.85	75.01	75.07	75.24	74.80	74.44	74.09	73.85
12	73.79	74.21	74.51	74.70	74.86	75.00	75.07	75.23	74.80	74.42	74.09	73.85
13	73.81	74.23	74.53	74.69	74.87	75.00	75.07	75.22	74.78	74.41	74.08	73.83
14	73.81	74.24	74.56	74.69	74.87	75.00	75.08	75.22	74.77	74.39	74.06	73.82
15	73.80	74.26	74.58	74.70	74.88	75.01	75.09	75.21	74.75	74.36	74.04	73.80
16	73.80	74.28	74.60	74.70	74.88	75.01	75.08	75.20	74.75	74.35	74.04	73.80
17	73.80	74.29	74.62	74.70	74.89	75.01	75.08	75.19	74.74	74.35	74.03	73.80
18	73.81	74.30	74.63	74.70	74.90	75.00	75.10	75.18	74.72	74.35	74.02	73.80
19	73.81	74.31	74.65	74.70	74.92	75.00	75.12	75.17	74.70	74.34	74.00	73.80
20	73.82	74.32	74.65	74.70	74.93	75.00	75.15	75.16	74.68	74.33	73.98	73.80
21	73.82	74.33	74.66	74.70	74.94	75.01	75.18	75.15	74.65	74.32	73.96	73.80
22	73.82	74.34	74.67	74.70	74.95	75.01	75.23	75.14	74.63	74.30	73.95	73.80
23	73.83	74.35	74.67	74.70	74.96	75.02	75.25	75.13	74.62	74.28	73.93	73.81
24	73.85	74.35	74.66	74.70	74.97	75.02	75.27	75.11	74.62	74.26	73.93	73.80
25	73.90	74.36	74.66	74.70	74.98	75.02	75.28	75.09	74.60	74.25	73.92	73.80
26	73.95	74.37	74.66	74.71	74.99	75.01	75.29	75.08	74.58	74.25	73.91	73.80
27	73.98	74.39	74.66	74.71	75.00	75.02	75.29	75.06	74.56	74.24	73.90	73.81
28	74.01	74.40	74.66	74.71	75.00	75.03	75.29	75.06	74.55	74.22	73.90	73.82
29	74.03	74.41	74.67	74.71	------	75.02	75.30	75.05	74.54	74.21	73.90	73.82
30	74.05	74.43	74.68	74.71	------	75.03	75.29	75.03	74.53	74.18	73.90	73.82
31	74.08	------	74.69	74.73	------	75.03	------	75.00	------	74.16	73.89	------
MAX	74.08	74.43	74.69	74.73	75.00	75.03	75.30	75.28	74.98	74.52	74.15	73.88
MIN	73.72	74.08	74.43	74.69	74.75	75.00	75.01	75.00	74.53	74.16	73.89	73.80

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4700. Soap Lake near Soap Lake, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	73.81	73.73	73.89	74.44	74.80	74.97	75.01	74.85	74.55	74.34	73.97	73.69
2	73.81	73.73	73.89	74.45	74.80	74.98	75.00	74.84	74.55	74.33	73.99	73.67
3	73.81	73.73	73.90	74.46	74.80	74.97	74.99	74.84	74.54	74.32	73.99	73.66
4	73.80	73.73	73.95	74.47	74.80	74.98	74.98	74.83	74.55	74.31	73.98	73.65
5	73.80	73.73	74.00	74.47	74.80	75.00	74.98	74.82	74.54	74.30	73.97	73.65
6	73.80	73.76	74.05	74.49	74.82	75.00	74.98	74.80	74.54	74.30	73.96	73.64
7	73.80	73.78	74.07	74.49	74.82	75.00	74.98	74.80	74.54	74.29	73.95	73.64
8	73.80	73.80	74.13	74.51	74.82	75.00	74.98	74.79	74.55	74.29	73.94	73.63
9	73.80	73.80	74.15	74.51	74.83	75.00	74.98	74.78	74.57	74.27	73.92	73.62
10	73.80	73.80	74.16	74.52	74.84	74.99	74.97	74.77	74.56	74.26	73.90	73.62
11	73.80	73.80	74.17	74.53	74.85	74.99	74.97	74.75	74.55	74.26	73.90	73.61
12	73.80	73.81	74.18	74.54	74.85	74.99	74.96	74.75	74.55	74.26	73.90	73.60
13	73.80	73.81	74.18	74.55	74.86	75.00	74.95	74.73	74.54	74.25	73.88	73.60
14	73.80	73.84	74.19	74.56	74.87	75.00	74.95	74.72	74.53	74.23	73.86	73.60
15	73.80	73.85	74.21	74.57	74.88	75.00	74.94	74.72	74.52	74.20	73.86	73.60
16	73.80	73.85	74.23	74.58	74.88	75.00	74.93	74.71	74.55	74.19	73.85	73.60
17	73.80	73.85	74.25	74.59	74.89	75.01	74.92	74.70	74.54	74.18	73.85	73.59
18	73.80	73.85	74.26	74.60	74.90	75.02	74.92	74.69	74.54	74.16	73.84	73.57
19	73.79	73.86	74.27	74.63	74.91	75.01	74.92	74.69	74.51	74.13	73.81	73.57
20	73.79	73.85	74.31	74.65	74.92	75.01	74.91	74.68	74.50	74.12	73.80	73.56
21	73.78	73.86	74.32	74.66	74.94	75.01	74.90	74.67	74.48	74.09	73.80	73.55
22	73.77	73.86	74.33	74.67	74.94	75.02	74.89	74.65	74.47	74.07	73.80	73.56
23	73.76	73.87	74.35	74.68	74.95	75.02	74.89	74.63	74.46	74.05	73.79	73.56
24	73.76	73.87	74.36	74.69	74.94	75.01	74.89	74.63	74.44	74.05	73.79	73.57
25	73.75	73.88	74.37	74.72	74.94	75.01	74.89	74.60	74.42	74.04	73.78	73.56
26	73.74	73.88	74.38	74.72	74.95	75.01	74.88	74.59	74.41	74.02	73.76	73.55
27	73.74	73.88	74.38	74.73	74.96	75.01	74.87	74.59	74.39	74.01	73.75	73.55
28	73.73	73.88	74.39	74.74	74.96	75.01	74.87	74.58	74.36	74.01	73.74	73.55
29	73.73	73.88	74.41	74.75	74.96	75.01	74.87	74.57	74.35	74.00	73.71	73.56
30	73.73	73.88	74.42	74.77	------	75.01	74.85	74.57	74.34	73.99	73.70	73.55
31	73.73	------	74.43	74.78	------	75.01	------	74.56	------	73.97	73.70	------
MAX	73.81	73.88	74.43	74.78	74.96	75.02	75.01	74.85	74.57	74.34	73.99	73.69
MIN	73.73	73.73	73.89	74.44	74.80	74.97	74.85	74.56	74.34	73.97	73.70	73.55

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	73.55	73.60	73.80	74.12	74.39	74.51	74.48	74.47	74.20	73.89	73.66	73.37
2	73.54	73.60	73.81	74.13	74.38	74.51	74.48	74.47	74.20	73.88	73.66	73.35
3	73.53	73.61	73.82	74.15	74.39	74.52	74.48	74.45	74.18	73.88	73.66	73.33
4	73.53	73.63	73.82	74.15	74.40	74.52	74.48	74.43	74.17	73.88	73.65	73.32
5	73.53	73.65	73.83	74.16	74.41	74.53	74.48	74.42	74.17	73.87	73.64	73.31
6	73.53	73.65	73.83	74.17	74.41	74.53	74.47	74.41	74.15	73.87	73.63	73.30
7	73.54	73.65	73.84	74.18	74.42	74.53	74.47	74.40	74.14	73.86	73.63	73.29
8	73.54	73.66	73.85	74.18	74.42	74.53	74.47	74.38	74.14	73.84	73.62	73.29
9	73.55	73.67	73.85	74.19	74.42	74.52	74.49	74.37	74.13	73.81	73.61	73.28
10	73.56	73.69	73.85	74.20	74.42	74.53	74.50	74.37	74.12	73.79	73.59	73.29
11	73.57	73.70	73.85	74.20	74.43	74.54	74.49	74.37	74.11	73.77	73.58	73.29
12	73.58	73.71	73.85	74.21	74.43	74.53	74.49	74.36	74.10	73.75	73.57	73.28
13	73.58	73.72	73.85	74.21	74.44	74.53	74.48	74.35	74.08	73.75	73.56	73.28
14	73.57	73.71	73.86	74.22	74.43	74.53	74.49	74.33	74.07	73.75	73.55	73.28
15	73.57	73.71	73.87	74.22	74.44	74.53	74.49	74.32	74.07	73.73	73.55	73.26
16	73.57	73.71	73.86	74.23	74.44	74.53	74.50	74.31	74.06	73.72	73.54	73.24
17	73.57	73.71	73.85	74.24	74.45	74.51	74.50	74.29	74.07	73.71	73.53	73.23
18	73.57	73.72	73.85	74.25	74.46	74.50	74.50	74.29	74.10	73.68	73.53	73.23
19	73.57	73.72	73.88	74.25	74.46	74.50	74.51	74.29	74.08	73.66	73.52	73.23
20	73.57	73.72	73.89	74.26	74.46	74.50	74.52	74.29	74.07	73.66	73.51	73.23
21	73.58	73.73	73.94	74.27	74.46	74.49	74.51	74.29	74.04	73.68	73.51	73.23
22	73.58	73.73	73.99	74.28	74.46	74.49	74.51	74.28	74.02	73.69	73.50	73.23
23	73.58	73.73	74.02	74.31	74.47	74.48	74.50	74.27	74.01	73.69	73.50	73.22
24	73.59	73.74	74.03	74.33	74.47	74.47	74.50	74.26	74.00	73.70	73.50	73.23
25	73.58	73.74	74.04	74.33	74.47	74.47	74.50	74.25	73.98	73.70	73.49	73.23
26	73.58	73.75	74.06	74.34	74.48	74.47	74.51	74.24	73.95	73.70	73.48	73.23
27	73.58	73.75	74.07	74.34	74.48	74.47	74.51	74.25	73.91	73.69	73.47	73.22
28	73.59	73.75	74.08	74.35	74.50	74.47	74.50	74.25	73.89	73.69	73.42	73.21
29	73.59	73.77	74.09	74.36	------	74.47	74.50	74.25	73.89	73.68	73.38	73.21
30	73.59	73.78	74.11	74.38	------	74.47	74.49	74.22	73.89	73.68	73.37	73.22
31	73.60	------	74.11	74.38	------	74.48	------	74.20	------	73.67	73.37	------
MAX	73.60	73.78	74.11	74.38	74.50	74.54	74.52	74.47	74.20	73.89	73.66	73.37
MIN	73.53	73.60	73.80	74.12	74.38	74.47	74.47	74.20	73.89	73.66	73.37	73.21

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4705. Rocky Ford Creek near Ephrata, Wash.

Location.--Lat 47°18'20", long 119°26'50", in NW¼NW¼ sec.21, T.21 N., R.27 E., on right bank 1½ miles downstream from source at Rocky Ford Springs, 5 miles upstream from mouth, and 5 miles east of Ephrata.

Drainage area (revised).--458 sq mi, of which 446 sq mi in vicinity of Banks and Soap Lakes is noncontributing.

Records available.--June 1909 to April 1910, July to December 1911, August 1942 to September 1965. Prior to January 1910, published as Upper Crab Creek near Ephrata.

Gage.--Water-stage recorder. Datum of gage is 1,064.88 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Jan. 1, 1912, staff gages at sites 4½ to 5½ miles downstream at different datums. Aug. 19, 1942, to May 23, 1945, water-stage recorder at site 3½ miles downstream at datum 5.37 ft lower.

Average discharge.--23 years (1942-65), 81.7 cfs (59,150 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Apr. 29, 1961	124	2.73	Feb. 5, 6, 13	66	2.00
1962	(a)	114	2.50	Feb. 20, 21, 22	67	1.96
1963	Oct. 8, 12, 1962	95	2.35	Feb. 20, 1963	65	1.87
1964	Oct. 1, 1963	84	2.27	Apr. 6, 1964	56	1.76
1965	Aug. 7, 1965	84	2.25	Mar. 11, 1965	48	1.76

a May 15, 16, 18, 19, 20, 21, 24, 1962.

1909-11, 1942-65: Maximum discharge, 212 cfs Apr. 15-18, 1956 (gage height, 3.58 ft); minimum observed, 20 cfs Aug. 13-18, 1911.

Remarks.--Records good. A few small diversions for domestic use above station. Slight regulation by fish hatchery.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	97	94	87	84	68	74	95	108	102	97	96	92
2	97	94	87	84	67	75	95	108	102	97	96	91
3	97	94	87	83	67	75	96	108	102	97	96	92
4	96	94	87	83	66	77	96	108	102	97	96	91
5	96	94	87	82	66	78	97	107	102	97	96	91
6	96	94	87	82	67	78	98	106	102	97	96	90
7	96	94	87	82	67	78	99	106	102	96	95	90
8	96	94	86	82	67	78	99	106	102	96	95	90
9	96	91	87	82	67	79	100	106	102	96	95	93
10	96	90	87	81	67	81	100	106	102	96	95	93
11	95	89	86	80	67	82	101	106	102	96	95	93
12	95	89	86	79	67	82	101	105	102	96	94	93
13	96	89	86	78	67	82	102	105	102	96	94	93
14	96	89	86	77	67	83	102	104	102	96	94	93
15	96	89	86	77	67	84	103	104	102	96	94	92
16	96	88	86	76	67	84	103	104	101	95	94	92
17	96	88	86	76	68	84	104	103	101	95	94	92
18	96	87	86	75	68	85	104	103	100	95	93	94
19	97	97	86	75	68	85	105	103	99	95	93	94
20	97	87	86	74	68	86	106	103	99	95	93	94
21	97	87	86	74	69	86	106	103	98	95	93	94
22	97	87	85	73	69	87	106	103	98	95	92	94
23	96	87	85	73	70	87	106	102	98	95	92	95
24	96	87	86	72	71	88	106	102	98	95	92	95
25	96	87	85	72	71	89	106	102	98	95	92	95
26	96	87	85	71	72	90	106	102	98	95	92	94
27	96	87	84	71	72	90	107	102	98	95	92	94
28	96	87	84	70	73	91	108	102	97	95	92	94
29	96	87	85	69	------	92	111	102	97	95	92	94
30	96	87	85	69	------	93	109	102	97	95	92	94
31	95	------	84	68	------	94	------	102	------	96	94	------
TOTAL	2,980	2,685	2,663	2,374	1,910	2,597	3,077	3,233	3,007	2,967	2,909	2,786
MEAN	96.1	89.5	85.9	76.6	68.2	83.8	103	104	100	95.7	93.8	92.9
MAX	97	94	87	84	73	94	111	108	102	97	96	95
MIN	95	87	84	68	66	74	95	102	97	95	92	90
AC-FT	5,910	5,330	5,280	4,710	3,790	5,150	6,100	6,410	5,960	5,880	5,770	5,530

CAL YR 1960: TOTAL 32,693 MEAN 89.3 MAX 104 MIN 67 AC-FT 64,850
WAT YR 1961: TOTAL 33,188 MEAN 90.9 MAX 111 MIN 66 AC-FT 65,830

12-4705. Rocky Ford Creek near Ephrata, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	95	89	76	73	68	71	87	108	110	103	102	97
2	95	88	76	73	68	71	88	109	110	103	103	96
3	95	87	76	73	68	72	89	110	110	103	104	96
4	94	87	76	72	68	72	89	110	108	103	105	95
5	93	87	75	72	68	72	90	111	108	103	104	96
6	92	86	75	72	68	72	90	111	107	103	104	96
7	90	86	75	72	68	72	91	110	107	103	105	94
8	90	86	75	71	68	73	93	111	106	103	105	90
9	93	86	74	71	68	74	93	111	106	103	105	90
10	93	86	73	71	68	74	94	111	106	103	105	89
11	92	86	72	71	68	74	95	112	106	103	105	86
12	92	85	72	71	68	75	95	112	106	102	105	86
13	91	85	73	71	68	76	96	112	106	102	105	85
14	90	84	73	71	68	76	96	112	106	103	104	87
15	90	82	73	70	68	77	96	112	106	103	105	92
16	90	81	73	70	68	77	97	112	105	103	105	93
17	90	81	73	70	68	78	97	113	105	103	104	93
18	91	80	73	70	68	78	98	112	105	102	102	92
19	91	80	74	70	68	78	99	113	105	103	101	92
20	91	81	74	70	67	79	100	113	104	103	102	92
21	91	80	75	70	68	80	101	113	104	103	102	93
22	90	79	75	69	68	81	101	113	104	103	101	93
23	90	81	75	69	68	81	102	113	104	102	101	92
24	90	81	75	69	68	82	102	113	104	103	99	92
25	90	80	75	69	68	82	103	112	104	103	98	92
26	90	78	74	69	70	84	104	112	104	102	97	93
27	89	78	74	69	70	85	106	112	103	102	100	95
28	88	78	74	69	71	85	106	112	103	102	99	95
29	87	78	74	69	------	86	106	110	103	102	98	94
30	87	76	73	68	------	86	106	110	103	102	98	94
31	88	------	73	68	------	86	------	111	------	102	98	------
TOTAL	2,818	2,482	2,298	2,182	1,910	2,409	2,910	3,456	3,168	3,183	3,171	2,770
MEAN	90.9	82.7	74.1	70.4	68.2	77.7	97.0	111	106	103	102	92.3
MAX	95	89	76	73	71	86	106	113	110	103	105	97
MIN	87	76	72	68	67	71	87	108	103	102	97	85
AC-FT	5,590	4,920	4,560	4,330	3,790	4,780	5,770	6,850	6,280	6,310	6,290	5,490

CAL YR 1961: TOTAL 32,458 MEAN 88.9 MAX 111 MIN 66 AC-FT 64,380
WAT YR 1962: TOTAL 32,757 MEAN 89.7 MAX 113 MIN 67 AC-FT 64,970

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	92	88	83	72	68	68	81	81	81	82	83	85
2	93	87	83	72	68	68	81	81	81	83	82	85
3	91	87	83	70	68	69	81	81	81	83	83	85
4	92	86	83	70	67	69	82	81	81	83	83	85
5	92	86	83	70	67	70	82	81	81	83	84	85
6	93	86	83	69	67	70	82	81	79	83	84	85
7	94	86	83	69	67	70	82	81	79	84	84	85
8	94	86	83	69	67	71	82	81	80	84	84	85
9	94	86	82	68	67	71	82	81	80	84	84	84
10	93	85	82	68	67	71	82	81	80	83	84	84
11	93	84	82	70	67	71	82	81	79	83	84	85
12	93	84	82	70	67	72	82	81	81	83	84	85
13	92	83	80	70	67	72	82	81	81	83	84	85
14	91	83	79	69	66	73	82	81	82	83	84	85
15	90	83	78	69	66	74	82	81	82	82	84	86
16	90	83	78	69	66	74	82	81	82	82	84	86
17	90	83	78	68	66	74	82	80	82	81	84	86
18	90	83	78	69	66	74	82	81	82	82	84	86
19	90	83	77	69	66	75	82	81	82	81	84	86
20	90	83	76	70	66	75	82	82	83	82	85	86
21	89	83	75	69	67	76	82	82	83	82	85	86
22	89	83	75	69	67	76	82	81	83	82	84	86
23	90	83	75	69	67	77	82	81	83	82	85	85
24	90	83	75	69	67	78	82	81	83	82	85	85
25	90	83	75	69	67	78	82	81	83	82	85	85
26	88	83	74	69	67	79	82	81	83	84	85	85
27	90	83	74	68	68	79	81	81	83	82	85	85
28	89	83	74	68	68	80	81	81	83	83	85	85
29	88	82	73	68	------	81	81	81	83	82	85	84
30	88	83	72	68	------	81	81	81	82	81	85	84
31	88	------	72	68	------	81	------	81	------	83	85	------
TOTAL	2,816	2,524	2,430	2,144	1,874	2,297	2,453	2,512	2,448	2,559	2,610	2,554
MEAN	90.8	84.1	78.4	69.2	66.9	74.1	81.8	81.0	81.6	82.5	84.2	85.1
MAX	94	88	83	72	68	81	82	82	83	84	85	86
MIN	88	82	72	68	66	68	81	80	79	81	82	84
AC-FT	5,590	5,010	4,820	4,250	3,720	4,560	4,870	4,980	4,860	5,080	5,180	5,070

CAL YR 1962: TOTAL 32,929 MEAN 90.2 MAX 113 MIN 67 AC-FT 65,310
WAT YR 1963: TOTAL 29,221 MEAN 80.1 MAX 94 MIN 66 AC-FT 57,960

12-4705. Rocky Ford Creek near Ephrata, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	83	82	75	70	63	62	58	60	62	70	74	74
2	82	81	75	70	64	62	58	59	63	70	73	74
3	82	81	75	70	65	62	58	60	63	70	73	74
4	82	80	75	69	65	62	58	60	64	70	74	74
5	82	80	75	68	65	62	58	60	64	70	74	74
6	82	80	75	68	65	61	58	61	64	70	72	73
7	81	79	74	68	65	62	59	61	64	70	74	73
8	81	79	75	68	65	62	59	61	65	70	75	73
9	81	78	74	67	64	62	59	61	65	70	74	73
10	80	78	74	68	64	61	59	61	65	70	74	71
11	80	78	75	67	64	61	59	61	65	70	74	71
12	80	78	75	67	64	62	59	61	65	71	75	71
13	80	78	74	67	64	61	59	61	65	70	73	72
14	81	78	74	67	64	61	59	61	66	71	74	71
15	80	78	74	67	64	61	59	61	66	71	74	72
16	80	78	73	67	64	61	59	61	67	72	75	74
17	79	78	74	67	63	62	59	61	67	72	74	72
18	79	77	75	67	63	61	59	61	66	72	74	73
19	79	78	75	67	63	61	59	61	67	72	75	74
20	80	77	74	66	63	61	59	61	67	72	75	73
21	81	78	74	66	63	61	60	61	67	73	75	73
22	82	78	74	66	63	61	60	61	67	73	75	73
23	82	78	74	66	62	60	60	62	67	72	74	73
24	82	78	73	66	62	60	60	62	67	73	74	73
25	81	78	72	65	63	59	60	62	67	73	74	73
26	79	77	72	65	63	59	60	62	68	73	74	73
27	80	76	72	65	63	60	60	62	68	73	75	73
28	80	76	71	65	63	60	60	62	68	74	75	73
29	81	76	71	65	62	59	60	62	69	73	73	73
30	81	75	70	64	------	59	60	62	69	73	73	73
31	81	------	70	64	------	59	------	62	------	73	73	------
TOTAL	2,504	2,346	2,283	2,072	1,845	1,887	1,774	1,894	1,977	2,216	2,295	2,186
MEAN	80.8	78.2	73.6	66.8	63.6	60.9	59.1	61.1	65.9	71.5	74.0	72.9
MAX	83	82	75	70	65	62	60	62	69	74	75	74
MIN	79	75	70	64	62	59	58	59	62	70	72	71
AC-FT	4,970	4,650	4,530	4,110	3,660	3,740	3,520	3,760	3,920	4,400	4,550	4,340

CAL YR 1963: TOTAL 28,584 MEAN 78.3 MAX 86 MIN 66 AC-FT 56,700
WAT YR 1964: TOTAL 25,279 MEAN 69.1 MAX 83 MIN 58 AC-FT 50,150

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	74	72	65	57	51	49	51	54	69	76	81	79
2	74	71	64	57	51	49	50	55	69	75	82	78
3	74	71	65	56	52	49	50	56	70	76	82	79
4	74	70	63	56	52	49	50	56	70	77	82	80
5	74	70	63	56	51	49	51	57	71	78	82	80
6	74	70	62	55	51	49	51	58	71	78	82	80
7	74	70	63	57	51	49	52	58	72	77	82	80
8	74	69	63	56	51	49	53	60	72	78	82	81
9	74	69	63	56	51	49	53	60	73	78	82	80
10	74	69	62	56	51	49	53	60	73	78	82	80
11	73	68	62	56	51	49	53	63	73	78	82	80
12	72	68	61	55	51	49	54	58	73	78	81	80
13	71	67	61	54	51	49	53	60	73	78	82	80
14	72	68	62	54	51	49	54	60	73	78	82	79
15	71	67	61	54	51	49	54	61	74	78	81	79
16	71	68	58	54	51	49	54	61	74	78	80	78
17	70	68	58	53	51	49	54	62	75	78	80	78
18	70	68	59	53	51	49	54	63	74	78	80	79
19	70	67	60	53	51	50	55	63	74	79	81	78
20	69	67	60	53	51	50	55	63	74	80	81	78
21	70	66	60	53	51	50	55	64	74	81	81	78
22	70	66	59	53	50	50	55	64	74	80	81	79
23	70	66	59	54	50	50	56	64	74	79	82	80
24	70	65	59	53	50	50	56	65	74	80	81	81
25	70	65	59	52	50	51	54	66	74	80	81	82
26	70	64	58	52	50	51	54	66	74	80	81	82
27	70	65	58	53	50	51	54	67	75	80	82	81
28	70	65	58	52	49	51	54	68	75	81	82	81
29	70	64	58	52	------	51	56	68	75	81	81	80
30	70	64	57	52	------	51	54	69	75	81	81	80
31	71	------	57	52	------	51	------	69	------	81	79	------
TOTAL	2,220	2,027	1,877	1,679	1,422	1,539	1,602	1,918	2,191	2,438	2,521	2,391
MEAN	71.6	67.6	60.5	54.2	50.8	49.6	53.4	61.9	73.0	78.6	81.3	79.7
MAX	74	72	65	57	52	51	56	69	75	81	82	82
MIN	69	64	57	52	49	49	50	54	69	75	79	78
AC-FT	4,400	4,020	3,720	3,330	2,820	3,050	3,180	3,800	4,350	4,840	5,000	4,740

CAL YR 1964: TOTAL 24,270 MEAN 66.3 MAX 75 MIN 57 AC-FT 48,140
WAT YR 1965: TOTAL 23,825 MEAN 65.3 MAX 82 MIN 49 AC-FT 47,260

12-4710. Moses Lake at Moses Lake, Wash.

Location.--Lat 47°06'00", long 119°19'20", in NW¼ sec.33, T.19 N., R.28 E., on east shore 100 ft north of U.S. Highway 10, 1½ miles upstream from outlet, and 2 miles southwest of town of Moses Lake.

Drainage area (revised).--3,080 sq mi, of which 665 sq mi is noncontributing.

Records available.--June 1909 to September 1914, November 1936 to September 1945 (fragmentary), October 1945 to September 1965. Published as "at Neppel" 1912-14.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Prior to Apr. 3, 1910, staff gage at site 1 mile northeast at different datum. Apr. 3, 1910, to Sept. 30, 1914, and Nov. 19, 1936, to Nov. 24, 1944, staff gages at site 3½ miles northeast at Parker Horn at various datums. Oct. 30, 1945, to Mar. 14, 1955, water-stage recorder at site near west shore on downstream side of bridge on U.S. Highway 10 at present datum.

Extremes.--Maximum and minimum elevations, in feet, for the water years 1961-65 are contained in the following table:

Water year	Maximum		Minimum	
	Date	Elevation	Date	Elevation
1961	Oct. 28, 1960	1,047.45	Dec. 11, 12, 1960	1,043.38
1962	July 26, 1962	a 1,046.65	Feb. 6, 1962	1,043.09
1963	Aug. 13, 1963	a 1,046.75	Jan. 7, 1963	1,042.92
1964	Oct. 28, 1963	1,047.01	Feb. 22, 1964	1,042.79
1965	Aug. 27, 1965	1,046.71	Jan. 27, 1965	1,042.99

a Affected by wind.

1909-14, 1936-65: Maximum elevation, 1,048.29 ft Mar. 10, 1950; minimum observed, 1,038.17 ft Aug. 27, 1910.

Remarks.--Elevation controlled between 1,046 and 1,048 ft by dam at lake outlet. Many small diversions for irrigation.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.27	46.31	43.72	44.01	44.52	44.15	44.93	46.34	46.47	46.34	46.17	46.28
2	46.31	46.12	43.69	44.02	44.58	44.08	44.98	46.27	46.45	46.34	46.17	46.27
3	46.35	46.11	43.66	44.04	44.62	44.05	45.07	46.23	46.43	46.35	46.17	46.26
4	46.38	46.03	43.62	44.06	44.63	44.02	45.08	46.03	46.42	46.36	46.17	46.25
5	46.42	45.92	43.58	44.08	44.65	43.99	45.13	45.81	46.42	46.30	46.16	46.27
6	46.46	45.79	43.55	44.11	44.69	43.96	45.17	45.81	46.42	46.27	46.16	46.27
7	46.49	45.65	43.52	44.13	44.68	43.95	45.22	45.85	46.42	46.24	46.17	46.30
8	46.53	45.51	43.48	44.18	44.62	43.94	45.26	45.91	46.42	46.24	46.18	46.27
9	46.56	45.37	43.45	44.22	44.62	43.94	45.30	45.98	46.39	46.24	46.19	46.28
10	46.54	45.24	43.43	44.25	44.64	43.93	45.35	46.03	46.39	46.24	46.18	46.30
11	46.51	45.12	43.39	44.27	44.66	43.92	45.41	46.07	46.40	46.24	46.17	46.32
12	46.50	45.02	43.40	44.28	44.63	43.90	45.48	46.11	46.42	46.25	46.17	46.32
13	46.48	44.90	43.44	44.29	44.62	43.89	45.54	46.15	46.43	46.25	46.18	46.33
14	46.47	44.78	43.49	44.31	44.60	43.91	45.57	46.18	46.44	46.26	46.19	46.34
15	46.46	44.70	43.51	44.32	44.58	43.88	45.62	46.21	46.45	46.26	46.20	46.36
16	46.46	44.62	43.54	44.34	44.57	43.86	45.69	46.23	46.46	46.25	46.20	46.38
17	46.45	44.52	43.57	44.35	44.56	43.92	45.75	46.26	46.47	46.24	46.20	46.40
18	46.44	44.42	43.64	44.36	44.53	43.99	45.79	46.28	46.47	46.24	46.22	46.41
19	46.43	44.32	43.68	44.37	44.49	44.07	45.83	46.30	46.45	46.25	46.23	46.34
20	46.42	44.27	43.72	44.38	44.45	44.14	45.88	46.32	46.43	46.25	46.24	46.32
21	46.43	44.20	43.74	44.39	44.42	44.23	45.94	46.33	46.38	46.25	46.24	46.28
22	46.52	44.13	43.77	44.40	44.37	44.31	45.99	46.35	46.38	46.24	46.27	46.26
23	46.71	44.07	43.79	44.40	44.34	44.38	46.05	46.34	46.38	46.24	46.27	46.23
24	46.96	44.02	43.82	44.41	44.30	44.46	46.10	46.36	46.39	46.23	46.27	46.20
25	47.20	43.99	43.86	44.42	44.28	44.52	46.15	46.39	46.39	46.23	46.28	46.20
26	-	43.96	43.89	44.43	44.25	44.58	46.19	46.40	46.38	46.22	46.28	46.16
27	47.38	43.90	43.91	44.43	44.24	44.64	46.24	46.41	46.37	46.21	46.30	46.14
28	47.35	43.85	43.93	44.44	44.20	44.70	46.27	46.43	46.36	46.20	46.30	46.12
29	47.11	43.81	43.95	44.45	------	44.76	46.32	46.45	46.34	46.19	46.30	46.08
30	46.83	43.76	43.97	44.47	------	44.82	46.37	46.46	46.33	46.18	46.30	46.07
31	46.55	------	43.99	44.48	------	44.88	------	46.46	------	46.18	46.30	------
MAX	47.38	46.31	43.99	44.48	44.69	44.88	46.37	46.46	46.47	46.36	46.30	46.41
MIN	46.27	43.76	43.39	44.01	44.20	43.86	44.93	45.81	46.33	46.18	46.16	46.07

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4710. Moses Lake at Moses Lake, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.06	45.75	45.13	43.95	43.15	43.69	44.07	46.08	45.94	46.21	46.39	46.03
2	46.04	45.70	45.10	43.90	43.14	43.66	44.12	46.08	45.95	46.19	46.37	46.06
3	46.03	45.70	45.06	43.87	43.13	43.64	44.18	46.08	45.96	46.21	46.36	46.02
4	46.02	45.69	45.02	43.83	43.13	43.63	44.23	46.05	45.97	46.22	46.34	46.02
5	46.00	45.69	45.00	43.78	43.11	43.61	44.28	46.04	45.98	46.23	46.30	46.02
6	45.99	45.68	44.98	43.75	43.10	43.58	44.34	46.04	45.99	46.24	46.27	46.02
7	45.98	45.67	44.95	43.72	43.12	43.56	44.40	46.03	46.00	46.24	46.22	46.07
8	45.94	45.67	44.92	43.69	43.14	43.54	44.44	46.06	46.02	46.25	46.18	45.99
9	45.92	45.66	44.88	43.66	43.18	43.52	44.49	46.07	46.03	46.26	46.14	45.98
10	45.91	45.63	44.85	43.62	43.22	43.49	44.52	46.08	46.04	46.27	46.09	45.98
11	45.90	45.62	44.82	43.58	43.22	43.47	44.57	46.08	46.05	46.28	46.07	45.99
12	45.89	45.62	44.80	43.55	43.27	43.43	44.62	46.08	46.06	46.30	46.08	46.00
13	45.89	45.61	44.78	43.52	43.34	43.42	44.66	46.07	46.08	46.30	46.09	46.00
14	45.89	45.61	44.77	43.48	43.42	43.39	44.71	46.07	46.10	46.30	46.10	46.01
15	45.88	45.58	44.75	43.46	43.49	43.38	44.75	46.07	46.12	46.31	46.11	46.02
16	45.88	45.57	44.73	43.44	43.55	43.36	44.79	46.06	46.13	46.32	46.11	46.03
17	45.85	45.56	44.72	43.41	43.62	43.34	44.83	46.05	46.13	46.34	46.11	46.04
18	45.84	45.54	44.71	43.39	43.67	43.33	44.89	46.03	46.14	46.33	46.10	46.05
19	45.83	45.53	44.68	43.37	43.70	43.38	45.04	46.03	46.15	46.34	46.10	46.06
20	45.81	45.50	44.67	43.34	43.77	43.45	45.21	46.01	46.16	46.35	46.10	46.07
21	45.80	45.43	44.62	43.31	43.76	43.49	45.36	46.00	46.17	46.37	46.10	46.07
22	45.77	45.40	44.55	43.29	43.80	43.57	45.52	45.98	46.17	46.38	46.09	46.08
23	45.77	45.37	44.47	43.27	43.80	43.62	45.69	45.98	46.17	46.40	46.08	46.09
24	45.76	45.33	44.42	43.25	43.79	43.65	45.85	45.97	46.18	46.42	46.07	46.11
25	45.76	45.30	44.35	43.22	43.78	43.74	-	45.99	46.19	46.43	46.07	46.12
26	45.74	45.26	44.28	43.21	43.76	43.81	-	45.99	46.19	46.45	46.06	46.12
27	45.74	45.23	44.23	43.21	43.73	43.87	46.14	45.99	46.20	46.46	46.04	46.12
28	45.74	45.22	44.16	43.20	43.71	43.91	46.14	45.97	46.20	46.46	46.04	46.14
29	45.73	45.18	44.10	43.19	------	43.95	46.11	45.94	46.21	46.44	46.03	46.16
30	45.72	45.15	44.06	43.18	------	43.99	46.09	45.92	46.22	46.43	46.02	46.18
31	45.72	------	44.00	43.17	------	44.03	------	45.92	------	46.41	46.03	------
MAX	46.06	45.75	45.13	43.95	43.80	44.03	46.14	46.08	46.22	46.46	46.39	46.18
MIN	45.72	45.15	44.00	43.17	43.10	43.33	44.07	45.92	45.94	46.19	46.02	45.98

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.19	45.01	43.68	42.98	44.03	45.83	46.11	46.19	45.88	46.16	46.62	46.50
2	46.20	44.97	43.63	42.98	44.08	45.86	46.10	46.18	45.88	46.18	46.64	46.48
3	46.21	44.94	43.59	42.97	44.14	45.88	46.10	46.18	45.87	46.20	46.66	46.47
4	46.22	44.91	43.56	42.96	44.32	45.91	46.10	46.19	45.87	46.21	46.67	46.45
5	46.23	44.88	43.53	42.95	44.67	45.93	46.11	46.18	45.87	46.23	46.68	46.43
6	46.24	44.85	43.49	42.93	44.33	45.95	46.13	46.20	45.88	46.25	46.69	46.42
7	46.25	44.83	43.45	42.93	44.28	45.97	46.14	46.21	45.89	46.27	46.71	46.40
8	46.25	44.80	43.41	42.98	44.76	45.99	46.13	46.20	45.91	46.30	46.71	46.40
9	46.29	44.79	43.37	43.07	45.34	46.02	46.15	46.20	45.92	46.33	46.72	46.39
10	46.31	44.77	43.35	43.17	45.62	46.03	46.16	46.20	45.94	46.36	46.72	46.36
11	46.33	44.75	43.34	43.13	45.71	46.03	46.17	46.19	45.96	46.38	46.73	46.36
12	46.36	44.74	43.32	43.18	45.73	46.02	46.17	46.16	45.98	46.40	46.73	46.35
13	46.39	44.73	43.31	43.23	45.68	46.03	46.16	46.15	45.99	46.42	46.74	46.34
14	46.35	44.70	43.30	43.28	45.58	46.04	46.16	46.14	46.01	46.44	46.73	46.32
15	46.28	44.68	43.28	43.32	45.48	46.05	46.17	46.13	46.02	46.45	46.73	46.32
16	46.21	44.66	43.27	43.36	45.36	46.06	46.15	46.11	46.03	46.46	46.73	46.31
17	46.14	44.62	43.27	43.40	45.25	46.06	46.16	46.10	46.04	46.47	46.73	46.32
18	46.11	44.60	43.25	43.44	45.17	46.06	46.16	46.08	46.04	46.48	46.74	46.32
19	46.24	44.45	43.23	43.48	45.25	46.05	46.19	46.07	46.04	46.51	46.74	46.32
20	46.41	44.40	43.21	43.52	45.33	46.07	46.23	46.05	46.04	46.52	46.74	46.33
21	46.57	44.31	43.18	43.57	45.40	46.07	46.23	46.04	46.04	46.53	46.74	46.33
22	46.56	44.22	43.16	43.59	45.47	46.08	46.23	46.02	46.05	46.54	46.72	46.34
23	46.42	44.14	43.15	43.64	45.53	46.09	46.22	46.00	46.06	46.55	46.69	46.33
24	46.27	44.06	43.11	43.69	45.58	46.11	46.23	45.98	46.07	46.55	46.65	46.34
25	46.11	43.97	43.08	43.72	45.64	46.11	46.23	45.96	46.08	46.55	46.63	46.34
26	45.93	43.92	43.06	43.76	45.70	46.11	46.23	45.95	46.09	46.57	46.61	46.34
27	45.75	43.86	43.04	43.80	45.75	46.12	46.23	45.94	46.11	46.58	46.59	46.34
28	45.57	43.81	43.03	43.84	45.79	46.10	46.22	45.93	46.11	46.59	46.58	46.35
29	45.40	43.76	43.03	43.87	------	46.10	46.22	45.93	46.11	46.60	46.57	46.35
30	45.25	43.72	43.02	43.90	------	46.10	46.20	45.91	46.13	46.61	46.55	46.35
31	45.11	------	43.01	43.94	------	46.11	------	45.90	------	46.62	46.52	------
MAX	46.57	45.01	43.68	43.94	45.79	46.12	46.23	46.21	46.13	46.62	46.74	46.50
MIN	45.11	43.72	43.01	42.93	44.03	45.83	46.10	45.90	45.87	46.16	46.52	46.31

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4710. Moses Lake at Moses Lake, Wash.--Continued

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.35	46.25	43.47	43.18	42.96	43.08	43.99	45.07	45.31	45.66	46.06	46.64
2	46.35	46.01	43.44	43.16	42.95	43.12	44.00	45.08	45.33	45.57	46.08	46.61
3	46.35	45.84	43.41	43.15	42.95	43.16	44.03	45.09	45.34	45.51	46.12	46.57
4	46.35	45.69	43.39	43.13	42.94	43.19	44.07	45.11	45.37	45.53	46.16	46.54
5	46.35	45.54	43.38	43.12	42.93	43.21	44.10	45.10	45.38	45.54	46.19	46.48
6	46.35	45.40	43.39	43.11	42.93	43.24	44.13	45.12	45.40	45.55	46.22	46.45
7	46.36	45.29	43.37	43.09	42.92	43.25	44.16	45.14	45.45	45.58	46.25	46.40
8	46.36	-	43.38	43.08	42.91	43.26	44.19	45.14	45.49	45.61	46.27	46.36
9	46.37	-	43.39	43.07	42.90	43.31	44.22	45.15	45.54	45.60	46.31	46.33
10	46.37	-	43.34	43.06	42.89	43.32	44.26	45.16	45.55	45.62	46.34	46.29
11	46.37	-	43.32	43.04	42.88	43.35	44.40	45.15	45.57	45.65	46.35	46.25
12	46.36	-	43.29	43.04	42.87	43.40	44.54	45.18	45.58	45.67	46.39	46.21
13	46.37	-	43.28	43.03	42.86	43.43	44.68	45.17	45.60	45.68	46.41	46.19
14	46.38	-	43.26	43.02	42.85	43.45	44.81	45.18	45.63	45.69	46.43	46.17
15	46.38	44.38	43.25	43.02	42.85	43.50	44.90	45.19	45.64	45.71	46.45	46.12
16	46.38	44.35	43.25	43.01	42.84	43.51	44.92	45.21	45.66	45.72	46.49	46.11
17	46.39	44.23	43.25	43.00	42.83	43.55	44.93	45.20	45.67	45.75	46.51	46.12
18	46.39	44.12	43.25	42.99	42.83	43.61	44.94	45.21	45.69	45.78	46.56	46.09
19	46.39	44.06	43.25	42.99	42.82	43.61	44.94	45.22	45.70	45.79	46.57	46.08
20	46.38	43.97	43.25	42.99	42.80	43.64	44.97	45.22	45.73	45.81	46.58	46.10
21	46.35	43.88	43.25	42.98	42.80	43.67	44.96	45.23	45.74	45.82	46.60	46.07
22	46.38	43.81	43.24	42.97	42.79	43.72	44.96	45.22	45.75	45.85	46.62	46.07
23	46.39	43.76	43.24	42.96	42.83	43.75	44.98	45.21	45.77	45.86	46.65	46.07
24	46.39	43.73	43.23	42.96	42.91	43.76	44.98	45.25	45.78	45.87	46.66	46.06
25	46.55	43.68	43.23	42.97	42.90	43.78	44.99	45.22	45.78	45.90	46.67	46.11
26	46.74	43.63	43.22	42.96	42.93	43.82	45.00	45.24	45.81	45.93	46.70	46.05
27	46.92	43.59	43.20	42.96	42.98	43.84	45.01	45.25	45.79	45.95	46.67	46.04
28	46.97	43.56	43.20	42.95	43.03	43.87	45.02	45.25	45.79	45.97	46.68	46.04
29	46.84	43.54	43.19	42.95	43.06	43.89	45.05	45.26	45.81	45.99	46.65	46.04
30	46.65	43.50	43.19	42.95	------	43.92	45.05	45.27	45.74	46.01	46.64	46.03
31	46.47	------	43.18	42.96	------	43.96	------	45.29	------	46.02	46.64	------
MAX	46.97	-	43.47	43.18	43.06	43.96	45.05	45.29	45.81	46.02	46.70	46.64
MIN	46.35	-	43.18	42.95	42.79	43.08	43.99	45.07	45.31	45.51	46.06	46.03

Note.--Add 1,000 ft to obtain elevation above mean sea level.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46.02	45.35	43.50	43.18	43.04	44.43	46.43	46.30	46.35	46.56	46.59	
2	46.06	45.22	43.49	43.17	43.09	44.46	46.47	46.29	46.36	46.57	46.57	
3	46.02	45.10	43.48	43.16	43.16	-	46.49	46.25	46.36	46.59	46.55	
4	46.04	44.98	43.45	43.15	43.22	-	46.54	46.23	46.37	46.59	46.54	
5	46.03	44.87	43.43	43.15	43.27	-	46.58	46.21	46.37	46.60	46.53	
6	46.04	44.76	43.41	43.14	43.32	-	-	46.19	46.38	46.60	46.53	
7	46.05	44.65	43.39	43.13	43.38	-	-	46.17	46.37	46.61	46.52	
8	46.04	44.55	43.36	43.12	43.44	-	-	46.17	46.37	46.59	46.51	
9	46.05	44.47	43.35	43.10	43.50	-	-	46.19	46.37	46.58	46.51	
10	46.06	44.39	43.34	43.10	43.55	-	-	46.19	46.38	46.59	46.51	
11	46.06	44.32	43.32	43.09	43.60	-	-	46.20	46.39	46.59	46.49	
12	46.06	44.25	43.28	43.08	43.65	-	-	46.21	46.39	46.59	46.47	
13	46.07	44.17	43.27	43.06	43.70	-	-	46.22	46.38	46.60	46.45	
14	46.05	44.10	43.28	43.05	43.75	-	-	46.21	46.38	46.61	46.45	
15	46.06	44.03	43.33	43.05	43.80	-	-	46.20	46.39	46.61	46.46	
16	46.06	43.96	-	43.04	43.85	-	-	46.21	46.41	46.62	46.46	
17	46.10	43.90	-	43.03	43.90	-	-	46.20	46.45	46.63	46.45	
18	46.13	43.84	-	43.02	43.95	-	-	46.21	46.51	46.62	46.48	
19	46.15	43.80	-	43.01	44.00	-	-	46.22	46.53	46.62	46.49	
20	46.16	43.75	-	43.01	44.04	-	-	46.23	46.55	46.63	46.51	
21	46.17	43.69	-	43.01	44.09	-	-	46.25	46.55	46.64	46.55	
22	46.15	43.66	-	43.01	44.13	-	46.48	46.26	46.55	46.65	46.57	
23	46.12	43.64	-	43.02	44.16	-	46.46	46.28	46.56	46.66	46.62	
24	46.11	43.62	-	43.02	44.21	-	46.45	46.28	46.56	46.66	46.65	
25	46.08	43.58	-	43.01	44.26	46.04	46.44	46.29	46.56	46.65	46.67	
26	46.03	43.55	-	43.00	44.30	46.12	46.42	46.30	46.57	46.63	46.69	
27	45.95	43.54	-	43.00	44.35	46.19	46.40	46.31	46.54	46.64	46.68	
28	45.84	43.53	-	43.00	44.39	46.26	46.38	46.33	46.54	46.63	46.65	
29	45.71	43.52	-	43.00	------	46.33	46.36	46.35	46.55	46.62	46.63	
30	45.61	43.51	-	43.02	------	46.39	46.33	46.34	46.55	46.61	46.62	
31	45.47	------	-	43.03	------	-	------	46.34	------	46.60	46.62	------
MAX	46.17	45.35	43.50	43.18	44.39	-	-	46.35	46.57	46.66	46.69	-
MIN	45.47	43.51	-	43.00	43.04	-	-	46.17	46.35	46.56	46.45	-

Note.--Add 1,000 ft to obtain elevation above mean sea level.

12-4712.7. Farrier Coulee near Schrag, Wash.

Location.--Lat 47°07'45", long 118°51'15", in NE¼ sec.19, T.19 N., R.32 E., on left bank 3¾ miles upstream from confluence with Bowers Coulee, 3¾ miles north of Schrag, and 20 miles east of Moses Lake.

Drainage area.--42.0 sq mi.

Records available.--March 1963 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,310 ft (from topographic map).

Extremes.--Maximum and minimum discharges for March 1963 to September 1965 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1963	(a)	-	-	Entire period	0	-
1964	Jan. 29, 1964	191	4.41	Most of time	0	-
1965	(b)	-	-	Entire year	0	-

a No flow for entire period.
b No flow for entire year.

1963-65: Maximum discharge, 191 cfs Jan. 29, 1964 (gage height, 4.41 ft); no flow for most of time. Flood of Feb. 5, 1963, reached a stage of 5.82 ft, from slope-area measurement (discharge, 303 cfs).

Remarks.--Records poor. No known regulation or diversion.

Discharge, in cubic feet per second, March 1963 to September 1965

Jan. 18, 1964... 0.20	Jan. 30, 1964... 4.0	Feb. 1, 1964... 5.0	Feb. 3, 1964... 0.50
29..... 55	31..... 1.0	2..... 1.5	4..... .20
			5..... .10

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
January 1964	60.20	55	0	1.94	119
February	7.30	5.0	0	.25	14
Water year 1963-64	67.50	55	0	.18	134
Calendar year 1964	67.50	55	0	.18	134

Note.--Flow occurred only on days listed above.

12-4715. Crab Creek near Warden, Wash.

Location.--Lat 46°57'00", long 119°15'20", in SW¼NW¼ sec.24, T.17 N., R.28 E., on left bank half a mile east of Goose Lake, 2¼ miles downstream from O'Sullivan Dam, and 10 miles west of Warden.

Drainage area (revised).--About 4,470 sq mi, of which 665 sq mi in the vicinity of Soap Lake is noncontributing.

Records available.--June to December 1909, March to December 1910, February to December 1911, February to June 1912, October 1942 to November 1965 (discontinued). Published as Lower Crab Creek near Warden 1909-12. Records prior to 1942 are for natural flow. Those for September 1942 to September 1955 are not equivalent because of seepage bypassing gage.

Gage.--Water-stage recorder and timber control. Prior to May 8, 1958, rock and culvert control. Altitude of gage is 880 ft (from topographic map). Prior to June 27, 1912, staff gages at several sites within 3 miles of present site at various datums. October 1942 to September 1950 water-stage recorder at site 1.6 miles upstream at different datum. October 1950 to September 1952, water-stage recorder at site 2 miles upstream at different datum.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 7, 1961	35	2.67	June 23, 1961	17	2.08
1962	Apr. 5, 1962	29	a 2.48	Sept. 3, 1962	15	2.72
1963	Mar. 26, 1963	68	3.50	Mar. 29 to Apr. 1	0	-
1964	Dec. 20, 1963	48	3.18	Mar. 2, 6, 1964	10	2.60
1965	Jan. 31, 1965	36	b 3.01	Feb. 13, 1964	1.5	2.27

a Maximum gage height for year, 2.88 ft Jan. 20, 1962, backwater from ice.
b Maximum gage height for year, 3.19 ft Dec. 23, 1964, backwater from ice.

1909-12, 1942-52, 1955-65: Maximum discharge, 3,000 cfs Feb. 7, 1943 (gage height, 4.25 ft, site and datum then in use), from rating curve extended above 20 cfs on basis of slope-area measurement of flood in Lind Coulee; no flow for short intervals in June and July 1948, part of each day Feb. 2-21, 1952, when water was shut off at O'Sullivan Dam, and Mar. 29 to Apr. 1, 1963.

Remarks.--Records good except those for period of no gage-height record and those for winter periods, which are fair. Many diversions for irrigation. Flow regulated by Potholes Reservoir and partly by Fish and Wildlife Service Dam since January 1958. Storage began in Potholes Reservoir in September 1952 and from this time until September 1955 the flow consisted of a small part of dam seepage. Discharge at present location includes essentially all of the seepage.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	25	25	28	26	29	28	26	26	24	23	23	22
2	25	24	28	26	30	27	27	26	24	23	23	22
3	25	24	27	26	29	27	26	26	24	24	22	22
4	24	24	27	26	28	27	26	27	24	24	22	22
5	24	24	26	26	28	28	25	27	24	24	22	22
6	24	24	26	27	28	28	26	27	24	21	22	22
7	24	24	25	28	31	27	26	26	25	20	22	21
8	25	25	25	28	30	27	26	26	25	21	22	21
9	25	25	24	28	28	28	26	27	28	21	22	21
10	25	26	25	27	29	28	26	29	28	24	22	21
11	26	26	26	27	30	28	26	28	26	25	22	21
12	26	26	26	27	29	28	26	27	26	24	23	22
13	26	26	26	27	29	28	26	27	26	24	23	21
14	26	26	26	27	28	29	26	26	26	23	23	21
15	26	27	26	27	28	28	26	26	25	23	24	21
16	26	27	26	27	28	28	26	26	25	23	24	21
17	27	27	26	26	28	28	26	26	25	22	23	21
18	27	27	27	26	28	28	26	26	25	22	24	21
19	27	27	27	26	28	28	25	26	24	22	23	21
20	27	27	27	27	28	28	25	26	24	22	23	20
21	27	27	26	28	28	28	26	25	24	22	23	20
22	27	28	26	27	27	28	26	25	24	22	23	20
23	28	28	26	27	27	28	27	24	20	23	23	20
24	28	29	26	27	27	28	27	24	20	22	23	20
25	27	29	26	27	27	28	27	24	22	22	23	20
26	27	29	26	27	27	28	26	24	22	22	23	20
27	26	29	26	27	28	28	26	24	22	22	23	19
28	26	28	26	28	28	28	26	24	23	22	23	20
29	25	28	26	28	------	27	26	24	23	22	23	20
30	25	28	26	28	------	27	26	24	23	23	22	19
31	25	------	26	29	------	27	------	24	------	23	23	------
TOTAL	801	794	810	838	793	861	781	797	725	700	706	624
MEAN	25.8	26.5	26.1	27.0	28.3	27.8	26.0	25.7	24.2	22.6	22.8	20.8
MAX	28	29	28	29	31	29	27	29	28	25	24	22
MIN	24	24	24	26	27	27	25	24	20	20	22	19
AC-FT	1,590	1,570	1,610	1,660	1,570	1,710	1,550	1,580	1,440	1,390	1,400	1,240

CAL YR 1960: TOTAL 9,208 MEAN 25.2 MAX 41 MIN 10 AC-FT 18,260
WAT YR 1961: TOTAL 9,230 MEAN 25.3 MAX 31 MIN 19 AC-FT 18,310

Note.--No gage-height record Oct. 1 to Dec. 7. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4715. Crab Creek near Warden, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	21	22	25	26	24	25	23	21	23	20	18
2	20	21	22	25	26	24	25	23	22	23	21	16
3	20	21	22	26	26	24	25	24	21	22	22	16
4	20	21	22	25	26	25	24	24	21	22	23	17
5	20	21	22	25	25	25	25	23	21	23	23	18
6	20	21	22	25	25	25	25	24	22	23	23	18
7	20	21	22	25	26	25	25	25	21	23	22	17
8	20	21	22	25	26	25	25	24	21	23	22	17
9	20	21	22	25	26	25	24	25	22	23	22	17
10	21	21	22	25	26	25	24	25	22	23	22	18
11	21	21	22	25	26	24	24	24	22	23	21	17
12	21	21	22	25	26	24	24	24	22	23	21	18
13	21	21	22	24	27	25	24	24	22	23	21	18
14	21	22	22	24	27	25	24	24	22	21	21	18
15	21	22	23	24	27	25	24	25	22	21	21	17
16	21	23	23	24	27	25	24	23	22	22	20	18
17	21	24	24	24	27	25	24	23	22	22	20	18
18	20	23	24	24	26	25	24	23	21	22	20	17
19	21	22	24	24	26	25	24	22	20	22	20	18
20	21	22	24	24	26	25	24	22	21	22	20	17
21	21	22	24	24	25	25	24	22	21	22	19	17
22	21	22	25	24	24	25	24	22	21	22	19	18
23	21	22	24	24	24	25	24	22	22	22	20	18
24	21	23	25	24	24	25	23	23	22	23	20	18
25	21	23	24	24	24	26	24	23	22	23	20	18
26	21	22	24	24	24	26	24	23	22	23	20	18
27	22	23	24	24	24	26	24	23	21	23	20	17
28	21	23	24	26	24	25	24	23	21	21	20	19
29	21	23	24	26	------	25	24	22	22	20	19	19
30	21	23	24	26	------	24	23	22	23	21	19	20
31	21	------	24	26	------	24	------	22	------	22	18	------
TOTAL	641	657	716	765	716	771	725	721	647	691	639	532
MEAN	20.7	21.9	23.1	24.7	25.6	24.9	24.2	23.3	21.6	22.3	20.6	17.7
MAX	22	24	25	26	27	26	25	25	23	23	23	20
MIN	19	21	22	24	24	24	23	22	20	20	18	16
AC-FT	1,270	1,300	1,420	1,520	1,420	1,530	1,440	1,430	1,280	1,370	1,270	1,060

CAL YR 1961: TOTAL 8,839 MEAN 24.2 MAX 31 MIN 19 AC-FT 17,530
WAT YR 1962: TOTAL 8,221 MEAN 22.5 MAX 27 MIN 16 AC-FT 16,310

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	22	23	29	28	27	0	27	22	22	20	20
2	18	22	24	14	28	25	.10	27	21	22	20	19
3	18	22	24	16	28	25	8.5	25	23	22	21	19
4	19	22	24	29	28	25	15	24	24	21	21	19
5	19	21	24	30	31	26	20	26	24	21	21	20
6	19	22	27	29	33	25	24	30	23	21	21	19
7	19	22	26	28	36	25	26	29	23	22	21	19
8	19	22	25	28	31	25	26	28	23	23	20	19
9	20	24	23	28	28	25	25	28	23	23	21	19
10	20	24	24	29	27	24	28	27	23	23	21	19
11	21	26	25		27	24	32	27	23	22	21	19
12	23	26	24		28	24	32	26	23	22	21	20
13	23	25	25		30	31	30	25	22	21	20	20
14	23	23	28		28	29	30	25	22	21	20	20
15	22	24	28		27	29	30	25	22	20	20	20
16	22	24	28		27	28	28	25	21	20	20	20
17	22	23	28		28	26	28	25	21	21	20	21
18	22	23	34		28	25	29	25	21	21	20	21
19	22	23	36		28	25	31	24	21	21	20	21
20	21	24	34		28	27	35	24	21	21	20	21
21	20	23	33	28	28	27	33	24	21	21	19	21
22	21	23	32		27	26	30	24	22	20	20	21
23	22	23	31		27	27	30	24	22	21	20	20
24	22	21	31		27	26	28	24	22	21	20	20
25	22	20	30		27	26	28	24	21	21	20	20
26	21	22	30		27	26	28	24	21	21	20	20
27	20	23	30		25	12	28	24	21	21	20	20
28	22	23	30		27	.30	27	24	21	21	20	20
29	21	23	30		------	0	27	24	22	20	20	20
30	21	24	30		------	0	27	23	22	20	20	20
31	22	------	29		------	0	------	23	------	21	20	------
TOTAL	645	689	870	848	792	690.30	763.60	784	661	658	628	597
MEAN	20.8	23.0	28.1	27.4	28.3	22.3	25.5	25.3	22.0	21.2	20.3	19.9
MAX	23	26	36	30	36	31	35	30	24	23	21	21
MIN	18	20	23	14	25	0	0	23	21	20	19	19
AC-FT	1,280	1,370	1,730	1,680	1,570	1,370	1,510	1,560	1,310	1,310	1,250	1,180

CAL YR 1962: TOTAL 8,411 MEAN 23.0 MAX 36 MIN 16 AC-FT 16,680
WAT YR 1963: TOTAL 8,625.90 MEAN 23.6 MAX 36 MIN 0 AC-FT 17,110

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4715. Crab Creek near Warden, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	22	23	25	28	22	26	24	20	18	22	19
2	19	23	23	24	26	17	26	24	21	19	22	19
3	19	23	23	24	25	14	26	23	21	19	23	19
4	20	23	23	24	26	18	26	24	22	19	23	19
5	20	23	25	24	25	20	26	24	22	19	23	22
6	20	24	25	24	25	15	26	23	22	19	23	21
7	20	24	25	26	25	13	26	23	22	18	22	20
8	20	24	25	26	25	14	26	22	22	18	22	19
9	21	24	26	25	26	17	26	23	23	18	21	19
10	22	24	25	25	26	19	27	23	22	18	21	19
11	22	23	24	25	26	21	26	22	21	18	21	19
12	22	23	24	25	25	22	25	23	20	18	22	19
13	22	24	25	25	26	23	25	22	20	18	22	19
14	22	26	26	25	26	24	25	22	20	19	22	18
15	22	26	26	25	25	24	25	22	20	19	22	18
16	22	26	26	25	26	23	25	22	20	19	22	18
17	22	25	26	25	25	23	25	22	20	20	22	18
18	22	25	26	25	25	23	25	21	20	20	23	18
19	22	25	30	25	25	23	26	21	20	19	23	17
20	22	25	40	25	25	23	26	22	19	19	22	18
21	22	24	36	25	25	23	25	22	19	19	21	17
22	22	24	31	25	25	25	25	22	19	19	21	22
23	22	24	28	25	26	24	25	22	19	20	21	21
24	22	24	27	25	25	24	25	21	18	20	20	20
25	21	24	26	26	25	24	25	21	18	20	20	19
26	21	24	26	26	18	24	24	21	18	20	20	19
27	21	24	25	25	18	24	24	21	17	20	20	19
28	22	23	26	25	20	24	24	21	18	20	20	19
29	22	23	25	25	21	24	24	22	18	21	20	18
30	22	23	25	31	------	25	24	21	18	21	20	18
31	22	------	25	31	------	26	------	21	------	21	20	------
TOTAL	659	719	816	786	717	665	759	687	599	595	665	573
MEAN	21.3	24.0	26.3	25.4	24.7	21.5	25.3	22.2	20.0	19.2	21.5	19.0
MAX	22	26	40	31	28	26	27	24	23	21	23	22
MIN	19	22	23	24	18	13	24	21	17	18	20	17
AC-FT	1,310	1,430	1,620	1,560	1,420	1,320	1,510	1,360	1,190	1,180	1,320	1,130

CAL YR 1963: TOTAL 8,615.90 MEAN 23.6 MAX 40 MIN 0 AC-FT 17,090
WAT YR 1964: TOTAL 8,238 MEAN 22.5 MAX 40 MIN 13 AC-FT 16,340

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	23	25	20	31	24	26	23	19	20	21	17
2	20	21	24	24	28	27	25	23	19	20	21	17
3	19	20	24	26	26	25	25	23	20	21	22	17
4	19	22	23	24	25	23	25	23	20	22	22	17
5	19	23	23	22	26	23	25	23	20	20	22	17
6	19	22	23	26	26	23	26	22	20	20	22	17
7	19	22	22	26	26	23	24	22	19	20	22	17
8	19	22	22	26	26	23	23	22	19	20	22	17
9	18	23	22	26	26	24	24	22	19	20	22	17
10	17	25	23	26	25	23	26	22	19	20	21	17
11	17	25	23	26	25	23	25	22	20	20	20	17
12	18	25	22	26	21	22	25	22	20	20	20	17
13	18	25	23	26	2.4	22	23	22	20	21	19	17
14	19	25	23	26	4.2	23	23	21	20	21	19	17
15	18	24	23	25	12	23	25	21	20	22	19	17
16	18	23	20	25	16	23	24	21	20	22	19	17
17	18	23	10	25	19	23	22	21	22	22	19	17
18	18	23	12	26	22	24	23	21	24	22	19	16
19	18	23	15	26	27	28	24	22	22	22	18	16
20	18	23	17	26	25	26	25	22	21	22	19	18
21	18	23	19	26	25	26	25	22	20	23	19	18
22	19	23	20	26	24	26	26	22	20	24	18	18
23	19	23	20	26	23	25	26	22	20	24	19	17
24	19	23	22	26	23	25	25	21	20	24	19	17
25	19	23	14	26	23	25	24	20	20	23	19	18
26	18	24	16	26	23	25	24	20	20	23	19	18
27	20	23	18	25	24	25	24	20	20	23	18	18
28	18	23	18	28	23	24	25	19	20	23	18	18
29	18	23	18	29	------	24	25	19	22	22	18	18
30	20	25	18	33	------	25	23	19	21	22	17	18
31	25	------	18	34	------	27	------	19	------	22	17	------
TOTAL	581	695	620	808	627.6	752	735	663	606	670	609	521
MEAN	18.7	23.2	20.0	26.1	22.4	24.3	24.5	21.4	20.2	21.6	19.6	17.4
MAX	25	25	25	34	31	28	26	23	24	24	22	18
MIN	17	20	10	20	2.4	22	22	19	19	20	17	17
AC-FT	1,150	1,380	1,230	1,600	1,240	1,490	1,460	1,320	1,200	1,330	1,210	1,030

CAL YR 1964: TOTAL 7,940 MEAN 21.7 MAX 31 MIN 10 AC-FT 15,750
WAT YR 1965: TOTAL 7,887.6 MEAN 21.6 MAX 34 MIN 2.4 AC-FT 15,640

DISCHARGE, IN CUBIC FEET PER SECOND, 1965

DAY	OCT.	NOV.	DAY	OCT.	NOV.	DAY	OCT.	NOV.	DAY	OCT.	NOV.	DAY	OCT.	NOV.	DAY	OCT.	NOV.
1	18	20	6	18	-	11	18	-	16	19	-	21	19	-	26	20	-
2	18	20	7	18	-	12	18	-	17	19	-	22	19	-	27	20	-
3	18	-	8	18	-	13	19	-	18	19	-	23	20	-	28	20	-
4	18	-	9	18	-	14	19	-	19	19	-	24	20	-	29	20	-
5	18	-	10	18	-	15	19	-	20	19	-	25	20	-	30	20	-
															31	20	-
TOTAL																586	-
MEAN																18.6	-
MAX																20	-
MIN																18	-
AC-FT																1,160	-

12-4726. Crab Creek near Beverly, Wash.

Location.--Lat 46°49'45", long 119°49'45", in NW¼SW¼ sec.33, T.16 N., R.24 E., on right bank 4½ miles upstream from mouth and 5 miles east of Beverly.

Drainage area (revised).--4,842 sq mi, of which 665 sq mi in the vicinity of Soap Lake is noncontributing.

Records available.--February 1959 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Feb. 13, 1961	101	a 2.71	Jan. 30, 1961	30	b 1.65
1962	May 31, 1962	102	c 2.75	Aug. 2, 1962	12	1.29
1963	Feb. 9, 1963	d 190	e 4.84	Jan. 10, 1963	10	1.16
1964	Sept. 23, 24, 26	102	f 2.75	Dec. 13, 1963	23	1.68
1965	Jan. 31, 1965	218	4.25	Dec. 16, 1964	46	1.92

a Maximum gage height for year, 2.99 ft Dec. 16, 1960, backwater from ice.
b Occurred July 11, 1961.
c Maximum gage height for year, 4.31 ft Jan. 21, 1961, backwater from ice.
d Maximum daily.
e Occurred Feb. 8, 1963, backwater from ice.
f Maximum gage height for year, 2.87 ft Dec. 23, 1963, backwater from ice.

1959-65: Maximum discharge, 218 cfs Jan. 31, 1965 (gage height, 4.25 ft); maximum gage height, 4.84 ft Feb. 8, 1963 (backwater from ice); minimum discharge, 10 cfs Jan. 10, 1963 (gage height, 1.16 ft).

Remarks.--Records good except those for winter periods, which are fair. Many diversions above station for irrigation. Flow is entirely regulated by Potholes Reservoir. Flow by station is essentially seepage from Potholes Reservoir and return flow from part of the Columbia Basin Project. Records of chemical analyses for the water years 1961-62 are published in reports of the Geological Survey (prior to October 1963, published as Crab Creek near Smyrna).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	59	58	75	46	80	66	54	62	63	62	49	58
2	59	60	74	47	86	66	52	59	64	62	50	59
3	57	60	73	48	94	66	46	57	62	62	51	60
4	56	59	71	50	94	66	50	57	59	63	53	61
5	56	57	68	55	90	66	47	56	55	64	53	62
6	59	56	64	60	87	67	45	58	54	65	52	62
7	58	56	61	69	85	68	44	59	56	66	52	62
8	59	56	58	80	85	69	37	60	61	66	51	64
9	62	56	54	85	86	66	44	64	62	56	51	65
10	63	57	52	82	92	63	45	59	67	36	51	66
11	63	59	50	77	98	66	46	71	70	36	51	66
12	62	60	48	74	98	68	51	71	73	39	51	67
13	55	62	47	70	98	70	51	70	76	40	51	68
14	67	62	46	69	94	72	56	68	77	37	52	69
15	68	64	45	62	90	73	63	70	78	36	52	70
16	68	65	45	66	81	73	66	70	78	35	49	70
17	69	65	47	66	82	72	67	70	78	38	46	70
18	70	66	50	63	79	68	69	69	77	40	47	70
19	70	66	55	62	76	66	69	68	73	40	48	70
20	70	66	60	61	73	65	70	66	70	41	48	71
21	70	63	70	61	71	66	69	62	70	40	48	70
22	72	70	76	63	71	66	65	62	74	41	50	70
23	73	71	72	66	70	65	56	56	74	40	50	70
24	72	72	70	66	68	68	67	58	63	39	49	70
25	73	73	68	65	64	73	66	56	54	42	49	70
26	66	77	67	64	67	75	66	53	50	46	49	70
27	64	77	60	55	66	75	62	53	54	46	51	69
28	62	78	50	45	65	66	61	55	56	46	54	69
29	61	77	45	42	-------	61	60	55	56	49	56	70
30	62	76	45	40	-------	59	62	57	59	49	57	70
31	60	-------	45	60	-------	53	-------	61	-------	49	58	-------
TOTAL	1,995	1,944	1,811	1,919	2,290	2,093	1,716	1,922	1,963	1,471	1,579	2,008
MEAN	64.4	64.8	58.4	61.9	81.8	67.2	57.2	62.0	65.4	47.5	50.9	66.9
MAX	73	78	76	85	98	75	70	71	78	66	58	71
MIN	56	56	45	40	64	53	37	53	50	35	46	58
AC-FT	3,960	3,860	3,590	3,810	4,540	4,130	3,400	3,810	3,890	2,920	3,130	3,980

CAL YR 1960: TOTAL 22,399 MEAN 61.2 MAX 174 MIN 33 AC-FT 44,430
WAT YR 1961: TOTAL 22,701 MEAN 62.2 MAX 98 MIN 35 AC-FT 45,030

12-4726. Crab Creek near Beverly, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	68	76	76	83	78	49	55	76	90	39	16	69
2	69	75	76	82	74	62	55	75	98	46	15	71
3	69	73	74	80	77	71	56	79	93	56	22	73
4	70	70	74	80	69	72	56	79	91	58	32	74
5	70	69	72	83	71	68	55	79	90	62	38	74
6	70	66	73	80	70	69	54	78	88	66	53	73
7	70	64	72	80	69	71	48	76	88	71	61	69
8	70	63	71	80	71	68	56	77	88	74	69	69
9	70	63	70	83	76	69	59	80	85	74	69	67
10	70	62	60	76	85	68	61	83	83	71	71	66
11	70	64	52	58	88	64	62	84	82	67	75	66
12	70	64	50	58	85	62	65	86	77	66	76	68
13	70	63	52	55	83	61	68	88	73	62	75	71
14	71	61	52	54	83	61	69	86	76	61	77	72
15	71	62	52	54	83	61	64	85	74	53	75	73
16	72	62	53	53	83	60	63	85	71	53	73	74
17	72	62	53	53	80	59	61	83	73	56	71	75
18	73	63	55	53	76	58	61	82	77	64	66	75
19	73	62	60	51	74	58	56	81	76	61	66	75
20	74	62	66	48	71	56	52	80	61	59	67	76
21	74	61	72	46	68	56	56	79	59	58	64	76
22	76	62	74	46	64	58	60	76	52	56	66	75
23	76	75	76	49	69	56	63	77	49	52	69	74
24	76	76	86	52	52	54	66	80	43	48	66	74
25	78	75	92	58	52	55	67	86	40	50	62	74
26	80	74	94	64	55	58	71	90	47	50	59	74
27	80	74	90	70	53	56	75	96	43	41	61	74
28	80	75	88	76	49	59	76	97	41	23	62	75
29	80	76	85	80	-------	59	78	97	44	18	67	75
30	78	77	84	80	-------	58	79	93	44	22	68	78
31	78	-------	85	78	-------	57	-------	100	-------	22	68	-------
TOTAL	2,268	2,031	2,189	2,043	2,010	1,893	1,867	2,599	2,105	1,659	1,879	2,179
MEAN	73.2	67.7	70.6	65.9	71.8	61.1	62.2	83.8	70.2	53.5	60.6	72.6
MAX	80	77	94	83	88	72	79	100	99	74	77	78
MIN	68	61	50	46	49	49	48	75	40	18	15	66
AC-FT	4,500	4,030	4,340	4,050	3,990	3,750	3,700	5,160	4,180	3,290	3,730	4,320

CAL YR 1961: TOTAL 23,439 MEAN 64.2 MAX 98 MIN 35 AC-FT 46,490
WAT YR 1962: TOTAL 24,722 MEAN 67.7 MAX 100 MIN 15 AC-FT 49,040

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	83	84	76	76	38	82	43	64	60	80	57	83
2	83	83	80	74	30	81	42	62	49	80	60	83
3	84	83	81	73	32	81	39	61	51	81	58	85
4	84	81	80	69	35	78	40	61	55	80	58	88
5	84	80	80	60	60	77	45	60	58	80	59	89
6	85	79	80	64	100	74	50	66	61	79	64	89
7	84	79	80	67	170	74	55	69	61	78	69	89
8	85	78	80	69	180	73	58	74	63	76	69	87
9	85	78	80	68	190	71	71	76	64	76	69	83
10	85	80	79	45	180	66	79	75	66	75	70	80
11	85	80	78	55	160	66	83	76	64	74	66	80
12	87	82	77		130	72	84	71	61	74	66	80
13	91	85	77		110	69	86	72	66	73	62	78
14	94	87	80		97	67	89	71	69	72	61	78
15	94	87	84		95	68	92	66	64	71	68	80
16	96	86	88		94	71	95	66	62	70	69	83
17	98	85	90		92	71	98	66	62	69	71	84
18	99	83	91		93	69	97	66	64	66	71	87
19	100	79	90		95	67	97	66	64	66	73	88
20	101	76	90		99	66	102	69	65	56	71	88
				65								
21	100	83	90		99	66	104	73	67	51	73	90
22	99	80	92		96	66	101	73	69	42	74	91
23	102	79	90		94	67	97	71	71	45	74	91
24	100	78	73		92	67	92	68	77	42	77	92
25	98	76	70		90	72	85	68	78	48	78	95
26	94	74	68		88	74	77	67	79	50	80	95
27	92	71	78		86	72	69	66	80	51	81	96
28	90	71	78		88	69	71	65	80	53	82	97
29	88	71	82		-------	67	69	65	80	58	82	98
30	87	73	80	56	-------	51	66	64	79	56	83	97
31	85	-------	78	45	-------	47	-------	60	-------	55	83	-------
TOTAL	2,822	2,391	2,520	1,991	2,813	2,161	2,276	2,097	1,989	2,027	2,178	2,624
MEAN	91.0	79.7	81.3	64.2	100	69.7	75.9	67.6	66.3	65.4	70.3	87.5
MAX	102	87	92	76	190	82	104	76	80	81	83	98
MIN	83	71	68	45	30	47	39	60	49	42	57	78
AC-FT	5,600	4,740	5,000	3,950	5,580	4,290	4,510	4,160	3,950	4,020	4,320	5,200

CAL YR 1962: TOTAL 25,967 MEAN 71.1 MAX 102 MIN 15 AC-FT 51,500
WAT YR 1963: TOTAL 27,889 MEAN 76.4 MAX 190 MIN 30 AC-FT 55,320

12-4726. Crab Creek near Beverly, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	95	83	63	78	80	68	59	80	85	69	78	74
2	98	81	63	76	83	69	70	76	82	72	80	76
3	94	80	64	75	84	69	77	74	79	78	84	77
4	92	78	64	73	81	64	80	75	76	78	90	78
5	92	75	64	71	77	62	82	74	72	72	92	76
6	91	76	66	71	78	64	85	80	74	72	96	76
7	90	79	71	69	77	66	85	82	71	76	97	76
8	89	86	74	69	76	64	85	80	69	78	96	78
9	89	86	77	67	77	60	85	80	74	77	92	81
10	88	83	77	68	77	63	85	79	72	83	88	82
11	88	78	67	67	77	62	83	77	66	71	86	80
12	87	74	55	67	78	66	82	78	76	62	85	77
13	88	72	35	66	78	66	82	74	83	59	82	76
14	88	73	40	66	77	64	85	72	85	61	81	78
15	88	74	50	67	78	63	83	74	86	62	82	82
16	86	77	60	68	79	71	80	71	85	66	83	85
17	87	76	70	71	76	69	80	66	85	68	83	88
18	85	75	70	70	78	66	82	68	85	65	83	92
19	91	74	72	71	77	73	80	74	85	66	83	99
20	92	71	75	75	79	72	74	69	87	71	83	94
21	90	70	80	75	76	71	71	63	90	69	84	97
22	91	68	85	75	76	71	69	67	93	68	84	99
23	97	67	90	74	75	72	74	71	92	70	83	102
24	95	67	98	72	74	70	73	73	85	72	77	101
25	94	67	93	71	74	68	69	77	75	74	69	97
26	96	66	90	72	73	64	68	80	65	72	63	102
27	96	65	87	75	73	67	74	82	59	72	62	101
28	95	65	84	77	70	67	78	86	62	73	66	100
29	94	63	83	78	66	65	80	88	61	71	68	99
30	92	63	81	80	------	65	78	88	64	74	71	97
31	88	------	80	80	------	66	------	89	------	76	73	------
TOTAL	2,826	2,214	2,228	2,234	2,224	2,067	2,338	2,367	2,323	2,197	2,524	2,620
MEAN	91.2	73.8	71.9	72.1	76.7	66.7	77.9	76.4	77.4	70.9	81.4	87.3
MAX	98	88	98	80	84	73	85	89	93	83	97	102
MIN	85	63	35	66	66	60	59	63	59	59	62	74
AC-FT	5,610	4,390	4,420	4,430	4,410	4,100	4,640	4,690	4,610	4,360	5,010	5,200

CAL YR 1963: TOTAL 27,424 MEAN 75.1 MAX 190 MIN 30 AC-FT 54,390
WAT YR 1964: TOTAL 28,162 MEAN 76.9 MAX 102 MIN 35 AC-FT 55,860

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	99	118	110	110	204	105	75	89	106	97	104	119
2	102	113	114	130	179	99	76	90	101	94	104	116
3	103	116	114	160	161	97	83	93	99	93	104	114
4	106	116	111	150	152	97	88	99	99	94	104	117
5	107	115	108	150	144	97	90	103	99	96	104	115
6	108	113	108	170	136	95	92	111	94	97	102	114
7	108	111	106	160	137	93	100	113	94	94	100	116
8	101	108	102	160	126	91	101	116	94	91	99	117
9	100	106	101	160	129	90	101	115	92	93	99	118
10	99	108	101	150	125	90	99	108	93	95	99	121
11	96	111	99	150	122	90	99	103	90	93	101	120
12	94	113	97	160	118	88	101	100	91	95	102	121
13	94	114	96	160	116	82	99	95	92	97	102	122
14	95	112	97	160	113	79	103	94	97	97	103	122
15	101	110	97	160	108	74	102	93	97	90	104	122
16	105	106	70	140	100	74	97	89	100	89	104	128
17	107	104	80	130	100	77	84	95	105	82	105	128
18	110	102	90	120	102	74	89	100	105	78	105	130
19	108	102	110	107	102	72	85	104	108	80	107	133
20	109	102	120	109	97	74	83	108	111	79	107	136
21	111	100	130	119	106	75	83	112	113	87	111	136
22	113	100	140	128	100	79	83	114	117	92	111	143
23	120	101	145	127	102	79	84	109	118	94	113	144
24	123	100	130	127	100	78	84	112	113	97	114	144
25	118	103	100	128	99	76	86	117	108	99	118	141
26	119	102	110	118	99	76	88	118	92	102	120	137
27	120	104	110	151	97	78	90	121	92	104	120	138
28	118	104	110	153	103	79	87	120	93	106	116	137
29	113	103	110	176	------	78	90	113	94	105	119	138
30	115	104	110	200	------	78	90	109	95	105	120	141
31	117	------	100	212	------	76	------	108	------	104	120	------
TOTAL	3,339	3,221	3,326	4,535	3,377	2,590	2,712	3,271	3,002	2,919	3,341	3,828
MEAN	108	107	107	146	121	83.5	90.4	106	100	94.2	108	128
MAX	123	118	145	212	204	105	103	121	118	106	120	144
MIN	94	100	70	107	97	72	75	89	90	78	99	114
AC-FT	6,620	6,390	6,600	9,000	6,700	5,140	5,380	6,490	5,950	5,790	6,630	7,590

CAL YR 1964: TOTAL 30,780 MEAN 84.1 MAX 145 MIN 59 AC-FT 61,050
WAT YR 1965: TOTAL 39,461 MEAN 108 MAX 212 MIN 70 AC-FT 78,270

12-4728. Columbia River below Priest Rapids Dam, Wash.

Location.--Lat 46°37'45", long 119°51'50" (revised), in SE¼NW¼ sec.7, T.13 N., R.24 E., on left bank 2½ miles downstream from Priest Rapids Dam and 14 miles south of Beverly.

Drainage area.--96,000 sq mi (revised), approximately.

Records available.--January 1917 to September 1965. January 1917 to September 1930, at site 3 miles downstream, published as "at Vernita." October 1930 to July 1959, at site 47 miles upstream, published as "at Trinidad."

Gage.--Digital water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1930, staff gages at ferry at Vernita (3 miles downstream) at datum 388.7 ft above mean sea level, unadjusted. Oct. 1, 1930, to July 27, 1959, graphic water-stage recorder at Trinidad (47 miles upstream) at datum 499.3 ft above mean sea level (river-profile survey). July 28, 1959, to June 25, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--48 years (1917-65), 119,800 cfs (86,730,000 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1961	June 9, 1961	547,400	427.51	Sept.25, 1961	37,200	a 396.51
1962	June 2, 1962	319,500	418.26	Jan. 1, 1962	35,300	396.26
1963	June 16, 1963	316,600	418.02	Mar. 18, 1963	37,300	396.45
1964	June 17, 1964	472,000	424.75	Dec. 15, 16, 1963	36,900	396.38
1965	June 18, 1965	370,000	420.52	(b)	34,800	396.00

a Occurred Jan. 18, 1961.
b Dec. 31, 1964, Jan. 1, 1965.

Annual minimum daily discharge, water years 1961-65

Water year	Date	Discharge	Water year	Date	Discharge
1961	Nov. 9, 1960	44,100	1964	Sept.20, 1964	38,700
1962	Jan. 1, 1962	36,400	1965	Dec. 13, 1964	38,100
1963	Sept. 7, 1963	51,100			

1917-65: Maximum discharge, 692,600 cfs June 12, 1948 (gage height, 59.35 ft, site and datum then in use); minimum, 4,120 cfs Feb. 10, 1932 (gage height, 11.40 ft, site and datum then in use). Maximum discharge known, about 740,000 cfs June 7, 1894 (based on information obtained at other points).

Remarks.--Records excellent. Diversion above station for irrigation of about 500,000 acres is small percentage of flow past gage. Flow regulated by Franklin D. Roosevelt Lake, Rufus Woods Lake, Priest Rapids Reservoir, and reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, Okanogan, and Chelan River basins. Records of chemical analyses for the water years 1962-63 are published in reports of the Geological Survey as "at Vernita Ferry."

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	79,300	70,500	68,000	56,200	83,800	107,100	91,500	106,300	411,000	309,900	130,300	80,100
2	76,000	69,800	64,000	57,000	82,100	97,500	114,000	108,100	430,000	296,500	125,300	74,000
3	78,700	73,300	59,300	57,100	81,500	98,000	109,500	109,300	457,000	276,500	118,300	70,000
4	67,400	72,100	53,200	59,300	88,000	94,000	84,500	108,000	466,000	260,500	115,900	78,000
5	73,900	62,300	56,300	72,200	88,400	107,400	100,700	112,700	476,200	248,700	112,400	81,000
6	76,900	51,200	56,700	65,800	89,200	108,800	102,800	118,100	495,100	231,500	113,600	76,500
7	69,500	65,100	56,400	72,100	88,400	99,100	94,700	125,300	512,400	229,000	118,500	70,300
8	61,200	64,000	53,000	75,000	78,200	84,400	108,400	128,400	517,400	218,800	99,600	76,400
9	49,100	44,100	56,000	72,800	82,800	82,700	117,200	144,600	522,500	211,700	89,100	75,600
10	73,400	68,000	62,600	54,800	76,300	85,400	124,300	175,000	533,100	202,200	101,200	64,800
11	65,800	66,500	55,600	45,500	76,700	83,700	91,400	184,800	532,500	201,400	105,000	74,000
12	63,100	61,600	56,000	47,800	74,800	101,400	117,900	193,600	523,300	197,400	107,800	68,000
13	60,200	64,100	57,000	49,500	80,500	100,000	107,800	209,400	519,900	197,300	107,700	69,600
14	59,400	63,500	55,200	55,200	86,000	78,600	112,200	200,800	512,400	184,000	121,100	72,300
15	64,600	64,900	59,600	54,300	85,900	84,600	116,600	209,400	508,100	180,200	120,300	63,700
16	74,700	71,300	72,000	47,300	83,800	79,100	111,800	227,200	477,200	178,200	96,400	63,300
17	68,200	67,300	72,300	55,200	90,100	88,200	109,800	232,200	482,700	176,300	100,100	57,500
18	63,300	54,200	59,600	55,000	100,900	87,100	107,500	246,000	490,000	180,200	96,900	60,900
19	59,000	68,900	51,400	59,000	102,400	77,900	100,800	247,100	492,400	173,900	87,700	57,700
20	55,700	62,300	57,800	64,500	98,700	86,000	82,700	237,600	482,200	175,100	67,900	60,600
21	57,500	76,600	58,900	67,300	87,300	91,500	79,500	241,000	469,100	174,000	80,200	59,100
22	57,500	72,400	57,100	66,900	90,800	94,400	96,400	262,800	464,500	170,500	77,800	64,700
23	45,900	65,700	56,800	67,600	101,300	93,700	88,200	277,300	444,200	166,300	86,300	61,900
24	61,900	61,400	53,900	71,700	102,900	90,300	88,200	291,100	420,900	163,600	91,500	47,100
25	59,600	77,600	55,900	73,300	102,000	88,300	111,800	318,800	407,900	165,900	96,900	55,100
26	71,300	69,700	52,400	73,800	104,800	107,900	117,600	349,600	396,400	170,200	87,700	50,900
27	69,400	63,900	53,800	74,700	106,600	113,800	121,700	352,300	379,100	162,900	90,400	55,100
28	72,200	72,700	58,600	74,400	110,900	98,200	101,300	363,700	353,400	152,200	95,600	51,200
29	74,500	74,300	57,400	72,700	------	87,800	99,000	377,100	333,700	144,000	93,600	53,900
30	77,900	75,700	56,200	66,200	------	89,000	100,900	390,200	333,700	134,600	92,000	56,000
31	77,400	------	56,400	77,200	------	87,000	------	401,700	------	135,800	88,300	------
TOTAL	2,064.5M	1,995.0M	1,799.4M	1,961.5M	2,525.1M	2,873.1M	3,110.9M	7,049.5M	13,844M	6,078.3M	3,115.4M	1,949.3M
MEAN	66,600	66,500	58,050	63,270	90,180	92,680	103,700	227,400	461,500	196,100	100,500	65,000
MAX	79,300	77,600	72,300	77,200	110,900	113,800	124,300	401,700	533,100	309,900	130,300	81,000
MIN	45,900	44,100	51,400	45,500	74,800	77,900	79,500	106,300	333,700	134,600	67,900	47,100
AC-FT	4,095M	3,957M	3,569M	3,891M	5,008M	5,699M	6,170M	13,980M	27,460M	12,060M	6,179M	3,868M

CAL YR 1960: TOTAL 45,677,100 MEAN 124,800 MAX 311,000 MIN 44,100 AC-FT 90,600,000
WAT YR 1961: TOTAL 48,366,900 MEAN 132,500 MAX 533,100 MIN 44,100 AC-FT 95,930,000

M Expressed in thousands.

12-4728. Columbia River below Priest Rapids Dam, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45,600	54,600	51,800	36,400	78,500	78,900	39,700	166,100	307,900	225,700	175,100	86,300
2	57,400	61,900	55,300	51,000	80,300	67,800	48,900	165,400	311,300	225,600	176,300	84,500
3	63,200	62,200	50,500	50,100	81,500	57,100	47,500	157,600	308,700	222,300	174,500	85,500
4	58,900	64,500	51,000	53,700	80,000	51,000	55,600	155,000	311,300	227,200	177,500	81,100
5	51,900	58,500	61,000	49,400	86,000	63,000	55,300	154,500	313,600	227,900	169,900	74,000
6	58,300	65,300	57,400	40,800	81,200	57,500	65,800	152,400	299,500	232,200	162,400	75,100
7	52,100	59,300	51,500	41,000	82,700	58,100	71,100	147,900	294,700	231,600	150,000	73,800
8	46,600	58,900	54,700	51,100	81,200	66,300	74,700	157,200	293,500	230,300	152,900	68,900
9	60,800	59,100	50,100	49,800	83,100	62,900	92,000	161,800	283,700	226,400	143,400	61,600
10	63,100	59,800	39,700	48,200	82,700	62,900	81,200	163,800	290,700	213,900	127,900	68,200
11	58,500	49,200	64,600	61,400	78,400	50,400	83,000	171,200	296,300	203,800	116,900	63,200
12	46,800	46,000	65,400	67,500	87,100	68,600	100,600	153,500	292,700	200,800	111,600	65,500
13	49,400	61,100	64,600	64,100	84,000	54,300	87,700	160,400	274,600	191,600	124,500	66,100
14	56,800	68,600	65,900	55,400	82,100	56,800	87,600	163,600	275,400	187,000	108,600	72,200
15	47,800	64,300	52,400	62,900	77,300	52,400	96,700	165,400	265,500	191,900	102,700	65,500
16	58,700	65,400	52,400	72,200	78,700	50,900	110,300	160,100	273,600	189,000	102,500	48,800
17	58,100	55,800	54,300	74,600	66,600	48,000	109,900	155,800	268,100	187,200	106,800	66,200
18	65,600	47,800	63,200	77,300	56,300	49,100	126,000	153,400	263,100	187,400	105,800	63,900
19	76,800	46,500	61,400	77,800	66,600	55,000	134,700	155,600	247,800	191,800	96,400	66,700
20	86,100	68,500	60,000	76,400	65,000	66,800	130,200	156,800	242,200	179,300	105,500	61,200
21	67,800	70,800	51,600	71,300	65,000	68,700	133,300	158,000	244,800	171,600	104,700	60,400
22	55,300	62,400	47,000	75,500	64,300	69,200	143,900	162,600	249,800	170,300	107,900	57,400
23	69,400	54,100	44,000	81,500	65,900	66,400	147,900	166,400	248,900	161,800	108,100	50,000
24	69,800	54,000	42,800	81,000	60,900	63,800	146,900	188,800	248,900	163,200	106,400	52,000
25	73,100	60,200	39,700	77,900	58,700	50,700	154,800	201,700	247,100	163,600	104,600	60,800
26	70,800	53,800	51,700	76,400	68,700	57,200	163,900	223,700	239,000	155,500	105,700	66,300
27	72,400	64,800	50,600	77,500	64,900	51,600	171,000	242,000	232,200	159,800	108,000	65,000
28	71,000	61,900	45,200	74,600	69,300	46,700	170,500	260,100	231,000	154,900	100,900	62,800
29	57,100	60,700	49,800	83,000	------	48,200	167,000	280,100	226,900	157,300	92,400	49,800
30	73,800	59,800	43,300	79,300	------	48,200	170,200	287,900	225,700	162,400	94,800	46,600
31	66,600	------	36,800	77,200	------	54,800	------	295,100	------	174,800	87,500	------
TOTAL	1,909.6M	1,783.8M	1,629.7M	2,016.3M	2,076.9M	1,803.3M	3,267.9M	5,644.8M	8,108.5M	5,568.3M	3,812.2M	1,979.4M
MEAN	61,600	59,460	52,570	65,040	74,180	58,170	108,900	182,100	270,300	192,500	123,000	65,980
MAX	86,100	70,800	65,900	83,000	87,100	78,900	171,000	295,100	313,600	232,200	177,500	86,300
MIN	45,600	46,000	36,800	36,400	56,300	46,700	39,700	147,900	225,700	154,900	87,500	46,600
AC-FT	3,798M	3,538M	3,232M	3,999M	4,119M	3,577M	6,482M	11,200M	16,080M	11,840M	7,561M	3,926M

CAL YR 1961: TOTAL 47,831,100 MEAN 131,000 MAX 533,100 MIN 36,800 AC-FT 94,870,000
WAT YR 1962: TOTAL 40,000,700 MEAN 109,600 MAX 313,600 MIN 36,400 AC-FT 79,340,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62,000	62,400	93,300	70,000	71,600	86,600	87,000	124,800	229,700	241,300	115,300	73,400
2	65,400	62,900	82,200	91,100	76,500	80,900	86,200	127,400	228,300	252,100	113,400	65,000
3	57,800	65,000	93,000	80,200	60,800	84,100	91,500	129,500	224,900	248,500	121,900	74,200
4	55,000	61,000	91,700	87,000	71,300	96,600	89,300	129,700	230,000	240,400	111,600	71,700
5	58,800	67,900	83,000	74,500	73,700	79,000	91,000	130,000	238,900	243,300	120,800	77,000
6	56,500	67,100	77,700	74,000	80,600	83,000	73,700	134,200	238,700	241,700	114,500	73,200
7	61,000	68,000	79,000	82,400	74,600	84,600	86,600	131,800	228,500	229,500	105,800	51,100
8	66,700	66,200	73,400	78,100	84,200	83,800	80,600	139,400	238,200	226,100	107,400	62,900
9	64,400	67,700	69,300	76,900	85,600	88,000	85,900	146,500	244,400	234,600	105,900	79,000
10	60,000	61,600	85,200	85,200	87,500	81,800	90,100	155,400	259,100	226,500	104,000	69,500
11	62,600	53,400	82,800	89,600	97,700	101,200	94,700	142,000	265,200	229,500	95,000	74,600
12	65,900	64,000	70,300	92,000	94,500	86,100	93,300	123,400	277,400	220,500	105,700	69,900
13	58,400	62,900	76,300	93,100	90,800	91,900	88,400	122,400	285,400	215,600	103,100	70,200
14	62,500	65,900	74,500	93,400	94,000	77,900	84,500	103,600	297,400	222,000	111,600	70,400
15	62,200	58,800	68,400	89,800	93,700	73,800	87,600	102,000	301,800	207,000	122,400	60,600
16	66,600	62,800	70,600	91,000	93,400	66,300	91,800	110,600	303,800	207,000	120,600	79,900
17	72,800	64,100	83,400	96,800	81,500	58,000	94,900	111,700	305,600	216,600	119,600	72,700
18	70,800	58,000	82,600	92,200	87,900	66,300	101,000	113,000	301,400	225,800	105,100	87,300
19	62,100	66,500	82,500	86,000	86,300	66,300	107,400	113,600	299,400	226,800	113,500	93,700
20	59,900	63,300	79,200	81,200	77,600	61,800	111,400	85,700	296,600	210,800	109,600	75,200
21	57,800	69,700	77,600	93,000	92,000	64,000	112,600	93,800	292,600	182,600	106,000	56,800
22	66,000	64,000	82,600	89,100	90,400	62,500	115,600	88,500	295,800	175,400	112,200	56,300
23	67,500	84,800	79,200	79,000	86,700	60,900	114,600	84,400	296,200	164,200	105,800	70,800
24	80,000	78,800	78,400	81,200	85,200	55,900	102,300	162,100	296,200	176,100	105,300	72,400
25	81,400	79,000	84,300	78,300	99,900	67,300	106,400	197,400	293,200	163,700	90,300	67,400
26	70,700	94,000	82,600	83,000	86,500	70,800	112,800	192,900	289,500	148,800	96,100	66,900
27	68,200	88,600	81,900	68,100	78,000	71,400	115,700	193,400	288,600	136,100	85,600	65,200
28	72,300	93,100	80,300	76,700	82,600	71,100	116,800	201,200	263,800	111,000	85,700	60,900
29	78,600	92,300	78,200	75,500	------	74,000	117,100	227,300	250,700	139,400	80,800	51,200
30	68,400	90,400	85,600	74,200	------	81,800	118,700	227,300	249,000	129,400	78,700	64,800
31	64,600	------	69,500	73,200	------	76,600	------	226,500	------	134,300	71,400	------
TOTAL	2,026.9M	2,104.2M	2,478.6M	2,575.8M	2,365.3M	2,354.3M	2,949.5M	4,371.5M	8,110.3M	6,226.6M	3,244.7M	2,084.2M
MEAN	65,380	70,140	79,950	83,090	84,480	75,950	98,320	141,000	270,300	200,900	104,700	69,470
MAX	81,400	94,000	93,300	96,800	99,900	101,200	118,700	227,300	305,600	252,100	122,400	93,700
MIN	55,000	53,400	68,400	68,100	60,800	55,900	73,700	84,400	224,900	111,000	71,400	51,100
AC-FT	4,020M	4,174M	4,916M	5,109M	4,692M	4,670M	5,850M	8,671M	16,090M	12,350M	6,436M	4,134M

CAL YR 1962: TOTAL 41,287,300 MEAN 113,100 MAX 313,600 MIN 36,400 AC-FT 81,890,000
WAT YR 1963: TOTAL 40,891,900 MEAN 112,000 MAX 305,600 MIN 51,100 AC-FT 81,110,000

M Expressed in thousands.

12-4728. Columbia River below Priest Rapids Dam, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	63,100	56,500	57,900	40,600	48,900	54,300	60,800	67,100	291,000	385,000	196,000	96,700
2	65,000	40,600	87,000	51,900	46,700	73,000	54,800	72,200	298,000	364,000	197,000	90,300
3	59,400	40,700	75,200	59,600	73,700	63,800	49,300	63,600	324,000	347,000	179,000	77,700
4	66,200	66,700	61,400	43,600	70,800	58,800	39,100	80,400	329,000	332,000	165,000	73,400
5	60,100	69,500	55,300	44,800	55,500	54,400	39,100	75,500	327,000	318,000	155,000	54,800
6	42,800	64,300	54,400	67,100	56,700	61,700	57,900	72,800	323,000	314,000	130,000	40,800
7	65,000	65,600	67,600	59,700	82,000	50,300	68,600	84,700	312,000	334,000	115,000	48,300
8	69,400	63,400	58,800	58,000	71,500	42,700	61,700	74,900	311,000	349,000	125,000	96,800
9	76,400	52,400	78,100	61,800	62,500	72,300	60,900	101,000	311,000	346,000	142,000	85,200
10	68,800	45,400	73,200	56,500	89,900	64,500	55,600	111,000	335,000	334,000	146,000	85,000
11	66,600	58,600	61,300	41,000	78,300	45,500	47,400	126,000	374,000	335,000	133,000	88,800
12	48,000	67,000	59,000	43,300	76,000	46,100	40,800	147,000	393,000	332,000	130,000	75,100
13	49,800	54,700	64,300	71,700	85,600	56,700	71,400	142,000	407,000	335,000	132,000	58,700
14	70,000	53,000	48,400	62,500	79,800	55,800	72,400	162,000	423,000	332,000	137,000	93,400
15	72,800	60,400	43,600	62,900	74,500	61,300	75,900	159,000	429,000	330,000	135,000	86,400
16	70,600	44,600	61,700	59,700	69,600	63,000	78,600	159,000	435,000	325,000	138,000	89,900
17	69,500	40,800	67,200	57,400	91,200	67,900	64,400	158,000	454,000	313,000	153,000	68,500
18	62,400	64,400	67,200	49,300	76,700	65,500	57,600	168,000	442,000	308,000	130,000	63,500
19	39,800	54,500	58,200	43,700	75,700	68,800	45,500	152,000	446,000	306,000	119,000	44,100
20	41,500	59,100	47,600	73,400	69,900	65,400	79,900	207,000	437,000	313,000	110,000	38,700
21	57,100	54,400	42,200	69,200	75,400	56,200	93,900	236,000	433,000	296,000	124,000	73,800
22	61,000	60,300	49,400	61,800	66,600	54,900	85,700	240,000	430,000	275,000	111,000	74,000
23	58,600	50,200	62,200	51,800	70,000	77,200	78,500	241,000	429,000	257,000	109,000	72,200
24	60,300	42,800	65,900	53,200	87,300	69,100	60,400	233,000	438,000	241,000	130,000	81,000
25	66,000	52,900	41,600	46,200	79,200	80,100	52,300	237,000	441,000	238,000	122,000	90,700
26	57,400	72,400	57,800	40,700	72,900	59,700	42,600	253,000	432,000	227,000	113,000	69,000
27	46,500	61,300	56,800	64,600	68,600	61,300	80,600	255,000	425,000	239,000	102,000	57,100
28	69,100	49,300	47,200	57,700	78,200	56,700	75,700	258,000	415,000	209,000	96,800	81,900
29	72,500	54,600	43,500	49,500	70,700	44,600	74,000	264,000	402,000	168,000	84,300	98,700
30	71,500	62,600	69,400	54,400	-------	71,900	67,300	276,000	402,000	151,000	66,000	91,700
31	60,800	-------	60,600	49,600	-------	74,400	-------	277,000	-------	168,000	106,000	-------
TOTAL	1,908.0M	1,683.0M	1,844.0M	1,707.2M	2,108.4M	1,897.9M	1,893.2M	5,196.2M	11,648M	9,124.0M	4,037.1M	2,237.2M
MEAN	61,550	56,100	59,480	55,070	72,700	61,220	63,110	167,600	388,300	294,300	130,200	74,570
MAX	76,400	72,400	87,000	73,400	91,200	80,100	93,900	277,000	454,000	385,000	198,000	96,800
MIN	39,800	40,600	41,600	40,600	46,700	42,700	39,100	63,600	291,000	151,000	66,000	38,700
AC-FT	3,784M	3,338M	3,658M	3,386M	4,182M	3,764M	3,755M	10,310M	23,100M	18,100M	8,007M	4,437M

CAL YR 1963: TOTAL 39,717,200 MEAN 108,800 MAX 305,600 MIN 39,800 AC-FT 78,780,000
WAT YR 1964: TOTAL 45,284,200 MEAN 123,700 MAX 454,000 MIN 38,700 AC-FT 89,820,000

M Expressed in thousands.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	88,800	60,200	77,500	66,000	61,300	104,000	88,900	126,000	300,000	268,000	105,000	106,000
2	97,500	87,000	79,800	105,000	82,800	86,700	75,800	239,000	301,000	266,000	141,000	101,000
3	78,300	91,600	81,800	81,500	79,100	80,500	61,100	216,000	318,000	267,000	128,000	103,000
4	84,200	88,300	87,900	107,000	80,200	83,300	55,600	229,000	311,000	251,000	139,000	91,600
5	111,000	78,600	73,400	88,700	118,000	96,600	86,700	231,000	308,000	251,000	144,000	70,900
6	83,600	78,200	61,000	91,700	97,400	84,900	77,500	227,000	313,000	240,000	143,000	67,500
7	92,100	58,600	86,400	94,300	105,000	97,100	87,000	220,000	305,000	254,000	139,000	108,000
8	82,500	42,600	79,400	87,400	129,000	105,000	88,300	220,000	314,000	252,000	143,000	96,200
9	84,400	85,100	77,900	72,000	111,000	89,200	93,900	223,000	312,000	263,000	147,000	85,700
10	82,500	70,300	76,200	56,500	110,000	92,500	87,300	224,000	309,000	260,000	146,000	74,100
11	85,200	74,500	72,600	92,600	120,000	97,200	69,500	213,000	317,000	254,000	152,000	58,700
12	93,800	71,600	53,900	91,800	125,000	93,300	93,400	222,000	319,000	248,000	149,000	45,900
13	101,000	71,400	38,100	90,800	120,000	87,100	98,100	240,000	305,000	254,000	141,000	84,300
14	93,800	64,600	73,400	87,400	63,900	79,800	83,000	245,000	295,000	251,000	126,000	84,000
15	96,700	52,800	68,300	77,000	104,000	103,000	99,600	241,000	301,000	246,000	120,000	82,600
16	97,100	78,700	90,900	60,800	125,000	103,000	113,000	240,000	308,000	223,000	138,000	77,800
17	80,100	66,300	91,900	63,100	104,000	92,700	104,000	236,000	332,000	226,000	129,000	76,700
18	93,300	70,300	80,100	88,200	120,000	95,600	92,700	242,000	344,000	216,000	139,000	59,200
19	109,000	75,200	59,100	87,100	102,000	99,500	141,000	250,000	328,000	196,000	138,000	45,900
20	91,000	75,900	50,100	81,900	86,300	81,500	117,000	252,000	331,000	186,000	116,000	90,900
21	96,400	48,800	84,400	81,400	98,700	62,200	140,000	250,000	341,000	194,000	114,000	83,800
22	86,600	42,200	81,400	85,900	119,000	95,900	182,000	240,000	338,000	206,000	113,000	81,600
23	90,200	78,300	73,600	71,000	105,000	96,100	151,000	242,000	338,000	207,000	129,000	77,000
24	81,200	70,000	40,900	52,100	88,200	93,700	155,000	240,000	330,000	208,000	105,000	74,800
25	75,400	73,600	39,300	86,000	103,000	99,400	163,000	245,000	329,000	199,000	118,000	56,900
26	90,700	82,400	45,900	90,900	109,000	107,000	168,000	238,000	325,000	188,000	124,000	51,700
27	87,400	87,500	42,200	79,300	90,600	77,400	169,000	237,000	308,000	179,000	128,000	91,300
28	83,200	62,100	66,400	85,000	84,800	73,600	163,000	267,000	300,000	161,000	109,000	79,900
29	85,800	58,400	71,200	39,800	-------	104,000	158,000	279,000	288,000	147,000	112,000	77,700
30	77,900	83,000	72,900	38,600	-------	87,600	162,000	291,000	285,000	135,000	126,000	75,100
31	72,700	-------	75,600	38,600	-------	88,100	-------	297,000	-------	120,000	117,000	-------
TOTAL	2,753.4M	2,128.1M	2,153.5M	2,419.4M	2,842.3M	2,837.5M	3,424.4M	7,362.0M	9,457.0M	6,816.0M	4,018.0M	2,349.8M
MEAN	88,820	70,940	69,470	78,050	101,500	91,530	114,100	237,500	315,200	219,900	129,600	78,330
MAX	111,000	91,600	91,900	107,000	129,000	107,000	182,000	297,000	344,000	268,000	152,000	108,000
MIN	72,700	42,200	38,100	38,600	61,300	62,200	55,600	126,000	285,000	120,000	105,000	45,900
AC-FT	5,461M	4,221M	4,271M	4,799M	5,638M	5,628M	6,792M	14,600M	18,760M	13,520M	7,970M	4,661M

CAL YR 1964: TOTAL 46,884,200 MEAN 128,100 MAX 454,000 MIN 38,100 AC-FT 92,990,000
WAT YR 1965: TOTAL 48,561,400 MEAN 133,000 MAX 344,000 MIN 38,100 AC-FT 96,320,000

M Expressed in thousands.

12-4740. Keechelus Lake near Martin, Wash.

Location.--Lat 47°19'20", long 121°20'20", in NE¼ sec.12, T.21 N., R.11 E., at dam on Yakima River at outlet of Keechelus Lake, 3½ miles northwest of Martin and 9½ miles northwest of Easton.

Drainage area.--54.7 sq mi (revised).

Records available.--January 1906 to September 1965.

Gage.--Staff gage read twice daily. Datum of gage is at mean sea level (Bureau of Reclamation bench mark).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	June 17, 18, 1961	159,980	2,517.86	Oct. 14, 1960	26,850	2,445.94
1962	June 17, 1962	159,750	2,517.77	Sept.30, 1962	49,980	2,462.80
1963	May 20, 1963	160,310	2,517.99	Sept.30, 1963	8,480	2,431.76
1964	July 8, 1964	160,440	2,518.04	Oct. 10, 1963	7,430	2,430.93
1965	June 11, 1965	159,470	2,517.66	Sept.30, 1965	49,930	2,462.76

1906-65: Maximum contents observed, 160,570 acre-ft May 16, 1925 (elevation, 2,518.09 ft); minimum observed, 448 acre-ft Sept. 6, 12, 13, 1906 (original crib dam); minimum elevation observed, 2,428.30 ft Sept. 20, 1926.

Remarks.--Reservoir is formed on natural lake by earth- and gravel-fill dam completed in 1917; storage began above crib dam Jan. 12, 1906, above present dam Aug. 19, 1914. To aid in construction and clearing of reservoir site, the water surface was kept low and present reservoir was not filled until June 15, 1920. Capacity, 157,800 acre-ft between gate sill (elevation, 2,425.00 ft) and spillway crest (elevation, 2,517.00 ft). Spillway raised 2 ft, construction completed Sept. 12, 1952. Records given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by the Geological Survey.

Correction.--The lake elevation for January 31, 1957, was published in error in WSP 1516; the correct elevation is 2,498.78 ft.

MONTH-END ELEVATION AND CONTENTS, WATER YEARS OCTOBER 1960 TO SEPTEMBER 1965

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1960.....	2,453.12	36,470	+3,150	Oct. 31, 1963.....	2,435.18	12,840	+4,360
Nov. 30.....	2,470.95	62,230	+25,760	Nov. 30.....	2,450.79	33,320	+20,480
Dec. 31.....	2,476.45	71,220	+8,990	Dec. 31.....	2,457.28	42,180	+8,860
Calendar year 1960	-	-	-36,200	Calendar year 1963	-	-	-53,470
Jan. 31, 1961.....	2,489.16	94,430	+23,210	Jan. 31, 1964.....	2,467.46	56,840	+14,660
Feb. 28.....	2,497.33	111,270	+16,840	Feb. 29.....	2,471.33	62,840	+6,000
Mar. 31.....	2,492.52	101,180	-10,090	Mar. 31.....	2,476.14	70,700	+7,860
Apr. 30.....	2,501.79	121,080	+19,900	Apr. 30.....	2,478.17	74,150	+3,450
May 31.....	2,515.80	154,710	+33,630	May 31.....	2,495.60	107,590	+33,440
June 30.....	2,517.16	158,180	+3,470	June 30.....	2,517.83	159,900	+52,310
July 31.....	2,506.21	131,240	-26,940	July 31.....	2,517.50	159,060	-840
Aug. 31.....	2,484.81	86,080	-45,160	Aug. 31.....	2,507.13	133,410	-25,650
Sept.30.....	2,471.16	62,560	-23,520	Sept.30.....	2,494.61	105,500	-27,910
Water year 1961...	-	-	+29,240	Water year 1964...	-	-	+97,020
Oct. 31.....	2,474.27	67,590	+5,030	Oct. 31.....	2,487.63	91,440	-14,060
Nov. 30.....	2,482.80	82,360	+14,770	Nov. 30.....	2,491.08	98,250	+6,810
Dec. 31.....	2,491.30	98,700	+16,340	Dec. 31.....	2,493.00	102,160	+3,910
Calendar year 1961	-	-	+27,480	Calendar year 1964	-	-	+59,980
Jan. 31, 1962.....	2,490.71	97,510	-1,190	Jan. 31, 1965.....	2,494.43	105,130	+2,970
Feb. 28.....	2,493.25	102,680	+5,170	Feb. 28.....	2,495.12	106,570	+1,440
Mar. 31.....	2,496.95	110,450	+7,770	Mar. 31.....	2,485.30	86,990	-19,580
Apr. 30.....	2,512.64	146,780	+36,330	Apr. 30.....	2,502.41	122,480	+35,490
May 31.....	2,517.41	158,820	+12,040	May 31.....	2,515.26	153,350	+30,870
June 30.....	2,517.54	159,160	+340	June 30.....	2,517.29	158,520	+5,170
July 31.....	2,508.40	136,430	-22,730	July 31.....	2,512.88	147,370	-11,150
Aug. 31.....	2,484.52	85,530	-50,900	Aug. 31.....	2,491.91	99,930	-47,440
Sept.30.....	2,462.80	49,980	-35,550	Sept.30.....	2,462.76	49,930	-50,000
Water year 1962...	-	-	-12,580	Water year 1965...	-	-	-55,570
Oct. 31.....	2,466.28	55,080	+5,100				
Nov. 30.....	2,485.64	87,630	+32,550				
Dec. 31.....	2,489.78	95,650	+8,020				
Calendar year 1962	-	-	-3,050				
Jan. 31, 1963.....	2,491.85	99,810	+4,160				
Feb. 28.....	2,504.24	126,660	+26,850				
Mar. 31.....	2,509.53	139,150	+12,490				
Apr. 30.....	2,516.72	157,060	+17,910				
May 31.....	2,517.75	159,700	+2,640				
June 30.....	2,514.42	151,230	-8,470				
July 31.....	2,492.68	101,500	-49,730				
Aug. 31.....	2,454.89	38,890	-62,610				
Sept.30.....	2,431.76	8,480	-30,410				
Water year 1963...	-	-	-41,500				

† Elevation estimated at 2400 hours from graph of twice-daily gage readings.

12-4745. Yakima River near Martin, Wash.

Location (revised).--Lat 47°19'18", long 121°20'08", in SW¼SW¼ sec.10, T.21 N., R.12 E., on left bank 800 ft downstream from dam at outlet of Keechelus Lake, 3½ miles northwest of Martin, and 9½ miles northwest of Easton.
Drainage area.--54.7 sq mi (revised).
Records available.--October 1903 to September 1965.
Gage.--Water-stage recorder and masonry channel. Datum of gage is 2,422.40 ft above mean sea level (Bureau of Reclamation bench mark). Prior to July 20, 1923, staff gages at several sites within 2 miles of present site at various datums.
Average discharge.--62 years, 334 cfs (241,800 acre-ft per year), adjusted for storage since January 1906.
Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 2, 1961	1,640	8.76	Dec. 9, 1960	4.4	2.07
1962	July 31, 1962	988	7.74	Oct. 20, 1961	1.7	2.07
1963	Aug. 3, 16, 18,	a 1,120	b 8.13	Oct. 22, 23, 1962	1.2	2.00
1964	July 8, 1964	a 1,120	-	Oct. 16, 1963	1.9	2.09
1965	Aug. 25, 1965	1,560	9.42	Aug. 12, 1965	2.0	2.11

a Maximum daily.
b Occurred Aug. 26, 1963.

1903-65: Maximum discharge, 7,370 cfs Mar. 26, 1915, when temporary crib dam was washed out; practically no flow when gates in Keechelus Lake Dam are closed.
Remarks.--Records excellent except those for periods of combined flow at gage and over spillway, which are fair. Flow regulated by Keechelus Lake (see station 12-4740). Keechelus Lake spillway discharge, computed from reservoir elevations and spillway rating, bypasses gage and is added to flow at station. No diversion above station.
Cooperation.--Gage-height record, 54 discharge measurements, and records of daily discharge furnished by Bureau of Reclamation; reviewed by Geological Survey.
Revisions (water years).--WSP 1286: 1910.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	496	32	39	20	27	512	461	345	8.7	389	845	604
2	494	32	39	20	27	514	463	351	594	370	843	595
3	436	32	39	20	27	514	470	351	1,610	365	848	583
4	453	32	39	21	27	512	476	353	1,610	365	848	575
5	405	32	39	21	28	510	171	355	1,470	371	848	565
6	351	32	26	21	28	510	17	355	1,370	405	845	550
7	288	32	6.7	22	29	505	16	355	1,280	425	842	538
8	274	32	5.5	22	29	500	16	355	1,110	425	848	526
9	276	32	4.8	22	27	498	17	355	1,010	427	845	514
10	274	34	4.8	22	29	496	16	357	740	451	845	503
11	250	36	4.8	22	29	494	16	359	610	543	845	489
12	238	35	4.8	22	29	494	16	359	339	583	848	476
13	190	35	9.9	22	30	489	17	361	297	583	845	463
14	82	35	20	23	284	487	16	359	498	583	845	451
15	32	35	20	24	474	485	16	361	718	583	842	461
16	31	37	20	26	485	483	16	363	904	583	824	463
17	31	37	20	25	489	483	16	365	996	583	809	470
18	31	38	20	25	489	480	135	369	998	583	797	466
19	31	37	20	25	489	478	339	798	787	654	779	463
20	29	37	20	25	489	478	339	1,260	673	695	767	449
21	29	37	20	26	500	478	339	1,270	563	695	752	433
22	29	37	20	26	510	476	339	1,260	484	695	737	423
23	30	37	20	26	510	472	337	483	481	695	725	421
24	30	37	20	26	516	470	337	11	459	695	710	415
25	30	38	20	27	516	470	337	10	437	695	695	397
26	30	44	20	27	519	470	337	9.1	423	695	674	377
27	31	44	20	27	516	468	337	8.3	381	698	660	367
28	31	38	20	27	512	470	337	8.7	413	782	648	343
29	31	38	20	27	------	466	339	8.7	382	851	637	339
30	31	38	20	27	------	461	343	8.3	362	845	623	353
31	32	------	20	27	------	461	------	8.7	------	845	610	------
TOTAL	5,086	1,072	622.3	743	7,666	15,084	6,451	11,571.8	21,997.7	18,157	24,134	14,073
MEAN	164	35.7	20.1	24.0	274	487	215	373	733	586	779	469
MAX	496	44	39	27	519	514	476	1,270	1,610	851	848	604
MIN	29	32	4.8	20	27	461	16	8.3	8.7	365	610	339
AC-FT	10,090	2,130	1,230	1,470	15,210	29,920	12,800	22,950	43,630	36,010	47,870	27,910
(†)	+3,150	+25,760	+8,990	+23,210	+16,840	-10,090	+19,900	+33,630	+3,470	-26,940	-45,160	-23,520
MEAN‡	215	469	166	401	577	323	549	920	792	148	44.1	73.8
CFSM‡	3.93	8.57	3.03	7.33	10.5	5.90	10.0	16.8	14.5	2.71	.806	1.35
IN ‡	4.54	9.56	3.50	8.46	10.99	6.80	11.21	19.39	16.14	3.11	.930	1.50
AC-FT‡	13,240	27,890	10,220	24,680	32,050	19,830	32,690	56,580	47,100	9,070	2,710	4,390

OBSERVED

CAL YR 1960: TOTAL 127,346.5 MEAN 348 MAX 1,150 MIN 4.8 AC-FT 252,600
WAT YR 1961: TOTAL 126,657.8 MEAN 347 MAX 1,610 MIN 4.8 AC-FT 251,200

ADJUSTED ‡

CAL YR 1960: MEAN 298 CFSM 5.45 IN 73.05 AC-FT 216,400
WAT YR 1961 MEAN 387 CFSM 7.07 IN 96.13 AC-FT 280,400

† Change in contents, in acre-feet, in Keechelus Lake.
‡ Adjusted for change in lake contents.
Note.--Combined flow at gage and over spillway used June 2-9, June 13 to July 2. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4745. Yakima River near Martin, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	355	2.4	8.3	251	487	10	11	190	278	314	960	791
2	353	2.7	8.3	251	487	10	11	192	354	322	960	788
3	335	2.7	8.3	400	487	9.5	11	192	430	284	956	779
4	333	2.7	8.3	503	487	9.5	11	193	430	256	960	773
5	333	2.4	9.1	503	489	9.5	11	193	403	263	956	767
6	331	2.4	8.7	503	340	9.5	12	195	370	285	960	758
7	331	2.4	8.7	505	239	9.5	19	193	370	278	956	755
8	331	18	8.7	510	240	9.5	12	193	402	293	888	749
9	329	8.3	8.7	510	242	9.5	12	193	484	300	782	743
10	329	8.3	8.7	510	242	9.5	12	193	502	323	828	734
11	331	9.1	8.3	512	242	9.5	12	193	474	323	851	678
12	285	8.7	8.3	510	242	9.5	12	193	456	293	848	648
13	84	8.3	8.3	510	240	9.5	12	195	402	402	842	645
14	6.3	8.3	8.3	507	242	9.5	12	195	386	375	836	648
15	4.1	8.3	8.3	507	242	9.5	12	193	402	319	860	645
16	3.4	8.3	8.3	507	102	9.5	12	193	512	440	886	645
17	3.0	7.9	7.9	507	11	10	12	405	520	688	918	648
18	2.7	7.9	7.9	505	11	10	12	505	512	827	914	648
19	2.4	7.9	7.9	505	11	10	13	507	474	827	922	648
20	2.0	7.9	8.3	505	10	10	13	507	447	827	914	648
21	2.4	7.9	7.9	503	10	10	13	505	447	827	911	648
22	2.4	8.3	158	503	10	10	13	505	447	827	904	648
23	2.4	8.3	246	500	10	10	13	505	421	824	947	648
24	2.7	8.3	244	496	10	10	13	505	439	824	970	623
25	2.7	8.3	245	491	10	10	127	420	466	827	970	607
26	2.7	8.3	248	494	10	10	193	242	466	827	970	610
27	2.7	8.3	248	491	10	10	193	176	395	830	927	607
28	3.0	8.3	248	491	10	10	192	175	338	827	800	576
29	2.7	8.3	248	491	------	10	192	184	322	827	797	481
30	2.4	8.3	250	489	------	10	192	245	338	848	794	451
31	2.4	------	250	489	------	11	------	229	------	930	797	------
TOTAL	4,112.4	217.5	2,560.5	14,959	5,173	304.0	1,385	8,704	12,687	17,457	27,784	20,037
MEAN	133	7.25	82.6	483	185	9.81	46.2	281	423	563	896	668
MAX	355	18	250	512	489	11	193	507	520	930	970	791
MIN	2.0	2.4	7.9	251	10	9.5	11	175	278	256	782	451
AC-FT	8,160	431	5,080	29,670	10,260	603	2,750	17,260	25,160	34,630	55,110	39,740
(†)	+5,030	+14,770	+16,340	-1,190	+5,170	+7,770	+36,330	+12,040	+340	-22,730	-50,900	-35,550
MEAN‡	215	255	348	463	278	136	657	477	429	194	68.5	70.4
CFSM‡	3.93	4.66	6.36	8.46	5.08	2.49	12.0	8.72	7.84	3.55	1.25	1.29
IN ‡	4.52	5.21	7.34	9.76	5.29	2.87	13.39	10.04	8.74	4.08	1.44	1.44
AC-FT‡	13,190	15,200	21,420	28,480	15,430	8,370	39,070	29,300	25,500	11,900	4,210	4,190

OBSERVED

CAL YR 1961:	TOTAL 126,767.9	MEAN 347	MAX 1,610	MIN 2.0	AC-FT 251,400
WAT YR 1962:	TOTAL 115,380.4	MEAN 316	MAX 970	MIN 2.0	AC-FT 228,900

ADJUSTED ‡

CAL YR 1961:	MEAN 385	CFSM 7.04	IN 95.60	AC-FT 278,900
WAT YR 1962:	MEAN 299	CFSM 5.47	IN 74.12	AC-FT 216,200

† Change in contents, in acre-feet, in Keechelus Lake.
‡ Adjusted for change in lake contents.
Note.--Combined flow at gage and over spillway used May 29 to July 16. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4745. Yakima River near Martin, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	449	5.5	7.1	307	36	39	39	41	505	498	1,110	707
2	453	5.5	7.1	298	36	39	39	78	455	500	1,110	704
3	451	5.5	7.1	300	37	39	39	158	409	558	1,120	704
4	397	5.2	164	302	37	39	39	198	368	673	1,110	707
5	367	5.2	300	302	37	39	40	201	354	774	1,110	707
6	367	5.2	302	302	37	39	40	302	346	812	1,110	707
7	367	5.5	300	302	37	39	40	324	330	812	1,110	707
8	303	5.5	302	302	37	39	41	319	308	815	1,110	704
9	267	5.5	302	302	37	39	41	320	300	812	1,110	707
10	266	5.5	303	302	37	38	41	313	300	812	1,110	707
11	213	5.5	303	302	37	39	41	320	308	812	1,110	704
12	68	5.9	303	300	37	39	41	313	322	809	1,110	704
13	8.3	5.9	303	300	37	39	41	307	332	806	1,110	704
14	7.9	5.9	305	298	37	39	41	307	332	800	1,110	704
15	5.6	5.9	303	296	37	39	41	320	324	800	1,110	707
16	2.7	5.9	305	296	37	39	41	335	332	837	1,120	707
17	2.4	5.9	305	295	37	39	41	357	324	935	1,110	645
18	2.4	5.9	305	295	37	39	41	428	296	988	1,120	610
19	2.0	5.2	305	298	37	39	41	494	332	981	1,110	588
20	2.0	7.9	305	305	37	39	41	853	432	1,030	1,110	533
21	2.0	9.1	303	305	38	39	41	1,040	460	1,050	1,110	492
22	1.7	7.9	307	303	38	39	41	861	437	1,050	1,110	419
23	4.7	7.5	307	141	38	39	41	703	437	1,040	1,110	372
24	6.3	7.1	307	36	38	39	41	569	435	1,040	1,110	301
25	6.3	7.5	307	36	38	39	41	514	435	1,040	1,110	262
26	5.9	8.7	307	36	38	39	41	503	435	1,040	1,110	221
27	5.9	7.9	305	36	39	39	41	462	473	1,040	1,080	182
28	5.5	7.5	303	36	39	39	41	452	498	1,050	719	160
29	5.5	7.5	307	36	------	39	41	492	498	1,090	710	142
30	5.5	7.5	309	36	------	39	41	534	500	1,110	710	132
31	5.5	------	311	36	------	39	------	544	------	1,110	710	------
TOTAL	4,056.1	192.2	8,409.3	7,041	1,044	1,208	1,219	12,962	11,617	27,524	32,819	16,350
MEAN	131	6.41	271	227	37.3	39.0	40.6	418	387	888	1,059	545
MAX	453	9.1	311	307	39	39	41	1,040	505	1,110	1,120	707
MIN	1.7	5.2	7.1	36	36	38	39	41	296	498	710	132
AC-FT	8,050	381	16,680	13,970	2,070	2,400	2,420	25,710	23,040	54,590	65,100	32,430
(†)	+5,100	+32,550	+8,020	+4,160	+26,850	+12,490	+17,910	+2,640	-8,470	-49,730	-62,610	-30,410
MEAN‡	214	553	402	295	521	242	342	461	245	79.0	40.5	33.9
CFSM‡	3.91	10.1	7.35	5.39	9.52	4.42	6.25	8.43	4.48	1.44	.740	.620
IN ‡	4.50	11.29	8.47	6.21	9.91	5.10	6.97	9.72	4.99	1.67	.85	.69
AC-FT‡	13,140	32,930	24,700	18,130	28,920	14,890	20,330	28,350	14,570	4,860	2,490	2,020

OBSERVED

CAL YR 1962:	TOTAL 121,147.6	MEAN 332	MAX 970	MIN 1.7	AC-FT 240,300
WAT YR 1963:	TOTAL 124,441.6	MEAN 341	MAX 1,120	MIN 1.7	AC-FT 246,800

ADJUSTED ‡

CAL YR 1962:	MEAN 328	CFSM 6.00	IN 81.31	AC-FT 237,200
WAT YR 1963:	MEAN 284	CFSM 5.19	IN 70.37	AC-FT 205,300

† Change in contents, in acre-feet, in Keechelus Lake.
‡ Adjusted for change in lake contents.
Note.--Combined flow at gage and over spillway used May 2 to June 21.

12-4745. Yakima River near Martin, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	125	9.1	14	18	23	25	82	583	12	939	418	689
2	114	9.1	14	19	23	25	50	583	12	1,080	419	689
3	104	9.1	14	19	23	25	50	583	12	1,020	414	689
4	99	9.1	14	19	23	25	50	583	12	950	513	689
5	93	9.5	14	19	23	25	50	583	12	937	625	689
6	90	9.5	14	19	23	25	50	580	12	930	558	612
7	85	9.5	14	19	23	25	50	580	13	967	540	575
8	83	9.1	14	20	22	25	50	532	13	1,120	543	575
9	79	9.5	15	20	22	25	50	439	13	1,070	543	575
10	40	9.5	15	20	23	25	252	222	13	917	540	573
11	3.0	10	15	20	23	25	421	98	12	873	603	573
12	2.4	10	15	20	23	26	654	115	12	994	634	570
13	2.0	10	15	20	23	26	323	151	12	1,050	634	575
14	2.0	11	15	20	24	25	12	230	12	1,020	634	573
15	2.4	11	15	20	24	26	12	256	12	978	631	573
16	5.8	11	15	20	24	26	12	254	13	854	634	573
17	10	12	15	21	24	26	11	172	177	738	634	575
18	10	11	15	21	24	26	154	88	863	635	672	575
19	10	11	15	21	24	26	288	31	1,040	539	689	573
20	10	11	15	22	24	26	397	13	713	518	689	573
21	10	11	15	22	24	26	479	12	528	510	689	573
22	9.5	11	16	22	24	26	512	12	528	486	689	570
23	9.5	11	16	22	24	27	510	12	528	457	689	568
24	9.5	11	16	21	25	70	507	12	588	431	689	568
25	11	11	16	21	25	130	505	12	810	443	692	568
26	10	13	16	21	25	131	507	12	949	457	692	568
27	10	14	16	22	25	132	505	12	663	446	683	565
28	9.5	13	16	22	25	132	555	12	696	439	689	700
29	9.5	13	16	22	25	131	583	12	711	431	689	890
30	9.5	14	17	22	------	131	583	12	740	431	689	946
31	9.1	------	17	23	------	131	------	12	------	422	689	------
TOTAL	1,076.7	323.0	469	637	687	1,575	8,264	6,808	9,731	23,082	19,152	18,804
MEAN	34.7	10.8	15.1	20.5	23.7	50.8	275	220	324	745	618	620
MAX	125	14	17	23	25	132	654	583	1,040	1,120	692	946
MIN	2.0	9.1	14	18	22	25	11	12	12	422	414	565
AC-FT	2,140	641	930	1,260	1,360	3,120	16,390	13,500	19,300	45,780	37,990	36,900
(†)	+4,360	+20,480	+8,860	+14,660	+6,000	+7,860	+3,450	+33,440	+52,310	-840	-25,650	-27,910
MEAN‡	106	355	159	259	128	179	333	763	1,203	731	201	151
CFSM‡	1.94	6.49	2.91	4.73	2.34	3.27	6.09	13.9	22.0	13.4	3.67	2.76
IN ‡	2.23	7.24	3.36	5.46	2.52	3.76	6.80	16.09	24.54	15.40	4.23	3.08
AC-FT‡	6,500	21,120	9,790	15,920	7,360	10,980	19,840	46,940	71,610	44,940	12,340	8,990

OBSERVED

CAL YR 1963: TOTAL 113,652.7 MEAN 311 MAX 1,120 MIN 2.0 AC-FT 225,400
WAT YR 1964: TOTAL 90,408.7 MEAN 247 MAX 1,120 MIN 2.0 AC-FT 179,300

ADJUSTED ‡

CAL YR 1963: MEAN 237 CFSM 4.33 IN 58.94 AC-FT 171,900
WAT YR 1964: MEAN 381 CFSM 6.97 IN 94.71 AC-FT 276,300

† Change in contents, in acre-feet, in Keechelus Lake.
‡ Adjusted for change in lake contents.
Note.--Combined flow at gage and over spillway used June 24 to Aug. 6.

12-4745. Yakima River near Martin, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	964	149	158	461	12	431	247	13	415	299	405	1,010
2	964	149	160	459	12	139	247	12	415	322	903	922
3	964	149	160	457	299	565	247	12	417	327	1,180	877
4	960	150	158	457	472	640	247	13	604	327	1,190	892
5	957	150	158	457	472	640	100	13	713	326	1,190	922
6	953	150	158	457	474	640	9.1	13	716	320	1,070	922
7	950	150	158	455	474	640	9.1	12	716	316	416	922
8	943	150	253	453	474	637	8.7	12	719	287	152	958
9	936	150	345	451	476	640	8.7	12	483	300	68	1,010
10	929	150	345	451	456	640	8.7	12	485	279	7.5	1,020
11	922	150	345	449	340	640	8.7	13	690	309	6.7	1,020
12	915	150	427	447	327	640	8.7	13	701	320	6.7	1,020
13	806	150	461	445	327	640	9.1	13	622	316	53	1,020
14	243	150	459	443	327	640	9.1	13	552	316	335	959
15	54	150	461	443	327	640	9.1	13	490	316	512	929
16	10	150	461	441	326	640	9.5	13	430	316	773	896
17	9.1	150	461	439	327	640	9.5	13	457	388	939	875
18	9.1	151	461	439	327	640	9.5	14	453	419	936	863
19	8.3	151	459	439	327	640	10	14	448	417	968	854
20	5.3	151	459	437	329	640	12	347	489	415	985	845
21	3.4	151	459	437	329	640	11	601	474	413	992	833
22	80	151	457	439	333	640	11	541	443	411	988	827
23	149	151	457	439	331	637	11	512	421	411	985	815
24	149	152	459	439	331	637	11	514	397	409	988	803
25	149	152	463	437	456	409	11	512	412	407	1,360	794
26	148	152	463	435	640	248	11	507	386	405	1,420	782
27	149	155	463	435	645	248	12	507	312	405	1,420	770
28	149	156	463	437	643	248	12	507	265	405	1,420	761
29	149	156	463	196	------	248	12	510	259	403	1,420	749
30	149	157	461	19	------	247	13	442	253	403	1,420	746
31	149	------	461	15	------	247	------	419	------	378	1,260	------
TOTAL	13,925.2	4,533	11,576	12,708	10,613	16,461	1,342.5	6,162	14,637	11,085	25,768.9	26,616
MEAN	449	151	373	410	379	531	44.8	198	488	358	831	887
MAX	964	157	463	461	645	640	247	601	719	419	1,420	1,020
MIN	3.4	149	158	15	12	139	8.7	12	253	279	6.7	746
AC-FT	27,620	8,990	22,960	25,210	21,050	32,650	2,660	12,220	29,030	21,990	51,110	52,790
(†)	-14,060	+6,810	+3,910	+2,970	+1,440	-19,580	+35,490	+30,870	+5,170	-11,150	-47,440	-50,000
MEAN‡	221	266	437	458	405	213	641	701	575	176	59.7	46.9
CFSM‡	4.04	4.86	7.99	8.37	7.40	3.89	11.7	12.8	10.5	3.22	1.09	0.857
IN ‡	4.65	5.42	9.21	9.66	7.71	4.48	13.08	14.77	11.72	3.72	1.26	0.96
AC-FT‡	13,560	15,800	26,870	28,180	22,490	13,070	38,150	43,090	34,200	10,840	3,670	2,790

OBSERVED

CAL YR 1964: TOTAL 118,574.2 MEAN 324 MAX 1,120 MIN 3.4 AC-FT 235,200
WAT YR 1965: TOTAL 155,427.6 MEAN 426 MAX 1,420 MIN 3.4 AC-FT 308,300

ADJUSTED ‡

CAL YR 1964: MEAN 407 CFSM 7.44 IN 101.16 AC-FT 295,200
WAT YR 1965: MEAN 349 CFSM 6.38 IN 86.64 AC-FT 252,700

† Change in contents, in acre-feet, in Keechelus Lake.
‡ Adjusted for change in lake contents.
Note.--Combined flow at gage and over spillway used June 8 to July 12.

12-4755. Kachess Lake near Easton, Wash.

Location.--Lat 47°15'50", long 121°12'00", in SW¼ sec.34, T.21 N., R.13 E., at dam on Kachess River at outlet of Kachess Lake, 2½ miles northwest of Easton.

Drainage area.--63.6 sq mi.

Records available.--September 1905 to September 1965.

Gage.--Staff gage read twice daily. Datum of gage is at mean sea level (Bureau of Reclamation bench mark).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	June 19-21, 1961	242,850	2,262.85	Oct. 15, 1960	127,510	2,235.20
1962	June 19, 1962	243,160	2,262.92	Oct. 11, 1961	122,140	2,233.75
1963	May 23, 24, 1963	243,990	2,263.10	Sept.30, 1963	101,440	2,228.00
1964	July 8-10, 1964	244,580	2,263.26	Oct. 10, 1963	91,670	2,225.20
1965	June 15, 1965	242,440	2,262.76	Sept.29, 1965	131,960	2,236.39

1905-65: Maximum contents observed, 244,850 acre-ft May 9, 1957 (elevation, 2,263.29 ft); minimum observed, 525 acre-ft Sept. 14, 15, 1910 (original crib dam); minimum elevation observed, 2,197.73 ft Sept. 26, 27, 1915.

Remarks.--Reservoir is formed on natural lake by earth- and gravel-fill dam completed in 1912. Original crib dam, creating capacity of 21,000 acre-ft, used Sept. 20, 1905, to June 30, 1911. Storage above present dam began June 30, 1911. Capacity, 239,000 acre-ft between gate sill (elevation, 2,192.75 ft) and top of spillway gate (elevation, 2,262.00 ft). Records given herein represent usable contents. Water used for irrigation.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by the Geological Survey.

MONTH-END ELEVATION AND CONTENTS, WATER YEARS OCTOBER 1960 TO SEPTEMBER 1965

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1960.....	2,237.03	134,370	-1,290	Oct. 31, 1963.....	2,226.15	94,960	-6,480
Nov. 30.....	2,242.70	156,340	+21,970	Nov. 30.....	2,229.78	107,750	+12,790
Dec. 31.....	2,244.74	164,540	+8,200	Dec. 31.....	2,232.31	116,870	+9,120
Calendar year 1960	-	-	-30,430	Calendar year 1963	-	-	-61,890
Jan. 31, 1961.....	2,249.61	184,720	+20,180	Jan. 31, 1964.....	2,236.65	132,940	+16,070
Feb. 28.....	2,251.48	192,660	+7,940	Feb. 29.....	2,238.56	140,200	+7,260
Mar. 31.....	2,248.79	181,270	-11,390	Mar. 31.....	2,241.49	151,560	+11,360
Apr. 30.....	2,253.22	200,130	+18,860	Apr. 30.....	2,246.61	172,200	+20,640
May 31.....	2,259.90	229,510	+29,380	May 31.....	2,255.44	209,770	+37,570
June 30.....	2,261.65	237,390	+7,880	June 30.....	2,262.95	243,300	+33,530
July 31.....	2,252.85	198,530	-38,860	July 31.....	2,260.62	232,750	-10,550
Aug. 31.....	2,241.86	153,020	-45,510	Aug. 31.....	2,251.36	192,140	-40,610
Sept.30.....	2,235.26	127,730	-25,290	Sept.30.....	2,244.83	164,910	-27,230
Water year 1961...	-	-	-7,930	Water year 1964...	-	-	+63,470
Oct. 31.....	2,235.42	128,330	+600	Oct. 31.....	2,243.67	160,220	-4,690
Nov. 30.....	2,238.31	139,240	+10,910	Nov. 30.....	2,246.33	171,040	+10,820
Dec. 31.....	2,242.64	156,100	+16,860	Dec. 31.....	2,250.30	187,630	+16,590
Calendar year 1961	-	-	-8,440	Calendar year 1964	-	-	+70,760
Jan. 31, 1962.....	2,249.23	183,110	+27,010	Jan. 31, 1965.....	2,251.29	191,840	+4,210
Feb. 28.....	2,250.77	189,630	+6,520	Feb. 28.....	2,250.58	188,820	-3,020
Mar. 31.....	2,251.76	193,850	+4,220	Mar. 31.....	2,249.46	184,080	-4,740
Apr. 30.....	2,259.35	227,050	+33,200	Apr. 30.....	2,256.92	216,260	+32,180
May 31.....	2,261.58	237,080	+10,030	May 31.....	2,260.64	232,840	+16,580
June 30.....	2,262.20	239,890	+2,810	June 30.....	2,261.53	236,850	+4,010
July 31.....	2,253.76	202,460	-37,430	July 31.....	2,251.82	194,110	-42,740
Aug. 31.....	2,241.77	152,660	-49,800	Aug. 31.....	2,236.77	133,390	-60,720
Sept.30.....	2,235.17	127,400	-25,260	Sept.30.....	2,236.41	132,040	-1,350
Water year 1962...	-	-	-330	Water year 1965...	-	-	-32,870
Oct. 31.....	2,236.03	130,610	+3,210				
Nov. 30.....	2,243.11	157,980	+27,370				
Dec. 31.....	2,248.19	178,760	+20,780				
Calendar year 1962	-	-	+22,660				
Jan. 31, 1963.....	2,251.58	193,080	+14,320				
Feb. 28.....	2,257.12	217,150	+24,070				
Mar. 31.....	2,260.26	231,130	+13,980				
Apr. 30.....	2,262.51	241,300	+10,170				
May 31.....	2,262.83	242,760	+1,460				
June 30.....	2,256.67	215,160	-27,600				
July 31.....	2,245.20	166,410	-48,750				
Aug. 31.....	2,233.03	119,500	-46,910				
Sept.30.....	2,228.00	101,440	-18,060				
Water year 1963...	-	-	-25,960				

† Elevation estimated at 2400 hours from graph of twice-daily gage readings.

12-4760. Kachess River near Easton, Wash.

Location.--Lat 47°15'30", long 121°11'50", in NE¼ sec.3, T.20 N., R.13 E., on left bank a quarter of a mile downstream from Kachess Lake and 2 miles northwest of Easton.

Drainage area.--63.6 sq mi.

Records available.--October 1903 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,188.10 ft above mean sea level (Bureau of Reclamation bench mark). Prior to July 22, 1913, staff gage and July 22, 1913, to Aug. 14, 1916, water-stage recorder, at site a quarter of a mile upstream at different datum. Aug. 15, 1916, to Oct. 8, 1927, water-stage recorder at site half a mile downstream at different datum. Oct. 9, 1927, to Oct. 30, 1951, staff gage and water-stage recorder at present site at datum 1.33 ft higher.

Average discharge.--62 years, 291 cfs (210,700 acre-ft per year), adjusted for storage since October 1905.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	July 15, 1961	985	5.98	Jan. 24, 1961	1.2	1.79
1962	July 31, 1962	955	5.91	Oct. 14, 1961	.60	1.71
1963	July 29, 1963	1,070	6.14	Jan. 29 to Feb. 1	7.4	2.07
1964	June 16, 17, 1964	1,180	6.28	Dec. 30, 1963	2.0	1.89
1965	Aug. 4, 1965	1,660	7.05	Oct. 26, 1964	.50	1.76

1903-65: Maximum discharge, 2,530 cfs May 28, 1948 (gage height, 8.45 ft, present datum); no flow at times when gates in dam are closed.

Remarks.--Records excellent except those below 10 cfs, which are good. No diversion. Flow regulated by Kachess Lake (see station 12-4755).

Cooperation.--Gage-height record, 56 discharge measurements, and records of daily discharge furnished by Bureau of Reclamation; reviewed by Geological Survey.

Revisions (water years).--WSP 369: 1904, 1907-8. WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	378	2.9	3.1	2.2	283	548	19	333	820	760	850	478
2	378	2.7	2.9	2.2	216	544	20	336	835	785	845	478
3	375	2.4	3.4	2.0	46	539	23	336	820	770	840	478
4	375	2.4	3.6	2.0	31	539	19	336	795	755	840	478
5	375	2.4	3.1	2.2	33	539	18	336	459	670	840	478
6	375	2.4	2.9	2.7	33	539	18	336	245	740	835	474
7	375	2.4	2.9	2.7	118	539	17	336	555	770	830	474
8	375	2.4	2.7	2.4	323	539	18	336	810	755	830	474
9	375	2.4	2.7	2.7	323	544	18	336	810	735	825	470
10	330	3.1	2.7	2.7	323	544	17	336	603	745	820	470
11	305	3.1	2.9	2.7	323	539	17	336	498	760	820	466
12	275	3.1	2.9	2.9	323	539	18	336	371	770	815	466
13	260	2.9	2.9	3.1	323	539	19	336	362	780	810	462
14	257	2.9	2.9	3.9	403	539	19	336	365	775	810	462
15	121	3.1	4.4	6.4	510	539	18	105	372	765	810	462
16	2.0	6.7	2.2	11	539	539	18	8.7	372	765	800	462
17	2.0	6.4	2.2	7.1	539	534	18	8.7	378	760	800	462
18	1.8	8.0	2.2	5.3	539	534	187	8.7	446	755	795	462
19	1.8	7.7	2.7	4.7	539	534	598	8.7	526	755	770	458
20	1.8	7.1	2.4	4.2	539	539	598	8.4	557	755	750	458
21	1.8	6.7	2.2	3.6	552	539	598	8.7	552	755	745	458
22	2.0	5.3	2.2	3.6	552	539	598	8.7	548	750	745	454
23	2.0	4.4	2.2	3.1	544	534	598	248	602	750	740	454
24	2.4	5.0	2.2	4.3	544	530	598	392	629	745	740	454
25	2.2	5.3	2.4	2.7	544	530	593	400	624	745	735	454
26	2.7	4.4	2.4	2.4	544	530	593	657	616	820	735	450
27	2.9	3.9	2.4	2.2	539	530	444	790	647	860	730	450
28	2.9	3.6	2.2	2.2	539	530	333	795	710	855	730	450
29	2.4	3.1	2.2	2.4	-------	530	333	800	720	855	580	450
30	2.7	3.1	2.2	2.4	-------	339	336	805	710	855	482	446
31	2.9	-------	2.2	185	-------	21	-------	810	-------	850	482	-------
TOTAL	4,965.3	121.3	82.5	289.0	10,664	15,941	6,725	10,563.6	17,357	23,965	23,779	13,892
MEAN	160	4.04	2.66	9.32	381	514	224	341	579	773	767	463
MAX	378	8.0	4.4	185	552	548	598	810	835	860	850	478
MIN	1.8	2.4	2.2	2.0	31	21	17	8.4	245	670	482	446
AC-FT	9,850	241	164	573	21,150	31,620	13,340	20,950	34,430	47,530	47,160	27,550
(†)	-1,290	+21,970	+8,200	+20,180	+7,940	-11,390	+18,860	+29,380	+7,880	-38,860	-45,510	-25,290
MEAN‡	139	373	136	338	524	329	541	819	711	141	26.8	38.0
CFSM‡	2.19	5.86	2.14	5.31	8.24	5.17	8.51	12.88	11.18	2.22	.421	.597
IN ‡	2.52	6.55	2.46	6.12	8.58	5.96	9.49	14.84	12.47	2.56	.49	.67
AC-FT‡	8,560	22,210	8,360	20,750	29,090	20,230	32,200	50,330	42,310	8,670	1,650	2,260

OBSERVED

CAL YR 1960:	TOTAL 107,855.0	MEAN 295	MAX 1,230	MIN 1.8	AC-FT 213,900
WAT YR 1961:	TOTAL 128,345.2	MEAN 352	MAX 860	MIN 1.8	AC-FT 254,600

ADJUSTED ‡

CAL YR 1960:	MEAN 253	CFSM 3.98	IN 54.08	AC-FT 183,500
WAT YR 1961:	MEAN 341	CFSM 5.36	IN 72.71	AC-FT 246,700

† Change in contents, in acre-feet, in Kachess Lake.
‡ Adjusted for change in lake contents.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4760. Kachess River near Easton, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	446	.90	4.7	7.1	5.6	226	15	414	54	710	950	670
2	446	.80	4.7	6.4	5.6	226	15	414	98	680	950	670
3	446	1.2	5.3	8.7	6.7	226	16	414	93	712	950	670
4	403	.80	5.8	10	8.4	226	17	414	172	735	950	709
5	375	.80	6.4	8.4	7.7	226	17	462	211	735	950	730
6	375	.80	5.6	8.7	161	226	26	486	270	735	940	730
7	375	.70	5.6	12	226	226	28	486	383	735	881	725
8	375	.70	5.3	15	226	129	21	486	403	730	780	725
9	375	.80	5.3	11	226	14	19	486	334	730	715	720
10	331	.90	5.3	8.7	226	14	18	486	349	730	752	685
11	235	1.2	5.3	7.7	226	13	17	486	365	730	775	665
12	76	1.2	5.0	7.1	226	13	16	486	406	725	775	660
13	.80	1.1	5.0	6.4	226	13	16	486	462	725	770	588
14	.70	4.2	5.0	5.8	226	13	16	486	453	720	770	453
15	.70	5.0	5.0	5.6	226	13	16	364	422	720	765	396
16	.80	5.0	5.0	5.6	226	13	16	303	426	773	825	396
17	.80	5.0	5.3	5.3	226	13	15	303	463	800	920	315
18	.80	5.0	5.3	5.3	226	13	16	303	490	800	950	273
19	.80	5.0	5.3	5.0	226	13	15	303	506	800	945	273
20	.80	5.0	5.3	5.0	226	13	15	303	482	800	940	273
21	.80	5.0	5.3	5.0	226	14	15	303	470	800	935	273
22	1.0	5.3	5.0	5.0	226	14	15	303	470	810	935	270
23	1.3	5.3	5.8	5.0	226	14	135	218	470	795	930	270
24	1.1	5.3	8.0	5.0	226	14	195	73	470	795	925	270
25	.80	5.3	8.4	6.4	226	14	195	21	466	790	920	270
26	.70	5.3	8.0	7.1	226	15	195	21	494	790	915	270
27	.90	5.3	7.1	7.4	226	15	195	21	529	785	910	270
28	.70	5.3	6.4	7.1	226	14	197	20	614	785	744	270
29	.70	4.7	6.7	6.7	------	14	197	19	683	780	683	270
30	.70	4.7	8.0	6.1	------	15	342	20	683	830	678	270
31	.70	------	7.7	5.8	------	15	------	20	------	918	674	------
TOTAL	4,273.60	97.60	181.9	221.9	5,167.0	2,033	2,032	9,410	12,191	23,703	26,502	14,029
MEAN	138	3.25	5.87	7.16	185	65.6	67.8	304	406	765	855	468
MAX	446	5.3	8.4	15	226	226	342	486	683	918	950	730
MIN	.70	.70	4.7	5.0	5.6	13	15	19	54	680	674	270
AC-FT	8,480	194	361	440	10,250	4,030	4,030	18,670	24,180	47,010	52,570	27,830
(†)	+ 600	+10,910	+16,860	+27,010	+6,520	+4,220	+33,200	+10,030	+2,810	-37,430	-49,800	-25,260
MEAN‡	148	187	280	446	302	134	626	467	454	156	45.0	43.2
CFSM‡	2.33	2.94	4.40	7.01	4.75	2.11	9.84	7.34	7.14	2.45	.708	.679
IN ‡	2.68	3.27	5.08	8.09	4.94	2.43	10.98	8.46	7.96	2.82	.82	.76
AC-FT‡	9,080	11,100	17,220	27,450	16,770	8,250	37,230	28,700	26,990	9,580	2,770	2,570

OBSERVED

CAL YR 1961: TOTAL 127,729.20 MEAN 350 MAX 860 MIN .70 AC-FT 253,300
WAT YR 1962: TOTAL 99,843.50 MEAN 274 MAX 950 MIN .70 AC-FT 198,000

ADJUSTED ‡

CAL YR 1961: MEAN 338 CFSM 5.31 IN 72.21 AC-FT 244,900
WAT YR 1962: MEAN 273 CFSM 4.29 In 58.29 AC-FT 197,700

† Change in contents, in acre-feet, in Kachess Lake.
‡ Adjusted for change in lake contents.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4760. Kachess River near Easton, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	267	8.7	11	12	7.4	14	12	247	514	611	1,050	326
2	267	8.7	11	14	7.7	13	12	274	565	584	1,040	326
3	267	8.7	11	15	9.4	12	12	280	614	580	1,040	323
4	267	8.7	11	12	10	11	12	280	638	654	1,030	277
5	267	8.7	11	11	10	11	12	280	634	763	1,030	235
6	267	8.7	13	10	10	12	13	299	629	780	1,020	235
7	267	8.7	12	10	9.7	11	13	311	620	775	1,020	235
8	265	8.7	12	9.7	9.7	12	12	311	653	738	1,010	233
9	265	8.7	12	9.7	9.7	11	12	311	665	677	1,000	233
10	218	8.7	11	9.4	9.7	11	12	297	660	656	1,000	233
11	104	8.7	11	8.7	9.0	11	12	280	647	656	995	231
12	8.7	8.7	11	9.0	9.0	11	12	278	642	656	990	231
13	8.7	8.7	11	9.0	9.0	11	12	278	634	656	985	252
14	8.7	8.7	11	9.0	9.0	11	12	278	667	689	980	255
15	8.7	8.7	12	9.4	9.0	11	28	280	688	789	970	252
16	8.7	8.4	12	9.0	9.0	11	79	283	688	887	965	252
17	8.7	8.4	11	9.0	9.0	11	132	302	729	910	960	252
18	8.7	8.4	11	8.7	9.0	11	180	345	745	910	955	252
19	8.7	11	11	8.0	11	11	217	426	778	910	811	250
20	8.7	22	11	8.0	12	11	238	534	785	963	502	250
21	8.7	18	11	7.7	11	11	243	629	780	985	498	267
22	8.7	13	11	7.7	11	11	243	652	775	985	470	337
23	8.7	12	11	7.7	11	12	245	652	775	980	438	416
24	8.7	12	9.4	7.7	11	12	243	647	745	980	438	490
25	8.7	12	9.0	7.7	11	12	243	642	725	975	434	510
26	8.7	17	9.0	7.7	12	11	243	584	720	970	430	534
27	8.7	14	9.0	7.7	12	11	243	544	720	995	407	552
28	8.7	12	11	7.7	12	12	243	544	720	1,000	392	552
29	8.7	12	11	7.4	------	12	243	517	677	1,050	392	575
30	8.7	12	13	7.4	------	12	240	506	652	1,060	369	580
31	8.7	------	12	7.4	------	12	------	498	------	1,060	337	------
TOTAL	2,895.0	326.2	348.9	286.9	280.3	362	3,477	12,589	20,484	25,884	23,658	9,946
MEAN	93.4	10.9	11.3	9.25	10.0	11.7	116	406	683	835	773	332
MAX	267	22	13	15	12	14	245	652	785	1,060	1,050	580
MIN	8.7	8.4	9.0	7.4	7.4	11	12	247	514	580	337	231
AC-FT	5,740	647	692	569	556	718	6,900	24,970	40,630	51,340	47,520	19,730
(†)	+3,210	+27,370	+20,780	+14,320	+24,070	+13,980	+10,170	+1,460	-27,600	-48,750	-46,910	-18,060
MEAN‡	146	471	349	242	443	239	287	430	219	42.1	9.92	28.1
CFSM‡	2.30	7.41	5.49	3.81	6.97	3.76	4.51	6.76	3.44	.662	.156	.442
IN ‡	2.64	8.26	6.33	4.39	7.26	4.33	5.03	7.79	3.84	.76	.18	.49
AC-FT‡	8,950	28,020	21,470	14,890	24,630	14,700	17,070	26,430	13,030	2,590	610	1,670

OBSERVED

CAL YR 1962:	TOTAL 98,860.5	MEAN 271	MAX 950	MIN 5.0	AC-FT 196,100
WAT YR 1963:	TOTAL 100,837.3	MEAN 276	MAX 1,060	MIN 7.4	AC-FT 200,000

ADJUSTED ‡

CAL YR 1962:	MEAN 302	CFSM 4.75	IN 64.49	AC-FT 218,800
WAT YR 1963:	MEAN 240	CFSM 3.77	IN 51.30	AC-FT 174,100

† Change in contents, in acre-feet, in Kachess Lake.
‡ Adjusted for change in lake contents.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4760. Kachess River near Easton, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	575	2.9	3.6	3.9	2.9	3.4	6.7	8.0	61	720	770	1,110
2	619	3.1	3.6	3.9	3.1	3.4	6.7	7.4	61	710	760	1,100
3	680	2.9	2.9	3.6	2.9	3.1	6.4	7.1	60	706	745	1,100
4	688	3.1	2.7	3.4	2.7	4.2	7.1	7.7	60	706	730	1,100
5	674	3.1	2.7	3.9	2.7	4.2	7.1	7.7	61	701	715	726
6	670	3.6	2.9	4.7	2.7	3.9	7.1	7.4	61	701	701	506
7	576	3.6	2.9	4.4	2.4	3.6	7.7	7.7	61	701	683	506
8	346	3.9	2.9	3.4	2.4	3.4	8.0	8.4	61	753	670	506
9	116	3.9	2.9	3.4	2.4	3.6	8.4	8.7	61	780	652	461
10	14	3.6	2.7	3.1	2.4	3.6	9.0	8.7	62	775	638	434
11	4.2	3.6	2.7	2.7	2.7	3.6	9.7	8.0	62	750	744	434
12	3.6	3.6	2.7	2.7	2.9	3.6	9.0	7.7	62	730	780	434
13	3.4	3.6	2.4	2.4	2.7	3.4	8.7	6.7	273	735	760	434
14	3.1	3.9	2.4	2.4	2.7	3.1	9.4	26	480	735	735	434
15	3.1	3.9	2.7	2.4	2.7	7.1	12	27	615	735	753	434
16	3.1	4.2	2.7	2.9	2.9	7.1	9.0	56	991	730	780	430
17	3.1	4.7	2.7	2.9	3.4	6.7	7.4	27	1,160	644	775	430
18	2.9	4.2	2.4	2.9	4.2	8.4	6.7	11	1,120	588	805	430
19	2.9	3.9	2.4	2.7	5.0	6.7	7.1	11	1,120	584	825	430
20	2.9	3.9	2.4	2.7	4.4	5.8	7.7	11	764	584	825	430
21	2.9	3.9	2.4	2.4	3.9	5.0	8.7	11	584	580	820	430
22	2.9	3.9	2.4	2.2	3.9	4.7	12	36	584	562	815	397
23	2.9	3.9	2.7	2.2	3.9	4.4	8.7	257	643	737	810	382
24	3.1	3.9	2.7	2.4	4.2	3.9	8.7	473	753	810	810	382
25	3.1	3.9	2.9	2.7	3.9	3.6	10	552	795	795	805	382
26	2.9	4.7	2.9	2.7	3.6	3.6	10	552	790	780	805	382
27	2.9	6.7	2.7	2.7	3.6	3.6	9.7	552	785	775	1,020	382
28	2.9	5.0	2.7	2.4	3.4	3.9	9.7	423	755	760	1,130	501
29	2.9	4.2	2.4	2.4	3.4	4.2	9.7	161	740	788	1,120	629
30	2.9	3.9	2.2	2.2	------	4.7	9.0	61	740	795	1,120	629
31	2.9	------	2.4	2.2	------	5.3	------	61	------	785	1,120	------
TOTAL	5,021.6	117.2	83.7	90.9	94.0	136.4	258.1	3,412.2	14,425	22,235	25,221	16,365
MEAN	162	3.91	2.70	2.93	3.24	4.50	8.60	110	481	717	814	545
MAX	688	6.7	3.6	4.7	5.0	8.4	12	552	1,160	810	1,130	1,110
MIN	2.9	2.9	2.2	2.2	2.4	3.1	6.4	6.7	60	552	638	362
AC-FT	9,960	232	166	180	186	277	512	6,770	28,610	44,100	50,030	32,460
(†)	-6,480	+12,790	+9,120	+16,070	+7,260	+11,360	+20,640	+37,570	+33,530	-10,550	-40,610	-27,230
MEAN‡	56.6	219	151	264	130	189	355	721	1,044	546	153	87.9
CFSM‡	.890	3.44	2.37	4.15	2.04	2.97	5.58	11.3	16.4	8.58	2.41	1.38
IN ‡	1.03	3.84	2.74	4.79	2.20	3.43	6.24	13.07	18.32	9.89	2.78	1.54
AC-FT‡	3,480	13,020	9,290	16,250	7,450	11,640	21,150	44,340	62,140	33,550	9,420	5,230

OBSERVED

CAL YR 1963: TOTAL 102,489.7 MEAN 281 MAX 1,060 MIN 2.2 AC-FT 203,300
WAT YR 1964: TOTAL 87,463.3 MEAN 239 MAX 1,160 MIN 2.2 AC-FT 173,500

ADJUSTED ‡

CAL YR 1963: MEAN 195 CFSM 3.07 IN 41.68 AC-FT 141,400
WAT YR 1964: MEAN 326 CFSM 5.13 IN 69.87 AC-FT 237,000

† Change in contents, in acre-feet, in Kachess Lake.
‡ Adjusted for change in lake contents.

12-4760. Kachess River near Easton, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	625	2.9	7.4	96	17	349	262	209	109	730	820	63
2	629	2.9	8.1	84	12	89	262	424	111	720	1,310	62
3	629	3.1	6.7	94	221	411	262	522	111	706	1,550	62
4	629	2.9	5.8	203	372	522	262	522	343	692	1,600	62
5	625	2.9	5.3	358	372	522	262	522	490	683	1,640	62
6	625	2.9	4.4	368	372	522	106	682	454	721	1,640	62
7	625	2.9	4.2	365	372	522	12	790	438	746	1,630	62
8	491	2.7	4.7	365	372	514	11	790	290	813	1,620	62
9	346	2.9	6.7	365	466	514	12	785	287	852	1,620	62
10	314	2.7	6.4	366	522	514	12	723	415	870	1,620	62
11	314	2.7	5.8	365	522	355	12	566	407	865	1,610	62
12	286	2.7	5.3	365	522	262	12	476	442	865	1,590	62
13	207	2.7	5.6	365	522	262	12	377	442	860	1,580	62
14	174	2.7	5.3	362	522	262	12	432	438	860	1,440	62
15	70	2.7	5.0	362	522	262	12	478	434	855	1,180	62
16	8.1	2.7	3.9	362	522	262	14	478	430	855	1,010	62
17	7.4	2.7	3.6	359	522	262	14	478	430	850	645	62
18	7.1	2.7	3.4	359	522	262	12	517	434	850	580	62
19	7.1	2.7	3.1	359	522	262	15	574	434	850	575	62
20	7.1	2.7	3.1	359	522	262	17	377	434	845	575	62
21	3.0	2.5	3.1	359	522	262	14	9.4	434	840	571	62
22	.60	2.2	4.2	359	522	262	13	9.0	430	840	571	62
23	.60	2.2	324	359	518	262	13	8.7	430	840	519	62
24	.60	5.6	701	359	514	262	12	8.7	430	835	380	62
25	.60	5.3	701	359	514	262	12	9.0	522	830	1,030	62
26	.60	4.2	701	359	514	262	12	11	584	830	1,330	62
27	.60	3.6	470	365	514	262	11	12	669	825	1,020	62
28	.60	3.1	84	372	514	262	12	13	698	820	339	62
29	.60	3.1	84	169	-------	262	12	13	724	820	327	25
30	1.8	4.2	84	36	-------	262	33	12	740	815	153	5.8
31	2.8	------	84	25	-------	262	------	76	------	771	63	------
TOTAL	6,642.30	91.8	3,344.1	9,389	12,450	10,073	1,741	10,906.8	13,184	25,374	32,198	1,768.8
MEAN	214	3.06	108	303	445	325	58.0	352	439	819	1,039	59.0
MAX	629	5.6	701	372	522	522	262	790	740	930	1,640	62
MIN	.60	2.2	3.1	25	12	89	11	8.7	109	683	63	5.8
AC-FT	13,170	182	6,630	18,620	24,690	19,980	3,450	21,630	26,150	50,330	63,860	3,510
(†)	-4,690	+10,820	+16,590	+ 4,210	-3,020	-4,740	+32,180	+16,580	+ 4,010	-42,740	-60,720	-1,350
MEAN‡	138	185	378	371	390	248	599	621	507	123	51.1	36.3
CFSM‡	2.17	2.91	5.94	5.83	6.13	3.90	9.42	9.76	7.97	1.93	.803	.571
IN ‡	2.50	3.24	6.85	6.73	6.39	4.49	10.50	11.26	8.89	2.24	.93	.64
AC-FT‡	8,480	11,000	23,220	22,830	21,670	15,240	35,630	38,210	30,160	7,590	3,140	2,160

OBSERVED

CAL YR 1964: TOTAL 92,547.80 MEAN 253 MAX 1,160 MIN .60 AC-FT 183,600
WAT YR 1965: TOTAL 127,162.80 MEAN 348 MAX 1,640 MIN .60 AC-FT 252,200

ADJUSTED ‡

CAL YR 1964: MEAN 350 CFSM 5.50 IN 74.85 AC-FT 253,900
WAT YR 1965: MEAN 303 CFSM 4.76 IN 64.66 AC-FT 219,300

† Change in contents, in acre-feet, in Kachess Lake.
‡ Adjusted for change in lake contents.

12-4785. Cle Elum Lake near Roslyn, Wash.

Location.--Lat 47°14'40", long 121°04'00", in NE¼ sec.10, T.20 N., R.14 E., at dam on Cle Elum River at outlet of Cle Elum Lake, 4 miles northwest of Roslyn.

Drainage area.--203 sq mi.

Records available.--May 1906 to September 1965.

Gage.--Staff gage read twice daily. Datum of gage is at mean sea level (Bureau of Reclamation bench mark).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	June 19, 1961	443,120	2,241.28	Oct. 13, 1960	96,880	2,152.09
1962	June 17, 18, 1962	446,030	2,241.88	Oct. 9, 1961	103,570	2,154.39
1963	May 20, 1963	442,590	2,241.17	Sept.30, 1963	66,460	2,140.91
1964	July 9, 13,14, 1964	442,590	2,241.17	Oct. 13, 1963	54,250	2,135.97
1965	June 20, 1965	441,720	2,240.99	Sept.30, 1965	146,300	2,168.09

1906-65: Maximum contents observed, 446,520 acre-ft May 8, 9, 1957 (elevation, 2,241.98 ft); minimum observed, 2,380 acre-ft Aug. 31, 1906; minimum elevation observed, 2,114.35 ft Oct. 14, 1932. Storage was uncontrolled Oct. 3, 1931, to Feb. 26, 1932.

Remarks.--Reservoir is formed on natural lake by earth- and gravel-fill dam completed in 1933; storage began above present dam Feb. 26, 1932. Capacity, 436,900 acre-ft between gate sill (elevation, 2,110.00 ft) and top of spillway gate (elevation, 2,240.00 ft). Records given herein represent usable contents. Water used for irrigation.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by the Geological Survey.

MONTH-END ELEVATION AND CONTENTS, WATER YEARS OCTOBER 1960 TO SEPTEMBER 1965

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1960.....	2,156.32	109,290	-6,070
Nov. 30.....	2,168.06	146,200	+36,910
Dec. 31.....	2,172.60	161,350	+15,150
Calendar year 1960	-	-	-171,570
Jan. 31, 1961.....	2,184.82	204,370	+43,020
Feb. 28.....	2,200.76	265,210	+60,840
Mar. 31.....	2,213.10	315,780	+50,570
Apr. 30.....	2,227.79	379,890	+64,110
May 31.....	2,226.44	373,810	-6,080
June 30.....	2,239.13	432,770	+58,960
July 31.....	2,219.65	343,800	-88,970
Aug. 31.....	2,186.36	210,010	-133,790
Sept.30.....	2,158.69	116,460	-93,550
Water year 1961...	-	-	+1,100
Oct. 31.....	2,160.59	122,330	+5,870
Nov. 30.....	2,166.93	142,510	+20,180
Dec. 31.....	2,175.56	171,480	+28,970
Calendar year 1961	-	-	+10,130
Jan. 31, 1962.....	2,194.46	240,480	+69,000
Feb. 28.....	2,204.14	278,800	+38,320
Mar. 31.....	2,208.61	297,070	+18,270
Apr. 30.....	2,232.37	400,900	+103,830
May 31.....	2,240.50	439,360	+38,460
June 30.....	2,240.78	440,710	+1,350
July 31.....	2,216.04	328,250	-112,460
Aug. 31.....	2,181.53	192,470	-135,780
Sept.30.....	2,157.09	111,600	-80,870
Water year 1962...	-	-	-4,860
Oct. 31.....	2,161.33	124,640	+13,040
Nov. 30.....	2,183.77	200,550	+75,910
Dec. 31.....	2,196.55	248,600	+48,050
Calendar year 1962	-	-	+77,120
Jan. 31, 1963.....	2,204.63	280,790	+32,190
Feb. 28.....	2,218.94	340,720	+59,930
Mar. 31.....	2,226.83	375,560	+34,840
Apr. 30.....	2,235.81	416,970	+41,410
May 31.....	2,241.10	442,250	+25,280
June 30.....	2,231.12	395,120	-47,130
July 31.....	2,196.39	247,970	-147,150
Aug. 31.....	2,161.84	126,230	-121,740
Sept.30.....	2,140.91	66,460	-59,770
Water year 1963...	-	-	-45,140

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1963.....	2,139.35	62,500	-3,960
Nov. 30.....	2,149.57	89,730	+27,230
Dec. 31.....	2,156.54	109,950	+20,220
Calendar year 1963	-	-	-318,650
Jan. 31, 1964.....	2,166.28	140,390	+30,440
Feb. 29.....	2,170.39	153,920	+13,530
Mar. 31.....	2,165.30	137,230	-16,690
Apr. 30.....	2,166.90	142,410	+5,180
May 31.....	2,195.07	242,840	+100,430
June 30.....	2,239.82	436,080	+193,240
July 31.....	2,227.87	380,250	-55,830
Aug. 31.....	2,204.40	279,860	-100,390
Sept.30.....	2,188.33	217,300	-62,560
Water year 1964...	-	-	+150,840
Oct. 31.....	2,192.57	233,250	+15,950
Nov. 30.....	2,197.43	252,040	+18,790
Dec. 31.....	2,207.64	293,080	+41,040
Calendar year 1964	-	-	+183,130
Jan. 31, 1965.....	2,211.36	308,480	+15,400
Feb. 28.....	2,220.22	346,280	+37,800
Mar. 31.....	2,218.07	336,960	-9,320
Apr. 30.....	2,229.64	388,310	+51,350
May 31.....	2,235.00	413,160	+24,850
June 30.....	2,238.37	429,130	+15,970
July 31.....	2,214.51	321,740	-107,390
Aug. 31.....	2,194.69	241,370	-80,370
Sept.30.....	2,168.09	146,300	-95,070
Water year 1965...	-	-	-71,000

† Elevation estimated at 2400 hours from graph of twice-daily gage readings.

12-4790. Cle Elum River near Roslyn, Wash.

Location.--Lat 47°14'30", long 121°03'50", in NW¼ sec.11, T.20 N., R.14 E., on left bank 1,000 ft downstream from dam at Cle Elum Lake and 4 miles northwest of Roslyn.

Drainage area.--203 sq mi.

Records available.--October 1903 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 2,102.10 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 14, 1913, and Sept. 4, 1931, to Apr. 19, 1933, several staff gages and Oct. 14, 1913, to Sept. 3, 1931, water-stage recorder, at about same sites at same datum.

Average discharge.--62 years, 924 cfs (668,900 acre-ft per year), adjusted for storage since 1906.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 20, 1961	5,080	10.60	(a)	2.6	-
1962	June 18, 1962	3,060	9.04	Oct. 17, 1961	2.6	-
1963	May 20, 21, 1963	3,990	9.71	Nov. 20, 1962	3.0	3.75
1964	Aug. 1, 1964	3,920	9.77	(b)	c .30	-
1965	June 12, 1965	3,550	9.53	Oct. 22-31, 1964	1.5	-

a Dec. 19, 20, 21, 1960, Feb. 7-23, 1961.
b Oct. 31 to Dec. 5, 1963.
c Minimum daily.

1903-65: Maximum discharge, 18,700 cfs Nov. 15, 1906 (gage height, 14.05 ft); no flow at times when gates in dam are closed.

Remarks.--Records excellent except those below 100 cfs, which are good. No diversion above station. Flow regulated by Cle Elum Lake (see station 12-4785).

Cooperation.--Gage-height record, 46 discharge measurements, and records of daily discharge furnished by Bureau of Reclamation; reviewed by Geological Survey.

Revisions (water years).--WSP 369: 1904, 1907-8. WSP 1216: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,050	60	68	20	20	2.7	36	1,700	3,590	2,010	2,720	2,050
2	1,040	62	68	20	16	2.7	36	1,960	3,430	2,040	2,700	1,930
3	1,030	64	68	20	15	2.7	36	2,360	2,410	2,000	2,700	1,830
4	1,030	64	66	20	15	2.7	38	2,530	2,630	2,050	2,710	1,770
5	1,030	64	66	20	15	2.7	42	2,520	2,480	2,010	2,710	1,710
6	1,020	64	70	20	15	2.7	47	2,480	2,000	2,070	2,710	1,660
7	1,020	64	70	22	7.8	2.7	47	2,380	1,980	1,980	2,700	1,660
8	1,020	64	70	22	2.6	2.7	46	2,490	1,990	1,950	2,710	1,680
9	1,010	64	70	20	2.6	2.7	46	2,430	1,980	1,910	2,720	1,730
10	812	64	70	20	2.6	2.7	47	2,390	1,980	2,010	2,690	1,790
11	731	64	70	20	2.6	2.7	47	2,420	1,980	2,100	2,650	1,830
12	299	64	70	20	2.6	2.8	47	2,460	1,020	2,170	2,640	1,940
13	58	64	70	20	2.6	2.8	47	2,350	492	2,130	2,630	1,960
14	56	64	70	20	2.6	2.8	47	2,340	492	2,180	2,590	1,980
15	56	64	70	20	2.6	2.8	47	2,460	488	2,160	2,540	1,960
16	55	64	68	20	2.6	2.8	47	2,550	1,540	2,170	2,490	1,950
17	55	64	68	20	2.6	2.8	47	2,670	2,080	2,170	2,400	1,920
18	55	64	68	20	2.6	2.8	47	2,860	3,600	2,210	2,360	1,900
19	55	64	47	20	2.6	2.8	47	3,100	4,170	2,220	2,280	1,890
20	55	64	18	20	2.6	2.8	47	3,300	3,020	2,480	2,150	1,870
21	55	64	8.4	20	2.6	2.8	47	3,340	2,230	2,600	2,110	1,850
22	53	66	20	20	2.6	2.8	47	3,340	2,020	2,630	2,210	1,830
23	51	66	22	20	2.6	2.8	47	3,420	2,310	2,710	2,240	1,810
24	53	68	22	20	2.7	2.8	47	3,430	2,490	2,710	2,250	1,790
25	53	68	22	20	2.7	2.8	427	3,390	2,470	2,700	2,250	1,760
26	55	68	22	20	2.7	2.8	956	3,450	2,430	2,700	2,250	1,740
27	56	68	22	20	2.7	2.8	1,310	3,630	1,490	2,690	2,200	1,730
28	56	68	22	20	2.7	13	1,440	3,600	2,000	2,700	2,180	1,700
29	58	68	22	20	———	36	1,480	3,560	2,330	2,700	2,170	1,700
30	58	68	22	20	———	36	1,620	3,540	2,060	2,710	2,080	1,660
31	60	———	20	20	———	36	———	3,520	———	2,750	2,060	———
TOTAL	12,145	1,946	1,529.4	624	158.9	195.5	8,312	87,970	65,182	71,620	75,800	54,580
MEAN	392	64.9	49.3	20.1	5.68	6.31	277	2,838	2,173	2,310	2,445	1,819
MAX	1,050	68	70	22	20	36	1,620	3,630	4,170	2,750	2,720	2,050
MIN	51	60	8.4	20	2.6	2.7	36	1,700	488	1,910	2,060	1,660
AC-FT	24,090	3,860	3,030	1,240	315	388	16,490	174,500	129,300	142,100	150,300	108,300
(†)	-6,070	+36,910	+15,150	+43,020	+60,840	+50,570	+64,110	-6,080	+58,960	-88,970	-133,790	-93,550
MEAN‡	293	685	296	719	1,101	829	1,355	2,739	3,164	864	269	248
CFSM‡	1.44	3.37	1.46	3.54	5.42	4.08	6.67	13.5	15.6	4.26	1.33	1.22
IN ‡	1.66	3.77	1.68	4.09	5.65	4.71	7.44	15.55	17.39	4.91	1.52	1.36
AC-FT‡	18,020	40,770	18,180	44,240	61,150	50,960	80,600	168,400	188,300	53,130	16,510	14,750

OBSERVED

CAL YR 1960: TOTAL 366,421.4 MEAN 1,001 MAX 2,790 MIN 2.6 AC-FT 726,800
WAT YR 1961: TOTAL 380,062.8 MEAN 1,041 MAX 4,170 MIN 2.6 AC-FT 753,800

ADJUSTED ‡

CAL YR 1960: MEAN 765 CFSM 3.77 IN 51.29 AC-FT 555,200
WAT YR 1961: MEAN 1,043 CFSM 5.14 IN 69.73 AC-FT 755,000

† Change in contents, in acre-feet, in Cle Elum Lake.
‡ Adjusted for change in lake contents.
Note.--No gage-height record Feb. 8 to Mar. 27. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4790. Cle Elum River near Roslyn, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,530	24	27	28	34	36	36	531	1,640	2,070	2,900	1,640
2	992	25	27	28	34	36	36	620	1,550	2,210	2,910	1,630
3	885	25	27	28	34	36	36	595	1,610	2,100	2,910	1,620
4	694	25	27	28	34	36	36	640	1,660	2,240	2,920	1,620
5	625	25	26	28	34	36	36	660	1,660	2,350	2,900	1,620
6	620	25	27	30	34	36	38	660	1,620	2,320	2,750	1,620
7	615	26	27	32	34	36	38	665	1,600	2,310	2,500	1,660
8	615	26	27	33	36	36	39	833	1,680	2,380	2,370	1,650
9	615	26	27	33	36	36	39	896	1,890	2,770	2,360	1,640
10	615	26	27	33	36	36	39	896	2,150	2,870	2,460	1,620
11	615	26	27	33	36	36	39	902	2,200	2,880	2,510	1,620
12	367	26	27	33	36	36	39	938	2,180	2,890	2,500	1,600
13	251	26	27	33	36	36	39	819	2,160	2,900	2,490	1,590
14	206	26	27	33	36	36	39	866	2,130	2,880	2,570	1,570
15	92	26	27	33	36	36	39	860	2,130	2,860	2,600	1,560
16	92	26	27	33	36	36	39	866	2,640	2,890	2,640	1,550
17	64	26	27	33	36	36	39	872	2,870	2,830	2,640	1,540
18	23	26	27	33	36	36	40	994	2,970	2,830	2,620	1,520
19	23	26	27	33	36	36	40	1,070	2,920	2,760	2,600	1,510
20	23	27	27	33	36	36	40	1,070	2,750	2,800	2,570	1,500
21	23	27	27	33	36	36	40	1,070	2,670	2,910	2,660	1,480
22	24	27	27	33	36	36	40	1,070	2,590	2,890	2,710	1,460
23	24	27	27	33	36	36	53	1,090	2,530	2,830	2,760	1,460
24	24	27	27	33	36	36	46	1,100	2,490	2,920	2,710	1,440
25	24	27	27	33	36	36	46	1,120	2,060	2,920	2,560	1,420
26	24	27	27	33	36	36	46	1,150	1,910	2,910	2,490	1,420
27	24	27	28	33	36	36	46	1,160	1,870	2,900	2,400	1,410
28	24	27	28	33	36	36	46	1,180	1,800	2,930	2,260	1,380
29	24	28	28	34	------	36	46	1,600	1,740	2,910	2,160	1,370
30	24	27	28	34	------	36	266	2,160	1,720	2,920	1,780	978
31	24	------	28	34	------	36	------	2,080	------	2,910	1,620	------
TOTAL	9,825	785	841	997	994	1,116	1,441	31,033	63,390	84,090	78,830	45,698
MEAN	317	26.2	27.1	32.2	35.5	36.0	48.0	1,001	2,113	2,713	2,543	1,523
MAX	1,530	28	28	34	36	36	266	2,160	2,970	2,930	2,920	1,660
MIN	23	24	26	28	34	36	36	531	1,550	2,070	1,620	978
AC-FT	19,490	1,560	1,670	1,980	1,970	2,210	2,860	61,550	125,700	166,800	156,400	90,640
(†)	+5,870	+20,180	+28,970	+69,000	+38,320	+18,270	+103,830	+38,460	+1,350	-112,460	-135,780	-80,870
MEAN‡	412	365	498	1,154	725	333	1,793	1,626	2,134	884	335	164
CFSM‡	2.03	1.80	2.45	5.68	3.57	1.64	8.83	8.01	10.5	4.35	1.65	.809
IN ‡	2.34	2.01	2.83	6.56	3.72	1.89	9.86	9.24	11.73	5.02	1.90	.90
AC-FT‡	25,360	21,740	30,640	70,980	40,290	20,480	106,700	100,000	127,000	54,340	20,620	9,770

OBSERVED

CAL YR 1961: TOTAL 375,893.4 MEAN 1,030 MAX 4,170 MIN 2.6 AC-FT 745,600
WAT YR 1962: TOTAL 319,040 MEAN 874 MAX 2,970 MIN 23 AC-FT 632,800

ADJUSTED ‡

CAL YR 1961: MEAN 1,044 CFSM 5.14 IN 69.80 AC-FT 755,700
WAT YR 1962: MEAN 867 CFSM 4.27 IN 58.00 AC-FT 627,900

† Change in contents, in acre-feet, in Lake Cle Elum.
‡ Adjusted for change in lake contents.

12-4790. Cle Elum River near Roslyn, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	748	28	28	34	38	42	46	53	2,400	2,430	3,000	1,260
2	736	28	28	36	38	44	46	53	2,680	2,510	2,950	1,420
3	731	28	28	36	38	44	46	51	1,980	2,590	3,020	1,460
4	613	28	30	36	38	44	46	53	1,320	2,650	2,920	1,470
5	492	28	30	36	38	44	46	55	1,180	2,790	2,910	1,520
6	488	28	30	36	38	44	47	55	1,220	2,800	2,900	1,470
7	488	28	30	38	38	44	47	53	1,250	2,770	2,920	1,420
8	488	28	30	38	38	44	47	55	1,290	2,780	2,940	1,380
9	488	28	30	38	39	44	47	55	1,310	2,530	2,900	1,350
10	353	28	30	38	39	44	49	55	1,300	2,500	2,850	1,310
11	159	28	30	38	39	44	51	58	1,480	2,720	2,810	1,300
12	75	28	32	38	40	44	51	76	1,850	2,760	2,770	1,280
13	24	28	32	38	40	46	51	485	2,060	2,730	2,680	1,300
14	24	27	32	38	40	46	51	979	2,120	2,740	2,620	1,350
15	24	27	32	38	40	46	49	1,140	2,250	2,800	2,590	1,330
16	24	27	33	38	40	46	49	1,120	2,280	2,850	2,560	1,250
17	24	27	33	38	40	46	49	1,160	2,260	2,930	2,530	1,050
18	24	27	33	38	40	46	49	1,610	2,280	2,970	2,470	952
19	24	27	34	38	42	46	49	2,310	2,350	2,930	2,210	920
20	25	21	34	38	42	46	49	3,310	2,500	3,020	2,010	908
21	25	28	33	38	42	46	49	3,920	2,550	3,120	1,610	948
22	25	28	34	38	42	46	51	3,200	2,520	3,100	1,520	1,040
23	25	28	34	38	42	46	51	2,900	2,580	3,100	1,460	992
24	26	28	34	38	42	46	51	2,920	2,530	3,070	1,370	986
25	26	28	34	38	42	46	53	2,900	2,530	3,030	1,320	884
26	26	28	34	38	42	46	53	2,850	2,520	3,010	1,250	814
27	27	27	34	38	42	46	51	1,850	2,570	3,040	1,210	739
28	27	27	34	38	42	46	51	1,580	2,540	3,070	1,180	692
29	27	27	34	38	———	46	53	2,340	2,480	3,060	1,180	687
30	27	27	34	38	———	46	53	2,370	2,420	3,030	1,160	682
31	28	———	34	38	———	46	———	2,410	———	3,000	1,150	———
TOTAL	6,341	823	992	1,164	1,121	1,400	1,481	42,026	62,600	88,430	68,970	34,164
MEAN	205	27.4	32.0	37.5	40.0	45.2	49.4	1,356	2,087	2,853	2,225	1,139
MAX	748	28	34	38	42	46	53	3,920	2,680	3,120	3,020	1,520
MIN	24	21	28	34	38	42	46	51	1,180	2,430	1,150	682
AC-FT	12,580	1,630	1,970	2,310	2,220	2,780	2,940	83,360	124,200	175,400	136,800	67,760
(†)	+13,040	+75,910	+48,050	+32,190	+59,930	+34,840	+41,410	+25,280	-47,130	-147,150	-121,740	-59,770
MEAN‡	417	1,303	813	561	1,119	612	745	1,766	1,295	459	245	134
CFSM‡	2.05	6.42	4.00	2.76	5.51	3.01	3.67	8.70	6.38	2.26	1.21	.660
IN ‡	2.37	7.16	4.62	3.19	5.74	3.47	4.10	10.03	7.12	2.61	1.39	.74
AC-FT‡	25,620	77,540	50,020	34,500	62,150	37,620	44,350	108,600	77,070	28,250	15,060	7,990

OBSERVED

CAL YR 1962: TOTAL 315,745 MEAN 865 MAX 2,970 MIN 21 AC-FT 626,300
WAT YR 1963: TOTAL 309,512 MEAN 848 MAX 3,920 MIN 21 AC-FT 613,900

ADJUSTED ‡

CAL YR 1962: MEAN 971 CFSM 4.78 IN 64.95 AC-FT 703,400
WAT YR 1963: MEAN 786 CFSM 3.87 IN 52.54 AC-FT 568,900

† Change in contents, in acre-feet, in Lake Cle Elum.
‡ Adjusted for change in lake contents.

12-4790. Cle Elum River near Roslyn, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	670	.30	.30	42	49	51	378	825	156	1,610	3,320	1,100
2	665	.30	.30	42	49	51	195	760	156	1,730	3,040	998
3	660	.30	.30	42	49	51	195	860	156	2,950	3,038	926
4	660	.30	.30	42	49	239	192	924	153	2,870	2,920	920
5	655	.30	.30	42	49	706	189	968	150	2,820	2,650	1,190
6	655	.30	19	42	49	990	189	968	150	2,690	2,540	1,610
7	655	.30	44	42	49	1,490	296	968	147	2,490	2,330	1,640
8	650	.30	44	42	51	1,740	376	968	144	2,430	2,230	1,620
9	650	.30	44	42	53	1,730	380	889	144	3,270	2,200	1,600
10	583	.30	44	42	53	887	380	499	141	2,930	2,200	1,580
11	412	.30	44	44	53	234	586	168	141	2,150	2,220	1,580
12	407	.30	44	44	53	223	720	162	154	2,010	2,310	1,570
13	376	.30	44	44	53	340	726	165	94	2,440	2,280	1,540
14	24	.30	42	44	53	636	726	168	105	2,600	2,230	1,530
15	24	.30	42	44	51	709	731	226	105	2,560	2,180	1,600
16	24	.30	42	44	49	709	731	420	105	2,480	2,170	1,630
17	14	.30	42	44	51	704	731	420	271	2,450	2,160	1,610
18	4.0	.30	42	44	51	709	868	270	870	2,800	2,210	1,600
19	7.5	.30	42	44	51	500	974	180	1,120	2,900	2,210	1,580
20	8.4	.30	42	46	49	320	974	189	1,150	3,110	2,190	1,560
21	9.2	.30	42	46	49	312	1,110	186	1,180	3,380	2,200	1,450
22	9.2	.30	42	46	49	308	1,200	186	832	3,390	2,200	1,310
23	9.2	.30	42	46	49	308	1,200	333	515	3,400	2,180	1,270
24	9.2	.30	42	47	49	497	1,200	551	484	3,440	2,190	1,320
25	9.2	.30	42	49	49	605	1,200	605	865	3,340	2,180	1,350
26	9.2	.30	42	49	49	605	1,200	610	1,030	3,360	2,190	1,350
27	9.2	.30	42	49	49	605	1,060	498	733	3,500	2,090	1,330
28	9.2	.30	42	49	51	605	974	287	849	3,450	1,850	1,230
29	9.2	.30	42	49	51	605	974	171	1,430	3,370	1,740	630
30	4.8	.30	42	49	———	605	974	162	1,620	3,300	1,570	420
31	.30	———	42	49	———	605	———	159	———	3,230	1,200	———
TOTAL	7,891.80	9.00	1,084.50	1,390	1,459	18,679	21,629	14,745	15,150	88,050	70,210	40,644
MEAN	255	.30	35.0	44.8	50.3	603	721	476	505	2,840	2,265	1,355
MAX	670	.30	44	49	53	1,740	1,200	968	1,620	3,500	3,320	1,640
MIN	.30	.30	.30	42	49	51	189	159	94	1,610	1,200	420
AC-FT	15,650	18	2,150	2,760	2,890	37,050	42,900	29,250	30,050	174,600	139,300	80,620
(†)	-3,960	+27,230	+20,220	+30,440	+13,530	-16,690	+5,180	+100,430	+193,240	-55,830	-100,390	-62,560
MEAN‡	190	458	364	540	285	331	808	2,109	3,753	1,932	633	304
CFSM‡	.936	2.26	1.79	2.66	1.40	1.63	3.98	10.4	18.5	9.52	3.12	1.50
IN ‡	1.08	2.52	2.07	3.07	1.52	1.88	4.44	11.98	20.62	10.97	3.59	1.67
AC-FT‡	11,690	27,250	22,370	33,200	16,420	20,360	48,080	129,700	223,300	118,800	38,910	18,060

OBSERVED

CAL YR 1963: TOTAL 310,341.30 MEAN 850 MAX 3,920 MIN .30 AC-FT 615,600
WAT YR 1964: TOTAL 280,941.30 MEAN 768 MAX 3,500 MIN .30 AC-FT 557,200

ADJUSTED ‡

CAL YR 1963: MEAN 659 CFSM 3.25 IN 44.06 AC-FT 477,000
WAT YR 1964: MEAN 975 CFSM 4.80 IN 65.41 AC-FT 708,000

† Change in contents, in acre-feet, in Lake Cle Elum.
‡ Adjusted for change in lake contents.
Note.--No gage-height record Oct. 31 to Dec. 5.

12-4790. Cle Elum River near Roslyn, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	332	25	58	655	76	775	770	1,460	896	2,200	2,350	1,940
2	237	25	58	655	76	407	770	1,480	920	2,210	1,650	1,930
3	237	25	58	655	76	679	770	1,500	938	2,240	324	1,910
4	241	25	58	655	76	775	770	1,480	1,210	2,200	17	1,900
5	237	26	58	655	76	775	764	1,640	1,710	2,190	16	1,900
6	237	26	58	655	76	775	764	1,900	1,930	2,270	347	1,900
7	237	26	58	655	74	775	764	2,160	2,060	2,420	1,230	1,890
8	237	26	60	655	76	775	764	2,330	2,700	2,520	1,520	1,870
9	241	26	60	655	76	775	764	2,350	2,880	2,500	1,530	1,860
10	241	26	60	655	80	775	764	2,340	2,890	2,640	1,780	1,840
11	241	26	60	650	76	775	764	2,080	3,150	2,730	2,080	1,830
12	241	26	60	650	76	775	764	1,820	3,510	2,650	2,090	1,810
13	241	26	60	650	74	775	764	1,530	3,090	2,640	1,320	1,810
14	241	27	60	650	76	775	764	1,430	2,440	2,640	2,180	1,800
15	241	27	60	650	76	775	770	1,700	2,210	2,730	2,420	1,790
16	241	27	60	645	76	775	770	1,640	1,190	2,780	2,400	1,780
17	241	27	60	645	76	775	770	1,670	530	2,880	2,400	1,770
18	241	27	60	645	76	775	775	1,690	1,330	2,890	2,400	1,750
19	241	27	60	373	76	775	786	1,790	2,310	2,900	2,410	1,740
20	219	40	60	209	78	775	792	1,850	2,010	2,890	2,440	1,730
21	150	58	60	206	80	775	797	1,850	2,130	2,890	2,420	1,720
22	92	58	60	202	78	775	803	1,850	1,970	2,770	2,450	1,710
23	1.5	58	60	199	78	775	808	1,850	1,620	2,500	2,430	1,700
24	1.5	58	60	195	78	781	814	1,850	1,500	2,480	1,870	1,690
25	1.5	58	60	195	351	781	819	1,860	1,740	2,650	68	1,670
26	1.5	58	60	195	770	781	830	1,880	1,920	2,740	13	1,660
27	1.5	58	60	209	775	781	836	1,910	1,910	2,710	417	1,640
28	1.5	58	374	252	775	775	842	1,960	2,040	2,690	1,970	1,630
29	1.5	58	771	176	———	775	1,010	2,000	2,160	2,670	1,970	1,620
30	1.5	58	655	103	———	775	1,240	1,270	2,240	2,500	1,880	1,600
31	11	———	655	90	———	775	———	890	———	2,330	1,960	———
TOTAL	5,130.0	1,116	4,061	14,339	4,507	23,585	24,182	55,010	59,134	80,050	50,352	53,390
MEAN	165	37.2	131	463	161	761	806	1,775	1,971	2,582	1,624	1,780
MAX	332	58	771	655	775	781	1,240	2,350	3,510	2,900	2,450	1,940
MIN	1.5	25	58	90	74	407	764	890	530	2,190	13	1,600
AC-FT	10,180	2,210	8,050	28,440	8,940	46,780	47,960	109,100	117,300	158,800	99,870	105,900
(†)	+15,950	+18,790	+41,040	+15,400	+37,800	-9,320	+51,350	+24,850	+15,970	-107,390	-80,370	-95,070
MEAN‡	425	353	798	713	842	609	1,669	2,178	2,240	836	317	182
CFSM‡	2.09	1.74	3.93	3.51	4.15	3.00	8.22	10.7	11.0	4.12	1.56	.897
IN ‡	2.41	1.94	4.53	4.05	4.32	3.46	9.17	12.37	12.31	4.75	1.80	1.00
AC-FT‡	26,130	21,000	49,090	43,840	46,740	37,460	99,310	133,950	133,270	51,410	19,500	10,830

OBSERVED

CAL YR 1964: TOTAL 282,263.0 MEAN 771 MAX 3,500 MIN 1.5 AC-FT 559,900
WAT YR 1965: TOTAL 374,856.0 MEAN 1,027 MAX 3,510 MIN 1.5 AC-FT 743,500

ADJUSTED ‡

CAL YR 1964: MEAN 1,024 CFSM 5.04 IN 68.62 AC-FT 743,000
WAT YR 1965: MEAN 929 CFSM 4.58 IN 62.11 AC-FT 743,500

† Change in contents, in acre-feet, in Lake Cle Elum.
‡ Adjusted for change in lake contents.

12-4795. Yakima River at Cle Elum, Wash.

Location.--Lat 47°11'30", long 120°56'50", in SE¼ sec.27, T.20 N., R.15 E., on left bank 650 ft downstream from highway bridge at Cle Elum just upstream from Crystal Creek and 7 miles upstream from Teanaway River.
Drainage area.--495 sq mi (revised).
Records available.--August 1906 to September 1965.
Gage.--Staff gage read twice daily. Altitude of gage is 1,900 ft (from topographic map). Prior to Aug. 12, 1910, chain gage; Aug. 12, 1910, to July 11, 1911, staff gage; July 12, 1911, to June 27, 1923, water-stage recorder; June 28, 1923, to Oct. 21, 1924, staff gages; and Oct. 22, 1924, to Nov. 12, 1964, water-stage recorder; all at various sites within 750 ft upstream at different datums.
Average discharge.--59 years, 2,012 cfs (1,457,000 acre-ft per year), adjusted for storage since October 1906 and Kittitas Canal diversion since 1930.
Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 21, 1961	6,020	9.51	Oct. 17, 1960	198	-
1962	Aug. 5, 1962	3,910	8.53	Oct. 31, Nov.1,1961	170	-
1963	May 21, 1963	5,690	9.35	Nov. 2, 1962	139	-
1964	July 9, 1964	5,630	9.24	Oct. 31, 1963	a 139	-
1965	Jan. 29, 1965	5,940	4.22	Oct. 28-31, 1964	a 280	-

a Minimum daily.

1906-65: Maximum discharge, 25,600 cfs Nov. 14, 1906 (gage height, 12.5 ft, from floodmarks); minimum, 46 cfs Nov. 17, 1953.
Remarks.--Records good except those below 1,000 cfs, those for period of no gage-height record, and those for winter periods, which are fair. Kittitas highline canal diverts water from river at Easton for irrigation below station. Several smaller diversions for irrigation of several hundred acres above station. Considerable regulation by Keechelus, Kachess, and Cle Elum Lakes (see elsewhere in this report). Records of chemical analyses for the water years 1961-65 are published in reports of the Geological Survey.
Cooperation.--Gage-height record collected in cooperation with, and 49 discharge measurements furnished by Bureau of Reclamation.
Revisions (water years).--WSP 369: 1910-11. WSP 832: 1936.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,350	294	344	233	680	2,040	1,500	3,510	4,810	2,280	3,340	2,430
2	1,330	313	344	228	740	2,020	1,830	3,800	5,050	2,330	3,290	2,330
3	1,310	328	344	223	560	1,860	2,340	4,120	4,980	2,300	3,300	2,160
4	1,330	300	353	223	487	1,750	2,450	4,190	5,500	2,290	3,300	2,060
5	1,310	282	344	253	600	1,690	2,090	4,020	5,070	2,330	3,320	2,000
6	1,330	276	344	270	843	1,650	1,590	3,740	3,720	2,340	3,320	1,970
7	1,330	264	306	306	948	1,570	1,070	3,600	3,620	2,320	3,290	1,870
8	1,310	258	300	300	1,100	1,520	1,070	3,540	3,800	2,280	3,300	1,980
9	1,290	248	288	294	1,180	1,500	1,120	3,560	3,620	2,210	3,290	2,000
10	1,160	264	282	294	1,270	1,500	1,120	3,560	3,340	2,290	3,270	2,030
11	1,110	390	298	288	1,270	1,480	1,050	3,620	2,780	2,410	3,220	2,040
12	695	426	282	288	1,270	1,480	1,070	3,650	2,020	2,570	3,220	2,100
13	258	330	276	294	1,200	1,460	1,200	3,530	885	2,570	3,240	2,140
14	238	344	282	300	1,160	1,590	1,200	3,490	969	2,570	3,210	2,120
15	228	353	282	440	1,480	1,770	1,070	3,540	1,160	2,570	3,180	2,090
16	210	522	292	948	1,610	1,850	1,030	3,470	2,130	2,570	3,140	2,100
17	214	801	282	1,050	1,590	1,830	1,070	3,670	2,850	2,560	3,060	2,100
18	353	864	288	885	1,500	1,810	1,100	3,980	4,580	2,590	3,030	2,090
19	487	864	288	740	1,670	1,880	1,100	4,470	5,340	2,570	2,910	2,090
20	455	843	282	660	2,030	1,920	1,270	5,520	4,100	2,900	2,760	2,080
21	336	780	253	560	2,900	1,900	1,790	5,810	2,910	3,020	2,730	2,060
22	258	620	243	487	3,560	1,860	1,860	5,590	2,520	3,050	2,790	2,040
23	223	541	243	455	2,800	1,830	1,830	5,520	2,720	3,110	2,820	2,040
24	223	590	243	413	2,430	1,830	1,730	4,580	2,900	3,100	2,790	2,030
25	228	620	253	380	2,220	1,850	1,850	4,290	2,820	3,060	2,760	2,000
26	233	487	253	353	2,020	1,860	2,550	4,600	2,730	3,080	2,760	1,980
27	253	440	243	336	1,920	1,850	2,630	5,030	2,080	3,160	2,720	1,950
28	276	390	243	336	1,860	1,750	2,630	4,920	2,210	3,180	2,670	1,970
29	294	362	238	336	-------	1,830	2,900	4,770	2,590	3,270	2,620	1,930
30	288	362	233	336	-------	1,880	3,370	4,740	2,370	3,350	2,380	1,920
31	288	-------	233	362	-------	1,520	-------	4,640	-------	3,350	2,370	-------
TOTAL	20,198	13,736	8,759	12,871	42,898	54,130	50,480	131,070	96,174	83,640	93,400	61,800
MEAN	652	460	283	415	1,532	1,746	1,683	4,228	3,206	2,698	3,013	2,060
MAX	1,350	864	353	1,050	3,560	2,040	3,370	5,810	5,500	3,350	3,340	2,430
MIN	210	248	233	223	487	1,460	1,030	3,470	885	2,210	2,370	1,920
AC-FT	40,060	27,360	17,370	25,530	85,090	107,400	100,100	260,000	190,800	165,900	185,300	122,600
(†)	-4,210	+84,640	+32,340	+86,410	+85,620	+29,090	+102,870	+56,930	+70,310	-154,770	-224,460	-142,360
(‡)	16,310	0	0	0	0	0	4,470	40,040	55,680	72,350	69,570	50,340
MEAN††	848	1,882	808	1,820	3,074	2,220	3,485	5,806	5,324	1,358	495	514
CFSM††	1.71	3.80	1.63	3.68	6.21	4.48	7.04	11.7	10.8	2.74	1.00	1.04
IN ††	1.98	4.24	1.88	4.24	6.47	5.17	7.86	13.52	12.00	3.16	1.15	1.16
AC-FT††	52,160	112,000	49,710	111,900	170,700	136,500	207,400	357,000	316,800	83,480	30,410	30,580

OBSERVED

CAL YR 1960: TOTAL 591,134 MEAN 1,615 MAX 4,980 MIN 210 AC-FT 1,172,000
WAT YR 1961: TOTAL 669,216 MEAN 1,833 MAX 5,810 MIN 210 AC-FT 1,327,000

ADJUSTED ††

CAL YR 1960: MEAN 1,727 CFSM 3.49 IN 47.10 AC-FT 1,254,000
WAT YR 1961: MEAN 2,292 CFSM 4.63 IN 62.83 AC-FT 1,659,000

† Change in contents, in acre-feet, in Keechelus, Kachess, and Cle Elum Lakes.
‡ Diversion, in acre-feet, by Kittitas Canal.
†† Adjusted for change in contents and diversion.

12-4795. Yakima River at Cle Elum, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,880	176	238	1,030	1,200	620	390	1,480	2,180	2,260	3,760	2,320
2	1,480	198	238	1,140	1,270	660	471	1,650	2,000	2,460	3,760	2,320
3	1,380	218	253	1,350	1,480	600	541	1,630	2,150	2,340	3,810	2,290
4	1,200	228	264	1,290	1,670	640	600	1,610	2,160	2,380	3,830	2,280
5	1,030	214	313	1,330	1,650	620	700	1,570	2,100	2,550	3,850	2,300
6	1,070	206	300	1,440	1,550	560	1,290	1,570	1,900	2,520	3,710	2,260
7	1,140	202	288	2,230	1,440	600	3,470	1,520	1,900	2,550	3,460	2,300
8	1,140	194	276	2,980	1,330	660	2,660	1,570	2,030	2,570	3,220	2,290
9	1,120	223	264	2,640	1,310	504	1,880	1,650	2,300	2,840	3,020	2,300
10	1,160	206	248	2,080	1,270	320	1,550	1,650	2,500	3,110	3,130	2,300
11	1,140	218	233	1,690	1,220	300	1,380	1,690	2,560	3,080	3,300	2,280
12	780	243	238	1,460	1,220	282	1,270	1,750	2,500	3,050	3,300	2,190
13	560	228	243	1,400	1,200	270	1,200	1,630	2,490	3,060	3,290	2,150
14	620	223	243	1,240	1,220	258	906	1,650	2,430	3,190	3,350	2,060
15	426	238	243	1,200	1,200	258	1,030	1,610	2,410	3,140	3,400	1,950
16	371	223	253	1,100	1,180	253	1,070	1,500	2,970	3,100	3,490	1,920
17	390	218	258	1,070	990	258	1,320	1,520	3,370	3,290	3,720	1,900
18	371	214	258	1,030	927	270	1,320	1,830	3,460	3,540	3,760	1,830
19	401	214	264	960	885	276	1,460	1,880	3,490	3,510	3,720	1,810
20	413	206	276	940	864	288	1,480	1,830	3,260	3,580	3,670	1,810
21	371	206	282	920	822	306	1,400	1,770	3,100	3,560	3,720	1,810
22	238	264	371	900	801	300	1,350	1,750	2,970	3,400	3,740	1,830
23	233	328	906	920	885	300	1,420	1,830	2,860	3,530	3,710	1,810
24	206	300	1,240	1,050	843	320	1,500	1,810	2,800	3,540	3,740	1,790
25	190	276	1,270	1,220	780	344	1,440	1,850	2,460	3,540	3,600	1,770
26	182	264	1,240	1,240	700	362	1,310	1,850	2,220	3,490	3,510	1,770
27	179	258	1,220	1,290	640	371	1,200	1,810	2,180	3,470	3,400	1,790
28	176	253	1,030	1,290	640	362	1,100	1,880	2,080	3,490	3,110	1,810
29	176	243	1,010	1,240	------	353	906	2,090	2,020	3,420	2,840	1,810
30	173	238	1,030	1,240	------	353	1,180	2,660	1,970	3,470	2,550	1,510
31	170	------	1,050	1,200	------	371	------	2,570	------	3,620	2,320	------
TOTAL	20,366	6,920	15,840	42,110	31,187	12,239	38,794	54,660	74,820	96,650	106,790	60,560
MEAN	657	231	511	1,358	1,114	395	1,293	1,763	2,494	3,118	3,445	2,019
MAX	1,880	328	1,270	2,980	1,670	660	3,470	2,660	3,490	3,620	3,850	2,320
MIN	170	176	233	900	640	253	390	1,480	1,900	2,260	2,320	1,510
AC-FT	40,400	13,730	31,420	83,520	61,860	24,280	76,950	108,400	148,400	191,700	211,800	120,100
(†)	+11,500	+45,860	+62,170	+94,820	+50,010	+30,260	+173,400	+60,530	+4,500	-172,600	-236,500	-141,700
(‡)	13,060	0	0	0	0	0	7,270	41,370	57,080	69,150	67,080	54,920
MEAN††	1,056	1,001	1,522	2,900	2,015	887	4,329	3,420	3,529	1,435	689	560
CFSM††	2.13	2.02	3.07	5.86	4.07	1.79	8.75	6.91	7.13	2.90	1.39	1.13
IN ††	2.46	2.26	3.55	6.75	4.24	2.07	9.76	7.97	7.95	3.34	1.61	1.26
AC-FT††	64,960	59,590	93,590	178,300	111,900	54,540	257,600	210,300	210,000	88,250	42,380	33,320

OBSERVED

CAL YR 1961: TOTAL 669,589 MEAN 1,834 MAX 5,810 MIN 170 AC-FT 1,328,000
WAT YR 1962: TOTAL 560,936 MEAN 1,537 MAX 3,850 MIN 170 AC-FT 1,113,000

ADJUSTED ††

CAL YR 1961: MEAN 2,297 CFSM 4.64 IN 63.00 AC-FT 1,663,000
WAT YR 1962: MEAN 1,941 CFSM 3.92 IN 53.22 AC-FT 1,405,000

† Change in contents, in acre-feet, in Keechelus, Kachess, and Cle Elum Lakes.
‡ Diversion, in acre-feet, by Kittitas Canal.
†† Adjusted for change in contents and diversion.

12-4795. Yakima River at Cle Elum, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	990	147	487	1,140	280	1,240	620	885	2,800	2,860	4,310	1,630
2	1,010	142	426	1,140	300	1,180	600	885	3,130	2,920	4,310	1,750
3	1,030	147	390	1,520	500	906	560	948	2,480	3,060	4,350	1,790
4	990	164	362	1,480	1,200	843	600	1,010	1,920	3,210	4,250	1,730
5	700	158	541	1,330	620	740	700	1,050	1,750	3,540	4,230	1,770
6	680	186	927	1,200	760	700	927	1,160	1,770	3,760	4,190	1,670
7	740	198	1,030	1,140	1,270	640	1,030	1,200	1,810	3,780	4,210	1,590
8	801	206	1,070	1,070	1,310	487	990	1,200	1,830	3,780	4,250	1,550
9	700	202	1,140	1,050	1,440	362	927	1,140	1,850	3,530	4,190	1,440
10	660	202	1,140	990	1,380	440	885	1,070	1,830	3,400	4,120	1,420
11	336	206	1,100	900	1,050	541	843	969	1,950	3,630	4,100	1,400
12	300	210	1,030	850	990	560	801	969	2,180	3,670	4,040	1,400
13	471	198	990	860	885	504	740	1,160	2,360	3,630	3,960	1,400
14	487	186	969	864	906	504	822	1,670	2,380	3,630	3,890	1,440
15	487	186	990	822	801	487	990	1,860	2,500	3,710	3,870	1,440
16	487	190	1,100	780	700	487	927	1,790	2,550	3,850	3,830	1,400
17	440	194	969	740	560	471	541	1,790	2,520	3,980	3,800	1,223
18	228	190	969	720	522	455	455	2,210	2,560	4,120	3,760	1,140
19	182	288	969	680	720	455	580	3,080	2,620	4,060	3,470	1,100
20	173	2,780	948	660	1,100	471	1,010	3,580	2,880	4,150	2,880	1,120
21	170	2,490	948	640	1,070	455	1,050	5,590	3,030	4,370	2,380	1,160
22	167	1,500	1,030	640	969	455	906	5,030	3,000	4,330	2,330	1,270
23	164	1,100	990	620	927	487	969	4,290	3,060	4,310	2,220	1,160
24	161	864	927	390	906	504	969	4,150	3,020	4,270	2,120	1,160
25	155	822	885	320	843	487	948	3,890	3,000	4,230	2,090	1,120
26	152	1,050	843	306	948	487	927	3,720	2,980	4,170	2,040	1,010
27	155	927	822	306	1,030	504	927	2,610	3,020	4,210	2,020	906
28	158	760	864	294	1,070	640	906	2,080	3,030	4,250	1,850	822
29	158	620	969	280	------	660	906	2,820	2,980	4,270	1,590	760
30	145	600	1,070	280	------	680	864	2,840	2,880	4,330	1,570	740
31	147	------	1,140	270	------	660	------	2,860	------	4,330	1,550	------
TOTAL	13,624	17,113	28,035	24,282	25,057	18,492	24,920	69,506	75,670	119,340	101,770	39,508
MEAN	439	570	904	783	895	597	831	2,242	2,522	3,850	3,283	1,317
MAX	1,030	2,780	1,140	1,520	1,440	1,240	1,050	5,590	3,130	4,370	4,350	1,790
MIN	145	142	362	270	280	362	455	885	1,750	2,860	1,550	740
AC-FT	27,020	33,940	55,610	48,160	49,700	36,680	49,430	137,900	150,100	236,700	201,900	78,360
(†)	+21,350	+135,800	+76,850	+50,670	+110,800	+61,310	+69,490	+29,380	-83,200	-245,600	-231,300	-108,200
(‡)	11,980	0	0	0	0	0	335	39,290	65,990	66,290	68,680	50,810
MEAN††	981	2,852	2,154	1,607	2,890	1,594	2,005	3,360	2,233	933	639	352
CFSM††	1.98	5.76	4.35	3.25	5.84	3.22	4.05	6.79	4.51	1.88	1.29	.711
IN ††	2.29	6.43	5.02	3.74	6.08	3.71	4.52	7.83	5.03	2.17	1.49	.79
AC-FT††	60,350	169,700	132,500	98,830	160,500	97,990	119,300	206,600	132,900	57,390	39,280	20,970

OBSERVED

CAL YR 1962: TOTAL 576,582 MEAN 1,580 MAX 3,850 MIN 142 AC-FT 1,144,000
WAT YR 1963: TOTAL 557,317 MEAN 1,527 MAX 5,590 MIN 142 AC-FT 1,105,000

ADJUSTED ††

CAL YR 1962: MEAN 2,141 CFSM 4.33 IN 58.69 AC-FT 1,550,000
WAT YR 1963: MEAN 1,792 CFSM 3.62 IN 49.10 AC-FT 1,297,000

† Change in contents, in acre-feet, in Keechelus, Kachess, and Cle Elum Lakes.
‡ Diversion, in acre-feet, by Kittitas Canal.
†† Adjusted for change in contents and diversion.

12-4795. Yakima River at Cle Elum, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	744	155	327	308	308	404	1,270	1,490	1,630	2,940	3,700	2,180
2	730	155	301	474	308	396	1,030	1,340	1,600	3,240	3,440	2,110
3	718	155	294	456	308	388	966	1,380	1,340	3,980	3,190	1,990
4	730	155	275	447	320	520	966	1,440	1,190	4,460	3,260	1,990
5	730	147	270	438	314	1,030	982	1,510	1,340	4,380	3,100	2,090
6	730	155	282	465	294	1,290	950	1,510	1,270	4,140	3,040	2,160
7	718	155	282	465	308	1,760	1,010	1,540	1,140	3,920	2,750	2,090
8	718	167	294	420	308	2,050	1,190	1,600	1,050	3,920	2,610	2,050
9	706	198	288	388	308	2,120	1,270	1,650	1,080	4,950	2,590	2,050
10	730	202	270	380	320	1,440	1,380	1,490	1,230	4,730	2,540	1,990
11	718	202	282	372	320	694	1,650	950	1,250	3,480	2,620	1,970
12	730	188	248	356	314	670	1,870	856	1,160	3,200	2,910	1,930
13	744	184	242	340	308	706	1,930	856	1,120	3,720	2,890	1,910
14	530	193	242	340	308	1,070	1,740	772	1,290	3,980	2,840	1,890
15	456	206	242	334	308	1,230	1,850	786	1,340	3,860	2,790	1,950
16	282	226	248	327	301	1,290	1,630	1,050	1,800	3,670	2,790	2,010
17	202	242	242	348	314	1,290	1,400	1,190	2,180	3,350	2,790	2,010
18	159	288	231	348	320	1,340	1,400	1,100	3,040	3,530	2,910	1,990
19	151	275	236	340	420	1,160	1,650	1,080	4,040	3,520	2,980	1,990
20	151	275	242	340	429	934	1,670	1,290	3,700	3,690	2,940	2,030
21	155	253	242	334	412	902	1,780	1,250	2,800	3,960	2,910	1,910
22	159	242	248	320	412	870	2,070	1,100	2,350	3,900	2,910	1,720
23	175	236	242	301	412	886	1,970	1,070	1,930	3,880	2,910	1,600
24	180	242	236	301	429	1,010	1,870	1,360	1,990	4,060	2,910	1,670
25	202	264	253	334	420	1,120	1,850	1,420	2,410	3,920	2,910	1,720
26	206	334	264	320	420	1,140	1,870	1,400	2,790	3,860	2,920	1,690
27	193	560	264	314	404	1,160	1,740	1,360	2,440	4,060	2,940	1,690
28	180	530	258	320	404	1,170	1,560	1,380	1,990	4,000	2,960	1,670
29	167	447	264	334	404	1,210	1,630	1,340	2,580	3,840	2,860	1,440
30	159	404	270	327	------	1,250	1,630	1,320	2,820	3,800	2,690	1,470
31	139	------	282	308	------	1,320	------	1,420	------	3,650	2,310	------
TOTAL	13,292	7,435	8,161	11,199	10,155	33,820	45,774	39,300	57,890	119,590	89,910	56,960
MEAN	429	248	263	361	350	1,091	1,526	1,268	1,930	3,858	2,900	1,899
MAX	744	560	327	474	429	2,120	2,070	1,650	4,040	4,950	3,700	2,180
MIN	139	147	231	301	294	388	950	772	1,050	2,940	2,310	1,440
AC-FT	26,360	14,750	16,190	22,210	20,140	67,080	90,790	77,950	114,800	237,200	178,300	113,000
(+)	-6,080	+60,500	+38,200	+61,170	+26,790	+2,530	+29,270	+171,400	+279,100	-67,220	-166,600	-117,700
(‡)	11,260	0	0	0	0	0	20,590	56,100	48,230	68,520	68,330	51,900
MEAN††	513	1,265	885	1,356	816	1,132	2,363	4,967	7,430	3,879	1,302	7,932
CFSM††	1.04	2.56	1.79	2.74	1.65	2.29	4.77	10.0	15.0	7.84	2.63	16.0
IN ††	1.19	2.85	2.06	3.16	1.78	2.64	5.33	11.57	16.75	9.03	3.03	1.79
AC-FT††	31,540	75,250	54,390	83,380	46,930	69,610	140,600	305,400	442,100	238,500	80,030	47,200

OBSERVED

CAL YR 1963: TOTAL 527,433 MEAN 1,445 MAX 5,590 MIN 139 AC-FT 1,046,000
WAT YR 1964: TOTAL 493,486 MEAN 1,348 MAX 4,950 MIN 139 AC-FT 978,800

ADJUSTED ††

CAL YR 1963: MEAN 1,512 CFSM 3.05 IN 41.46 AC-FT 1,095,000
WAT YR 1964: MEAN 2,225 CFSM 4.49 IN 61.18 AC-FT 1,615,000

† Change in contents, in acre-feet, in Keechelus, Kachess, and Cle Elum Lakes.
‡ Diversion, in acre-feet, by Kittitas Canal.
†† Adjusted for change in contents and diversion.

12-4795. Yakima River at Cle Elum, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,580	300	930	1,600	2,930	2,670	1,890	2,240	1,500	2,620	2,700	2,400
2	1,470	314	1,320	1,610	2,080	1,720	1,920	2,290	1,460	2,640	2,700	2,300
3	1,540	330	1,250	1,580	1,710	2,020	1,920	2,310	1,460	2,650	2,450	2,200
4	1,470	350	1,140	1,600	2,110	2,690	1,920	2,310	1,840	2,670	1,960	2,100
5	1,440	370	1,020	1,790	2,200	2,670	1,920	2,390	2,550	2,590	2,020	2,200
6	1,440	380	866	1,820	2,110	2,700	1,620	2,590	2,640	2,640	2,100	2,200
7	1,360	380	718	1,820	2,080	2,700	1,460	2,690	2,840	2,920	2,390	2,100
8	1,320	390	742	1,820	2,050	2,690	1,540	3,010	3,410	3,010	2,480	2,100
9	1,190	380	1,030	1,820	2,020	2,770	1,560	3,080	3,490	3,060	2,470	2,100
10	1,050	370	1,070	1,790	1,990	2,810	1,380	3,180	3,450	3,220	2,540	2,100
11	998	360	1,100	1,780	1,930	2,790	1,310	3,010	3,610	3,240	2,740	2,050
12	1,010	360	1,080	1,750	1,820	2,700	1,380	2,670	3,590	3,120	2,880	2,050
13	902	350	1,080	1,740	1,820	2,670	1,380	2,640	3,550	3,050	2,860	2,050
14	590	350	1,060	1,780	1,820	2,600	1,440	2,160	3,370	3,030	3,030	2,050
15	430	340	1,020	1,790	1,840	2,570	1,750	2,240	3,010	3,200	3,180	2,000
16	380	340	850	1,820	1,910	2,590	1,850	2,390	1,880	3,260	3,260	2,000
17	410	330	750	1,820	1,990	2,540	1,750	2,400	1,200	3,350	3,180	2,000
18	440	330	800	1,820	2,020	2,520	1,660	2,320	1,770	3,410	3,060	2,000
19	440	330	900	1,710	2,140	2,430	1,850	2,350	2,390	3,370	3,050	2,000
20	430	330	1,000	1,450	2,140	2,430	2,430	2,590	2,540	3,330	3,080	2,000
21	410	340	1,100	1,400	2,120	2,400	2,590	2,520	2,640	3,290	3,120	1,950
22	390	350	1,200	1,340	2,110	2,370	2,350	2,520	2,520	3,260	3,180	1,950
23	360	394	1,400	1,340	2,060	2,370	2,160	2,470	2,290	2,880	3,220	1,950
24	330	607	1,600	1,350	1,950	2,340	2,110	2,450	2,050	2,880	2,420	1,900
25	310	766	1,800	1,340	1,950	2,280	2,040	2,470	2,000	3,060	2,100	1,900
26	300	782	1,750	1,360	2,690	2,080	2,040	2,570	2,140	3,060	2,300	1,900
27	290	782	1,700	1,960	2,620	2,000	2,140	2,690	2,230	3,030	2,600	1,850
28	280	656	1,650	2,650	2,650	1,950	2,200	2,840	2,320	3,060	2,800	1,850
29	280	572	1,600	5,660	-------	1,910	2,220	2,550	2,420	3,060	3,100	1,800
30	280	642	1,580	4,950	-------	1,890	2,220	2,200	2,600	2,880	2,900	1,800
31	280	-------	1,600	4,300	-------	1,890	-------	1,520	-------	2,880	2,600	-------
TOTAL	23,400	12,875	36,706	62,360	58,860	74,760	56,000	77,660	74,760	93,720	84,470	60,850
MEAN	755	429	1,184	2,012	2,102	2,412	1,867	2,505	2,492	3,023	2,725	2,028
MAX	1,580	782	1,800	5,660	2,930	2,810	2,590	3,180	3,610	3,410	3,260	2,400
MIN	280	300	718	1,340	1,710	1,720	1,310	1,520	1,200	2,590	1,960	1,800
AC-FT	46,410	25,540	72,810	123,700	116,700	148,300	111,100	154,000	148,300	185,900	167,500	120,700
(†)	-2,800	+36,420	+61,540	+22,580	+36,220	-33,640	+119,000	+72,300	+25,150	-161,300	-188,500	-146,400
(‡)	15,540	0	0	0	0	0	12,920	55,260	57,660	70,420	65,340	51,440
MEAN††	962	1,041	2,186	2,379	2,753	1,865	4,084	4,580	3,884	1,545	721	433
CFSM††	1.94	2.10	4.42	4.81	5.56	3.77	8.25	9.25	7.85	3.12	1.46	.875
IN ††	2.24	2.35	5.09	5.54	5.79	4.34	9.20	10.67	8.75	3.60	1.68	.97
AC-FT††	59,150	61,960	134,400	146,300	152,900	114,700	243,000	281,600	231,100	95,020	44,340	25,740

OBSERVED

CAL YR 1964: TOTAL 537,579 MEAN 1,469 MAX 4,950 MIN 280 AC-FT 1,066,000
WAT YR 1965: TOTAL 716,421 MEAN 1,963 MAX 5,660 MIN 280 AC-FT 1,421,000

ADJUSTED ††

CAL YR 1964: MEAN 2,354 CFSM 4.76 IN 64.76 AC-FT 1,709,000
WAT YR 1965: MEAN 2,196 CFSM 4.44 IN 60.22 AC-FT 1,590,000

† Change in contents, in acre-feet, in Keechelus, Kachess, and Cle Elum Lakes.
‡ Diversion, in acre-feet, by Kittitas Canal.
†† Adjusted for change in contents and diversion.
Note.--No gage-height record Aug. 25 to Sept. 30.

12-4838. Naneum Creek near Ellensburg, Wash.

Location.--Lat 47°07'30", long 120°28'40", in NE¼ sec.20, T.19 N., R.19 E., on right bank 10 ft upstream from intake of Ellensburg water-supply system and 9 miles north of Ellensburg.

Drainage area.--69.5 sq mi.

Records available.--March 1957 to September 1965.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,500 ft (from topographic map).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (150 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Apr. 3, 1961	1800	172	1.39	June 13, 1962	0300	175	1.52	June 9, 1964	0100	* 968	4.08
Apr. 30, 1961	0200	234	1.68								
June 4, 1961	0030	* 425	2.42	Nov. 20, 1962	0230	* 481	2.67	Apr. 28, 1965	2100	221	1.66
				Feb. 5, 1963a	-	-	-	May 13, 1965	2200	221	1.66
Apr. 7, 1962	0200	217	1.66	Apr. 14, 1963	2300	167	1.45	May 29, 1965	2130	* 235	1.71
Apr. 24, 1962	2100	197	1.56	May 23, 1963	2130	374	2.29	June 11, 1965	1500	223	1.66
May 27, 1962	2200	* 280	1.98								

a About.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Oct. 12-21, 1960	14	a 0.20	1964	Dec. 11, 1963	b 11	-
1962	Dec. 10, 1961	6.3	-.06	1965	Dec. 17, 1964	b 10	-
1963	Jan. 30, 31, 1963	b 12	-				

a Occurred Jan. 20, 22, 23, 1961.
b Minimum daily.

1957-65: Maximum discharge, 968 cfs June 9, 1964 (gage height, 4.08 ft); minimum observed, less than 5 cfs Nov. 29, 1957, result of freezeup.

Remarks.--Records good except those for periods of no gage-height record and those for winter periods, which are poor. No regulation. Small diversion above station for irrigation.

Revisions.--WSP 1566: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	18	24	15	23	31	114	218	345	78	31	25
2	17	18	24	15	22	29	135	206	370	76	31	24
3	17	18	24	15	20	37	168	191	378	73	30	22
4	17	17	22	15	20	39	150	168	384	69	30	22
5	17	17	21	16	24	40	130	160	361	75	28	21
6	18	17	18	16	37	38	117	146	359	69	28	21
7	18	17	17	16	35	25	112	141	336	67	27	21
8	17	17	17	17	30	23	111	143	286	62	26	20
9	16	17	17	17	37	24	107	156	258	57	26	20
10	16	17	17	18	39	24	104	168	232	54	26	20
11	15	18	18	17	46	24	107	164	225	53	26	20
12	14	16	18	17	40	23	106	172	210	52	25	19
13	14	17	19	17	34	24	101	180	195	49	25	19
14	14	16	22	19	31	54	92	180	191	48	24	19
15	14	18	18	25	31	90	89	187	193	47	26	19
16	14	23	17	27	29	80	94	208	195	47	32	19
17	14	25	18	23	29	71	111	230	195	45	26	19
18	14	26	19	20	26	64	111	270	193	44	25	18
19	14	24	19	19	29	68	101	293	178	43	24	18
20	14	28	18	17	37	79	95	313	164	42	24	19
21	14	28	17	16	55	71	90	331	146	40	23	19
22	15	25	17	15	55	67	92	321	130	38	23	19
23	15	23	17	16	47	67	96	331	121	38	22	19
24	16	27	16	17	44	68	100	318	112	37	22	19
25	16	30	16	17	39	73	103	321	107	36	22	18
26	16	28	17	16	35	73	119	375	101	35	22	18
27	16	25	16	15	34	71	141	392	96	34	22	18
28	18	24	15	15	30	71	152	361	92	34	21	18
29	18	23	15	18	------	78	197	331	88	34	21	18
30	18	23	15	20	------	88	223	323	82	33	20	18
31	18	------	15	22	------	95	------	323	------	32	22	------
TOTAL	491	640	563	548	958	1,709	3,568	7,621	6,323	1,541	780	589
MEAN	15.8	21.3	18.2	17.7	34.2	55.1	119	246	211	49.7	25.2	19.6
MAX	18	30	24	27	55	95	223	392	384	78	32	25
MIN	14	16	15	15	20	23	89	141	82	32	20	18
CFSM	.23	.31	.26	.25	.49	.79	1.71	3.54	3.03	.72	.36	.28
IN.	.26	.34	.30	.29	.51	.91	1.91	4.08	3.38	.82	.42	.32
AC-FT	974	1,270	1,120	1,090	1,900	3,390	7,080	15,120	12,540	3,060	1,550	1,170

CAL YR 1960: TOTAL 22,695 MEAN 62.0 MAX 593 MIN 14 CFSM .89 IN 12.14 AC-FT 45,010
WAT YR 1961: TOTAL 25,331 MEAN 69.4 MAX 392 MIN 14 CFSM 1.00 IN 13.55 AC-FT 50,240

Note.--No gage-height record Nov. 10 to Dec. 12. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4838. Naneum Creek near Ellensburg, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	20	15	18	20	19	39	111	179	77	28	19
2	18	18	14	17	24	20	49	110	175	74	28	18
3	18	18	14	20	35	20	55	110	163	69	31	18
4	18	19	15	18	35	21	65	105	154	70	32	18
5	17	18	16	18	31	22	69	102	144	68	30	18
6	18	18	14	18	29	24	110	102	135	65	29	18
7	18	17	14	30	28	25	171	99	130	62	29	18
8	18	17	15	42	27	22	130	103	138	59	29	18
9	18	16	10	31	26	18	107	105	147	57	27	18
10	20	17	8.0	25	26	15	96	105	149	55	25	18
11	18	17	8.0	22	25	13	94	105	145	52	24	19
12	25	15	9.0	20	26	15	96	105	145	50	27	18
13	22	16	10	18	30	18	105	102	165	49	26	19
14	20	17	12	17	30	19	127	100	154	48	25	19
15	19	16	14	16	28	20	149	99	154	48	24	18
16	18	14	16	15	27	20	138	100	160	45	24	18
17	17	14	18	13	27	20	135	110	158	44	24	18
18	18	15	22	12	26	20	154	118	151	43	24	18
19	18	14	17	10	25	22	175	122	145	42	23	17
20	19	14	16	11	24	22	169	116	140	41	22	17
21	21	14	16	11	25	22	158	122	135	38	22	17
22	21	17	15	13	24	22	156	128	132	37	22	17
23	22	15	17	15	23	22	161	156	125	36	22	17
24	20	15	23	17	18	22	187	177	116	35	21	17
25	20	14	22	25	15	22	181	262	111	33	21	17
26	21	14	20	20	16	24	163	275	107	32	20	16
27	22	14	17	20	18	23	160	268	99	32	21	16
28	19	14	17	19	19	23	140	260	90	31	21	23
29	18	15	18	19	-------	25	125	238	84	30	20	21
30	19	15	18	18	-------	27	116	213	81	30	20	19
31	20	-------	17	18	-------	32	-------	193	-------	29	20	-------
TOTAL	598	477	477.0	586	707	659	3,780	4,421	4,111	1,481	761	542
MEAN	19.3	15.9	15.4	18.9	25.3	21.3	126	143	137	47.8	24.5	18.1
MAX	25	20	23	42	35	32	187	275	179	77	32	23
MIN	17	14	8.0	10	15	13	39	99	81	29	20	16
CFSM	.28	.23	.22	.27	.36	.31	1.81	2.05	1.97	.69	.35	.26
IN.	.32	.26	.26	.31	.38	.35	2.02	2.37	2.20	.79	.41	.29
AC-FT	1,190	946	946	1,160	1,400	1,310	7,500	8,770	8,150	2,940	1,510	1,080

CAL YR 1961: TOTAL 25,189.0 MEAN 69.0 MAX 392 MIN 8.0 CFSM .99 IN 13.48 AC-FT 49,960
WAT YR 1962: TOTAL 18,600.0 MEAN 51.0 MAX 275 MIN 8.0 CFSM .73 IN 9.95 AC-FT 36,890

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	20	43	32	13	56	40	117	201	46	29	20
2	18	20	40	34	15	52	38	108	182	46	28	20
3	19	20	36	38	18	50	37	100	162	44	28	20
4	19	20	35	35	100	49	38	95	150	44	28	20
5	18	20	35	33	200	47	50	100	142	44	27	19
6	18	20	40	33	150	44	64	108	131	44	26	18
7	19	20	36	31	130	44	57	106	126	44	25	18
8	19	20	41	32	110	44	55	106	117	46	25	18
9	22	20	40	31	95	44	53	103	112	44	25	18
10	20	20	40	26	80	43	51	103	106	43	25	18
11	21	20	41	22	70	43	53	106	98	43	24	18
12	23	21	39	24	65	39	54	113	95	42	24	18
13	29	20	40	26	60	37	57	119	89	41	24	17
14	23	20	44	28	55	37	89	128	83	41	24	18
15	22	20	50	26	52	36	124	142	79	41	24	18
16	20	19	50	24	50	36	94	152	74	41	23	18
17	20	20	50	22	48	35	86	171	71	40	23	17
18	20	19	49	20	48	34	82	204	68	40	23	17
19	20	42	48	18	55	35	80	236	65	37	23	17
20	20	263	45	19	60	35	83	269	63	36	23	17
21	21	79	46	20	55	37	82	319	57	36	22	16
22	20	59	43	19	52	38	83	337	56	35	23	16
23	20	48	30	18	45	44	88	350	58	34	24	16
24	21	46	27	17	46	43	89	340	55	33	23	16
25	21	52	24	16	52	41	89	314	52	33	22	15
26	21	60	24	16	63	42	89	282	51	33	22	15
27	21	51	28	15	56	44	95	259	49	32	21	15
28	20	41	36	14	57	48	100	236	54	30	21	14
29	20	44	36	13	-------	44	126	234	55	30	20	14
30	20	45	36	12	-------	43	131	231	49	30	20	14
31	20	-------	32	12	-------	41	-------	226	-------	29	20	-------
TOTAL	634	1,189	1,204	726	1,900	1,305	2,257	5,814	2,750	1,202	739	515
MEAN	20.5	39.6	38.8	23.4	67.9	42.1	75.2	188	91.7	38.8	23.8	17.2
MAX	29	263	50	38	200	56	131	350	201	46	29	20
MIN	18	19	24	12	13	34	37	95	49	29	20	14
CFSM	.29	.57	.56	.34	.98	.61	1.08	2.70	1.32	.56	.34	.25
IN.	.34	.64	.64	.39	1.02	.70	1.21	3.11	1.47	.64	.40	.28
AC-FT	1,260	2,360	2,390	1,440	3,770	2,590	4,480	11,530	5,450	2,380	1,470	1,020

CAL YR 1962: TOTAL 20,075 MEAN 55.0 MAX 275 MIN 10 CFSM .79 IN 10.74 AC-FT 39,820
WAT YR 1963: TOTAL 20,235 MEAN 55.4 MAX 350 MIN 12 CFSM .80 IN 10.83 AC-FT 40,140

Note.--No gage-height record Jan. 19 to Feb. 21. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4838. Naneum Creek near Ellensburg, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	13	13	21	15	14	37	54	201	84	41	25
2	14	13	13	19	15	14	35	52	211	81	39	24
3	14	13	13	18	15	14	33	54	201	76	37	24
4	14	14	14	18	15	14	36	61	209	73	36	23
5	14	13	17	18	15	14	37	72	211	70	35	23
6	15	14	24	17	14	14	37	69	213	68	33	22
7	14	14	21	17	15	14	40	70	201	64	32	22
8	14	14	19	16	15	14	42	79	391	62	31	22
9	13	14	14	16	15	14	45	99	654	62	31	22
10	13	14	12	15	15	14	45	103	358	57	30	22
11	13	14	11	15	15	14	43	96	298	55	30	22
12	13	14	12	14	15	14	41	99	270	52	30	22
13	13	13	13	14	16	14	40	92	245	51	30	21
14	13	25	15	14	15	14	42	88	228	51	30	21
15	12	20	17	15	15	15	46	82	215	51	28	21
16	12	17	20	17	14	16	43	88	228	50	27	21
17	12	17	19	17	14	16	41	107	197	49	27	21
18	12	16	18	16	14	17	39	120	181	48	27	20
19	13	16	18	15	14	17	40	138	163	45	27	21
20	12	15	17	14	14	17	43	151	151	44	26	22
21	13	14	17	14	14	17	44	142	140	43	25	22
22	14	17	17	14	14	17	46	123	132	43	25	21
23	13	17	18	13	14	16	46	108	125	42	24	20
24	13	16	17	15	14	14	46	103	118	41	24	20
25	14	17	17	23	14	17	50	97	113	40	24	20
26	13	23	16	20	14	16	51	97	107	39	24	20
27	13	24	16	18	14	16	50	102	102	38	25	20
28	13	16	16	17	15	17	49	116	97	37	26	20
29	13	15	15	16	15	20	54	154	91	37	25	20
30	13	14	17	15	------	25	56	169	85	36	25	25
31	13	------	20	15	------	33	------	183	------	35	26	------
TOTAL	409	476	506	506	423	502	1,297	3,168	6,136	1,624	900	649
MEAN	13.2	15.9	16.3	16.3	14.6	16.2	43.2	102	205	52.4	29.0	21.6
MAX	15	25	24	23	16	33	56	183	654	84	41	25
MIN	12	13	11	13	14	14	33	52	85	35	24	20
CFSM	.19	.23	.23	.23	.21	.23	.62	1.47	2.94	.75	.42	.31
IN.	.22	.25	.27	.27	.23	.27	.69	1.70	3.28	.87	.48	.35
AC-FT	811	944	1,000	1,000	839	996	2,570	6,280	12,170	3,220	1,790	1,290

CAL YR 1963: TOTAL 18,599 MEAN 51.0 MAX 350 MIN 11 CFSM .73 IN 9.95 AC-FT 36,890
WAT YR 1964: TOTAL 16,596 MEAN 45.3 MAX 654 MIN 11 CFSM .65 IN 8.88 AC-FT 32,920

Note.--No gage-height record Dec. 1 to Feb. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	16	30	20	45	32	38	177	192	60	26	19
2	18	16	28	19	38	30	40	160	185	58	26	20
3	18	16	24	19	38	29	43	150	187	56	27	19
4	16	18	22	19	35	30	50	138	189	54	27	19
5	16	16	22	19	35	30	53	125	189	52	26	19
6	16	16	20	20	33	32	52	118	192	50	25	19
7	16	16	20	19	30	35	53	116	185	49	23	18
8	18	16	23	18	30	38	53	116	174	46	23	18
9	18	16	22	18	29	42	59	123	170	45	23	18
10	17	16	20	18	29	46	59	138	166	45	23	18
11	16	15	18	18	29	51	58	158	196	45	23	18
12	16	15	14	18	27	54	67	183	174	44	24	18
13	16	15	15	18	27	54	77	205	156	41	23	18
14	16	14	16	19	25	56	83	207	140	40	22	18
15	16	15	15	21	25	56	101	203	129	39	21	18
16	16	16	12	20	26	54	131	198	118	38	20	18
17	16	16	10	20	29	48	120	181	114	36	20	18
18	16	15	11	20	33	46	109	168	111	36	20	18
19	16	15	12	20	37	44	112	162	105	36	20	17
20	16	14	15	20	39	40	146	166	99	38	22	17
21	16	15	16	20	38	39	146	160	94	39	21	17
22	15	15	36	20	36	38	144	158	88	37	21	16
23	15	16	80	20	34	36	138	160	84	33	30	16
24	15	22	55	19	33	35	152	160	80	31	26	16
25	15	20	34	19	32	35	164	164	76	31	23	16
26	15	18	24	19	32	33	174	174	73	30	21	16
27	15	16	22	29	34	31	194	185	70	30	21	17
28	16	16	20	36	32	31	209	203	67	30	20	17
29	16	16	19	58	------	30	212	223	64	28	20	16
30	16	21	18	67	------	30	198	223	63	27	20	16
31	16	------	19	59	------	34	------	205	------	26	20	------
TOTAL	503	487	712	749	910	1,219	3,235	5,207	3,930	1,250	707	528
MEAN	16.2	16.2	23.0	24.2	32.5	39.3	108	168	131	40.3	22.8	17.6
MAX	20	22	80	67	45	56	212	223	196	60	30	20
MIN	15	14	10	18	25	29	38	116	63	26	20	16
CFSM	.23	.23	.33	.35	.47	.57	1.55	2.42	1.88	.58	.33	.25
IN.	.27	.26	.38	.40	.49	.65	1.73	2.79	2.10	.67	.38	.28
AC-FT	998	966	1,410	1,490	1,800	2,420	6,420	10,330	7,800	2,480	1,400	1,050

CAL YR 1964: TOTAL 16,907 MEAN 46.2 MAX 654 MIN 10 CFSM .66 IN 9.05 AC-FT 33,530
WAT YR 1965: TOTAL 19,437 MEAN 53.3 MAX 223 MIN 10 CFSM .77 IN 10.40 AC-FT 38,550

Note.--No gage-height record Oct. 1 to Nov. 2, Nov. 4 to Dec. 7.

12-4845. Yakima River at Umtanum, Wash.

Location.--Lat 46°51'45", long 120°28'30", in NW¼ sec.20, T.16 N., R.19 E., on right bank at Umtanum, half a mile upstream from Umtanum Creek and 10 miles south of Ellensburg.

Drainage area.--1,594 sq mi (revised).

Records available.--August 1906 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 1,300.00 ft above mean sea level, datum of 1929. Prior to Sept. 28, 1911, staff or chain gages at approximately same site at various datums. Sept. 28, 1911, to Nov. 23, 1936, water-stage recorder at site about 300 ft upstream at datum 26.70 ft higher.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 21, 1961	8,600	34.33	Jan. 4, 1961	450	30.20
1962	Apr. 7, 1962	8,120	34.18	Dec. 16, 1961	436	30.18
1963	Nov. 20, 1962	6,770	33.71	Nov. 6, 1962	492	30.23
1964	July 10, 1964	5,770	33.38	Nov. 5, 1963	435	30.15
1965	Jan. 31, 1965	11,700	35.22	Nov. 20, 21, 1964	588	30.35

1906-65: Maximum discharge, 41,000 cfs Nov. 15 or 16, 1906 (gage height, 41.1 ft, from floodmarks, present datum); minimum recorded, 138 cfs Oct. 3, 1915 (gage height, 2.86 ft, datum then in use).

Remarks.--Records excellent except those for periods of no gage-height record, which are good. Flow partly regulated by Keechelus, Kachess, and Cle Elum Lakes (see elsewhere in this report). Water diverted above station for irrigation of about 105,000 acres.

Cooperation.--Twenty-one discharge measurements furnished by Bureau of Reclamation.

Revisions (water years).--WSP 412: 1914. WSP 1286: 1910.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,900	636	850	510	1,000	3,100	3,600	6,840	6,900	2,710	3,690	2,840
2	1,870	753	950	500	1,500	3,400	4,000	6,900	7,320	2,800	3,650	2,950
3	1,880	753	900	490	1,700	3,120	5,000	6,870	7,110	2,780	3,570	2,800
4	1,880	708	870	480	1,200	2,930	5,800	6,670	7,650	2,730	3,570	2,660
5	1,900	690	810	520	1,300	2,860	5,280	6,300	7,620	2,880	3,590	2,560
6	1,930	636	762	570	1,500	2,730	4,440	5,850	6,440	2,990	3,650	2,450
7	1,990	627	744	640	2,000	2,640	3,570	5,520	6,210	2,950	3,630	2,280
8	1,980	592	699	670	2,300	2,540	3,220	5,250	6,040	2,880	3,610	2,300
9	1,960	568	654	680	2,600	2,520	3,140	5,360	5,740	2,780	3,630	2,280
10	1,940	560	609	660	2,900	2,500	3,090	5,600	5,440	2,660	3,650	2,350
11	1,700	708	618	650	3,100	2,560	2,970	5,600	4,860	2,770	3,630	2,400
12	1,610	940	636	640	2,950	2,570	2,950	5,550	4,460	2,920	3,610	2,440
13	1,200	920	627	640	2,780	2,610	3,010	5,520	2,690	2,930	3,670	2,520
14	970	840	627	660	2,570	3,320	3,030	5,360	2,320	2,860	3,740	2,560
15	880	830	592	700	2,690	3,700	2,690	5,390	2,380	2,880	3,670	2,520
16	850	870	552	900	2,820	3,800	2,560	5,360	2,640	2,860	3,690	2,570
17	690	1,190	618	2,000	2,680	3,800	2,820	5,630	4,060	2,860	3,630	2,590
18	681	1,310	645	2,100	2,520	3,700	2,900	5,960	4,840	2,840	3,550	2,590
19	880	1,390	627	1,900	2,560	4,000	2,710	6,520	6,320	2,780	3,530	2,570
20	910	1,390	636	1,700	3,070	4,100	2,560	7,560	5,880	2,990	3,260	2,590
21	880	1,390	600	1,500	4,440	4,000	2,950	8,400	4,440	3,200	3,180	2,590
22	753	1,210	560	1,300	6,380	4,000	3,160	8,120	3,440	3,180	3,120	2,540
23	609	1,100	540	1,110	5,200	4,000	3,220	7,860	3,240	3,320	3,180	2,560
24	568	1,170	530	1,090	4,270	3,900	3,220	7,260	3,530	3,360	3,140	2,540
25	552	1,330	540	1,010	3,780	4,000	3,200	6,500	3,500	3,280	3,180	2,570
26	544	1,170	560	910	3,660	4,000	3,890	6,960	3,400	3,260	3,200	2,500
27	544	1,000	560	860	3,160	4,100	4,340	7,650	3,220	3,340	3,220	2,450
28	560	950	540	810	3,010	3,800	4,640	7,320	2,370	3,380	3,180	2,450
29	600	900	530	830	------	3,700	5,330	7,020	3,070	3,550	3,160	2,490
30	618	860	520	830	------	3,900	6,840	6,930	2,920	3,630	2,950	2,500
31	627	------	510	850	------	4,000	------	6,840	------	3,720	2,780	------
TOTAL	36,456	27,991	20,016	28,710	79,640	105,900	110,130	200,470	140,050	94,070	106,510	76,010
MEAN	1,176	933	646	926	2,844	3,416	3,671	6,467	4,668	3,035	3,436	2,534
MAX	1,990	1,390	950	2,100	6,380	4,100	6,840	8,400	7,650	3,720	3,740	2,950
MIN	544	560	510	480	1,000	2,500	2,560	5,250	2,320	2,660	2,780	2,280
AC-FT	72,310	55,520	39,700	56,950	158,000	210,000	218,400	397,600	277,800	186,600	211,300	150,800

CAL YR 1960: TOTAL 868,504 MEAN 2,373 MAX 6,440 MIN 510 AC-FT 1,723,000
WAT YR 1961: TOTAL 1,025,953 MEAN 2,811 MAX 8,400 MIN 480 AC-FT 2,035,000

Note.--No gage-height record Dec. 23 to Jan. 22.

12-4845. Yakima River at Umtanum, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,520	528	560	1,800	2,000	1,200	1,310	1,780	3,670	2,610	4,000	2,640
2	2,200	568	552	1,750	2,100	1,200	1,560	2,110	3,070	3,160	4,020	2,680
3	1,960	600	544	1,700	2,400	1,200	1,780	2,200	3,140	3,030	4,110	2,660
4	1,810	627	552	2,000	2,900	1,150	1,960	2,190	3,120	2,970	4,250	2,590
5	1,540	618	600	2,500	3,500	1,150	2,170	2,160	2,880	3,220	4,340	2,590
6	1,480	592	645	2,400	3,000	1,100	2,500	2,120	2,620	3,200	4,340	2,590
7	1,530	552	618	2,300	2,700	1,090	7,290	2,140	2,490	3,160	4,250	2,520
8	1,570	552	609	3,500	2,500	1,190	6,640	2,110	2,640	3,140	4,040	2,560
9	1,570	536	552	5,500	2,350	1,210	4,710	2,450	2,970	3,160	3,860	2,590
10	1,580	552	528	4,000	2,220	1,080	3,630	2,500	3,240	3,500	3,650	2,680
11	1,580	552	520	3,500	2,110	910	3,120	2,520	3,400	3,500	3,800	2,730
12	1,490	592	500	3,000	1,990	850	2,820	2,590	3,380	3,400	3,890	2,690
13	1,240	600	480	2,800	1,980	840	2,800	2,540	3,570	3,440	3,840	2,680
14	1,120	592	470	2,600	2,100	810	2,880	2,470	3,840	3,500	3,780	2,620
15	1,040	584	460	2,500	2,200	820	3,400	2,420	3,630	3,530	3,890	2,520
16	910	592	450	2,300	2,100	870	3,360	2,270	3,840	3,420	3,800	2,460
17	850	552	460	2,000	2,000	870	3,160	2,220	4,510	3,420	4,000	2,400
18	820	560	480	1,900	1,900	900	3,180	2,380	4,580	3,720	4,090	2,330
19	790	544	500	1,700	1,800	920	3,480	2,770	4,560	3,800	4,110	2,280
20	810	536	520	1,500	1,700	960	3,630	2,800	4,270	3,800	4,060	2,250
21	830	520	560	1,400	1,650	1,000	3,220	2,660	4,020	3,800	4,020	2,240
22	780	568	620	1,400	1,600	1,020	2,900	2,520	3,800	3,740	4,110	2,240
23	672	654	700	1,400	1,550	1,010	2,820	2,970	3,670	3,670	4,060	2,220
24	663	681	800	1,500	1,500	980	2,950	3,460	3,550	3,670	4,130	2,220
25	609	618	1,000	1,600	1,400	1,040	2,800	4,090	3,480	3,720	4,090	2,190
26	584	552	1,800	2,000	1,300	1,090	2,450	4,290	2,950	3,670	3,910	2,170
27	584	592	1,700	2,100	1,200	1,120	2,320	4,200	2,880	3,650	3,930	2,160
28	560	584	1,600	2,300	1,200	1,100	2,190	4,060	2,750	3,670	3,740	2,270
29	536	576	1,500	2,200	------	1,080	1,930	3,840	2,620	3,650	3,360	2,370
30	528	576	1,600	2,100	------	1,080	1,700	4,130	2,590	3,670	3,140	2,300
31	520	------	1,700	2,000	------	1,160	------	4,040	------	3,780	2,750	------
TOTAL	35,276	17,350	24,180	71,250	56,950	32,000	90,660	87,000	101,730	107,370	121,360	73,420
MEAN	1,138	578	780	2,298	2,034	1,032	3,022	2,806	3,391	3,464	3,915	2,447
MAX	2,520	681	1,800	5,500	3,500	1,210	7,290	4,290	4,580	3,800	4,340	2,730
MIN	520	520	450	1,400	1,200	810	1,310	1,780	2,490	2,610	2,750	2,160
AC-FT	69,970	34,410	47,960	141,300	113,000	63,470	179,800	172,600	201,800	213,000	240,700	145,600

CAL YR 1961: TOTAL 1,018,296 MEAN 2,790 MAX 8,400 MIN 450 AC-FT 2,020,000
WAT YR 1962: TOTAL 818,546 MEAN 2,243 MAX 7,290 MIN 450 AC-FT 1,624,000

Note.--No gage-height record Dec. 16 to Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,840	530	1,440	1,820	659	2,480	1,450	2,230	3,740	3,550	4,490	2,120
2	1,700	522	1,310	2,060	870	2,510	1,390	2,170	3,810	3,380	4,440	2,230
3	1,700	508	1,235	2,420	1,100	2,070	1,350	2,090	3,740	3,510	4,420	2,340
4	1,700	500	1,140	2,580	3,890	1,890	1,350	2,040	2,870	3,510	4,440	2,280
5	1,530	508	1,140	2,370	4,300	1,770	1,420	2,070	2,510	3,780	4,420	2,250
6	1,410	500	1,490	2,150	3,450	1,670	1,920	2,200	2,420	4,030	4,370	2,200
7	1,420	515	1,780	1,980	3,260	1,600	2,250	2,260	2,340	4,170	4,400	2,130
8	1,500	522	1,890	1,860	3,300	1,480	2,210	2,250	2,360	4,400	4,420	2,090
9	1,490	545	2,100	1,800	2,970	1,350	2,100	2,230	2,410	4,300	4,440	2,100
10	1,490	538	2,200	1,590	2,950	1,270	2,000	2,040	2,460	3,960	4,440	2,060
11	1,420	530	2,130	1,360	2,420	1,350	1,880	1,900	2,310	4,080	4,440	2,040
12	1,300	553	2,060	1,235	2,170	1,370	1,780	1,880	2,480	4,240	4,490	2,060
13	1,400	577	1,940	1,310	2,010	1,310	1,740	1,860	2,760	4,080	4,420	1,940
14	1,450	553	1,920	1,550	1,840	1,280	1,830	2,180	2,820	4,030	4,330	2,040
15	1,500	545	2,040	1,440	1,690	1,240	2,460	2,540	2,850	4,050	4,350	2,120
16	1,500	553	2,120	1,370	1,620	1,200	2,530	2,540	2,930	4,100	4,350	2,170
17	1,400	545	2,090	1,310	1,570	1,160	2,150	2,480	2,930	4,170	4,280	2,040
18	1,000	545	2,060	1,235	1,820	1,100	1,940	2,650	2,840	4,370	4,260	1,880
19	800	561	2,010	1,160	2,330	1,090	1,770	3,590	2,840	4,330	4,140	1,760
20	700	4,760	1,980	1,130	2,440	1,130	2,150	4,540	3,010	4,240	3,680	1,730
21	690	5,560	1,890	1,140	2,210	1,100	2,460	6,060	3,280	4,490	3,180	1,670
22	680	5,820	1,980	1,150	2,120	1,130	2,260	6,430	3,320	4,540	2,950	1,770
23	670	2,480	1,920	1,070	2,020	1,240	2,170	5,690	3,510	4,520	2,870	1,780
24	659	2,000	1,760	1,000	1,940	1,340	2,200	5,480	3,550	4,490	2,890	1,740
25	625	1,770	1,630	860	1,890	1,270	2,180	5,100	3,590	4,440	2,780	1,740
26	609	2,040	1,570	782	2,060	1,260	2,100	4,830	3,510	4,420	2,800	1,620
27	593	2,130	1,560	782	2,260	1,300	2,090	4,440	3,490	4,350	2,720	1,550
28	577	1,840	1,630	773	2,200	1,530	2,070	2,910	3,590	4,420	2,610	1,460
29	561	1,600	1,690	782	------	1,560	2,130	3,470	3,720	4,520	2,340	1,390
30	553	1,500	1,710	634	------	1,570	2,230	3,660	3,570	4,420	2,230	1,350
31	538	------	1,830	601	------	1,530	------	3,740	------	4,470	2,180	------
TOTAL	35,005	41,650	55,245	43,304	63,359	45,150	59,560	99,550	91,560	129,360	116,570	57,650
MEAN	1,129	1,388	1,782	1,397	2,263	1,456	1,985	3,211	3,052	4,173	3,760	1,922
MAX	1,840	5,820	2,200	2,580	4,300	2,510	2,530	6,430	3,810	4,540	4,490	2,340
MIN	538	500	1,140	601	659	1,090	1,350	1,860	2,310	3,380	2,180	1,350
AC-FT	69,430	82,610	109,600	85,890	125,700	89,550	118,100	197,500	181,600	256,600	231,200	114,300

CAL YR 1962: TOTAL 873,640 MEAN 2,394 MAX 7,290 MIN 500 AC-FT 1,733,000
WAT YR 1963: TOTAL 837,963 MEAN 2,296 MAX 6,430 MIN 500 AC-FT 1,662,000

12-4845. Yakima River at Umtanum, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,320	463	728	569	544	970	2,780	2,690	4,130	3,610	4,060	2,710
2	1,300	456	676	870	552	930	2,520	2,420	4,320	3,840	4,180	2,680
3	1,250	456	634	1,020	544	890	2,240	2,420	3,890	4,220	3,950	2,520
4	1,300	449	609	952	544	900	2,170	2,470	3,480	5,050	4,110	2,470
5	1,370	442	593	880	520	1,250	2,200	2,710	3,840	5,020	3,800	2,490
6	1,530	470	609	890	513	1,710	2,100	2,680	3,950	4,860	3,780	2,610
7	1,500	463	601	870	513	1,980	2,140	2,710	3,690	4,580	3,530	2,610
8	1,500	478	609	780	536	2,420	2,450	2,930	3,570	4,440	3,220	2,570
9	1,440	478	601	762	568	2,490	2,780	3,360	4,490	4,890	3,140	2,570
10	1,340	470	561	726	600	2,470	2,880	3,800	4,460	5,470	3,120	2,470
11	1,300	470	601	717	663	1,310	2,920	3,160	4,320	4,160	2,950	2,440
12	1,240	470	577	672	663	1,160	3,100	2,730	3,890	3,610	3,140	2,400
13	1,210	463	570	663	654	1,070	3,010	2,610	3,500	3,780	3,220	2,380
14	1,140	500	560	627	645	1,240	2,860	2,400	3,360	4,180	3,200	2,380
15	932	569	538	618	645	1,580	2,900	2,170	3,340	4,160	3,120	2,350
16	850	593	530	636	636	1,860	2,820	2,280	3,720	4,020	3,070	2,440
17	659	561	530	663	654	1,900	2,490	2,640	4,180	3,800	3,070	2,420
18	577	593	522	645	820	2,020	2,250	2,970	4,340	3,670	3,010	2,420
19	522	609	515	636	1,320	2,050	2,420	2,840	5,250	3,820	3,140	2,380
20	492	593	515	627	1,160	1,670	2,560	3,320	5,230	3,860	3,160	2,440
21	508	561	508	600	1,060	1,570	2,520	3,420	4,290	4,040	3,100	2,470
22	485	538	492	584	1,060	1,540	2,770	3,010	3,840	4,200	3,100	2,280
23	485	530	500	544	1,050	1,480	2,780	2,520	3,090	4,060	3,100	2,110
24	485	522	522	552	1,120	1,430	2,620	2,540	3,070	4,200	3,100	2,060
25	485	522	530	520	1,100	1,650	2,610	2,680	3,090	4,160	3,100	2,140
26	538	553	561	544	1,050	1,610	2,820	2,560	3,570	3,970	3,120	2,120
27	530	900	585	618	1,000	1,620	2,900	2,610	3,610	4,090	3,180	2,140
28	508	1,080	577	592	991	1,670	2,570	2,780	2,860	4,090	3,300	2,160
29	485	932	561	576	980	1,780	2,590	3,320	3,180	3,950	3,240	2,100
30	478	820	553	552	------	2,110	2,730	3,460	3,500	3,970	3,220	1,930
31	470	------	545	552	------	2,280	------	3,690	------	3,930	2,970	------
TOTAL	28,229	17,004	17,613	21,057	22,705	50,610	78,500	87,900	115,050	129,700	102,500	71,260
MEAN	911	567	568	679	783	1,633	2,617	2,835	3,835	4,184	3,306	2,375
MAX	1,530	1,080	728	1,020	1,320	2,490	3,100	3,800	5,250	5,470	4,180	2,710
MIN	470	442	492	520	513	890	2,100	2,170	2,860	3,610	2,950	1,930
AC-FT	55,990	33,730	34,930	41,770	45,030	100,400	155,700	174,300	228,200	257,300	203,300	141,300

CAL YR 1963: TOTAL 768,909 MEAN 2,107 MAX 6,430 MIN 442 AC-FT 1,525,000
WAT YR 1964: TOTAL 742,128 MEAN 2,028 MAX 5,470 MIN 442 AC-FT 1,472,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,330	630	1,280	1,980	6,960	4,120	2,720	4,140	2,850	3,030	2,850	3,280
2	2,250	630	1,920	2,000	4,890	3,600	2,880	3,910	2,670	3,000	2,860	3,000
3	2,280	648	1,910	2,000	3,830	2,700	2,900	3,810	2,760	3,010	2,600	2,830
4	2,250	702	1,650	1,950	3,620	3,580	3,010	3,600	2,850	3,070	2,220	2,760
5	2,220	702	1,450	1,950	3,950	3,780	3,130	3,420	3,500	2,980	2,200	2,790
6	2,200	693	1,310	1,950	3,970	3,830	3,170	3,500	4,210	2,900	2,200	2,810
7	2,190	666	1,200	1,950	3,620	3,870	2,920	3,680	4,300	3,010	2,640	2,720
8	2,190	657	1,130	2,000	3,950	4,020	2,690	4,040	4,470	3,110	2,900	2,650
9	2,120	648	1,250	2,000	3,720	4,120	2,770	4,120	4,630	3,170	2,700	2,620
10	2,090	648	1,450	2,050	3,380	4,300	2,670	4,320	4,560	3,180	2,600	2,650
11	2,030	639	1,450	2,100	3,200	4,560	2,500	4,450	4,870	3,400	2,920	2,670
12	2,000	639	1,340	2,050	3,000	4,520	2,530	4,320	5,660	3,360	3,170	2,650
13	1,970	639	1,390	2,000	3,050	4,410	2,720	4,430	5,480	3,280	3,010	2,670
14	1,840	630	1,410	2,000	3,260	4,320	2,790	3,930	4,720	3,280	2,880	2,720
15	1,620	622	1,360	2,050	3,030	4,300	3,280	4,080	4,190	3,200	3,520	2,700
16	1,390	613	1,150	2,100	3,090	4,280	4,080	4,060	3,740	3,260	3,640	2,690
17	1,280	604	1,000	2,050	3,640	4,100	4,500	3,970	2,380	3,200	3,680	2,670
18	1,360	596	1,000	2,150	4,230	3,870	4,120	3,720	2,320	3,300	3,480	2,670
19	1,340	596	1,150	2,350	4,300	3,700	3,850	3,700	3,560	3,340	3,380	2,670
20	1,320	588	1,300	1,960	4,540	3,600	5,500	3,970	3,400	3,500	3,560	2,640
21	1,110	596	1,400	1,910	4,340	3,480	6,140	3,910	3,460	3,660	3,620	2,570
22	910	604	1,550	1,880	4,060	3,460	5,420	3,910	3,340	3,600	3,660	2,520
23	820	613	1,900	1,900	3,640	3,440	4,790	3,930	2,940	3,360	4,190	2,460
24	711	684	2,200	1,880	3,400	3,380	4,500	3,930	2,570	3,200	4,300	2,460
25	666	1,130	2,300	1,840	3,240	3,320	4,610	3,850	2,570	3,220	2,740	2,480
26	675	1,100	2,250	1,800	3,760	3,130	4,660	3,930	2,880	3,440	2,700	2,450
27	675	987	2,200	2,270	4,320	2,860	4,890	4,040	2,920	3,400	2,900	2,460
28	657	910	2,200	4,080	4,340	2,740	4,990	4,320	2,860	3,380	3,500	2,450
29	657	880	2,150	8,410	------	2,690	4,890	4,660	2,900	3,260	3,890	2,450
30	657	870	2,110	11,200	------	2,640	4,450	4,390	3,050	3,220	3,850	2,400
31	639	------	2,030	10,400	------	2,580	------	3,220	------	2,900	3,540	------
TOTAL	46,447	21,164	49,390	88,210	108,330	113,300	114,070	123,260	106,610	100,220	97,900	79,560
MEAN	1,498	705	1,593	2,845	3,869	3,655	3,802	3,976	3,554	3,233	3,158	2,652
MAX	2,330	1,130	2,300	11,200	6,960	4,560	6,140	4,660	5,660	3,660	4,300	3,280
MIN	639	588	1,000	1,800	3,000	2,580	2,500	3,220	2,320	2,900	2,200	2,400
AC-FT	92,130	41,980	97,960	175,000	214,900	224,700	226,300	244,500	211,500	198,800	194,200	157,800

CAL YR 1964: TOTAL 796,283 MEAN 2,176 MAX 5,470 MIN 513 AC-FT 1,579,000
WAT YR 1965: TOTAL 1,048,461 MEAN 2,872 MAX 11,200 MIN 588 AC-FT 2,080,000

12-4875. Bumping Lake near Nile, Wash.

Location.--Lat 46°52'07", long 121°17'56", in SW¼ sec.23, T.16 N., R.12 E., at dam on Bumping River at outlet of Bumping Lake, 11¼ miles upstream from American River and 19 miles west of Nile.

Drainage area.--69.3 sq mi (revised).

Records available.--June to July 1906, April 1909 to September 1965.

Gage.--Staff gage read twice daily. Datum of gage is at mean sea level (Bureau of Reclamation bench mark).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	June 19, 1961	35,820	3,427.60	Oct. 24, 1960	3,570	3,394.58
1962	June 25, 1962	36,630	3,428.20	Sept.29, 1962	4,490	3,395.95
1963	May 31, 1963	35,950	3,427.70	Nov. 4, 1962	2,780	3,393.37
1964	July 15, 1964	36,630	3,428.20	Oct. 19, 20, 1963	2,420	3,392.82
1965	June 19-22, 1965	35,750	3,427.55	Nov. 1, 1964	4,320	3,395.70

1906, 1909-65: Maximum contents observed, 39,840 acre-ft June 21, 22, 1925 (elevation, 3,430.55 ft); minimum observed, 1,130 acre-ft Feb. 5-9, 1949 (elevation, 3,390.80 ft).

Remarks.--Reservoir is formed on natural lake by earthfill dam completed in 1910; storage began Nov. 3, 1910. Capacity, 33,700 acre-ft between gate sill (elevation, 3,389.00 ft) and spillway crest (elevation, 3,426.00 ft). Records given herein represent usable contents. Water used for irrigation.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by the Geological Survey.

MONTH-END ELEVATION AND CONTENTS, WATER YEARS OCTOBER 1960 TO SEPTEMBER 1965

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1960	3,396.43	4,810	-120
Nov. 30	3,406.75	12,650	+7,840
Dec. 31	3,401.19	8,190	-4,460
Calendar year 1960	-	-	-1,810
Jan. 31, 1961	3,405.91	11,940	+3,750
Feb. 28	3,407.30	13,140	+1,200
Mar. 31	3,411.16	16,720	+3,580
Apr. 30	3,415.80	21,520	+4,800
May 31	3,419.75	25,980	+4,460
June 30	3,426.35	34,160	+8,180
July 31	3,409.05	14,710	-19,450
Aug. 31	3,399.67	7,070	-7,640
Sept.30	3,396.36	4,760	-2,310
Water year 1961	-	-	-170
Oct. 31	3,397.35	5,440	+680
Nov. 30	3,398.71	6,390	+950
Dec. 31	3,402.70	9,340	+2,950
Calendar year 1961	-	-	+1,150
Jan. 31, 1962	3,400.29	7,520	-1,820
Feb. 28	3,405.87	11,900	+4,380
Mar. 31	3,408.39	14,110	+2,210
Apr. 30	3,424.52	31,800	+17,690
May 31	3,426.55	34,430	+2,630
June 30	3,427.70	35,950	+1,520
July 31	3,417.99	23,950	-12,000
Aug. 31	3,397.58	5,600	-18,350
Sept.30	3,399.01	4,530	-1,070
Water year 1962	-	-	-230
Oct. 31	3,393.51	2,870	-1,660
Nov. 30	3,405.03	11,200	+8,330
Dec. 31	3,406.92	12,800	+1,600
Calendar year 1962	-	-	+3,460
Jan. 31, 1963	3,404.30	10,600	-2,200
Feb. 28	3,418.09	24,070	+13,470
Mar. 31	3,425.26	32,750	+8,680
Apr. 30	3,426.45	34,300	+1,550
May 31	3,427.66	35,900	+1,600
June 30	3,422.49	29,270	-6,630
July 31	3,415.55	21,250	-8,020
Aug. 31	3,403.12	9,660	-11,590
Sept.30	3,395.58	4,240	-5,420
Water year 1963	-	-	-290

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1963	3,393.55	2,900	-1,340
Nov. 30	3,395.43	4,140	+1,240
Dec. 31	3,395.31	4,060	-80
Calendar year 1963	-	-	-8,740
Jan. 31, 1964	3,400.22	7,470	+3,410
Feb. 29	3,394.73	3,670	-3,800
Mar. 31	3,394.13	3,280	-390
Apr. 30	3,396.08	4,580	+1,300
May 31	3,414.36	19,980	+15,400
June 30	3,425.84	33,500	+13,520
July 31	3,427.08	35,130	+1,630
Aug. 31	3,411.56	17,120	-18,010
Sept.30	3,397.72	5,700	-11,420
Water year 1964	-	-	+1,460
Oct. 31	3,395.71	4,330	-1,370
Nov. 30	3,399.81	7,180	+2,850
Dec. 31	3,403.91	10,290	+3,110
Calendar year 1964	-	-	+6,230
Jan. 31, 1965	3,405.19	11,330	+1,040
Feb. 28	3,400.51	7,680	-3,650
Mar. 31	3,398.54	6,270	-1,410
Apr. 30	3,412.20	17,750	+11,480
May 31	3,418.81	24,890	+7,140
June 30	3,427.06	35,100	+10,210
July 31	3,426.18	33,940	-1,160
Aug. 31	3,410.59	16,160	-17,780
Sept.30	3,398.19	6,020	-10,140
Water year 1965	-	-	+320

† Elevation estimated at 2400 hours from graph of twice-daily gage readings.

12-4880. Bumping River near Nile, Wash.

Location.--Lat 46°52'25", long 121°17'30", in T.16 N., R.12 E. (unsurveyed), on left bank a quarter of a mile downstream from spillway of Bumping Lake Dam and 19 miles west of Nile.

Drainage area.--70.7 sq mi (revised).

Records available.--June to July 1906, April 1909 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 3,367.10 ft above mean sea level (Bureau of Reclamation bench mark). June 13 to July 31, 1906, staff gage at site half a mile upstream at different datum. Apr. 27 to Aug. 6, 1909, June 24, 1912, to June 13, 1913, staff gage at site three-eighths of a mile upstream at different datum. Aug. 7, 1909, to June 23, 1912, staff gage at site 1,300 ft upstream at different datum.

Average discharge.--56 years (1909-65), 294 cfs (212,800 acre-ft per year), adjusted for storage.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 19, 1961	1,610	4.81	Mar. 11,12,13, 1961	52	1.70
1962	June 18, 1962	863	3.86	Oct. 21, 1961	5.4	.97
1963	May 22, 1963	1,100	4.20	Oct. 26, 1962	7.5	1.08
1964	June 16, 1964	1,680	4.76	Oct. 19, 20, 1963	35	1.49
1965	June 9, 1965	802	3.75	Oct. 23, 1964	6	1.06

1906, 1909-65: Maximum discharge, 5,180 cfs Dec. 29, 1917 (gage height, 9.33 ft); practically no flow when gates in outlet conduit are closed.

Remarks.--Records excellent. No diversion. Flow regulated by dam at Bumping Lake (see station 12-4875).

Cooperation.--Gage-height record, 22 discharge measurements, and records of daily discharge furnished by Bureau of Reclamation; reviewed by Geological Survey.

Revisions (water years).--WSP 369: 1911. WSP 1286: 1911.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	100	100	181	184	259	460	68	440	1,070	685	248	159
2	96	107	184	181	263	435	71	450	1,110	735	245	157
3	94	107	181	178	266	425	75	455	1,120	725	241	152
4	90	105	181	174	266	415	77	455	1,140	725	251	150
5	80	103	181	171	266	400	79	455	1,140	720	251	145
6	79	103	178	174	273	386	80	450	1,220	720	248	148
7	79	103	178	178	277	364	80	445	1,260	715	245	148
8	79	103	176	184	284	350	80	445	1,230	710	241	139
9	77	100	176	186	284	199	80	440	1,220	705	241	134
10	73	107	174	186	292	55	80	440	1,200	700	238	125
11	73	124	174	189	299	52	79	445	1,200	695	235	123
12	69	126	208	189	303	52	79	445	813	690	241	117
13	68	131	242	189	303	52	79	445	635	685	248	112
14	66	131	239	192	342	57	77	445	777	676	241	110
15	65	131	239	211	470	58	77	445	968	676	235	106
16	63	140	236	236	500	58	77	450	1,040	662	235	103
17	63	154	233	253	500	58	281	455	1,390	658	229	101
18	61	164	233	259	495	60	440	600	1,560	649	238	99
19	60	168	230	259	490	60	445	872	1,590	649	241	97
20	58	178	227	263	485	61	440	1,010	1,470	640	232	95
21	58	178	224	263	490	61	440	1,040	1,040	626	229	93
22	55	178	224	263	495	61	435	1,070	779	618	219	91
23	57	178	220	263	485	61	435	1,070	889	613	216	89
24	60	184	220	259	485	63	430	1,060	936	595	208	87
25	63	184	217	259	480	65	430	1,050	929	595	199	87
26	65	184	214	259	475	65	430	1,070	908	582	191	85
27	69	184	211	256	470	65	425	1,070	752	572	188	83
28	77	184	208	256	465	65	420	1,070	779	559	181	85
29	80	184	205	253	------	65	430	1,050	725	546	176	81
30	82	184	194	256	------	66	435	1,060	667	536	171	79
31	86	------	192	256	------	66	------	1,060	------	372	161	------
TOTAL	2,245	4,307	6,380	6,879	10,762	4,760	7,154	21,757	31,557	20,034	6,963	3,380
MEAN	72.4	144	206	222	384	154	238	702	1,052	646	225	113
MAX	100	184	242	263	500	460	445	1,070	1,590	735	251	159
MIN	55	100	174	171	259	52	68	440	635	372	161	79
AC-FT	4,450	8,540	12,650	13,640	21,350	9,440	14,190	43,150	62,590	39,740	13,810	6,700
(†)	-120	+7,840	-4,460	+3,750	+1,200	+3,580	+4,800	+4,460	+8,180	-19,450	-7,640	-2,310
MEAN‡	70.4	275	133	283	406	212	319	774	1,189	330	100	73.8
CFSM‡	.996	3.89	1.88	4.00	5.74	3.00	4.51	10.9	16.8	4.67	1.41	1.04
IN ‡	1.15	4.34	2.17	4.61	5.98	3.45	5.04	12.63	18.77	5.38	1.64	1.16
AC-FT‡	4,330	16,380	8,190	17,390	22,550	13,020	18,990	47,610	70,770	20,290	6,170	4,390

OBSERVED

CAL YR 1960: TOTAL 96,998 MEAN 265 MAX 1,080 MIN 52 AC-FT 192,400
WAT YR 1961: TOTAL 126,178 MEAN 346 MAX 1,590 MIN 52 AC-FT 250,300

ADJUSTED ‡

CAL YR 1960: MEAN 263 CFSM 3.72 IN 51.87 AC-FT 190,600
WAT YR 1961: MEAN 345 CFSM 4.88 IN 66.32 AC-FT 250,000

† Change in contents, in acre-feet, in Bumping Lake.
‡ Adjusted for change in lake contents.

12-4880. Bumping River near Nile, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	79	89	112	357	168	60	54	514	323	595	631	119
2	79	89	117	357	168	60	55	514	460	564	636	117
3	77	89	121	384	176	60	55	514	582	510	604	112
4	75	89	123	410	184	58	56	510	586	474	623	110
5	74	89	128	415	197	58	56	505	554	446	631	103
6	70	89	130	415	130	58	63	505	532	428	626	99
7	75	89	128	410	56	56	74	505	536	410	622	91
8	74	89	125	428	60	56	74	500	572	397	608	89
9	74	89	123	438	60	56	72	505	680	397	586	87
10	77	91	121	442	60	56	72	500	757	415	582	83
11	79	91	117	442	60	56	72	500	746	420	577	85
12	83	93	114	428	60	56	72	500	740	488	550	83
13	87	93	110	410	60	56	74	500	720	510	528	81
14	93	95	108	388	60	58	77	500	639	446	510	81
15	95	93	108	410	60	58	79	496	654	402	492	79
16	91	93	106	348	60	58	81	496	757	474	460	79
17	91	93	106	319	60	58	77	496	820	525	410	79
18	89	93	106	303	60	58	79	496	856	546	374	72
19	89	93	106	299	58	58	83	492	838	536	323	77
20	87	91	114	269	58	58	85	492	820	532	291	77
21	75	95	128	241	58	58	85	492	814	528	287	75
22	93	95	139	225	58	58	85	492	802	528	260	74
23	93	95	148	211	56	58	87	492	784	523	276	74
24	91	95	191	208	56	60	87	365	808	518	232	70
25	91	101	258	202	56	60	166	251	844	510	197	68
26	91	106	303	199	56	60	467	251	802	535	181	66
27	93	108	315	194	56	60	528	255	700	604	164	68
28	91	110	319	188	56	55	523	161	622	618	150	68
29	91	110	331	184	------	54	518	119	595	608	141	70
30	89	112	357	178	------	54	514	112	600	618	132	72
31	89	------	366	174	------	54	------	154	------	626	125	------
TOTAL	2,625	2,847	5,178	9,876	2,307	1,783	4,470	13,184	20,543	15,731	12,809	2,508
MEAN	84.7	94.9	167	319	82.4	57.5	149	425	685	507	413	83.6
MAX	95	112	366	442	197	60	528	514	856	626	636	119
MIN	70	89	106	174	56	54	54	112	323	397	125	66
AC-FT	5,210	5,650	10,270	19,590	4,580	3,540	8,870	26,150	40,750	31,200	25,410	4,970
(†)	+680	+950	+2,950	-1,820	+4,380	+2,210	+17,690	+2,630	+1,520	-12,000	-18,350	-1,070
MEAN‡	95.8	111	215	289	161	93.5	446	468	710	312	115	65.5
CFSM‡	1.36	1.57	3.04	4.09	2.28	1.32	6.31	6.62	10.0	4.41	1.63	.926
IN ‡	1.56	1.75	3.51	4.71	2.38	1.52	7.04	7.63	11.21	5.09	1.87	1.03
AC-FT‡	5,890	6,600	13,220	17,770	8,960	5,750	26,560	28,780	42,270	19,200	7,060	3,900

OBSERVED

CAL YR 1961: TOTAL 123,896 MEAN 339 MAX 1,590 MIN 52 AC-FT 245,700
WAT YR 1962: TOTAL 93,861 MEAN 257 MAX 856 MIN 54 AC-FT 186,200

ADJUSTED ‡

CAL YR 1961: MEAN 341 CFSM 4.82 IN 65.48 AC-FT 246,900
WAT YR 1962: MEAN 257 CFSM 3.64 IN 49.30 AC-FT 186,000

† Change in contents, in acre-feet, in Bumping Lake.
‡ Adjusted for change in lake contents.

12-4880. Bumping River near Nile, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	72	103	402	235	154	85	19	199	768	518	262	141
2	72	97	366	222	156	27	18	219	690	514	258	132
3	74	91	348	225	178	26	18	208	622	505	258	155
4	74	93	323	229	235	26	19	197	586	505	255	169
5	72	103	311	229	151	25	162	211	546	505	255	191
6	74	114	295	232	34	25	248	232	523	515	288	147
7	72	112	265	232	34	24	248	251	505	523	303	154
8	75	125	255	225	34	24	245	251	478	193	299	150
9	81	132	255	219	32	24	245	258	464	22	322	134
10	83	148	255	213	30	24	245	258	446	22	340	134
11	87	157	255	211	28	24	245	255	482	87	336	139
12	89	166	255	205	25	24	245	255	523	213	331	133
13	93	171	251	205	234	23	245	255	568	213	327	121
14	95	159	251	202	379	23	245	273	572	213	323	118
15	97	159	276	199	379	23	248	291	572	213	315	112
16	150	150	315	197	379	23	248	319	572	213	307	106
17	208	139	344	194	374	23	248	357	564	213	295	107
18	209	130	370	191	374	23	248	424	532	213	283	108
19	241	160	340	188	370	23	248	577	514	211	273	95
20	241	478	336	186	374	23	248	685	587	208	255	113
21	213	467	291	181	370	23	248	916	602	208	238	145
22	210	428	280	178	370	84	245	1,060	617	205	225	152
23	211	428	280	174	370	168	141	893	631	205	211	158
24	205	415	273	171	366	166	65	838	562	205	188	165
25	191	420	265	168	248	166	65	790	532	205	174	157
26	165	433	258	166	166	80	65	730	528	205	159	153
27	161	433	248	164	166	19	65	685	518	202	167	145
28	143	415	241	161	164	20	72	658	518	202	164	134
29	134	424	245	159	------	20	112	695	523	242	166	117
30	121	402	245	154	------	20	168	768	523	265	159	125
31	112	------	241	152	------	19	------	802	------	262	154	------
TOTAL	4,125	7,252	8,935	6,067	6,174	1,327	5,181	14,810	16,668	8,225	7,890	4,130
MEAN	133	242	288	196	221	42.8	173	478	556	265	255	138
MAX	241	478	402	235	379	168	248	1,060	768	523	340	191
MIN	72	91	241	152	25	19	18	197	446	22	154	95
AC-FT	8,180	14,380	17,720	12,030	12,250	2,630	10,280	29,380	33,060	16,310	15,650	8,190
(†)	-1,660	+8,330	+1,600	-2,200	+13,470	+8,680	+1,550	+1,600	-6,630	-8,020	-11,590	-5,420
MEAN‡	106	382	314	160	453	184	199	504	444	135	66.0	46.6
CFSM‡	1.50	5.40	4.44	2.26	6.55	2.60	2.81	7.13	6.28	1.91	.934	6.59
IN ‡	1.73	6.02	5.12	2.61	6.82	3.00	3.14	8.22	7.01	2.20	1.08	.73
AC-FT‡	6,520	22,710	19,320	9,830	25,720	11,310	11,830	30,980	26,430	8,290	4,060	2,770

OBSERVED

CAL YR 1962: TOTAL 103,523 MEAN 284 MAX 856 MIN 54 AC-FT 205,300
WAT YR 1963: TOTAL 90,784 MEAN 249 MAX 1,060 MIN 18 AC-FT 180,100

ADJUSTED ‡

CAL YR 1962: MEAN 288 CFSM 4.07 IN 55.35 AC-FT 208,800
WAT YR 1963: MEAN 248 CFSM 3.51 IN 47.68 AC-FT 179,800

† Change in contents, in acre-feet, in Bumping Lake.
‡ Adjusted for change in lake contents.

12-4880. Bumping River near Nile, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	121	81	166	164	110	93	72	164	510	753	336	424
2	125	83	161	211	110	93	75	161	536	629	340	415
3	123	85	154	229	112	91	77	161	541	429	331	410
4	114	85	150	238	135	89	79	161	554	584	453	392
5	101	83	154	238	190	91	81	164	564	752	529	388
6	93	85	166	238	258	89	83	164	568	832	532	379
7	79	89	184	232	326	87	85	166	572	915	549	370
8	74	97	188	225	311	85	89	171	577	1,060	559	366
9	66	97	186	219	276	83	93	184	792	1,010	554	353
10	56	95	181	211	248	83	99	202	1,240	794	550	340
11	54	93	174	135	232	85	103	219	1,450	720	546	336
12	49	89	166	89	216	85	108	232	1,430	820	541	319
13	46	87	164	89	202	83	112	143	1,420	922	536	307
14	45	109	159	87	188	83	114	65	1,410	943	532	295
15	42	132	152	89	174	85	123	178	1,430	978	528	287
16	41	136	150	95	164	85	125	241	1,620	870	523	276
17	39	141	148	95	154	83	125	245	1,590	731	518	265
18	38	143	145	95	145	83	128	149	1,360	654	514	251
19	36	145	143	97	139	81	130	56	1,220	582	505	241
20	38	143	145	99	132	79	134	58	1,050	536	500	229
21	48	136	141	99	128	79	136	63	971	514	496	216
22	69	134	141	99	121	77	139	63	654	492	492	202
23	87	132	145	99	117	75	139	58	500	451	482	186
24	97	130	143	101	112	74	141	55	682	415	478	181
25	110	130	148	110	110	72	143	239	1,030	406	469	174
26	108	141	145	108	103	72	148	446	1,100	388	464	164
27	101	157	143	108	99	70	148	442	1,040	384	460	157
28	101	166	141	108	95	68	150	446	1,030	379	451	152
29	97	171	139	108	93	68	154	464	1,050	370	446	145
30	89	168	134	110	------	68	159	469	1,110	353	438	141
31	83	------	139	110	------	68	------	492	------	340	433	------
TOTAL	2,370	3,563	4,795	4,335	4,800	2,507	3,492	6,521	29,601	20,006	15,085	8,361
MEAN	76.5	119	155	140	166	80.9	116	210	987	645	487	279
MAX	125	171	188	238	326	93	159	492	1,620	1,060	559	424
MIN	36	81	134	87	93	68	72	55	500	340	331	141
AC-FT	4,700	7,070	9,510	8,600	9,520	4,970	6,930	12,930	58,710	39,680	29,920	16,580
(†)	-1,340	+1,240	-80	+3,410	-3,800	-390	+1,300	+15,400	+13,520	+1,630	-18,010	-11,420
MEAN‡	54.6	140	153	195	99.4	74.5	138	461	1,210	672	194	86.7
CFSM‡	.772	1.98	2.16	2.76	1.41	1.05	1.95	6.52	17.1	9.50	2.74	1.23
IN ‡	.89	2.20	2.50	3.18	1.52	1.21	2.18	7.51	19.16	10.96	3.16	1.37
AC-FT‡	3,360	8,310	9,430	12,010	5,720	4,580	8,230	28,330	72,230	41,310	11,910	5,160

OBSERVED

CAL YR 1963: TOTAL 81,200 MEAN 222 MAX 1,060 MIN 18 AC-FT 161,100
WAT YR 1964: TOTAL 105,436 MEAN 288 MAX 1,620 MIN 36 AC-FT 209,100

ADJUSTED ‡

CAL YR 1963: MEAN 210 CFSM 2.97 IN 40.40 AC-FT 152,300
WAT YR 1964: MEAN 290 CFSM 4.10 IN 55.84 AC-FT 210,600

† Change in contents, in acre-feet, in Bumping Lake.
‡ Adjusted for change in lake contents.

12-4880. Bumping River near Nile, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	143	83	283	370	24	211	150	568	672	429	121	327
2	143	83	415	361	22	208	150	568	667	447	242	319
3	143	85	447	340	380	202	150	559	690	456	523	311
4	141	89	442	323	645	199	148	555	710	469	698	307
5	141	93	429	303	622	197	150	546	720	451	730	299
6	136	95	411	287	595	191	150	537	741	438	710	291
7	134	97	384	273	559	189	150	528	774	420	690	283
8	132	93	366	265	519	186	150	523	790	397	598	280
9	136	95	353	258	487	184	150	514	452	361	555	273
10	143	93	336	248	451	181	150	510	155	319	474	265
11	139	91	323	232	415	181	150	510	174	295	353	258
12	134	91	303	219	375	181	150	519	474	273	344	251
13	132	93	291	211	344	179	150	537	627	258	336	245
14	128	91	280	202	319	179	150	555	649	245	331	238
15	125	89	269	197	303	179	155	573	631	238	327	232
16	123	87	255	186	287	179	164	582	600	225	323	225
17	125	85	241	181	273	179	166	591	604	219	319	219
18	121	85	225	174	262	176	171	600	618	199	315	213
19	117	85	213	171	251	174	191	595	627	191	311	205
20	114	83	208	169	245	171	276	595	631	181	307	197
21	112	81	205	169	238	171	424	595	636	174	307	186
22	108	79	222	166	232	171	483	591	631	166	303	181
23	95	83	307	166	225	166	505	582	618	157	299	176
24	99	103	379	166	222	166	523	577	609	152	295	174
25	95	128	474	164	216	164	528	573	595	150	291	171
26	95	141	483	164	213	164	541	577	555	148	287	166
27	93	150	478	166	216	161	559	577	496	145	283	166
28	91	152	465	179	213	159	559	582	451	139	280	161
29	89	159	447	98	------	157	568	627	424	132	280	157
30	85	191	433	27	------	155	564	663	415	130	276	152
31	83	------	397	26	------	152	------	672	------	123	307	------
TOTAL	3,695	3,053	10,764	6,461	9,153	5,512	8,475	17,681	17,436	8,127	11,815	6,928
MEAN	119	102	347	208	327	178	283	570	581	262	381	231
MAX	143	191	483	370	645	211	568	672	790	469	730	327
MIN	83	79	205	26	22	152	148	510	155	123	121	152
AC-FT	7,330	6,060	21,350	12,820	18,150	10,930	16,810	35,070	34,580	16,120	23,430	13,740
(†)	-1,370	+2,850	+3,110	+1,040	-3,650	-1,410	+11,480	+7,140	+10,210	-1,160	-17,780	-10,140
MEAN‡	113	150	398	225	261	155	475	686	753	243	91.9	60.5
CFSM‡	1.60	2.12	5.63	3.18	3.69	2.19	6.72	9.70	10.7	3.44	1.30	.86
IN ‡	1.85	2.36	6.49	3.68	3.85	2.52	7.50	11.19	11.88	3.97	1.50	.95
AC-FT‡	6,960	8,910	24,460	13,860	14,500	9,520	28,290	42,210	44,790	14,960	5,650	3,600

OBSERVED

CAL YR 1964: TOTAL 112,220 MEAN 307 MAX 1,620 MIN 55 AC-FT 222,600
WAT YR 1965: TOTAL 109,100 MEAN 299 MAX 790 MIN 22 AC-FT 216,400

ADJUSTED ‡

CAL YR 1964: MEAN 315 CFSM 4.46 IN 60.95 AC-FT 229,810
WAT YR 1965: MEAN 299 CFSM 4.23 IN 57.74 AC-FT 217,700

† Change in contents, in acre-feet, in Bumping Lake.
‡ Adjusted for change in lake contents.

12-4885. American River near Nile, Wash.

Location.--Lat 46°58'30", long 121°10'10", in SW¼ sec.12, T.17 N., R.13 E., on right bank 300 ft upstream from Bumping Lake road crossing, three-quarters of a mile upstream from mouth, and 16 miles northwest of Nile.

Drainage area.--78.9 sq mi.

Records available.--April 1909 to March 1912, July to September 1913, June to September 1914, June to September 1915, October 1939 to September 1965. Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Datum of gage is 2,700.0 ft above mean sea level (Washington State Highway Department bench mark). Prior to Sept. 12, 1915, staff gage at site 300 ft downstream at different datum. Oct. 12 to Dec. 7, 1939, staff gage at present site and datum.

Average discharge.--28 years (1909-11, 1939-65), 244 cfs (176,600 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 4, 1961	1,840	75.57	Oct. 21, 22, 1960	37	71.93
1962	June 17, 1962	792	74.12	Sept.27, 28, 1962	38	71.96
1963	May 23, 1963	1,090	74.60	Sept.30, 1963	35	71.90
1964	June 5, 1964	1,450	75.23	Oct. 19, 20, 1963	33	71.88
1965	May 29, 1965	1,060	74.61	(a)	44	72.03

a Oct. 27 to Nov. 1, 1964.

1909-12, 1913-15, 1939-65: Maximum discharge, 2,600 cfs May 27, 1948 (gage height, 76.6 ft, from high watermark in well), from rating curve extended above 1,400 cfs; minimum, 20 cfs Nov. 22, 1940.

Remarks.--Records good except those for winter periods, which are fair. No regulation or diversion. Records of chemical analyses for the water years 1963-64 are published in reports of the Geological Survey.

Cooperation.--Gage-height record collected in cooperation with, and five discharge measurements furnished by Bureau of Reclamation.

Revisions (water years).--WSP 982: 1940-42. WSP 1216: Drainage area. WSP 1286: 1911.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	42	114	107	75	188	209	257	675	1,030	436	118	84
2	42	103	103	74	209	200	320	700	1,370	468	116	93
3	41	91	99	74	200	182	416	635	1,710	460	112	80
4	41	82	93	76	191	171	428	560	1,760	472	112	73
5	41	75	82	80	191	165	400	495	1,630	555	110	70
6	41	72	74	150	268	157	384	440	1,450	505	105	68
7	44	68	72	152	313	147	356	404	1,280	404	101	65
8	52	64	73	140	285	140	344	396	1,060	372	97	63
9	50	62	75	127	282	134	328	404	930	360	93	62
10	47	68	78	123	310	130	316	436	828	392	91	58
11	46	182	84	130	299	127	324	428	816	392	88	57
12	45	142	90	127	278	120	328	428	765	400	86	56
13	43	120	125	125	257	123	316	428	770	404	86	54
14	43	109	123	123	232	152	292	436	846	396	84	52
15	42	103	115	168	222	194	282	460	1,070	348	86	51
16	41	134	100	336	200	197	292	515	1,290	306	86	56
17	40	182	95	306	191	191	332	605	1,440	260	82	56
18	40	316	105	246	177	188	332	715	1,460	241	78	52
19	40	229	101	222	171	197	316	870	1,300	223	75	52
20	40	257	99	200	177	203	296	1,030	1,080	214	72	51
21	38	246	95	182	268	197	292	1,140	918	208	68	54
22	38	191	91	177	313	194	296	1,020	780	196	66	52
23	45	171	89	157	268	194	285	1,070	786	185	65	51
24	75	163	86	160	257	194	292	954	804	175	65	50
25	80	171	82	144	236	194	296	900	780	165	63	48
26	82	144	84	134	215	197	299	1,070	765	156	62	47
27	89	132	82	105	209	188	320	1,020	640	149	62	46
28	103	120	77	105	194	191	348	930	550	142	62	47
29	93	116	75	110	------	197	485	882	515	138	60	48
30	82	109	74	140	------	212	670	876	460	131	58	47
31	82	------	74	200	------	232	------	864	------	124	66	------
TOTAL	1,668	4,136	2,802	4,668	6,601	5,517	10,242	21,786	30,883	9,377	2,575	1,743
MEAN	53.8	138	90.4	151	236	178	341	703	1,029	302	83.1	58.1
MAX	103	316	125	336	313	232	670	1,140	1,760	555	118	93
MIN	38	62	72	74	171	120	257	396	460	124	58	44
CFSM	.68	1.75	1.15	1.91	2.99	2.26	4.33	8.91	13.0	3.83	1.05	.74
IN.	.79	1.95	1.32	2.20	3.11	2.60	4.83	10.3	14.6	4.42	1.21	.82
AC-FT	3,310	8,200	5,560	9,260	13,090	10,940	20,310	43,210	61,260	18,600	5,110	3,460

CAL YR 1960: TOTAL 77,015 MEAN 210 MAX 1,020 MIN 38 CFSM 2.67 IN 36.30 AC-FT 152,800
WAT YR 1961: TOTAL 101,998 MEAN 279 MAX 1,760 MIN 38 CFSM 3.54 IN 48.08 AC-FT 202,300

12-4885. American River near Nile, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46	66	73	131	107	86	105	316	472	500	122	54
2	46	66	68	129	122	92	120	320	515	408	114	51
3	46	66	65	211	178	95	135	320	560	352	114	51
4	44	62	63	241	199	95	149	324	476	340	116	51
5	43	58	72	211	199	93	170	296	424	324	116	51
6	44	57	65	199	193	95	252	288	392	320	112	50
7	48	56	63	352	185	95	476	274	400	316	110	48
8	48	54	56	550	180	93	412	278	476	340	107	47
9	47	52	52	525	172	88	352	292	615	372	101	46
10	58	63	50	432	165	86	313	306	625	388	95	44
11	65	84	45	364	160	84	292	316	575	360	90	54
12	66	77	48	306	154	78	292	310	565	340	88	54
13	90	72	52	257	149	77	324	299	535	324	90	57
14	84	73	55	229	149	80	388	292	490	288	84	62
15	73	70	54	208	142	77	505	299	555	274	80	60
16	66	60	54	188	138	77	495	296	700	254	77	56
17	63	60	51	175	133	77	472	324	755	238	75	52
18	62	65	52	158	131	77	500	352	710	211	75	51
19	60	63	51	124	127	77	560	344	670	199	73	50
20	57	52	63	110	122	78	555	320	670	205	72	47
21	56	50	68	100	118	78	505	313	675	208	70	46
22	54	60	68	100	116	78	535	336	665	208	68	44
23	60	75	82	105	112	78	520	364	665	211	66	43
24	58	70	160	110	90	78	565	376	710	208	65	42
25	57	55	214	120	86	82	555	440	730	193	62	41
26	63	50	185	130	82	84	495	476	685	178	60	40
27	70	56	160	127	80	84	468	555	530	165	58	38
28	66	63	151	118	82	82	416	650	444	156	60	50
29	63	82	149	112	------	82	360	640	452	147	58	80
30	62	75	151	107	------	85	332	560	520	138	57	75
31	62	------	140	107	------	93	------	515	------	129	56	------
TOTAL	1,827	1,912	2,680	6,336	3,871	2,604	11,618	11,391	17,256	8,294	2,591	1,535
MEAN	58.9	63.7	86.5	204	138	84.0	387	367	575	268	83.6	51.2
MAX	90	84	214	550	199	95	565	650	755	500	122	80
MIN	43	50	45	100	80	77	105	274	392	129	56	38
CFSM	.75	.81	1.10	2.59	1.75	1.06	4.91	4.66	7.29	3.39	1.06	.65
IN.	.86	.90	1.26	2.99	1.82	1.23	5.48	5.37	8.13	3.91	1.22	.72
AC-FT	3,620	3,790	5,320	12,570	7,680	5,160	23,040	22,590	34,230	16,450	5,140	3,040

CAL YR 1961: TOTAL 99,811 MEAN 273 MAX 1,760 MIN 43 CFSM 3.47 IN 47.05 AC-FT 198,000
WAT YR 1962: TOTAL 71,915 MEAN 197 MAX 755 MIN 38 CFSM 2.50 IN 33.90 AC-FT 142,600

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	70	116	247	202	130	238	142	241	690	211	86	54
2	65	112	223	217	300	226	135	238	625	226	84	52
3	72	105	199	226	600	214	135	226	550	241	80	51
4	73	101	182	217	730	202	140	220	485	232	80	50
5	66	138	175	205	730	199	158	232	448	217	77	50
6	63	135	223	199	650	190	182	268	432	199	73	48
7	65	124	202	190	580	185	188	274	432	196	72	46
8	73	129	205	185	520	180	182	271	424	202	70	44
9	103	135	211	180	480	175	175	271	440	196	66	44
10	114	135	205	154	440	172	172	264	416	193	66	42
11	110	135	199	127	416	170	170	257	468	193	63	43
12	114	140	193	125	368	160	170	257	520	178	68	43
13	129	138	188	130	336	156	172	260	550	175	72	43
14	127	131	208	150	310	154	247	274	530	170	68	43
15	118	124	471	163	282	147	316	306	530	163	66	43
16	107	118	695	154	268	144	299	310	570	151	63	43
17	99	114	575	142	250	140	278	360	560	147	62	44
18	97	107	476	135	238	135	260	448	510	140	60	43
19	107	135	416	130	238	135	247	600	468	133	60	42
20	114	678	360	125	247	135	238	740	408	127	66	42
21	124	580	328	125	229	138	226	882	356	124	65	41
22	138	400	302	124	220	140	217	1,010	328	120	63	40
23	144	296	268	118	211	147	211	1,030	288	120	77	40
24	140	250	247	114	208	147	208	852	274	116	77	40
25	133	377	230	112	202	144	199	735	264	118	72	40
26	131	695	220	105	238	144	199	670	264	110	70	38
27	131	500	217	105	241	147	196	625	244	103	65	37
28	129	396	208	105	238	151	199	620	238	101	62	36
29	127	316	199	105	------	149	220	670	232	97	58	36
30	124	282	220	105	------	144	241	740	220	93	57	36
31	122	------	214	110	------	144	------	760	------	88	54	------
TOTAL	3,329	7,142	8,506	4,584	9,900	5,052	6,122	14,911	12,764	4,880	2,122	1,294
MEAN	107	238	274	148	354	163	204	481	425	157	68.5	43.1
MAX	144	695	695	226	730	238	316	1,030	690	241	86	54
MIN	63	101	175	105	130	135	135	220	220	88	54	36
CFSM	1.36	3.02	3.48	1.87	4.48	2.07	2.59	6.10	5.39	2.00	.87	.55
IN.	1.57	3.37	4.01	2.16	4.67	2.38	2.89	7.03	6.02	2.30	1.00	.61
AC-FT	6,600	14,170	16,870	9,090	19,640	10,020	12,140	29,580	25,320	9,680	4,210	2,570

CAL YR 1962: TOTAL 84,473 MEAN 231 MAX 755 MIN 38 CFSM 2.93 IN 39.82 AC-FT 167,500
WAT YR 1963: TOTAL 80,606 MEAN 221 MAX 1,030 MIN 36 CFSM 2.80 IN 37.99 AC-FT 159,900

12-4885. American River near Nile, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	36	58	99	197	112	90	119	182	1,170	650	229	78
2	35	65	93	254	103	82	117	175	1,280	745	226	76
3	34	65	91	217	101	80	115	170	1,090	650	238	76
4	34	65	90	196	97	80	115	180	1,120	635	253	73
5	36	63	90	182	97	77	115	190	1,400	645	214	70
6	38	65	127	178	95	75	110	188	1,200	626	192	68
7	37	63	127	163	90	70	112	198	996	635	180	66
8	36	65	120	156	91	70	121	232	894	725	172	65
9	36	65	114	154	90	68	138	289	936	645	160	66
10	36	65	100	144	90	68	142	362	1,030	531	150	65
11	35	63	90	135	90	70	145	381	1,070	518	140	62
12	35	63	95	129	88	66	140	405	996	598	135	60
13	35	63	99	124	88	62	135	410	978	645	132	59
14	36	105	99	118	86	62	140	389	954	608	126	58
15	36	144	95	114	84	65	150	377	966	665	119	56
16	36	120	91	138	82	65	148	393	1,180	544	115	56
17	35	114	90	135	80	66	140	450	1,010	446	110	55
18	34	107	88	127	80	72	138	513	846	414	110	56
19	33	107	90	114	80	70	142	626	730	358	112	55
20	34	101	90	95	78	70	155	765	650	340	104	53
21	38	91	84	112	80	68	160	786	594	340	98	53
22	72	88	82	112	84	68	165	695	585	323	94	52
23	93	88	110	105	86	65	160	580	685	280	90	51
24	88	90	110	101	91	60	158	526	810	271	86	48
25	107	88	110	112	91	60	168	477	775	274	85	46
26	88	99	105	147	90	59	178	472	745	286	85	44
27	77	131	103	149	88	58	175	513	675	271	85	44
28	70	120	101	135	91	60	178	616	576	268	83	43
29	66	110	97	129	90	63	190	775	522	271	81	41
30	62	103	95	122	------	78	188	912	544	259	80	51
31	60	------	103	116	------	97	------	1,020	------	241	80	------
TOTAL	1,528	2,634	3,078	4,410	2,593	2,164	4,357	14,247	27,007	14,707	4,164	1,746
MEAN	49.3	87.8	99.3	142	89.4	69.8	145	460	900	474	134	58.2
MAX	107	144	127	254	112	97	190	1,020	1,400	745	253	78
MIN	33	58	82	95	78	58	110	170	522	241	80	41
CFSM	.62	1.11	1.26	1.80	1.13	.88	1.84	5.82	11.4	6.01	1.70	.74
IN.	.72	1.24	1.45	2.08	1.22	1.02	2.05	6.72	12.7	6.93	1.96	.82
AC-FT	3,030	5,220	6,110	8,750	5,140	4,290	8,640	28,260	53,570	29,170	8,260	3,460

CAL YR 1963: TOTAL 68,869 MEAN 189 MAX 1,030 MIN 33 CFSM 2.39 IN 32.46 AC-FT 136,600
WAT YR 1964: TOTAL 82,635 MEAN 226 MAX 1,400 MIN 33 CFSM 2.86 IN 38.95 AC-FT 163,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	81	46	495	120	560	180	154	750	690	369	84	63
2	71	52	531	110	463	175	152	625	706	373	82	62
3	76	56	362	100	397	173	150	545	824	393	82	61
4	66	88	283	100	345	168	157	481	866	405	79	60
5	60	106	238	100	322	170	164	429	848	389	78	58
6	58	102	211	110	300	170	166	385	908	353	76	58
7	55	85	190	110	267	175	164	353	914	345	73	57
8	59	78	178	110	248	178	161	337	848	329	72	56
9	62	74	175	100	227	190	161	345	848	274	70	55
10	71	71	162	100	214	205	159	389	860	242	72	55
11	66	66	150	100	200	219	159	463	933	233	70	54
12	62	64	138	103	190	227	166	585	866	214	72	54
13	59	60	130	101	180	222	190	706	662	205	72	52
14	58	56	126	103	170	222	195	728	565	208	72	55
15	60	53	115	108	164	224	227	706	494	214	70	61
16	62	53	94	112	159	224	287	712	458	200	69	60
17	59	52	76	112	157	219	300	679	508	190	68	58
18	58	51	80	112	164	208	297	610	600	180	66	57
19	55	50	100	114	175	195	381	580	580	164	66	55
20	53	48	130	110	180	190	902	590	540	152	75	54
21	52	47	160	110	182	182	1,000	560	526	145	72	52
22	51	47	210	108	180	182	860	530	486	134	70	51
23	51	48	548	101	173	178	745	522	468	126	75	50
24	48	130	682	101	166	170	684	508	481	120	81	50
25	47	190	454	105	164	168	701	545	445	112	76	49
26	46	152	274	108	166	159	756	610	397	114	73	49
27	44	130	200	137	203	154	866	684	345	108	70	48
28	44	117	180	180	192	150	972	854	314	103	69	48
29	44	108	160	560	------	148	998	1,020	318	96	69	48
30	44	180	140	701	------	139	878	926	337	90	66	47
31	44	------	130	712	------	141	------	767	------	87	65	------
TOTAL	1,766	2,460	7,102	5,058	6,508	5,705	13,152	18,524	18,635	6,667	2,254	1,637
MEAN	57.0	82.0	229	163	232	184	438	598	621	215	72.7	54.6
MAX	81	190	682	712	560	227	1,000	1,020	933	405	84	63
MIN	44	46	76	100	157	139	150	337	314	87	65	47
CFSM	.72	1.04	2.90	2.07	2.95	2.33	5.56	7.57	7.87	2.73	.92	.69
IN.	.83	1.16	3.35	2.38	3.07	2.69	6.20	8.73	8.78	3.14	1.06	.77
AC-FT	3,500	4,880	14,090	10,030	12,910	11,320	26,090	36,740	36,960	13,220	4,470	3,250

CAL YR 1964: TOTAL 86,723 MEAN 237 MAX 1,400 MIN 41 CFSM 3.00 IN 40.88 AC-FT 172,000
WAT YR 1965: TOTAL 89,468 MEAN 245 MAX 1,020 MIN 44 CFSM 3.11 IN 42.17 AC-FT 177,500

12-4910. Rimrock Lake at Rimrock, Wash.
(Formerly published as Tieton Reservoir at Rimrock)

Location.--Lat 46°39'10", long 121°07'30", in SW¼ sec.31 (unsurveyed), T.14 N., R.14 E., on face of dam on Tieton River at spillway, at Rimrock, 2,000 ft upstream from Wildcat Creek, 7½ miles upstream from headworks of Tieton canal, and 22½ miles southwest of Naches.

Drainage area.--187 sq mi.

Records available.--April 1925 to September 1965.

Gage.--Staff gage read twice daily. Datum of gage is at mean sea level (Bureau of Reclamation bench mark).

Extremes.--Maximums and minimums (contents in acre-feet, elevation in feet) for the water years 1961-65 are contained in the following table:

Water year	Maximum observed			Minimum observed		
	Date	Contents	Elevation	Date	Contents	Elevation
1961	June 18, 1961	199,460	2,926.58	Oct. 8, 1960	22,490	2,819.44
1962	June 25, 1962	200,020	2,926.80	Oct. 12, 1961	44,010	2,841.40
1963	May 31, 1963	200,200	2,926.87	Sept.30, 1963	48,110	2,844.85
1964	Aug. 7, 1964	193,310	2,924.13	Oct. 21, 1963	33,280	2,831.42
1965	June 19-22, 1965	199,260	2,926.50	Sept.30, 1965	44,010	2,841.55

1925-65: Maximum contents observed, 201,380 acre-ft June 21, 1937 (elevation, 2,927.33 ft); minimum observed, 89 acre-ft Oct. 12, 1926 (elevation, 2,766.77 ft).

Remarks.--Reservoir is formed by earth- and gravel-fill dam completed in 1925; storage began Apr. 27, 1925. Capacity, 198,000 acre-ft between sill of tunnel entrance (elevation, 2,766.00 ft) and crest of spillway gates (elevation, 2,926.00 ft). Records given herein represent usable contents. Water used for irrigation.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by the Geological Survey.

MONTH-END ELEVATION AND CONTENTS, WATER YEARS OCTOBER 1960 TO SEPTEMBER 1965

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31, 1960.....	2,824.49	26,760	+3,550	Oct. 31, 1963.....	2,835.51	37,490	-10,620
Nov. 30.....	2,844.49	47,670	+20,910	Nov. 30.....	2,847.01	50,780	+13,290
Dec. 31.....	2,853.76	59,660	+11,990	Dec. 31.....	2,857.76	65,280	+14,500
Calendar year 1960	-	-	-67,750	Calendar year 1963	-	-	-68,390
Jan. 31, 1961.....	2,870.41	84,540	+24,880	Jan. 31, 1964.....	2,870.20	84,200	+18,920
Feb. 28.....	2,892.02	122,920	+38,380	Feb. 29.....	2,877.21	95,840	+11,640
Mar. 31.....	2,905.76	151,000	+28,080	Mar. 31.....	2,880.77	102,040	+6,200
Apr. 30.....	2,915.06	171,640	+20,640	Apr. 30.....	2,867.07	79,240	-22,800
May 31.....	2,919.60	182,280	+10,640	May 31.....	2,876.68	94,940	+15,700
June 30.....	2,925.25	196,110	+13,830	June 30.....	2,910.90	162,220	+67,280
July 31.....	2,912.06	164,820	-31,290	July 31.....	2,923.57	191,930	+29,710
Aug. 31.....	2,881.07	102,580	-62,240	Aug. 31.....	2,908.21	156,300	-35,630
Sept.30.....	2,845.70	49,150	-53,430	Sept.30.....	2,883.49	106,910	-49,390
Water year 1961...	-	-	+25,940	Water year 1964...	-	-	+58,800
Oct. 31.....	2,847.26	51,090	+1,940	Oct. 31.....	2,885.88	111,290	+4,380
Nov. 30.....	2,855.86	62,580	+11,490	Nov. 30.....	2,890.30	119,610	+8,320
Dec. 31.....	2,867.85	80,460	+17,880	Dec. 31.....	2,904.86	149,080	+29,470
Calendar year 1961	-	-	+20,800	Calendar year 1964	-	-	+83,800
Jan. 31, 1962.....	2,885.34	110,290	+29,830	Jan. 31, 1965.....	2,907.80	155,400	+6,320
Feb. 28.....	2,894.88	128,540	+18,250	Feb. 28.....	2,905.53	150,510	-4,890
Mar. 31.....	2,901.65	142,310	+13,770	Mar. 31.....	2,902.85	144,820	-5,690
Apr. 30.....	2,922.52	189,340	+47,030	Apr. 30.....	2,919.72	182,570	+37,750
May 31.....	2,921.37	186,540	-2,800	May 31.....	2,924.42	194,030	+11,460
June 30.....	2,926.39	198,980	+12,440	June 30.....	2,924.87	195,160	+1,130
July 31.....	2,919.55	182,160	-16,820	July 31.....	2,905.84	146,910	-48,250
Aug. 31.....	2,914.10	169,440	-12,720	Aug. 31.....	2,864.93	75,920	-70,990
Sept.30.....	2,882.37	104,890	-64,550	Sept.30.....	2,841.40	44,010	-31,910
Water year 1962...	-	-	+55,740	Water year 1965...	-	-	-62,900
Oct. 31.....	2,878.71	98,430	-6,460				
Nov. 30.....	2,897.80	134,400	+35,970				
Dec. 31.....	2,897.44	133,670	-730				
Calendar year 1962	-	-	+53,210				
Jan. 31, 1963.....	2,895.97	130,710	-2,960				
Feb. 28.....	2,915.90	173,580	+42,870				
Mar. 31.....	2,924.82	195,030	+21,450				
Apr. 30.....	2,926.07	198,170	+3,140				
May 31.....	2,926.86	200,180	+2,010				
June 30.....	2,925.93	197,820	-2,360				
July 31.....	2,922.35	188,930	-8,890				
Aug. 31.....	2,900.37	139,660	-49,270				
Sept.30.....	2,844.85	48,110	-91,550				
Water year 1963...	-	-	-56,780				

† Elevation estimated at 2400 hours from graph of twice-daily gage readings.

12-4915. Tieton River at Tieton Dam, near Naches, Wash.

Location.--Lat 46°39'30", long 121°07'20", in sec.31, T.14 N., R.14 E. (unsurveyed), on left bank 900 ft upstream from Wildcat Creek, 1,200 ft downstream from Tieton Dam, 19 miles upstream from Oak Creek, and 22 miles southwest of Naches.

Drainage area.--187 sq mi.

Records available.--August 1908 to December 1912, June to September 1914, June 1918 to March 1921, April 1925 to September 1965. Monthly discharge only for some periods, published in WSP 1316. Published as "at McAllister Meadows" 1908-14 and as "at Rimrock" 1918-19.

Gage.--Water-stage recorder. Datum of gage is 2,680.99 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 1, 1914, staff gage at site a third of a mile upstream at different datum. Oct. 1, 1918, to Mar. 31, 1919, Apr. 27 to Sept. 4, 1925, staff gage and reference point and Sept. 5, 1925, to Apr. 23, 1933, water-stage recorder, at site about 800 ft downstream at different datum. Apr. 24, 1933, to Dec. 11, 1934, water-stage recorder at present site at datum 2.0 ft higher.

Average discharge.--46 years (1908-12, 1918-20, 1925-65), 497 cfs (359,800 acre-ft per year), adjusted for storage since October 1925.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 18, 1961	2,320	6.03	Dec. 27,28,29,1960	2.6	1.32
1962	June 30, 1962	1,420	5.29	(a)	1.9	1.32
1963	Aug. 21, 1963	1,940	5.85	(b)	16	c 1.66
1964	Apr. 19, 1964	1,230	5.09	(d)	9.4	1.56
1965	Aug. 4, 1965	2,360	6.47	Dec. 18-28, 1964	13	1.64

a Oct. 30 to Nov. 9, 1961.
b Nov. 14, 15, 1962, Jan. 31 to Feb. 11, 1963.
c Occurred Nov. 14, 15, 1962.
d Oct. 23 to Nov. 5, 1963.

1908-12, 1918-21, 1925-65: Maximum discharge, 8,450 cfs Dec. 22, 1933 (gage height, 9.24 ft); no flow Apr. 4-6, 10, 1930.

Remarks.--Records excellent except those below 15 cfs, which are good. No diversion above station. Flow regulated by Rimrock Lake (see station 12-4910).

Cooperation.--Gage-height record, 70 discharge measurements, and records of daily discharge furnished by Bureau of Reclamation; records reviewed by Geological Survey.

Revisions (water years).--WSP 369: 1909-10. WSP 1286: 1910, 1928(M), 1935(M). WSP 1316: 1909.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	235	30	94	12	11	10	9.8	891	1,080	976	1,280	1,370
2	235	30	94	12	11	10	9.8	1,220	1,080	976	1,280	1,360
3	235	30	94	12	11	10	9.8	1,280	1,080	976	1,340	1,360
4	235	16	94	12	11	10	9.8	1,130	1,080	976	1,400	1,350
5	235	8.0	94	12	11	10	9.8	1,080	1,080	976	1,490	1,350
6	235	8.0	94	12	11	9.8	9.8	898	1,240	856	1,510	1,290
7	200	8.0	94	12	11	9.4	9.8	616	1,320	721	1,510	1,280
8	180	8.0	94	12	11	9.4	9.8	510	1,320	792	1,470	1,280
9	180	8.0	94	11	11	9.4	9.8	510	1,320	792	1,450	1,280
10	151	8.0	94	11	11	9.4	9.8	510	1,320	934	1,380	1,270
11	185	8.0	94	11	11	9.4	9.8	510	1,320	1,170	1,370	1,270
12	180	8.0	94	11	11	9.4	9.8	721	1,070	1,170	1,360	1,260
13	178	8.0	94	11	11	9.0	9.8	792	1,170	1,170	1,360	1,250
14	178	8.0	48	11	11	9.0	9.8	792	1,320	1,270	1,360	1,250
15	178	8.0	9.0	11	11	9.0	157	792	1,320	1,320	1,350	1,250
16	178	8.0	9.0	11	11	9.0	307	792	1,380	1,320	1,340	1,250
17	178	8.7	9.0	11	11	11	498	804	1,950	1,320	1,330	1,240
18	178	8.7	9.0	11	11	12	572	804	2,290	1,320	1,270	1,230
19	178	8.7	9.0	11	11	12	600	960	2,070	1,320	1,220	1,220
20	178	8.7	9.0	11	10	12	743	1,070	1,860	1,320	1,220	1,220
21	178	8.7	9.0	11	11	12	880	1,080	1,450	1,320	1,300	1,180
22	178	8.7	9.0	11	11	11	874	1,080	1,250	1,320	1,360	1,090
23	178	8.7	9.0	11	11	10	874	1,080	1,510	1,320	1,380	1,090
24	178	8.7	9.0	11	11	9.8	586	1,080	1,660	1,310	1,400	1,080
25	178	60	9.0	11	11	9.8	380	1,080	1,630	1,290	1,390	1,020
26	137	94	9.0	11	11	9.8	380	1,080	1,630	1,310	1,380	934
27	98	94	6.5	11	10	9.8	495	1,080	998	1,300	1,380	928
28	86	94	2.6	11	10	9.8	594	1,080	618	1,290	1,380	838
29	77	94	6.5	11	———	9.8	594	1,080	976	1,280	1,380	820
30	31	94	12	11	———	9.8	594	1,080	976	1,290	1,370	721
31	30	———	12	11	———	9.8	———	1,080	———	1,280	1,360	———
TOTAL	5,259	801.6	1,417.6	349	305	310.6	9,265.2	28,562	40,368	35,985	42,370	35,331
MEAN	170	26.7	45.7	11.3	10.9	10.0	309	921	1,346	1,161	1,367	1,178
MAX	235	94	94	12	11	12	880	1,280	2,290	1,320	1,510	1,370
MIN	30	8.0	2.6	11	10	9.0	9.8	510	618	721	1,220	721
AC-FT	10,430	1,590	2,810	692	605	616	18,380	56,650	80,070	71,380	84,040	70,080
(†)	+3,550	+20,910	+11,990	+24,880	+38,380	+28,080	+20,640	+10,640	+13,830	-31,290	-62,240	-53,430
MEAN‡	227	378	271	416	702	467	656	1,094	1,578	652	355	280
CFSM‡	1.21	2.02	1.29	2.22	3.75	2.50	3.51	5.85	8.44	3.49	1.90	1.50
IN ‡	1.40	2.26	1.48	2.56	3.91	2.88	3.91	6.75	9.42	4.02	2.19	1.67
AC-FT‡	13,980	22,500	14,800	25,550	38,960	28,700	39,020	67,290	93,900	40,090	21,800	16,650

OBSERVED

CAL YR 1960: TOTAL 208,024.1 MEAN 568 MAX 1,820 MIN 2.6 AC-FT 412,600
WAT YR 1961: TOTAL 200,324.0 MEAN 549 MAX 2,290 MIN 2.6 AC-FT 397,300

ADJUSTED ‡

CAL YR 1960: MEAN 475 CFSM 2.54 IN 34.56 AC-FT 344,800
WAT YR 1961: MEAN 585 CFSM 3.13 IN 42.45 AC-FT 423,200

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Adjusted for change in lake contents.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4915. Tieton River at Tieton Dam, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	511	1.9	139	7.4	118	7.4	7.4	661	289	1,130	652	1,220
2	438	1.9	148	7.4	67	7.4	7.4	790	292	1,070	551	1,250
3	313	1.9	150	7.4	7.4	7.4	7.4	832	292	988	502	1,250
4	313	1.9	67	7.4	7.4	7.4	7.4	829	316	1,150	408	1,320
5	313	1.9	7.4	7.4	7.4	7.4	7.4	809	328	1,190	380	1,360
6	313	1.9	7.4	7.4	7.4	7.4	7.4	809	328	973	380	1,360
7	313	1.9	7.4	7.4	7.4	7.4	7.4	809	463	928	380	1,360
8	313	1.9	7.4	7.4	7.4	7.4	7.4	809	535	1,050	380	1,360
9	310	4.2	7.4	7.4	7.4	7.4	7.4	809	430	989	380	1,350
10	310	6.6	7.4	7.4	7.4	7.4	7.4	809	380	566	380	1,340
11	310	6.6	7.4	7.4	7.4	7.4	7.4	820	360	569	380	1,340
12	234	6.6	7.4	7.4	7.4	7.4	7.4	820	466	734	380	1,330
13	170	6.6	7.4	7.4	7.4	7.4	11	826	589	782	380	1,320
14	100	6.6	7.4	7.4	7.4	7.4	15	832	784	787	380	1,320
15	67	6.6	7.4	7.4	7.4	7.4	15	832	952	787	380	1,320
16	65	6.6	7.4	7.4	7.4	7.4	15	838	1,130	849	380	1,310
17	65	6.6	7.4	7.4	7.4	7.4	15	838	1,150	886	380	1,300
18	65	6.6	7.4	7.4	7.4	7.4	15	838	1,130	892	380	1,300
19	65	6.6	7.4	7.4	7.4	7.4	15	838	1,130	814	380	1,290
20	65	6.6	7.4	7.4	7.4	7.4	15	844	1,140	734	380	1,280
21	65	6.6	7.4	7.4	7.4	7.4	15	844	1,140	670	380	1,280
22	65	77	7.4	7.4	7.4	7.4	15	862	1,140	845	380	1,280
23	65	120	7.4	7.4	7.4	7.4	58	730	1,110	1,160	380	1,270
24	35	120	7.4	7.4	7.4	7.4	82	483	1,160	966	495	1,270
25	7.6	120	7.4	7.4	7.4	7.4	94	307	1,200	868	745	1,260
26	6.3	120	7.4	75	7.4	7.4	91	253	1,150	868	787	1,260
27	6.3	118	7.4	118	7.4	7.4	102	253	1,070	868	869	1,250
28	6.3	118	7.4	139	7.4	7.4	100	253	940	868	985	1,250
29	6.3	118	7.4	114	------	7.4	100	279	1,070	868	1,130	1,240
30	4.3	122	7.4	108	------	7.4	329	289	1,210	868	1,160	1,120
31	1.9	------	7.4	106	------	7.4	------	289	------	814	1,160	------
TOTAL	4,922.0	1,131.6	703.8	845.0	377.4	229.4	1,190.8	21,134	23,674	27,531	16,664	38,760
MEAN	159	37.7	22.7	27.3	13.5	7.40	39.7	682	789	888	538	1,292
MAX	511	122	150	139	118	7.4	329	862	1,210	1,190	1,160	1,360
MIN	1.9	1.9	7.4	7.4	7.4	7.4	7.4	253	289	566	380	1,120
AC-FT	9,760	2,240	1,400	1,680	749	455	2,360	41,920	46,960	54,610	33,050	76,880
(†)	+1,940	+11,490	+17,880	+29,830	+18,250	+13,770	+47,030	-2,800	+12,440	-16,820	-12,720	-64,550
MEAN‡	190	231	314	512	342	231	830	636	998	615	331	207
CFSM‡	1.02	1.24	1.68	2.74	1.83	1.24	4.44	3.40	5.34	3.29	1.77	1.11
IN ‡	1.17	1.38	1.93	3.16	1.91	1.43	4.95	3.92	5.96	3.79	2.04	1.24
AC-FT‡	11,700	13,730	19,280	31,510	19,000	14,220	49,390	39,120	59,400	37,790	20,330	12,330

OBSERVED

CAL YR 1961:	TOTAL 199,603.2	MEAN 547	MAX 2,290	MIN 1.9	AC-FT 395,900
WAT YR 1962:	TOTAL 137,163.0	MEAN 376	MAX 1,360	MIN 1.9	AC-FT 272,100

ADJUSTED ‡

CAL YR 1961:	MEAN 576	CFSM 3.08	IN 41.79	AC-FT 416,700
WAT YR 1962:	MEAN 453	CFSM 2.42	IN 32.88	AC-FT 327,800

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Adjusted for change in lake contents.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4915. Tieton River at Tieton Dam, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	946	108	139	809	17	19	41	342	1,140	455	550	1,800
2	808	108	139	809	17	19	41	380	1,100	460	556	1,900
3	602	106	137	809	17	50	41	388	1,030	455	556	1,880
4	525	106	481	809	17	53	41	388	958	460	550	1,880
5	530	106	688	809	17	25	420	414	946	465	550	1,850
6	525	102	688	809	17	25	838	436	1,020	465	550	1,850
7	525	101	688	809	17	25	838	475	1,110	465	550	1,850
8	530	130	688	554	17	25	635	465	1,170	475	545	1,850
9	525	130	688	376	17	25	460	475	1,160	475	545	1,840
10	525	130	688	376	17	25	28	465	1,130	465	550	1,840
11	439	130	688	376	17	25	31	465	1,200	465	550	1,840
12	295	130	688	376	49	25	239	465	1,090	470	550	1,840
13	295	130	688	376	67	25	490	455	732	465	545	1,820
14	295	59	688	376	39	25	495	465	633	465	545	1,820
15	295	81	688	376	17	25	530	500	695	465	556	1,820
16	295	128	688	376	17	25	556	510	878	475	562	1,800
17	295	126	827	376	17	25	550	540	826	475	562	1,800
18	295	126	831	248	17	25	545	655	698	480	567	1,780
19	295	126	792	68	19	25	525	832	738	470	824	1,670
20	295	130	792	68	19	25	515	1,275	760	475	1,300	1,610
21	295	128	792	59	19	25	510	1,330	738	475	1,730	1,600
22	295	128	792	54	19	25	510	1,250	677	480	1,790	1,590
23	295	124	809	55	19	25	505	1,220	607	480	1,830	1,590
24	295	120	809	55	19	25	505	1,010	571	480	1,830	1,600
25	295	120	809	48	19	25	505	771	578	485	1,780	1,600
26	295	128	809	66	19	49	398	980	606	475	1,770	1,600
27	295	132	809	59	19	66	271	1,040	594	480	1,760	1,570
28	295	137	814	59	19	42	271	1,170	578	480	1,760	1,570
29	295	137	809	63	———	41	277	1,030	530	517	1,760	1,570
30	178	137	809	19	———	41	298	1,160	465	540	1,760	1,490
31	108	———	809	17	———	41	———	1,180	———	545	1,730	———
TOTAL	12,076	3,584	21,264	10,539	600	946	11,909	22,531	24,958	14,782	31,563	52,120
MEAN	390	119	686	340	21.4	30.5	397	727	832	477	1,018	1,737
MAX	946	137	831	809	67	66	838	1,330	1,200	545	1,830	1,900
MIN	108	59	137	17	17	19	28	342	465	455	545	1,490
AC-FT	23,950	7,110	42,180	20,900	1,190	1,880	23,620	44,690	49,500	29,320	62,600	103,400
(†)	-6,460	+35,970	-730	-2,960	+42,870	+21,450	+3,140	+2,010	-2,360	-8,890	-49,270	-91,550
MEAN‡	284	724	674	292	793	379	450	760	792	332	217	199
CFSM‡	1.52	3.87	3.60	1.56	4.24	2.03	2.41	4.06	4.24	1.78	1.16	1.06
IN ‡	1.75	4.32	4.16	1.80	4.42	2.34	2.68	4.68	4.73	2.05	1.34	1.19
AC-FT‡	17,490	43,080	41,450	17,940	44,040	23,320	26,760	46,700	47,140	20,430	13,330	11,850

OBSERVED

CAL YR 1962:	TOTAL 167,329.6	MEAN 458	MAX 1,360	MIN 7.4	AC-FT 331,900
WAT YR 1963:	TOTAL 206,872	MEAN 567	MAX 1,900	MIN 17	AC-FT 410,300

ADJUSTED ‡

CAL YR 1962:	MEAN 532	CFSM 2.84	IN 38.63	AC-FT 385,100
WAT YR 1963:	MEAN 488	CFSM 2.61	IN 35.46	AC-FT 353,500

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Adjusted for change in lake contents.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4915. Tieton River at Tieton Dam, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	892	9.4	56	12	13	50	301	666	316	372	436	1,070
2	892	9.4	56	12	13	50	165	666	281	343	436	1,070
3	886	9.4	56	12	33	50	112	666	265	502	460	1,070
4	880	9.4	56	12	30	50	94	666	304	556	460	1,070
5	821	30	56	12	36	50	131	666	307	567	465	1,070
6	710	50	56	12	46	50	427	492	308	491	465	1,060
7	551	25	56	12	46	50	670	388	388	427	640	1,060
8	485	9.8	56	12	46	50	666	388	360	414	914	1,050
9	485	9.8	28	12	46	47	666	257	311	392	1,000	1,050
10	480	9.8	10	12	49	47	363	192	356	388	1,000	1,050
11	480	9.8	10	12	49	47	211	213	368	388	1,060	1,050
12	475	9.8	10	12	50	47	211	226	297	384	1,100	1,050
13	475	9.8	10	12	50	47	473	229	265	404	1,100	1,050
14	364	9.8	10	12	50	47	790	265	287	404	1,100	1,050
15	175	9.8	10	13	50	47	898	400	315	404	1,100	1,050
16	175	9.8	10	13	50	46	750	465	295	392	1,100	1,050
17	175	9.8	11	13	50	43	782	465	328	388	1,100	1,050
18	175	9.8	12	13	50	43	1,010	334	350	398	1,090	1,050
19	175	9.8	12	13	50	41	1,180	265	360	384	1,080	1,050
20	175	9.8	12	13	50	41	1,220	265	364	384	1,080	1,050
21	175	9.8	12	13	50	41	1,220	265	364	384	1,080	1,040
22	135	9.8	12	13	50	41	1,220	284	364	396	1,080	1,040
23	58	9.8	12	13	50	39	1,220	449	350	396	1,080	1,040
24	9.4	9.8	12	13	50	143	1,100	540	360	392	1,080	1,040
25	9.4	9.8	12	13	50	217	1,020	550	376	415	1,080	1,030
26	9.4	9.8	12	13	50	217	1,020	562	376	432	1,080	1,030
27	9.4	20	12	13	50	250	733	392	384	436	1,090	1,020
28	9.4	58	12	13	50	359	562	313	388	436	1,080	1,020
29	9.4	56	12	13	50	498	637	313	397	436	1,080	936
30	9.4	56	12	13	———	414	672	313	387	436	1,080	668
31	9.4	———	12	13	———	414	———	313	———	436	1,070	———
TOTAL	10,349.2	518.8	725	389	1,307	3,576	20,524	12,468	10,171	12,977	29,066	30,984
MEAN	334	17.3	23.4	12.5	45.1	115	684	402	339	419	938	1,033
MAX	892	58	56	13	50	498	1,220	666	397	567	1,100	1,070
MIN	9.4	9.4	10	12	13	39	94	192	265	343	436	668
AC-FT	20,570	1,030	1,440	772	2,590	7,090	40,710	24,730	20,170	25,740	57,650	61,460
(†)	-10,620	+13,290	+14,500	+18,920	+11,640	+6,200	-22,800	+15,700	+67,280	+29,710	-35,630	-49,390
MEAN‡	162	241	259	320	247	216	301	658	1,470	902	358	203
CFSM‡	.866	1.29	1.39	1.71	1.32	1.16	1.61	3.52	7.86	4.82	1.91	1.09
IN ‡	1.00	1.44	1.60	1.97	1.43	1.33	1.80	4.05	8.77	5.56	2.21	1.21
AC-FT‡	9,950	14,320	15,940	19,690	14,230	13,290	17,910	40,440	87,450	55,450	22,020	12,070

OBSERVED

CAL YR 1963:	TOTAL 181,561.0	MEAN 497	MAX 1,900	MIN 9.4	AC-FT 360,100
WAT YR 1964:	TOTAL 133,075.0	MEAN 364	MAX 1,220	MIN 9.4	AC-FT 264,000

ADJUSTED ‡

CAL YR 1963:	MEAN 403	CFSM 2.16	IN 29.27	AC-FT 291,700
WAT YR 1964:	MEAN 445	CFSM 2.38	IN 32.37	AC-FT 322,800

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Adjusted for change in lake contents.

12-4915. Tieton River at Tieton Dam, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	500	46	118	148	19	910	205	732	1,280	1,050	1,840	573
2	500	43	110	141	16	910	204	732	1,280	1,010	1,830	567
3	500	52	102	139	126	910	205	732	1,270	1,010	1,980	701
4	500	52	116	139	441	904	205	732	1,250	1,010	2,290	938
5	495	52	139	304	611	779	205	1,030	876	1,010	2,250	1,010
6	308	52	139	423	611	910	205	1,250	716	1,070	2,120	1,010
7	214	52	139	504	611	904	205	1,250	1,050	1,170	1,880	1,010
8	214	52	139	562	792	904	205	1,250	1,290	1,200	1,760	1,010
9	217	50	139	567	928	904	205	1,250	1,320	1,200	1,760	1,000
10	217	50	139	567	934	904	205	1,250	1,350	1,200	1,750	1,000
11	217	48	139	567	934	610	205	921	1,460	1,200	1,980	1,010
12	217	47	139	567	928	418	205	522	1,570	1,200	1,490	1,010
13	155	47	139	567	928	414	205	294	1,370	1,190	1,120	1,010
14	114	79	139	567	928	414	205	291	902	1,190	1,130	966
15	102	79	139	567	928	414	205	489	776	1,240	1,120	898
16	91	55	139	567	928	397	205	423	680	1,360	1,110	751
17	79	50	137	567	619	214	205	423	699	1,390	1,110	732
18	65	60	126	567	13	214	205	423	940	1,390	1,110	688
19	61	60	13	567	377	214	205	555	982	1,390	1,110	694
20	50	60	13	567	922	211	242	622	964	1,390	1,100	564
21	48	55	13	567	922	208	205	506	970	1,390	1,100	500
22	47	51	13	567	922	205	208	436	928	1,390	1,100	500
23	47	46	13	567	922	205	220	432	904	1,390	898	550
24	47	98	13	567	922	205	229	432	910	1,380	776	648
25	47	128	13	573	922	208	229	432	1,010	1,380	1,060	677
26	47	122	13	573	922	205	229	615	942	1,280	1,390	677
27	47	122	13	573	916	205	235	956	904	1,230	1,970	596
28	48	120	81	578	910	205	235	1,210	1,020	1,320	1,500	502
29	48	120	137	256	------	205	390	1,280	1,090	1,360	1,440	417
30	48	120	150	23	------	205	640	1,290	1,120	1,530	1,130	283
31	48	------	153	23	------	205	------	1,270	------	1,860	747	------
TOTAL	5,338	2,068	3,015	14,031	19,952	14,720	6,956	24,030	31,823	39,380	44,951	22,492
MEAN	172	68.9	97.3	453	713	475	232	775	1,061	1,270	1,450	750
MAX	500	128	153	578	934	910	640	1,290	1,570	1,860	2,290	1,010
MIN	47	43	13	23	13	205	204	291	680	1,010	747	283
AC-FT	10,590	4,100	5,980	27,830	39,570	29,200	13,800	47,660	63,120	78,110	89,160	44,610
(†)	+4,380	+8,320	+29,470	+6,320	-4,890	-5,690	+37,750	+11,460	+1,130	-48,250	-70,990	-31,910
MEAN‡	243	209	577	555	624	382	866	961	1,080	486	296	213
CFSM‡	1.30	1.12	3.09	2.97	3.34	2.04	4.63	5.14	5.78	2.60	1.58	1.14
IN ‡	1.50	1.25	3.55	3.42	3.48	2.36	5.17	5.93	6.44	2.99	1.82	1.27
AC-FT‡	14,970	12,420	35,450	34,150	34,680	23,510	51,550	59,120	64,250	29,860	18,170	12,700

OBSERVED

CAL YR 1964: TOTAL 131,883 MEAN 360 MAX 1,220 MIN 12 AC-FT 261,600
WAT YR 1965: TOTAL 228,756 MEAN 627 MAX 2,290 MIN 13 AC-FT 453,700

ADJUSTED ‡

CAL YR 1964: MEAN 476 CFSM 2.55 IN 34.63 AC-FT 345,400
WAT YR 1965: MEAN 540 CFSM 2.89 IN 39.18 AC-FT 390,800

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Adjusted for change in lake contents.

12-4925. Tieton River at headworks of Tieton Canal, near Naches, Wash.

Location.--Lat 46°40'10", long 121°00'20", in sec.30, T.14 N., R.15 E. (unsurveyed), on right bank 1,000 ft downstream from headworks of Tieton Canal, 7 miles downstream from Tieton Dam, 12 miles upstream from Oak Creek, and 16 miles southwest of Naches.
Drainage area.--239 sq mi.
Records available.--April 1906 to September 1965. Monthly discharge only for some periods, published in WSP 1316.
Gage.--Water-stage recorder. Datum of gage is 2,280.44 ft above mean sea level, unadjusted. Prior to July 28, 1909, staff gages at same site or sites within 1½ miles downstream referred to same datum.
Average discharge.--59 years, 561 cfs (406,100 acre-ft per year), adjusted for diversion since 1910 and for storage since October 1924.
Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 18, 1961	2,030	4.76	Nov. 6, 1960	13	1.58
1962	Sept.30, 1962	1,150	3.85	Nov. 20, 1961	10	1.44
1963	Sept. 4, 1963	1,630	4.57	Mar. 26, 1963	17	1.59
1964	Apr. 20, 1964	1,320	4.17	Nov. 27, 1963	8.2	1.49
1965	Aug. 4, 1965	2,040	4.96	Dec. 20, 1964	a 18	-

a Minimum daily.

1906-65: Maximum discharge, 8,910 cfs Dec. 22, 1933 (gage height, 9.70 ft); no flow at times in 1926, 1929, 1931-32, 1934, 1945.
Remarks.--Records good. Diversion for irrigation by Tieton Canal. Flow regulated by Rimrock Lake (see station 12-4910). Records of chemical analyses for the water years 1963-65 are published in reports of the Geological Survey.
Cooperation.--Gage-height record, 66 discharge measurements, and records of daily discharge furnished by Bureau of Reclamation; records reviewed by Geological Survey.
Revisions (water years).--WSP 1216: Drainage area. WSP 1286: 1910(M), 1920.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	244	40	62	16	44	123	125	979	930	698	986	1,070
2	244	38	62	16	84	114	201	1,330	946	691	978	1,070
3	240	37	71	15	68	101	249	1,410	946	691	1,020	1,050
4	240	30	75	15	66	89	232	1,250	938	691	1,080	1,050
5	240	15	73	25	84	79	180	1,060	922	691	1,150	1,040
6	244	15	73	125	120	73	125	901	999	604	1,170	1,010
7	213	14	75	100	109	68	109	638	1,030	439	1,170	994
8	190	13	71	66	96	66	101	552	1,020	534	1,140	1,000
9	190	13	70	57	134	64	93	552	1,010	534	1,110	1,000
10	153	19	70	43	216	64	86	558	994	764	1,060	1,000
11	186	25	70	41	194	62	84	558	986	898	1,040	1,010
12	186	19	70	44	150	60	84	761	784	898	1,050	1,000
13	183	18	68	43	123	62	73	826	821	898	1,050	994
14	183	15	60	46	106	91	66	826	994	966	1,050	986
15	183	17	23	106	93	134	181	826	994	1,000	1,040	986
16	183	41	22	117	81	131	404	850	1,030	1,000	1,040	986
17	183	32	22	79	50	128	594	850	1,690	1,000	1,040	986
18	183	43	21	71	39	131	635	850	1,980	1,000	986	986
19	183	32	20	62	44	140	642	963	1,820	994	970	978
20	183	44	20	58	98	143	770	1,050	1,550	994	970	978
21	183	46	20	58	236	131	898	1,080	1,120	994	1,010	970
22	183	32	21	57	224	123	890	1,040	922	994	1,040	898
23	183	31	21	46	128	120	922	986	1,130	994	1,080	906
24	180	52	21	45	109	117	737	970	1,340	986	1,100	906
25	180	57	20	41	123	120	498	970	1,290	986	1,100	882
26	150	70	19	40	103	120	504	978	1,290	986	1,100	719
27	109	64	17	39	101	109	582	962	1,100	986	1,100	698
28	93	64	18	39	91	109	656	946	316	986	1,090	670
29	89	62	17	40	------	114	677	938	698	986	1,080	663
30	41	62	17	41	------	123	691	922	698	986	1,070	649
31	38	------	16	41	------	111	------	914	------	986	1,080	------
TOTAL	5,463	1,060	1,305	1,632	3,114	3,220	12,089	28,296	32,288	26,855	32,950	28,135
MEAN	176	35.3	42.1	52.6	111	104	403	913	1,076	866	1,063	938
MAX	244	70	75	125	236	143	922	1,410	1,980	1,000	1,170	1,070
MIN	38	13	16	15	39	60	66	552	316	439	970	649
AC-FT	10,840	2,100	2,590	3,240	6,180	6,390	23,980	56,120	64,040	53,270	65,360	55,800
(†)	+3,550	+20,910	+11,990	+24,880	+38,380	+28,080	+20,640	+10,640	+13,830	-31,290	-62,240	-53,430
(‡)	0	490	790	0	568	42	1,700	7,880	18,940	20,890	20,950	18,450
MEAN††	234	395	250	457	813	561	778	1,214	1,627	697	391	350
CFSM††	.979	1.65	1.05	1.91	3.40	2.35	3.26	5.08	6.81	2.92	1.64	1.46
IN ††	1.13	1.84	1.21	2.21	3.54	2.71	3.63	5.86	7.59	3.36	1.89	1.63
AC-FT††	14,390	23,500	15,370	28,120	45,130	34,510	46,320	74,640	96,810	42,870	24,070	20,820

OBSERVED

CAL YR 1960: TOTAL 168,833 MEAN 461 MAX 1,510 MIN 13 AC-FT 334,900
WAT YR 1961: TOTAL 176,407 MEAN 483 MAX 1,980 MIN 13 AC-FT 349,900

ADJUSTED ††

CAL YR 1960: MEAN 501 CFSM 2.10 IN 28.55 AC-FT 363,800
WAT YR 1961: MEAN 644 CFSM 2.69 IN 36.60 AC-FT 466,500

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Diversion, in acre-feet, by Tieton Canal.
†† Adjusted for change in lake contents and diversion.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4925. Tieton River at headworks of Tieton Canal, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	524	18	113	52	102	20	35	615	106	816	335	912
2	458	18	159	50	128	21	56	726	106	754	230	954
3	329	18	169	93	120	21	60	761	93	698	206	962
4	324	18	110	77	103	21	71	754	107	841	115	1,040
5	319	17	27	68	81	21	89	740	111	909	71	1,090
6	319	16	27	66	73	21	201	719	111	668	71	1,090
7	319	16	27	150	68	22	319	712	231	628	71	1,090
8	319	16	28	197	64	22	213	712	301	722	71	1,090
9	315	16	26	153	60	21	143	719	224	693	71	1,090
10	319	23	30	89	56	21	111	719	162	277	70	1,060
11	319	27	32	75	56	20	98	733	140	248	70	1,050
12	263	24	27	66	56	19	93	740	224	417	70	1,050
13	186	23	27	54	57	21	101	740	320	492	68	1,050
14	133	26	27	50	60	21	117	726	487	492	66	1,030
15	75	21	27	44	57	28	134	705	691	492	70	1,030
16	77	22	26	39	56	33	125	705	878	547	68	1,030
17	79	22	27	37	56	33	137	705	922	594	68	1,020
18	75	25	27	33	56	34	140	712	914	594	68	1,020
19	79	21	27	29	54	35	120	705	906	516	68	1,030
20	79	16	39	25	52	40	96	698	914	428	70	1,030
21	79	16	45	21	44	39	77	698	922	350	70	1,020
22	79	153	31	17	44	39	62	691	906	480	68	1,010
23	81	149	54	13	40	37	78	538	882	858	68	1,000
24	41	91	127	12	35	39	109	343	930	659	145	1,000
25	21	86	79	15	32	46	81	172	962	540	402	1,000
26	21	86	64	64	29	41	66	91	866	534	452	1,000
27	22	86	50	110	26	21	75	98	775	534	524	986
28	21	86	51	89	23	18	64	103	677	534	654	986
29	21	81	58	86	------	17	54	117	778	534	794	986
30	21	77	62	81	------	22	276	123	918	534	842	962
31	18	------	54	84	------	26	------	117	------	493	842	------
TOTAL	5,335	1,314	1,677	2,039	1,688	840	3,401	17,437	16,564	17,876	6,858	30,668
MEAN	172	43.8	54.1	65.8	60.3	27.1	113	562	552	577	221	1,022
MAX	524	153	169	197	128	46	319	761	962	909	842	1,090
MIN	18	16	26	12	23	17	35	91	93	248	66	912
AC-FT	10,580	2,610	3,330	4,040	3,350	1,670	6,750	34,590	32,850	35,460	13,600	60,830
(†)	+1,940	+11,490	+17,880	+29,830	+18,250	+13,770	+47,030	-2,800	+12,440	-16,820	-12,720	-64,550
(‡)	0	1,010	75	643	202	285	3,400	13,410	18,980	20,480	20,930	19,130
MEAN††	204	254	346	561	393	256	961	735	1,080	636	355	259
CFSM††	.854	1.06	1.45	2.35	1.64	1.07	4.02	3.08	4.52	2.66	1.49	1.08
IN ††	.98	1.18	1.67	2.71	1.71	1.23	4.49	3.55	5.04	3.07	1.71	1.21
AC-FT††	12,520	15,100	21,280	34,510	21,800	15,720	57,180	45,200	64,270	39,120	21,810	15,410

OBSERVED

CAL YR 1961: TOTAL 176,905 MEAN 485 MAX 1,980 MIN 15 AC-FT 350,900
WAT YR 1962: TOTAL 105,697 MEAN 290 MAX 1,090 MIN 12 AC-FT 209,600

ADJUSTED ††

CAL YR 1961: MEAN 638 CFSM 2.67 IN 36.25 AC-FT 462,200
WAT YR 1962: MEAN 503 CFSM 2.10 IN 28.55 AC-FT 363,900

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Diversion, in acre-feet, by Tieton Canal.
†† Adjusted for change in lake contents and diversion.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4925. Tieton River at headworks of Tieton Canal, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	930	117	190	842	21	101	52	430	906	176	253	1,520
2	823	117	190	834	20	91	51	474	882	176	253	1,590
3	625	114	180	834	275	99	52	469	810	176	253	1,590
4	540	114	468	834	278	113	62	458	698	180	253	1,570
5	540	111	705	834	262	81	400	480	691	180	253	1,540
6	540	109	740	834	209	77	874	504	769	183	253	1,540
7	540	109	733	834	216	77	866	540	849	183	253	1,540
8	540	143	733	605	209	75	669	534	895	186	244	1,550
9	540	140	733	430	172	73	544	534	898	183	244	1,540
10	540	140	726	414	137	71	64	528	874	183	249	1,530
11	478	140	726	409	111	68	58	522	934	183	249	1,530
12	320	140	726	414	119	68	259	522	827	186	253	1,520
13	310	143	719	420	131	66	558	516	483	176	253	1,530
14	310	89	733	420	97	66	594	522	368	176	253	1,530
15	310	81	761	420	64	62	642	558	416	190	257	1,530
16	306	140	747	420	56	60	684	570	577	197	261	1,490
17	306	134	860	420	50	60	663	582	563	197	265	1,500
18	306	134	906	303	54	60	614	635	430	197	270	1,480
19	306	237	850	79	101	60	588	834	458	186	531	1,400
20	306	674	850	72	104	62	588	1,170	480	190	999	1,330
21	306	349	850	65	106	64	588	1,360	469	197	1,410	1,320
22	306	244	850	62	98	66	594	1,210	415	186	1,480	1,320
23	306	186	842	60	93	84	588	1,170	340	186	1,510	1,320
24	306	143	826	59	93	69	588	947	304	186	1,490	1,320
25	306	172	826	55	93	39	582	-669	306	190	1,490	1,320
26	306	224	826	72	111	39	494	828	329	183	1,490	1,330
27	306	190	826	64	103	68	344	874	319	180	1,480	1,330
28	301	190	826	63	101	56	353	978	306	183	1,460	1,330
29	301	194	826	67	------	54	368	818	257	219	1,430	1,340
30	204	194	834	24	------	56	383	922	190	253	1,440	1,350
31	117	------	834	22	------	52	------	938	------	257	1,440	------
TOTAL	12,481	5,212	22,442	11,285	3,484	2,137	13,764	22,096	17,043	5,904	22,219	43,630
MEAN	403	174	724	364	124	68.9	459	713	568	190	717	1,454
MAX	930	674	906	842	278	113	874	1,360	934	257	1,510	1,590
MIN	117	81	180	22	20	39	51	430	190	176	244	1,320
AC-FT	24,760	10,340	44,510	22,380	6,910	4,240	27,300	43,830	33,800	11,710	44,070	86,540
(†)	-6,460	+35,970	-730	-2,960	+42,870	+21,450	+3,140	+2,010	-2,360	-8,890	-49,270	-91,550
(‡)	0	516	97	0	324	729	2,900	8,820	19,850	20,500	20,660	18,860
MEAN††	298	787	714	316	902	430	560	889	862	379	251	233
CFSM††	1.25	3.29	2.99	1.32	3.77	1.80	2.34	3.72	3.61	1.59	1.05	.975
IN ††	1.44	3.67	3.44	1.52	3.93	2.07	2.62	4.29	4.02	1.83	1.21	1.09
AC-FT††	18,300	46,830	43,880	19,420	50,100	26,420	33,340	54,660	51,290	23,320	15,460	13,850

OBSERVED

CAL YR 1962: TOTAL 137,506 MEAN 377 MAX 1,090 MIN 12 AC-FT 272,700
WAT YR 1963: TOTAL 181,697 MEAN 498 MAX 1,590 MIN 20 AC-FT 360,400

ADJUSTED ††

CAL YR 1962: MEAN 586 CFSM 2.45 IN 33.27 AC-FT 424,000
WAT YR 1963: MEAN 548 CFSM 2.29 IN 31.13 AC-FT 396,900

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Diversion, in acre-feet, by Tieton Canal.
†† Adjusted for change in lake contents and diversion.

12-4925. Tieton River at headworks of Tieton Canal, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	978	16	13	71	26	98	351	552	150	110	134	810
2	946	17	11	56	22	96	197	552	114	39	134	810
3	938	16	11	44	33	91	110	546	73	208	143	810
4	938	17	10	37	37	96	96	546	120	265	156	810
5	883	29	13	32	39	96	118	540	117	278	159	810
6	775	68	27	34	79	91	385	377	102	234	159	810
7	624	49	41	32	79	89	684	240	183	134	298	810
8	528	23	73	30	81	84	677	257	194	128	596	810
9	528	21	53	30	84	81	691	153	192	105	719	803
10	528	20	22	29	72	81	415	57	213	86	726	803
11	516	20	19	27	42	79	216	60	213	84	808	810
12	516	20	17	26	25	79	205	75	143	86	850	818
13	510	20	16	26	20	79	458	52	84	103	850	818
14	411	32	16	27	19	79	827	62	82	103	842	818
15	190	30	17	28	18	84	967	159	125	106	842	818
16	186	25	17	33	17	81	797	261	149	89	842	818
17	183	24	18	32	16	93	791	265	143	84	834	818
18	183	23	19	31	17	89	1,020	162	203	106	834	818
19	180	23	20	31	40	86	1,230	81	143	77	834	810
20	176	21	20	31	96	84	1,270	89	140	87	842	810
21	172	20	21	35	101	81	1,240	64	134	78	818	818
22	158	21	23	33	103	77	1,230	63	134	86	818	818
23	86	21	24	50	101	55	1,200	178	114	86	810	842
24	21	21	25	52	101	156	1,060	296	117	89	810	842
25	23	23	25	116	98	217	930	296	123	103	818	834
26	17	37	25	118	96	197	922	296	123	125	818	834
27	16	16	25	71	98	226	705	195	125	128	859	834
28	16	27	24	58	101	350	498	91	125	128	818	834
29	16	22	24	48	101	531	529	111	126	128	818	742
30	16	14	24	37	------	447	552	117	127	128	810	536
31	15	------	35	30	------	452	------	128	------	134	810	------
TOTAL	11,273	736	728	1,335	1,762	4,525	20,371	6,921	4,131	3,725	20,609	24,176
MEAN	364	24.5	23.5	43.1	60.8	146	679	223	138	120	665	806
MAX	978	68	73	118	103	531	1,270	552	213	278	859	842
MIN	15	14	10	26	16	55	96	52	73	39	134	536
AC-FT	22,360	1,460	1,440	2,650	3,490	8,980	40,410	13,730	8,190	7,390	40,880	47,950
(†)	-10,620	+13,290	+14,500	+18,920	+11,640	+6,200	-22,800	+15,700	+67,280	+29,710	-35,630	-49,390
(‡)	0	351	760	.4	1,320	825	5,730	17,620	19,100	20,520	20,440	18,730
MEAN††	191	254	272	351	286	260	392	765	1,589	937	418	291
CFSM††	.799	1.06	1.14	1.47	1.20	1.09	1.64	3.20	6.65	3.92	1.75	1.22
IN ††	.92	1.18	1.31	1.69	1.29	1.26	1.83	3.69	7.42	4.52	2.02	1.36
AC-FT††	11,740	15,100	16,700	21,570	16,450	16,000	23,340	47,050	94,570	57,620	25,690	17,290

OBSERVED

CAL YR 1963: TOTAL 154,299 MEAN 423 MAX 1,590 MIN 10 AC-FT 306,000
WAT YR 1964: TOTAL 100,292 MEAN 274 MAX 1,270 MIN 10 AC-FT 198,900

ADJUSTED ††

CAL YR 1963: MEAN 458 CFSM 1.92 IN 25.99 AC-FT 331,400
WAT YR 1964: MEAN 500 CFSM 2.09 IN 28.49 AC-FT 363,100

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Diversion, in acre-feet, by Tieton Canal.
†† Adjusted for change in lake contents and diversion.

12-4925. Tieton River at headworks of Tieton Canal, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	546	57	136	160	288	1,030	253	768	1,310	789	1,600	287
2	540	56	90	165	224	1,010	244	754	1,100	740	1,590	287
3	540	64	66	166	283	1,020	244	719	1,070	740	1,690	426
4	540	64	70	168	554	1,230	253	705	1,070	740	2,000	653
5	540	64	120	314	754	966	253	945	731	740	1,970	733
6	368	64	159	480	740	1,030	249	1,170	564	797	1,840	733
7	244	64	156	547	726	1,030	236	1,150	882	920	1,570	733
8	236	62	159	614	865	1,030	228	1,130	1,130	962	1,460	726
9	240	62	159	621	1,020	1,040	232	1,130	1,170	954	1,460	719
10	244	60	159	628	962	1,050	220	1,130	1,240	954	1,460	712
11	244	59	156	628	994	767	217	842	1,280	954	1,420	705
12	244	57	156	628	986	534	232	455	1,400	938	1,240	698
13	189	57	156	628	954	522	253	212	1,230	938	818	691
14	125	89	156	642	998	522	240	131	798	930	826	665
15	114	93	156	656	1,030	528	249	366	614	991	826	612
16	103	68	155	642	1,050	525	274	270	531	1,090	826	505
17	91	70	148	649	853	310	265	240	471	1,120	826	442
18	81	71	143	656	176	292	249	224	709	1,110	826	458
19	71	71	25	649	455	278	338	357	761	1,110	826	475
20	60	71	18	642	1,080	274	505	431	740	1,110	826	363
21	60	68	26	642	1,070	270	431	323	726	1,110	826	283
22	59	64	212	642	1,060	274	425	232	684	1,100	826	278
23	54	64	572	642	1,070	270	378	232	670	1,100	651	346
24	53	134	216	642	1,040	270	353	232	677	1,100	510	468
25	59	126	106	642	1,030	265	363	232	722	1,100	783	510
26	59	98	79	660	1,050	261	358	410	701	1,050	1,110	510
27	59	79	68	746	1,040	253	363	742	632	1,020	1,440	457
28	59	71	132	810	1,030	253	368	1,020	754	1,090	1,240	426
29	59	71	200	888	------	249	467	1,100	819	1,150	1,150	389
30	59	97	190	600	------	249	694	1,100	866	1,260	898	205
31	57	------	165	450	------	244	------	1,100	------	1,600	533	------
TOTAL	5,997	2,195	4,509	17,647	23,382	17,846	9,434	19,852	26,052	31,307	35,867	15,495
MEAN	193	73.2	145	569	835	576	314	640	868	1,010	1,157	517
MAX	546	134	572	888	1,080	1,230	694	1,170	1,400	1,600	2,000	733
MIN	53	56	18	160	176	244	217	131	471	740	510	205
AC-FT	11,890	4,350	8,940	35,000	46,380	35,400	18,710	39,380	51,670	62,100	71,140	30,730
(†)	+4,380	+8,320	+29,470	+6,320	-4,890	-5,690	+37,750	+11,460	+1,130	-48,250	-70,990	-31,910
(‡)	131	651	615	0	191	109	2,910	15,530	19,660	20,600	20,450	15,720
MEAN††	267	224	635	672	750	485	998	1,079	1,218	560	335	244
CFSM††	1.12	.937	2.66	2.81	3.14	2.03	4.18	4.51	5.10	2.34	1.40	1.02
IN ††	1.29	1.04	3.06	3.24	3.27	2.34	4.66	5.21	5.68	2.70	1.62	1.14
AC-FT††	16,400	13,320	39,020	41,320	41,680	29,820	59,370	66,370	72,460	34,450	20,600	14,540

OBSERVED

CAL YR 1964: TOTAL 100,256 MEAN 274 MAX 1,270 MIN 16 AC-FT 198,900
WAT YR 1965: TOTAL 209,583 MEAN 574 MAX 2,000 MIN 18 AC-FT 415,700

ADJUSTED ††

CAL YR 1964: MEAN 535 CFSM 2.24 IN 30.47 AC-FT 388,300
WAT YR 1965: MEAN 621 CFSM 2.60 IN 35.25 AC-FT 449,400

† Change in contents, in acre-feet, in Rimrock Lake.
‡ Diversion, in acre-feet, by Tieton Canal.
†† Adjusted for change in lake contents and diversion.

12-4940. Naches River below Tieton River, near Naches, Wash.

Location.--Lat 46°44'40", long 120°46'00", in SW¼NE¼ sec.36, T.15 N., R.16 E., on left bank half a mile downstream from Wapatox power canal, three-quarters of a mile downstream from Tieton River, and 3½ miles northwest of Naches.
Drainage area.--941 sq mi.
Records available.--August to October 1905, October 1908 to September 1965. Monthly discharge only for some periods, published in WSP 1316.
Gage.--Water-stage recorder. Datum of gage is 1,549.67 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Dec. 7, 1916, staff gage and Dec. 7, 1916, to Sept. 9, 1936, water-stage recorder, at site five-eighths of a mile upstream at different datums. Sept. 10 to Oct. 30, 1936, staff gage at present site and datum.
Average discharge.--57 years, 1,720 cfs (1,245,000 acre-ft per year), adjusted for diversions by Selah Valley and Tieton Canals since 1909, city of Yakima at Oak Flat since 1929, by Wapatox Canal since 1936, and for change in contents in Bumping Lake since November 1910 and in Rimrock Lake since October 1924.
Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 4, 1961	7,240	15.63	Oct. 10, 1960	31	10.33
1962	Apr. 7, 1962	3,890	14.16	Dec. 10, 1961	6.0	10.03
1963	May 23, 1963	5,250	14.79	Jan. 31, 1963	35	10.33
1964	June 11, 1964	5,150	14.80	Feb. 3, 1964	12	10.22
1965	Jan. 30, 1965	6,250	15.34	Nov. 23, 1964	29	10.31

1905, 1908-65: Maximum discharge, 32,200 cfs Dec. 22, 23, 1933 (gage height, 14.33 ft, site and datum then in use); minimum, 1 cfs Nov. 7, 1942, and for many days during winter of 1943-44, result of regulation and diversion.
Remarks.--Records excellent. Flow regulated by Bumping and Rimrock Lakes (see elsewhere in this report), by diversion at Oak Flat for municipal supply of City of Yakima below station, and by diversion of Selah Valley, Tieton, and Wapatox Canals. Small unmeasured diversions for irrigation of approximately 420 acres above station.
Cooperation.--Gage-height record collected in cooperation with, and 11 discharge measurements furnished by Bureau of Reclamation.
Revisions (water years).--WSP 1216: Drainage area. WSP 1286: 1910(M), 1911, 1929-30(M), 1932-33(M). WSP 1936: 1954.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	100	56	284	120	412	1,100	1,230	4,550	5,230	1,730	964	786
2	97	60	272	120	573	1,040	1,770	4,890	6,370	1,760	901	829
3	95	51	260	120	552	937	2,480	4,570	7,120	1,770	900	786
4	89	47	260	150	517	856	2,490	3,930	7,100	1,800	960	744
5	86	43	228	300	552	829	2,070	3,370	6,700	2,060	1,020	719
6	86	36	209	720	856	760	1,780	3,050	6,370	1,900	1,070	679
7	82	34	216	550	1,060	687	1,530	2,620	6,010	1,470	1,040	640
8	74	33	224	492	973	625	1,430	2,380	5,280	1,470	973	625
9	69	33	190	444	1,020	559	1,340	2,380	4,800	1,390	964	602
10	56	34	158	417	1,360	332	1,230	2,490	4,440	1,500	919	595
11	64	120	205	365	1,370	288	1,210	2,450	4,240	1,700	865	580
12	62	162	309	284	1,240	272	1,250	2,560	3,670	1,690	860	573
13	58	114	365	252	1,140	260	1,220	2,720	3,230	1,670	860	559
14	60	123	365	236	1,020	390	1,060	2,730	3,600	1,770	856	538
15	58	142	280	480	1,070	744	1,040	2,850	4,320	1,780	856	538
16	54	220	244	919	1,060	874	1,280	3,030	4,850	1,710	883	538
17	51	400	300	828	964	829	1,700	3,390	5,870	1,650	865	538
18	49	510	292	671	856	786	2,240	3,820	6,540	1,600	794	531
19	47	412	288	559	838	874	2,180	4,700	6,010	1,540	735	524
20	45	462	264	492	928	955	2,140	5,750	5,140	1,500	711	510
21	58	663	256	498	1,530	874	2,300	6,320	4,080	1,480	769	504
22	69	474	248	468	2,020	812	2,430	5,890	3,230	1,440	803	434
23	72	406	244	434	1,690	778	2,770	5,750	3,270	1,420	820	434
24	74	492	228	456	1,490	803	2,830	5,340	3,490	1,400	838	434
25	86	474	220	380	1,380	847	2,570	5,140	3,400	1,360	820	439
26	69	417	228	288	1,210	883	2,560	5,820	3,280	1,330	803	355
27	64	318	220	228	1,120	829	2,700	5,680	3,060	1,290	794	345
28	64	318	190	205	1,020	769	2,910	5,090	1,700	1,260	786	332
29	64	322	150	322	-------	794	3,460	4,760	2,020	1,240	769	314
30	47	300	120	314	-------	928	4,400	4,700	1,870	1,220	744	318
31	60	-------	120	417	-------	1,040	-------	4,630	-------	1,190	744	-------
TOTAL	2,109	7,276	7,437	12,529	29,821	23,354	61,600	127,350	136,290	48,090	26,686	16,343
MEAN	68.0	243	240	404	1,065	753	2,053	4,108	4,543	1,551	861	545
MAX	100	663	365	919	2,020	1,100	4,400	6,320	7,120	2,060	1,070	829
MIN	45	33	120	120	412	260	1,040	2,380	1,700	1,190	711	314
AC-FT	4,180	14,430	14,750	24,850	59,150	46,320	122,200	252,600	270,300	95,390	52,930	32,420
(†)	+3,430	+28,750	+7,530	+28,630	+39,580	+31,660	+25,440	+15,100	+22,010	-50,740	-69,880	-55,740
(‡)	22,190	17,810	18,440	24,640	26,910	30,180	27,140	39,010	58,040	62,230	63,040	58,030
MEAN††	485	1,025	662	1,271	2,262	1,760	2,938	4,988	5,889	1,739	750	583
CFSM††	.515	1.09	.704	1.35	2.40	1.87	3.12	5.30	6.26	1.85	.797	.620
IN ††	.59	1.22	.81	1.56	2.50	2.16	3.48	6.11	6.98	2.13	.92	.69
AC-FT††	29,800	60,990	40,720	78,120	125,600	108,200	174,800	306,700	350,400	106,900	46,090	34,710

OBSERVED

CAL YR 1960: TOTAL 365,400 MEAN 998 MAX 3,930 MIN 30 AC-FT 724,800
WAT YR 1961: TOTAL 498,885 MEAN 1,367 MAX 7,120 MIN 33 AC-FT 989,500

ADJUSTED ††

CAL YR 1960: MEAN 1,521 CFSM 1.62 IN 22.01 AC-FT 1,104,000
WAT YR 1961: MEAN 2,019 CFSM 2.15 IN 29.15 AC-FT 1,463,000

† Change in contents, in acre-feet, in Bumping and Rimrock Lakes.
‡ Diversion, in acre-feet, by Tieton, Selah Valley, and Wapatox Canals and city of Yakima.
†† Adjusted for change in contents and diversions.

12-4940. Naches River below Tieton River, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	268	45	66	390	232	100	155	1,820	1,480	1,940	648	508
2	228	30	89	350	380	100	258	2,060	1,610	1,760	520	550
3	139	27	86	573	770	100	350	2,110	1,810	1,460	508	544
4	132	25	79	769	960	93	442	2,110	1,680	1,460	448	585
5	126	23	45	679	868	82	592	1,990	1,500	1,540	415	627
6	114	21	38	655	770	79	1,210	1,940	1,350	1,250	410	620
7	114	21	33	1,080	592	76	3,510	1,870	1,380	1,130	410	620
8	114	21	25	2,430	490	79	2,770	1,900	1,720	1,200	380	613
9	114	21	17	2,260	454	64	2,240	1,930	2,170	1,280	340	613
10	123	21	12	1,700	405	57	1,830	1,970	2,240	850	303	613
11	132	24	11	1,360	365	53	1,640	1,990	2,080	738	267	620
12	123	26	12	1,210	335	40	1,540	1,960	2,030	834	232	620
13	89	26	15	955	340	46	1,630	1,920	2,130	960	224	620
14	64	26	17	794	340	44	1,960	1,850	2,110	886	196	627
15	43	26	21	687	316	46	2,580	1,820	2,320	778	173	620
16	43	23	16	588	308	48	2,480	1,810	2,890	802	152	613
17	43	25	21	517	276	46	2,300	1,870	3,220	960	135	606
18	43	33	24	456	272	46	2,340	1,970	3,160	950	113	599
19	43	30	36	304	254	50	2,610	1,930	3,000	859	93	599
20	56	25	49	200	228	55	2,580	1,830	2,930	722	79	599
21	62	20	60	170	204	55	2,280	1,770	2,890	662	84	599
22	60	58	136	200	192	53	1,870	1,820	2,810	698	95	599
23	64	89	355	230	173	46	1,740	1,890	2,750	1,150	113	592
24	64	76	504	250	98	46	1,970	1,680	2,850	980	87	592
25	50	30	632	350	70	64	1,900	1,660	2,930	802	162	585
26	50	35	531	298	40	87	1,870	1,730	2,780	770	177	585
27	50	58	400	326	30	76	1,970	1,900	2,340	810	208	578
28	50	56	345	262	90	62	1,770	2,160	1,870	842	312	613
29	45	62	350	236	------	225	1,530	2,010	1,820	818	442	669
30	45	62	439	208	------	278	1,520	1,720	2,010	802	496	676
31	45	------	434	204	------	101	------	1,530	------	786	478	------
TOTAL	2,736	1,065	4,898	20,691	9,852	2,397	53,437	58,520	67,860	31,479	8,700	18,104
MEAN	88.3	35.5	158	667	352	77.3	1,781	1,888	2,262	1,015	281	603
MAX	268	89	632	2,430	960	278	3,510	2,160	3,220	1,940	648	676
MIN	43	20	11	170	30	40	155	1,530	1,350	662	79	508
AC-FT	5,430	2,110	9,720	41,040	19,540	4,750	106,000	116,100	134,600	62,440	17,260	35,910
(†)	+2,620	+12,440	+20,830	+28,010	+22,630	+15,980	+64,720	-170	+13,960	-28,820	-31,070	-65,620
(‡)	23,350	17,580	18,220	23,100	24,280	23,390	22,810	51,250	58,790	62,550	58,570	58,570
MEAN††	511	540	793	1,499	1,196	718	3,252	2,719	3,485	1,564	728	485
CFSM††	.543	.574	.843	1.59	1.27	.763	3.46	2.89	3.70	1.66	.774	.515
IN ††	.63	.64	.97	1.84	1.32	.88	3.86	3.33	4.13	1.92	.89	.58
AC-FT††	31,400	32,130	48,760	92,150	66,450	44,120	193,500	167,200	207,400	96,170	44,760	28,860

OBSERVED

CAL YR 1961: TOTAL 490,762 MEAN 1,345 MAX 7,120 MIN 11 AC-FT 973,400
WAT YR 1962: TOTAL 279,739 MEAN 766 MAX 3,510 MIN 11 AC-FT 554,900

ADJUSTED ††

CAL YR 1961: MEAN 1,995 CFSM 2.12 IN 28.77 AC-FT 1,444,000
WAT YR 1962: MEAN 1,454 CFSM 1.55 IN 20.99 AC-FT 1,053,000

† Change in contents, in acre-feet, in Bumping and Rimrock Lakes.
‡ Diversion, in acre-feet, by Tieton, Selah Valley, Wapatox Canals and city of Yakima.
††Adjusted for change in contents and diversions.
Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-4940. Naches River below Tieton River, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	620	82	886	1,340	116	1,010	267	1,710	3,430	623	192	1,230
2	508	82	810	1,360	181	816	226	1,730	3,090	608	181	1,300
3	330	82	722	1,400	634	712	239	1,710	2,750	608	173	1,290
4	249	82	838	1,400	2,520	679	230	1,610	2,450	585	170	1,300
5	236	82	1,130	1,360	3,840	600	542	1,570	2,300	570	166	1,280
6	228	79	1,370	1,340	2,860	533	1,680	1,620	2,200	548	162	1,270
7	232	79	1,340	1,290	2,460	470	1,810	1,600	2,230	585	177	1,230
8	254	82	1,350	1,130	2,170	424	1,560	1,530	2,240	592	181	1,230
9	285	104	1,410	842	1,950	399	1,490	1,550	2,230	217	177	1,220
10	221	107	1,430	730	1,710	369	852	1,540	2,120	166	196	1,190
11	226	113	1,380	571	1,460	345	798	1,510	2,190	155	200	1,200
12	216	148	1,340	500	1,280	318	798	1,480	2,270	189	200	1,180
13	254	142	1,290	520	1,180	267	1,260	1,480	2,030	204	226	1,170
14	232	116	1,300	600	1,320	257	1,530	1,510	1,770	196	209	1,160
15	196	82	1,730	730	1,250	239	1,950	1,690	1,730	196	200	1,170
16	166	95	2,240	648	1,180	230	1,900	1,850	1,860	189	200	1,160
17	216	84	2,230	606	1,110	213	1,800	1,990	1,870	177	196	1,150
18	232	79	2,170	564	1,060	185	1,630	2,360	1,620	170	189	1,130
19	294	135	1,960	280	1,120	166	1,510	3,030	1,510	159	305	1,050
20	350	3,750	1,800	254	1,240	162	1,500	3,930	1,490	145	740	924
21	345	2,830	1,720	270	1,160	177	1,770	4,750	1,450	145	1,160	942
22	345	1,800	1,720	260	1,100	192	1,890	5,160	1,340	142	1,310	970
23	370	1,290	1,610	249	1,020	345	1,890	5,040	1,230	142	1,370	980
24	345	1,040	1,380	244	990	431	1,730	4,370	1,100	142	1,360	897
25	326	1,080	1,370	232	970	363	1,670	3,710	924	145	1,310	1,000
26	303	1,940	1,380	220	990	345	1,620	3,460	915	135	1,280	990
27	276	1,550	1,440	180	1,040	286	1,370	3,280	870	125	1,220	990
28	272	1,250	1,440	150	980	334	1,370	3,340	843	122	1,220	990
29	280	1,060	1,350	100	-------	340	1,470	3,190	789	125	1,190	980
30	216	1,040	1,360	60	-------	329	1,610	3,550	695	173	1,220	1,000
31	90	-------	1,340	50	-------	296	-------	3,670	-------	189	1,180	-------
TOTAL	8,713	20,485	44,836	19,480	38,891	11,832	39,962	80,520	53,536	8,467	18,260	33,573
MEAN	281	683	1,446	628	1,389	382	1,332	2,597	1,785	273	589	1,119
MAX	620	3,750	2,240	1,400	3,840	1,010	1,950	5,160	3,430	623	1,370	1,300
MIN	90	79	722	50	116	162	226	1,480	695	122	162	897
AC-FT	17,280	40,630	88,930	38,640	77,140	23,470	79,260	159,700	106,200	16,790	36,220	66,590
(†)	-8,120	+44,300	+930	-5,160	+56,340	+30,130	+4,690	+3,610	-8,990	-16,910	-60,860	-96,970
(‡)	33,190	28,730	29,570	22,540	23,040	31,740	26,040	37,350	57,590	58,550	59,300	57,680
MEAN††	689	1,911	1,942	911	2,818	1,388	1,849	3,264	2,602	950	564	459
CFSM††	.732	2.03	2.06	.968	2.99	1.48	1.96	3.47	2.77	1.01	.599	.488
IN ††	.84	2.27	2.38	1.12	3.12	1.70	2.19	4.00	3.08	1.16	.69	.54
AC-FT††	42,350	113,700	119,400	56,020	156,500	85,340	110,000	200,700	154,800	58,430	34,660	27,300

OBSERVED

CAL YR 1962: TOTAL 345,074 MEAN 945 MAX 3,750 MIN 30 AC-FT 684,400
WAT YR 1963: TOTAL 378,555 MEAN 1,037 MAX 5,160 MIN 50 AC-FT 750,900

ADJUSTED ††

CAL YR 1962: MEAN 1,680 CFSM 1.79 IN 24.24 AC-FT 1,216,000
WAT YR 1963: MEAN 1,601 CFSM 1.70 IN 23.09 AC-FT 1,159,000

† Change in contents, in acre-feet, in Bumping and Rimrock Lakes.
‡ Diversion in acre-feet, by Tieton, Selah Valley, Wapatox Canals and city of Yakima.
†† Adjusted for change in contents and diversions.

12-4940. Naches River below Tieton River, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	606	46	98	122	74	104	648	1,640	4,430	2,300	447	838
2	578	44	76	415	48	95	508	1,590	4,730	2,050	441	830
3	578	42	62	405	40	84	355	1,470	4,040	2,020	416	821
4	585	40	60	380	57	87	340	1,240	3,890	1,870	454	796
5	544	38	55	375	104	93	345	1,160	4,430	2,110	549	770
6	442	50	82	330	177	82	495	950	4,130	2,150	528	744
7	312	55	110	276	258	71	913	842	3,730	2,050	563	736
8	228	55	166	254	262	69	970	1,030	3,610	2,290	909	728
9	224	48	181	224	262	64	1,100	1,290	4,260	2,260	1,040	728
10	220	48	107	244	272	57	950	1,590	4,660	1,820	1,030	702
11	212	46	74	177	240	64	690	1,640	5,030	1,560	1,060	694
12	196	46	71	71	185	64	648	1,700	4,670	1,660	1,120	669
13	192	44	65	48	155	53	746	1,700	4,350	1,860	1,100	653
14	177	64	58	29	116	53	1,230	1,350	4,160	1,810	1,060	645
15	93	138	54	44	107	66	1,490	1,290	4,200	1,810	1,060	621
16	95	138	54	69	95	64	1,340	1,610	4,950	1,650	1,040	613
17	95	125	54	95	74	62	1,210	1,930	4,640	1,350	1,020	598
18	98	122	54	74	64	87	1,400	2,170	3,980	1,180	1,000	598
19	95	116	50	69	76	79	1,900	2,280	3,400	992	1,000	577
20	95	98	50	33	98	71	2,200	2,860	2,970	855	983	563
21	95	90	44	55	110	71	2,180	2,860	2,560	787	964	563
22	110	87	33	48	119	66	2,280	2,410	2,350	744	945	556
23	128	79	40	44	135	57	2,240	1,970	2,260	653	927	563
24	93	74	46	50	148	53	2,060	1,870	2,570	563	909	549
25	93	71	62	131	131	138	1,990	1,690	2,830	514	891	535
26	90	93	69	285	119	98	2,060	1,970	2,950	549	900	528
27	82	170	66	204	110	95	1,870	2,060	2,760	507	927	521
28	74	177	48	152	110	185	1,530	2,320	2,390	480	891	514
29	69	148	42	138	104	415	1,640	3,050	2,190	480	891	480
30	60	110	37	116	------	405	1,700	3,400	2,320	460	873	331
31	48	------	40	82	------	538	------	3,800	------	447	864	------
TOTAL	6,607	2,502	2,108	5,039	3,850	3,590	39,028	58,732	109,440	41,831	26,802	19,064
MEAN	213	83.4	68.0	163	133	116	1,301	1,895	3,648	1,349	865	635
MAX	606	177	181	415	272	538	2,280	3,800	5,030	2,300	1,120	838
MIN	48	38	33	29	40	53	340	842	2,190	447	416	331
AC-FT	13,100	4,960	4,180	9,990	7,640	7,120	77,410	116,500	217,100	82,970	53,160	37,810
(†)	-11,960	+14,530	+14,420	+22,330	+7,840	+5,810	-21,500	+31,100	+80,800	+31,340	-53,640	-60,810
(‡)	25,400	20,780	24,750	25,410	25,560	27,390	28,150	54,290	58,400	61,920	61,480	57,120
MEAN††	432	677	705	939	713	656	1,413	3,284	5,988	2,866	992	573
CFSM††	.459	.719	.749	.998	.758	.697	1.50	3.49	6.36	3.05	1.05	.609
IN ††	.53	.80	.86	1.15	.82	.80	1.67	4.02	7.10	3.51	1.22	.68
AC-FT††	26,540	40,270	43,350	57,730	41,040	40,320	84,060	201,900	356,300	176,200	61,000	34,120

OBSERVED

CAL YR 1963:	TOTAL 315,738	MEAN 865	MAX 5,160	MIN 33	AC-FT 626,300
WAT YR 1964:	TOTAL 318,593	MEAN 870	MAX 5,030	MIN 29	AC-FT 631,900

ADJUSTED ††

CAL YR 1963:	MEAN 1,373	CFSM 1.46	IN 19.79	AC-FT 993,900
WAT YR 1964:	MEAN 1,602	CFSM 1.70	IN 23.16	AC-FT 1,163,000

† Change in contents, in acre-feet, in Bumping and Rimrock Lakes.
‡ Diversion in acre-feet, by Tieton, Selah Valley, Wapatox Canals and city of Yakima.
†† Adjusted for change in contents and diversions.

12-4940. Naches River below Tieton River, near Naches, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	435	40	802	787	3,300	1,870	728	4,020	3,570	1,680	1,480	292
2	393	40	1,200	744	2,380	1,810	736	3,470	3,570	1,640	1,510	282
3	404	44	936	661	1,980	1,780	728	3,100	3,890	1,680	1,830	334
4	715	53	719	621	2,420	1,770	770	2,830	4,020	1,690	2,390	532
5	846	67	669	677	2,520	1,660	846	2,780	3,770	1,650	2,460	609
6	719	58	629	891	2,350	1,750	855	2,840	3,620	1,630	2,280	602
7	514	51	549	882	2,150	1,760	830	2,700	3,930	1,700	1,990	596
8	549	46	521	927	2,160	1,770	778	2,630	4,050	1,690	1,760	587
9	563	44	549	882	2,350	1,860	855	2,640	3,910	1,560	1,640	579
10	577	44	500	891	2,080	1,960	855	2,780	3,420	1,450	1,600	571
11	500	42	447	830	1,960	1,880	812	2,840	3,680	1,380	1,420	560
12	269	42	466	787	1,870	1,650	873	2,950	3,840	1,320	1,270	556
13	160	40	460	770	1,830	1,630	1,040	3,110	3,420	1,250	821	553
14	94	40	435	770	1,760	1,620	1,120	3,050	2,830	1,210	796	530
15	64	40	393	846	1,700	1,620	1,360	3,150	2,360	1,230	778	499
16	62	38	305	918	1,660	1,620	1,870	2,950	2,090	1,320	762	419
17	58	33	300	936	1,620	1,290	2,020	2,750	2,030	1,360	744	342
18	51	33	271	918	1,060	1,140	1,810	2,690	2,440	1,320	728	350
19	44	33	203	918	1,340	1,060	2,140	2,940	2,540	1,290	719	345
20	42	31	157	900	2,210	1,030	4,670	2,720	2,440	1,280	762	291
21	48	31	252	882	2,150	964	5,150	2,420	2,390	1,240	736	216
22	51	31	585	855	2,080	900	4,430	2,230	2,260	1,200	728	181
23	51	31	2,510	909	1,960	855	3,820	2,260	2,140	1,150	653	168
24	44	122	1,920	846	1,880	787	3,520	2,160	2,120	1,120	494	229
25	46	353	1,480	796	1,820	770	3,690	2,190	2,050	1,110	655	272
26	46	225	1,260	812	1,800	753	4,330	2,510	1,910	1,040	983	266
27	44	168	1,100	1,200	1,980	694	5,050	3,100	1,700	974	1,350	229
28	42	143	992	1,710	1,950	661	5,530	3,910	1,660	1,010	1,170	160
29	42	136	983	4,750	------	637	5,210	4,600	1,640	1,040	1,080	119
30	40	187	909	5,880	------	621	4,580	4,450	1,710	1,090	833	79
31	40	------	804	4,990	------	605	------	3,870	------	1,490	473	------
TOTAL	7,553	2,286	23,306	40,186	56,320	40,777	71,006	92,640	85,000	41,794	36,895	11,348
MEAN	244	76.2	752	1,296	2,011	1,315	2,367	2,988	2,833	1,348	1,190	378
MAX	846	353	2,510	5,880	3,300	1,960	5,530	4,600	4,050	1,700	2,460	609
MIN	40	31	157	621	1,060	605	728	2,160	1,640	974	473	79
AC-FT	14,980	4,530	46,230	79,710	111,700	80,880	140,800	183,700	168,600	82,900	73,180	22,510
(†)	+3,010	+11,170	+32,580	+7,360	-8,540	-7,100	+49,230	+18,600	+11,340	-49,410	-88,770	-42,050
(‡)	19,210	22,120	23,320	26,210	27,490	31,970	33,250	53,420	59,850	61,710	60,440	48,310
MEAN††	605	636	1,660	1,843	2,353	1,721	3,753	4,159	4,030	1,548	729	483
CFSM††	.64	.68	1.76	1.96	2.50	1.83	3.99	4.42	4.28	1.65	.77	.51
IN ††	.74	.75	2.03	2.26	2.60	2.11	4.45	5.09	4.78	1.90	.89	.57
AC-FT††	37,200	37,820	102,100	113,300	130,700	105,800	223,300	255,700	239,800	95,200	44,850	28,770

OBSERVED

CAL YR 1964: TOTAL 340,521 MEAN 930 MAX 5,030 MIN 29 AC-FT 675,400
WAT YR 1965: TOTAL 509,111 MEAN 1,395 MAX 5,880 MIN 31 AC-FT 1,010,000

ADJUSTED ††

CAL YR 1964: MEAN 1,694 CFSM 1.80 IN 24.49 AC-FT 1,230,000
WAT YR 1965: MEAN 1,955 CFSM 2.08 IN 28.17 AC-FT 1,415,000

† Change in contents, in acre-feet, of Rimrock Lake.
‡ Diversion, in acre-feet, by Tieton Canal.
†† Adjusted for change in contents and diversions.

12-4940. Naches River below Tieton River, near Naches, Wash.--Continued

Monthly discharge, in acre-feet, of Naches River and Canals near Naches, Wash., water years October 1960 to September 1965

Month	Naches River near Naches	City of Yakima Diversion (Oak Flat)	Selah Valley Canal	Tieton Canal	Wapatox Canal	Change in contents in Bumping and Rimrock Lakes	Combined flow of Naches River and canals (adjusted)
October	4,180	707	2,120	0	19,370	+3,410	29,800
November	14,460	547	0	488	16,780	+28,680	60,990
December	14,760	510	566	787	16,540	+7,500	40,720
Calendar year 1960	723,800	7,550	45,730	96,550	299,800	-70,930	1,104,000
January	24,840	519	0	0	24,100	+28,650	78,120
February	59,140	461	472	566	25,380	+39,600	125,600
March	46,300	473	861	43	28,840	+31,670	108,200
April	122,200	512	2,890	1,700	22,080	+25,470	174,800
May	252,600	590	4,960	7,870	25,520	+15,130	308,700
June	270,300	684	7,970	18,920	30,470	+22,020	350,400
July	95,370	769	8,420	20,910	32,180	-50,750	108,900
August	52,940	732	8,300	20,970	33,020	-69,850	46,090
September	32,430	744	6,550	18,450	32,250	-55,760	34,710
Water year 1960-61	989,500	7,250	43,110	90,700	306,500	+25,790	1,463,000
October	5,430	726	2,280	0	20,350	+2,620	31,400
November	2,110	643	0	1,010	15,950	+12,260	32,130
December	9,720	547	314	74	17,280	+20,840	48,760
Calendar year 1961	973,400	7,400	43,020	90,510	307,400	+21,920	1,444,000
January	41,010	587	31	646	21,830	+28,040	92,150
February	19,550	472	428	200	23,160	+22,600	66,450
March	4,750	547	726	283	21,830	+15,990	44,120
April	106,000	577	3,450	3,400	15,350	+64,740	193,500
May	116,100	615	6,270	13,400	30,990	-172	167,200
June	134,600	660	7,500	18,980	31,660	+13,980	207,400
July	62,410	756	8,120	20,480	33,200	-28,840	96,170
August	17,280	781	8,120	20,910	28,780	-31,050	44,760
September	35,880	762	7,020	19,160	31,660	-65,630	28,860
Water year 1961-62	554,800	7,670	44,260	98,540	292,000	+55,380	1,053,000
October	17,280	696	2,350	0	30,140	-8,120	42,350
November	40,630	579	232	516	27,400	+44,300	113,700
December	88,930	544	232	97	28,700	+870	119,400
Calendar year 1962	684,500	7,570	44,420	98,080	324,700	+56,670	1,216,000
January	38,640	562	0	0	21,980	-5,160	56,020
February	77,140	498	476	324	21,740	+56,340	156,500
March	23,470	538	530	729	29,940	+30,130	85,340
April	79,260	537	2,760	2,900	19,840	+4,690	110,000
May	159,700	657	5,510	8,820	22,360	+3,610	200,700
June	106,200	740	8,100	19,850	28,900	-8,990	154,800
July	16,790	756	8,380	20,510	28,900	-16,910	58,430
August	36,220	792	8,400	20,660	29,450	-60,860	34,660
September	66,590	714	6,970	18,860	31,140	-96,970	27,300
Water year 1962-63	750,800	7,610	43,940	93,270	320,500	-57,070	1,159,000
October	13,100	770	2,800	0	21,830	-11,960	26,540
November	4,980	658	0	351	19,770	+14,530	40,270
December	4,180	641	253	760	23,100	+14,420	43,350
Calendar year 1963	626,200	7,860	44,180	93,750	299,000	-77,130	993,900
January	9,990	654	93	0.4	24,660	+22,330	57,730
February	7,640	614	276	1,320	23,350	+7,840	41,040
March	7,120	661	899	825	25,000	+5,810	40,320
April	77,410	641	4,150	5,730	17,630	-21,500	84,060
May	116,500	728	7,800	17,620	28,140	+31,100	201,900
June	217,100	728	7,920	19,100	30,650	+80,800	356,300
July	82,970	815	8,180	20,520	32,410	+31,340	176,200
August	53,160	764	8,190	20,440	32,090	-53,640	61,000
September	37,810	782	6,910	18,730	30,700	-60,810	34,120
Water year 1963-64	631,900	8,460	47,470	105,400	309,300	+60,260	1,163,000
October	14,980	799	2,760	131	15,520	+3,010	37,200
November	4,532	648	-	651	20,820	+11,170	37,820
December	46,230	642	411	615	21,650	+32,580	102,100
Calendar year 1964	675,400	8,480	47,590	105,700	302,600	+90,030	1,230,000
January	79,710	642	70	0	25,500	+7,360	113,300
February	111,700	565	405	191	26,330	-8,540	130,700
March	80,880	649	516	109	30,700	-7,100	105,800
April	140,800	657	3,030	2,910	26,650	+49,230	223,300
May	183,700	760	6,870	15,530	30,260	+18,600	255,700
June	168,600	754	8,020	19,660	31,420	+11,340	239,800
July	82,900	748	8,300	20,600	32,060	-49,410	95,200
August	73,180	753	8,290	20,450	30,950	-88,770	44,850
September	22,510	732	6,020	15,720	25,840	-42,050	28,770
Water year 1964-65	1,010,000	8,350	44,690	96,570	317,700	-62,580	1,415,000

12-5005. North Fork Ahtanum Creek near Tampico, Wash.

Location.--Lat 46°33'40", long 120°55'10", in NW¼ sec.2, T.12 N., R.15 E., on left bank 150 ft downstream from Nasty Creek, 3½ miles upstream from Tampico and confluence with South Fork, and 20 miles west of Yakima.

Drainage area.--68.9 sq mi.

Records available.--August 1907 to September 1965 (no winter records in water years 1908-9, 1916-30). Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Concrete control Nov. 11, 1915, to December 1933 and sharp-crested weir since September 1934. Altitude of gage is 2,450 ft (from topographic map). Prior to Sept. 20, 1934, staff gage or water-stage recorder at site 50 ft upstream at different datum.

Average discharge.--41 years (1909-15, 1930-65), 68.6 cfs (49,660 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (200 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Apr. 29, 1961	2100	268	1.52	June 9, 1962	0100	208	1.35	June 9, 1964	1100	* 354	3.07
May 21, 1961	0200	387	1.87	June 16, 1962	2300	216	1.38	June 16, 1964	0200	291	2.87
June 2, 1961	2000	* 436	2.03								
June 16, 1961	2200	325	1.73	Nov. 20, 1962	0800	* 567	3.46	Dec. 23, 1964	0300	241	2.66
				Nov. 25, 1962	2130	323	2.83	Jan. 30, 1965	2030	319	2.94
Apr. 6, 1962	2100	* 377	1.88	Feb. 3, 1963	1600	524	3.36	Apr. 20, 1965	2100	* 344	3.01
Apr. 18, 1962	2200	211	1.36	Feb. 4, 1963	2300	550	3.42	May 13, 1965	2400	231	2.67
May 28, 1962	2200	216	1.38	May 23, 1963	2130	370	2.97	May 28, 1965	2400	252	2.74

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Dec. 5, 1960	6.1	0.15	1964	Mar. 24, 1964	6.6	0.51
1962	Dec. 10, 1961	8.2	.17	1965	Dec. 17, 1964	b 7.0	c .18
1963	Jan. 11, 1963	11	a .30				

a Occurred Oct. 4, 1962.
b Minimum daily.
c Occurred sometime Dec. 16-21, 1964.

1907-65: Maximum discharge, 823 cfs May 20, 1956 (gage height, 3.00 ft); minimum, 4.3 cfs Nov. 13, 1959 (gage height, 0.13 ft).

Remarks.--Records excellent except those for period of no gage-height record and those for winter periods, which are fair. No diversion of importance. No regulation.

Cooperation.--Gage-height record, 72 discharge measurements, and records of daily discharge prior to October 1962 furnished by Bureau of Indian Affairs.

Revisions (water years).--WSP 1216: Drainage area. WSP 1286: 1910(M), 1914-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	20	24	16	35	64	119	255	350	108	36	29
2	14	18	22	16	77	58	161	240	412	102	36	29
3	14	18	21	16	58	53	186	222	408	97	35	26
4	14	16	20	17	49	48	166	205	408	94	34	24
5	15	17	12	20	49	45	149	186	380	102	34	24
6	18	16	11	30	66	52	136	166	360	92	34	24
7	19	18	11	33	68	46	125	158	337	87	33	24
8	18	17	11	27	62	42	121	158	305	81	31	22
9	17	17	11	25	81	41	117	181	280	77	31	24
10	17	19	11	24	117	41	114	191	258	76	30	24
11	16	25	11	24	115	41	119	184	252	74	30	24
12	16	20	13	24	101	41	119	186	231	71	29	22
13	16	20	15	22	90	42	114	189	231	68	29	22
14	16	20	17	25	82	62	104	194	240	62	29	24
15	16	19	17	42	79	97	101	200	264	58	30	22
16	16	24	16	48	71	102	110	214	293	56	30	22
17	16	25	22	41	65	99	125	243	302	55	29	22
18	16	33	24	36	59	96	123	271	296	53	28	21
19	16	25	24	33	60	104	114	302	268	52	27	21
20	16	45	24	28	64	112	108	337	240	50	27	21
21	17	41	22	25	92	101	112	367	211	49	26	21
22	18	26	21	25	97	94	121	344	194	46	26	22
23	19	25	21	24	87	92	131	337	186	45	26	21
24	19	41	20	23	82	92	138	312	176	43	25	22
25	18	36	20	22	74	92	138	309	168	42	25	21
26	18	21	20	17	68	90	144	347	156	42	25	20
27	20	17	20	16	62	87	156	318	144	41	25	20
28	19	26	17	16	59	84	178	300	134	39	25	21
29	17	26	17	18	------	87	237	290	123	39	24	20
30	17	26	16	20	------	94	258	280	115	39	24	20
31	19	------	16	24	------	101	------	289	------	38	26	------
TOTAL	521	717	547	777	2,069	2,300	4,144	7,775	7,722	1,978	899	679
MEAN	16.8	23.9	17.6	25.1	73.9	74.2	138	251	257	63.8	29.0	22.6
MAX	20	45	24	48	117	112	258	367	412	108	36	29
MIN	14	16	11	16	35	41	101	158	115	38	24	20
CFSM	.24	.35	.26	.36	1.07	1.08	2.00	3.64	3.74	.93	.42	.33
IN.	.28	.39	.30	.42	1.12	1.24	2.24	4.20	4.17	1.07	.49	.37
AC-FT	1,030	1,420	1,080	1,540	4,100	4,560	8,220	15,420	15,320	3,920	1,780	1,350

CAL YR 1960: TOTAL 20,649 MEAN 56.4 MAX 331 MIN 11 CFSM .82 IN 11.15 AC-FT 40,960
WAT YR 1961: TOTAL 30,128 MEAN 82.5 MAX 412 MIN 11 CFSM 1.20 IN 16.26 AC-FT 59,760

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5005. North Fork Ahtanum Creek near Tampico, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	24	20	22	31	28	62	108	158	112	34	20
2	21	21	20	24	38	28	73	110	161	102	33	20
3	20	22	20	34	52	29	82	114	154	94	35	20
4	19	19	20	30	50	31	96	108	138	92	34	20
5	19	19	19	28	48	30	106	104	129	89	34	20
6	18	20	18	28	45	30	191	104	129	85	34	20
7	20	21	19	59	42	29	283	101	138	82	36	19
8	20	21	17	97	41	29	202	108	163	82	35	20
9	20	20	17	81	41	28	166	106	186	82	33	20
10	20	24	11	59	38	27	142	108	181	79	31	20
11	20	22	12	46	38	26	131	108	173	73	30	21
12	20	20	17	45	36	26	134	106	171	71	29	20
13	20	21	19	48	38	27	144	104	168	70	29	24
14	20	24	20	38	38	25	168	99	156	68	28	21
15	20	17	20	38	38	26	186	96	166	65	26	20
16	20	12	20	33	38	28	173	96	194	62	26	20
17	20	14	20	33	38	30	171	104	200	60	26	19
18	20	15	20	29	39	31	184	114	184	58	26	19
19	19	19	22	26	39	36	200	114	176	55	25	19
20	18	16	29	24	38	41	184	106	178	52	25	19
21	18	17	28	23	36	42	171	110	178	49	24	19
22	19	35	25	23	36	41	168	117	173	49	24	18
23	20	28	27	25	33	39	178	125	168	48	24	18
24	20	24	43	27	24	41	184	127	168	46	22	17
25	21	20	41	30	20	43	168	144	166	45	22	17
26	21	20	29	32	20	46	151	146	156	42	21	17
27	21	20	27	31	22	48	151	166	136	41	21	17
28	20	24	26	30	27	45	131	200	123	39	22	30
29	19	24	27	29	------	43	117	194	121	38	22	26
30	20	21	26	28	------	45	112	173	119	38	21	22
31	20	------	25	30	------	50	------	166	------	39	21	------
TOTAL	614	628	704	1,130	1,024	1,068	4,609	3,786	4,811	2,007	853	602
MEAN	19.8	20.9	22.7	36.5	36.6	34.5	154	122	160	64.7	27.5	20.1
MAX	21	35	43	97	52	50	283	200	200	112	36	30
MIN	18	12	11	22	20	25	62	96	119	38	21	17
CFSM	.29	.30	.33	.53	.53	.50	2.23	1.77	2.33	.94	.40	.29
IN.	.33	.34	.38	.61	.55	.58	2.49	2.04	2.60	1.08	.46	.32
AC-FT	1,220	1,250	1,400	2,240	2,030	2,120	9,140	7,510	9,540	3,980	1,690	1,190

CAL YR 1961: TOTAL 30,289 MEAN 83.0 MAX 412 MIN 11 CFSM 1.20 IN 16.35 AC-FT 60,080
WAT YR 1962: TOTAL 21,836 MEAN 59.8 MAX 283 MIN 11 CFSM .87 IN 11.79 AC-FT 43,310

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	29	89	55	30	76	57	116	218	66	28	19
2	20	29	80	54	33	71	56	108	196	64	28	19
3	21	29	73	54	244	67	57	101	178	61	27	19
4	21	35	67	48	381	65	62	100	172	59	27	19
5	21	40	68	47	396	64	77	110	163	57	26	18
6	21	42	81	45	273	61	88	123	155	58	26	18
7	24	41	71	44	234	60	100	121	149	57	25	18
8	25	44	73	45	201	59	104	116	148	56	24	18
9	27	47	73	37	172	58	100	112	144	49	25	18
10	26	48	72	15	146	57	93	109	140	49	25	18
11	32	47	72	12	126	56	88	108	146	47	26	18
12	39	48	69	15	114	54	85	106	155	45	26	17
13	43	44	70	20	102	53	87	109	155	43	24	17
14	37	35	79	30	97	53	128	121	148	41	23	18
15	32	26	126	47	91	50	146	133	142	40	23	18
16	28	24	133	40	86	52	123	146	138	39	22	18
17	24	24	128	36	82	50	110	165	131	42	22	18
18	22	24	120	29	80	49	102	196	124	38	22	18
19	26	64	112	23	89	49	98	231	114	36	23	18
20	29	418	101	24	88	51	97	259	106	34	22	17
21	31	231	98	30	83	52	96	285	100	33	22	18
22	30	151	86	31	79	53	97	307	93	33	23	17
23	28	112	78	30	77	59	102	320	93	33	30	17
24	26	94	58	29	76	56	101	313	88	36	25	17
25	24	152	55	28	78	53	100	268	83	34	23	17
26	25	218	60	26	87	53	98	245	79	33	22	16
27	26	161	70	25	78	56	100	231	76	32	22	16
28	26	124	72	24	77	61	103	234	74	30	21	16
29	27	102	62	22	------	62	118	248	71	30	20	16
30	28	103	60	20	------	61	124	250	69	29	20	16
31	28	------	56	20	------	60	------	242	------	28	19	------
TOTAL	838	2,586	2,512	1,005	3,700	1,781	2,897	5,633	3,848	1,332	741	527
MEAN	27.0	86.2	81.0	32.4	132	57.5	96.6	182	128	43.0	23.9	17.6
MAX	43	418	133	55	396	76	146	320	218	66	30	19
MIN	20	24	55	12	30	49	56	100	69	28	19	16
CFSM	.39	1.25	1.18	.47	1.92	.83	1.40	2.64	1.86	.62	.35	.25
IN.	.45	1.40	1.36	.54	2.00	.96	1.56	3.04	2.08	.72	.40	.28
AC-FT	1,660	5,130	4,980	1,990	7,340	3,530	5,750	11,170	7,630	2,640	1,470	1,050

CAL YR 1962: TOTAL 25,826 MEAN 70.8 MAX 418 MIN 17 CFSM 1.03 IN 13.94 AC-FT 51,230
WAT YR 1963: TOTAL 27,400 MEAN 75.1 MAX 418 MIN 12 CFSM 1.09 IN 14.79 AC-FT 54,350

Note.--No gage-height record Oct. 11 to Nov. 14. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5005. North Fork Ahtanum Creek near Tampico, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	18	15	32	25	25	47	61	221	104	38	22
2	16	20	15	31	25	24	44	59	221	102	37	21
3	15	18	15	28	25	24	42	58	193	99	35	21
4	16	19	16	27	24	26	44	60	231	94	34	21
5	18	19	22	27	22	25	44	65	236	89	32	20
6	20	20	41	26	21	24	43	64	217	87	31	19
7	18	21	31	24	22	23	44	70	204	84	30	19
8	17	24	29	23	25	24	47	80	217	82	28	20
9	17	21	28	22	26	22	52	97	340	78	26	19
10	17	20	14	21	27	22	52	108	303	72	27	19
11	17	20	13	20	27	23	52	106	288	68	27	19
12	17	20	15	19	27	23	49	110	265	65	27	19
13	17	22	18	18	28	22	48	105	241	61	26	18
14	17	47	22	18	26	23	51	99	226	62	25	17
15	17	32	25	19	26	23	59	99	212	60	25	18
16	16	26	26	25	25	23	57	101	233	57	24	18
17	16	24	24	24	25	25	53	115	191	53	25	17
18	15	22	23	22	25	25	51	127	173	51	25	17
19	16	24	23	20	24	24	52	148	156	49	25	17
20	16	18	22	19	24	24	53	170	148	47	24	17
21	19	17	21	18	24	25	52	153	138	46	23	17
22	26	22	21	18	24	24	57	134	137	44	22	17
23	20	22	24	15	24	21	55	118	142	43	22	17
24	20	21	22	19	24	18	52	114	140	40	21	16
25	21	21	22	45	24	26	52	108	132	39	21	16
26	19	27	21	39	24	23	55	111	131	37	22	16
27	18	27	21	33	25	22	55	118	125	36	22	16
28	19	17	21	30	25	24	57	131	114	34	21	16
29	18	16	19	28	25	26	64	156	108	36	21	16
30	18	16	22	27	------	32	65	170	105	34	21	20
31	18	------	27	25	------	41	------	191	------	36	22	------
TOTAL	550	661	678	762	718	756	1,548	3,406	5,788	1,889	809	545
MEAN	17.7	22.0	21.9	24.6	24.8	24.4	51.6	110	193	60.9	26.1	18.2
MAX	26	47	41	45	28	41	65	191	340	104	38	22
MIN	15	16	13	15	21	18	42	58	105	34	21	16
CFSM	.26	.32	.32	.36	.36	.35	.75	1.59	2.80	.88	.38	.26
IN.	.30	.36	.37	.41	.39	.41	.84	1.84	3.12	1.02	.44	.29
AC-FT	1,090	1,310	1,340	1,510	1,420	1,500	3,070	6,760	11,480	3,750	1,600	1,080

CAL YR 1963: TOTAL 23,353 MEAN 64.0 MAX 396 MIN 12 CFSM .93 IN 12.61 AC-FT 46,320
WAT YR 1964: TOTAL 18,110 MEAN 49.5 MAX 340 MIN 13 CFSM .72 IN 9.78 AC-FT 35,920

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	25	17	47	40	176	81	67	220	180	80	30	22
2	21	17	35	44	141	77	69	185	185	78	32	22
3	19	17	27	40	118	72	70	164	211	78	34	21
4	18	23	22	38	106	70	75	149	208	77	31	22
5	18	19	22	38	100	69	80	134	206	72	29	22
6	17	17	19	36	92	69	81	123	217	68	28	22
7	17	17	20	36	85	70	80	117	208	63	27	21
8	20	17	22	34	83	74	78	117	190	61	26	21
9	20	17	20	34	77	78	83	122	185	58	26	20
10	19	17	19	34	73	83	80	132	188	56	26	21
11	18	16	15	32	68	88	77	156	211	55	26	21
12	18	17	12	32	64	87	82	185	185	52	28	21
13	17	16	19	34	62	87	94	211	158	50	26	20
14	17	11	19	34	61	87	101	214	147	48	26	20
15	17	15	17	36	59	86	117	203	136	46	24	21
16	17	17	8.0	36	59	83	134	201	125	45	26	20
17	17	17	7.0	35	64	71	127	180	137	43	25	20
18	17	16	8.0	35	76	70	118	167	141	41	25	21
19	17	15	10	34	88	70	173	162	136	41	27	20
20	17	15	13	34	97	65	312	154	127	44	30	20
21	17	16	16	34	96	65	302	147	123	43	27	19
22	16	16	24	33	90	65	258	145	116	41	30	18
23	17	17	200	31	83	60	240	154	112	39	34	18
24	16	30	137	30	80	57	234	154	108	38	30	18
25	16	25	99	30	76	58	243	164	102	37	27	18
26	16	19	77	32	77	59	249	183	97	36	26	18
27	16	18	64	67	92	55	270	198	90	36	25	18
28	17	18	54	100	86	53	291	223	86	34	24	18
29	17	18	50	270	------	51	288	240	84	32	24	18
30	17	28	43	277	------	51	261	223	83	31	23	18
31	17	------	39	249	------	55	------	195	------	30	23	------
TOTAL	548	538	1,184.0	1,869	2,429	2,166	4,734	5,322	4,482	1,553	845	599
MEAN	17.7	17.9	38.2	60.3	86.8	69.9	158	172	149	50.1	27.3	20.0
MAX	25	30	200	277	176	88	312	240	217	80	34	22
MIN	16	11	7.0	30	59	51	67	117	83	30	23	18
CFSM	.26	.26	.55	.88	1.26	1.01	2.29	2.49	2.17	.73	.40	.29
IN.	.30	.29	.64	1.01	1.31	1.17	2.56	2.87	2.42	.84	.46	.32
AC-FT	1,090	1,070	2,350	3,710	4,820	4,300	9,390	10,560	8,890	3,080	1,680	1,190

CAL YR 1964: TOTAL 18,491.0 MEAN 50.5 MAX 340 MIN 7.0 CFSM .73 IN 9.98 AC-FT 36,680
WAT YR 1965: TOTAL 26,269.0 MEAN 72.0 MAX 312 MIN 7.0 CFSM 1.04 IN 14.18 AC-FT 52,100

12-5010. South Fork Ahtanum Creek at Conrad Ranch, near Tampico, Wash.

Location.--Lat 46°30'30", long 120°54'50", in SW¼ sec.23, T.12 N., R.15 E., on left bank at Conrad Ranch, 2½ miles upstream from confluence with North Fork, 2⅔ miles southwest of Tampico, and 20 miles southwest of Yakima.

Drainage area.--24.8 sq mi.

Records available.--March 1915 to September 1965 (no winter records prior to water year 1931). Monthly discharge only for some periods, published in WSP 1316.

Gage.--Water-stage recorder. Concrete control effective Sept. 6, 1916, to December 1933, Nov. 28, 1962, to Sept. 30, 1965. Altitude of gage is 2,400 ft (from topographic map). Prior to Aug. 9, 1918, staff gage at same site at datum 1.00 ft lower. Aug. 9, 1918, to Mar. 22, 1951, staff gage at present site and datum.

Average discharge.--35 years (1930-65), 19.2 cfs (13,900 acre-ft per year).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (50 cfs), water years 1961-65

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
Dec. 10, 1960	-	-	a 2.36	Apr. 7, 1962	0200	* 85	1.31	June 9, 1964	0030	* 86	2.22
Feb. 10, 1961	2200	65	1.06								
Mar. 19, 1961	1900	60	1.02	Nov. 20, 1962	-	* b 280	-	Dec. 23, 1964	0900	164	2.67
Apr. 3, 1961	2100	52	.95	Feb. 3, 1963	1700	270	3.16	Jan. 28, 1965	2300	* 197	2.82
June 6, 1961	2100	* 112	1.42	Feb. 4, 1963	1800	144	2.61	Apr. 19, 1965	2200	b 91	b 2.25

a Backwater from ice.
b Approximately.

Annual minimum discharge, water years 1961-65

Water year	Date	Discharge	Gage height	Water year	Date	Discharge	Gage height
1961	Dec. 5, 1960	5.4	0.40	1964	Mar. 24, 1964	2.6	0.93
1962	Dec. 10, 1961	a 4.5	-	1965	Dec. 16, 1964	2.4	.92
1963	Jan. 10, 1963	3.8	1.08				

a Minimum daily.

1915-65: Maximum discharge observed, 424 cfs Dec. 23, 1933 (gage height, 3.10 ft), from rating curve extended above 80 cfs; minimum, 2.4 cfs Dec. 16, 1964.

Remarks.--Records good except those for period of no gage-height record and those for winter periods, which are fair. Diversion for irrigation of about 55 acres above station. No regulation.

Cooperation.--Gage-height record, 73 discharge measurements, and records of daily discharge prior to water year 1963 furnished by Bureau of Indian Affairs.

Revisions (water years).--WSP 312: 1910. WSP 902: 1939. WSP 1264: Drainage area. WSP 1316: 1943(M). WSP 1446: 1918(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.5	7.9	7.9	6.0	13	23	40	57	71	35	13	12
2	6.5	7.2	7.9	6.0	26	20	46	54	88	33	13	11
3	6.5	6.8	7.6	6.0	21	18	51	51	98	32	13	10
4	6.2	6.8	7.2	6.0	19	17	50	48	102	29	13	9.5
5	5.9	6.8	6.2	6.2	19	17	46	45	104	30	13	9.5
6	6.5	6.5	6.0	6.4	21	18	41	41	106	28	13	9.5
7	6.5	6.8	6.0	6.8	21	16	38	39	102	27	12	9.5
8	6.5	6.8	5.8	6.8	20	15	35	38	91	24	12	9.5
9	6.5	6.8	5.6	7.6	35	14	34	45	82	23	12	9.5
10	6.5	7.2	5.6	7.9	56	14	32	47	75	23	12	9.5
11	6.5	7.9	5.5	8.2	59	14	33	46	70	22	12	9.5
12	6.5	7.2	5.6	8.6	47	15	33	46	66	21	12	9.0
13	6.5	7.2	5.7	8.6	42	16	32	46	65	21	12	9.0
14	6.8	6.8	5.8	9.5	36	28	30	46	66	20	12	9.0
15	6.8	6.8	6.0	13	36	44	29	45	68	19	12	9.0
16	6.5	8.2	6.2	16	32	46	29	46	71	19	12	9.0
17	6.5	7.9	7.6	16	29	46	32	50	75	18	12	8.2
18	6.5	9.0	8.6	14	26	42	32	53	71	18	11	8.2
19	6.5	7.6	7.9	13	23	48	30	58	66	17	11	8.2
20	6.2	12	7.6	12	23	52	29	65	61	17	11	8.2
21	6.2	12	7.6	12	30	47	30	70	59	17	11	8.2
22	6.2	8.2	7.6	11	36	45	36	74	54	17	11	8.2
23	6.5	8.2	7.6	10	35	40	40	74	51	16	10	8.2
24	7.2	16	7.6	10	34	40	40	69	48	16	10	8.2
25	6.8	13	7.6	9.5	30	40	41	69	46	15	10	8.2
26	6.5	10	7.6	8.6	27	39	44	73	45	15	10	7.9
27	7.2	7.6	7.6	8.6	24	36	44	69	42	15	10	7.9
28	7.2	9.0	6.8	9.0	22	34	46	66	40	14	10	8.2
29	6.8	8.2	6.4	9.0	———	33	52	66	39	14	10	8.2
30	6.8	7.9	6.0	10	———	34	56	65	36	14	9.5	7.9
31	7.2	———	6.0	11	———	35	———	65	———	14	10	———
TOTAL	204.0	250.3	210.7	293.3	842	946	1,151	1,726	2,058	643	354.5	267.9
MEAN	6.58	8.34	6.80	9.46	30.1	30.5	38.4	55.7	68.6	20.7	11.4	8.93
MAX	7.2	16	8.6	16	59	52	56	74	106	35	13	12
MIN	5.9	6.5	5.5	6.0	13	14	29	38	36	14	9.5	7.9
AC-FT	405	496	418	582	1,670	1,880	2,280	3,420	4,080	1,280	703	531

CAL YR 1960: TOTAL 6,071.0 MEAN 16.6 MAX 74 MIN 4.6 AC-FT 12,040
WAT YR 1961: TOTAL 8,946.7 MEAN 24.5 MAX 106 MIN 5.5 AC-FT 17,750

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5010. South Fork Ahtanum Creek at Conrad Ranch, near Tampico, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.9	8.6	8.2	7.9	8.2	8.6	21	28	42	25	11	7.5
2	7.9	7.9	7.9	7.9	8.6	9.0	24	28	41	24	10	7.2
3	7.9	8.2	7.9	11	11	9.3	28	29	38	23	10	7.2
4	7.9	7.6	7.9	11	12	9.5	29	28	38	22	11	7.2
5	7.9	7.6	7.9	11	12	9.5	30	28	36	21	11	7.2
6	7.6	7.9	7.2	11	12	9.5	50	28	34	21	11	7.0
7	7.9	7.9	7.6	13	11	9.5	79	27	32	20	11	7.0
8	8.6	7.9	7.2	18	11	10	65	30	34	19	10	7.0
9	8.6	7.9	6.5	17	11	10	55	29	36	19	9.8	7.0
10	8.6	8.2	4.5	14	11	10	48	29	36	18	9.4	7.2
11	8.6	8.2	5.0	14	10	9.5	43	28	36	17	9.4	7.5
12	8.6	7.9	5.5	13	10	9.5	40	28	38	17	9.1	7.2
13	8.6	7.9	6.0	13	11	9.5	40	28	38	16	9.1	7.8
14	8.6	7.9	6.5	13	12	10	42	27	36	16	9.1	7.5
15	8.2	7.2	7.0	12	13	11	48	26	36	15	9.1	7.2
16	7.9	6.0	7.0	11	13	12	45	25	38	15	8.8	7.2
17	7.9	6.0	7.0	11	13	12	43	26	38	15	8.8	7.2
18	7.9	6.5	7.0	9.5	14	13	43	27	38	14	8.8	7.2
19	7.9	6.5	7.5	8.0	14	14	45	27	38	14	8.8	7.2
20	7.9	7.0	8.5	7.5	13	16	43	27	36	13	8.4	7.0
21	7.9	7.5	8.0	7.0	12	16	41	26	36	13	8.4	7.0
22	7.9	14	7.9	7.0	12	16	38	29	36	12	8.1	6.7
23	8.2	10	8.6	7.5	12	15	40	30	36	12	8.1	6.7
24	8.2	8.6	12	8.0	9.0	15	42	32	34	12	7.8	6.7
25	8.6	8.2	11	8.5	8.0	16	38	36	34	12	7.8	6.7
26	8.6	7.9	9.0	9.0	8.0	17	36	38	32	11	7.8	6.7
27	8.2	8.6	8.6	8.2	8.2	17	38	41	30	11	7.8	6.7
28	8.2	8.6	8.2	7.9	8.4	17	34	45	29	11	8.1	9.1
29	7.9	8.6	8.6	7.6	———	17	30	47	27	11	8.1	8.8
30	8.2	8.6	8.6	7.6	———	17	28	45	26	11	7.8	7.8
31	8.2	———	8.2	7.9	———	18	———	43	———	11	7.5	———
TOTAL	253.0	241.4	238.5	320.0	308.4	392.4	1,226	965	1,059	491	280.9	217.4
MEAN	8.16	8.05	7.69	10.3	11.0	12.7	40.9	31.1	35.3	15.8	9.06	7.25
MAX	8.6	14	12	18	14	18	79	47	42	25	11	9.1
MIN	7.6	6.0	4.5	7.0	8.0	8.6	21	25	26	11	7.5	6.7
AC-FT	502	479	473	635	612	778	2,430	1,910	2,100	974	557	431

CAL YR 1961: TOTAL 9,014.6 MEAN 24.7 MAX 106 MIN 4.5 AC-FT 17,880
WAT YR 1962: TOTAL 5,993.0 MEAN 16.4 MAX 79 MIN 4.5 AC-FT 11,890

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.7	8.5	29	17	8.5	22	21	34	56	20	9.7	7.4
2	7.0	8.5	26	17	10	21	20	31	54	19	9.3	7.7
3	7.2	8.0	24	16	93	20	20	29	50	18	10	7.7
4	7.2	10	22	15	194	19	20	28	48	17	9.3	7.4
5	7.2	11	22	15	130	19	28	30	46	17	9.0	7.1
6	7.0	12	23	14	90	20	39	32	45	17	8.3	6.8
7	7.2	11	22	14	70	20	48	32	43	17	8.6	6.8
8	7.5	13	22	14	64	19	48	30	41	17	8.6	7.1
9	7.8	14	23	13	56	19	46	30	39	17	8.6	7.4
10	7.5	13	23	7.1	48	18	43	29	38	16	8.6	6.8
11	8.5	13	23	5.0	41	18	39	29	38	16	9.0	6.8
12	11	14	22	5.5	39	17	36	29	37	16	9.3	6.8
13	12	13	22	7.0	37	17	35	29	37	14	9.0	6.8
14	11	12	23	11	33	16	43	29	35	14	8.6	7.1
15	9.0	12	31	14	30	16	46	28	34	14	9.0	7.4
16	7.5	11	33	12	29	16	42	32	33	14	8.6	7.7
17	6.5	11	34	10	27	15	39	35	32	15	8.3	7.4
18	6.5	10	33	9.0	26	15	36	38	30	15	8.3	7.4
19	8.5	20	32	7.5	28	15	34	42	29	14	8.6	7.1
20	8.0	100	30	8.0	26	15	35	46	28	13	8.6	6.8
21	9.0	70	28	9.5	25	16	35	51	26	13	8.6	6.8
22	8.5	50	26	9.5	24	16	36	56	26	13	9.0	7.1
23	8.0	35	24	9.0	23	19	38	58	26	13	12	6.8
24	7.5	30	20	9.0	22	18	38	61	25	13	9.3	6.8
25	7.0	35	20	8.5	23	17	36	59	23	13	9.0	6.8
26	7.5	60	22	8.0	24	17	36	57	22	12	8.6	6.8
27	7.5	45	21	7.5	22	19	35	56	21	11	8.3	6.8
28	7.5	40	20	7.0	22	22	35	55	20	11	8.0	6.6
29	8.0	33	19	6.5	———	21	35	56	20	11	7.7	6.6
30	8.5	33	18	6.5	———	22	35	57	20	11	7.4	6.6
31	8.5	———	18	7.0	———	22	———	58	———	10	7.7	———
TOTAL	248.3	756.0	755	319.1	1,264.5	566	1,077	1,266	1,022	451	272.9	211.2
MEAN	8.01	25.2	24.4	10.3	45.2	18.3	35.9	40.8	34.1	14.5	8.80	7.04
MAX	12	100	34	17	194	22	48	61	56	20	12	7.7
MIN	6.5	8.0	18	5.0	8.5	15	20	28	20	10	7.4	6.6
AC-FT	493	1,500	1,500	633	2,510	1,120	2,140	2,510	2,030	895	541	419

CAL YR 1962: TOTAL 7,019.4 MEAN 19.2 MAX 100 MIN 6.5 AC-FT 13,920
WAT YR 1963: TOTAL 8,209.0 MEAN 22.5 MAX 194 MIN 5.0 AC-FT 16,280

Note.--No gage-height record Oct. 11 to Nov. 28. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5010. South Fork Ahtanum Creek at Conrad Ranch, near Tampico, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.6	7.6	6.8	8.2	8.8	8.5	14	13	43	24	13	9.1
2	6.6	7.9	6.6	8.0	8.2	8.5	14	13	44	23	13	8.8
3	6.6	7.6	6.4	8.0	8.2	8.5	13	12	45	23	13	9.4
4	6.8	7.9	6.6	7.8	8.2	8.8	14	13	46	22	13	9.1
5	7.3	7.9	8.5	7.6	7.9	8.8	14	13	50	21	12	8.8
6	8.5	8.2	11	7.4	7.3	8.5	13	13	52	20	12	8.8
7	7.6	8.2	8.5	7.2	8.8	7.6	13	14	52	19	11	8.8
8	7.3	8.8	8.2	7.0	8.5	8.2	14	15	59	19	12	8.8
9	7.3	8.2	7.6	7.1	8.5	7.6	16	18	83	18	11	8.5
10	7.3	7.8	4.5	6.6	8.8	7.6	16	19	78	18	10	8.2
11	7.1	7.8	4.6	6.6	9.1	7.9	16	20	75	16	10	7.9
12	7.1	7.8	4.6	6.6	9.1	7.6	15	21	69	16	10	8.2
13	7.1	8.4	5.3	6.6	9.1	7.3	14	21	61	16	9.4	8.2
14	6.8	14	5.6	6.3	8.8	7.6	15	20	57	16	8.8	7.6
15	6.8	11	6.0	6.6	8.8	8.2	16	20	56	16	8.8	7.6
16	6.6	9.6	6.8	8.2	8.5	8.2	15	20	61	16	8.5	7.6
17	6.6	9.0	6.6	7.3	8.5	8.8	14	22	54	15	8.5	7.3
18	6.6	8.5	6.6	7.1	8.2	8.8	13	25	49	15	8.8	7.3
19	6.6	9.4	6.3	7.1	8.5	8.8	13	28	45	14	8.8	7.1
20	6.8	7.6	6.2	7.1	8.2	8.8	13	31	42	14	8.5	7.1
21	7.3	7.4	6.0	6.3	8.2	9.4	13	31	39	14	8.2	7.1
22	8.5	8.2	5.8	6.3	8.2	9.4	13	28	36	14	8.2	7.1
23	7.3	8.5	6.2	4.7	8.8	8.5	13	27	34	13	8.2	6.8
24	7.6	8.2	6.6	8.5	8.8	7.1	13	27	33	13	8.5	6.3
25	7.6	8.2	6.2	12	9.1	9.1	13	26	32	13	8.5	6.3
26	7.1	10	5.9	10	8.8	8.5	13	26	31	13	8.8	6.6
27	7.1	10	5.8	9.8	8.5	8.5	13	26	30	13	8.8	6.6
28	7.3	7.0	5.8	9.1	8.8	8.8	13	27	28	13	8.8	6.6
29	7.1	7.0	5.4	9.1	8.8	9.1	14	30	26	13	8.8	6.6
30	7.1	7.0	6.2	8.8	———	10	14	33	25	12	9.1	7.3
31	7.3	———	7.4	8.8	———	12	———	39	———	13	9.1	———
TOTAL	221.3	254.7	200.6	237.8	248.0	265.0	417	691	1,435	505	305.1	231.5
MEAN	7.14	8.49	6.47	7.67	8.55	8.55	13.9	22.3	47.8	16.3	9.84	7.72
MAX	8.5	14	11	12	9.1	12	16	39	83	24	13	9.4
MIN	6.6	7.0	4.5	4.7	7.3	7.1	13	12	25	12	8.2	6.3
AC-FT	439	505	398	472	492	526	827	1,370	2,850	1,000	605	459

CAL YR 1963: TOTAL 7,126.3 MEAN 19.5 MAX 194 MIN 4.5 AC-FT 14,130
WAT YR 1964: TOTAL 5,012.0 MEAN 13.7 MAX 83 MIN 4.5 AC-FT 9,940

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.1	6.6	13	12	63	31	20	52	49	22	10	8.1
2	7.3	6.3	10	13	48	29	21	48	49	22	12	8.1
3	6.8	6.8	8.1	12	39	27	22	44	50	22	12	7.6
4	6.8	7.3	7.3	11	31	25	22	41	52	20	11	7.6
5	6.6	6.8	7.0	12	30	24	23	35	53	19	11	7.9
6	6.6	6.3	6.8	11	28	24	23	33	54	18	10	7.9
7	6.3	6.6	6.8	10	26	24	22	31	53	18	10	7.6
8	7.0	6.6	6.8	9.9	26	24	22	31	51	18	9.9	7.3
9	7.3	6.6	6.8	9.6	25	25	24	32	50	17	9.9	7.3
10	7.0	6.6	6.6	9.5	24	27	23	37	48	17	9.6	7.3
11	6.8	6.6	6.1	9.5	23	29	23	40	50	17	9.9	7.3
12	6.6	6.6	5.1	9.5	22	30	24	48	48	16	10	7.3
13	6.6	6.3	6.8	9.0	22	29	26	55	44	16	10	7.3
14	6.3	5.8	6.6	9.0	22	28	29	55	44	16	9.9	7.3
15	6.6	5.8	5.6	9.0	22	28	33	57	42	15	9.6	7.3
16	6.6	6.6	3.0	9.0	22	27	38	50	38	15	9.3	7.3
17	6.6	6.6	2.5	9.0	22	26	36	49	38	14	9.3	7.3
18	6.6	6.6	3.0	9.9	24	23	34	47	36	14	9.0	7.3
19	6.6	6.3	5.0	10	31	22	50	46	34	14	10	7.3
20	6.6	6.1	7.0	10	39	22	75	45	33	15	10	7.0
21	6.6	6.3	15	10	40	20	60	44	30	15	9.6	7.0
22	6.3	6.3	56	10	37	20	55	43	29	14	9.9	6.8
23	6.3	6.6	120	10	33	20	52	44	29	14	11	6.8
24	6.3	10	69	10	30	18	54	43	28	13	10	6.6
25	6.3	8.7	34	10	28	18	56	44	27	13	9.6	6.6
26	6.1	7.3	27	11	28	18	58	44	26	12	9.6	6.6
27	6.3	6.8	22	49	35	17	60	55	25	12	9.3	6.8
28	6.6	6.6	18	82	34	17	62	59	25	12	9.0	6.6
29	6.6	6.6	16	141	———	16	60	60	24	11	9.3	6.6
30	6.8	8.7	14	125	———	16	56	56	23	11	8.7	6.3
31	6.6	———	12	104	———	17	———	52	———	11	8.7	———
TOTAL	206.5	203.7	532.9	765.9	854	721	1,163	1,420	1,182	483	307.1	216.1
MEAN	6.66	6.79	17.2	24.7	30.5	23.3	38.8	45.8	39.4	15.6	9.91	7.20
MAX	8.1	10	120	141	63	31	75	60	54	22	12	8.1
MIN	6.1	5.8	2.5	9.0	22	16	20	31	23	11	8.7	6.3
AC-FT	410	404	1,060	1,520	1,690	1,430	2,310	2,820	2,340	958	609	429

CAL YR 1964: TOTAL 5,278.5 MEAN 14.4 MAX 120 MIN 2.5 AC-FT 10,470
WAT YR 1965: TOTAL 8,055.2 MEAN 22.1 MAX 141 MIN 2.5 AC-FT 15,980

12-5020. Ahtanum Creek at The Narrows, near Tampico, Wash.

Location.--Lat 46°31'40", long 120°48'00", in NE¼ sec.15, T.12 N., R.16 E., on left bank at The Narrows, 3 miles downstream from confluence of North and South Forks, 3½ miles east of Tampico, and 18 miles southwest of Yakima.

Drainage area.--119 sq mi (revised).

Records available.--June 1908 to September 1913, August 1960 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,830 ft (from topographic map). June 25, 1908, to Sept. 30, 1913, staff gage at different site and datum.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 3, 1961	465	a 2.62	Oct. 4, 1960	9.4	0.99
1962	Apr. 7, 1962	385	2.50	Dec. 11, 1961	7.9	.86
1963	Feb. 4, 1963	1,100	4.05	Oct. 2, 1962	13	1.05
1964	June 9, 1964	384	2.83	Dec. 11, 1963	10	1.07
1965	Jan. 30, 1965	860	3.60	Dec. 18, 1964	b 11	-

a Maximum gage height for year, 2.65 ft Feb. 1, 1961.
b Minimum daily.

1908-13, 1960-65: Maximum discharge observed, 1,900 cfs Mar. 1, 1910 (gage height, 4.85 ft, from high watermark, site and datum then in use), from rating curve extended above 600 cfs; minimum, 7.9 cfs Dec. 11, 1961 (gage height, 0.86 ft).

Remarks.--Records good except those for winter periods, which are fair. No regulation. Many small diversions. John Cox ditch diverts up to 8 cfs past gage during early irrigation season. Considerable water bypasses station in a side channel and is not gaged.

Revisions (water years).--WSP 1346: 1910-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	16	30	19	87	84	140	255	344	105	45	29
2	12	16	30	19	141	80	167	244	366	99	43	30
3	11	16	26	19	82	73	197	230	434	97	42	26
4	10	16	25	20	69	68	185	210	449	88	40	24
5	13	17	16	23	68	68	167	179	444	94	40	23
6	15	16	14	36	80	69	156	176	429	92	40	23
7	16	16	15	48	82	64	140	164	409	86	38	23
8	15	17	15	40	78	58	134	156	390	79	37	22
9	15	17	15	36	155	61	130	159	362	76	35	22
10	14	18	14	34	203	64	124	185	301	70	34	22
11	14	24	14	32	216	84	130	176	276	68	34	22
12	14	22	17	31	159	68	132	167	257	64	29	21
13	13	23	19	31	153	80	127	167	230	64	27	21
14	13	22	21	38	134	115	120	173	245	68	27	21
15	13	21	19	52	134	148	115	173	253	66	27	20
16	13	25	18	59	113	156	115	182	280	63	28	19
17	12	26	26	54	104	150	124	188	305	62	27	19
18	11	35	28	48	93	140	132	216	297	60	25	18
19	11	28	30	44	89	148	122	265	272	58	24	18
20	11	38	27	41	91	167	115	314	242	57	24	18
21	12	58	26	36	120	150	117	355	220	57	23	18
22	12	34	25	35	132	142	142	332	199	54	23	18
23	13	29	24	40	120	137	156	306	186	53	22	18
24	13	52	23	43	110	134	153	290	173	52	22	18
25	13	48	23	30	104	134	153	280	161	52	22	18
26	13	32	24	25	93	132	159	330	150	50	23	18
27	16	22	23	17	87	124	170	320	141	49	23	18
28	18	28	19	24	82	117	182	310	130	48	23	18
29	16	30	15	32	------	117	220	305	120	48	23	19
30	14	28	18	40	------	124	265	300	110	47	22	19
31	15	------	19	52	------	130	------	313	------	47	25	------
TOTAL	417	790	659	1,098	3,179	3,386	4,489	7,420	8,175	2,073	917	627
MEAN	13.5	26.3	21.3	35.4	114	109	150	239	273	66.9	29.6	20.9
MAX	18	58	30	59	216	167	265	355	449	105	45	30
MIN	10	16	14	17	68	58	115	156	110	47	22	18
AC-FT	827	1,570	1,310	2,180	6,310	6,720	8,900	14,720	16,210	4,110	1,820	1,240

CAL YR 1960: TOTAL MEAN MAX MIN AC-FT
WAT YR 1961: TOTAL 33,230 MEAN 91.0 MAX 449 MIN 10 AC-FT 65,910

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5020. Ahtanum Creek at The Narrows, near Tampico, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	23	25	27	33	39	68	101	155	92	33	11
2	21	22	24	28	38	41	77	99	158	86	34	14
3	21	22	24	37	48	43	86	101	152	81	35	14
4	20	21	24	40	53	45	99	105	138	79	37	14
5	19	19	26	37	52	43	112	97	130	77	35	14
6	19	22	22	37	50	42	166	99	125	74	35	13
7	20	22	23	58	49	47	322	94	133	70	38	12
8	21	22	20	92	48	57	242	105	150	69	38	13
9	21	20	22	83	49	47	196	103	164	69	36	13
10	21	22	19	63	53	43	161	103	161	66	33	13
11	21	22	16	54	53	42	150	103	155	63	30	14
12	21	21	14	52	53	40	147	103	150	58	27	14
13	21	21	20	57	76	40	152	101	152	57	26	15
14	21	23	22	49	68	42	173	96	144	56	25	16
15	21	19	22	42	60	41	196	92	150	54	22	15
16	20	14	22	37	74	43	180	90	167	52	22	14
17	19	13	23	34	63	45	170	94	173	53	22	14
18	18	20	24	31	62	48	180	101	167	53	23	14
19	19	19	25	29	60	49	202	103	155	50	22	14
20	19	18	32	27	57	53	189	99	155	49	22	14
21	20	16	35	25	53	53	173	101	155	49	22	15
22	21	42	28	25	56	53	167	110	152	48	22	15
23	22	34	28	27	52	52	173	117	150	47	20	15
24	22	30	43	35	34	52	180	112	144	44	14	14
25	22	25	47	48	30	54	170	130	141	43	13	13
26	23	25	35	47	30	57	152	130	135	42	12	13
27	24	26	31	42	32	58	155	141	120	41	12	13
28	22	27	29	36	37	54	138	170	108	38	12	20
29	22	28	30	34	------	54	117	186	101	36	13	24
30	22	27	32	32	------	54	108	170	97	36	12	16
31	22	------	29	32	------	58	------	164	------	36	12	------
TOTAL	645	685	816	1,297	1,423	1,489	4,801	3,518	4,337	1,768	761	441
MEAN	20.8	22.9	26.3	41.8	50.8	48.0	160	113	145	57.0	24.5	14.7
MAX	24	42	47	92	76	58	322	186	173	92	38	24
MIN	18	13	14	25	30	39	68	90	97	36	12	11
AC-FT	1,280	1,360	1,620	2,570	2,820	2,950	9,520	6,980	8,600	3,510	1,510	875

CAL YR 1961: TOTAL 33,511 MEAN 91.8 MAX 449 MIN 13 AC-FT 66,470
WAT YR 1962: TOTAL 21,982 MEAN 60.2 MAX 322 MIN 11 AC-FT 43,600

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	23	118	75	25	100	77	148	252	69	33	22
2	13	22	105	74	40	95	74	140	237	66	32	23
3	15	22	96	72	210	90	77	131	212	60	30	22
4	14	24	87	66	540	83	77	125	203	57	30	22
5	14	31	85	64	566	87	100	133	193	59	29	22
6	14	33	98	61	370	90	137	148	183	60	29	22
7	15	31	90	58	298	80	150	148	176	64	27	22
8	19	34	92	54	249	78	150	142	171	70	26	22
9	21	38	92	53	217	77	142	137	164	63	26	22
10	22	36	92	25	188	77	135	137	155	60	27	20
11	30	36	90	20	166	75	127	135	159	56	28	20
12	31	38	90	20	155	72	123	135	164	54	29	20
13	35	33	92	25	142	68	121	133	164	51	26	19
14	27	31	108	40	133	69	150	142	157	48	27	21
15	23	32	158	77	123	66	183	162	155	48	27	22
16	19	31	167	62	117	69	162	171	148	47	26	22
17	17	30	164	53	111	68	150	183	144	47	26	22
18	16	29	155	45	110	66	146	198	135	46	25	22
19	23	33	150	30	113	63	133	237	127	44	25	22
20	20	440	136	34	115	66	148	255	119	42	25	20
21	24	310	128	42	106	68	144	283	111	42	25	20
22	23	206	125	42	102	69	142	302	104	40	26	20
23	21	152	108	39	102	80	146	306	104	42	33	19
24	19	125	77	38	99	77	146	310	99	42	29	19
25	19	147	77	39	99	69	142	283	93	40	26	19
26	19	253	87	35	110	66	137	269	88	38	26	18
27	20	196	96	33	104	70	135	252	85	36	25	18
28	20	161	96	30	102	80	137	249	80	34	24	18
29	21	133	85	25	------	80	148	258	77	34	23	17
30	22	138	81	20	------	82	155	269	74	33	22	16
31	22	------	77	20	------	78	------	269	------	33	22	------
TOTAL	636	2,848	3,302	1,371	4,812	2,358	3,994	6,190	4,333	1,525	834	616
MEAN	20.5	94.9	107	44.2	172	76.1	133	200	144	49.2	26.9	20.5
MAX	35	440	167	77	566	100	183	310	252	70	33	23
MIN	13	22	77	20	25	63	74	125	74	33	22	16
AC-FT	1,260	5,650	6,550	2,720	9,540	4,680	7,920	12,280	8,590	3,020	1,650	1,220

CAL YR 1962: TOTAL 26,621 MEAN 72.9 MAX 440 MIN 11 AC-FT 52,800
WAT YR 1963: TOTAL 32,819 MEAN 89.9 MAX 566 MIN 13 AC-FT 65,100

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5020. Ahtanum Creek at The Narrows, near Tampico, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	21	25	39	34	34	53	72	234	107	40	27
2	17	22	21	42	32	32	53	68	237	105	41	26
3	17	21	22	38	31	32	49	65	216	98	40	27
4	17	22	23	37	31	32	50	65	243	92	41	26
5	18	22	29	36	30	34	50	72	252	87	39	25
6	22	23	47	36	23	32	49	69	237	85	37	24
7	20	24	42	31	35	28	51	74	225	79	34	24
8	19	27	40	34	33	31	53	82	231	77	34	24
9	19	26	38	33	33	29	58	92	346	74	33	24
10	19	25	21	27	34	28	59	103	358	68	32	24
11	18	25	15	30	35	29	61	105	346	62	31	23
12	19	25	15	29	34	28	56	119	326	58	30	23
13	19	26	15	29	33	27	54	117	302	55	30	23
14	19	48	24	24	33	27	54	111	266	58	29	22
15	19	44	32	29	34	29	61	107	249	58	29	21
16	19	35	34	34	33	29	58	109	276	58	28	22
17	19	33	34	32	33	30	53	121	246	56	27	21
18	18	30	34	30	33	31	51	132	225	55	26	21
19	18	31	32	29	33	30	50	147	201	53	26	21
20	19	29	31	28	32	31	51	172	187	50	25	21
21	21	25	30	27	32	31	51	167	172	49	27	21
22	33	31	29	28	32	32	55	150	164	50	26	21
23	23	30	32	19	33	30	54	132	159	48	25	21
24	23	28	31	28	34	24	50	127	157	45	24	20
25	24	27	30	43	34	33	49	119	152	45	25	20
26	21	32	30	50	34	30	51	119	145	44	27	20
27	21	35	30	42	33	29	51	125	141	41	27	20
28	21	26	30	37	34	30	56	132	130	39	26	20
29	21	24	27	37	34	31	71	162	119	39	25	20
30	21	24	30	35	------	35	74	179	113	38	25	21
31	21	------	33	34	------	42	------	207	------	39	26	------
TOTAL	622	841	906	1,027	949	950	1,636	3,621	6,655	1,912	935	673
MEAN	20.1	28.0	29.2	33.1	32.7	30.6	54.5	117	222	61.7	30.2	22.4
MAX	33	48	47	50	35	42	74	207	358	107	41	27
MIN	17	21	15	19	23	24	49	65	113	38	24	20
AC-FT	1,230	1,670	1,800	2,040	1,880	1,880	3,240	7,180	13,200	3,790	1,850	1,330

CAL YR 1963: TOTAL 28,402 MEAN 77.8 MAX 566 MIN 15 AC-FT 56,330
WAT YR 1964: TOTAL 20,727 MEAN 56.6 MAX 358 MIN 15 AC-FT 41,110

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	27	20	49	52	284	122	80	251	212	83	34	26
2	23	20	44	56	233	114	85	224	206	80	38	25
3	23	22	33	59	181	108	85	206	221	78	39	25
4	21	27	27	50	176	102	90	192	221	80	38	25
5	21	24	27	51	181	99	97	176	218	72	36	25
6	20	21	25	47	153	97	99	160	224	69	35	25
7	20	21	26	45	139	97	99	148	224	66	34	24
8	21	23	27	42	139	99	99	146	212	64	34	23
9	22	23	27	44	122	102	112	146	206	63	33	23
10	22	23	26	41	112	110	104	153	203	60	33	24
11	21	23	23	40	102	118	99	170	221	59	33	24
12	20	23	18	38	97	124	102	195	209	59	34	23
13	20	21	26	39	99	122	118	218	186	60	34	23
14	20	18	27	39	93	122	126	227	176	57	33	23
15	20	18	25	42	90	122	146	221	166	54	32	23
16	20	23	21	43	88	120	160	218	150	53	32	23
17	20	21	12	44	93	112	158	203	160	49	30	23
18	20	21	11	44	114	97	148	192	160	48	27	23
19	20	20	13	44	137	95	178	192	156	47	30	23
20	20	20	16	42	153	95	290	184	146	51	34	23
21	20	20	22	40	153	90	311	178	141	51	30	22
22	19	20	37	39	144	86	281	173	130	48	32	22
23	19	20	322	38	133	85	263	178	122	46	36	21
24	20	31	198	38	122	77	257	178	118	44	34	21
25	19	31	141	40	116	77	260	181	110	41	30	21
26	19	25	115	44	118	80	263	197	102	40	30	21
27	19	22	94	196	137	75	281	209	97	39	29	21
28	20	23	74	290	130	71	297	227	88	38	28	22
29	20	22	58	560	------	68	297	245	80	37	27	21
30	20	30	55	557	------	67	281	242	78	36	27	21
31	20	------	50	400	------	69	------	227	------	35	27	------
TOTAL	636	676	1,669	3,144	3,839	3,022	5,266	6,057	4,943	1,707	1,003	689
MEAN	20.5	22.5	53.8	101	137	97.5	176	195	165	55.1	32.4	23.0
MAX	27	31	322	560	284	124	311	251	224	83	39	26
MIN	19	18	11	38	88	67	80	146	78	35	27	21
AC-FT	1,260	1,340	3,310	6,240	7,610	5,990	10,440	12,010	9,800	3,390	1,990	1,370

CAL YR 1964: TOTAL 21,339 MEAN 58.3 MAX 358 MIN 11 AC-FT 42,330
WAT YR 1965: TOTAL 32,651 MEAN 89.5 MAX 560 MIN 11 AC-FT 64,760

12-5025. Ahtanum Creek at Union Gap, Wash.

Location.--Lat 46°32'10", long 120°28'20", in SW¼ sec.8, T.12 N., R.19 E., on left bank just upstream from Union Pacific Railway bridge, a quarter of a mile upstream from mouth and 1 mile south of Union Gap.

Drainage area.--173 sq mi (revised).

Records available.--May to November 1904, August 1907 to July 1908, March to October 1910, April 1911 to September 1914, May 1951 to April 1953, August 1960 to September 1965. Published as "near Yakima" 1904, 1907-8, 1910-12. Records for water years 1913-14 are published in WSP 1286.

Gage.--Water-stage recorder. Altitude of gage is 940 ft (from topographic map). Prior to Sept. 30, 1914, staff gages at approximately same site at various datums. May 12, 1951, to Apr. 23, 1953, water-stage recorder at same site and datum.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	June 6, 1961	397	2.69	Aug. 8, 9, 1961	8.8	0.42
1962	Apr. 8, 1962	303	2.37	July 31, 1962	10	.47
1963	Feb. 5, 1963	1,340	3.84	Sept. 2, 1963	12	.50
1964	June 10, 1964	408	2.65	Aug. 10, 11, 1964	15	.56
1965	Jan. 31, 1965	798	3.74	Aug. 7, 8, 1965	a 12	-

a Minimum daily.

1904, 1907-8, 1910-14, 1951-53, 1960-65: Maximum discharge observed, 1,530 cfs Mar. 3, 1910 (gage height, 8.9 ft, datum then in use); no flow for many days during September and October 1904.

Remarks.--Records good except those for period of no gage-height record and those for winter periods, which are fair. No regulation. Diversions for irrigation of about 9,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	19	45	33	77	139	192	255	260	40	11	17
2	19	20	52	32	188	139	208	252	294	40	11	20
3	19	20	47	31	156	133	232	240	335	37	11	19
4	19	21	46	31	133	128	247	224	357	33	11	19
5	19	21	44	32	123	128	242	208	370	34	12	19
6	21	21	39	32	124	124	230	195	380	34	11	19
7	20	21	37	47	133	126	217	186	387	33	10	19
8	21	21	36	58	130	124	204	179	364	32	10	20
9	20	21	35	56	146	123	199	190	332	34	11	20
10	22	21	34	53	232	126	192	217	294	31	12	20
11	23	22	33	52	277	137	186	206	274	27	11	20
12	23	22	34	51	250	152	188	195	269	26	11	22
13	23	23	36	50	227	143	186	192	240	24	11	20
14	23	23	39	52	215	164	177	192	227	24	12	20
15	22	23	37	59	206	197	169	188	224	21	12	20
16	20	23	34	68	195	208	160	175	232	19	13	18
17	19	23	36	73	179	210	160	177	242	17	18	18
18	20	23	37	70	164	204	166	192	250	17	19	18
19	20	23	37	68	156	204	164	201	240	16	18	19
20	21	25	37	66	158	224	152	217	213	15	17	19
21	20	27	37	62	154	217	146	237	181	15	16	20
22	20	35	37	61	175	210	162	263	148	14	16	23
23	19	34	37	59	179	206	190	263	126	13	15	26
24	18	50	38	63	173	213	188	255	107	13	14	26
25	19	62	37	63	169	215	186	240	98	13	14	26
26	19	54	39	56	156	206	186	247	84	14	14	24
27	19	46	40	49	148	197	186	271	69	14	13	24
28	19	42	37	45	141	188	188	255	58	12	14	25
29	19	44	36	52	------	181	195	250	52	12	14	26
30	19	44	34	60	------	181	240	255	46	12	14	27
31	19	------	34	67	------	186	------	255	------	12	16	------
TOTAL	632	874	1,181	1,651	4,764	5,333	5,738	6,872	6,753	702	420	636
MEAN	20.4	29.2	38.1	53.3	170	172	191	222	225	22.7	13.6	21.2
MAX	23	62	52	73	277	224	247	271	387	40	19	27
MIN	18	19	33	31	77	123	146	175	46	12	10	17
AC-FT	1,250	1,730	2,340	3,270	9,450	10,580	11,380	13,630	13,390	1,390	834	1,260

CAL YR 1960: TOTAL MEAN MAX MIN AC-FT
WAT YR 1961: TOTAL 35,558 MEAN 97.4 MAX 387 MIN 10 AC-FT 70,530

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5025. Ahtanum Creek at Union Gap, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26	27	38	43	47	55	80	98	104	32	11	17
2	23	27	37	40	50	60	92	83	104	32	14	18
3	22	28	37	41	60	65	102	74	112	28	15	22
4	22	28	37	50	70	77	114	74	112	27	14	24
5	22	30	36	54	80	75	132	76	109	26	18	20
6	20	29	35	55	85	75	141	74	104	23	18	18
7	17	30	35	59	85	77	227	72	93	25	19	17
8	18	30	35	66	82	86	291	71	92	22	22	17
9	19	30	34	103	80	88	263	76	93	21	25	18
10	19	30	32	95	82	80	222	80	99	21	23	18
11	20	31	30	83	84	78	204	80	104	24	19	18
12	20	33	28	77	84	73	192	80	99	22	20	18
13	24	33	28	76	93	73	192	78	96	20	16	18
14	24	33	29	80	123	73	197	72	96	22	15	18
15	22	34	30	70	107	74	208	60	87	24	17	17
16	22	33	30	60	114	73	213	53	84	18	18	18
17	20	30	32	55	116	74	201	50	93	17	23	18
18	20	30	32	50	105	75	195	60	100	15	26	17
19	19	30	31	45	102	77	197	70	87	14	21	18
20	20	30	33	40	99	80	199	76	74	16	20	17
21	20	29	40	38	93	86	184	74	72	17	24	17
22	22	32	41	37	90	88	171	72	69	16	24	18
23	22	39	42	40	87	86	169	76	66	16	22	18
24	22	40	44	45	60	84	164	94	60	14	22	18
25	24	38	50	60	50	86	158	90	60	16	22	17
26	25	35	53	70	40	87	145	95	60	14	23	15
27	26	37	49	65	40	90	148	100	53	14	18	14
28	26	38	47	60	50	88	141	100	46	13	15	17
29	27	40	45	55	------	88	126	115	42	14	18	19
30	27	40	45	50	------	86	112	120	37	15	18	21
31	27	------	48	48	------	82	------	117	------	13	17	------
TOTAL	689	974	1,163	1,810	2,258	2,439	5,180	2,510	2,507	615	601	545
MEAN	22.2	32.5	37.5	58.4	80.6	78.7	173	81.0	83.6	19.8	19.4	18.2
MAX	27	40	53	103	123	90	291	120	112	32	26	24
MIN	17	27	28	37	40	55	80	50	37	13	11	14
AC-FT	1,370	1,930	2,310	3,590	4,480	4,840	10,270	4,980	4,970	1,220	1,190	1,080

CAL YR 1961: TOTAL 35,696 MEAN 97.8 MAX 387 MIN 10 AC-FT 70,800
WAT YR 1962: TOTAL 21,291 MEAN 58.3 MAX 291 MIN 11 AC-FT 42,230

Note.--No gage-height record Dec. 28 to Feb. 10. Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	42	173	122	39	162	115	176	141	26	14	15
2	18	41	158	119	43	158	109	170	138	28	16	12
3	17	39	148	118	47	150	108	156	131	28	16	13
4	18	38	137	118	166	143	104	145	112	26	16	14
5	19	38	130	112	1,140	141	110	148	109	24	16	14
6	20	40	133	108	674	136	139	168	96	24	18	15
7	21	40	135	104	496	134	162	164	91	26	18	17
8	23	40	132	102	440	129	172	158	88	31	14	21
9	25	41	132	99	400	126	179	152	85	31	16	24
10	28	41	133	74	350	123	174	141	84	32	17	22
11	30	41	135	40	296	120	172	134	68	32	18	22
12	32	43	135	40	266	116	166	131	63	31	23	22
13	37	46	135	45	245	112	162	123	61	29	24	22
14	35	44	143	50	226	110	166	112	57	28	23	23
15	30	43	160	63	216	106	208	115	56	24	22	23
16	27	43	190	79	206	108	208	118	52	20	18	24
17	25	42	190	78	194	108	196	123	49	19	16	25
18	24	43	188	73	185	102	199	138	44	18	17	24
19	32	42	186	60	183	98	185	154	38	18	18	24
20	30	75	179	59	194	98	192	170	34	18	17	25
21	38	271	173	61	183	98	218	183	33	18	16	25
22	36	242	171	63	176	96	196	194	31	17	19	27
23	35	201	160	62	172	100	190	194	32	17	24	28
24	33	175	143	60	168	108	187	199	31	19	22	28
25	33	164	126	59	166	99	183	194	28	18	23	28
26	33	207	123	56	170	93	179	174	25	18	24	27
27	35	222	128	53	170	99	172	162	22	20	22	24
28	37	201	137	48	164	116	166	147	26	18	21	20
29	38	177	137	45	------	116	170	143	30	18	21	14
30	39	179	135	40	------	120	174	148	28	17	20	16
31	42	------	125	39	------	116	------	147	------	14	20	------
TOTAL	911	2,901	4,610	2,249	7,375	3,641	5,061	4,781	1,883	712	595	641
MEAN	29.4	96.7	149	72.5	263	117	169	154	62.8	23.0	19.2	21.4
MAX	42	271	190	122	1,140	162	218	199	141	32	24	28
MIN	17	38	123	39	39	93	104	112	22	14	14	12
AC-FT	1,810	5,750	9,140	4,460	14,630	7,220	10,040	9,480	3,730	1,410	1,180	1,270

CAL YR 1962: TOTAL 26,887 MEAN 73.7 MAX 291 MIN 11 AC-FT 53,330
WAT YR 1963: TOTAL 35,361 MEAN 96.9 MAX 1,140 MIN 12 AC-FT 70,140

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5025. Ahtanum Creek at Union Gap, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	23	37	52	61	61	37	31	64	44	22	20
2	17	22	37	56	60	60	42	26	116	37	24	21
3	17	22	38	55	59	59	44	25	117	31	26	23
4	19	23	40	54	58	58	46	24	115	29	26	22
5	22	24	41	52	57	58	44	25	176	28	25	22
6	22	28	46	54	54	58	41	24	194	26	23	22
7	25	27	54	52	53	56	38	26	190	23	23	22
8	24	26	59	52	59	55	37	28	192	22	22	20
9	24	28	52	53	60	56	33	28	263	22	19	20
10	24	29	46	50	59	54	35	29	377	22	16	20
11	24	30	38	51	60	50	35	31	382	23	17	20
12	22	30	37	52	59	49	34	32	359	23	18	20
13	22	32	37	52	57	47	32	32	326	22	17	19
14	22	38	39	50	60	46	33	31	292	22	16	20
15	21	40	42	47	67	46	34	31	269	22	16	20
16	19	41	42	52	64	46	31	30	300	20	16	22
17	19	40	44	56	64	46	29	29	286	20	16	22
18	19	39	46	55	68	43	28	29	260	20	18	26
19	20	41	49	55	67	44	27	28	226	20	20	28
20	19	39	50	56	69	44	29	27	211	20	20	28
21	19	38	49	54	62	45	29	28	192	20	20	28
22	18	38	48	53	61	46	30	31	168	18	20	28
23	19	39	48	51	60	46	33	30	148	18	21	29
24	19	38	50	49	61	43	30	26	129	19	20	30
25	18	38	49	54	61	42	30	26	112	19	18	29
26	19	38	49	64	61	44	29	26	93	18	20	28
27	21	39	46	70	61	42	29	26	81	18	18	28
28	22	42	46	65	61	42	29	26	74	18	18	30
29	22	39	46	64	61	43	28	29	63	17	18	32
30	22	38	47	61	------	44	31	33	53	19	19	33
31	22	------	48	60	------	38	------	38	------	22	20	------
TOTAL	640	1,009	1,400	1,701	1,764	1,511	1,007	885	5,828	702	612	732
MEAN	20.6	33.6	45.2	54.9	60.8	48.7	33.6	28.5	194	22.6	19.7	24.4
MAX	25	42	59	70	69	61	46	38	382	44	26	33
MIN	17	22	37	47	53	38	27	24	53	17	16	19
AC-FT	1,270	2,000	2,780	3,370	3,500	3,000	2,000	1,760	11,560	1,390	1,210	1,450

CAL YR 1963: TOTAL 29,988 MEAN 82.2 MAX 1,140 MIN 12 AC-FT 59,480
WAT YR 1964: TOTAL 17,791 MEAN 48.6 MAX 382 MIN 16 AC-FT 35,290

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	35	30	54	60	371	219	100	238	148	38	14	17
2	33	28	69	70	316	211	112	217	141	33	13	18
3	32	27	61	80	279	201	108	184	139	30	13	20
4	32	29	58	71	252	191	110	173	152	29	14	20
5	30	30	56	72	247	184	116	160	156	27	13	22
6	28	28	55	74	270	175	120	145	162	24	13	26
7	27	30	56	69	252	173	118	123	173	22	12	27
8	26	30	57	69	258	166	110	108	166	20	12	25
9	29	32	56	66	265	166	117	97	148	18	13	25
10	34	33	55	69	238	169	125	91	135	19	13	25
11	33	32	52	69	224	171	117	84	143	20	14	25
12	33	32	49	69	211	175	114	97	173	20	15	24
13	32	32	52	67	206	177	110	108	150	20	16	24
14	31	32	55	67	214	173	116	123	137	19	16	23
15	30	30	57	68	209	171	123	128	139	18	16	18
16	30	31	50	69	187	169	139	134	130	18	19	21
17	32	32	40	69	187	160	152	130	120	17	19	25
18	33	32	45	70	222	146	158	125	128	17	17	28
19	33	33	50	62	244	137	164	114	120	17	15	30
20	33	33	52	64	270	141	261	116	111	18	18	30
21	33	38	56	66	276	134	299	114	104	25	20	30
22	35	39	64	67	267	127	276	108	89	28	25	30
23	33	40	97	69	247	120	247	106	80	28	30	30
24	32	42	175	68	233	116	230	108	72	24	30	29
25	32	46	148	68	222	110	224	104	68	22	29	28
26	31	48	120	67	217	117	235	102	61	19	28	27
27	30	44	94	89	222	111	247	117	62	18	28	27
28	33	47	74	241	230	105	261	134	58	17	27	27
29	32	48	62	371	------	102	276	156	52	16	27	27
30	31	51	56	600	------	95	264	166	44	16	26	27
31	31	------	56	654	------	89	------	164	------	14	23	------
TOTAL	979	1,059	2,081	3,734	6,836	4,701	5,149	4,074	3,561	671	588	755
MEAN	31.6	35.3	67.1	120	244	152	172	131	119	21.6	19.0	25.2
MAX	35	51	175	654	371	219	299	238	173	38	30	30
MIN	26	27	40	60	187	89	100	84	44	14	12	17
AC-FT	1,940	2,100	4,130	7,410	13,560	9,320	10,210	8,080	7,060	1,330	1,170	1,500

CAL YR 1964: TOTAL 18,861 MEAN 51.5 MAX 382 MIN 16 AC-FT 37,410
WAT YR 1965: TOTAL 34,188 MEAN 93.7 MAX 654 MIN 12 AC-FT 67,810

12-5030. Yakima River at Union Gap, Wash.

Location.--Lat 46°31'50", long 120°28'10", in SE¼NW¼ sec.17, T.12 N., R.19 E., on left bank 250 ft downstream from mouth of Ahtanum Creek and 1 mile southeast of Union Gap.

Drainage area.--3,652 sq mi (revised).

Records available.--October 1893 to May 1894 and August 1895 to February 1896 (gage heights only), August 1896 to December 1909, April 1911 to September 1914, May 1963 to September 1964 (discontinued). Published as "near Yakima" 1893-94, 1895-1909, 1911-12 and as "at Union Gap, near Yakima" 1913-14. Comparable records for this station, 1914-63, may be obtained by combining records for Yakima River near Parker and diversion records for Old Reservation, New Reservation, Sunnyside, and Roza Canals. Monthly discharge only for some periods prior to 1920, published in WSP 492.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Prior to Jan. 1, 1910, staff gages at sites about 550 ft downstream from present site at different datum. Apr. 1, 1911, to July 28, 1912, staff gage and July 29, 1912, to Sept. 30, 1914, water-stage recorder at site 350 ft downstream at different datum. Auxiliary water-stage recorder at site 0.4 mile downstream from base gage.

Average discharge.--19 years (1896-1914, 1963-64), 4,522 cfs (3,274,000 acre-ft per year), unadjusted.

Extremes.--Maximum and minimum discharges for May 1963 to September 1964 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Elevation	Date	Discharge (cfs)	Elevation
1963	May 22, 1963	11,300	940.81	Sept.30, 1963	2,070	937.21
1964	June 11, 1964	10,100	940.51	Jan. 21, 1964	a 691	-

a Minimum daily.

1896-1914, 1963-64: Maximum discharge observed, about 63,900 cfs Nov. 15, 1906 (gage height, 15.68 ft, site and datum then in use); minimum observed, 635 cfs Aug. 23, 27, 28, Sept. 3-6, 1906 (gage height, 3.35 ft, site and datum then in use).

Remarks.--Records fair except those for periods of no auxiliary gage-height record, which are poor. Natural flow of stream affected by diversions above station for irrigation of about 198,000 acres, some regulation by diversions and by Keechelus, Kachess, Cle Elum, and Bumping Lakes, power development, and return flow from irrigated areas all above station. After 1905, 20 to 25 cfs bypassed this station in Union Gap Canal.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1								-	6,170	3,340	3,520	2,740
2								-	5,780	3,230	3,450	2,920
3								-	5,680	3,290	3,410	2,920
4								-	4,550	3,310	3,430	3,000
5								-	4,140	3,450	3,450	3,050
6								-	3,680	3,640	3,420	3,020
7								-	3,630	3,850	3,380	2,930
8								-	3,630	4,150	3,390	2,930
9								† 4,070	3,700	3,980	3,510	2,960
10								-	3,610	3,470	3,520	2,910
11								-	3,410	3,420	3,550	2,820
12								-	3,620	3,530	3,650	2,880
13							† 3,710	-	3,760	3,530	3,590	2,720
14								-	3,680	3,300	3,530	2,750
15								-	3,500	3,270	3,510	2,900
16								-	3,670	3,270	3,490	2,960
17								-	3,780	3,340	3,450	2,910
18								4,160	3,470	4,130	3,480	2,810
19								5,370	3,330	3,390	3,500	2,650
20								6,980	3,320	3,260	3,620	2,490
21								9,590	3,620	3,430	3,620	2,440
22								10,900	3,700	3,550	3,550	2,520
23								10,200	3,760	3,550	3,590	2,710
24								9,180	3,840	3,500	3,690	2,600
25								8,060	3,670	3,550	3,500	2,720
26								7,390	3,550	3,480	3,480	2,610
27								7,070	3,460	3,420	3,400	2,580
28								5,590	3,590	3,470	3,290	2,540
29					-------			5,310	3,690	3,430	3,050	2,470
30					-------			5,970	3,460	3,420	2,900	2,230
31		-------			-------		-------	6,300	-------	3,410	2,870	-------
TOTAL								-	116,450	108,360	106,790	82,690
MEAN								-	3,882	3,495	3,445	2,756
MAX								-	6,170	4,150	3,690	3,050
MIN								-	3,320	3,230	2,870	2,230
AC-FT								-	231,000	214,900	211,800	164,000

† Result of discharge measurement.

12-5030. Yakima River at Union Gap, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,210		1,290	884	1,110	1,430	3,200	3,670	7,600	5,200	3,760	3,480
2	1,880		1,120	1,200	1,230	1,280	3,100	3,380	8,690	5,110	4,080	3,270
3	1,930		1,130	1,560	1,140	1,350	2,590	3,150	8,000	5,440	3,810	3,290
4	1,920		1,110	1,510	1,280	1,240	2,370	3,150	7,030	5,750	3,920	3,200
5	2,010		1,020	1,250	1,110	1,510	2,370	3,330	7,800	6,200	3,920	3,200
6	2,060	1,000	981	1,280	1,110	1,890	2,210	3,370	7,910	6,180	3,830	3,220
7	2,000		1,300	1,130	1,360	2,120	2,620	3,180	7,420	5,820	3,640	3,230
8	1,750		1,300	1,520	1,520	2,710	3,040	3,410	6,940	5,940	3,600	3,210
9	1,680		1,440	1,580	1,490	2,740	3,450	3,930	8,370	6,270	3,700	3,230
10	1,560		1,140	1,470	1,500	2,640	3,720	4,750	9,490	6,760	3,730	3,220
11	1,510		780	1,390	1,640	1,920	3,340	4,520	9,870	5,350	3,530	3,180
12	1,450	941	916	1,430	1,580	1,640	3,410	3,970	9,340	4,630	3,700	3,130
13	1,420	941	1,190	1,360	1,490	1,430	3,320	3,870	8,340	4,720	3,850	3,140
14	1,470	1,160	1,050	1,130	1,600	1,310	3,670	3,510	7,890	5,160	3,810	3,140
15	1,280	1,260	1,130	847	1,540	1,560	3,890	3,080	7,890	5,220	3,720	2,970
16	1,530	1,330	1,040	981	1,420	2,050	4,030	3,270	8,460	5,110	3,680	3,100
17	1,400	1,220	1,170	1,220	1,340	1,980	3,300	3,690	9,280	4,660	3,630	2,980
18	1,200	1,130	1,150	1,070	1,150	1,960	3,210	4,510	8,780	4,220	3,590	2,980
19		1,220	1,190	1,100	1,630	2,130	3,320	4,330	8,810	4,170	3,700	3,020
20		1,270	1,050	834	1,470	1,900	3,780	5,090	8,770	4,090	3,810	3,020
21		1,230	1,040	691	1,270	1,740	3,850	5,600	7,620	4,110	3,750	3,030
22		1,170	1,090	971	1,400	1,670	4,030	5,090	6,640	4,230	3,760	3,110
23		1,160	927	1,030	1,260	1,740	4,290	4,190	5,560	4,110	3,680	2,830
24		1,150	1,040	921	1,470	1,560	4,000	3,860	5,360	4,000	3,660	2,730
25	1,100	1,060	1,190	1,130	1,340	1,760	3,670	3,870	5,500	4,000	3,640	2,790
26		1,270	1,180	1,240	1,370	1,880	3,870	3,930	5,930	3,810	3,760	2,860
27		1,210	941	1,320	1,630	1,810	4,090	4,090	5,990	3,780	3,840	2,880
28		1,390	1,180	1,170	1,400	1,860	3,500	4,220	5,220	3,750	4,010	2,860
29		1,270	1,020	1,330	1,510	2,050	3,390	5,140	4,580	3,730	3,910	2,960
30		1,100	901	1,140	------	2,230	3,630	6,080	4,920	3,750	3,870	2,720
31		------	1,050	1,120	------	2,540	------	6,570	------	3,680	3,810	------
TOTAL	44,560	33,482	34,056	36,809	40,360	57,630	102,260	127,800	224,000	148,950	116,700	91,980
MEAN	1,437	1,116	1,099	1,187	1,392	1,859	3,409	4,123	7,467	4,805	3,765	3,066
MAX	2,210	1,390	1,440	1,580	1,640	2,740	4,290	6,570	9,870	6,760	4,080	3,480
MIN	-	-	780	691	1,110	1,240	2,210	3,080	4,580	3,680	3,530	2,720
AC-FT	88,380	66,410	67,550	73,010	80,050	114,300	202,800	253,500	444,300	295,400	231,500	182,400

CAL YR 1963: TOTAL	MEAN	MAX	MIN	AC-FT
WAT YR 1964: TOTAL 1,058,587	MEAN 2,892	MAX 9,870	MIN 691	AC-FT 2,100,000

Note.--*No gage-height record Oct. 7 to Nov. 11.*

Monthly discharge of Yakima River and canals at Union Gap, Wash., June 1963 to September 1964

Month	Runoff in acre-feet			Combined flow of Yakima River and canals (acre-feet)
	Yakima River at Union Gap	Roza Canal at mile 26.9	Union Gap Canal (estimated)	
June 1963	231,000	62,280	2,460	295,700
July	214,900	58,060	2,210	275,200
August	211,800	62,840	2,300	276,900
September	164,000	47,560	2,050	213,600
October	88,380	17,320	476	106,200
November	66,410	0	0	66,410
December	67,570	0	0	67,570
Calendar year 1963	-	324,800	11,870	-
January 1964	73,010	0	0	73,010
February	80,050	0	0	80,050
March	114,300	12,690	429	127,400
April	202,800	43,660	1,650	248,100
May	253,500	48,530	2,380	304,400
June	444,300	48,960	2,330	495,600
July	295,400	63,680	2,350	361,400
August	231,500	57,340	2,210	291,000
September	182,400	41,410	1,520	225,300
Water year 1963-64	2,100,000	333,600	13,340	2,447,000

Note.--Roza and Union Gap Canals head above Union Gap but records given herein show flow in these canals that reaches the valley below Union Gap. Record for Union Gap Canal estimated on basis of discharge measurements and record of flow at canal headworks.

12-5050. Yakima River near Parker, Wash.

Location.--Lat 46°29'40", long 120°26'10", in sec.28, T.12 N., R.19 E., on left bank 1,000 ft downstream from Sunnyside diversion dam, 1½ miles east of Parker, and 3 miles downstream from Ahtanum Creek.

Drainage area.--3,660 sq mi (revised).

Records available.--April 1908 to September 1965. Monthly discharge only for some periods, published in WSP 1316. Prior to October 1916, published as "near Wapato."

Gage.--Water-stage recorder. Datum of gage is 885.89 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Jan. 1, 1909, hook gage at site 25 ft above headgate of Sunnyside Canal at different datum. Jan. 1, 1909, to Dec. 31, 1913, chain gage at site 500 ft downstream from Sunnyside Canal at datum 1.80 ft higher than present datum. Jan. 1, 1914, to Aug. 16, 1915, chain or staff gage and Aug. 17, 1915, to Feb. 2, 1919, water-stage recorder, at site 500 ft downstream from headgate of Sunnyside Canal at datum 0.18 ft higher than present datum. Feb. 3, 1919, to Oct. 20, 1940, and Aug. 10, 1953, to May 2, 1962, water-stage recorder at site 700 ft downstream from headgate of Sunnyside Canal at datum 0.18 ft higher than present datum. Oct. 21, 1940, to Aug. 9, 1953, water-stage recorder at present site at datum 0.18 ft higher than present datum.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 21, 1961	12,200	9.23	Sept.10, 1961	40	2.36
1962	Apr. 7, 1962	10,700	8.69	Oct. 6, 7, 1961	14	2.11
1963	Feb. 5, 1963	15,600	9.89	Sept.30, 1963	7.8	1.48
1964	June 11, 1964	6,770	7.10	Oct. 13, 15, 1963	3.5	1.40
1965	Jan. 31, 1965	22,900	11.65	Aug. 26, 1965	a 52	-

a Minimum daily.

1908-65: Maximum discharge, 65,000 cfs Dec. 23, 1933 (gage height, 15.0 ft, from high watermarks); minimum, 3.5 cfs Oct. 13, 15, 1963 (gage height, 1.40 ft); discharge known to be less than 10 cfs for several days during latter part of irrigation season in most years prior to 1936.

Remarks.--Records fair. Diversions above station for irrigation of about 200,000 acres above and 220,000 acres below station. During the irrigation season when Sunnyside Canal is carrying water, as much as 18 cfs, depending upon the stage of the canal, is released ahead of the fish screens and passes river and canal stations unmeasured. For combined flow of Yakima River and canals see tables published herewith. Some regulation by diversions and by Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes (see elsewhere in this report). Records of chemical analyses and water temperatures for the water years 1961-65 are published in reports of the Geological Survey.

Cooperation.--Gage height record collected in cooperation with, and 79 measurements furnished by Bureau of Reclamation.

Revisions (water years).--WSP 982: 1942. WSP 1122: 1934. WSP 1216: 1949-50, drainage area. WSP 1516: 1955.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	216	1,220	1,680	1,030	1,830	4,900	5,070	8,520	7,860	281	479	338
2	111	1,350	1,770	1,060	4,150	5,390	5,970	8,800	9,160	258	312	571
3	139	1,430	1,730	1,030	3,040	5,090	7,470	8,720	10,000	322	188	465
4	152	1,350	1,650	1,050	2,670	4,800	8,350	8,100	10,600	258	240	296
5	155	1,310	1,550	1,080	2,610	4,660	7,180	7,180	10,600	520	286	249
6	173	1,270	1,460	1,470	3,330	4,500	5,950	6,440	9,370	844	445	272
7	268	1,220	1,360	1,790	4,320	4,320	4,780	5,560	8,550	378	499	108
8	322	1,190	1,340	1,900	4,240	4,130	4,000	4,840	7,520	232	420	60
9	322	1,150	1,250	1,780	4,400	4,070	3,790	4,920	6,860	162	344	60
10	286	1,120	1,250	1,770	5,990	3,900	3,500	5,340	6,130	99	395	53
11	302	1,230	1,270	1,670	6,220	3,790	3,160	5,410	5,480	207	322	72
12	338	1,650	1,290	1,610	5,670	3,940	3,070	5,410	4,940	268	258	77
13	445	1,730	1,340	1,580	5,090	3,900	2,830	5,560	2,900	328	338	142
14	479	1,580	1,490	1,580	4,840	4,480	2,800	5,410	2,100	258	366	173
15	452	1,490	1,370	1,830	4,700	6,460	2,290	5,430	2,520	344	372	240
16	479	1,560	1,360	3,050	4,980	7,060	2,260	5,520	3,220	296	486	338
17	408	1,910	1,350	3,940	4,760	6,580	2,440	5,970	5,130	220	499	286
18	722	2,350	1,450	3,560	4,500	6,080	3,290	6,560	6,490	114	469	263
19	1,360	2,500	1,440	3,120	4,320	5,970	3,160	7,750	7,970	75	420	268
20	1,520	2,380	1,420	2,790	4,800	6,440	2,660	9,720	7,280	72	123	296
21	1,500	2,690	1,370	2,530	6,060	5,920	2,880	11,600	4,820	199	65	366
22	1,450	2,400	1,330	2,290	9,130	5,170	3,490	11,600	2,970	268	72	302
23	1,370	2,130	1,310	2,190	8,410	4,720	3,920	10,500	2,290	312	91	268
24	1,240	2,530	1,380	2,160	7,080	4,780	3,810	9,720	2,690	401	108	312
25	1,240	2,660	1,330	2,060	6,340	5,540	3,260	8,130	2,690	317	136	361
26	1,240	2,220	1,260	1,860	5,720	6,130	3,560	8,320	2,520	232	199	395
27	1,190	1,950	1,260	1,650	5,300	5,300	4,170	9,620	2,230	203	286	378
28	1,190	1,830	1,190	1,540	5,090	4,700	4,640	8,860	654	177	245	349
29	1,250	1,790	1,140	1,680	------	4,500	5,200	8,130	580	349	199	378
30	1,260	1,720	1,040	1,730	------	4,720	7,970	7,860	656	395	368	486
31	1,200	------	1,010	1,830	------	4,920	------	7,670	------	609	291	------
TOTAL	22,779	52,910	42,440	60,210	139,590	156,860	126,920	233,170	156,780	8,998	9,351	8,222
MEAN	735	1,764	1,369	1,942	4,985	5,060	4,231	7,522	5,226	290	302	274
MAX	1,520	2,690	1,770	3,940	9,130	7,060	8,350	11,600	10,600	844	499	571
MIN	111	1,120	1,010	1,030	1,830	3,790	2,260	4,840	580	72	65	53
AC-FT	45,180	104,900	84,180	119,400	276,900	311,100	251,700	462,500	311,000	17,850	18,550	16,310

CAL YR 1960: TOTAL 680,121 MEAN 1,858 MAX 7,340 MIN 74 AC-FT 1,349,000
WAT YR 1961: TOTAL 1,018,230 MEAN 2,790 MAX 11,600 MIN 53 AC-FT 2,020,000

12-5050. Yakima River near Parker, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	430	1,070	1,230	2,750	2,700	1,960	867	104	2,030	325	443	54
2	529	1,100	1,260	2,640	2,860	1,940	1,070	762	1,310	572	430	80
3	393	1,170	1,260	2,630	3,680	1,920	1,350	867	1,580	443	488	73
4	299	1,200	1,260	3,340	4,980	1,880	1,510	849	1,570	198	745	73
5	101	1,180	1,200	3,680	5,020	1,880	1,740	696	1,080	640	720	168
6	16	1,160	1,210	3,560	4,600	1,840	2,050	475	632	572	858	207
7	14	1,140	1,210	3,880	4,120	1,810	7,620	640	310	294	849	108
8	80	1,100	1,170	7,580	3,700	1,880	9,210	632	436	155	745	143
9	128	1,340	1,120	9,090	3,500	1,980	6,070	1,010	1,070	336	515	258
10	147	1,130	1,010	7,030	3,500	1,810	4,350	1,200	1,650	268	216	320
11	212	1,100	912	5,670	3,200	1,620	3,350	1,270	1,760	49	244	430
12	189	1,160	849	4,860	3,070	1,520	2,750	1,280	1,530	35	364	468
13	462	1,180	930	4,440	3,070	1,470	2,540	1,270	1,640	105	353	455
14	602	1,190	986	3,990	3,450	1,450	2,760	1,060	2,030	151	225	515
15	449	1,150	1,040	3,700	3,400	1,450	3,540	903	1,980	147	230	393
16	288	1,100	986	3,400	3,300	1,470	3,860	762	2,310	35	160	325
17	424	1,050	831	3,170	3,170	1,540	3,030	671	3,500	54	220	304
18	1,090	1,040	876	2,950	2,900	1,560	2,950	762	3,820	342	325	283
19	1,370	1,080	1,020	2,400	2,820	1,510	3,070	1,090	3,590	544	382	202
20	1,360	1,040	1,070	2,130	2,750	1,270	3,320	1,220	3,120	393	331	207
21	1,400	986	1,210	2,000	2,620	1,160	2,680	968	2,840	288	151	194
22	1,400	1,080	1,210	1,980	2,500	1,200	2,030	712	2,560	254	198	168
23	1,310	1,300	1,140	2,070	2,470	1,120	1,710	949	2,230	640	212	168
24	1,220	1,430	1,450	2,380	2,340	977	1,540	1,630	2,160	632	244	181
25	1,170	1,350	2,420	2,560	2,170	986	1,500	2,020	2,200	353	359	160
26	1,110	1,170	2,800	2,930	2,050	1,030	958	2,750	1,710	220	288	198
27	1,150	1,220	2,630	3,390	1,860	949	1,030	2,780	1,210	216	376	202
28	1,100	1,250	2,450	3,040	1,960	779	912	2,860	609	278	347	399
29	1,080	1,250	2,350	2,580	------	656	315	2,690	254	249	462	770
30	1,060	1,270	2,500	2,720	------	656	80	2,660	336	212	625	796
31	1,070	------	2,860	2,750	------	737	------	2,470	------	331	336	------
TOTAL	21,653	34,986	44,450	111,290	87,760	44,010	79,762	40,012	53,057	9,331	12,441	8,302
MEAN	699	1,166	1,434	3,590	3,134	1,420	2,659	1,291	1,769	301	401	277
MAX	1,400	1,430	2,860	9,090	5,020	1,980	9,210	2,860	3,820	640	858	796
MIN	14	986	831	1,980	1,860	656	80	104	254	35	151	54
AC-FT	42,950	69,390	88,170	220,700	174,100	87,290	158,200	79,360	105,200	18,510	24,680	16,470

CAL YR 1961: TOTAL 1,001,190 MEAN 2,743 MAX 11,600 MIN 14 AC-FT 1,986,000
WAT YR 1962: TOTAL 547,054 MEAN 1,499 MAX 9,210 MIN 14 AC-FT 1,085,000

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	734	1,380	3,390	3,750	1,060	3,880	1,500	2,120	2,760	160	426	32
2	678	1,340	3,090	3,820	1,250	3,910	1,300	2,020	2,410	53	396	125
3	576	1,300	2,930	4,140	2,280	3,610	1,100	1,780	2,320	73	330	260
4	485	1,270	2,810	4,510	7,370	3,230	930	1,610	1,260	87	360	348
5	438	1,270	3,060	4,370	13,300	3,060	956	1,560	718	243	310	348
6	315	1,320	3,390	4,100	9,860	2,880	2,300	1,740	305	402	222	320
7	252	1,330	3,930	3,900	7,350	2,760	3,060	2,040	236	702	184	264
8	390	1,340	4,010	3,700	7,370	2,600	3,750	2,020	233	1,040	219	230
9	527	1,400	4,240	3,200	6,720	2,460	3,190	1,910	272	758	268	244
10	630	1,420	4,390	2,950	5,890	2,320	2,570	1,890	244	299	336	208
11	848	1,420	4,410	2,200	5,280	2,280	2,050	1,470	69	182	342	160
12	938	1,470	4,030	2,300	4,610	2,300	1,700	1,310	224	348	457	202
13	1,200	1,520	4,030	2,500	4,200	2,220	2,430	1,050	310	336	414	133
14	1,090	1,500	4,010	2,700	4,100	2,100	2,550	1,190	202	198	325	111
15	1,360	1,420	4,220	2,900	3,900	2,140	3,060	1,470	85	144	268	264
16	1,810	1,380	5,000	2,900	3,680	2,050	4,030	1,540	196	120	248	378
17	2,080	1,410	5,150	2,720	3,520	2,010	3,560	1,360	325	140	233	420
18	2,260	1,370	5,090	2,630	3,400	1,860	2,820	1,480	154	1,060	208	310
19	2,040	1,360	4,840	2,140	3,880	1,640	2,690	2,500	46	212	219	200
20	1,990	4,950	4,650	1,910	4,290	1,380	2,930	4,140	49	98	348	19
21	1,970	11,100	4,450	1,900	4,100	1,300	3,490	6,360	332	206	414	22
22	1,900	7,320	4,370	1,980	3,900	1,300	3,170	7,560	438	372	396	58
23	1,890	5,260	4,330	1,920	3,770	1,300	2,800	6,360	457	372	342	260
24	1,850	4,250	4,030	1,870	3,630	1,500	2,750	5,680	555	396	326	230
25	1,790	3,790	3,700	1,800	3,570	1,600	2,560	4,650	402	402	310	290
26	1,800	4,530	3,570	1,660	3,520	1,400	2,450	3,930	290	336	330	305
27	1,710	4,980	3,590	1,560	3,810	1,400	2,010	3,640	199	252	222	216
28	1,690	4,220	3,700	1,470	3,820	1,500	1,860	2,230	340	240	123	126
29	1,640	3,730	3,660	1,380	------	1,700	1,850	2,040	506	233	168	44
30	1,600	3,540	3,640	1,260	------	1,800	2,070	2,560	336	229	144	11
31	1,470	------	3,730	1,170	------	1,800	------	2,840	------	395	108	------
TOTAL	39,951	83,890	123,440	81,310	133,430	67,290	73,486	84,050	16,273	10,088	8,996	6,138
MEAN	1,289	2,796	3,982	2,623	4,765	2,171	2,450	2,711	542	325	290	205
MAX	2,260	11,100	5,150	4,510	13,300	3,910	4,030	7,560	2,760	1,060	457	420
MIN	252	1,270	2,810	1,170	1,060	1,300	930	1,050	46	53	108	11
AC-FT	79,240	166,400	244,800	161,300	264,700	133,500	145,800	166,700	32,280	20,010	17,840	12,180

CAL YR 1962: TOTAL 693,246 MEAN 1,899 MAX 11,100 MIN 35 AC-FT 1,375,000
WAT YR 1963: TOTAL 728,342 MEAN 1,995 MAX 13,300 MIN 11 AC-FT 1,445,000

Note.--Figures of daily discharge between 10 and 20 cfs given in this table may differ slightly from those shown in other reports; the differences can be attributed to rounding.

12-5050. Yakima River near Parker, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	225	983	1,480	1,200	1,300	1,660	1,490	590	4,570	1,810	396	541
2	219	974	1,360	1,560	1,270	1,690	1,470	384	5,590	1,680	734	606
3	212	1,210	1,290	1,960	1,250	1,640	790	184	4,790	1,910	590	541
4	236	1,060	1,260	1,930	1,250	1,600	457	174	3,820	2,230	686	438
5	348	992	1,250	1,850	1,260	1,720	457	342	4,550	2,740	622	420
6	432	1,060	1,290	1,800	1,260	2,190	295	432	4,770	2,740	534	457
7	432	1,060	1,410	1,800	1,320	2,480	527	132	4,240	2,420	300	520
8	264	1,050	1,400	1,700	1,430	2,860	742	268	3,730	2,410	276	513
9	233	1,050	1,430	1,630	1,420	3,120	956	884	5,040	2,760	372	541
10	157	1,050	1,330	1,580	1,490	3,040	1,170	1,590	6,190	3,280	348	471
11	114	1,050	1,100	1,540	1,530	2,430	742	1,680	6,480	2,180	202	402
12	55	1,050	1,060	1,470	1,510	1,830	758	992	6,120	1,330	268	384
13	22	1,040	1,160	1,360	1,470	1,730	654	884	5,090	1,330	541	360
14	75	1,110	1,130	1,310	1,440	1,660	857	485	4,570	1,750	527	342
15	407	1,280	1,220	1,240	1,420	1,950	1,010	103	4,530	1,850	438	290
16	893	1,370	1,220	1,270	1,380	2,100	1,140	200	5,020	1,710	378	378
17	1,170	1,320	1,210	1,350	1,370	1,790	562	670	5,870	1,260	378	450
18	1,200	1,310	1,170	1,360	1,420	1,580	485	1,490	5,220	911	300	450
19	1,130	1,320	1,140	1,340	1,720	1,620	541	1,400	5,370	750	384	450
20	1,070	1,300	1,140	1,330	1,860	1,390	839	2,040	5,220	534	478	457
21	1,060	1,250	1,120	1,270	1,840	1,100	866	2,740	4,200	541	426	614
22	1,090	1,210	1,100	1,270	1,750	1,070	965	2,140	3,270	758	390	555
23	1,130	1,180	1,090	1,230	1,720	902	1,190	1,230	2,250	622	390	342
24	1,110	1,160	1,130	1,170	1,790	562	992	814	2,020	457	342	240
25	1,070	1,150	1,150	1,210	1,830	520	670	782	2,120	506	325	268
26	1,130	1,160	1,140	1,320	1,780	562	830	848	2,460	348	408	348
27	1,120	1,370	1,020	1,440	1,710	630	1,050	956	2,560	325	506	348
28	1,100	1,840	1,140	1,460	1,640	576	348	1,100	1,830	315	686	378
29	1,060	1,770	1,180	1,400	1,610	742	170	2,090	1,240	315	686	390
30	1,040	1,590	1,140	1,350	------	848	408	3,110	1,590	402	622	527
31	992	------	1,140	1,320	------	1,050	------	3,640	------	366	520	------
TOTAL	20,796	36,319	37,400	45,020	44,040	48,642	23,431	34,374	124,320	42,540	14,053	13,021
MEAN	671	1,211	1,206	1,452	1,519	1,569	781	1,109	4,144	1,372	453	434
MAX	1,200	1,840	1,480	1,960	1,860	3,120	1,490	3,640	6,480	3,280	734	614
MIN	22	974	1,020	1,170	1,250	520	170	103	1,240	315	202	240
AC-FT	41,250	72,040	74,180	89,300	87,350	96,480	46,470	68,180	246,600	84,380	27,870	25,830

CAL YR 1963: TOTAL 575,576 MEAN 1,577 MAX 13,300 MIN 11 AC-FT 1,142,000
WAT YR 1964: TOTAL 483,956 MEAN 1,322 MAX 6,480 MIN 22 AC-FT 959,900

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	884	1,230	2,160	3,930	14,700	7,080	2,340	5,530	3,130	539	318	525
2	1,060	1,200	3,540	3,810	10,300	6,720	2,540	4,740	2,740	389	328	362
3	947	1,200	3,770	3,660	7,860	5,660	2,550	4,060	2,850	384	226	75
4	974	1,300	3,370	3,390	7,390	6,040	2,590	3,580	3,180	532	658	127
5	947	1,380	3,030	3,350	7,960	6,260	2,660	3,200	3,400	400	623	345
6	920	1,350	2,780	3,610	7,990	6,190	2,600	3,320	3,890	218	623	442
7	702	1,320	2,600	3,790	7,240	6,370	2,270	3,260	4,310	226	567	362
8	654	1,290	2,480	3,860	7,320	6,480	1,950	3,440	4,640	356	702	306
9	670	1,270	2,460	3,820	7,530	6,570	1,910	3,490	4,900	378	424	240
10	654	1,270	2,630	3,750	6,760	6,930	2,050	3,730	4,420	280	265	240
11	590	1,250	2,660	3,700	6,430	7,290	1,710	3,960	4,440	406	255	285
12	583	1,240	2,520	3,640	6,100	7,150	1,470	3,820	5,660	436	406	280
13	569	1,220	2,460	3,590	5,860	7,000	1,590	3,990	5,470	301	252	306
14	499	1,210	2,530	3,610	6,170	6,930	1,790	3,500	4,310	280	57	340
15	780	1,190	2,450	3,640	5,970	6,720	1,920	3,480	3,070	159	241	394
16	1,790	1,180	2,000	3,790	5,840	6,550	3,080	3,500	2,510	290	448	412
17	1,930	1,180	1,700	3,910	6,060	6,100	4,290	3,320	1,440	323	473	323
18	1,980	1,180	1,600	3,970	6,500	5,420	3,900	2,820	900	367	372	389
19	1,950	1,180	1,840	3,990	6,670	4,880	3,430	2,570	1,780	430	208	418
20	2,120	1,180	2,070	3,720	7,910	4,580	5,930	2,880	2,270	570	389	430
21	1,960	1,120	2,500	3,500	7,930	4,400	8,870	2,890	2,030	836	512	306
22	1,650	1,130	5,200	3,490	7,480	4,240	7,860	2,660	1,870	844	581	208
23	1,540	1,130	9,600	3,540	6,840	4,020	6,570	2,640	1,420	695	924	195
24	1,420	1,170	7,000	3,490	6,430	3,850	5,840	2,670	876	424	1,320	240
25	1,340	1,770	5,300	3,350	6,190	3,730	5,800	2,550	688	296	602	378
26	1,270	2,040	4,690	3,350	6,240	3,610	5,990	2,680	710	473	52	384
27	1,060	1,870	4,290	3,880	7,080	3,240	6,390	3,260	644	334	561	400
28	1,270	1,710	3,970	6,750	7,360	3,010	6,910	4,240	454	265	798	356
29	1,260	1,660	3,700	14,000	------	2,840	7,050	5,340	323	318	1,420	240
30	1,270	1,660	4,100	21,500	------	2,600	6,430	5,600	492	250	1,340	559
31	1,240	------	3,990	20,900	------	2,360	------	4,200	------	406	772	------
TOTAL	36,483	40,080	104,990	162,280	204,110	164,820	120,280	110,920	78,817	12,405	16,717	9,867
MEAN	1,177	1,336	3,387	5,235	7,290	5,317	4,009	3,578	2,627	400	539	329
MAX	2,120	2,040	9,600	21,500	14,700	7,290	8,870	5,600	5,660	844	1,420	559
MIN	499	1,120	1,600	3,350	5,840	2,360	1,470	2,550	323	159	52	75
AC-FT	72,360	79,500	208,200	321,900	404,800	326,900	238,600	220,000	156,300	24,600	33,160	19,570

CAL YR 1964: TOTAL 570,994 MEAN 1,560 MAX 9,600 MIN 103 AC-FT 1,133,000
WAT YR 1965: TOTAL 1,061,769 MEAN 2,909 MAX 21,500 MIN 52 AC-FT 2,106,000

12-5050. Yakima River near Parker, Wash.--Continued

Monthly discharge, in acre-feet, of Yakima River and canals near Parker, Wash., water years October 1960 to September 1965

Month	Yakima River near Parker	Roza Canal at mile 26.9	Union Gap Canal (estimated)	New Reservation Canal	Old Reservation Canal	Sunnyside Canal	Combined flow of Yakima River and canals
October	45,190	19,860	430	18,020	412	25,390	109,300
November	105,000	0	0	0	583	0	105,600
December	84,180	0	0	0	1,220	0	85,410
Calendar year 1960	1,349,000	357,200	12,270	623,600	12,120	446,500	2,798,000
January	119,400	0	0	0	1,220	0	120,600
February	276,900	0	0	0	1,340	0	278,200
March	311,100	9,220	0	2,350	1,700	7,440	331,800
April	251,800	28,980	1,340	56,890	1,540	43,560	384,000
May	462,500	39,350	1,960	106,800	2,500	68,680	681,900
June	311,000	54,740	2,340	116,000	2,240	75,090	561,300
July	17,830	62,040	2,590	119,900	0	79,260	281,600
August	18,570	59,770	2,180	108,800	0	78,210	267,500
September	16,300	40,580	1,860	81,940	0	62,360	203,000
Water year 1960-61	2,020,000	314,500	12,700	610,700	12,760	440,000	3,410,000
October	42,920	15,680	480	19,610	0	27,850	106,600
November	69,380	0	0	0	583	0	69,980
December	88,170	0	0	0	1,090	0	89,280
Calendar year 1961	1,986,000	310,400	12,750	612,300	12,210	442,400	3,377,000
January	220,700	0	0	0	1,110	0	221,800
February	174,100	0	0	0	900	0	174,900
March	87,310	8,980	0	2,170	983	7,440	106,900
April	158,200	35,880	1,270	66,170	2,040	50,700	314,300
May	79,380	44,950	2,180	113,600	4,130	73,970	318,300
June	105,300	58,250	2,340	114,700	3,550	75,810	359,900
July	18,510	68,440	2,370	118,800	0	79,130	287,300
August	24,660	61,430	2,300	107,400	0	78,000	273,700
September	16,480	43,500	1,900	81,940	0	65,570	209,400
Water year 1961-62	1,085,000	337,100	12,840	624,400	14,390	458,500	2,532,000
October	79,240	14,500	504	20,640	525	24,780	140,200
November	166,400	0	0	0	1,220	0	167,600
December	244,800	0	0	0	1,680	0	246,500
Calendar year 1962	1,375,000	335,900	12,860	625,500	16,130	455,400	2,821,000
January	161,300	0	0	0	1,600	0	162,900
February	264,700	0	0	0	1,340	0	266,000
March	133,500	9,920	0	5,180	1,240	7,860	157,700
April	145,800	23,140	752	39,080	1,160	33,520	243,500
May	166,700	43,710	1,620	96,450	2,460	63,510	374,400
June	32,280	62,280	2,460	117,500	2,400	77,500	294,400
July	20,010	58,060	2,210	117,400	0	77,630	275,300
August	17,840	62,840	2,300	109,300	0	78,390	270,700
September	12,180	47,560	2,050	82,510	0	62,070	206,400
Water year 1962-63	1,445,000	322,000	11,900	588,100	13,620	425,300	2,806,000
October	41,250	17,320	476	20,250	0	24,960	104,300
November	72,040	0	0	0	498	0	72,540
December	74,180	0	0	0	951	0	75,130
Calendar year 1963	1,142,000	324,800	11,870	587,700	11,650	425,400	2,503,000
January	89,300	0	0	0	1,340	0	90,640
February	87,350	0	0	0	1,340	0	88,690
March	96,480	12,690	429	13,350	1,440	16,110	140,500
April	46,470	43,660	1,650	95,240	3,900	58,380	249,300
May	68,180	48,530	2,380	108,300	3,060	71,920	302,400
June	246,600	48,960	2,330	111,000	1,500	73,460	483,800
July	84,380	63,680	2,350	118,900	0	78,220	347,500
August	27,870	57,340	2,210	111,000	0	75,610	274,000
September	25,830	41,410	1,520	81,830	0	61,730	212,300
Water year 1963-64	959,900	333,600	13,340	660,000	14,030	460,400	2,441,000
October	72,360	16,990	566	20,210	349	26,710	137,200
November	79,500	0	0	0	1,250	0	80,750
December	208,200	0	0	0	965	0	209,200
Calendar year 1964	1,133,000	327,700	13,440	659,800	15,140	462,100	2,611,000
January	321,900	0	0	0	1,290	0	323,200
February	404,800	0	0	0	969	0	405,800
March	326,900	9,510	62	5,820	1,180	11,570	355,000
April	238,600	31,580	1,190	78,790	16	55,100	405,300
May	220,000	46,030	2,270	119,700	0	76,960	465,000
June	156,300	51,650	2,450	118,700	0	75,780	404,900
July	24,600	57,740	2,630	119,300	0	78,880	283,200
August	33,160	54,730	2,500	110,000	0	75,110	275,500
September	19,570	36,440	1,720	81,730	0	60,880	200,300
Water year 1964-65	2,106,000	304,700	13,390	654,200	6,020	461,000	3,545,000

Note.--New Reservation, Old Reservation, and Sunnyside Canals divert from river above station and below Union Gap. Roza and Union Gap Canals head above Union Gap, but records given herein show flow in these canals that reaches the valley below Union Gap. Records for Roza and Sunnyside Canals furnished by Bureau of Reclamation. Records for Union Gap Canal estimated on basis of discharge measurements and records of flow at canal headworks. Combined flow represents flow of Yakima River that reaches valley below Union Gap.

12-5105. Yakima River at Kiona, Wash.

Location.--Lat 46°15'10", long 119°28'50", in sec.19, T.9 N., R.27 E., on left bank just upstream from highway bridge at Kiona, 3½ miles downstream from intake of Kiona Canal and 25 miles upstream from mouth.

Drainage area.--5,615 sq mi (revised).

Records available.--August to December 1895 (gage heights only, fragmentary), August 1896 to March 1915, February 1933 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 454.41 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Mar. 31, 1915, several staff or chain gages at approximately same site and datum. Feb. 6, 1933, to July 26, 1934, tape gage at present site and datum.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	May 23, 1961	13,000	9.97	July 21, 1961	836	3.17
1962	Apr. 9, 1962	11,300	9.28	July 13, 1962	964	3.23
1963	Feb. 6, 1963	13,500	10.16	June 21, 1963	783	2.93
1964	June 12, 1964	8,680	8.49	May 9, 1964	1,250	3.65
1965	Feb. 1, 1965	22,400	13.76	Aug. 11, 1965	1,020	3.23

1896-1915, 1933-65: Maximum discharge, 67,000 cfs Dec. 23, 1933 (gage height, 21.57 ft, from high watermarks); minimum observed, 105 cfs Sept. 11, 1906 (gage height, 2.35 ft, datum then in use).

Remarks.--Records excellent. Water diverted above gage for irrigation of about 424,000 acres. Some regulation by diversions and by Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes (see elsewhere in this report). The Kiona Canal bypasses station with a mean flow of approximately 23 cfs for irrigation of about 1,100 acres below station. Diversion by the Kennewick Canal, which began in August 1956, was 96,000 acre-ft in water year 1965. Records of chemical analyses and water temperatures for the water years 1961-65 are published in reports of the Geological Survey.

Revisions (water years).--WSP 214: 1905. WSP 1122: 1934(M). WSP 1216: 1949-50. WSP 1286: 1907(M), 1909, 1936.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,170	2,300	2,800	1,850	3,260	6,550	7,280	9,330	9,980	1,780	1,410	1,820
2	2,060	2,280	2,740	1,830	3,900	6,510	7,340	10,100	9,880	1,600	1,560	1,680
3	1,880	2,360	2,750	1,860	6,780	6,800	8,190	10,500	10,700	1,350	1,430	1,840
4	1,790	2,410	2,740	1,840	5,060	6,470	9,360	10,600	11,500	1,350	1,220	1,920
5	1,750	2,350	2,600	1,850	4,550	6,140	10,000	10,200	11,900	1,320	1,130	1,800
6	1,700	2,300	2,710	1,830	4,410	6,010	9,380	9,270	12,200	1,320	1,130	1,680
7	1,750	2,270	2,480	2,780	4,960	5,830	8,230	8,390	11,600	1,700	1,230	1,650
8	1,780	2,220	2,390	3,010	5,690	5,640	7,100	7,520	10,800	1,670	1,360	1,580
9	1,860	2,170	2,350	2,920	5,740	5,440	6,360	6,970	9,740	1,450	1,340	1,460
10	1,950	2,170	2,270	2,940	7,460	5,330	6,120	7,180	8,830	1,320	1,300	1,440
11	1,920	2,130	2,260	2,870	10,500	5,190	5,730	7,540	8,150	1,180	1,280	1,410
12	1,960	2,150	2,100	2,750	10,200	5,060	5,380	7,620	7,660	1,120	1,310	1,370
13	1,910	2,500	2,180	2,670	8,650	5,240	5,100	7,620	6,890	1,060	1,300	1,340
14	2,130	2,600	2,240	2,630	7,900	5,650	4,890	7,720	5,060	1,090	1,300	1,350
15	2,200	2,500	2,390	2,540	7,680	6,950	4,800	7,560	4,240	1,130	1,430	1,430
16	2,300	2,430	2,350	3,070	7,460	8,560	4,350	7,500	4,350	1,090	1,640	1,470
17	2,200	2,430	2,170	4,040	7,420	8,760	4,210	7,500	4,740	1,140	1,690	1,553
18	2,140	2,640	2,140	4,770	6,950	8,260	4,190	7,680	6,380	1,120	1,700	1,590
19	2,220	2,950	2,270	4,480	6,550	7,820	4,580	8,170	7,700	1,060	1,720	1,560
20	2,780	3,250	2,260	4,110	6,270	7,920	4,620	9,250	8,720	994	1,750	1,560
21	2,940	3,130	2,340	3,800	6,740	8,340	4,280	10,500	8,170	869	1,650	1,560
22	2,840	3,380	2,180	3,560	8,060	7,900	4,410	11,900	6,000	860	1,460	1,620
23	2,780	3,260	2,150	3,340	10,400	7,440	4,990	12,900	4,350	1,030	1,380	1,680
24	2,640	3,080	2,120	3,200	10,000	7,420	5,370	12,500	3,560	1,110	1,340	1,640
25	2,490	3,900	2,140	3,140	8,700	7,380	5,220	11,800	3,690	1,140	1,360	1,680
26	2,490	4,280	2,090	3,040	7,960	8,170	4,800	10,500	3,720	1,270	1,440	1,780
27	2,400	3,500	2,090	2,870	7,380	8,560	5,030	10,600	3,430	1,130	1,750	1,780
28	2,390	3,160	2,080	2,670	6,890	7,740	5,510	11,500	3,200	1,070	1,980	1,660
29	2,320	2,980	2,020	2,540	------	6,980	5,960	11,300	2,240	1,040	1,860	1,780
30	2,360	2,870	1,970	2,570	------	6,910	7,080	10,600	1,480	1,080	1,680	1,850
31	2,370	------	1,910	2,820	------	7,060	------	10,300	------	1,240	1,760	------
TOTAL	68,470	81,950	71,280	90,190	197,520	214,030	179,860	292,620	210,860	37,683	45,890	48,730
MEAN	2,209	2,732	2,299	2,909	7,054	6,904	5,995	9,439	7,029	1,216	1,480	1,624
MAX	2,940	4,280	2,800	4,770	10,500	8,760	10,000	12,900	12,200	1,780	1,980	1,920
MIN	1,700	2,130	1,910	1,830	3,260	5,060	4,190	6,970	1,480	860	1,130	1,340
AC-FT	135,800	162,500	141,400	178,900	391,800	424,500	356,700	580,400	418,200	74,740	91,020	96,650

CAL YR 1960: TOTAL 1,118,849 MEAN 3,057 MAX 8,700 MIN 959 AC-FT 2,219,000
WAT YR 1961: TOTAL 1,539,083 MEAN 4,217 MAX 12,900 MIN 860 AC-FT 3,053,000

12-5105. Yakima River at Kiona, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,980	2,230	2,170	3,700	3,560	2,890	2,520	1,830	4,720	1,550	1,160	1,820
2	2,140	2,140	2,180	3,660	3,530	2,880	2,640	1,670	4,240	1,500	1,150	1,580
3	2,220	2,240	2,190	3,560	3,660	2,820	2,770	1,830	3,720	1,650	1,150	1,490
4	2,170	2,150	2,280	3,560	4,430	2,810	3,010	2,140	3,780	1,650	1,200	1,470
5	2,010	2,220	2,230	4,210	5,640	2,820	3,220	2,270	3,750	1,490	1,500	1,460
6	1,800	2,200	2,180	4,500	5,820	2,800	3,530	2,220	3,280	1,550	1,700	1,450
7	1,610	2,170	2,150	4,480	5,470	2,770	3,900	2,140	2,810	1,810	1,800	1,470
8	1,510	2,150	2,150	4,960	5,100	2,740	9,210	2,170	2,370	1,700	1,900	1,490
9	1,500	2,130	2,120	8,080	4,740	2,740	10,600	2,300	2,140	1,420	1,900	1,470
10	1,570	2,310	2,070	9,220	4,570	2,850	7,880	2,700	2,450	1,350	1,800	1,550
11	1,580	2,150	1,970	7,760	4,520	2,740	6,270	2,920	2,960	1,410	1,500	1,650
12	1,600	2,100	1,870	6,550	4,300	2,570	5,260	2,960	3,260	1,300	1,200	1,770
13	1,670	2,130	1,800	5,890	4,180	2,450	4,670	3,040	3,130	1,100	1,250	1,890
14	1,820	2,150	1,810	5,400	4,450	2,390	4,310	3,100	3,140	1,030	1,250	1,910
15	2,430	2,140	1,870	4,960	4,870	2,350	4,410	2,850	3,480	1,170	1,200	2,000
16	2,300	2,130	1,920	4,670	4,750	2,360	5,170	2,640	3,430	1,240	1,150	1,980
17	2,140	2,080	2,020	4,400	4,620	2,390	5,190	2,440	3,720	1,240	1,100	1,900
18	2,120	2,040	1,760	4,180	4,520	2,430	4,580	2,260	4,690	1,170	1,150	1,840
19	2,500	2,020	1,790	3,800	4,280	2,500	4,260	2,240	4,910	1,250	1,300	1,800
20	2,850	2,030	1,910	2,900	4,190	2,610	4,240	2,700	4,670	1,480	1,500	1,770
21	2,800	2,020	2,170	2,600	4,040	2,400	4,410	3,060	4,330	1,510	1,600	1,700
22	2,750	2,000	2,660	2,500	3,860	2,390	3,860	2,700	3,910	1,450	1,500	1,680
23	2,730	2,000	2,370	2,500	3,690	2,570	3,300	2,450	3,560	1,390	1,500	1,650
24	2,560	2,230	2,270	2,700	3,420	2,540	2,950	2,840	3,380	1,340	1,610	1,620
25	2,490	2,340	2,780	3,000	3,380	2,530	2,820	3,980	3,280	1,490	1,610	1,620
26	2,460	2,270	3,480	3,400	3,240	2,820	2,840	4,670	3,250	1,400	1,620	1,660
27	2,390	2,140	3,720	4,070	2,980	3,010	2,560	5,150	2,880	1,240	1,700	1,650
28	2,390	2,140	3,590	4,360	2,850	2,840	2,530	5,240	2,390	1,160	1,710	1,710
29	2,340	2,170	3,430	3,930	------	2,610	2,590	5,280	2,020	1,160	1,770	1,880
30	2,300	2,150	3,340	3,540	------	2,440	2,130	5,100	1,800	1,220	1,800	2,120
31	2,240	------	3,450	3,510	------	2,430	------	4,990	------	1,190	1,890	------
TOTAL	66,970	64,370	73,700	136,550	118,660	81,490	127,630	93,880	101,450	42,610	46,170	51,050
MEAN	2,160	2,146	2,377	4,405	4,238	2,629	4,254	3,028	3,382	1,375	1,489	1,702
MAX	2,850	2,340	3,720	9,220	5,820	3,010	10,600	5,280	4,910	1,810	1,900	2,120
MIN	1,500	2,000	1,760	2,500	2,850	2,350	2,130	1,670	1,800	1,030	1,100	1,450
AC-FT	132,800	127,700	146,200	270,800	235,400	161,600	253,200	186,200	201,200	84,520	91,580	101,300

CAL YR 1961: TOTAL 1,522,423 MEAN 4,171 MAX 12,900 MIN 860 AC-FT 3,020,000
WAT YR 1962: TOTAL 1,004,530 MEAN 2,752 MAX 10,600 MIN 1,030 AC-FT 1,992,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,490	2,660	5,190	5,040	1,780	5,110	3,380	3,700	3,990	1,600	1,370	1,620
2	2,570	2,540	5,080	5,040	1,860	5,200	3,250	3,700	4,070	1,500	1,450	1,580
3	2,390	2,490	4,700	5,150	2,220	5,200	3,060	3,610	3,930	1,390	1,490	1,530
4	2,240	2,430	4,460	5,460	8,200	4,870	2,950	3,400	3,670	1,250	1,440	1,570
5	2,150	2,370	4,260	5,760	10,400	4,530	2,960	3,310	2,850	1,150	1,410	1,680
6	2,040	2,310	4,460	5,670	13,300	4,330	3,250	3,310	2,300	1,160	1,420	1,750
7	1,910	2,440	4,740	5,460	12,000	4,140	4,460	3,640	1,890	1,340	1,320	1,740
8	1,890	2,410	5,190	5,220	10,400	3,930	5,420	3,830	1,640	1,650	1,240	1,690
9	1,920	2,440	5,330	5,010	10,100	3,700	5,600	3,860	1,530	2,020	1,220	1,660
10	2,090	2,450	5,490	4,570	9,000	3,540	5,470	3,700	1,520	2,130	1,240	1,650
11	2,280	2,450	5,620	4,040	7,920	3,430	4,860	3,560	1,510	1,830	1,300	1,610
12	2,640	2,450	5,650	3,080	7,060	3,340	4,430	3,300	1,390	1,570	1,380	1,580
13	3,000	2,520	5,330	3,250	6,280	3,370	4,230	3,130	1,190	1,530	1,490	1,590
14	3,400	2,570	5,350	3,310	5,830	3,260	4,410	2,910	1,190	1,560	1,520	1,590
15	3,300	2,560	5,380	3,640	5,710	3,160	4,720	2,670	1,230	1,530	1,460	1,570
16	3,820	2,490	5,780	3,990	5,420	3,120	5,440	2,740	1,130	1,430	1,420	1,640
17	3,900	2,440	6,490	4,010	5,190	3,070	5,800	2,940	1,040	1,360	1,420	1,810
18	4,230	2,440	6,620	3,860	4,990	2,960	5,670	2,740	1,080	1,320	1,410	1,980
19	4,040	2,480	6,590	3,780	4,920	2,810	5,260	2,660	1,200	1,540	1,400	1,910
20	3,670	2,310	6,270	3,310	5,370	2,560	5,060	3,560	980	1,530	1,450	1,870
21	3,530	6,710	6,090	2,950	5,780	2,460	5,080	5,110	850	1,360	1,510	1,750
22	3,400	10,700	5,890	2,880	5,510	2,390	5,600	6,980	895	1,310	1,600	1,620
23	3,300	7,800	5,830	2,910	5,280	2,540	5,420	8,120	1,140	1,330	1,710	1,580
24	3,250	6,230	5,740	3,070	5,130	2,570	5,110	7,780	1,410	1,670	1,750	1,640
25	3,190	5,440	5,400	2,730	5,010	2,750	4,860	6,980	1,540	1,410	1,810	1,770
26	3,100	5,080	5,030	2,700	4,990	2,850	4,640	6,030	1,500	1,420	1,840	1,750
27	3,070	6,140	4,870	2,530	4,910	2,770	4,460	5,400	1,440	1,440	1,820	1,800
28	2,960	6,050	4,890	2,340	5,150	2,810	4,090	4,980	1,310	1,410	1,880	1,750
29	2,910	5,510	5,010	2,190	------	2,940	3,850	3,820	1,280	1,370	1,790	1,680
30	2,770	5,100	5,030	2,200	------	3,130	3,700	3,340	1,500	1,360	1,720	1,620
31	2,800	------	4,990	2,000	------	3,250	------	3,780	------	1,360	1,710	------
TOTAL	90,250	114,010	166,750	117,150	179,710	106,090	136,490	128,590	52,195	45,830	46,990	50,580
MEAN	2,911	3,800	5,379	3,779	6,418	3,422	4,550	4,148	1,740	1,478	1,516	1,686
MAX	4,230	10,700	6,620	5,760	13,300	5,200	5,800	8,120	4,070	2,130	1,880	1,980
MIN	1,890	2,310	4,260	2,000	1,780	2,390	2,950	2,660	850	1,150	1,220	1,530
AC-FT	179,000	226,100	330,700	232,400	356,400	210,400	270,700	255,100	103,500	90,900	93,200	100,300

CAL YR 1962: TOTAL 1,170,500 MEAN 3,207 MAX 10,700 MIN 1,030 AC-FT 2,322,000
WAT YR 1963: TOTAL 1,234,635 MEAN 3,383 MAX 13,300 MIN 850 AC-FT 2,449,000

12-5105. Yakima River at Kiona, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,560	2,150	2,590	2,020	2,310	2,540	2,280	1,590	4,750	2,630	1,520	2,060
2	1,680	2,130	2,450	2,060	2,340	2,530	2,540	1,680	5,760	2,890	1,540	1,760
3	1,720	2,100	2,350	2,350	2,270	2,490	2,650	1,690	6,620	2,820	1,790	1,970
4	1,660	2,220	2,260	2,780	2,270	2,360	2,120	1,570	6,100	3,030	1,630	1,940
5	1,700	2,230	2,220	2,840	2,190	2,270	1,710	1,460	5,510	3,340	1,960	1,830
6	1,770	2,180	2,260	2,770	2,220	2,360	1,620	1,440	6,310	3,760	2,080	1,800
7	1,860	2,130	2,260	2,700	2,200	2,800	1,550	1,580	6,520	3,890	1,940	1,810
8	1,900	2,180	2,370	2,700	2,220	3,160	1,350	1,430	6,120	3,590	1,810	1,850
9	1,790	2,130	2,390	2,610	2,320	3,480	1,470	1,280	6,080	3,510	1,630	1,880
10	1,690	2,120	2,390	2,530	2,400	3,540	1,570	1,660	7,440	3,760	1,640	1,860
11	1,600	2,120	2,310	2,430	2,320	3,580	1,840	2,410	8,300	4,080	1,680	1,840
12	1,520	2,090	2,120	2,390	2,390	3,140	1,680	2,740	8,540	3,520	1,590	1,810
13	1,500	2,080	2,010	2,360	2,400	2,520	1,650	2,200	8,060	2,870	1,510	1,810
14	1,480	2,100	2,030	2,240	2,370	2,340	1,710	2,040	7,090	2,430	1,650	1,820
15	1,470	2,190	2,060	2,170	2,360	2,230	1,700	1,860	6,620	2,690	1,760	1,810
16	1,660	2,300	2,100	2,140	2,370	2,500	1,710	1,550	6,540	2,840	1,770	1,770
17	2,130	2,400	2,130	2,100	2,230	2,660	1,910	1,320	7,110	3,030	1,720	1,740
18	2,570	2,360	2,130	2,150	2,230	2,490	1,660	1,570	7,700	2,650	1,700	1,760
19	2,630	2,350	2,100	2,230	2,260	2,830	1,450	2,360	7,240	2,320	1,590	1,790
20	2,660	2,360	2,090	2,100	2,530	2,840	1,420	2,480	7,300	2,140	1,580	1,820
21	2,480	2,350	2,070	2,120	2,820	2,660	1,620	2,960	7,000	1,940	1,710	1,840
22	2,410	2,280	2,040	2,090	2,710	2,460	1,700	3,720	5,970	1,660	1,690	1,920
23	2,390	2,230	2,030	2,070	2,670	2,480	1,820	3,380	4,980	1,720	1,630	2,000
24	2,390	2,180	2,010	2,040	2,670	2,120	2,110	2,750	3,940	1,800	1,620	1,880
25	2,310	2,150	2,040	2,020	2,730	2,020	2,080	2,380	3,490	1,710	1,600	1,720
26	2,220	2,150	2,060	2,260	2,750	1,880	1,740	2,390	3,450	1,710	1,590	1,600
27	2,260	2,120	2,040	2,600	2,710	2,090	1,830	2,170	3,620	1,640	1,640	1,650
28	2,270	2,180	1,970	2,490	2,660	1,990	2,080	2,160	3,790	1,530	1,800	1,700
29	2,260	2,630	2,000	2,460	2,600	1,990	1,890	2,230	3,270	1,500	1,930	1,760
30	2,230	2,730	2,060	2,390	------	2,160	1,600	3,120	2,650	1,460	2,050	1,730
31	2,180	------	2,030	2,370	------	2,220	------	4,130	------	1,460	2,050	------
TOTAL	61,950	66,920	66,970	72,580	70,520	78,730	54,060	67,300	177,870	79,980	53,700	54,790
MEAN	1,998	2,231	2,160	2,341	2,432	2,540	1,802	2,171	5,929	2,580	1,732	1,826
MAX	2,660	2,730	2,590	2,840	2,820	3,580	2,650	4,130	8,540	4,080	2,080	2,060
MIN	1,470	2,080	1,970	2,020	2,190	1,880	1,350	1,280	2,650	1,460	1,510	1,600
AC-FT	122,900	132,700	132,800	144,000	139,900	156,200	107,200	133,500	352,800	158,600	106,500	108,700

CAL YR 1963: TOTAL 1,059,465 MEAN 2,903 MAX 13,300 MIN 850 AC-FT 2,101,000
WAT YR 1964: TOTAL 905,370 MEAN 2,474 MAX 8,540 MIN 1,280 AC-FT 1,796,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,860	2,320	2,490	4,480	21,900	8,720	4,070	8,020	6,160	1,930	1,480	2,660
2	2,150	2,300	2,880	4,600	19,500	8,440	4,080	7,280	5,130	1,880	1,540	2,330
3	2,360	2,270	4,040	4,700	14,600	8,100	4,310	6,570	4,340	1,760	1,500	2,100
4	2,350	2,260	4,280	4,610	11,200	7,070	4,370	5,870	4,210	1,670	1,470	1,840
5	2,390	2,320	3,960	4,360	10,300	7,280	4,390	5,320	4,470	1,720	1,510	1,720
6	2,380	2,360	3,730	4,300	10,200	7,560	4,320	4,900	4,690	1,740	1,670	1,780
7	2,360	2,390	3,520	4,440	9,980	7,560	4,180	4,900	5,030	1,610	1,730	1,900
8	2,180	2,380	3,340	4,540	9,280	7,600	3,830	4,820	5,540	1,350	1,680	1,910
9	2,020	2,350	3,200	4,610	9,080	7,700	3,460	4,880	5,820	1,300	1,760	1,880
10	1,990	2,350	3,190	4,640	9,180	7,830	3,380	4,910	6,000	1,460	1,750	1,830
11	2,020	2,350	3,280	4,620	8,480	8,060	3,420	5,020	5,580	1,520	1,380	1,810
12	2,040	2,340	3,330	4,540	8,100	8,340	3,190	5,200	5,640	1,570	1,410	1,830
13	2,000	2,300	3,160	4,500	7,720	8,300	2,990	5,070	6,770	1,690	1,440	1,830
14	2,030	2,270	3,200	4,460	7,430	8,160	2,880	5,170	6,920	1,700	1,560	1,850
15	2,040	2,230	3,240	4,460	7,540	7,980	2,980	4,930	6,050	1,590	1,410	1,830
16	2,500	2,170	3,210	4,500	7,350	7,810	3,040	4,750	4,930	1,500	1,360	1,930
17	3,280	2,150	2,860	4,660	7,180	7,700	3,800	4,930	4,430	1,420	1,530	2,040
18	3,440	2,120	2,160	4,770	7,450	7,580	4,930	4,830	3,640	1,440	1,650	2,080
19	3,330	2,100	2,040	4,800	7,810	6,810	5,130	4,430	2,930	1,450	1,650	2,120
20	3,280	2,000	2,270	4,800	7,920	6,410	4,830	4,180	3,390	1,530	1,590	2,170
21	3,260	1,990	2,580	4,610	8,880	6,480	7,050	4,340	4,060	1,670	1,630	2,210
22	3,200	2,120	3,200	4,440	9,160	6,340	9,680	4,530	3,840	1,980	1,890	2,110
23	2,880	2,030	6,300	4,420	8,840	5,940	9,320	4,290	3,590	2,140	2,030	2,000
24	2,720	2,020	12,600	4,430	8,340	5,660	8,020	4,270	3,070	2,150	2,260	1,910
25	2,600	2,000	8,320	4,340	7,940	5,610	7,260	4,310	2,610	1,960	2,760	1,910
26	2,480	2,400	7,000	4,310	7,580	5,420	7,220	4,120	2,330	1,800	2,520	1,990
27	2,400	2,750	6,080	4,420	7,640	5,470	7,350	4,130	2,200	1,750	1,990	2,050
28	2,170	2,690	5,560	5,340	8,360	5,150	7,660	4,550	2,270	1,760	2,070	2,040
29	2,280	2,560	5,190	7,280	------	4,880	8,220	5,270	2,140	1,590	2,530	2,030
30	2,360	2,520	4,930	11,000	------	4,580	8,480	6,300	2,000	1,560	2,900	1,950
31	2,340	------	4,980	18,600	------	4,310	------	6,960	------	1,530	3,020	------
TOTAL	76,690	68,410	130,100	164,580	268,940	214,850	157,840	159,050	129,780	51,720	56,670	59,640
MEAN	2,474	2,280	4,197	5,309	9,605	6,931	5,261	5,131	4,326	1,668	1,828	1,988
MAX	3,440	2,750	12,600	18,600	21,900	8,720	9,680	8,020	6,920	2,150	3,020	2,660
MIN	1,860	1,990	2,040	4,300	7,180	4,310	2,880	4,120	2,000	1,300	1,360	1,720
AC-FT	152,100	135,700	258,000	326,400	533,400	426,100	313,100	315,500	257,400	102,600	112,400	118,300

CAL YR 1964: TOTAL 984,730 MEAN 2,691 MAX 12,600 MIN 1,280 AC-FT 1,953,000
WAT YR 1965: TOTAL 1,538,270 MEAN 4,214 MAX 21,900 MIN 1,300 AC-FT 3,051,000

12-5125. Providence Coulee at Cunningham, Wash.

Location.--Lat 46°49'20", long 118°48'30", near township line in NW¼ sec.4, T.15 N., R.32 E., on right bank on upstream side of Northern Pacific Railway bridge at Cunningham.

Drainage area.--27.8 sq mi.

Records available.--October 1952 to September 1965.

Gage.--Water-stage recorder. Altitude of gage is 1,160 ft (from topographic map).

Average discharge.--13 years, 0.21 cfs (152 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	(a)	-	-	Entire year	0	-
1962	(a)	-	-	do.	0	-
1963	Feb. 5, 1963	b 8	c 4.85	Most of time	0	-
1964	Dec. 23, 1963	b .60	c 2.85	do.	0	-
1965	Jan. 30, 1965	153	4.16	do.	0	-

a No flow for entire year.
b Maximum daily.
c Backwater from ice.

1952-65: Maximum discharge, 2,160 cfs Feb. 21, 1956 (gage height, 10.04 ft); no flow for most of each year.

Remarks.--Records poor. No known regulation or diversion.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEARS OCTOBER 1960 TO SEPTEMBER 1965

Feb. 5, 1963...	8.0	Feb. 7, 1963...	0.50	Dec. 24, 1963...	0.30	Dec. 26, 1963...	0.20
6.....	2.0	Dec. 23.....	.60	25.....	.40	Jan. 30, 1965...	22
						31.....	1.7

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
February 1963.....	10.50	8.0	0	0.38	0.01	0.01	21
Water year 1962-63.....	10.50	8.0	0	.029	.001	.01	21
December.....	1.50	.60	0	.048	.002	.002	3.0
Calendar year 1963.....	12.00	8.0	0	.033	.001	.02	24
Water year 1963-64.....	1.50	.60	0	.004	.0001	.002	3.0
January 1965.....	23.7	22	0	.76	.03	.03	47
Water year 1964-65.....	23.7	22	0	.065	.002	.03	47

Note.--Flow occurred only on days listed above.

12-5130. Esquatzel Coulee at Connell, Wash.

Location.--Lat 46°39'30", long 118°52'10", in SE¼NW¼ sec.36, T.14 N., R.31 E., on right bank 400 ft below outlet of local sewage treatment plant and half a mile southwest of Connell.

Drainage area.--234 sq mi (revised).

Records available.--January 1953 to September 1965.

Gage.--Water-stage recorder. Concrete control since Aug. 7, 1959. Altitude of gage is 840 ft (from topographic map). Prior to Aug. 7, 1959, at site half a mile upstream at different datum.

Average discharge.--13 years, 0.85 cfs (615 acre-ft per year); median of yearly mean discharges, zero cfs, adjusted for effluent from sewage treatment plant 1959-64.

Extremes.--Maximum and minimum discharges for the water years 1961-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)	Gage height (feet)
1961	Aug. 1-4, 1961	0.30	2.25	Oct. 4, 1960	0.04	2.05
1962	Aug. 11, 1962	.40	2.33	(a)	0	-
1963	Feb. 5, 1963	86	4.28	May 2-4, 1963	0	-
1964	July 13, 1964	.30	2.24	Many days	.10	-
1965	Jan. 30, 1965	185	b 5.11	Most of year	0	-

a Dec. 22, 1961, to Apr. 18, 1962.
b From floodmarks.

1953-65: Maximum discharge, 5,560 cfs Feb. 21, 1956 (gage height, 12.68 ft); no flow for many days in most years.

Remarks.--Records fair. No diversion. Published flows August 1959 to September 1964 include effluent from sewage treatment plant 400 ft upstream; records adjusted to exclude effluent since October 1964.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1960 TO SEPTEMBER 1961

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.30	.10
2	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.30	.10
3	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10
4	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10
5	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10
6	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
7	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
8	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
9	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
11	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
12	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
13	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
14	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
15	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
16	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
17	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
18	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
19	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
20	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
21	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
22	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
23	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
24	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
25	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
26	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
27	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
28	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10
29	.10	.10	.10	.10	———	.10	.10	.10	.10	.20	.10	.10
30	.10	.10	.10	.10	———	.10	.10	.10	.10	.20	.10	.10
31	.10	———	.10	.10	———	.10	———	.10	———	.20	.10	———
TOTAL	3.10	3.00	3.10	3.10	2.80	3.10	3.00	3.10	3.00	5.20	3.80	3.00
MEAN	.10	.10	.10	.10	.10	.10	.10	.10	.10	.17	.12	.10
MAX	.10	.10	.10	.10	.10	.10	.10	.10	.10	.20	.30	.10
MIN	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
AC-FT	6.2	6.0	6.2	6.2	5.6	6.2	6.0	6.2	6.0	10	7.5	6.0

CAL YR 1960: TOTAL 36.50 MEAN .10 MAX .20 MIN 0 AC-FT 72
WAT YR 1961: TOTAL 39.30 MEAN .11 MAX .30 MIN .10 AC-FT 78

12-5130. Esquatzel Coulee at Connell, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.10	.10	.10	0	0	0	0	.10	.10	.10	.20	.10
2	.10	.10	.10	0	0	0	0	.10	.10	.10	.20	.20
3	.10	.10	.10	0	0	0	0	.10	.10	.10	.20	.20
4	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
5	.10	.10	.10	0	0	0	0	.10	.10	.10	.20	.20
6	.10	.10	.10	0	0	0	0	.10	.10	.10	.20	.20
7	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
8	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
9	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
10	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
11	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
12	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.10
13	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.10
14	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.10
15	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
16	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.10
17	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
18	.10	.10	.10	0	0	0	0	.10	.10	.10	.30	.20
19	.10	.10	.10	0	0	0	0	.10	.10	.10	.20	.20
20	.10	.10	.10	0	0	0	0	.10	.10	.10	.20	.20
21	.10	.10	.10	0	0	0	0	.10	.10	.10	.20	.20
22	.10	.10	0	0	0	0	0	.10	.10	.10	.20	.20
23	.10	.10	0	0	0	0	.10	.10	.10	.10	.20	.20
24	.10	.10	0	0	0	0	.10	.10	.10	.10	.20	.20
25	.10	.10	0	0	0	0	.10	.10	.10	.10	.10	.20
26	.10	.10	0	0	0	0	.10	.10	.10	.20	.10	.10
27	.10	.10	0	0	0	0	.10	.10	.10	.20	.10	.20
28	.10	.10	0	0	0	0	.10	.10	.10	.20	.10	.20
29	.10	.10	0	0	------	0	.10	.10	.10	.20	.20	.20
30	.10	.10	0	0	------	0	.10	.10	.10	.20	.10	.10
31	.10	------	0	0	------	0	------	.10	------	.20	.10	------
TOTAL	3.10	3.00	2.10	0	0	0	0.80	3.10	3.00	3.70	6.90	5.30
MEAN	.10	.10	.068	0	0	0	.027	.10	.10	.12	.22	.18
MAX	.10	.10	.10	0	0	0	.10	.10	.10	.20	.30	.20
MIN	.10	.10	0	0	0	0	0	.10	.10	.10	.10	.10
AC-FT	6.2	6.0	4.2	0	0	0	1.6	6.2	6.0	7.3	14	11

CAL YR 1961: TOTAL 38.30 MEAN .10 MAX .30 MIN 0 AC-FT 76
WAT YR 1962: TOTAL 31.00 MEAN .085 MAX .30 MIN 0 AC-FT 61

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	.20	.20	.10	.10	.10	.10	.10	.10	.20	.20	.20
2	.20	.20	.20	.10	.10	.10	.10	0	.10	.20	.20	.20
3	.20	.20	.20	.10	.10	.10	.10	0	.10	.20	.20	.20
4	.20	.10	.20	.10	.20	.10	.10	0	.10	.20	.20	.20
5	.20	.20	.20	.10	28	.10	.10	.10	.10	.20	.20	.20
6	.20	.10	.20	.10	23	.10	.10	.10	.10	.20	.20	.20
7	.20	.20	.20	.10	.20	.10	.10	.10	.10	.20	.20	.20
8	.20	.20	.20	.10	.10	.10	.10	.10	.10	.20	.20	.20
9	.20	.20	.20	.10	.10	.10	.10	.10	.10	.20	.20	.20
10	.20	.10	.20	.10	.10	.10	.10	.10	.10	.20	.20	.20
11	.20	.20	.30	.10	.20	.10	.10	.10	.10	.20	.20	.20
12	.20	.20	.30	.10	.20	.10	.10	.10	.10	.20	.20	.20
13	.20	.10	.30	.10	.20	.10	.10	.10	.10	.30	.20	.20
14	.20	.10	.20	.10	.20	.10	.10	.10	.10	.20	.20	.20
15	.20	.10	.10	.10	.20	.10	.10	.10	.10	.20	.20	.20
16	.20	.10	.10	.10	.20	.10	.10	.10	.10	.20	.20	.20
17	.20	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20	.20
18	.20	.10	.10	.10	.10	.20	.10	.10	.10	.20	.20	.20
19	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20
20	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20
21	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20
22	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20
23	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20
24	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20
25	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20
26	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20
27	.20	.10	.10	.10	.10	.10	.10	.10	.10	.20	.10	.20
28	.20	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20	.20
29	.20	.20	.10	.10	------	.10	.10	.10	.20	.20	.20	.20
30	.20	.20	.10	.10	------	.10	.10	.10	.20	.20	.20	.20
31	.20	------	.10	.10	------	.10	------	.10	------	.20	.20	------
TOTAL	6.20	4.10	4.80	3.10	54.40	3.20	3.00	2.80	3.40	6.30	6.10	6.00
MEAN	.20	.14	.15	.10	1.94	.10	.10	.090	.11	.20	.20	.20
MAX	.20	.20	.30	.10	28	.20	.10	.10	.20	.30	.20	.20
MIN	.20	.10	.10	.10	.10	.10	.10	0	.10	.20	.10	.20
AC-FT	12	8.1	9.5	6.2	108	6.4	6.0	5.6	6.7	13	12	12

CAL YR 1962: TOTAL 37.90 MEAN .10 MAX .30 MIN 0 AC-FT 75
WAT YR 1963: TOTAL 103.40 MEAN .28 MAX 28 MIN 0 AC-FT 205

12-5130. Esquatzel Coulee at Connell, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.20	.10	.10	.10	.20	.20	.10	.10	.10	.20	.20	.10
2	.20	.10	.10	.10	.20	.20	.10	.10	.10	.20	.10	.10
3	.20	.10	.10	.10	.20	.20	.10	.10	.10	.20	.10	.10
4	.20	.10	.10	.10	.20	.20	.10	.10	.20	.20	.10	.10
5	.20	.10	.10	.10	.20	.20	.10	.10	.10	.20	.10	.10
6	.20	.10	.10	.10	.20	.20	.10	.10	.10	.20	.10	.10
7	.20	.20	.10	.10	.20	.20	.10	.10	.10	.20	.20	.10
8	.20	.20	.10	.10	.20	.20	.10	.10	.10	.20	.20	.20
9	.20	.20	.10	.10	.20	.10	.10	.10	.10	.20	.20	.20
10	.20	.10	.10	.10	.20	.10	.10	.10	.10	.20	.20	.10
11	.20	.10	.10	.10	.20	.10	.10	.10	.10	.20	.20	.10
12	.20	.10	.10	.10	.10	.20	.10	.10	.10	.20	.20	.10
13	.20	.10	.10	.20	.10	.10	.10	.10	.10	.20	.20	.10
14	.20	.10	.10	.20	.10	.10	.10	.10	.10	.20	.20	.10
15	.20	.10	.10	.20	.10	.10	.10	.10	.20	.20	.20	.10
16	.20	.10	.10	.20	.10	.10	.10	.10	.20	.20	.20	.20
17	.20	.10	.10	.20	.10	.10	.10	.10	.10	.20	.20	.10
18	.20	.10	.10	.20	.10	.10	.10	.10	.10	.10	.20	.10
19	.20	.10	.10	.10	.10	.10	.10	.10	.20	.10	.10	.10
20	.20	.10	.10	.20	.10	.10	.10	.10	.20	.10	.10	.10
21	.20	.10	.10	.20	.10	.10	.10	.10	.10	.10	.10	.10
22	.20	.10	.10	.20	.10	.10	.10	.10	.20	.10	.20	.10
23	.20	.10	.10	.20	.10	.10	.10	.10	.20	.10	.10	.10
24	.20	.10	.10	.20	.10	.10	.10	.10	.20	.10	.20	.10
25	.20	.10	.10	.20	.10	.10	.10	.10	.10	.20	.10	.10
26	.20	.10	.10	.10	.10	.10	.10	.10	.20	.10	.20	.10
27	.10	.10	.10	.10	.10	.10	.10	.10	.20	.20	.20	.10
28	.10	.10	.20	.10	.10	.10	.10	.10	.20	.20	.20	.10
29	.10	.10	.20	.20	.20	.10	.10	.10	.20	.20	.10	.10
30	.10	.10	.20	.20	———	.10	.10	.10	.20	.10	.10	.10
31	.10	———	.10	.20	———	.10	———	.10	———	.10	.10	———
TOTAL	5.70	3.30	3.40	4.60	4.10	4.00	3.00	3.10	4.30	5.20	4.90	3.30
MEAN	.18	.11	.11	.15	.14	.13	.10	.10	.14	.17	.16	.11
MAX	.20	.20	.20	.20	.20	.20	.10	.10	.20	.20	.20	.20
MIN	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10	.10
AC-FT	11	6.6	6.7	9.1	8.1	7.9	6.0	6.2	8.5	10	9.7	6.6

CAL YR 1963: TOTAL 100.70 MEAN .28 MAX 28 MIN 0 AC-FT 200
WAT YR 1964: TOTAL 48.90 MEAN .13 MAX .20 MIN .10 AC-FT 97

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	0	0	.20	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	5.9	0	0	0	0	0	0	0	0
28	0	0	0	.23	0	0	0	0	0	0	0	0
29	0	0	0	5.1	———	0	0	0	0	0	0	0
30	0	0	0	57	———	0	0	0	0	0	0	0
31	0	———	0	19	———	0	———	0	———	0	0	———
TOTAL	0	0	0	110.0	0.20	0	0	0	0	0	0	0
MEAN	0	0	0	3.55	.007	0	0	0	0	0	0	0
MAX	0	0	0	57	.20	0	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	218	.4	0	0	0	0	0	0	0

CAL YR 1964: TOTAL 36.50 MEAN .10 MAX .20 MIN 0 AC-FT 72
WAT YR 1965: TOTAL 110.20 MEAN .30 MAX 57 MIN 0 AC-FT 219

12-5135. Esquatzel Coulee at Eltopia, Wash.

Location.--Lat 46°27'40", long 119°01'00", in SE¼ sec.2, T.11 N., R.30 E., on left bank on upstream side of Northern Pacific Railray bridge at Eltopia.
Drainage area.--551 sq mi (revised).
Records available.--January 1953 to September 1965.
Gage.--Water-stage recorder. Altitude of gage is 580 ft (from topographic map).
Average discharge.--13 years (1952-65), 0.58 cfs (420 acre-ft per year); median of yearly mean discharges, zero cfs.
Extremes.--1953-65: Maximum discharge, 3,740 cfs Feb. 22, 1956 (gage height, 18.23 ft); no flow for most of each year.
Remarks.--No flow since Feb. 27, 1956. Considerable regulation by natural pondage in Esquatzel Coulee near Mesa. No known diversion. Most of runoff above station goes into the sump maintained by the Bureau of Reclamation near Mesa.

COLUMBIA RIVER MAIN STEM

12-5140. Columbia River at Pasco, Wash.

Location.--Lat 46°13'40", long 119°08'03", in NW¼NW¼ sec.36, T.9 N., R.29 E., in bridge pier on U.S. Highway 410 at Pasco, 5.2 miles downstream from Yakima River and 5.8 miles upstream from Snake River.

Drainage area.--104,000 sq mi, approximately.

Records available.--October 1963 to September 1965.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1947 (Corps of Engineers bench mark). Auxiliary water-stage recorder approximately 7.8 miles upstream at Richland.

Extremes.--Maximum and minimum discharges for the water years 1964-65 are contained in the following table:

Water year	Maximum			Minimum		
	Date	Discharge (cfs)	Elevation (feet)	Date	Discharge (cfs)	Elevation (feet)
1964	June 17, 1964	469,000	346.09	Apr. 11, 1964	23,400	a 335.44
1965	June 18, 1965	351,000	342.18	Jan. 30, 1965	40,800	b 334.89

a Occurred Mar. 16, 1964.
b Occurred Mar. 17, 1965.

1963-65: Maximum discharge, 469,000 cfs June 17, 1964 (elevation, 346.09 ft); minimum, 23,400 cfs Apr. 11, 1964; minimum elevation, 334.89 ft Mar. 17, 1965.

Remarks.--Records fair. Diversions made to irrigate approximately 1,290,000 acres above station. Flow regulated by Franklin D. Roosevelt Lake (see station 12-4390), Rufus Woods Lake (see station 12-4379), Priest Rapids Reservoir, and reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, Okanogan, Chelan, and Yakima River basins. Records of suspended-sediment loads for the water years 1962-65 are published in reports of the Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1963 TO SEPTEMBER 1964

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	60,000	57,900	56,000	58,100	53,200	67,300	73,300	66,800	289,000	385,000	196,000	96,500
2	68,000	51,100	79,700	50,200	51,700	66,000	62,100	69,700	296,000	365,000	203,000	90,000
3	68,900	45,500	79,700	60,500	65,800	77,000	57,300	66,900	322,000	356,000	189,000	87,800
4	64,500	55,400	71,600	58,000	71,500	65,000	49,600	77,300	329,000	336,000	172,000	75,300
5	64,900	70,400	59,500	48,200	69,400	58,100	47,400	88,200	333,000	321,000	164,000	64,800
6	57,600	68,100	57,700	59,500	62,000	62,800	51,800	74,800	327,000	313,000	151,000	53,300
7	59,700	67,000	62,800	70,200	74,500	59,900	69,500	82,300	320,000	330,000	117,000	46,400
8	70,300	66,300	62,500	65,200	79,400	53,200	67,800	81,800	318,000	346,000	114,000	83,000
9	72,800	62,300	66,400	65,600	71,800	56,300	64,200	89,000	315,000	349,000	138,000	86,200
10	72,200	57,000	74,500	65,300	77,600	76,200	57,700	114,000	335,000	337,000	153,000	83,200
11	72,400	52,500	70,700	55,900	92,900	61,500	46,100	118,000	367,000	316,000	144,000	88,800
12	62,700	65,300	63,900	49,100	77,100	54,100	44,300	136,000	394,000	333,000	131,000	77,900
13	54,200	66,100	63,500	61,000	78,900	66,200	59,400	148,000	412,000	335,000	132,000	67,500
14	67,000	55,800	61,400	70,300	83,600	63,000	75,300	155,000	427,000	336,000	134,000	82,100
15	72,700	59,300	56,600	65,800	75,000	69,000	70,100	163,000	434,000	330,000	140,000	93,900
16	73,000	56,200	56,600	62,100	76,600	64,000	77,500	160,000	436,000	333,000	142,000	85,000
17	71,000	50,800	69,400	65,900	84,200	70,000	73,300	157,000	458,000	320,000	150,000	79,000
18	68,400	55,400	72,200	57,800	82,100	74,000	59,700	163,000	454,000	309,000	138,000	68,700
19	50,200	66,500	69,200	54,300	81,400	70,000	55,800	184,000	451,000	309,000	125,000	55,700
20	45,400	59,400	61,300	61,400	78,800	71,000	64,700	205,000	443,000	308,000	114,000	51,100
21	53,800	59,600	51,800	74,300	80,700	67,000	92,500	225,000	442,000	308,000	114,000	66,400
22	62,200	62,600	49,300	69,200	73,400	60,200	86,400	246,000	436,000	283,000	121,000	73,500
23	62,800	59,800	60,300	62,100	68,600	77,400	87,500	243,000	436,000	267,000	110,000	75,100
24	56,000	53,400	67,300	55,400	79,600	78,000	67,600	240,000	436,000	243,000	125,000	75,600
25	61,600	56,000	56,400	53,400	85,000	78,200	59,600	238,000	441,000	244,000	128,000	93,100
26	74,200	62,500	53,300	47,000	79,000	74,900	52,700	249,000	437,000	233,000	117,000	79,400
27	51,100	63,800	64,300	57,300	71,500	66,000	63,700	257,000	428,000	234,000	103,000	68,600
28	53,800	59,200	57,200	66,300	77,100	66,100	80,000	258,000	418,000	227,000	102,000	82,100
29	71,200	51,900	51,300	58,300	76,200	57,100	69,100	261,000	399,000	183,000	88,700	93,000
30	71,700	62,300	56,600	56,300	------	66,100	79,600	273,000	388,000	162,000	78,800	70,500
31	67,900	------	66,800	55,000	------	79,800	------	280,000	------	149,000	94,800	------
TOTAL	1,982.2M	1,779.4M	1,949.8M	1,859.0M	2,178.6M	2,075.4M	1,965.6M	5,169.8M	11,721M	9,200.0M	4,129.3M	2,313.5M
MEAN	63,940	59,310	62,900	59,970	75,120	66,950	65,520	166,800	390,700	296,800	133,200	77,120
MAX	74,200	70,400	79,700	74,300	92,900	79,800	92,500	280,000	458,000	385,000	203,000	96,500
MIN	45,400	45,500	49,300	47,000	51,700	53,200	44,300	66,800	289,000	149,000	78,800	46,400
AC-FT	3,932M	3,529M	3,867M	3,687M	4,321M	4,116M	3,899M	10,250M	23,250M	18,250M	8,190M	4,589M

CAL YR 1963: TOTAL MEAN MAX MIN AC-FT
WAT YR 1964: TOTAL 46,323,600 MEAN 126,600 MAX 458,000 MIN 44,300 AC-FT 91,880,000

M Expressed in thousands.

12-5140. Columbia River at Pasco, Wash.--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1964 TO SEPTEMBER 1965

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	95,400	71,000	90,700	77,000	66,400	99,500	94,800	153,000	301,000	278,000	116,000	113,000
2	98,700	80,600	83,600	102,000	90,800	97,300	88,800	219,000	302,000	269,000	136,000	110,000
3	88,400	92,100	83,700	95,600	90,800	90,300	75,800	234,000	309,000	267,000	137,000	105,000
4	86,700	94,300	88,200	105,000	90,000	85,300	63,400	220,000	312,000	261,000	147,000	102,000
5	108,000	89,100	85,100	99,900	106,000	98,900	75,700	235,000	311,000	257,000	149,000	84,400
6	92,100	80,300	75,800	96,400	112,000	99,300	83,400	226,000	316,000	247,000	150,000	65,900
7	96,000	79,800	87,100	96,700	109,000	99,600	89,400	247,000	308,000	253,000	148,000	99,500
8	92,200	57,800	84,800	104,000	121,000	106,000	87,600	203,000	317,000	258,000	150,000	101,000
9	85,600	79,400	82,000	89,800	123,000	97,700	96,700	225,000	312,000	263,000	154,000	92,000
10	84,900	86,000	80,300	71,100	121,000	96,900	96,100	231,000	312,000	260,000	154,000	81,800
11	86,400	78,200	80,900	86,500	131,000	109,000	83,000	223,000	314,000	258,000	153,000	66,500
12	96,100	79,900	70,600	102,000	134,000	110,000	86,700	224,000	318,000	255,000	156,000	61,700
13	106,000	77,700	57,800	97,400	128,000	101,000	99,400	242,000	310,000	252,000	152,000	72,300
14	92,500	78,400	62,700	99,300	92,000	96,000	100,000	249,000	305,000	254,000	132,000	90,600
15	94,000	61,300	78,100	89,300	87,800	99,000	101,000	249,000	304,000	258,000	128,000	87,300
16	101,000	74,600	80,800	75,100	119,000	113,000	115,000	245,000	310,000	233,000	133,000	85,800
17	91,600	75,300	97,800	70,500	116,000	106,000	110,000	242,000	325,000	229,000	136,000	84,500
18	91,600	69,400	91,700	81,900	124,000	101,000	100,000	246,000	343,000	227,000	148,000	75,300
19	108,000	77,500	78,000	95,000	108,000	115,000	137,000	255,000	328,000	208,000	143,000	60,500
20	94,200	81,400	61,500	95,400	101,000	94,400	125,000	256,000	326,000	195,000	134,000	74,400
21	102,000	70,100	68,200	90,000	102,000	82,300	141,000	255,000	338,000	200,000	127,000	90,400
22	93,000	57,800	87,000	90,900	114,000	86,000	173,000	249,000	335,000	204,000	120,000	91,400
23	93,200	65,800	90,600	81,800	113,000	110,000	164,000	246,000	336,000	208,000	125,000	80,900
24	87,300	82,600	72,000	70,000	106,000	106,000	161,000	248,000	330,000	212,000	119,000	82,800
25	78,000	75,800	53,900	73,700	105,000	105,000	167,000	249,000	324,000	207,000	128,000	67,500
26	90,200	85,300	49,100	93,600	113,000	108,000	173,000	249,000	323,000	203,000	130,000	61,400
27	93,400	89,000	55,700	88,400	99,100	102,000	178,000	245,000	311,000	183,000	129,000	78,100
28	91,100	78,300	55,900	87,500	91,100	80,900	175,000	261,000	303,000	173,000	122,000	89,200
29	85,800	67,800	74,200	76,200	------	97,000	173,000	277,000	290,000	153,000	117,000	82,700
30	89,100	83,800	78,000	49,200	------	105,000	171,000	292,000	286,000	147,000	125,000	77,900
31	74,300	------	82,200	59,600	------	93,400	------	296,000	------	137,000	125,000	------
TOTAL	2,866.8M	2,320.4M	2,368.0M	2,690.8M	3,014.0M	3,090.8M	3,584.8M	7,491.0M	9,459.0M	7,009.0M	4,223.0M	2,515.8M
MEAN	92,480	77,350	76,390	86,800	107,600	99,700	119,500	241,600	315,300	226,100	136,200	83,860
MAX	108,000	94,300	97,800	105,000	134,000	115,000	178,000	296,000	343,000	278,000	156,000	113,000
MIN	74,300	57,800	49,100	49,200	66,400	80,900	63,400	153,000	286,000	137,000	116,000	60,500
AC-FT	5,686M	4,602M	4,697M	5,337M	5,978M	6,131M	7,110M	14,860M	18,760M	13,900M	8,376M	4,990M

CAL YR 1964: TOTAL 48,167,400 MEAN 131,600 MAX 458,000 MIN 44,300 AC-FT 95,540,000
WAT YR 1965: TOTAL 50,633,400 MEAN 138,700 MAX 343,000 MIN 49,100 AC-FT 100,400,000

M Expressed in thousands.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations.

LOW-FLOW PARTIAL-RECORD STATIONS

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water years 1961-65

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Spokane River basin				
12-4286	West Branch Little Spokane River near Elk, Wash.	SW¼ sec.15, T.29 N., R.43 E., at county road bridge (No. 3905) 4¾ miles west of Elk.	101	1962-65	4- 3-62 9- 5-62 9-24-63 9-22-64 9-27-65	198 6.64 11.5 21.1 16.5
12-4295	Little Spokane River at Chattaroy, Wash.	NE¼ sec.34, T.28 N., R.43 E., 200 ft downstream from road crossing at Chattaroy and 200 ft above Deer Creek.	a 300	1948‡, 1952, 1955-58, 1960-65	9-13-61 9- 5-62 9-24-63 9-22-64 9-27-65	91.2 67.2 87.8 104 88.7
12-4296	Deer Creek near Chattaroy, Wash.	Center S½ sec.26, T.28 N., R.43 E., at county road crossing 1 mile east of Chattaroy and 1 mile upstream from mouth.	31.9	1948, 1952, 1955-58, 1960-65	9-13-61 9- 5-62 4-24-63 9-24-63 9-22-64 12-11-64 2-18-65 9-27-65	.30 0 32.4 1.22 1.59 7.96 43.6 .83
12-4301	Dragoon Creek at mouth, near Chattaroy, Wash.	NE¼ sec.4, T.27 N., R.43 E., 600 ft upstream from mouth and 1¼ miles southwest of Chattaroy.	177	1948, 1952, 1955-58, 1960-65	9-13-61 9- 5-62 9-24-63 9-22-64 9-27-65	16.8 14.0 19.9 31.4 24.0
12-4301.5	Little Spokane River below Dragoon Creek, near Chattaroy, Wash.	On line between secs.3 and 4, T.27 N., R.43 E., 500 ft downstream from Dragoon Creek and 1¢ miles southwest of Chattaroy.	a 511	1952, 1955-58, 1960-65	9-13-61 9- 5-62 9-24-63 9-22-64 9-27-65	115 88.8 113 126 111
12-4302	Little Spokane River at Buckeye, Wash.	NE¼ sec.16, T.27 N., R.43 E., 500 ft upstream from county road bridge at Buckeye.	518	1952, 1955-58, 1960-65	9-13-61 9- 5-62 9-25-63 9-22-64 9-27-65	125 103 131 136 140
12-4302.5	Little Spokane River near Buckeye, Wash.	SE¼ sec.21, T.27 N., R.43 E., 50 ft downstream from county road bridge and 1½ miles south of Buckeye.	523	1952, 1955-58, 1960-65	9-13-61 9- 5-62 9-25-63 9-22-64 9-27-65	125 103 128 134 134
12-4303	Little Spokane River above Deadman Creek, near Dartford, Wash.	S½ sec.28, T.27 N., R.43 E., at county road bridge three-quarters of a mile upstream from Deadman Creek and 2½ miles northeast of Dartford.	524	1952, 1955-58, 1960-65	9-13-61 9- 6-62 9-25-63 9-22-64 9-27-65	124 105 127 140 147
12-4303.5	Deadman Creek near Mead, Wash.	E½ sec.3, T.26 N., R.43 E., 300 ft downstream from highway bridge and 1 mile north of Mead.	80.3	1948, 1952, 1955-58, 1960-65	9-13-61 9- 6-62 9-25-63 9-24-64 9-27-65	.43 .83 2.47 3.59 3.03
12-4304	Deadman Creek below U.S. Highway 195, near Mead, Wash.	SE¼NW¼ sec.3, T.26 N., R.43 E., 1,000 ft downstream from crossing on U.S. Highway 195 and 1 mile north of Mead.	94.7	1953, 1955-58, 1960-65	9-14-61 9- 6-62 9-25-63 9-24-64 9-27-65	10.9 11.5 12.7 14.7 16.3
12-4305	Deep Creek at Colbert, Wash.	SE¼ sec.22, T.27 N., R.43 E., at crossing on U.S. Highway 195, 1 mile south of Colbert.	a 31.8	1948‡, 1952-53, 1955-58, 1960-65	9-13-61 9- 6-62 9-25-63 9-22-64 9-27-65	0 0 0 .64 .11
12-4306	Little Spokane River below Deadman Creek, near Dartford, Wash.	SW¼ sec.33, T.27 N., R.43 E., downstream from Deadman Creek, 1½ miles northeast of Dartford.	659	1957-58, 1960-64	9-14-61 9- 6-62 9-26-63 9-23-64	146 115 168 142

Discharge measurements made at low-flow partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Spokane River basin--Continued				
12-4307	Little Spokane River above Wandermere Lake Creek, near Dartford, Wash.	NW¼ sec.5, T.26 N., R.43 E., 400 ft upstream from Wandermere Lake Creek and three-quarters of a mile east of Dartford.	660	1953, 1955-58, 1960-65	9-14-61 9- 6-62 9-26-63 9-23-64 9-28-65	151 122 164 161 159
12-4308	Wandermere Lake Creek near Dartford, Wash.	SE¼NW¼ sec.5, T.26 N., R.43 E., 100 ft upstream from mouth and three-quarters of a mile east of Dartford.	a 4.32	1953, 1955-58, 1960-65	9-14-61 9- 6-62 9-26-63 9-23-64 9-28-65	11.8 7.55 10.4 12.0 11.0
12-4312	Little Spokane River below Country Club, near Dartford, Wash.	NW¼NW¼ sec.12, T.26 N., R.42 E., 10 ft upstream from road crossing and 2 miles southwest of Dartford.	a 691	1953, 1955-58, 1960-65	9-15-61 9- 7-62 9-26-63 9-23-64 9-28-65	326 303 334 357 401
12-4315	Little Spokane River near Dartford, Wash.	SW¼NW¼ sec.3, T.26 N., R.42 E., at highway bridge 3 miles upstream from mouth and 4 miles west of Dartford.	698	1948-52‡, 1953, 1956-57, 1961-65	9-15-61 9- 7-62 9-27-63 9-23-64 9-28-65	435 382 426 435 425
12-4321	Little Spokane River at mouth, near Spokane, Wash.	SE¼NW¼ sec.5, T.26 N., R.42 E., 50 ft downstream from county road crossing, three-quarters of a mile upstream from mouth, and 5½ miles west of Dartford.	700	1903-5, 1912, 1913-14‡, 1920-21, 1923-24, 1930-32, 1947-48, 1953, 1955-58, 1960-65	9-15-61 9- 7-62 9-27-63 9-23-64 9-28-65	463 381 395 468 475

‡ Operated as a continuous-record gaging station.
a Revised.

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Kootenai River basin					
12-3005	Fortine Creek near Trego, Mont.	NE¼ sec.11, T.33 N., R.26 W., 5½ miles southwest of Trego.	112	1946-53‡, 1954, 1958-65	5-24-58	10.2	a 850
					5-11-61	10.0	700
					4-19-62	8.96	540
					4-26-63	6.01	360
					5-18-64	9.48	600
					4-27-65	11.13	1,060
12-3008	Deep Creek near Fortine, Mont.	SE¼ sec.30, T.35 N., R.25 W., at bridge on county road, 1¼ miles east of Fortine.	17.9	1959-65	1959 b	2.8	a 150
					6- 6-60	2.67	c 138
					5-31-61	2.92	161
					5-28-62	1.75	82
					6-22-63	2.26	108
					6- 8-64	4.90	310
					5-28-65	3.28	180
12-3017	Kootenai River tributary near Rexford, Mont.	SE¼ sec.11, T.35 N., R.29 W., at culvert on State Highway 37, 7 miles southwest of Rexford.	1.11	1959-65	1959 b	.5	a 2
					4- 8-60	1.25	a 9
					5-12-61	1.28	9
					5-21-62	1.16	8
					5-14-63	.55	3
					5-21-64	1.00	7
					5-27-65	1.10	8
12-3018	Gold Creek near Rexford, Mont.	NW¼ sec.23, T.35 N., R.29 W., at culvert on State Highway 37, 8 miles southwest of Rexford.	6.04	1959-65	1959 b	1.5	a 103
					4- 8-60	.85	a 55
					5-21-61	.97	64
					5-12-62	.78	50
					5-14-63	.27	22
					5-20-64	.93	61
					4-27-65	.95	62
12-3019	Little Jackson Creek near Libby, Mont.	Center sec.16, T.31 N., R.29 W., at culvert on State Highway 37, 12 miles northeast of Libby.	2.60	1961-65	5-15-61	.4	13
					1962	(d)	<4
					2- -63	e .22	5
					1964	(d)	<4
					4- -65	.36	12
12-3020.5	Peoples Creek near Libby, Mont.	NW¼ sec.28, T.30 N., R.29 W., at culvert on private road, 12 miles east of Libby.	2.65	1961-65	5-15-61	.3	10
					5-18-62	.05	4
					1963	(d)	<.5
					4-21-64	-.04	1
					4-27-65	.46	15
12-3021	Severn Gulch near Jennings, Mont. (Station discontinued).	SE¼ sec.14, T.30 N., R.30 W., at culvert on private road, 3 miles west of Jennings.	1.16	1960-61	1961	-	-
12-3022	Tub Gulch near Libby, Mont. (Station discontinued).	NE¼SE¼ sec.29, T.31 N., R.30 W., at culvert on State Highway 37, 4 miles northeast of Libby.	1.47	1960-61	1961	-	-
12-3024	Shaughnessy Creek near Libby, Mont.	W½ sec.5, T.29 N., R.31 W., at culvert on county road, 6½ miles southwest of Libby.	1.11	1959-65	1959 b	.4	a 16
					1960	(d)	a <4
					3-30-61	.73	33
					5-16-62	.67	29
					4- 4-63	.09	6
					4- -64	.39	16
					4- -65	.97	48
12-3042.5	Whitetail Creek near Yaak, Mont.	NE¼ sec.1, T.35 N., R.33 W., 500 ft upstream from mouth and 5 miles west of Yaak.	2.61	1960-65	1959 b	.7	a 33
					5- 1-61	1.02	49
					5-21-62	.45	11
					4- 4-63	.58	15
					5-22-64	.70	31
					4-26-65	.96	42
12-3043	Cyclone Creek near Yaak, Mont.	SE¼ sec.32, T.35 N., R.33 W., at bridge a quarter of a mile upstream from mouth and 10½ miles southwest of Yaak.	5.66	1960-65	1960	2.06	a 220
					5-26-61	1.78	172
					5-21-62	1.26	97
					4- 4-63	1.58	133
					5-22-64	1.94	150
					4-27-65	1.38	73
12-3044	Fourth of July Creek near Yaak, Mont.	NW¼ sec.22, T.34 N., R.33 W., at bridge 500 ft upstream from mouth and 12 miles southwest of Yaak.	7.70	1960-65	1960 b	2.5	a 258
					5-26-61	2.06	196
					4-19-62	1.60	138
					4-14-63	.95	61
					5-22-64	2.20	190
					4-26-65	1.98	165

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Kootenai River basin--Continued					
12-3108	Trail Creek at Naples, Idaho.	Lat 48°34'10", long 116°23'20", in NW¼ sec.7, T.60 N., R.1 E., at culvert crossing of Spokane International Railroad, a quarter of a mile north of Naples school.	f 16	1961-65	2-21-61	9.63	341
					4-20-62	7.19	102
					11-26-62	9.69	335
					5-14-64	e 7.32	117
					4-22-65	8.74	227
12-3210	Smith Creek near Porthill, Idaho.	Lat 48°57'40", long 116°33'20", in NE¼ sec.26, T.65 N., R.2 W., at U.S. Forest Service bridge, 1 mile south of Smith Creek ranger station and 4 miles southwest of Porthill.	f 70	1928-60‡, 1962-65	5-29-62	7.10	1,670
					5-24-63	7.16	1,730
					5-20-64	7.40	1,980
					5-29-65	7.50	2,100
		Pend Oreille River basin					
12-3233	Smith Gulch near Silverbow, Mont.	N½ sec.1, T.2 N., R.9 W., at culvert on Interstate Highway 15 and U.S. Highway 91, 4 miles south of Silverbow.	4.85	1959-65	9-11-61	2.41	67
					4-14-62	1.70	32
					2- 4-63	4.91	80
					3-30-64	3.04	10
					12-23-64	5.75	123
12-3247	Clark Fork tributary near Drummond, Mont.	SW¼ sec.18, T.10 N., R.11 W., half a mile upstream from Interstate Highway 90 and U.S. Highway 10 and 6½ miles east of Drummond.	4.61	1958-65	4- 3-61	.70	20
					4- 4-62	.62	18
					2- 4-63	1.44	56
					3-31-64	.98	21
					2- 5-65	1.53	64
12-3248	Morris Creek near Drummond, Mont.	NW¼NW¼ sec.34, T.11 N., R.12W., at culvert on State Secondary Highway 271, 2 miles east of Drummond.	12.6	1960-65	4- 3-61	.47	3
					4-23-62	.65	4
					3-21-63	.76	6
					5-20-64	1.06	10
					5-29-65	.83	12
12-3317	Edwards Gulch at Drummond, Mont. (station discontinued).	SW¼SW¼ sec.29, T.11 N., R.12 W., at culvert on private road, 0.4 mile north of Interstate Highway 90 and U.S. Highway 10 at Drummond.	4.69	1960-62	4- 3-61	.14	2
					4-14-62	.55	8
12-3399	West Twin Creek near Bonner, Mont.	NW¼ sec.2, T.13 N., R.17 W., at bridge on State Highway 20, 8 miles east of Bonner.	7.47	1959-65	6- -59	.7	a 98
					4- 6-60	.63	a 82
					5-27-61	.91	128
					4-19-62	.92	92
					5-29-63	.63	63
					6- 8-64	e 1.10	150
					4-14-65	1.33	120
12-3402	Marshall Creek near Missoula, Mont.	NW¼ sec.18, T.13 N., R.18 W., at culvert on Interstate Highway 90 and U.S. Highways 10 and 12, 3 miles east of Missoula.	5.47	1959-65	6- -59	.3	a 13
					4- 7-60	.26	a 11
					5-27-61	.27	22
					4-25-62	.53	15
					5- 6-63	.38	7
					5-21-64	1.05	50
					5-29-65	.54	26
12-3443	Burke Gulch near Darby, Mont.	S½ sec.12, T.3 N., R.21 W., 1 mile upstream from mouth and 1½ miles east of Darby.	6.28	1958-65	5-27-61	.40	2
					5- -62	(d)	4
					2- -63	1.08	13
					4-21-64	.95	11
					4-22-65	.95	7
12-3458	Camas Creek near Hamilton, Mont.	SW¼ sec.34, T.5 N., R.21 W., 8 miles southwest of Hamilton.	6.01	1958-65	5-28-61	2.30	190
					6-25-62	2.06	80
					5-25-63	2.03	74
					6-26-64	2.15	120
					6-12-65	2.39	148
12-3502	Gash Creek near Victor, Mont.	W½ sec.32, T.8 N., R.21 W., 5 miles west of Victor.	3.37	1958-65	5-28-61	1.57	99
					6-25-62	1.26	47
					6- 5-63	1.19	60
					6-26-64	1.36	75
					6-12-65	1.81	165
12-3505	Kootenai Creek near Stevensville, Mont.	SW¼NW¼ sec.18, T.9 N., R.20 W., 3 miles upstream from mouth and 4 miles northwest of Stevensville.	28.9	1948-53‡, 1957-63‡, 1964-65	6- 8-64	4.88	790
					6-12-65	4.82	765
12-3510	Burnt Fork Creek near Stevensville, Mont.	NW¼SW¼ sec.11, T.8 N., R.19 W., 150 ft upstream from county road bridge and 8 miles southeast of Stevensville.	74.0	1920‡, 1922-24‡, 1938‡, 1938-62‡, 1963-65	6- 5-63	3.35	312
					6- 8-64	4.73	720
					6-12-65	4.19	530
12-3514	Eightmile Creek near Florence, Mont.	SW¼SW¼ sec.2, T.10 N., R.19 W., 0.6 mile upstream from Granite Creek, 5 miles upstream from mouth, and 6 miles east of Florence.	20.6	1957-63‡, 1964-65	6- 8-64	3.60	104
					5-12-65	3.63	75
12-3522	Hayes Creek near Missoula, Mont.	Center of sec.10, T.12 N., R.20 W., at culvert on U.S. Highways 12 and 93, 2 miles southwest of Missoula.	4.16	1959-65	1959 b	.6	a 3
					4- 5-60	3.77	a 56
					5-27-61	.70	4
					4-24-62	1.34	14
					3-22-63	.58	3
					5-22-64	1.63	21
					5-12-65	2.45	29

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Pend Oreille River basin--Continued					
12-3534	Nigger Gulch near Alberton, Mont.	NW¼ sec.33, T.15 N., R.23 W., at culvert on county road, 2.6 miles west of Alberton.	8.02	1959-65	1959 b	0.7	a 23
					4- 6-60	.80	a 27
					5- 2-61	.74	24
					5-29-62	.54	16
					5- 6-63	.59	18
					6- 9-64	1.01	67
					4-28-65	2.05	170
12-3537	Flat Creek near Superior, Mont. (station discontinued).	NW¼ sec.23. T.17 N., R.26 W., at culvert on county road, 2 miles north of Superior.	13.0	1960-61	1961	-	-
12-3538	Thompson Creek near Superior, Mont.	SW¼ sec.28, T.17 N., R.26 W., 1¼ miles west of Superior.	12.2	1961-65	5-26-61	.53	55
					4-24-62	.82	85
					4-14-63	.15	20
					5-21-64	.53	79
					4-14-65	3.0	190
12-3538.5	East Fork Timber Creek near Haugan, Mont.	NE¼ sec.16, T.19 N., R.30 W., at culvert on county road, 2 miles north of Haugan.	2.72	1961-65	5- 2-61	.38	23
					4-15-62	.82	45
					4-14-63	.33	20
					5-22-64	.87	40
					4-14-65	1.46	66
12-3539	St. Regis River tributary near St. Regis, Mont. (station discontinued).	NW¼ sec.19, T.18 N., R.28 W., at culvert on Interstate Highway 90 and U.S. Highway 10, 6 miles west of St. Regis.	1.16	1959-61	1961	-	-
12-3541	North Fork Little Joe Creek near St. Regis, Mont.	SW¼SE¼ sec.34, T.18 N., R.28 W., at bridge on county road, 3 miles southwest of St. Regis.	14.7	1960-65	5-12-60	1.84	a 179
					5-26-61	1.88	185
					5-27-62	1.16	91
					5-28-63	.95	57
					6- 8-64	1.91	212
					5-29-65	1.83	200
12-3560	Skyland Creek near Essex, Mont.	SE¼NW¼ sec.9, T.29 N., R.14 W., 10 miles northeast of Essex.	8.09	1946-52, 1954, 1959-65	5-19-54	a 2.3	a 230
					5-30-61	2.48	267
					5-29-62	1.58	93
					6- 5-63	1.52	82
					6- 8-64	9.55	3,580
					5-29-65	4.76	-
12-3573	Moccasin Creek near West Glacier, Mont.	SE¼ sec.35, T.32 N., R.18 W., at culvert on U.S. Highway 2, 6½ miles east of West Glacier.	1.97	1959-65	1959 b	1.3	a 102
					6- 3-60	1.29	a 120
					5-27-61	1.43	105
					4-24-62	1.17	50
					5-25-63	1.15	48
					6- 8-64	-	-
					5-29-65	5.60	-
12-3574	Middle Fork Flathead River tributary at West Glacier, Mont.	NE¼ sec.36, T.32 N., R.19 W., at culvert on U.S. Highway 2, 0.9 mile east of West Glacier.	.10	1960-65	4- 3-60	.27	a 3
					5- 2-61	.19	2
					4-23-62	.11	1
					1963	(d)	<.5
					6- 8-64	.32	8
					4-21-65	.49	9
12-3638	Spring Creek near Stryker, Mont. (station discontinued).	N½ sec.15, T.33 N., R.24 W., at culvert on U.S. Highway 93, 5 miles southeast of Stryker.	3.86	1959-61	1959 b	.7	a 12
					5-15-61	.62	10
12-3639	Rock Creek near Olney, Mont.	NW¼ sec.24, T.33 N., R.24 W., at culvert on U.S. Highway 93, 6 miles northwest of Olney.	6.18	1961-65	5-15-61	1.2	24
					5-21-62	.82	13
					5-14-63	.56	6
					5- 2-64	1.29	25
					4-28-65	1.40	29
c 12-3705	Dayton Creek near Proctor, Mont.	NW¼ sec.20, T.25 N., R.21 W., at culvert on county road, 2½ miles northwest of Proctor.	20.9	1959-65	1959 b	1.3	a 37
					5-12-60	1.74	a 51
					5-27-61	3.00	93
					4-24-62	1.54	45
					4-13-63	.28	7
					6- 8-64	1.06	29
					4-15-65	5.09	131
c 12-3709	Tepee Creek near Polson, Mont.	SW¼ sec. 23, T.24 N., R.19 W., at culvert on State Highway 35, 11 miles northeast of Polson.	2.55	1960-65	6- 3-60	.48	a 11
					6- 2-61	.90	22
					4-24-62	.05	4
					1963	(d)	<1
					6- 8-64	2.15	44
					6-12-65	.32	8
c 12-3711	Hell Roaring Creek near Polson, Mont.	NW¼ sec.4, T.22 N., R.19 W., at powerhouse 5½ miles east of Polson.	6.41	1917-32, 1948, 1959-65	5- -59	a 1.3	a 60
					6- 3-60	.81	a 27
					6- 2-61	.93	34
					4-24-62	.49	12
					4-15-63	.28	5
					6- 8-64	1.73	98
					6-12-65	-	20
12-3743	Mill Creek near Niarada, Mont.	NE¼ sec.20, T.24 N., R.24 W., at bridge on county road, 3½ miles northwest of Niarada.	28.0	1959-65	1959 b	1.1	a 90
					5- 1-61	1.42	140
					4-24-62	.97	70
					5-17-63	.78	45
					5-27-64	.91	52
					4-15-65	1.43	175

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Pend Oreille River basin--Continued							
12-3747	Sullivan Creek tributary near Niarada, Mont. (station discontinued).	N½ sec.33, T.25 N., R.23 W., at culvert on county road, 5 miles northeast of Niarada.	-	1960-61	1961	-	-
12-3757	South Fork Garden Creek near Hot Springs, Mont.	SW¼ sec.20, T.22 N., R.24 W., at bridge on county road, 3 miles north of Hot Springs.	3.29	1959-65	1959 b 5-27-61 5-23-62 5-17-63 5-27-64 4-29-65	a 1.4 .86 .48 .73 1.02 -	a 10 29 14 24 45 100
12-3921	Trapper Creek near Clark Fork, Idaho.	Lat 48°15'57", long 116°07'00", in NE¼ sec.30, T.57 N., R.3 E., at forest road 9.8 miles north of Clark Fork.	1.12	1962-65	4-20-62 5-25-63 5-20-64 5-29-65	13.95 13.62 14.46 14.05	27 19 46 30
12-3928	Dover Creek near Dover, Idaho.	Lat 48°15'10", long 116°37'50", in SW¼SW¼ sec.30, T.57 N., R.2 W., at crossing on U.S. Highway 2, 1.2 miles west of Dover.	f 2.2	1961-65	2-10-61 4- 7-62 4- 6-63 4-10-64 4-20-65	12.14 11.64 11.60 11.80 11.62	48 27 26 36 39
12-3936	Binarch Creek near Coolin, Idaho.	Lat 48°28'10", long 116°55'20", in NE¼ sec.13, T.59 N., R.5 W., at State Highway 57, 3 miles west of Coolin.	10.4	1962-65	4-20-62 4-10-63 5- 3-64 4-29-65	11.49 11.27 11.58 12.54	55 42 59 114
12-3958	Deer Creek near Dalkena, Wash.	SE¼ sec.7, T.31 N., R.44 E., at State Highway 311, 4.5 miles southwest of Dalkena.	4.75	1954-65	2- -61 4-27-62 1963 4- 9-64 4-21-65	13.85 13.45 12.68 13.32 13.65	56 47 28 42 48
12-3959	Davis Creek near Dalkena, Wash.	NE¼ sec.31, T.32 N., R.44 E., at State Highway 311 at outlet of Davis Lake, 2.5 miles southwest of Dalkena.	16.8	1954-65	11-24-60 4- 7-62 1963 4-12-64 4-21-65	7.75 7.47 7.12 8.13 8.12	96 81 66 110 109
12-3961	Winchester Creek near Cusick, Wash.	NW¼ sec.15(revised), T.32 N., R.43 E., at county road around Calispell Lake, 4.8 miles southwest of Cusick.	16.8	1954-65	11-24-60 4-27-62 1963 5-20-64 4-19-65	12.44 10.97 11.25 10.81 12.32	108 54 64 49 103
12-3964.5	Little Muddy Creek at Ione, Wash.	SW¼ sec.6, T.37 N., R.43 E., at southwest edge of Ione.	c 11.3	1954-65	5-10-61 4-24-62 5- 6-63 5-13-64 4-20-65	15.50 12.17 11.31 11.81 12.67	257 82 50 70 106
Kettle River basin							
12-4037	Third Creek near Curlew, Wash.	NE¼ sec.19, T.39 N., R.35 E., at county road between Curlew and Orient, 8 miles east of Curlew.	1.18	1954-65	4- 3-61 4-15-62 1963 5- 9-64 4-10-65	9.65 9.60 e 10.02 9.20 9.11	12 11 - 6.7 5.8
Nancy Creek basin							
12-4054	Nancy Creek near Kettle Falls, Wash.	SE¼ sec.33, T.37 N., R.37 E., at U.S. Highway 395, 4.2 miles northwest of Kettle Falls.	11.9	1952, 1954-65	5-10-61 4-15-62 4- 6-63 5- 9-64 4-10-65	18.00 16.72 16.74 16.64 17.61	65 23 24 22 53
Colville River basin							
12-4076	Thomason Creek (formerly Thomson Creek) near Chewelah, Wash.	NW¼ sec.8, T.32 N., R.41 E., at private road 100 ft east of Flowery Trail Road (County Road 623) and 2.5 miles northeast of Chewelah.	c 4.08	1954-65	5-10-61 6-15-62 9-16-63 3-11-64 5-20-65	1.33 2.22 1.84 1.09 1.24	7.0 14 11 5.0 6.2
12-4082	Bighorn Creek (formerly Thomas Lake tributary) near Tiger, Wash.	NW¼ sec.9, T.36N., R.42 E., at State Highway 294, 6.0 miles southwest of Tiger.	1.65	1954-65	5-10-61 5- -62 5- 6-63 5- 5-64 5-20-65	9.24 7.25 6.48 6.72 6.74	12 13 6.1 8.9 9.3
12-4084	Narcisse Creek near Colville, Wash.	NE¼SW¼ sec.23, T.35 N., R.40 E., at State Highway 294, 8 miles east of Colville.	c 11.1	1954-65	5-10-61 6- -62 1963 5- 5-64 4-20-65	10.93 9.27 8.66 8.71 9.72	80 32 14 16 46
Harvey Creek basin							
12-4106	South Fork Harvey Creek near Cedonia, Wash.	NE¼ sec.23, T.31 N., R.37 E., at county road up Harvey Creek, 3 miles northeast of Cedonia.	18.1	1954-65	11-24-60 4-27-62 5- 6-63 (g) 5-10-65	7.30 6.84 6.72 6.44 6.82	27 17 15 10 17

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Harvey Creek basin--Continued							
12-4106.5	North Fork Harvey Creek near Cedonia, Wash.	SW¼ sec.6, T.31 N., R.38 E., at Cedonia-Addy County road, 5.6 miles northeast of Cedonia.	6.96	1954-65	11-24-60 4-27-62 1963 5-26-64 5-10-65	6.23 - - 5.54 5.69	10. h 2 <6 2.9 4.2
Spokane River basin							
12-4131	Boulder Creek at Mullan, Idaho.	Lat 47°28'10", long 115°47'44", in NE¼ sec.34, T.48 N., R.5 E., at alley crossing 150 ft upstream from U.S. Highway 10 crossing in Mullan.	3.13	1961-65	5-27-61 5-10-62 5-20-63 6- 8-64 12-23-64	15.32 13.54 13.07 15.53 -	136 74 i 59 144 j 109
12-4132	Montgomery Creek near Kellogg, Idaho.	Lat 47°33'10", long 116°04'17", in SE¼NE¼ sec.33, T.49 N., R.3 E., at forest road crossing 2½ miles northeast of Kellogg.	4.53	1962-65	4-20-62 2-20-63 4- 1-64 12-23-64	4.69 k 1.60 3.10 5.11	147 55 56 140
12-4151	Cherry Creek near St. Maries, Idaho.	Lat 47°19'00", long 116°36'47", in SE¼ sec.20, T.46 N., R.2 W., at crossing on State Highway 5, 2 miles west of St. Maries.	7.07	1961-65	2-21-61 3-27-62 3-30-63 4- 1-64 12-23-64	8.75 8.71 8.62 8.56 11.09	92 90 87 72 247
12-4152	Plummer Creek tributary at Plummer, Idaho.	Lat. 47°20'20", long 116°53' 14", in SW¼ sec.7, T.46 N., R.4 W., at U.S. Highway 95, 0.2 miles north of Plummer.	2.10	1961-65	2-21-61 3-27-62 2- 5-63 3-17-64 12-23-64	8.46 8.14 e 8.83 e 8.18 9.47	58 52 70 29 122
12-4160	Hayden Creek below North Fork, near Hayden Lake, Idaho.	Lat 47°49'23", long 116°39'10", in NW¼SW¼ sec.25, T.52 N., R.3 W., on right bank 0.3 mile downstream from confluence of East Fork and North Fork, and 7.5 miles northeast of Hayden Lake Post Office.	22.0	1948-53‡, 1959‡, 1962-65	4- 7-62 2- 4-63 6- 8-64 12-23-64	2.77 2.36 2.42 4.15	299 196 206 790
12-4235.5	Hangman Creek tributary near Latah, Wash.	SE¼ sec.12, T.21 N., R.44 E., at State Highway 27, 3 miles north of Latah.	2.18	1961-65	2- -61 6-14-62 2- 3-63 3-22-64 12-23-64	8.72 10.64 10.82 6.00 9.02	136 142 155 20 46
12-4237	South Fork Rock Creek tributary near Fairfield, Wash.	SE¼SE¼ sec.35, T.22 N., R.45 E., at Truax Road, 5.5 miles southeast of Fairfield.	.59	1962-65	2- 9-62 2- 4-63 3-16-64 4-20-65	4.84 10.74 9.61 9.95	32 41 23 28
12-4239	Stevens Creek tributary near Moran, Wash.	NE¼ sec.22, T.24 N., R.43 E., at Palouse Highway, 2.8 miles south of Moran.	c 2.02	1954-65	2-11-61 1-26-62 2- 4-63 2- 9-64 7-26-65	7.46 7.14 10.66 6.98 7.94	32 24 125 21 42
12-4292	Bear Creek near Milan, Wash.	NW¼ sec.14, T.28 N., R.43 E., at county road half a mile upstream from mouth and 2.5 miles south of Milan.	10.5	1963-65	2- 3-63 3-22-64 2-27-65	14.68 14.28 14.07	70 49 39
12-4296	Deer Creek near Chattaroy, Wash.	Center of S½ sec.26, T.28 N., R.43 E., at county road 1 mile upstream from mouth and 1 mile east of Chattaroy.	31.9	1962-65	1962 2- 3-63 4- 1-64 2-27-65	10.31 11.24 9.80 11.42	101 161 72 173
12-4298	Mud Creek near Deer Park, Wash.	On line between secs.24 and 25, T.28 N., R.41 E., at Duncan Road (Staley Road), 5.3 miles southwest of Deer Park and 6.1 miles west of U.S. Highway 395.	1.83	1954-65	2-11-61 4-28-62 2- 3-63 4- 9-64 4-10-65	8.56 7.88 8.32 7.67 8.38	15 8.4 13 6.6 14
12-4303.7	Bigelow Gulch near Spokane, Wash.	SE¼ sec.26, T.26 N., R.43 E., at private driveway off Bigelow Gulch Road, 1 mile northeast of Spokane.	2.07	1950, 1962-65	6-11-50 1962 2- 3-63 2- 9-64 2-27-65	- 6.52 12.56 6.88 5.09	m 1,510 35 222 42 7
12-4311	Little Creek at Dartford, Wash.	NE¼ sec.6, T.26 N., R.43 E., at junction of Hazard and Dartford roads at Dartford, 0.2 mile upstream from mouth.	11.9	1963-65	2- 3-63 3-22-64 2-27-65	15.78 11.70 11.63	325 8 6.8
12-4333	Spring Creek tributary near Reardan, Wash.	SW¼ sec.14, T.26 N., R.39 E., at side road 50 ft west of new Reardan-Crescent road and 5.3 miles north of Reardan.	1.14	1954-65	2-11-61 2- 9-62 2- 3-63 4-24-64 7-22-65	7.19 6.70 10.91 4.76 6.33	51 38 135 6 29
Hawk Creek basin							
12-4335.8	Hawk Creek at Davenport, Wash.	W½ sec.21, T.25 N., R.37 E., at old U.S. Highway 2 at east edge of Davenport.	23.2	1957, 1959, 1963-65	2-26-57 1-24-59 2- 4-63 3-22-64 3-12-65	18.98 15.26 13.76 - 10.79	m 2,200 m 1,010 897 10 40

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Sanpoil River basin							
12-4338	Granite Creek near Republic, Wash.	W½ sec.31, T.37 N., R.32 E., at State Highway 30, 4¾ miles west of Republic.	4.25	1954-65	5- -61	7.72	17
					5-25-62	7.07	7.8
					5-25-63	6.94	6.3
					5-21-64	7.67	16
					4-10-65	7.44	13
Foster Creek basin							
12-4379.3	East Fork Foster Creek at Leahy, Wash.	NW¼ sec.24, T.28 N., R.27 E., at State Highway 17, half a mile southeast of Leahy.	35.4	1959, 1963-64	1-12-59	-	m 355
					2- 4-63	14.57	211
					1964	-	(n)
					1965	-	(n)
12-4379.5	East Fork Foster Creek tributary near Bridgeport, Wash.	SE¼ sec.1, T.28 N., R.25 E., at State Highway 17, 3½ miles southeast of Bridgeport.	4.75	1957-65	1-12-59	8.28	c 132
					2-11-61	7.34	110
					2-10-62	4.42	19
					2- 4-63	4.76	27
					3-22-64	5.19	38
					3- 8-65	3.56	6
12-4379.6	West Fork Foster Creek near Bridgeport, Wash.	Center N½ sec.32, T.28 N., R.25 E., at road crossing 4 miles upstream from Middle Fork and 8 miles south of Bridgeport.	28.0	1957, 1963-65	2-26-57	17.02	m 756
					3-30-63	12.75	62
					3-22-64	11.4	20
					3- 8-65	11.05	14
Okanogan River basin							
12-4392	Dry Creek tributary near Molson, Wash.	NE¼ sec. 6, T.39 N., R.29 E., 4.5 miles south of Molson and 10 miles east of Oroville.	c 1.68	1958-65	1961	-	h 1
					1962	-	<1
					3-30-63	8.78	47
					4-21-64	7.31	h 1
					5-12-65	7.20	6
12-4418	Olie Creek near Loomis, Wash.	NW¼SW¼ sec.29, T.39 N., R.25 E., at county road 5 miles northwest of Loomis.	1.42	1961-65	1961	-	(n)
					1962	-	<1
					1963	5.69	8
					8-18-64	5.34	3
					1965	-	(n)
12-4437	Spectacle Lake tributary near Loomis, Wash.	SE¼NW¼ sec.10, T.38 N., R.26 E., at county road 4 miles east of Loomis.	4.59	1961-65	1961	-	<1
					1962	-	(n)
					1963	4.18	44
					8-29-64	4.23	51
					9-10-65	3.65	h 10
12-4444	Siwash Creek tributary near Tonasket, Wash.	NE¼ sec.12, T.37 N., R.27 E., at county road 3.2 miles northeast of Tonasket.	.66	1957, 1959-65	1961	7.8	9
					1962	-	(n)
					1963	-	(n)
					8-18-64	7.62	7.6
					1965	-	(n)
12-4458	Omak Creek tributary near Disautel, Wash.	NE¼ sec.28, T.33 N., R.29 E., at State Highway 155, about 3.5 miles southeast of Disautel.	c 4.12	1956-65	1961	18.05	10
					1962	18.25	13
					3-30-63	18.18	12
					4-22-64	17.35	3
					1965	-	h 1
12-4471	Okanogan River tributary at Malott, Wash.	SW¼ sec.9, T.32 N., R.25 E., at U.S. Highway 97, a quarter of a mile southeast of Malott.	o 2.66	1959-65	2- -61	<7.7	<10
					1962	-	(n)
					1963	-	(n)
					1964	-	(n)
					1965	-	(n)
Methow River basin							
12-4474	Doe Creek near Winthrop, Wash.	NE¼ sec.30, T.37 N., R.22 E., 14 miles north of Winthrop and 32 miles west of Tonasket.	c 3.80	1957-65	12-15-59c	6.68	c 44
					1961	5.2	12
					1962	4.8	5
					5-23-63	5.68	22
					6- 8-64	5.86	25
					4-19-65	5.34	15
12-4499	Methow River tributary near Methow, Wash.	NW¼ sec.30, T.30 N., R.23 E., at State Highway 153, 3.7 miles south of Methow and 4.8 miles west of Pateros.	c .77	1954-65	1961	-	(n)
					1962	-	(n)
					1963	-	(n)
					1964	-	(n)
					1965	-	(n)
Unnamed tributary to Columbia River							
12-4536	Columbia River tributary near Entiat, Wash.	SW¼ sec.24, T.24 N., R.20 E., at U.S. Highway 97, 7.5 miles south of Entiat and 9.3 miles east of Cashmere.	c 0.77	1954-65	1961	-	<1
					1962	-	<1
					1963	-	<1
					1964	-	<1
					1965	-	<1
Wenatchee River basin							
12-4573	Skinney Creek at Winton, Wash.	NW¼SW¼ sec.28, T.26 N., R.17 E., at U.S. Highway 2, 0.7 mile south of Winton.	c 2.55	1954-65	4- 3-61	7.60	31
					4- 6-62	7.41	25
					11-20-62	6.98	14
					4-12-64	7.24	20
					4-20-65	7.72	35

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Wenatchee River basin--Continued							
12-4589	Posey Canyon (formerly Wenatchee River tributary) near Leavenworth, Wash.	SW¼ sec.5 (revised), T.24 N., R.18 E., at county road just east of Wenatchee River, 1.8 miles east of Leavenworth.	c 1.36	1954-65	4- -61 1962 2- 3-63 1964 3- 9-65	8.0 - 8.24 8.05 -	2 <3 3.7 2.3 h 1
12-4594	Tronsen Creek near Peshastin, Wash.	NE¼SW¼ sec.3, T.21 N., R.18 E., at forest campground, 0.6 mile north of Swank Pass and 17 miles south of Peshastin.	3.96	1960, 1962-65	11-22-59a 5-25-62 11-20-62 1964 5-17-65	- 5.31 5.25 5.65 5.51	a 107 18 15 30 26
12-4611	East Branch Mission Creek near Cashmere, Wash.	SW¼ sec.20, T.22 N., R.19 E., at U.S. Forest Service road, 9.7 miles south of Cashmere.	c 15.4	1955-65	2-21-61 4- 6-62 11-20-62 1964 4-20-65	5.47 5.34 5.12 f 5.2 4.86	28 24 13 <17 7
12-4612	East Branch Mission Creek tributary near Cashmere, Wash.	SW¼ sec. 20, T.22 N., R.19 E., at U.S. Forest Service road, 9.7 miles south of Cashmere.	c 2.49	1955-65	2-21-61 4- 6-62 4-14-63 6- 8-64 4-20-65	11.05 11.35 10.71 10.25 10.58	6.3 9.3 3.4 1.5 3.0
12-4615	Sand Creek near Cashmere, Wash.	SE¼NW¼ sec. 6, T.22 N., R.19 E., at U.S. Forest Service road, 100 ft upstream from mouth and 6.5 miles south of Cashmere.	c 18.6	1954, 1955-56, 1957-65	2-21-61 4- 6-62 11-20-62 6- 8-64 4-20-65	6.45 6.38 6.10 6.18 6.44	42 36 22 38 54
12-4620	Mission Creek at Cashmere, Wash.	NW¼NW¼ sec. 9, T.23 N., R.19 E., 0.4 mile downstream from old gaging site and 1 mile south of Cashmere.	c 81.2	1954, 1955-58, 1959-65	2-21-61 4- 6-62 11-20-62 6- 8-64 4-20-65	11.99 12.12 12.22 12.23 12.03	114 140 153 150 123
Douglas Creek basin							
12-4627	Moses Creek at Waterville, Wash.	Near Center of E½ sec. 22, T.25 N., R.22 E., at U.S. Highway 2, 0.8 mile east of Waterville.	c 3.48	1954-65	1961 2- 9-62 2- 3-63 1964 1965	- 12.86 9.15 - -	(n) 74 28 (n) (n)
12-4628	Moses Creek at Douglas, Wash.	NE¼SE¼ sec. 36, T.25 N., R.22 E. (revised), at county road 0.3 mile southeast of Douglas.	c 15.4	1955, 1957-65	2- -61 2- 9-62 2- 3-63 3- 4-64 1965	12.70 14.39 12.14 9.59 f 9.9	80 143 57 2.1 <5
12-4636	Rattlesnake Creek tributary near Soap Lake, Wash.	SW¼ sec. 32, T.23 N., R.26 E., at county road 6 miles northwest of Soap Lake.	2.22	1959, 1961-65	1- -59a 2- -61 2- 9-62 2- 6-63 1964 3- 6-65	a 9.75 6.12 10.45 6.90 - 6.46	a 105 6.4 129 27 (n) 2
12-4637	McCarteney Creek tributary near Farmer, Wash.	SW¼ sec. 30, T.25 N., R.25 E., at county road 3 miles northeast of Farmer.	f .4	1960, 1962-65	3- -60a 2- 9-62 2- 3-63 1964 4-16-65	a 9.45 8.09 7.73 - 7.35	a 41 16 10 (n) 6
12-4638	Pine Canyon tributary near Farmer, Wash.	On line between secs. 21 and 22, T.25 N., R.24 E., at county road 2½ miles north of Farmer.	1.10	1960, 1962-65	3- -60a 2- 9-62 2- 3-63 3- 4-64 1965	a10.87 9.48 8.20 c 8.37 -	a 26 11 .8 .5 (n)
Schnebly Coulee basin							
12-4646	Schnebly Coulee tributary near Vantage, Wash.	NW¼SW¼ sec. 13, T.17 N., R.21 E., at U.S. Highway 10, 8.5 miles west of Vantage.	0.82	1955-65	2- 1-61 1962 2- 7-63 1964 2-27-65	9.38 - 10.76 - 10.30	7.9 <1 19 (n) 15
Crab Creek basin							
12-4646.5	South Fork Crab Creek tributary at Waukon, Wash.	SW¼SE¼ sec.26, T.24 N., R.39 E., at county road between Waukon and Edwall, half a mile southwest of Waukon.	0.68	1954-65	2-11-61 3-24-62 2- 3-63 6- 7-64 3-12-65	9.32 9.03 10.70 8.61 9.50	17 13 48 6.8 21
12-4651	Canniwai Creek tributary near Govan, Wash.	SW¼ sec.34, T.25 N., R.32 E., at county road a quarter of a mile north of State Highway 21 and 10 miles south of Govan.	.25	1958-65	2-11-61 1962 2- 4-63 1964 2-27-65	6.98 - 7.45 - 6.94	11 <6 16 (n) 11
12-4653	Broadax Draw tributary near Wilbur, Wash.	NW¼ sec. 16, T.27 N., R.32 E., at State Highway 174, 7.5 miles northwest of Wilbur and 11 miles southeast of Grand Coulee.	1.12	1955-65	2- -61 5-26-62 2- 3-63 6- 7-64 1965	8.35 8.28 8.44 6.5 6.07	40 40 44 5.5 2

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Crab Creek basin--Continued							
12-4674	Grand Coulee tributary near Coulee City, Wash.	SW¼ sec.19, T.25 N., R.28 E., at old highway 200 ft east of State Highway 17, 1.5 miles north of U.S. Highway 2, and 4½ miles northwest of Coulee City.	f 2.7	1959-65	2-18-61 2- 9 62 2- 3-63 1964 4-16-65	10.86 13.04 11.76 - 10.10	14 48 29 (n) 4
12-4703	Iron Springs Creek near Winchester, Wash.	On east line of NE¼ sec.8, T.21 N., R.25 E., at county road 6 miles north of Winchester and 7 miles west of Ephrata.	1.57	1959-65	1-15-61 2- 9-62 2- 3-63 1964 3- 8-65	7.75 6.47 7.14 - 7.63	48 18 32 (n) 44
12-4711	Paha Coulee tributary near Ritzville, Wash.	Sec.16, T.18 N., R.35 E., at U.S. Highway 395, 6 miles southeast of Ritzville.	8.52	1962-65	1962 2- 4-63 3-17-64 1-30-65	9.40 10.98 8.72 11.14	114 220 75 233
12-4712	Lind Coulee tributary near Lind, Wash.	NE¼NE¼ sec.24, T.17 N., R.33 E., at old U.S. Highway 395, 1.3 miles southeast of Lind.	.21	1956, 1961-65	2-21-56 1961 5- 8-62 2- 5-63 1-24-64 1-30-65	10.02 6.56 - 7.35 - 7.27	m 60 2 .1 10 <.1 9
12-4713	Weber Coulee tributary near Ruff, Wash.	On west line of NW¼ sec.13, T.19 N., R.31 E., at county road 6 miles southeast of Ruff.	.95	1959-65	1- 7-61 1962 2- 5-63 8-18-64 1965	8.53 - 8.65 7.95 -	12 <2 4 <.5 (n)
Scootenay Reservoir basin							
12-4737	Kansas No. 2 (formerly Scootenay Reservoir tributary) near Cunningham, Wash.	On line between sec.33, T.16 N., and sec.4, T.15 N., R.31 E., 5.6 miles west of Cunningham on road to Othello.	6.06	1955-65	1961 1962 7- -63 1964 1965	- - - - -	(n) (n) h 1 (n) (n)
Yakima River basin							
12-4807	Hovey Creek near Cle Elum, Wash.	S½ sec.10, T.21 N., R.17 E., at U.S. Highway 97, 2½ miles south of Blewett Pass and 14½ miles northeast of Cle Elum.	c 2.65	1955-65	1961 4- 7-62 11-20-62 6- 8-64 5-17-65	6.21 7.14 6.76 6.07 6.56	30 41 38 26 38
12-4833	South Fork Manastash Creek tributary near Ellensburg, Wash.	Near center sec.18, T.17 N., R.17 E., at county road 10.5 miles west of Ellensburg.	c 2.12	1955-65	4- 4-61 4- 7-62 2- 3-63 4- 6-64 1-30-65	8.2 8.28 9.02 7.12 7.97	34 36 53 5 28
12-4842	Johnson Canyon tributary near Kittitas, Wash.	NE¼SE¼ sec.7, T.17 N., R.21 E., at U.S. Highway 10, 8.5 miles east of Kittitas and 14 miles east of Ellensburg.	.65	1956-65	3-23-56 3-18-57 1958 a 1959 a 1960 a 1961 1962 2- 7-63 1964 1-30-65	11.13 10.87 - - - 8.02 - 10.17 - 8.80	m 43 m 42 (p) a <.2 (p) 1.1 (n) 23 (n) 6.8
12-4846	McPherson Canyon at Wymer, Wash.	Near center sec.33, T.16 N., R.19 E., at U.S. Highway 97, 0.5 mile northeast of Wymer.	5.48	1952, 1955-65	2-10-61 1962 2- 7-63 1964 1-30-65	16.94 - 14.95 - 14.62	161 (n) 74 (n) 62
12-4857	Selah Creek tributary near Yakima, Wash.	NE¼ sec.25, T.14 N., R.19 E., at Yakima firing range road, 7 miles northeast of Yakima.	c .68	1955-65	2-10-61 1962 2- 3-63 1964 1965	7.78 - 8.22 - -	22 (n) 31 (n) (n)
12-4859	Pine Canyon near Naches, Wash.	SW¼NW¼ sec.2, T.15 N., R.17 E., at county road 6½ miles northeast of Naches.	2.26	1961-65	1961 1962 2- 3-63 4- 6-64 1-30-65	20.31 - 22.77 17.83 18.94	52 <4 137 4 24
12-4883	American River tributary near Nile, Wash.	N½ sec.18, T.17 N., R.13 E. (unsurveyed), at U.S. Highway 410, 19 miles northwest of Nile.	c 1.10	1955-65	6- 3-61 4- 7-62 11-20-62 5- 9-64 4- 2-65	8.13 7.58 7.86 8.10 8.64	19 9.4 14 19 27
12-4917	Hause Creek near Rimrock, Wash.	NE¼ sec.28, T.14 N., R.14 E., at State Highway 14, 0.1 mile west of Tieton ranger station and 2.5 miles east of Rimrock.	c 3.91	1955-65	2- -61 4- 7-62 2- 3-63 6- 8-64 1-30-65	6.43 6.03 7.59 5.61 6.94	25 16 55 7.6 38
12-5004	Firewater Canyon near Moxee City, Wash.	NW¼NW¼ sec.25, T.12 N., R.21 E., at State Highway 24, 12 miles southeast of Moxee City.	7.30	1963-65	2- 3-63 1964 1965	7.06 - -	77 (n) (n)

Annual maximum discharge at crest-stage partial-record stations during water years 1961-65--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Yakima River basin--Continued							
12-5073	Toppenish Creek tributary near Toppenish, Wash.	SE¼ sec.6, T.9 N., R.20 E., at U.S. Highway 97, about 6 miles south of Toppenish.	1.24	1955-65	2-10-61 1962 2- 3-63 1964 4-10-65	19.25 - 19.06 - 19.10	28 (n) 23 (n) 24
12-5076	Shenando Creek tributary near Goldendale, Wash.	SE¼ sec.14, T.6 N., R.17 E., at U.S. Highway 97, 2 miles northeast of Satus Pass and 14 miles northeast of Goldendale.	.28	1955-65	2-10-61 12-24-61 2- 3-63 2-10-64 12-22-64	19.27 17.84 18.04 17.76 20.52	15 1.8 3.7 .3 21
12-5076.6	Satus Creek tributary near Toppenish, Wash.	SW¼ sec.15, T.7 N., R.18 E., at U.S. Highway 97, 23 miles south of Toppenish.	8.54	1953, 1956, 1961, 1963-65	1- 9-53 12-21-55 2- 9-61 2- 3-63 2-10-64 12-22-64	47.82 52.22 43.01 45.72 38.77 46.76	m 756 m 955 302 553 36 675
12-5088	Yakima River tributary near Sunnyside, Wash.	SE¼ sec.21, T.11 N., R.23 E., at Hanford Road, 7 miles northeast of Sunnyside.	1.91	1954-65	8-15-61 1962 2- 3-63 1964 12-22-64	6.72 - 8.26 - 7.21	h 10 (n) 52 (n) 31
12-5106	Webber Canyon near Kiona, Wash.	NE¼ sec.17, T.8 N., R.27 E., at county road 4½ miles south of Kiona.	c 2.88	1955-65	1961 1962 1963 1964 1-29-65	- - - - 12.53	h .5 (n) <1 <1 116
12-5107	Yakima River tributary near Kiona, Wash.	W½ sec.13, T.9 N., R.27 E., on U.S. Highway 410, about 4.5 miles east of Kiona and 5 miles west of Richland.	3.35	1955-65	1961 1962 1963 1964 1-30-65	- - - - 15.55	h .1 (n) (n) (n) h 2
Esquatzel Coulee basin							
12-5126	Hatton Coulee tributary No. 2 near Cunningham, Wash.	SE¼SE¼ sec.32, T.16 N., R.33 E., at county road 5 miles east of Cunningham.	2.44 /	1961-65	1961 5- 8-62 2- 5-63 1-24-64 1-29-65	- 6.29 7.12 - 7.86	h 7 h 5 29 <1 43
12-5127	Hatton Coulee tributary near Hatton, Wash.	NE¼ sec.28, T.15 N., R.32 E., 300 ft upstream from mouth and 1½ miles southeast of Hatton.	c 3.71	1956-65	5-10-61 1962 2- 5-63 1964 1-30-65	6.83 - 6.66 - 8.43	3.2 (n) 1.7 (n) 31
12-5133	Dunnigan Coulee near Connell, Wash.	SE¼SE¼ sec.25, T.13 N., R.31 E., on U.S. Highway 395, about 6 miles south of Connell.	27.1	1956, 1963-65	2-21-56 2- 5-63 1964 1-24-65	19.04 14.01 - 13.63	m 465 131 (n) 126

‡ Operated as a continuous-record gaging station.
a Not previously published.
b Occurred sometime during May-June.
c Revised.
d Peak stage did not reach bottom of gage.
e Backwater from ice.
f Approximately.
g Apr. 13, May 26, 1964.
h Estimated.
i Discharge may have been higher during period of ice effect.
j Current-meter measurement made near peak.
k Gage height from auxiliary gage.
m Previously published as a miscellaneous measurement.
n No evidence of flow during water year.
o Revised; of which 0.47 sq mi probably is noncontributing.
p No evidence of flow during water year (not previously published).
Note.--See WSP 1716 p. 374 for datum change for some stations.

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