Surface Water Supply of the United States 1960

Part 13. Snake River Basin

Prepared under the direction of E. L. HENDRICKS, *Chief, Surface Water Branch*

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1717

Prepared in cooperation with the States of Idaho, Nevada, Oregon, Utah, Washington, and Wyoming, and with other agencies

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PREFACE

This report was prepared by the Geological Survey in cooperation with the States of Idaho, Nevada, Oregon, Utah, Washington, and Wyoming, and with other agencies, by personnel of the Water Resources Division, L. B. Leopold, chief, under the general direction of E. L. Hendricks, chief, Surface Water Branch, and F. J. Flynn, chief, Basic Records Section.

The data were collected and computed under supervision of district engineers, Surface Water Branch, as follows:

W. T. Miller..... Denver, Colo.
K. N. Phillips..... Portland, Oreg.
W. I. Travis..... Boise, Idaho
F. M. Veatch..... Tacoma, Wash.
M. T. Wilson..... Salt Lake City, Utah

CALENDAR FOR WATER YEAR 1960

OCTOBER 1959

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER 1959

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER 1959

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JANUARY 1960

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY 1960

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29					

MARCH 1960

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

APRIL 1960

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

MAY 1960

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE 1960

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

JULY 1960

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST 1960

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER 1960

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

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SCOPE OF WORK

This volume is one of a series of 20 reports presenting records of stage, discharge, and content of streams, lakes, and reservoirs in the United States during the 1960 water year. Since 1888, when the United States Geological Survey first studied streamflow in relation to problems of irrigation, similar records have been obtained at more than 15,500 gaging stations in the 50 States. On September 30, 1960, the Geological Survey and cooperating organizations were maintaining 7,300 gaging stations. Partial-record stations for low flow or for flood flow have been operated at many other points. In addition, discharge measurements are made at miscellaneous sites. The records for the 1960 water year at gaging stations, partial-record stations, and miscellaneous sites in the Snake 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:

Idaho: Idaho Department of Reclamation, G. N. Carter, State reclamation engineer, and Idaho Department of Fish and Game, Ross Leonard, director.

Nevada: Department of Conservation and Natural Resources, H. A. Shamberger, director, and office of State Engineer, Edmund Muth.

Oregon: Office of the State Engineer, L. A. Stanley, and State Highway Commission, M. K. McIver, chairman.

Utah: Office of the State Engineer, W. D. Criddle.

Washington: State Department of Conservation, Earl Coe, director, through Division of Water Resources, M. G. Walker, supervisor.

Wyoming: Office of the State Engineer, Earl Lloyd.

Assistance in the form of funds or services was given by the Corps of Engineers, Department of the Army, in collecting records published herein for 19 gaging stations, of which 12 were in Idaho, 2 in Oregon, 6 in Washington, and 2 in Wyoming.

Assistance was also furnished by the Forest Service of the Department of Agriculture; by the Bonneville Power Administration, and the Bureau of Reclamation of the United States Department of the Interior; and by the Atomic Energy Commission.

The following organizations aided in collecting records:

Idaho: Board of Control for Boise Project; Idaho Power Co.; Idaho Water District 36; North Side Canal Co.; Twin Falls Canal Co.; Utah Power & Light Co.; Washington Water Power Co.; Pacific Northwest Power Co.; American Falls Reservoir District 2; and watermasters for Big Lost, Little Lost, Big Wood, Little Wood, Boise, and Lake Fork Payette Rivers, and Mud Lake.

Oregon: Baker, Malheur, Union, and Wallowa Counties; Idaho Power Co.; Pacific Power & Light Co.; and Warmsprings Irrigation District.

Washington: City of Pullman.

DIVISION OF WORK

The stream gaging work was done by the Water Resources Division of the Geological Survey under the direction of personnel shown 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 a/	Boise	914 Jefferson Street.
Nevada b/	Salt Lake City, Utah	463 Federal Building.
Oregon c/	Portland	1002 N.E. Holladay Street.
Utah	Salt Lake City	463 Federal Building.
Washington	Tacoma	207 Federal Building.
Wyoming d/	Denver, Colo	Denver Federal Center.

a/ Including Salmon Falls Creek above upper Vineyard ditch, near Contact, Nev., and near San Jacinto, Nev.; Snake River below Pine Creek, at Oxbow, Oreg., and near Anatone, Wash.; and all stations in the Snake River basin in Wyoming except Swift Creek near Afton, Wyo.
b/ Except for Salmon Falls Creek above upper Vineyard ditch, near Contact and near San Jacinto.
c/ Except for Snake River below Pine Creek, at Oxbow.
d/ Includes only the station for Swift Creek near Afton in the Snake River basin in Wyoming.

Information of a more detailed nature than that published for most of the gaging stations given in this report is on file in the district offices listed above. Provisional records of discharge prior to publication, and other unpublished data concerning the gaging-station records may generally be obtained from the district office.

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 discharge record, the term is applied herein only to those gaging stations where a continuous record of discharge is obtained.

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

Cubic foot per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

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 for 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.

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 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, a long reach of the channel, or an artificial structure.

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.

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

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

DOWNSTREAM ORDER AND STATION NUMBERS

Beginning with the series of reports for the water year ending September 30, 1951, the order of listing gaging-station records was changed. In this report, in a downstream direction along the main stem, all stations on a tributary entering above a main-stem station are listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indention in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of idention show which gaging stations are on tributaries between any two stations on a main stem 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 station number. The numbers have been assigned in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and regular gaging stations, so that 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 number for each station includes the part number, but the station number shown in this report, just to the left of the station name, consists of only the essential digits of the complete number. For example, for a station with the complete number 13-0100.00, the station number shown in this report is 100. The notation to the left of the hyphen is the part number; it is 13 for all stations in this report and is therefore omitted.

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 to supplement base data in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record

of fluctuations. 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 are also outlined in standard textbooks on the measurement of stream discharge.

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 discharge 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 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 essentially 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 changing stage. If so, the rate of change in stage is used as a factor in the determination of discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts 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 the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for other stations in the same or nearby basins. If the stage-discharge relation is affected by ice, this information is given in a note to the table. No mention is made of occasional days of ice effect if the degree of accuracy of daily records is not changed.

The data herein presented generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the water year 1960 is shown on Page IV for the purpose of finding the day of the week for any date.

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 of 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 the 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 the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, 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 third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage gage, or a non-recording 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 records are usually published along with the current records in one of the annual 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 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 revisions, that 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 ard runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

Skeleton rating tables are published for all stations except those at which the daily discharge for the greater part of the open-water period was determined by the shifting-control method, the slope method, or other special methods involving an equivalent adjustment to the gage height of more than one-tenth foot. Skeleton rating tables are generally not published for stations on canals.

For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the daily table gives the discharge corresponding to the daily mean gage height. For stations subject to such fluctuation the daily mean gage height may not indicate the true daily mean discharge, which must be obtained by averaging the discharge for parts of the day or by using the discharge integrator, an instrument for obtaining the daily mean discharge from a continuous gage-height graph and containing, as an essential element, a curve representing the stage-discharge relation at the station. For stations equipped with nonrecording gages, the table of daily discharge gives the discharge corresponding to once-daily readings of the gage, or to the mean of twice-daily readings, or to the mean gage height determined from gage-height graphs based on gage readings. For periods of rapidly changing stage, the daily mean discharge is determined from gage-height graphs based on gage readings, the frequency of which is stated in the station description.

In the table of daily discharge, the figures for the maximum day and the minimum day for each month are underlined. If the figure is repeated, it is underlined only on the first day of its occurrence.

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. 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.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharge when the water was at crest stage. Likewise, the minimums in this summary are the minimum daily discharges.

Peak discharges and the times of their occurrence and corresponding gage heights of most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man.

Footnotes to the table of daily discharge indicate periods when discharge was computed or estimated by unusual or special methods during periods of no gage-height record and ice effect, or by other effects that reduce the degree of accuracy of the records. Days on which discharge measurements were made are indicated by asterisk and footnote unless they were made at frequent regular intervals, in which instance the general frequency of discharge measurements is given under "Remarks" in the station description.

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 each year 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.

At many gaging stations water samples are collected from the streams for the purpose of making chemical analyses, computing dissolved solids, suspended sediment loads, and particle-size distribution, or measuring water temperatures. For most of these samples the results are published in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States" which is issued in four volumes. In this report under "Remarks" a reference is made to quality-of-water records collected at gaging stations on a regular basis and published in the quality-of-water reports. At many other gaging stations quality-of-water data are obtained at irregular intervals and published as "miscellaneous analyses" in quality-of-water reports; such records are not referred to in "Remarks" paragraph in this report. At many gaging stations water temperature is obtained also at the time a discharge measurement is made; such temperature readings are not reported in the quality-of-water annual reports.

Data collected at partial-record stations and at miscellaneous sites are given at the end of each report. 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. Discharge measurements at miscellaneous sites are given in a third table. 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 after the list of measurements at miscellaneous sites.

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 states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. The records of monthly and yearly mean discharge and runoff are, in general, more nearly accurate than the daily records.

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 when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and therefore the discharge recorded does not actually show the water supply available at the stations for further development, because water must first be supplied to existing irrigation systems.

PUBLICATIONS

Basic data for gaging stations are published in an annual series of reports consisting of 20 volumes, including one each for the States of Alaska and Hawaii. The area of the other 48 States is divided into 14 parts whose boundaries coincide with certain natural drainage lines. Formerly, the annual series of reports on surface-water supply consisted of 14 volumes, one for each of the 14 parts. Beginning with the reports for 1951, the records for the 48 States were published in 18 volumes, there being 2 volumes each for Parts 1, 2, 3, and 6. The boundaries of the various parts are indicated by the following list and the map in figure 1.

Part 1. North Atlantic slope basins, in two volumes:
- A, North Atlantic slope basins, Maine to Connecticut.
- B, North Atlantic slope basins, New York to York River.

2. South Atlantic slope and eastern Gulf of Mexico basins, in two volumes:
- A, South Atlantic slope basins, James River to Savannah River.
- B, South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River.

3. Ohio River basin, in two volumes:
- A, Ohio River basin except Cumberland and Tennessee River basins.
- B, Cumberland and Tennessee River basins.

4. St. Lawrence River basin.
5. Hudson Bay and upper Mississippi River basins.
6. Missouri River basin, in two volumes:
- A, Missouri River basin above Sioux City, Iowa.
- B, Missouri River basin below Sioux City, Iowa.

7. Lower Mississippi River basin.
8. Western Gulf of Mexico basins.
9. Colorado River basin.
10. The Great Basin.
11. Pacific slope basins in California.
12. Pacific slope basins in Washington and upper Columbia River basin.
13. Snake River basin.
14. Pacific slope basins in Oregon and lower Columbia River basin.

Water-supply papers and other publications of the Geological Survey containing data or 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 25, D. C., 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.

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 on page 10. In many of these reports records for years earlier than those indicated have been included for some streams.

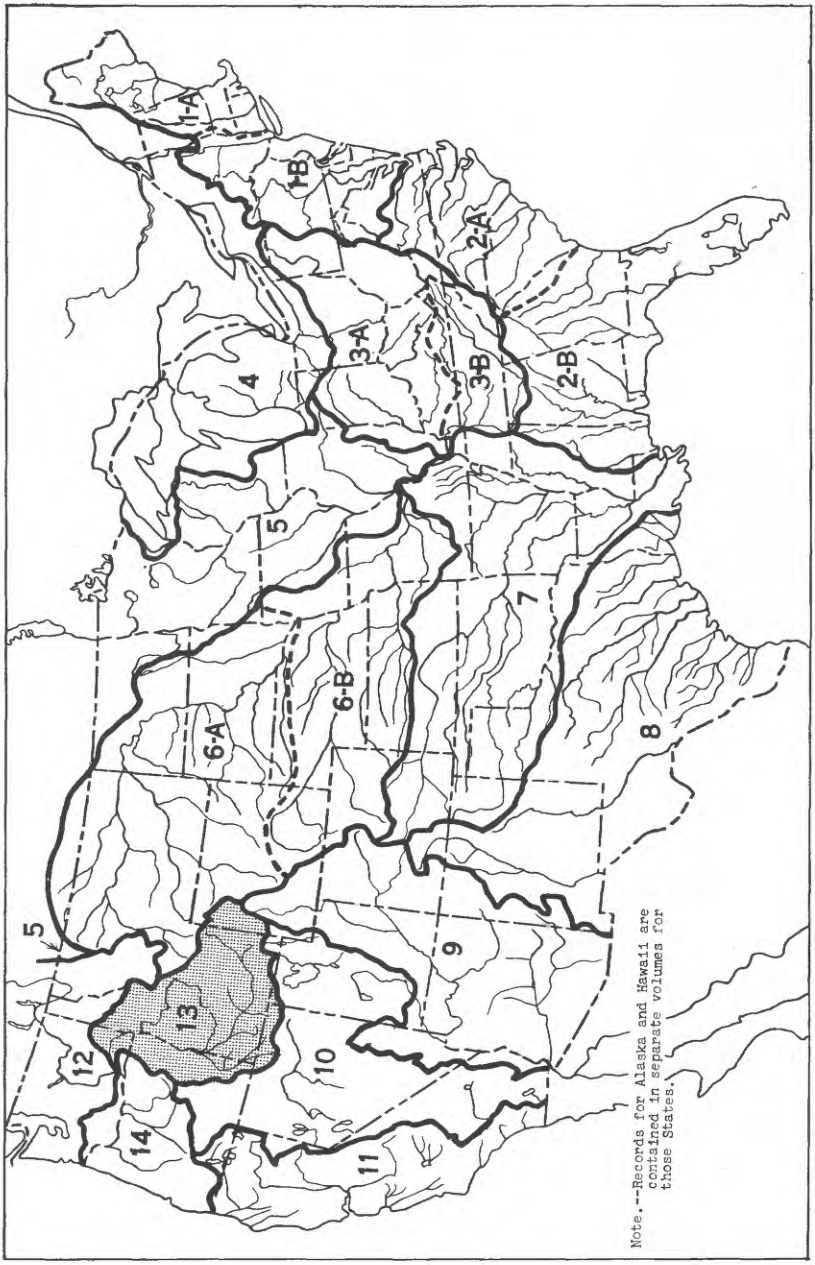

Figure 1.--Map of conterminous United States showing areas covered by 18 of the 20 volumes on surface water supply. The area covered by this report is shaded.

Streamflow data for the years 1844-1901, 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.....	1884 to September 1890.
12th A, pt. 2	....do.....	1884 to June 30, 1891.
13th A, pt. 3	....do.....	1884-92.
14th A, pt. 2	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.
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.
22d A, pt. 4.	Monthly discharge.....	1900.
WSP 65, 66...	Descriptions, measurements, gage heights, and ratings.....	1901.
WSP 75.....	Monthly discharge.....	1901.

Note.--Records for all stations in Oregon are contained in WSP 370, superseding all reports in this table for these stations.

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 Snake River basin, 1899-1960

Year	WSP	Year	WSP	Year	WSP	Year	WSP	Year	WSP
1899	38	1912	332-B	1925	613	1937	833	1949	1153
1900	51	1913	362-B	1926	633	1938	863	1950	1183
1901	66, 75	1914	393	1927	653	1939	883	1951	1217
1902	85	1915	413	1928	673	1940	903	1952	1247
1903	100	1916	443	1929	693	1941	933	1953	1287
1904	135	1917	463	1930	708	1942	963	1954	1347
1905	178	1918	483	1931	723	1943	983	1955	1397
1906	214	1919-20	513	1932	738	1944	1013	1956	1447
1907-8	252	1921	533	1933	753	1945	1043	1957	1517
1909	272	1922	553	1934	768	1946	1063	1958	1567
1910	292	1923	573	1935	793	1947	1093	1959	1637
1911	312	1924	593	1936	813	1948	1123	1960	1717

Note.--Records for all stations in Oregon through September 1910 are contained in WSP 370, superseding all earlier reports for these stations.

A compilation of records for the area covered by this report through September 1950 has been published as Water-Supply Paper 1317. That report contains 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 reexamined 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 list on the following page gives the numbers and titles of these reports:

Report

WSP 771: Floods in the United States, magnitude and frequency.
WSP 847: Maximum discharges at stream-measurement stations through September 1938.
WSP 1080: Floods of May-June 1948 in Columbia River basin.
WSP 1260-F: Summary of floods in the United States during 1952.
WSP 1370-C: Summary of floods in the United States during 1954.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The table below contains a list of gaging stations for the area covered by this report at which records of discharge were collected during the water year October 1959 to September 1960 by agencies other than the Geological Survey. The records of these stations are not contained in publications of the Geological Survey.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by
American Falls Reservoir, inflow to.	Near American Falls, Idaho.....	1927-28, 1932-60	Idaho Water District 36.
Malheur River.....	SW¼ sec.32, T.20 S., R.41 E., near Namorf, Oreg.	1931-60†	Oregon State engineer.
Snake River tributaries...	Near Irwin, Idaho.....	1940-60‡	Idaho Water District 36.
Teton basin tributaries...	Near Driggs, Idaho.....	1934-60‡	Do.

† Records for some earlier years published in water-supply papers of the Geological Survey.
‡ Fragmentary.

Note.--Of the records for the stations operated by the Oregon State engineer, those for 1931-36 are published in Bulletin 9 of the State engineer and those for 1937-41 in Bulletin 10; those for 1942-60 have not been published. Records for some canals, not listed above, have been collected by the Oregon State engineer and the Bureau of Reclamation in connection with water supply for irrigation and other projects.

HYDROLOGIC CONDITIONS

Streamflow was excessive in Clearwater River at the lower end of Snake River basin. In contrast, streamflow was deficient in Snake River above Palisades Reservoir and in Goose Creek and Portneuf River basins. Mean annual discharge was lower than for any year since the serious drought of 1934 in Big Wood River basin above Magic Reservoir and Snake River basin above Jackson Lake, lower than any year since 1937 in Big Lost River basin, and lower than any year since 1940 in Mud Lake basin. Flow of Snake River at King Hill, which measures the return flow from 1.6 million acres of irrigated land and spring flow from the Snake River plain, was less than for any year since 1941. Most streams above Weiser, Idaho, flowed considerably below average. Maximum monthly flows of record for October occurred in the Clearwater, Salmon, and Boise River basins. Flash floods from thunderstorms occurred in Jenkins Canyon, a tributary of Portneuf River, and in One Mile Creek, a tributary of Raft River, on August 1. Peak discharge for Jenkins Canyon was 2,360 cfs from about 5 square miles.

Figure 2 on page 12, for which records of two long-term gaging stations were used, shows a comparison of the monthly and yearly mean discharges for the 1960 water year with the median discharge for the period 1931-60.

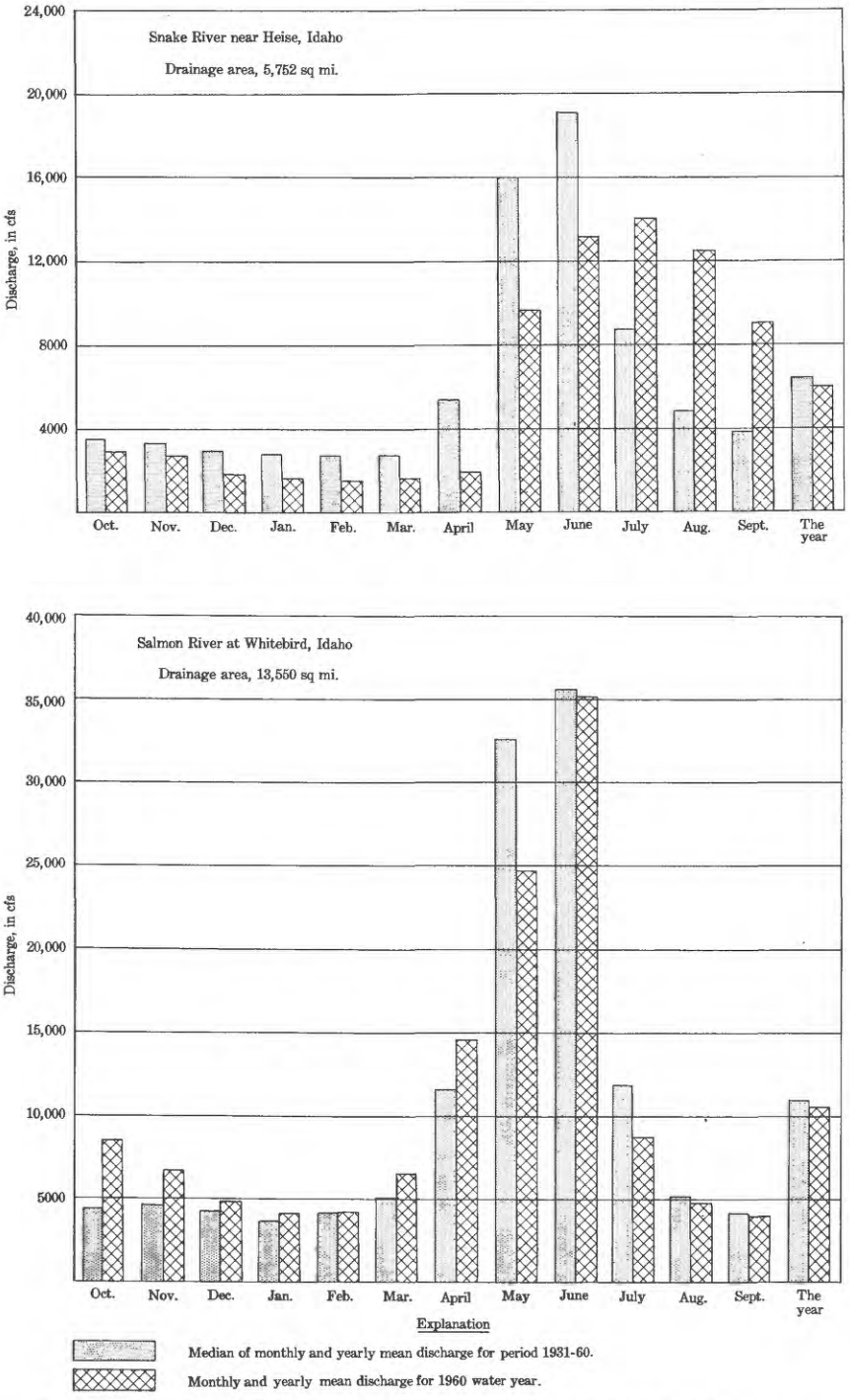

Figure 2. Comparison of discharge at two long-term representative gaging stations during 1960 water year with median discharge for period 1931–60.

SNAKE RIVER MAIN STEM

105. Jackson Lake at Moran, Wyo.

Location.--Lat 43°51', long 110°35', in sec.18, T.45 N., R.114 W., near left end of spillway over dam on Snake River at Moran.

Drainage area.--824 sq mi.

Records available.--July 1908 to September 1960 (1908-10 fragmentary).

Gage.--Electric tape gage read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to June 1, 1941, staff gage at site 300 ft upstream at same datum.

Extremes.--Maximum contents during year, 850,300 acre-ft June 19 (elevation, 6,769.18 ft); minimum, 374,960 acre-ft Sept. 30 (elevation, 6,749.19 ft).
1908-60: Maximum contents, 857,220 acre-ft June 23, 1937 (elevation, 6,769.40 ft); no usable contents for several days during period August to October 1919.

Remarks.--Reservoir was formed by log crib dam in 1906 with a usable capacity of 300,000 acre-ft. This dam washed out in July 1910 and was replaced by an earth dam, forming a reservoir with a usable capacity of 380,000 acre-ft. The earth dam was raised in 1916, increasing the usable capacity to 790,000 acre-ft. In 1917, by dredging the outlet, the capacity was further increased to 847,000 acre-ft between elevations 6,730 (top of baffles to sluices) and 6,769 ft (top of spillway gates). Water is used for irrigation in Snake River Valley, Idaho. Figures given herein represent usable contents.

Cooperation.--Reservoir elevations and capacity table furnished by Bureau of Reclamation.

Revisions.--WSP 1217: Drainage area.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

6,745.0	284,450	6,760.0	624,360
6,750.0	392,900	6,765.0	746,280
6,755.0	506,550	6,770.0	872,600

Contents, in acre-feet, at 8 a.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	550,850	539,380	517,470	493,860	483,700	477,050	478,890	515,850	690,420	835,770	730,460	599,760
2	550,380	538,680	516,540	493,160	483,930	476,820	478,890	517,470	701,920	832,980	727,000	595,960
3	549,910	537,980	515,610	492,700	483,700	476,820	479,120	520,730	714,190	830,180	723,540	591,220
4	548,980	538,450	514,450	492,010	483,470	476,820	479,120	523,050	727,740	827,830	719,840	585,760
5	548,280	537,980	513,750	491,320	483,240	477,050	479,120	524,680	739,360	824,830	715,910	581,730
6	547,340	537,510	513,060	490,860	482,780	477,280	480,030	527,000	750,020	821,520	711,250	576,510
7	547,110	536,340	512,590	490,860	482,550	477,510	480,720	529,320	760,730	818,490	707,320	568,030
8	546,640	535,170	511,900	491,090	482,320	477,970	481,640	532,130	770,440	815,720	703,390	559,790
9	547,110	534,470	511,200	491,090	482,550	478,430	482,780	535,410	780,210	812,180	698,970	551,080
10	547,570	533,770	510,270	490,860	482,550	478,430	484,160	539,850	790,240	809,150	694,570	542,890
11	547,340	533,070	509,340	490,620	482,320	478,200	486,010	545,700	799,300	806,370	690,910	534,700
12	547,570	532,360	508,410	490,160	481,860	478,200	487,860	553,420	807,630	802,830	687,250	526,300
13	547,340	531,900	507,250	489,470	481,410	477,970	489,010	563,790	815,210	799,550	683,100	517,940
14	546,870	530,730	505,860	489,010	481,180	477,970	490,390	574,160	823,560	796,520	679,940	509,570
15	546,640	529,560	504,700	488,090	480,720	477,970	492,010	582,680	832,470	792,750	677,500	501,930
16	546,170	528,630	503,550	487,620	480,490	477,740	493,160	589,800	842,390	789,240	673,840	493,390
17	545,700	527,470	502,400	487,160	480,030	477,970	494,320	596,670	848,000	785,980	669,960	484,390
18	545,000	526,540	501,700	486,930	479,800	478,200	495,240	602,620	849,530	781,970	666,080	476,600
19	544,530	525,370	501,240	486,930	479,340	477,970	496,860	607,870	850,300	778,710	662,450	468,350
20	544,060	524,440	501,780	486,470	478,890	477,970	498,010	611,930	850,050	775,200	657,850	459,870
21	543,360	523,980	501,320	486,240	478,660	477,970	498,930	616,230	849,020	770,190	653,250	451,460
22	543,360	523,520	499,630	486,010	478,660	477,740	499,860	521,490	848,250	767,450	647,920	443,270
23	543,360	523,520	499,160	485,780	478,430	477,740	502,400	626,760	848,250	763,960	643,350	434,660
24	543,130	522,820	498,470	485,780	477,970	477,740	504,470	632,770	848,000	760,230	638,060	426,310
25	543,130	522,120	498,930	485,550	477,510	477,740	506,550	628,300	847,230	756,240	633,490	417,970
26	542,890	521,190	498,010	485,320	477,280	477,510	507,940	644,320	845,950	752,510	628,680	409,450
27	542,430	520,260	497,320	484,850	477,050	477,510	509,340	649,860	844,170	748,780	623,640	400,730
28	541,720	519,560	496,860	484,620	477,050	477,280	511,430	656,400	842,140	745,050	618,620	392,240
29	541,490	518,630	496,160	484,160	477,050	477,280	513,060	662,930	840,100	741,340	614,080	383,600
30	540,790	518,170	495,700	483,930	-------	477,740	514,450	671,170	838,060	737,630	608,830	374,960
31	540,090	-------	494,780	483,930	-------	478,430	-------	679,940	-------	734,170	604,770	-------
(†)	6,756.44	6,755.50	6,754.49	6,754.02	6,753.72	6,753.78	6,755.34	6,762.30	6,768.65	6,764.51	6,759.18	6,749.19
(‡)	-11,230	-21,920	-23,390	-10,850	-6,880	+1,380	+36,020	+165,490	+158,120	-103,890	+129,400	-229,810

Calendar year 1959..... ‡ +23,910
Water year 1959-60..... ‡ -176,360

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

110. Snake River at Moran, Wyo.

Location.--Lat 43°51', long 110°35', in sec.18, T.45 N., R.114 W., on left bank at Moran, 1,000 ft downstream from Jackson Lake Dam.

Drainage area.--824 sq mi. Mean Altitude, 8,040 ft.

Records available.--September 1903 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Prior to October 1910, published as South Fork Snake River at Moran.

Gage.--Water-stage recorder. Datum of gage is 6,727.84 ft above mean sea level, unadjusted. Prior to July 26, 1915, staff gage at datum 4.00 ft lower; July 26, 1915, to June 13, 1917, staff gage at datum 5.00 ft lower; and June 14, 1917, to May 20, 1940, water-stage recorder at datum 5.00 ft lower; all at site 1½ miles downstream.

Average discharge.--57 years, 1,427 cfs (1,033,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,270 cfs Sept. 6 (gage height, 7.40 ft); minimum, 2 cfs May 13 (gage height, 1.06 ft).
1903-60: Maximum discharge, 15,100 cfs June 12, 1918 (gage height, 10.41 ft, site and datum then in use); minimum daily, 2 cfs Nov. 21, 1944, to Apr. 14, 1945, May 13, 1960.
Flood in early June 1894 probably was considerably higher than that of June 12, 1918.

Remarks.--Records excellent. Flow regulated by Jackson Lake (see preceding page).

Cooperation.--Gage-height record furnished by Bureau of Reclamation.

Revisions (water years).--WSP 1217: 1944(m), drainage area. WSP 1347: 1903-10.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 5 to May 12)

1.0	3	2.5	345	5.0	2,110
1.1	8	3.0	580	6.0	3,250
1.3	28	3.5	860	7.0	4,670
1.6	70	4.0	1,210	8.0	6,300
2.0	168				

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	750	762	728	728	a596	a430	*386	86	26	2,990	2,360	2,920
2	745	767	728	728	a598	a429	390	86	47	2,960	2,320	2,950
3	740	767	728	a728	a600	a428	394	88	64	a,950	2,280	2,950
4	740	767	728	728	a602	a427	325	86	84	2,940	2,380	2,940
5	734	762	728	728	602	426	186	86	95	2,930	2,540	3,070
6	728	762	723	734	a602	a426	186	88	88	2,900	2,580	4,340
7	734	762	723	a734	a602	426	186	88	76	2,890	2,540	5,040
8	734	762	723	a734	a602	a426	186	86	78	2,880	2,510	5,010
9	*728	*762	728	734	a602	a426	189	86	82	2,860	2,460	5,000
10	519	756	728	734	602	a426	189	86	84	2,840	2,420	4,950
11	778	756	728	a734	a602	426	189	80	*84	2,830	2,390	4,920
12	778	756	728	a734	a602	a426	192	67	84	2,800	2,340	4,920
13	772	756	728	a734	602	a426	192	*3	88	2,720	2,330	4,950
14	767	756	728	a734	a602	426	192	3	198	2,720	2,330	4,980
15	767	756	728	696	a602	a426	189	3	955	2,710	2,400	5,010
16	767	756	728	602	a602	a426	189	3	2,070	2,690	2,460	5,030
17	767	756	728	602	602	a426	189	3	3,170	2,680	2,460	5,040
18	767	750	728	602	a602	426	186	3	3,500	2,660	2,450	5,010
19	767	750	728	602	a602	a426	186	3	3,750	2,650	2,610	4,960
20	762	745	728	602	a602	a426	186	3	3,750	*2,630	2,940	4,950
21	762	745	728	591	a602	426	183	3	3,020	2,620	2,950	4,930
22	762	745	728	591	602	435	186	3	2,830	2,600	2,940	4,920
23	762	740	728	591	a602	a433	186	3	2,310	2,570	2,930	4,920
24	762	740	728	591	a602	a430	183	3	2,700	2,550	2,930	4,880
25	762	740	728	*591	557	a428	183	3	3,040	2,540	2,930	5,000
26	762	740	728	596	500	426	128	3	3,020	2,550	*2,920	5,030
27	762	734	728	596	a489	426	82	3	3,020	2,530	2,920	5,000
28	767	734	728	596	460	a410	84	3	3,000	2,500	2,900	5,080
29	762	734	728	596	430	390	84	3	2,990	2,490	2,890	5,030
30	762	734	728	596	-------	a390	86	3	3,000	2,440	2,870	4,980
31	762	-------	728	596	-------	a386	-------	3	-------	2,410	2,860	-------
Total	23,231	22,552	22,553	20,483	16,872	13,110	5,892	1,070	47,303	84,030	81,140	138,710
Mean	749	752	728	661	582	423	196	34.5	1,577	2,711	2,617	4,624
Ac-ft	46,080	44,730	44,730	40,630	33,470	26,000	11,690	2,120	93,820	166,700	160,900	275,100

Calendar year 1959: Max 5,650 Min 386 Mean 1,227 Ac-ft 888,500
Water year 1959-60: Max 5,080 Min 3 Mean 1,303 Ac-ft 946,000

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated.
Note.--Discharge computed from staff-gage readings Oct. 25 to June 3, Sept. 17-30.

115. Pacific Creek near Moran, Wyo.

Location.--Lat 43°51'00", long 110°31'20", in sec.23, T.45 N., R.114 W., on right bank 6 ft upstream from bridge on U. S. Highway 287, half a mile upstream from mouth, and 3 miles southeast of Moran. Prior to Nov. 13, 1959, at site 100 ft upstream.

Drainage area.--160 sq mi. Mean altitude, 8,160 ft.

Records available.--July to November 1906 (gage heights only), July 1917 to September 1918 (no winter records), September 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,720 ft (from topographic map). July 31 to Nov. 11, 1906, staff gage at site 0.4 mile downstream at different datum. July 20, 1917, to Sept. 30, 1918, staff gage at site 0.1 mile downstream at different datum. Sept. 23, 1944, to Nov. 13, 1959, at site 100 ft upstream at same datum.

Average discharge.--16 years (1944-60), 265 cfs (191,900 acre-ft per year).

Extremes.--Maximum discharge during year, 2,050 cfs May 13 (gage height, 4.55 ft); maximum gage height, 4.62 ft Mar. 18 (ice jam); minimum daily discharge, 32 cfs Jan. 18-20, Feb. 24 to Mar. 1.
1917-18, 1944-60: Maximum discharge, 3,470 cfs May 21, 1954; maximum gage height, 5.00 ft in gage well, 5.60 ft from outside gage May 28, 1951; minimum daily discharge, 24 cfs Nov. 29, 1952, Jan. 21, 1954, Feb. 20-23, 1955.

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

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 28 to Apr. 8, July 15-17, Aug. 26-30, Sept. 4, 5, 9-30)

1.8	28	2.4	107	3.5	640
2.0	49	2.6	160	4.0	1,110
2.2	74	3.0	330	4.5	1,940

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	51	41	37	40	32	*56	172	1,210	220	77	62
2	64	51	41	34	39	33	55	200	1,380	212	78	62
3	66	51	41	33	37	34	56	224	1,530	200	78	61
4	68	54	40	34	37	35	62	249	1,580	188	71	60
5	68	42	38	36	36	36	76	290	1,360	184	69	59
6	68	45	38	37	37	38	93	345	1,210	184	66	59
7	70	47	38	38	38	40	107	416	1,150	145	66	59
8	66	44	38	38	39	*41	130	482	1,060	139	66	57
9	*73	40	39	38	39	41	172	570	970	130	65	57
10	73	45	39	38	39	40	208	792	940	128	64	57
11	71	*51	*40	40	39	38	184	1,070	*845	123	65	57
12	84	53	39	39	38	37	172	1,390	792	116	64	56
13	82	48	40	38	38	40	139	1,560	760	112	61	56
14	77	45	37	36	37	41	139	*1,270	809	107	61	56
15	77	48	41	34	39	39	118	1,120	960	105	73	59
16	82	48	38	33	37	37	107	1,010	792	102	94	59
17	77	48	38	33	36	38	100	930	784	98	107	56
18	73	48	39	32	36	39	102	800	640	96	98	59
19	71	48	41	32	37	40	128	680	570	94	86	55
20	69	48	38	32	37	41	151	640	528	*93	74	53
21	65	47	37	33	39	41	148	760	464	91	68	53
22	68	47	38	34	34	43	180	784	398	84	65	53
23	80	48	39	36	33	44	258	720	355	82	78	50
24	80	47	40	40	32	46	220	768	326	82	71	50
25	e0	47	42	*41	32	49	184	818	298	82	69	50
26	80	43	40	38	32	52	160	768	272	82	*65	50
27	70	42	37	40	32	64	154	800	258	80	61	50
28	60	41	35	41	32	84	151	792	249	80	61	50
29	60	41	34	40	32	62	142	940	236	83	60	50
30	59	41	35	39	------	60	151	1,040	236	80	60	51
31	54	------	36	39	------	58	------	1,200	------	78	61	------
Total	2,203	1,399	1,197	1,133	1,053	1,343	4,103	23,600	22,982	3,680	2,202	1,866
Mean	71.1	46.6	38.6	36.5	36.3	43.3	137	761	765	119	71.0	55.5
Cfsm	0.444	0.291	0.241	0.228	0.227	0.271	0.856	4.76	4.78	0.744	0.444	0.347
In.	0.51	0.33	0.28	0.26	0.24	0.31	0.95	5.49	5.33	0.86	0.51	0.39
Ac-ft	4,370	2,770	2,370	2,250	2,090	2,660	8,140	46,810	45,540	7,300	4,370	3,310

Calendar year 1959: Max 2,480 Min 33 Mean 244 Cfsm 1.52 In. 20.66 Ac-ft 176,300
Water year 1959-60: Max 1,580 Min 32 Mean 182 Cfsm 1.14 In. 15.46 Ac-ft 132,000

Peak discharge (base, 1,300 cfs).--May 13 (3 to 4 a.m.) 2,050 cfs (4.55 ft); June 4 (2 to 3 a.m.) 2,010 cfs (4.54 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 5, 6, 13-20, 22, Nov. 26 to Mar. 26, Mar. 29, Apr. 2 (no gage-height record Feb. 19 to Mar. 7; discharge estimated on basis of 3 discharge measurements, weather records, and records for nearby stations).

BUFFALO FORK BASIN

120. Buffalo Fork near Moran, Wyo.

Location.--Lat 43°50'10", long 110°30'30", in sec.26, T.45 N., R.114 W., on right bank 0.2 mile above bridge crossing, half a mile upstream from mouth, 2¾ miles downstream from Lava Creek, and 4 miles southeast of Moran.

Drainage area.--378 sq mi. Mean altitude, 8,850 ft.

Records available.--July to November 1906 (gage heights only), July 1917 to September 1918 (no winter records), September 1944 to September 1960 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 6,720 ft (from topographic map). July 31 to Nov. 20, 1906, staff gage 300 ft upstream from mouth at different datum. July 9, 1917, to Sept. 30, 1918, staff gages at sites within 500 ft upstream from present site at different datums. June 1, 1958, to June 21, 1959, water-stage recorder 0.2 mile upstream at different datum.

Average discharge.--16 years (1944-60), 597 cfs (432,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,840 cfs June 18 (gage height, 6.29 ft); minimum recorded, 80 cfs Nov. 14, but may have been less during periods of ice effect or no gage-height record.
1917-18, 1944-60: Maximum discharge, 5,960 cfs June 27, 1954 (gage height, 6.71 ft); minimum, 78 cfs Nov. 20, 1953 (gage height, 0.88 ft), but may have been less during periods of ice effect.

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

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	300	195	150	130	120	95	*175	301	1,960	1,260	399	240
2	280	200	155	125	120	95	166	343	2,200	1,330	378	245
3	290	200	160	120	120	95	185	371	2,600	1,160	378	235
4	290	210	150	115	115	95	250	357	2,860	1,120	336	230
5	290	180	125	110	110	100	392	371	2,730	1,090	320	230
6	280	190	135	120	115	108	589	428	2,580	1,060	315	220
7	300	210	150	122	120	110	625	500	2,670	1,000	310	220
8	270	210	150	125	120	110	616	564	2,560	916	305	215
9	*268	210	145	130	120	105	625	690	2,280	880	300	215
10	268	210	145	135	120	100	652	928	*2,280	858	295	215
11	250	210	*145	128	120	100	556	1,260	1,850	814	290	215
12	294	200	145	125	115	105	484	1,690	1,960	781	280	210
13	280	180	143	122	110	112	420	1,990	2,090	730	280	210
14	256	*120	145	120	105	112	406	*1,440	2,420	690	285	210
15	238	142	145	112	100	110	357	1,290	2,790	652	310	205
16	256	170	143	110	100	102	322	1,170	2,660	580	460	205
17	232	162	142	105	100	100	280	1,050	3,070	564	532	210
18	220	166	140	100	100	100	287	916	3,070	564	500	210
19	220	180	135	98	100	100	274	750	2,660	540	436	200
20	210	185	135	95	100	100	250	670	2,530	*524	378	200
21	200	185	135	97	100	100	238	750	2,090	516	322	195
22	200	170	135	100	100	102	256	880	1,610	500	290	200
23	256	180	135	107	100	105	406	770	1,480	476	392	200
24	274	190	140	*109	100	110	392	803	1,550	460	343	195
25	262	190	150	112	100	120	329	814	1,790	444	265	195
26	238	170	140	120	97	133	294	803	1,790	420	*247	195
27	210	160	135	120	95	150	280	858	1,650	420	235	190
28	210	140	130	120	95	170	280	803	1,440	413	230	190
29	200	145	125	120	95	185	268	1,000	1,400	444	230	190
30	195	150	120	120	------	180	274	1,390	1,260	406	230	185
31	190	------	125	120	------	175	------	1,710	------	392	235	------
Total	7,727	5,410	4,353	3,592	3,112	3,584	10,928	27,660	65,880	22,004	10,106	6,275
Mean	249	180	140	116	107	116	364	892	2,196	710	326	209
Cfsm	0.659	0.476	0.370	0.307	0.283	0.307	0.963	2.36	5.81	1.88	0.862	0.553
In.	0.76	0.53	0.43	0.35	0.31	0.35	1.07	2.72	6.48	2.17	0.99	0.62
Ac-ft	15,330	10,730	8,630	7,120	6,170	7,110	21,680	54,860	130,700	43,640	20,040	12,450

Calendar year 1959: Max 4,360 Min 110 Mean 592 Cfsm 1.57 In. 21.27 Ac-ft 428,800
Water year 1959-60: Max 3,070 Min 95 Mean 466 Cfsm 1.23 In. 16.78 Ac-ft 338,500

Peak discharge (base, 3,100 cfs).--June 4 (5 a.m.) 3,340 cfs (6.16 ft); June 18 (4 a.m.) 3,840 cfs (6.29 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13 to Apr. 5. No gage-height record Oct. 1-8, Oct. 29 to Nov. 12, Dec. 13 to Jan. 23, Jan. 27 to Mar. 7, Mar. 10-31, Aug. 5-15, 22, Aug. 25 to Sept. 30; discharge estimated on basis of 4 discharge measurements, weather records, and records for nearby stations.

225. Snake River above reservoir, near Alpine, Wyo.

Location.--Lat 43°11'50", long 110°53'10", on right bank a quarter of a mile downstream from Wolf Creek, 7 miles upstream from Greys River, and 9 miles upstream from Alpine, Lincoln County.

Drainage area.--3,465 sq mi.

Records available.--March 1937 to March 1939 (published as "above Greys River near Alpine"), July 1953 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,683.90 ft above mean sea level, unadjusted. Mar. 16, 1937, to Mar. 31, 1939, at site 6½ miles downstream at different datum.

Average discharge.--8 years (1937-38, 1953-60), 4,398 cfs (3,184,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,200 cfs June 18 (gage height, 7.67 ft); minimum, 1,360 cfs Feb. 29 (gage height, 2.76 ft).
1937-39, 1953-60: Maximum discharge, 26,800 cfs June 28, 1954 (gage height, 11.68 ft); minimum, 740 cfs Nov. 16, 1955 (gage height, 2.19 ft).

Remarks.--Records excellent except those for periods of ice effect, which are good. Flow partly regulated by Jackson Lake (see p.). Some diversions from tributaries above station.

Cooperation.--Water-stage-recorder graph furnished by Bureau of Reclamation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.9	1,440	6.0	7,540
3.5	2,120	7.0	10,400
4.0	2,920	8.0	13,400
5.0	5,000		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,550	2,320	2,060	b1,900	1,700	1,450	1,860	2,280	6,920	6,950	4,300	4,260
2	2,510	2,340	2,030	b1,900	1,760	1,490	1,780	2,360	7,570	6,920	4,220	4,430
3	2,490	2,340	b2,030	b1,900	1,720	1,510	1,820	2,590	8,540	6,780	4,150	4,390
4	2,500	2,400	b2,000	b1,800	1,660	1,530	2,020	2,660	9,460	6,630	4,070	4,360
5	2,500	2,230	b1,900	b1,800	1,720	1,550	2,300	2,670	9,490	6,500	4,150	4,300
6	2,500	2,160	b2,200	b1,900	1,750	1,530	2,670	2,810	8,850	6,500	4,240	4,520
7	2,600	2,230	b2,150	b2,000	1,730	1,520	*3,300	3,000	8,590	6,320	4,220	5,700
8	*2,550	2,260	b2,100	b2,100	1,760	1,550	3,600	3,320	8,570	6,170	4,170	6,040
9	2,720	2,230	b2,150	2,090	1,790	*1,540	3,940	*3,780	*8,510	6,020	4,130	*6,040
10	2,690	*2,220	b2,200	2,040	1,740	1,500	4,190	4,540	8,540	6,020	4,070	6,040
11	2,430	2,220	b2,100	1,940	1,700	1,470	4,030	5,820	8,060	6,000	4,000	6,040
12	2,720	2,250	b1,950	1,920	1,650	1,520	3,600	7,190	7,680	5,820	3,920	6,000
13	2,740	2,220	b1,900	1,910	1,690	1,520	3,170	8,290	7,510	5,720	3,840	6,020
14	2,670	2,080	*b1,830	1,860	1,680	1,530	2,980	7,920	7,620	5,500	3,800	6,070
15	2,600	2,090	b1,800	b1,800	1,720	1,490	2,690	6,970	8,400	5,480	3,980	6,140
16	2,570	2,130	b1,850	b1,800	1,720	1,500	2,460	6,440	10,700	5,340	4,240	6,170
17	2,550	2,080	b1,900	b1,800	1,680	1,510	2,250	5,970	11,100	5,240	4,390	6,200
18	2,520	2,090	b1,930	b1,750	1,660	1,510	2,180	5,580	12,000	5,170	4,280	6,270
19	2,490	2,110	1,950	b1,700	1,680	1,520	2,200	4,860	11,400	*5,070	4,220	6,170
20	2,460	2,120	1,940	b1,700	1,680	1,550	2,260	4,260	11,200	5,000	4,340	6,140
21	2,430	2,150	1,930	b1,850	1,690	1,560	2,260	4,070	10,200	4,880	4,500	6,070
22	2,440	2,160	1,990	1,980	1,680	1,600	2,470	4,320	8,760	4,820	4,590	6,040
23	2,490	2,180	1,970	1,860	1,680	1,620	2,940	4,430	7,840	4,750	4,610	6,070
24	2,590	2,200	1,920	1,780	1,680	1,670	3,050	4,320	7,400	4,680	4,540	6,100
25	2,570	2,200	2,030	1,800	1,670	1,720	2,740	4,360	7,760	4,630	4,470	6,100
26	2,540	2,080	1,970	1,800	1,620	1,800	2,510	4,320	7,920	4,560	4,410	6,100
27	2,490	2,060	1,890	1,780	1,520	1,910	2,360	4,470	7,700	4,560	4,360	6,140
28	2,460	2,040	b1,830	*1,750	1,480	2,040	2,430	4,540	7,380	4,470	4,320	6,140
29	2,440	2,040	b1,830	1,730	1,450	2,090	2,360	4,610	7,190	4,470	4,300	6,120
30	2,410	2,040	b1,880	1,700	-------	2,020	2,280	5,240	7,080	4,410	4,260	6,070
31	2,340	-------	b1,900	1,740	-------	1,970	-------	6,140	-------	4,340	4,240	-------
Total	78,560	65,270	61,110	57,380	48,660	50,290	80,700	144,130	259,940	169,720	131,330	172,250
Mean	2,534	2,176	1,971	1,851	1,678	1,622	2,690	4,649	8,665	5,475	4,236	5,742
Ac-ft	155,800	129,500	121,200	113,800	96,520	99,750	160,100	285,900	515,600	336,600	260,500	341,700

Calendar year 1959: Max 17,900 Min 1,200 Mean 3,979 Ac-ft 2,881,000
Water year 1959-60: Max 12,000 Min 1,450 Mean 3,605 Ac-ft 2,617,000

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

230. Greys River above reservoir, near Alpine, Wyo.

Location.--Lat 43°08'50", long 110°59'20", in SW¼ sec.33, T.37 N., R.118 W., on left bank 2 miles upstream from mouth and 2½ miles (revised) southeast of Alpine.

Drainage area.--451 sq mi. Mean altitude, 8,080 ft.

Records available.--July to September 1917, June to September 1918, March 1937 to March 1939, October 1953 to September 1960. Published as Greys River near Alpine, Idaho 1917-18 and as Greys River near Alpine, Wyo. 1937-39.

Gage.--Water-stage recorder. Datum of gage is 5,620.33 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. July 6 to Sept. 30, 1917, and June 4 to Sept. 30, 1918, staff gage and Mar. 17, 1937, to Mar. 31, 1939, water-stage recorder, at site three-quarters of a mile downstream at different datum.

Average discharge.--8 years (1937-38, 1953-60), 624 cfs (451,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,500 cfs May 13 (gage height, 5.69 ft); minimum recorded, 162 cfs Dec. 5 (gage height, 2.71 ft).
1917-18, 1937-39, 1953-60: Maximum discharge observed, 5,200 cfs June 14, 1918 (gage height, 4.85 ft, former site and datum); minimum, 118 cfs Dec. 15, 1955 (gage height, 2.62 ft).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Less than 500 acres irrigated by diversions from Greys River and tributaries above station.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by Bureau of Reclamation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.8	175	4.0	710
3.0	230	5.0	1,630
3.5	420	6.0	2,850

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	302	273	225	215			246	684	1,920	796	416	298
2	*298	273	*230	215			227	724	1,970	759	*388	309
3	298	*273	233	215			249	876	2,140	738	371	291
4	298	284	212	215			*309	884	2,200	710	359	291
5	298	209	178	215			425	932	2,080	690	351	287
						190						
6	298	220	200	*215			580	1,050	1,960	684	347	280
7	335	240	240	215			690	1,120	1,860	664	339	276
8	309	240	240	215	200		738	1,240	*1,840	645	335	273
9	331	240	240	215			884	1,440	1,770	626	335	*276
10	335	240	240	215			991	1,680	1,770	619	331	276
11	309	240	240				884	1,950	1,620	606	324	273
12	351	240	240				828	2,190	1,650	*595	320	269
13	328	220	240	210			724	2,250	1,560	574	316	269
14	309	200	240				717	1,900	1,580	550	313	273
15	298	230	240				619	1,750	1,680	532	359	266
						200						
16	294	230	240				568	*1,600	1,510	515	380	259
17	291	230	240				495	1,510	1,580	495	375	266
18	284	230	240				505	1,400	1,400	485	339	269
19	280	230	240				515	1,230	1,330	480	324	259
20	280	230	240				520	1,130	1,280	470	316	256
				200								
21	276	230	240			205	593	1,170	1,160	460	309	256
22	276	230	240			*224	820	1,250	1,090	450	313	266
23	384	230	240		190	230	1,000	1,220	1,020	440	328	256
24	384	230	240			243	760	1,240	982	430	316	249
25	351	230	240			256	678	1,250	957	416	309	252
26	328	230	210			287	612	1,220	940	406	302	252
27	313	205	180			320	619	1,380	916	402	298	246
28	305	210	215			335	658	1,310	876	402	298	243
29	291	215	215	205		302	626	1,390	844	393	294	240
30	284	220	215		-------	284	645	1,530	820	384	291	240
31	269	-------	215		-------	269	-------	1,750	-------	388	291	-------
Total	9,587	7,002	7,088	6,430	5,660	6,855	18,745	42,250	44,305	16,802	10,287	8,016
Mean	309	233	229	207	195	221	625	1,363	1,477	542	332	267
Cfsm	0.685	0.517	0.508	0.459	0.432	0.490	1.39	3.02	3.27	1.20	0.736	0.592
In.	0.79	0.58	0.59	0.53	0.47	0.56	1.55	3.48	3.65	1.38	0.85	0.66
Ac-ft	19,020	13,890	14,060	12,750	11,230	13,600	37,180	83,800	87,880	33,330	20,400	15,900

Calendar year 1959: Max 2,620 Min 155 Mean 557 Cfsm 1.24 In. 16.77 Ac-ft 403,400
Water year 1959-60: Max 2,250 Min - Mean 500 Cfsm 1.11 In. 15.09 Ac-ft 363,000

Peak discharge (base, 2,000 cfs).--May 13 (3 a.m.) 2,500 cfs (5.69 ft); June 4 (12:30 a.m.) 2,400 cfs (5.62 ft).

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 6 to Dec. 1; discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby stations. Stage-discharge relation affected by ice Dec. 6 to Mar. 20 and at other undetermined times during clock stoppage.

250. Swift Creek near Afton, Wyo.

Location.--Lat 42°43'30", long 110°54'00", in SE¼ sec.29, T.32 N., R.118 W., on right bank 1 mile upstream from mouth of canyon, 1½ miles east of Afton, and 4½ miles upstream from mouth.

Drainage area.--27.4 sq mi.

Records available.--October 1942 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 6,420 ft (from topographic map).

Average discharge.--18 years, 88.4 cfs (64,000 acre-ft per year).

Extremes.--Maximum discharge during year, 406 cfs June 4 (gage height, 3.12 ft); minimum daily, 28 cfs Sept. 11-13.
1942-60: Maximum discharge, 775 cfs June 30, 1957 (gage height, 3.52 ft); minimum daily, 20 cfs Dec. 30, 1958.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Pipeline (adjudication, 2.5 cfs) diverts water above station for town of Afton. Diurnal fluctuation caused by small powerplant and reservoir (adjudication, 48.45 acre-ft per year) a quarter of a mile upstream. No diversion for irrigation above station.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 12 to June 28)

1.8	24	2.2	91
1.9	34	2.5	183
2.0	49	3.0	428

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	55	59	49	38	35	32	41	43	219	161	65	36
2	55	59	48	38	35	33	42	46	259	151	61	36
3	55	59	48	38	35	34	43	48	298	144	59	34
4	55	57	48	38	33	34	44	44	313	135	61	33
5	55	55	46	36	35	35	45	46	*313	138	67	32
6	55	51	46	36	35	37	45	48	298	128	61	32
7	55	53	48	36	35	37	45	48	298	116	59	30
8	55	53	46	37	35	37	47	53	293	111	57	30
9	55	53	44	37	35	36	49	57	215	106	57	29
10	55	51	44	36	35	35	52	63	195	98	55	29
11	55	51	*44	36	35	36	52	71	215	94	55	28
12	61	*51	44	36	34	38	52	*116	259	87	55	28
13	59	51	42	36	34	38	51	144	259	80	*53	28
14	57	49	40	36	33	37	49	119	241	78	53	30
15	57	49	38	36	34	36	*48	116	268	80	53	40
16	61	49	37	*35	34	36	48	108	223	78	57	40
17	59	49	37	34	34	36	44	108	303	78	55	42
18	59	48	36	32	33	37	43	108	232	78	53	42
19	59	48	36	30	34	38	42	98	236	76	53	43
20	57	49	34	32	34	38	40	84	232	76	55	44
21	51	49	36	34	*34	39	36	73	215	76	55	*48
22	*55	49	37	35	34	40	37	78	199	76	55	48
23	98	49	36	35	33	41	42	82	199	76	51	48
24	80	49	37	35	31	42	42	84	*195	76	49	48
25	87	51	37	35	33	43	42	89	199	71	48	44
26	80	51	38	35	33	44	42	96	199	*71	44	46
27	73	49	37	35	32	44	42	108	183	67	43	43
28	71	49	36	35	32	43	44	108	165	67	42	42
29	65	48	37	35	32	42	44	132	154	65	40	42
30	65	48	38	35	-------	41	43	158	158	65	36	40
31	61	-------	38	35	-------	40	-------	199	-------	63	34	-------
Total	1,920	1,534	1,262	1,095	981	1,179	1,336	2,775	7,035	2,866	1,639	1,135
Mean	61.9	51.1	40.7	35.3	33.8	38.0	44.5	89.5	234	92.5	52.9	37.8
Ac-ft	3,810	3,040	2,500	2,170	1,950	2,340	2,650	5,500	13,950	5,680	3,250	2,250

Calendar year 1959: Max 524 Min 21 Mean 82.1 Ac-ft 59,450
Water year 1959-60: Max 315 Min 28 Mean 87.6 Ac-ft 49,090

Peak discharge (base, 390 cfs).--June 4 (12:30 a.m.) 406 cfs (3.12 ft).

* Discharge measurement made on this day.
Note.--No gage-height record Jan. 16 to Apr. 14; discharge estimated on basis of 2 discharge measurements and weather records.

275. Salt River above reservoir, near Etna, Wyo.

Location.--Lat 43°04'50", long 111°02'15", in NE¼ sec.28, T.36 N., R.119 W., on right bank 3½ miles northwest of Etna and 8 miles upstream from mouth.

Drainage area.--829 sq mi.

Records available.--July to September 1917, June to September 1918, October 1953 to September 1960. Published as Salt River near Alpine, Idaho 1917-18.

Gage.--Water-stage recorder. Datum of gage is 5,675.78 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. July 1 to Sept. 30, 1917, and June 5 to Sept. 30, 1918, staff gage at site 5 miles downstream at different datum.

Average discharge.--7 years (1953-60), 685 cfs (495,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,520 cfs Apr. 10 (gage height, 3.66 ft); minimum, 302 cfs Feb. 29 (gage height, 1.88 ft).
1917-18, 1953-60: Maximum discharge, 2,420 cfs Apr. 24, 1956 (gage height, 4.68 ft); minimum, 281 cfs Feb. 4, 1956 (gage height, 1.81 ft).

Remarks.--Records excellent except those for periods of ice effect, which are fair. Diversions above station for power developments, industry, municipal supply, and irrigation of about 66,000 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1347).

Cooperation.--Water-stage-recorder graph and 11 discharge measurements furnished by Bureau of Reclamation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.0	340
2.5	610
3.0	995
3.7	1,580

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*640	584	539	446	410	b370	564	812	558	491	441	503
2	618	578	*527	436	415	b385	533	820	527	491	*446	497
3	618	*578	509	415	*415	b390	538	899	497	491	441	515
4	618	578	503	405	400	b390	*655	915	480	491	436	521
5	604	558	485	*425	b400	b390	790	923	480	491	436	515
6	604	558	491	441	b410	390	995	939	480	497	436	515
7	610	597	497	458	415	395	1,200	979	474	497	430	533
8	610	597	491	463	425	*395	1,210	995	*480	503	430	*552
9	625	590	485	463	430	390	1,350	1,040	485	509	430	545
10	618	590	491	458	425	385	1,440	1,110	497	571	436	527
11	597	584	485	452	415	380	1,280	1,170	503	610	446	527
12	604	597	480	452	405	390	1,200	1,220	509	*539	503	527
13	610	584	480	452	405	380	1,040	*1,260	509	527	533	527
14	604	564	468	b430	b400	380	995	1,160	558	527	474	527
15	590	571	468	b430	b405	385	891	1,090	533	584	480	527
16	584	571	468	b420	410	385	812	1,030	533	521	480	533
17	604	558	463	400	410	385	775	979	509	485	564	527
18	604	558	474	b390	400	380	760	979	521	468	509	527
19	597	558	474	385	405	380	768	867	527	452	491	515
20	597	558	474	b385	b390	380	760	790	521	452	480	509
21	590	571	458	b380	b400	385	775	730	509	452	480	527
22	597	564	463	376	b395	390	851	700	503	445	474	533
23	618	564	463	410	b390	400	963	685	497	446	485	527
24	618	564	458	420	385	410	891	648	503	446	485	527
25	610	571	474	415	b390	425	820	597	503	441	491	521
26	597	558	468	425	b390	452	790	578	497	436	503	521
27	590	552	452	425	b375	509	805	604	491	430	503	521
28	590	545	425	415	b370	625	820	648	491	430	497	515
29	590	539	458	410	360	648	859	618	491	436	485	515
30	590	545	425	b400	------	610	820	590	491	436	485	509
31	584	------	458	410	------	597	------	564	------	441	491	------
Total	18,730	17,084	14,754	13,092	11,645	13,156	26,970	26,939	15,157	15,037	14,701	15,685
Mean	604	569	476	422	402	424	899	869	505	485	474	523
Ac-ft	37,150	33,890	29,260	25,970	23,100	26,090	53,490	53,430	30,060	29,830	29,160	31,110

Calendar year 1959: Max 1,180 Min 395 Mean 597 Ac-ft 432,000
Water year 1959-60: Max 1,440 Min 360 Mean 555 Ac-ft 402,500

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

295. McCoy Creek above reservoir, near Alpine, Idaho

Location.--Lat 43°10'50", long 111°06'55", in SW¼ sec.6, T.3 S., R.46 E., Boise meridian, on left bank 1½ miles upstream from mouth and 5 miles (revised) west of Alpine.

Drainage area.--108 sq mi. Mean altitude 6,960 ft.

Records available.--July to September 1917, June to September 1918, May to July 1934, September 1953 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Published as McCoy Creek near Alpine, Idaho 1917-18, and as McCcy Creek near Alpine, Wyo. 1934.

Gage.--Water-stage recorder. Datum of gage is 5,635.4 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels partly by Bureau of Reclamation). July 15 to Sept. 30, 1917, staff gage, June 25 to Sept. 30, 1918, water-stage recorder, and May 1 to July 31, 1934, staff gage, at sites about 1 mile downstream at different datum.

Average discharge.--7 years (1953-60), 85.5 cfs (61,900 acre-ft per year).

Extremes.--Maximum discharge during year, 550 cfs Apr. 9 (gage height, 4.40 ft); minimum daily, 7 cfs Dec. 27.
1917-18, 1934, 1953-60: Maximum discharge, 1,130 cfs Apr. 21, 1956 (gage height, 5.72 ft); minimum, 1 cfs for many days in 1934.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No diversion above station.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by Bureau of Reclamation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 6-14, 22, 23, May 3-18)

1.2	7	2.5	90
1.4	9.5	3.0	175
1.6	15	3.5	305
1.8	24	4.0	467
2.0	37		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*25	17	*b10	b8	b10	b12	39	173	143	51	*22	15
2	24	17	b11	b8	b10	b12	33	188	139	49	22	17
3	24	16	b12	b8	b10	b12	42	221	135	46	20	16
4	23	*18	b10	b8	b10	12	82	243	132	45	19	14
5	23	b15	b8	*b8	b10	12	139	248	125	43	19	14
6	23	b12	b10	b9	b11	13	219	256	116	43	18	14
7	29	b11	b10	b10	12	*14	256	265	114	44	17	14
8	28	b14	b10	b11	13	14	279	285	114	43	17	*14
9	29	b14	b10	b11	14	14	365	299	*112	41	17	14
10	34	b14	b10	b11	13	b13	394	336	114	41	16	14
11	29	15	b8	b11	13	b13	336	365	115	*42	16	14
12	30	17	b10	b11	b13	14	293	381	104	39	15	14
13	31	b14	b10	b10	b13	14	240	*374	98	36	15	14
14	27	b12	b10	b9	b13	13	232	311	94	34	15	14
15	25	b13	10	b9	b13	b13	*165	276	94	34	20	14
16	24	b12	10	b9	13	b13	126	251	89	32	23	14
17	22	b11	b12	b8	13	b13	110	234	86	30	26	14
18	22	b13	11	b8	b13	13	114	226	84	29	20	14
19	21	b14	12	b8	b13	14	147	202	85	28	18	14
20	20	b14	b10	b8	b13	15	157	188	78	28	17	14
21	19	15	b9	b8	13	18	188	179	73	27	16	14
22	22	15	b9	b8	12	22	259	171	70	27	16	14
23	32	16	b9	b9	12	27	279	169	67	27	16	14
24	26	17	b9	b9	b12	36	199	165	65	27	16	13
25	23	16	b10	b9	b12	46	169	155	63	24	16	14
26	21	b11	b8	b10	b12	63	159	153	60	24	16	14
27	20	b8	b7	b10	12	78	163	157	58	24	15	14
28	20	b9	b8	b10	b12	81	171	153	56	24	15	13
29	19	b10	b8	b10	b12	63	171	147	55	23	15	13
30	19	b10	b8	b10	------	53	169	147	54	22	15	13
31	17	------	b8	b10	------	47	------	145	------	22	15	------
Total	751	412	297	286	352	797	5,695	7,063	2,792	1,049	543	422
Mean	24.2	13.7	9.6	9.2	12.1	25.7	190	228	93.1	33.8	17.5	14.1
Cfsm	0.224	0.127	0.089	0.085	0.112	0.238	1.76	2.11	0.862	0.313	0.162	0.131
In.	0.26	0.14	0.10	0.10	0.12	0.27	1.96	2.43	0.96	0.36	0.19	0.15
Ac-ft	1,490	817	589	567	698	1,580	11,300	14,010	5,540	2,080	1,080	837

Calendar year 1959: Max 543 Min 7 Mean 76.1 Cfsm 0.705 In. 9.58 Ac-ft 55,120
Water year 1959-60: Max 394 Min 7 Mean 55.9 Cfsm 0.518 In. 7.04 Ac-ft 40,590

Peak discharge (base, 650 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice. No gage-height record Jan. 19-31, Aug. 23 to Sept. 7; discharge estimated on basis of 3 discharge measurements, weather records, and records for nearby streams.

300. Indian Creek above reservoir, near Alpine, Idaho

Location.--Lat 43°15'35", long 111°04'00", near center of sec.9, T.2 S., R.46 E., on right bank a quarter of a mile downstream from forks of creek, 3 miles upstream from mouth, and 5½ miles north of Alpine.

Drainage area.--36.8 sq mi.

Records available.--July to September 1917, June to September 1918, August 1953 to September 1960. Published as Indian Creek near Blowout 1917-18.

Gage.--Water-stage recorder. Altitude of gage is 5,820 ft (from topographic map). July 14 to Sept. 30, 1917, and June 4 to Sept. 21, 1918, staff gage at site 3 miles downstream at different datum.

Average discharge.--7 years (1953-60), 14.3 cfs (10,350 acre-ft per year).

Extremes.--Maximum discharge during year, 169 cfs June 3 (gage height, 3.18 ft); no flow for many days.
1917-18, 1953-60: Maximum discharge observed, 350 cfs June 14, 1918; no flow for many days.

Remarks.--Records good. One small diversion from North Fork for irrigation.

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by Bureau of Reclamation.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

0.6	0	1.7	23
.8	.3	2.0	43
1.0	1.2	2.5	89
1.2	3.0	3.0	147
1.4	8.0		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4	3	(*)				0	3	97	40	*9	5
2	*4	2					0	4	110	38	9	5
3	4	*2					0	4	128	35	8	5
4	4	2					0	5	135	32	8	5
5	4	0					0	6	130	31	8	5
6	4	0					1	7	121	30	8	4
7	4	0					3	9	121	29	8	4
8	4	0					6	11	*111	27	8	4
9	4	1					8	15	100	27	7	*4
10	3	1					10	22	94	23	7	4
11	3	2					9	32	90	24	7	4
12	4	2					8	42	93	*22	7	4
13	3	1					7	58	94	21	7	3
14	3	1					6	45	94	19	7	3
15	3	6					5	40	101	18	8	3
16	3	4					4	*37	94	16	8	3
17	3	1					3	35	90	16	8	3
18	3	1					3	34	80	14	7	3
19	3	1					3	29	79	14	7	2
20	2	2					3	28	75	13	6	2
21	2	3					4	28	66	13	6	2
22	3	3					5	27	60	12	7	2
23	4	3					6	27	56	12	7	2
24	3	3					4	29	56	12	7	2
25	3	0					3	30	55	11	6	2
26	3	1					3	32	51	11	6	1
27	3	0					*3	37	47	10	6	1
28	2	0					3	38	45	10	6	1
29	3	1					3	49	43	10	6	1
30	3	1			-------		3	65	42	10	5	1
31	3	-------			-------		-------	88	-------	9	5	-------
Total	101	47	0	0	0	0	116	916	2,558	608	219	90
Mean	3.3	1.6	0	0	0	0	3.9	29.5	85.3	19.6	7.1	3.0
Ac-ft	200	93	0	0	0	0	230	1,820	5,070	1,210	434	179

Calendar year 1959: Max 206 Min 0 Mean 13.7 Ac-ft 9,890
Water year 1959-60: Max 135 Min 0 Mean 12.7 Ac-ft 9,240

Peak discharge (base, 100 cfs).--June 3 (8 p.m.) 169 cfs (3.18 ft); June 13 (6 p.m.) 122 cfs (2.79 ft); June 16 (7 p.m.) 121 cfs (2.78 ft).

* Discharge measurement made on this day.

305. Elk Creek above reservoir, near Irwin, Idaho

Location.--Lat 43°19'25", long 111°06'40", in NW¼ sec.19, T.1 S., R.46 E., on right bank 2½ miles upstream from mouth and 11 miles southeast of Irwin.

Drainage area.--59.2 sq mi.

Records available.--July to September 1917, June to September 1918, April to July 1934, September 1953 to September 1960. Published as Big Elk Creek near Blowout 1917-18 and as Elk Creek near Irwin 1934.

Gage.--Water-stage recorder. Altitude of gage is 5,640 ft (from topographic map). July 1917 to September 1918, April to July 1934, staff gage at site 2½ miles downstream at different datum. September 1953 to August 1957, water-stage recorder at datum 0.41 ft higher.

Average discharge.--7 years (1953-60), 71.8 cfs (51,980 acre-ft per year).

Extremes.--Maximum discharge during year, 370 cfs June 2 (gage height, 3.47 ft); minimum recorded, 13 cfs Mar. 28.
1917-18, 1934, 1953-60: Maximum discharge observed, 870 cfs June 15, 1918; minimum, 5 cfs Dec. 15, 1953.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by Bureau of Reclamation.

Revisions (water years).--WSP 1637: 1956(M).

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	19	2.0	99
1.2	23	2.5	173
1.4	36	3.0	266
1.7	63	3.5	372

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	34	*29	20		21	27	52	284	96	*53	38
2	*43	34	29	20		21	25	55	286	92	52	40
3	43	*35	30	19		21	27	60	294	91	51	36
4	43	36	26	*19		21	31	68	262	87	50	38
5	43	24	24	19		21	*38	79	256	85	49	38
6	42	30	26	19		21	44	95	248	82	48	37
7	45	33	26	20		21	53	108	244	80	48	37
8	42	33	26	20	22	22	65	139	235	79	48	37
9	44	33	26	21		*23	84	156	*212	76	48	*36
10	45	32	26	21		23	90	199	197	76	47	35
11	46	32	24	22		22	75	240	195	*74	45	35
12	58	32	26	22		22	68	*252	194	73	45	35
13	48	28	26	22		23	61	262	190	71	44	38
14	43	26	24	22		23	60	219	190	71	44	35
15	42	34	24	22		23	53	206	212	68	50	35
16	42	34	24	21		23	48	204	203	66	52	35
17	40	33	24	21		23	45	197	190	65	49	35
18	39	32	24	21		23	45	190	170	64	46	36
19	39	30	24	21		23	45	176	164	63	44	35
20	38	29	23	21		24	45	178	156	62	43	34
21	38	30	23	21		25	47	187	142	61	42	35
22	39	30	23	21		26	56	182	133	62	44	35
23	43	30	23	21	21	28	65	187	129	61	44	35
24	39	29	24	21		29	56	185	125	60	43	34
25	38	28	26	21		32	51	188	122	59	42	34
26	38	23	22	22		32	49	199	119	59	42	34
27	38	23	18	22		32	49	212	113	58	41	34
28	37	25	20	22		31	49	212	108	57	41	33
29	36	27	20	22		30	47	233	104	56	40	33
30	35	28	20	22	------	29	48	260	100	55	39	33
31	34	------	20	22	------	28	------	280	------	55	38	------
Total	1,283	907	750	650	624	766	1,546	5,460	5,577	2,164	1,411	1,065
Mean	41.4	30.2	24.2	21.0	21.5	24.7	51.5	176	186	69.8	45.5	35.5
Cfsm	0.699	0.510	0.409	0.355	0.363	0.417	0.870	2.97	3.14	1.18	0.769	0.600
In.	0.81	0.57	0.47	0.41	0.39	0.48	0.97	3.42	3.50	1.36	0.89	0.67
Ac-ft	2,540	1,800	1,490	1,290	1,240	1,520	3,070	10,830	11,060	4,290	2,800	2,110

Calendar year 1959: Max 390 Min 18 Mean 65.5 Cfsm 1.11 In. 15.04 Ac-ft 47,400
Water year 1959-60: Max 294 Min - Mean 60.7 Cfsm 1.03 In. 13.94 Ac-ft 44,040

Peak discharge (base, 300 cfs).--May 12 (11:30 p.m.) 324 cfs (3.26 ft); June 2 (12 p.m.) 370 cfs (3.47 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 27 to Dec. 17, Jan. 4-9, 20-24, Mar. 10-12, 15-17 (no gage-height record Dec. 18 to Jan. 3, Jan. 10-19, Jan. 25 to Mar. 8); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations.

320. Bear Creek above reservoir, near Irwin, Idaho

Location.--Lat 43°16'45", long 111°13'15", in SE¼ sec.31, T.1 S., R.45 E., on left bank a quarter of a mile downstream from Elk Creek, 4 miles upstream from mouth, and 9 miles southeast of Irwin.

Drainage area.--77.1 sq mi. Mean altitude, 7,130 ft.

Records available.--July to September 1917, June to September 1918, May to July 1934, April to October 1935, April to October 1936, August 1953 to September 1960. Published as Bear Creek near Irwin 1917-18, 1934-36.

Gage.--Water-stage recorder. Altitude of gage is 5,640 ft (from topographic map). Prior to Nov. 1, 1936, staff gage at site 4 miles downstream at different datum.

Average discharge.--7 years (1953-60), 72.3 cfs (52,340 acre-ft per year).

Extremes.--Maximum discharge during year, 311 cfs May 12 (gage height, 4.12 ft); minimum, 6 cfs Dec. 7 (gage height, 2.41 ft).
1917-18, 1934-36, 1953-60: Maximum discharge observed, 784 cfs May 5, 1936; minimum, about 1.0 cfs Jan. 20, 1954 (gage height, 1.08 ft), result of freezeup.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No diversion above station.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by Bureau of Reclamation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.5	9	3.3	99
2.6	14	3.6	165
2.8	28	4.0	284
3.0	50		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*30	24	*b18	b14	b16	b15	44	125	138	58	*35	26
2	29	24	b18	b14	b15	b15	42	133	138	57	34	29
3	28	24	b18	b14	b15	b15	45	145	136	57	33	27
4	28	*26	b16	*b14	b14	b16	60	165	133	56	33	26
5	28	b24	b14	b14	b15	b17	92	165	127	54	32	26
6	28	b23	b15	b15	b15	b17	120	175	120	54	31	25
7	31	24	18	b15	16	*19	142	183	122	54	30	24
8	29	24	b18	b15	18	20	165	191	120	54	29	*25
9	33	23	b18	b16	16	18	197	200	*118	51	29	26
10	32	24	18	b16	17	b17	223	220	116	51	29	26
11	31	23	b16	17	16	b17	203	245	114	*50	29	26
12	32	23	b18	17	b16	18	183	*268	107	49	27	26
13	31	22	b18	16	16	17	160	258	103	48	27	26
14	29	b21	b17	b16	b16	b16	155	214	99	46	28	25
15	27	23	b16	b16	b16	b16	131	197	99	45	32	25
16	27	22	b16	b16	b15	b16	116	183	94	45	35	25
17	26	b21	b16	b15	b15	17	107	173	90	44	33	25
18	26	22	19	b15	b15	18	105	165	88	43	30	25
19	26	22	19	b14	b15	19	112	152	88	43	28	24
20	26	22	b16	b14	b15	22	*116	145	81	42	27	23
21	26	22	b15	b14	b15	25	127	142	78	42	26	22
22	27	22	b14	b15	b15	28	162	136	76	39	29	22
23	29	23	b14	b15	b15	32	183	133	72	39	31	22
24	26	23	b14	b15	b15	37	142	131	71	38	28	22
25	26	23	b16	b16	b15	46	129	129	71	38	26	22
26	25	b18	b13	b16	b15	56	120	129	66	38	26	23
27	24	b14	b10	16	b15	61	122	129	64	37	27	22
28	25	b15	b12	16	b15	66	122	129	63	36	26	22
29	25	b16	b14	16	b15	57	122	131	61	36	26	22
30	24	b16	b14	b16	-------	53	122	133	61	36	24	22
31	24	-------	b14	16	-------	48	-------	136	-------	36	25	-------
Total	858	653	492	474	449	854	3,869	5,160	2,914	1,416	905	731
Mean	27.7	21.8	15.9	15.3	15.5	27.5	129	166	97.1	45.7	29.2	24.4
Cfsm	0.359	0.283	0.206	0.198	0.201	0.357	1.67	2.15	1.26	0.593	0.379	0.316
In.	0.41	0.32	0.24	0.23	0.22	0.41	1.86	2.48	1.41	0.68	0.44	0.35
Ac-ft	1,700	1,300	976	940	891	1,690	7,674	10,230	5,780	2,810	1,800	1,450

Calendar year 1959: Max 277 Min 10 Mean 61.0 Cfsm 0.79 In. 10.75 Ac-ft 44,190
Water year 1959-60: Max 268 Min 10 Mean 51.3 Cfsm 0.665 In. 9.05 Ac-ft 37,240

Peak discharge (base, 350 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice. No gage-height record Feb. 25 to Mar. 6.

324.5. Palisades Reservoir near Irwin, Idaho

Location.--Lat 43°20', long 111°12', in NE¼ sec.17, T.1 S., R.45 E., on Snake River 3½ miles upstream from Palisades Creek and 6 miles southeast of Irwin.

Drainage area.--5,208 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Pressure gage in powerhouse. Outside staff gages attached to concrete headwalls upstream from power and outlet tunnels. Datum of gage is at mean sea level (Bureau of Reclamation datum). Datum of Geological Survey, datum of 1929, supplementary adjustment of 1947, is 0.51 ft lower.

Extremes.--Maximum contents during year, 1,338,000 acre-ft May 14,15 (elevation, 5,616.0 ft); minimum, 224,000 acre-ft Sept. 24, 25 (elevation, 5,502.3 ft).
1955-60: Maximum contents, 1,406,000 acre-ft July 6,7, 1959; minimum observed, 565 acre-ft Jan. 31, 1956 (prior to filling of reservoir); minimum after first filling of reservoir in June 1958, that of Sept. 24, 25, 1960.

Remarks.--Reservoir is formed by earth-fill, rock-faced dam. Capacity, 1,400,000 acre-ft between elevations 5,372 (river level at original outlet tunnels) and 5,620 ft. Dead storage, 44,100 acre-ft at elevation 5,452.43 ft, elevation of completed outlet tunnel Inactive storage for minimum power head, 199,600 acre-ft at elevation 5,497.5 ft. Water is used for irrigation in Snake River valley.

Cooperation.--Reservoir elevations and capacity table furnished by Bureau of Reclamation.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

5,500	212,200	5,560	649
5,520	329,000	5,600	1,101,000
5,540	474,100	5,620	1,402,000

Contents, in thousands of acre-feet, at 1 p.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	652	724	775	854	932	1,000	1,081	1,288	1,214	1,146	731	34
2	655	725	778	856	934	1,003	1,085	1,290	1,210	1,140	714	33
3	659	726	783	858	937	1,004	1,088	1,291	1,205	1,129	698	33
4	662	727	786	861	939	1,006	1,092	1,293	1,205	1,122	683	32
5	664	728	788	863	941	1,009	1,097	1,294	1,205	1,112	668	31
6	668	729	790	866	944	1,012	1,106	1,297	1,204	1,101	652	31
7	671	729	792	868	947	1,014	1,114	1,300	1,204	1,092	637	30
8	674	729	794	872	950	1,017	1,125	1,304	1,202	1,081	622	30
9	678	730	796	875	953	1,019	1,136	1,308	1,201	1,069	606	29
10	682	730	801	877	957	1,020	1,150	1,314	1,199	1,058	591	294
11	685	731	804	881	958	1,023	1,163	1,322	1,198	1,048	575	292
12	690	731	806	884	961	1,024	1,173	1,328	1,195	1,035	559	288
13	693	732	808	888	963	1,027	1,183	1,336	1,191	1,023	544	282
14	697	732	811	890	966	1,029	1,192	1,338	1,186	1,012	529	276
15	700	733	814	892	968	1,031	1,201	1,338	1,183	999	513	270
16	704	735	816	896	972	1,033	1,208	1,336	1,185	984	500	264
17	707	738	818	897	973	1,035	1,216	1,333	1,186	970	485	258
18	708	740	821	899	975	1,036	1,222	1,328	1,192	955	471	253
19	710	743	823	900	977	1,039	1,228	1,321	1,198	940	457	249
20	711	745	825	901	979	1,041	1,234	1,313	1,201	926	443	244
21	711	748	828	903	981	1,042	1,240	1,304	1,204	910	430	239
22	712	750	830	905	984	1,045	1,246	1,296	1,202	895	415	233
23	714	754	833	907	986	1,046	1,255	1,287	1,199	880	407	228
24	716	757	835	910	989	1,049	1,261	1,279	1,194	865	398	224
25	717	761	839	912	991	1,052	1,267	1,268	1,186	848	390	224
26	718	764	841	915	994	1,054	1,270	1,261	1,180	831	382	228
27	720	766	844	919	998	1,058	1,274	1,252	1,175	815	375	231
28	721	768	846	921	998	1,062	1,277	1,244	1,169	797	367	234
29	722	771	848	924	999	1,068	1,282	1,236	1,162	779	360	238
30	723	773	850	926	-------	1,072	1,285	1,228	1,153	763	354	242
31	724	-------	852	928	-------	1,076	-------	1,220	-------	748	349	-------
(†)	5,567.6	5,572.4	5,579.7	5,586.4	5,592.2	5,598.1	5,612.6	5,608.3	5,603.7	5,570.0	5,523.0	5,505.6
(‡)	+75	+49	+79	+76	+71	+77	+209	-65	-67	-405	-399	-107

Calendar year 1959..... ‡ +8
Water year 1959-60..... ‡ -407

† Elevation, in feet, at end of month.
‡ Change in contents, in thousands of acre-feet.

325. Snake River near Irwin, Idaho

Location.--Lat 43°21', long 111°13', in NE¼ sec.7, T.1 S., R.45 E., on right bank at Bureau of Reclamation headquarters, 1½ miles downstream from Palisades dam, 2 miles upstream from Palisades Creek, and 5 miles southeast of Irwin.

Drainage area.--5,225 sq mi.

Records available.--April to August 1934, March to November 1935, April to October 1936, March 1939 to September 1941, May 1949 to September 1960. Published as "at Calamity Point, near Irwin" 1934, 1939-41.

Average discharge.--11 years (1949-60), 6,550 cfs (4,742,000 acre-ft per year).

Gage.--Water-stage recorder. Datum of gage is 5,353.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Apr. 21 to Aug. 4, 1934, and Mar. 30, 1939, to Sept. 30, 1941, water-stage recorder at site 2½ miles upstream at different datum. Mar. 30, 1935, to Oct. 31, 1936, water-stage recorder at site 3½ miles downstream at different datum. May 1, 1949, to Mar. 22, 1950, staff gage at site 1,100 ft downstream at datum 1.9 ft higher.

Extremes.--Maximum discharge during year, 15,300 cfs July 27 (gage height, 9.87 ft); minimum, 567 cfs Oct. 26 (gage height, 3.80 ft).
1934-36, 1939-41, 1949-60: Maximum discharge, 31,800 cfs June 4-6, 1956; maximum gage height, 13.31 ft June 4, 1956; minimum discharge, 19 cfs Nov. 8, 1956 (gage height, 2.43 ft).
Flood in early June 1894 probably was much higher than that of June 4-6, 1956.

Remarks.--Records excellent. Flow partly regulated by Jackson Lake (see p. 13) and Palisades Reservoir (see preceding page). About 93,000 acres in Wyoming and Idaho irrigated by diversions from tributaries above station.

Cooperation.--Gage-height record furnished by Bureau of Reclamation.

Revisions.--WSP 1217: Drainage area.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 6 to Aug. 7, Sept. 25-30)

Oct. 1 to Jan. 20		Jan. 21 to Sept. 30			
4.5	1,080	4.4	895	8.0	8,870
5.0	1,650	5.0	1,730	9.0	12,400
6.0	3,350	6.0	3,420	10.0	16,500
		7.0	5,860		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,100	3,090	1,530	1,470	1,230	1,180	895	3,570	13,000	12,900	14,300	8,940
2	2,090	3,050	1,500	1,480	1,230	1,180	895	3,590	13,200	12,800	13,700	8,940
3	2,100	3,010	1,480	1,500	1,210	1,180	895	4,230	13,600	12,800	13,300	8,940
4	2,130	3,030	1,480	1,340	1,220	1,190	895	4,230	13,600	12,700	*13,400	8,970
5	2,130	2,970	1,510	1,340	1,220	1,220	895	4,230	13,200	13,300	13,300	9,000
6	2,130	2,990	1,520	1,380	1,220	1,210	895	4,230	12,700	13,200	13,300	9,000
7	2,180	2,990	1,510	1,340	1,220	1,210	*895	4,260	12,700	13,500	13,400	8,970
8	2,130	3,010	1,500	1,340	1,210	1,180	895	4,260	12,700	13,600	13,400	*9,040
9	2,120	3,030	1,480	1,340	1,190	*1,180	895	*4,260	*12,700	13,600	13,400	9,000
10	2,130	3,030	1,470	1,340	1,210	1,190	895	4,830	12,700	13,500	13,400	9,000
11	2,130	2,990	1,480	1,370	1,190	1,160	920	5,760	12,700	13,400	13,400	9,000
12	2,130	2,970	1,460	1,340	1,290	1,210	932	8,040	12,700	13,400	13,300	9,660
13	2,100	2,970	1,480	1,330	1,220	1,210	895	10,400	12,700	13,400	12,500	10,400
14	2,060	2,970	*1,450	1,330	1,190	1,220	908	11,800	12,600	13,700	12,600	10,400
15	2,060	1,860	1,480	1,340	1,210	1,210	895	11,800	12,500	*13,800	13,000	10,400
16	2,170	1,840	1,470	1,360	1,220	1,190	895	11,700	12,600	14,000	13,000	10,400
17	2,260	1,810	1,480	1,390	1,220	1,190	895	11,700	12,600	14,000	13,000	9,900
18	3,070	*1,780	1,470	1,360	1,220	1,210	895	*11,700	12,600	14,000	13,000	9,900
19	3,050	1,770	1,510	1,390	1,260	1,230	895	11,700	12,500	14,000	12,900	9,860
20	3,010	1,810	1,520	1,380	1,230	1,210	895	11,600	12,500	14,100	12,600	9,860
21	3,050	1,810	1,500	*1,360	1,250	1,210	1,500	11,800	12,500	14,100	12,400	9,860
22	3,030	1,820	1,560	1,360	1,230	1,210	1,500	11,700	12,600	14,000	11,500	9,860
23	3,070	1,610	1,550	1,350	1,190	1,220	1,980	11,700	13,000	13,600	10,200	9,760
24	3,090	1,610	1,470	1,360	1,250	1,220	2,500	11,600	13,000	13,800	10,200	9,170
25	3,010	1,580	1,510	1,350	1,190	1,260	2,530	11,700	13,000	14,400	9,830	5,830
26	2,840	1,600	1,500	1,320	1,190	1,250	2,510	11,600	13,000	14,500	9,170	5,630
27	3,010	1,570	1,520	1,310	1,220	1,250	2,510	11,600	13,100	14,600	9,200	*5,570
28	3,010	1,600	1,520	1,310	1,190	1,230	2,510	11,600	*13,100	14,700	9,170	5,520
29	*3,030	1,580	1,500	1,300	1,190	1,220	2,510	12,000	13,000	14,500	8,900	5,060
30	2,990	1,580	1,530	1,350	-------	908	2,510	12,500	12,900	13,700	8,230	5,060
31	3,070	-------	1,500	1,360	-------	895	-------	12,700	-------	13,800	8,390	-------
Total	78,480	69,330	46,440	42,190	35,310	36,833	40,535	278,390	385,300	425,400	371,390	260,900
Mean	2,532	2,311	1,498	1,361	1,218	1,188	1,351	8,980	12,840	13,720	11,980	8,697
Ac-ft	155,700	137,500	92,110	83,680	70,040	73,060	80,400	552,200	764,200	843,800	736,600	517,500

Calendar year 1959: Max 13,700 Min 1,450 Mean 5,571 Ac-ft 4,033,000
Water year 1959-60: Max 14,700 Min 895 Mean 5,657 Ac-ft 4,107,000

* Discharge measurement made on this day.

375. Snake River near Heise, Idaho

Location.--Lat 43°36'45", long 111°39'05", in SW¼ sec.5, T.3 N., R.41 E., on left bank 500 ft upstream from Anderson canal headgate, 3 miles upstream from Heise, 6 miles east of Ririe, and 23 miles upstream from Henrys Fork.

Drainage area.--5,752 sq mi. Mean altitude, 7,770 ft.

Records available.--September 1910 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Prior to 1911, published as South Fork of Snake River near Heise.

Gage.--Water-stage recorder. Datum of gage is 5,015.8 ft above mean sea level, datum of 1929. Prior to July 9, 1913, staff gage and July 9, 1913, to Sept. 29, 1922, water-stage recorder, at datum 2.65 ft higher. Sept. 30, 1922, to Oct. 5, 1933, water-stage recorder at datum 2.0 ft higher.

Average discharge.--50 years, 6,830 cfs (4,945,000 acre-ft per year).

Extremes.--Maximum discharge during year, 15,100 cfs July 29 (gage height, 5.66 ft); minimum, 1,180 cfs Feb. 18 (gage height, 1.06 ft).
1910-60: Maximum discharge, about 60,000 cfs May 19, 1927, result of washing out of landslide on Gros Ventre River (gage height, about 16.0 ft, present datum); minimum, 460 cfs Nov. 10, 12, 1956 (gage height, -0.18 ft).
Flood in early June 1894 was probably as great as flood of May 19, 1927.

Remarks.--Records excellent except those for period of ice effect, which are good. Flow partly regulated by Jackson Lake (see p. 13) and Palisades Reservoir (see p. 25). Station is above all irrigation diversions from main river except Riley ditch (5,920 acre-ft diverted during year) which diverts 1½ miles upstream from station. About 107,000 acres in Wyoming and Idaho irrigated by diversions from tributaries above station. Records of chemical analyses and water temperatures for the water year 1960 are given in WSP 1744.

Revisions (water years).--WSP 1217: Drainage area. WSP 1347: 1912.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 13 to Aug. 25)

1.1	1,280	4.0	8,470
1.4	1,730	5.0	12,000
2.0	2,900	6.0	15,700
3.0	5,370		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,920	3,500	1,880	1,870	1,600	b1,560	1,390	3,790	13,400	13,200	14,600	9,010
2	2,530	3,480	1,870	b1,870	1,590	1,570	1,360	4,310	13,600	13,200	14,500	9,290
3	2,580	3,500	1,870	1,870	1,570	1,560	1,380	4,690	13,900	13,200	13,800	9,290
4	2,580	3,500	1,850	1,760	1,540	1,560	1,450	4,980	14,000	13,000	*13,800	9,260
5	2,580	3,410	1,880	1,710	1,570	1,560	1,560	4,980	13,800	13,300	13,700	9,220
6	2,550	3,390	1,880	1,710	1,570	1,570	1,680	5,040	13,200	13,500	13,700	*9,260
7	2,580	3,390	1,880	1,700	1,620	1,600	1,730	5,120	13,200	13,500	13,700	9,260
8	2,580	3,410	1,880	1,680	1,630	1,620	1,710	5,170	13,200	*13,800	13,700	9,320
9	2,600	3,410	1,870	1,680	1,630	1,590	1,780	5,260	13,200	13,700	13,700	9,290
10	2,600	3,410	1,870	1,680	1,600	1,570	1,830	5,770	13,100	13,800	13,700	9,290
11	2,530	3,410	1,870	1,680	1,590	1,560	1,750	6,520	13,000	13,700	13,700	9,290
12	2,600	3,410	1,850	1,680	1,630	1,570	1,730	9,220	13,100	13,700	13,800	9,570
13	2,550	3,410	1,850	1,680	1,680	1,570	1,680	11,200	13,100	13,600	13,000	10,700
14	2,550	3,410	1,850	1,650	1,570	1,600	1,600	12,800	*13,000	13,900	13,000	10,700
15	2,510	2,680	1,830	1,670	1,560	1,590	1,540	12,700	13,000	14,000	13,400	10,700
16	2,490	2,180	1,830	b1,690	1,540	1,570	1,520	12,600	12,900	14,300	13,500	10,700
17	2,600	2,160	1,830	b1,710	1,520	1,570	1,500	12,600	12,900	14,300	13,500	10,400
18	3,140	2,160	1,850	b1,720	1,520	1,570	1,460	*12,400	12,900	14,300	13,400	10,200
19	3,500	2,160	1,880	b1,700	1,520	1,570	1,460	12,400	12,900	14,300	13,500	10,200
20	3,500	2,160	1,880	b1,690	1,540	1,570	1,460	12,300	12,800	14,300	13,100	10,200
21	3,480	2,180	1,880	b1,680	1,560	1,600	1,700	12,400	12,800	14,400	13,000	10,200
22	3,480	2,160	1,920	b1,670	1,540	1,620	2,040	12,300	12,800	14,500	12,700	10,300
23	3,550	2,100	1,950	b1,670	1,540	1,650	2,410	12,300	13,100	14,000	11,000	10,200
24	3,500	1,990	1,880	1,670	b1,550	1,700	2,830	12,300	13,200	14,000	10,900	9,850
25	3,460	*1,970	1,880	1,650	1,560	1,780	3,080	12,200	13,300	14,800	10,700	6,700
26	3,480	1,950	1,880	1,630	*1,540	1,940	3,050	12,200	13,300	14,800	9,780	5,980
27	3,300	1,970	b1,880	1,630	b1,550	1,990	3,100	12,200	13,300	14,900	9,780	*5,980
28	3,500	1,950	b1,880	*1,620	b1,550	1,970	3,100	12,200	13,300	15,000	9,710	5,980
29	*3,480	1,950	*b1,880	1,590	b1,550	*1,780	*3,120	12,400	13,200	15,000	9,680	5,710
30	3,520	1,900	b1,880	1,630	-------	1,650	3,100	13,100	13,200	14,300	8,640	5,620
31	3,480	-------	1,880	1,620	-------	1,440	-------	13,100	-------	14,200	8,540	-------
Total	92,300	81,660	58,040	52,460	45,530	50,620	59,100	300,550	395,700	434,500	387,230	271,670
Mean	2,977	2,722	1,872	1,692	1,570	1,633	1,970	9,695	13,190	14,020	12,490	9,056
Ac-ft	183,100	162,000	115,100	104,100	90,310	100,400	117,200	596,100	784,900	861,800	768,100	538,800

Calendar year 1959: Max 14,700 Min 1,830 Mean 6,106 Ac-ft 4,421,000
Water year 1959-60: Max 15,000 Min 1,360 Mean 6,091 Ac-ft 4,422,000

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

395. Henrys Fork near Lake, Idaho

Location.--Lat 44°36', long 111°21', in SW¼ sec.26, T.15 N., R.43 E., on left bank a quarter of a mile downstream from Henrys Lake Dam and 4 miles south of former Lake Post Office.

Drainage area.--98 sq mi, approximately, including 6 sq mi of Dry Creek basin.

Records available.--May 1920 to September 1960 (prior to October 1929, irrigation seasons only). Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 6,450.62 ft above mean sea level, levels by Bureau of Reclamation (Corps of Engineers bench mark). Prior to September 1922, staff gage at site 3 miles downstream and below mouth of Dry Creek at different datum.

Average discharge.--31 years (1929-60), 47.2 cfs (34,170 acre-ft per year).

Extremes.--Maximum discharge during year, 299 cfs Sept. 8 (gage height, 2.97 ft); minimum not determined, occurred sometime during period of no gage-height record.
1920-60: Maximum discharge, 907 cfs June 13, 1926 (gage height, 5.40 ft); no flow for part of each day Sept. 17, 18, 1952.
Outflow from Henrys Lake was reported to have ceased entirely late in summer of 1889.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Henrys Lake (see p. 39). Since 1923, floodwaters of Dry (Tyghee) Creek have been diverted at times into Henrys Lake (some diverted during 1960).

Revisions.--WSP 1217: Drainage area.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					†70		56	57	54	72	262	142
2							56	57	54	72	*260	106
3							56	57	54	73	262	71
4							56	57	56	73	262	*71
5							56	57	56	73	257	69
						70						
6							56	57	56	74	262	68
7							56	57	61	145	262	68
8	†4.0						56	57	62	202	262	56
9							56	57	63	202	264	34
10							56	57	62	202	267	34
				3								
11						*80	56	57	63	202	267	35
12							90	*56	57	63	*204	269	36
13							90	57	57	65	204	271	37
14							90	56	57	66	204	274	37
15							90	56	57	71	246	276	37
	4	4	3		70							
16							90	56	57	69	292	276	36
17							77	57	*57	71	295	276	36
18			†3.3				56	59	57	71	292	276	36
19							56	60	55	71	290	274	35
20		†3.5					56	60	55	72	287	274	35
21				3			56	61	54	*71	285	274	34
22				*3			56	59	54	72	283	271	34
23				3			56	57	55	71	280	274	26
24				3			56	57	54	69	276	271	17
25				3			56	57	53	72	276	224	16
26				40			56	57	51	71	·274	151	15
27				70			56	57	53	71	269	149	14
28				70			56	57	53	71	271	149	*13
29				70			56	57	53	71	269	147	12
30				70	-------		56	57	54	71	264	*146	12
31		-------		70	-------		56	-------	54	-------	264	144	-------
Total	124	120	93	465	2,030	2,091	1,709	1,724	1,970	6,715	7,553	1,272
Mean	4	4	3	15.0	70	67.5	57.0	55.6	65.7	217	244	42.4
Ac-ft	246	238	184	922	4,030	4,150	3,390	3,420	3,910	13,320	14,980	2,520

Calendar year 1959: Max 215 Min - Mean 36.3 Ac-ft 26,250
Water year 1959-60: Max 295 Min - Mean 70.7 Ac-ft 51,310

* Discharge measurement made on this day.
† Result of discharge measurement.
Note.--No gage-height record Oct. 1 to Apr. 13, Apr. 25 to May 16; discharge estimated on basis of 6 discharge measurements and records of gate openings and closures of Henrys Lake Dam.

420. Island Park Reservoir near Island Park, Idaho

Location.--Lat 44°25'11", long 111°23'52", a quarter of a mile south of quarter corner between secs.28 and 29, T.13 N., R.43 E., in gatehouse shaft at dam on Henrys Fork, three-eighths of a mile upstream from Buffalo River and 2 miles west of Island Park Post Office.

Drainage area.--481 sq mi.

Records available.--November 1938 to September 1960.

Gage.--Electric-tape gage read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents during year, 136,990 acre-ft Apr. 13 (elevation, 6,303.22 ft); minimum, 12,760 acre-ft Sept. 30 (elevation, 6,270.66 ft).
1938-60: Maximum contents, 140,515 acre-ft May 13, 1957 (elevation, 6,303.65 ft); minimum after first filling of reservoir in May 1939, that of Sept. 30, 1960.

Remarks.--Reservoir is formed by earth-fill rock-faced dam. Storage began Nov. 15, 1938. Capacity, 127,265 acre-ft between elevations 6,239 (normal low-water level with outlet gates open) and 6,302 ft (crest of spillway). Natural flow passing through reservoir when outlet gates are open limits withdrawal of storage to elevation 6,230 ft (sill of lower outlet). Dead storage negligible. Water is used for irrigation of lands in Fremont-Madison irrigation district between Ashton and Rexburg. Figures given herein represent usable contents.

Cooperation.--Reservoir elevations and capacity table furnished by Bureau of Reclamation.

Revisions.--WSP 1217: Drainage area.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

6,270.0	12,100	6,285.0	37,560
6,272.0	14,200	6,290.0	54,800
6,274.0	16,580	6,295.0	79,620
6,276.0	19,250	6,300.0	112,240
6,280.0	25,840	6,304.0	143,430

Contents, in acre-feet, at 8 a.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19,780	26,980	55,930	66,740	95,440	123,320	133,990	135,040	134,960	118,340	55,550	29,440
2	19,860	28,040	56,350	67,600	96,480	124,160	133,910	135,450	134,800	116,040	53,570	29,060
3	19,890	29,080	56,520	68,510	97,480	125,010	133,830	136,100	134,880	113,700	51,970	28,530
4	19,920	30,190	56,650	69,390	98,340	125,860	133,750	136,420	135,040	112,100	50,460	28,020
5	19,930	31,140	56,900	69,910	99,340	126,720	133,830	136,580	134,960	110,160	48,800	27,540
6	19,940	32,060	57,120	70,960	100,420	127,960	133,910	136,580	135,120	108,380	47,200	26,980
7	19,980	33,060	57,340	72,120	101,440	128,910	133,990	136,580	135,040	106,540	45,490	26,380
8	20,000	34,040	57,680	73,100	102,520	130,010	134,240	136,420	134,960	104,460	43,760	25,740
9	20,050	35,050	57,860	74,300	103,840	130,640	134,800	136,260	135,040	102,600	42,020	25,010
10	20,360	36,040	58,080	75,300	104,800	131,200	135,280	136,100	134,960	100,690	40,340	24,560
11	20,460	37,080	58,340	76,300	105,840	131,590	135,770	136,020	134,880	98,810	38,790	23,910
12	20,540	37,960	58,560	77,320	106,680	132,070	136,580	136,020	134,720	97,220	37,310	23,320
13	20,740	38,880	58,780	78,400	107,670	132,470	136,990	136,100	134,800	95,360	35,900	22,250
14	20,760	39,860	59,000	79,320	108,800	132,870	136,660	135,860	134,720	93,360	34,840	21,120
15	20,770	40,800	59,140	80,140	109,660	133,110	136,580	135,770	134,880	91,240	33,860	19,960
16	20,770	41,700	59,230	81,140	110,730	133,190	136,100	135,770	134,480	89,090	33,100	18,860
17	20,760	42,590	59,450	82,080	111,590	133,350	135,610	135,450	134,320	86,850	32,710	17,780
18	20,740	43,540	59,540	82,970	112,460	133,510	135,360	135,530	134,080	84,600	32,420	16,780
19	20,720	44,500	59,680	83,870	113,480	133,510	135,200	135,280	134,400	82,320	32,280	15,790
20	20,710	45,420	59,810	84,600	114,420	133,510	135,360	135,120	133,590	80,140	32,230	15,540
21	20,700	46,390	59,940	85,440	115,300	133,510	135,450	134,880	133,270	77,770	32,230	15,080
22	20,650	47,340	60,080	86,300	116,260	133,430	135,770	135,280	133,110	75,580	32,260	14,800
23	20,740	48,510	60,170	87,220	117,150	133,510	136,020	135,280	131,990	73,150	32,500	14,540
24	20,760	49,400	60,310	88,160	118,040	133,430	136,180	135,360	130,720	70,960	32,420	14,270
25	20,760	50,460	60,860	89,030	119,080	133,510	135,940	135,200	129,700	69,130	32,380	13,980
26	20,700	51,380	61,130	89,910	119,840	133,590	135,610	134,960	127,960	66,940	32,260	13,710
27	21,400	52,280	62,060	90,920	120,660	133,510	135,280	134,880	126,480	64,870	31,820	13,420
28	22,560	53,200	63,000	91,880	121,580	133,670	135,280	135,040	124,860	62,720	31,420	13,100
29	23,680	54,140	63,900	92,710	122,490	133,990	135,200	135,040	122,560	61,220	30,930	12,820
30	24,740	55,090	64,820	93,540	--------	133,910	135,200	135,280	120,290	59,320	30,440	12,760
31	25,880	-------	65,800	94,390	--------	134,160	--------	135,040	--------	56,860	29,940	-------
(†)	6280.02	6,290.07	6,292.43	6,297.40	6,301.38	6,302.87	6,303.00	6,302.98	6,301.09	6,290.49	6,281.98	6,270.66
(‡)	+6,095	+29,210	+10,710	+28,590	+28,100	+11,670	+1,040	-160	-14,750	-63,430	-26,920	-17,180

Calendar year 1959..... ‡ -7,025
Water year 1959-60..... ‡ -7,025

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

425. Henrys Fork near Island Park, Idaho

Location.--Lat 44°24'59", long 111°23'41", in SW¼ sec.28, T.13 N., R.43 E., on left bank an eighth of a mile downstream from Island Park Dam, a quarter of a mile upstream from Buffalo River, and 1 mile west of Island Park Post Office.

Drainage area.--481 sq mi. Mean altitude, 7,080 ft.

Records available.--January 1933 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,225 ft (from river-profile map). Prior to May 15, 1935, staff gage at site about three-quarters of a mile upstream at different datum. May 15 to Nov. 30, 1935, water-stage recorder at site 1,000 ft downstream at different datum.

Average discharge.--27 years, 552 cfs (399,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,950 cfs July 18 (gage height, 5.04 ft); minimum daily, 7 cfs Oct. 27 to Nov. 30.
1933-60: Maximum discharge, 2,770 cfs Apr. 26, 1946 (gage height, 6.15 ft); minimum daily, 1 cfs Nov. 16 to Dec. 7, 1938.

Remarks.--Records good. Flow regulated by Henrys Lake (see p. 39) and Island Park Reservoir (see preceding page). About 14,000 acres irrigated by diversions above station, a considerable portion of which consists of partly sub-irrigated meadows.

Cooperation.--Gage-height record furnished by Bureau of Reclamation.

Revisions.--WSP 1217: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 25, Dec. 27 to Mar. 6, Aug. 1 to Sept. 30)

1.4	7	2.0	145	4.0	1,160
1.5	20	2.5	338	5.0	1,890
1.7	60	3.0	584	6.0	2,690

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	610	7	216	10	10	12	486	626	605	1,600	1,730	878
2	610	7	399	10	10	12	471	679	605	1,600	*1,700	878
3	610	7	399	10	10	12	462	762	610	1,520	1,620	878
4	610	7	399	10	10	12	462	818	632	1,470	1,580	878
5	616	7	399	10	10	12	467	818	632	1,470	1,610	872
6	621	7	399	10	10	17	476	818	637	1,500	1,640	866
7	626	7	399	10	10	20	496	818	621	1,560	1,630	866
8	621	7	399	10	10	127	526	794	610	1,640	1,640	866
9	621	7	399	10	10	176	568	702	610	1,600	1,630	872
10	621	7	399	10	10	219	648	756	600	1,580	1,620	872
11	621	7	399	10	10	*244	762	750	595	1,580	1,580	866
12	530	7	399	10	10	280	*884	762	605	1,640	1,490	1,020
13	610	7	399	10	10	306	920	772	595	*1,690	1,370	1,130
14	616	7	409	10	10	333	908	734	584	1,760	1,280	1,110
15	616	7	409	10	10	366	848	712	605	1,810	1,220	1,100
16	600	7	409	10	10	385	778	728	595	1,840	1,130	1,100
17	600	7	409	10	11	399	718	*685	547	1,850	1,020	1,090
18	595	7	*409	10	11	399	679	669	542	1,900	908	1,080
19	*595	7	409	10	11	404	674	658	552	1,940	778	731
20	595	*7	409	10	11	404	690	648	536	1,920	740	772
21	595	7	409	10	11	409	690	621	*491	1,910	740	718
22	589	7	409	*10	11	414	706	642	827	1,910	778	674
23	589	7	409	10	11	414	762	648	1,080	1,860	818	674
24	589	7	404	10	11	419	778	658	1,110	1,790	812	679
25	589	7	404	10	11	419	734	632	1,230	1,820	806	669
26	394	7	207	10	11	419	690	605	1,210	1,840	866	653
27	7	7	10	10	11	428	658	600	1,300	1,760	890	653
28	7	7	10	10	11	457	648	621	1,550	1,730	884	*642
29	7	7	10	10	11	476	632	621	1,640	1,710	*884	558
30	7	7	10	10	-------	476	616	610	1,620	1,720	884	496
31	7	-------	10	10	-------	491	-------	616	-------	1,740	878	-------
Total	15,524	210	10,159	310	303	8,961	19,837	21,583	23,976	53,280	37,156	25,141
Mean	501	7.0	328	10.0	10.4	289	661	696	799	1,719	1,199	838
Ac-ft	30,790	417	20,150	615	601	17,770	39,350	42,810	47,560	105,700	73,700	49,870

Calendar year 1959: Max 2,210 Min 6 Mean 562 Ac-ft 407,200
Water year 1959-60: Max 1,940 Min 7 Mean 591 Ac-ft 429,300

* Discharge measurement made on this day.
Note.--Discharge computed from once-daily staff-gage readings Oct. 31 to Nov. 30, Dec. 26 to Mar. 17.

460. Henrys Fork near Ashton, Idaho

Location.--Lat 44°05', long 111°30', in sec.28, T.9 N., R.42 E., on right bank a quarter of a mile downstream from powerplant and 3 miles west of Ashton.

Drainage area.--1,040 sq mi. Mean altitude, 6,710 ft.

Records available.--April 1890 to June 1891, August 1902 to June 1909, April 1920 to September 1960 (seasonal records only 1920-26). Monthly discharge only for some periods, published in WSP 1317. Published as Henry Fork in canyon, above Fall River 1890-91, and as North Fork of Snake River near Ora 1902-9.

Gage.--Water-stage recorder. Altitude of gage is 5,095 ft (from river-profile map). April 1890 to June 1891, staff gage at site 6 miles downstream at different datum. August 1902 to Apr. 15, 1921, staff gage and Apr. 16, 1921, to May 3, 1930, water-stage recorder, at site 1½ miles downstream at different datum.

Average discharge.--40 years (1902-8, 1926-60), 1,360 cfs (984,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,680 cfs Aug. 1; maximum gage height, 8.07 ft Aug. 7; minimum discharge, 53 cfs Sept. 20 (gage height, 5.45 ft); minimum daily, 570 cfs Nov. 13, 14.
1890-91, 1902-9, 1920-60: Maximum discharge, 6,220 cfs May 7, 1925 (gage height, 3.11 ft, site and datum then in use); minimum, that of Sept. 20, 1960; minimum daily, 260 cfs Nov. 26, 1958.

Remarks.--Records good. Diurnal fluctuation caused by powerplant above station. Flow regulated by Henrys Lake (see p. 39) and Island Park Reservoir (see p. 29). About 18,000 acres irrigated by diversions above station.

Cooperation.--Gage-height record during nonirrigation season furnished by Utah Power and Light Co.

Revisions (water years).--WSP 1217: Drainage area. WSP 1347: 1890-91.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,390	656	792	707	781	738	1,330	1,650	1,580	2,320	2,490	1,530
2	1,390	656	869	656	792	760	1,340	1,790	1,560	2,340	2,490	1,600
3	1,450	665	1,130	728	*792	760	1,380	2,180	1,560	2,240	2,420	1,550
4	1,440	676	1,030	728	707	770	1,500	2,260	1,610	2,080	2,300	1,560
5	1,470	656	1,050	*728	760	770	1,500	2,200	1,630	2,120	2,340	1,580
6	1,440	570	1,130	718	781	814	1,600	2,140	1,580	2,100	2,380	1,520
7	1,520	738	1,080	718	781	836	1,770	2,140	1,560	2,100	2,550	1,650
8	1,480	728	1,030	803	803	814	1,770	2,140	1,550	2,200	2,530	1,580
9	1,530	665	1,100	758	803	892	1,900	2,120	1,530	2,240	2,530	1,470
10	1,560	696	1,100	728	814	916	2,160	2,120	1,520	2,160	2,530	1,560
11	1,530	686	1,040	718	781	952	2,040	2,220	1,530	2,120	2,550	1,580
12	1,470	707	1,060	781	707	1,060	2,120	2,220	1,530	2,120	2,490	1,560
13	1,330	570	1,090	749	760	1,100	2,040	2,240	1,550	2,240	2,340	1,980
14	1,450	570	1,030	686	728	1,200	*2,100	2,120	1,530	2,280	2,120	1,940
15	1,440	707	1,120	707	696	*1,210	1,920	1,920	1,530	2,300	2,140	1,920
16	1,440	707	1,120	696	718	1,170	1,750	1,860	1,530	2,320	2,100	1,900
17	1,450	696	1,120	656	728	1,230	1,700	1,860	1,480	2,380	2,020	1,860
18	1,440	728	1,100	676	718	1,210	1,650	1,830	1,440	2,470	1,700	1,860
19	1,440	803	1,100	646	718	1,230	1,650	1,700	1,450	2,470	1,550	1,900
20	1,400	770	1,090	665	718	1,230	1,700	1,700	1,420	2,510	1,420	1,240
21	1,420	792	1,080	781	728	1,260	1,660	1,720	1,340	2,530	1,330	1,400
22	1,450	760	1,080	760	718	1,270	1,810	1,700	1,380	2,490	1,390	1,300
23	1,500	770	1,050	760	646	1,280	1,880	*1,730	1,730	2,530	1,600	1,260
24	1,500	869	1,120	770	665	1,270	1,900	1,840	1,880	2,360	1,580	1,260
25	1,420	825	1,160	749	686	1,300	1,720	1,730	1,900	2,280	1,480	1,270
26	*1,380	656	1,090	792	676	1,420	1,650	1,650	2,060	2,360	1,470	1,270
27	1,060	*686	686	770	646	1,450	1,650	1,610	*1,980	*2,400	1,600	1,240
28	627	728	580	814	696	1,500	1,660	1,630	2,140	2,320	1,610	*1,320
29	665	728	676	761	696	1,300	1,650	1,660	2,420	2,300	1,530	1,230
30	646	738	707	814	-------	1,470	1,650	1,550	2,340	2,340	1,520	1,100
31	627	-------	707	781	-------	1,420	-------	1,600	-------	2,380	*1,550	-------
Total	41,355	21,202	31,117	22,794	21,243	34,802	52,150	58,830	49,820	71,400	61,650	45,990
Mean	1,334	707	1,004	735	733	1,123	1,738	1,898	1,661	2,303	1,989	1,533
Ac-ft	82,030	42,050	61,720	45,210	42,130	60,030	103,400	116,700	98,820	141,600	122,300	91,220

Calendar year 1959: Max 2,950 Min 429 Mean 1,362 Ac-ft 986,400
Water year 1959-60: Max 2,550 Min 570 Mean 1,400 Ac-ft 1,061,000

* Discharge measurement made on this day.

470. Diversions from Falls River above gaging station near Squirrel, Idaho

Above Squirrel gaging station, two canals divert water from Falls River for irrigation. Records available for part of each irrigation season from 1919 to 1960. Discharge of canals computed from daily or twice-weekly staff-gage readings, or interpolated, and combined to show total diverted flow. Records good.

Discharge, in cubic feet per second, May to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	91	242	228	66
2								0	105	237	222	66
3								0	105	233	222	75
4								0	107	231	222	75
5								0	140	231	220	74
6								0	173	233	220	95
7								0	183	231	220	95
8								0	191	236	214	94
9								0	185	208	214	94
10								0	207	2.8	202	94
11								0	202	223	192	63
12								0	211	225	190	63
13								0	232	225	189	63
14								0	240	226	190	63
15								0	234	227	188	64
16								0	257	228	192	63
17								0	238	228	171	63
18								0	244	226	10	63
19								0	236	231	147	63
20								0	234	229	147	63
21								0	239	237	147	62
22								0	237	238	145	63
23								0	266	236	54	63
24								0	261	236	84	63
25								0	262	235	83	63
26								0	252	236	99	63
27								0	266	234	95	62
28								0	269	234	89	62
29								0	263	240	80	62
30					-------			101	244	231	66	62
31		-------			-------		-------	91	-------	228	66	-------
Total								192	6,374	7,143	4,808	2,084
Mean								6.2	212	230	155	69.5
Ac-ft								381	12,640	14,170	9,540	4,130

Calendar year	: Max	Min	Mean	Ac-ft
The period:	: Max -	Min -	Mean -	Ac-ft 40,860

475. Falls River near Squirrel, Idaho
(Formerly published as Fall River near Squirrel)

Location.--Lat 44°04'15", long 111°14'25", in NE¼ sec.34, T.9 N., R.44 E., on right bank a quarter of a mile upstream from road bridge, half a mile downstream from headgates of Marysville Canal, 4 miles northeast of Squirrel, and 10 miles upstream from Conant Creek.

Drainage area.--351 sq mi. Mean altitude, 7,520 ft.

Records available.--August 1902 to June 1909 (gage heights only prior to October 1904), May 1918 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Published as Fall River at Wilson's Mill, near Marysville 1902, as Fall River near Marysville 1903, as Fall River at Fremont 1904-9, and as Fall River near Squirrel 1918-59.

Gage.--Water-stage recorder. Datum of gage is 5,589 ft above mean sea level, datum of 1929. Prior to Jan. 1, 1904, staff gage at site 3 miles upstream at different datum. Jan. 1, 1904, to Nov. 6, 1937, staff gage at site 200 ft upstream at different datum. Nov. 7, 1937, to Oct. 7, 1948, staff gage at site 100 ft downstream at datum 0.29 ft lower.

Average discharge.--46 years (1904-8, 1918-60), 753 cfs (545,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,750 cfs June 4 (gage height, 5.12 ft); minimum, 217 cfs Feb. 28 (gage height, 0.63 ft).
1904-9, 1918-60: Maximum discharge observed, 6,440 cfs June 27, 1927; minimum observed, 72 cfs Feb. 9, 1930.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Flow since October 1939 partly regulated by Grassy Lake (see p. 39). About 16,000 acres irrigated from two diversions above station.

Revisions (water years).--WSP 1217: Drainage area. WSP 1347: 1905.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 4		Apr. 5 to Sept. 30			
0.9	325	1.0	320	2.5	1,580
1.2	450	1.2	430	3.0	2,120
1.6	700	1.5	655	4.0	3,310
		2.0	1,090	5.0	4,590

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	505	500	470	350	*414	350	405	876	2,930	451	365	352
2	500	494	470	340	410	380	389	1,040	3,130	444	365	356
3	500	500	483	340	401	414	389	1,180	3,780	437	365	352
4	500	529	466	340	401	428	410	1,140	4,300	424	360	352
5	494	478	466	340	410	432	472	1,140	4,190	417	356	347
6	494	505	460	360	405	441	545	1,240	*3,780	417	356	342
7	578	505	450	370	405	436	672	1,340	3,620	410	356	342
8	541	505	440	380	418	436	689	1,440	3,330	430	356	342
9	578	500	450	380	414	423	782	1,680	2,970	430	356	338
10	665	500	450	380	397	405	910	2,020	2,780	424	356	338
11	578	494	440	380	393	405	868	2,310	2,520	417	365	342
12	624	494	440	380	393	405	868	2,480	2,370	424	356	342
13	598	466	440	365	393	385	774	2,650	2,420	417	356	342
14	553	456	430	350	389	385	*757	2,160	2,690	410	356	347
15	547	460	420	350	397	*385	689	1,930	2,890	398	356	347
16	547	465	420	350	393	385	639	1,860	3,090	398	404	342
17	523	470	420	340	389	373	599	1,680	2,670	391	424	342
18	511	480	410	340	390	373	631	1,540	2,080	391	372	342
19	*511	500	410	330	390	373	664	1,360	1,910	417	360	338
20	500	*500	400	330	390	381	639	1,230	1,810	404	*356	338
21	494	505	*405	350	390	385	639	1,270	1,390	398	352	338
22	517	511	410	370	380	393	791	1,180	1,120	398	378	338
23	693	517	410	380	370	397	1,020	*1,310	1,070	391	424	338
24	598	505	405	390	360	401	876	1,350	973	391	360	338
25	565	500	410	390	360	405	757	1,290	910	384	352	338
26	529	483	405	400	360	414	714	1,330	757	384	352	338
27	517	470	400	405	350	418	698	1,340	*807	*384	352	338
28	511	470	385	410	340	432	723	1,400	515	378	352	338
29	517	465	380	415	330	418	732	1,630	493	372	352	338
30	505	470	360	415	------	414	808	1,960	465	365	352	*334
31	500	------	360	415	------	414	------	2,550	------	372	352	------
Total	16,793	14,697	13,165	11,435	11,232	12,486	20,549	48,906	67,560	12,568	11,274	10,259
Mean	542	490	425	369	387	403	685	1,578	2,252	405	364	342
Ac-ft	33,310	29,150	26,110	22,680	22,280	24,770	40,760	97,000	134,000	24,930	22,360	20,350

Calendar year 1959: Max 3,510 Min 345 Mean 698 Ac-ft 505,400
Water year 1959-60: Max 4,300 Min 330 Mean 686 Ac-ft 497,700

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 15-18, Nov. 27 to Dec. 2, Dec. 6 to Jan. 31, Feb. 18 to Mar. 2.

490. Diversions from Falls River between Squirrel and Chester gaging stations, Idaho

Between Squirrel and Chester gaging stations, nine canals divert water from Falls River for irrigation. Records available for part of each irrigation season from 1919 to 1960. Discharge of canals computed from daily or twice-weekly staff-gage readings, or interpolated, and combined to show total diverted flow. Records good.

Discharge, in cubic feet per second, 1960

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	264	881	460	437	354	16	383	767	441	429	386
2	268	919	468	452	364	17	403	744	446	439	378
3	268	980	425	448	369	18	419	696	438	414	384
4	214	927	440	440	357	19	407	709	476	395	386
5	230	853	431	440	345	20	410	711	474	388	377
6	230	817	439	433	337	21	440	697	335	387	383
7	237	813	434	426	335	22	455	720	445	403	386
8	244	761	457	427	345	23	459	743	452	429	383
9	195	758	476	404	345	24	474	715	454	376	370
10	230	763	481	390	348	25	479	721	442	368	363
11	216	756	467	401	353	26	496	689	445	366	364
12	302	751	483	412	370	27	547	624	441	352	364
13	361	769	485	417	367	28	616	544	436	343	364
14	339	622	473	422	381	29	682	515	439	342	363
15	346	618	463	420	397	30	665	472	429	345	354
						31	770	-	448	343	-
Total							12,029	22,055	13,923	12,488	10,972
Mean							388	735	449	403	366
Runoff in acre-feet							23,860	43,750	27,620	24,770	21,760

The period: Ac-ft 141,800

495. Falls River near Chester, Idaho
(Formerly published as Fall River near Chester)

Location.--Lat 44°01', long 111°34', in sec.13, T.8 N., R.41 E., on right bank 1,000 ft upstream from highway bridge, half a mile upstream from mouth, and 1¼ miles north of Chester.

Drainage area.--520 sq mi, approximately. Mean altitude, 6,970 ft.

Records available.--April 1920 to September 1960 (irrigation seasons only). Prior to October 1959, published as Fall River near Chester.

Gage.--Water-stage recorder. Datum of gage is 5,051.9 ft above mean sea level, datum of 1929. Prior to Aug. 9, 1920, staff gage at site 200 ft downstream at same datum. Aug. 9, 1920, to Apr. 28, 1921, staff gage at present site and datum.

Extremes.--Maximum discharge during period, 4,410 cfs June 5 (gage height, 5.34 ft); minimum, 10 cfs June 29 (gage height, 0.80 ft).
1920-60: Maximum discharge recorded, 6,380 cfs June 27, 1927 (gage height, 6.60 ft); minimum recorded, 9 cfs Aug. 7, 1923 (gage height, 1.01 ft).

Remarks.--Records excellent. Flow since October 1939 partly regulated by Grassy Lake (see p. 39). About 42,000 acres of land irrigated by diversions above station. Station is below all diversions from Falls River.

Revisions.--WSP 1217: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 1-19)

0.8	11	1.4	81	3.0	900
.9	17	1.6	127	4.0	1,990
1.0	25	2.0	265	5.0	3,560
1.2	48	2.5	515	6.0	5,400

Discharge, in cubic feet per second, 1960

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	-	762	2,190	35	19	100	16	-	1,810	2,800	24	70	57
2	-	909	*2,350	40	16	96	17	-	1,600	2,200	27	162	58
3	-	1,130	3,000	46	16	87	18	-	1,400	1,700	26	112	60
4	-	1,170	3,760	46	22	96	19	-	1,210	1,430	21	83	56
5	-	1,120	3,900	34	20	96	20	-	1,000	1,320	23	72	43
6	-	1,220	3,440	28	19	65	21	-	954	945	77	61	40
7	-	1,370	3,250	27	17	54	22	-	882	587	30	54	42
8	-	1,470	2,960	37	15	43	23	-	900	482	20	155	42
9	-	1,790	2,560	27	19	43	24	-	1,060	395	17	127	43
10	-	2,070	2,280	26	32	43	25	-	963	328	16	98	46
11	-	2,460	2,020	24	46	62	26	-	963	192	16	81	47
12	-	2,530	1,870	23	37	63	27	-	927	*81	*19	83	43
13	-	2,750	1,890	22	27	54	28	*666	936	35	21	85	35
14	-	2,300	2,200	23	22	58	29	658	1,070	27	21	87	38
15	-	1,950	2,340	22	30	68	30	690	1,290	22	22	92	*42
							31	-	1,790	-	23	*87	-
Total							-		43,756	52,554	863	1,866	1,720
Mean							-		1,411	1,752	27.8	60.2	57.3
Runoff in acre-feet							-		86,790	104,200	1,710	3,700	3,410

The period: Ac-ft 199,800

* Discharge measurement made on this day.

500. Diversions from Henrys Fork between Ashton and St. Anthony gaging stations, Idaho

Between Ashton and St. Anthony gaging stations, seven canals divert water from Henrys Fork for irrigation. Records available each irrigation season from 1919 to 1960. Discharge of canals computed from daily or twice-weekly staff-gage readings, or interpolated, and combined to show total diverted flow. Records good.

Discharge, in cubic feet per second, 1960

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	654	1,620	1,390	1,490	783	16	1,450	1,510	1,570	1,150	829
2	784	1,660	1,380	1,450	752	17	1,520	1,430	1,570	1,120	827
3	853	1,730	1,320	1,440	735	18	1,480	1,440	1,580	997	829
4	946	1,710	1,310	1,440	754	19	1,460	1,400	1,580	935	781
5	950	1,580	1,320	1,460	757	20	1,440	1,450	1,580	915	774
6	901	1,550	1,320	1,470	842	21	1,470	1,410	1,560	873	750
7	937	1,680	1,330	1,460	827	22	1,490	1,250	1,550	896	820
8	1,000	1,600	1,370	1,450	824	23	1,490	1,290	1,570	908	787
9	1,060	1,510	1,410	1,430	859	24	1,600	1,360	1,580	874	788
10	1,290	1,400	1,460	1,330	845	25	1,620	1,360	1,550	805	771
11	1,320	1,370	1,480	1,360	859	26	1,670	1,440	1,540	795	778
12	1,320	1,380	1,470	1,260	865	27	1,610	1,390	1,520	779	794
13	1,490	1,420	1,480	1,230	861	28	1,570	1,370	1,520	794	794
14	1,480	1,420	1,550	1,190	833	29	1,570	1,420	1,550	790	842
15	1,470	1,450	1,570	1,180	873	30	1,560	1,430	1,520	780	882
						31	1,640	-	1,510	798	-
Total							41,095	43,970	45,990	34,849	24,315
Mean							1,326	1,466	1,484	1,124	810
Runoff in acre-feet							81,510	87,210	91,220	69,120	48,230

The period: Ac-ft 377,300

505. Henrys Fork at St. Anthony, Idaho

Location.--Lat 43°58'00", long 111°40'20", in NW¼ sec.6, T.7 N., R.41 E., on right bank half a mile upstream from bridge on main street of St. Anthony and 6 miles downstream from Falls River.

Drainage area.--1,770 sq mi, approximately. Mean altitude, 6,670 ft.

Records available.--March 1919 to September 1960 (irrigation seasons only).

Gage.--Water-stage recorder. Datum of gage is 4,950.7 ft above mean sea level, datum of 1929. March 1919 to May 7, 1922, staff gages and May 8, 1922, to Aug. 14, 1931, water-stage recorder, at site 150 ft downstream at datum 0.08 ft lower.

Extremes.--Maximum discharge recorded during period, 4,200 cfs June 5 (gage height, 5.12 ft); minimum daily, 435 cfs Sept. 30.
1919-60: Maximum discharge recorded, 9,030 cfs May 8, 1925 (gage height, 6.78 ft, present datum); minimum daily recorded, 413 cfs July 22, 1931.

Remarks.--Records excellent. Diversions above station for irrigation. Flow regulated by powerplant 17 miles above station and by Henrys Lake (see p. 39), Island Park Reservoir (see p. 29), and Grassy Lake Reservoir (see p. 39).

Revisions.--WSP 1217: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

2.7	400	4.0	1,760
3.1	660	5.0	3,870
3.5	1,040		

Discharge, in cubic feet per second, 1960

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1	-	1,730	2,130	1,050	1,050	1,020	16	-	2,330	2,940	1,040	963	1,200
2	-	1,910	2,270	1,100	1,060	1,100	17	-	2,070	2,210	1,060	1,110	1,190
3	-	2,440	2,790	1,110	*1,040	1,060	18	-	1,840	1,780	1,100	963	1,190
4	-	2,600	3,630	1,010	930	1,050	19	-	1,550	1,460	1,100	880	1,210
5	-	2,580	3,870	1,020	930	1,030	20	-	1,340	1,360	1,120	785	692
6	-	2,580	*3,490	1,010	930	852	21	-	1,240	1,010	1,200	708	812
7	-	2,690	3,210	*1,010	1,020	985	22	-	1,080	749	1,170	749	749
8	-	2,710	2,920	1,040	996	974	23	-	1,060	941	1,200	974	716
9	-	2,920	2,650	1,060	1,030	860	24	-	1,320	1,020	1,090	1,010	724
10	-	3,090	2,420	974	1,050	870	25	-	1,210	963	996	963	732
11	-	3,460	2,210	952	1,080	900	26	-	1,120	920	1,030	930	724
12	-	*3,490	2,000	920	1,110	900	27	-	1,030	803	1,100	1,030	684
13	-	3,610	2,040	952	1,050	1,100	28	*1,760	1,080	794	1,030	1,080	684
14	-	3,140	2,250	952	930	1,170	29	1,710	1,290	1,050	985	1,030	572
15	-	2,600	2,370	1,050	920	1,190	30	1,680	1,340	1,080	996	1,010	*435
							31	-	1,790	-	1,020	*1,030	-
Total							-		64,240	59,330	32,447	30,341	27,475
Mean							-		2,072	1,978	1,047	979	916
Runoff in acre-feet							-		127,400	117,700	64,360	60,180	54,500

The period May to September: 424,100

* Discharge measurement made on this day.

550. Teton River near St. Anthony, Idaho

Location.--Lat 43°55'40", long 111°36'55", in SW¼ sec.15, T.7 N., R.41 E., on right bank half a mile upstream from railroad bridge and 4 miles southeast of St. Anthony.

Drainage area.--890 sq mi, approximately.

Records available.--January 1890 to September 1893, April 1903 to June 1909, April 1920 to September 1960 (irrigation seasons only 1920-21, 1923-33). Monthly discharge only for some periods, published in WSP 1317. Published as "near Wilford" or "at Chases Ranch" 1890-93.

Gage.--Water-stage recorder. Datum of gage is 4,971.8 ft above mean sea level, datum of 1929. Apr. 5, 1890, to Sept. 30, 1893, staff gage at site 1 mile downstream at different datum. Apr. 23, 1903, to June 30, 1909, staff gage at site three-quarters of a mile upstream at different datum. Apr. 19, 1920, to May 1, 1921, staff gage and May 2, 1921, to Nov. 5, 1933, water-stage recorder, at site 400 ft downstream at different datum.

Average discharge.--27 years (1933-60), 758 cfs (548,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,300 cfs May 13 (gage height, 4.65 ft); minimum daily, 285 cfs Feb. 29.
1890-93, 1903-9, 1920-60: Maximum discharge observed, 5,830 cfs Jure 13, 1893 (gage height, 6.90 ft, site and datum then in use); minimum, 214 cfs Dec. 15, 1955 (gage height, 1.62 ft).

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. About 40,000 acres of land irrigated from diversions above station. Water is diverted at times (since 1939) during irrigation season from Henrys Fork through Cross Cut Canal to Teton River three-quarters of a mile above station (49,600 acre-ft diverted into river during 1960 irrigation season).

Revisions (water years).--WSP 1217: Drainage area. WSP 1347: 1903-6, 1908-9.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.2	340	3.0	875
2.4	430	4.0	1,750
2.7	635	5.0	2,610

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	650	478	420	320	335	295	590	605	1,490	1,060	902	*560
2	658	478	430	310	335	310	539	605	1,500	1,010	902	582
3	598	490	420	310	330	*321	582	*726	1,630	960	*884	605
4	598	504	420	310	325	360	893	790	1,730	947	884	575
5	590	454	410	310	325	390	1,300	742	1,630	978	858	612
6	582	430	405	310	325	400	1,670	702	*1,550	979	850	605
7	612	525	400	310	330	405	1,550	710	1,440	*980	850	605
8	635	478	400	315	335	410	1,240	766	1,440	893	824	612
9	628	484	400	320	335	400	1,250	884	1,460	978	816	620
10	642	472	400	325	335	380	1,380	1,030	1,440	947	832	612
11	642	478	400	330	330	390	1,170	1,320	1,370	947	850	605
12	568	472	400	330	330	390	920	*1,700	1,350	947	824	598
13	546	466	390	325	330	390	750	2,120	1,350	980	782	590
14	532	450	380	320	330	380	710	1,750	1,390	979	750	598
15	518	445	380	315	330	360	628	1,440	1,500	979	750	635
16	511	450	385	310	330	352	575	1,330	1,890	979	774	628
17	504	460	390	305	330	360	525	1,230	1,820	980	798	635
18	504	*475	390	300	330	364	518	1,130	1,630	962	758	642
19	511	466	385	290	325	372	518	999	1,430	911	672	612
20	518	454	364	290	325	390	546	875	1,390	911	635	582
21	518	454	*372	300	320	405	511	858	1,290	965	612	658
22	518	460	372	310	320	436	518	1,020	1,150	911	612	665
23	539	466	372	320	315	472	582	974	1,080	962	688	672
24	568	478	368	325	310	518	680	974	1,110	883	672	685
25	539	490	360	330	310	605	642	982	1,120	883	635	650
26	*553	442	355	*333	305	832	612	965	1,150	962	620	642
27	532	430	350	340	300	1,090	628	1,010	1,110	911	598	642
28	525	425	345	340	295	1,140	658	1,050	1,070	883	598	642
29	504	420	340	340	285	965	758	1,180	1,060	911	560	*642
30	497	420	330	340	-------	774	680	1,250	1,080	911	546	635
31	484	-------	325	340	-------	*680	-------	1,400	-------	911	546	-------
Total	17,324	13,894	11,858	9,873	9,360	15,336	24,123	33,117	41,630	28,840	22,882	18,626
Mean	559	463	383	318	323	495	804	1,068	1,388	930	738	621
Ac-ft	34,360	27,560	23,520	19,580	18,570	30,420	47,850	65,690	82,570	57,200	45,390	36,940

Calendar year 1959: Max 2,410 Min 303 Mean 723 Ac-ft 523,200
Water year 1959-60: Max 2,120 Min 285 Mean 674 Ac-ft 489,600

Peak discharge (base, 1,800 cfs).--Apr. 6 (11:30 p.m.) 2,180 cfs (4.47 ft); May 13 (2 to 3 p.m.) 2,300 cfs (4.65 ft); June 16 (10:30 p.m.) 2,010 cfs (4.30 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 14-18, 26-30, Dec. 5-17, 21, 22, Dec. 25 to Feb. 29 (no gage-height record Jan. 16-25, Feb. 27-29); discharge estimated on basis of 3 discharge measurements, weather records, and records for Falls River near Squirrel. No gage-height record Mar. 1-13; discharge estimated on basis of 1 discharge measurement, weather records, and records for Falls River near Squirrel.

555. Diversions from Teton River between St. Anthony gaging station and mouth, Idaho

Between St. Anthony gaging station and mouth, 19 canals divert water from Teton River for irrigation of 30,000 acres of land. Records available for part of each irrigation season from 1919 to 1960. Discharge of canals computed from daily or twice-weekly staff-gage readings, or interpolated, and combined to show total diverted flow. Records good.

Discharge, in cubic feet per second, 1960

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	246	1,410	934	803	576	16	804	1,370	891	699	547
2	296	1,480	892	820	579	17	847	1,300	869	758	528
3	252	1,570	853	720	616	18	804	1,260	834	749	569
4	225	1,490	884	764	595	19	809	1,220	858	698	546
5	226	1,480	864	805	621	20	836	1,190	847	641	555
6	224	1,320	885	803	605	21	836	1,160	879	630	598
7	255	1,340	899	775	592	22	1,050	1,160	895	668	610
8	276	1,380	882	795	609	23	1,080	1,020	875	665	572
9	380	1,340	876	753	592	24	1,090	1,020	831	676	571
10	409	1,290	926	764	590	25	1,050	1,040	806	643	550
11	580	1,300	932	773	593	26	1,030	1,060	818	634	534
12	774	1,250	919	648	583	27	1,090	1,010	816	624	516
13	827	1,200	889	680	571	28	1,120	932	787	629	510
14	832	1,220	911	640	553	29	1,150	864	794	592	530
15	829	1,220	894	720	557	30	1,270	906	813	599	515
						31	1,360	-	821	556	-
Total							22,857	36,802	26,874	21,724	17,083
Mean							737	1,227	867	701	569
Runoff in acre-feet							45,340	73,000	53,300	43,090	33,880

The period: Ac-ft 248,600

560. Diversions from Henrys Fork between St. Anthony and Rexburg gaging stations, Idah

Between St. Anthony and Rexburg gaging stations, four canals divert water from Henry Fork for irrigation. Records available for part of each irrigation season from 1919 to 1960. Discharge of canals computed from daily or twice-weekly staff-gage readings, or interpolated, and combined to show total diverted flow. Records good.

Discharge, in cubic feet per second, 1960

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	963	1,330	806	762	662	16	1,260	951	913	692	567
2	971	1,330	803	775	678	17	1,270	843	905	740	581
3	965	1,320	848	760	663	18	1,260	873	956	647	577
4	959	1,260	824	754	672	19	1,210	873	881	637	560
5	961	1,120	827	758	688	20	1,100	869	842	661	541
6	947	1,130	844	775	655	21	1,080	846	779	628	391
7	924	1,080	861	776	616	22	1,080	765	830	646	394
8	918	1,060	814	767	594	23	1,080	803	825	716	381
9	926	981	800	753	607	24	1,100	949	833	653	384
10	1,010	863	794	776	625	25	1,090	884	802	665	385
11	1,100	875	796	772	628	26	1,110	874	779	649	385
12	1,180	797	827	765	620	27	1,090	780	770	631	381
13	1,210	827	852	731	615	28	1,110	748	743	635	378
14	1,220	876	910	722	636	29	1,130	885	760	627	371
15	1,240	933	940	690	627	30	1,130	809	763	628	352
						31	1,240	-	788	625	
Total							33,834	28,534	25,695	21,814	16,214
Mean							1,091	951	829	794	540
Runoff in acre-feet							67,110	56,600	50,970	43,270	32,160

The period: Ac-ft 250,100

565. Henrys Fork near Rexburg, Idaho

Location.--Lat 43°49'34", long 111°54'15", in NE¼ sec. 30, T.6 N., R.39 E., on right bank 200 ft downstream from highway bridge and 6 miles west of Rexburg.

Drainage area.--2,920 sq mi, approximately.

Records available.--April 1909 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Prior to 1911, published as North Fork of Snake River near Rexburg.

Gage.--Water-stage recorder. Datum of gage is 4,807.03 ft above mean sea level, datum of 1929, Pacific Northwest Supplementary Adjustment of 1947. Apr. 13, 1909, to Sept. 28, 1912, staff gage at datum 0.67 ft higher. Sept. 29, 1912, to Apr. 4, 1913, staff gage at present datum.

Average discharge.--51 years, 1,903 cfs (1,378,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,150 cfs Apr. 11 (gage height, 7.30 ft); minimum, 495 cfs May 29 (gage height, 2.56 ft).
1909-60: Maximum daily discharge, 9,490 cfs June 29, 1927; maximum gage height, 9.97 ft May 19, 1927; minimum discharge, 183 cfs Mar. 24-28, 1934 (gage height, 1.45 ft).

Remarks.--Records good except those for period of ice effect, which are fair. Flow regulated by operation of powerplant near Ashton and by Henrys Lake (see following page), Island Park Reservoir (see p. 29), and Grassy Lake (see following page). Diversions for irrigation of about 172,000 acres above station. Station is downstream from all tributaries except inflow from ground water and irrigation waste. Part of groundwater flow escapes westward beneath the Snake River plains above gaging station. Records of water temperatures for the water year 1960 are given in WSP 1721.

Revisions.--WSP 1217: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.6	520	5.0	2,080
2.9	670	6.0	2,920
3.4	950	7.0	3,850
4.0	1,340	8.0	5,000

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,030	1,600	1,470	1,200	1,490	1,300	1,950	1,600	1,110	*1,000	*848	*819
2	1,910	1,590	1,500	1,080	1,500	1,330	1,670	1,630	*1,390	1,070	860	842
3	1,930	1,520	1,630	1,070	*1,510	*1,360	1,620	*1,940	1,600	1,070	872	878
4	1,940	1,460	1,720	1,040	1,400	1,410	1,750	2,440	2,270	952	802	860
5	1,910	1,480	1,650	*1,040	1,450	1,460	2,190	2,600	3,070	878	700	878
6	1,910	1,420	1,690	1,200	1,490	1,470	2,690	2,500	3,280	848	695	854
7	1,920	1,510	1,780	1,350	1,500	1,500	3,210	2,510	2,960	802	720	797
8	2,070	1,650	1,790	1,380	1,520	1,550	3,390	2,560	2,700	830	797	814
9	2,130	1,610	1,780	1,350	1,520	1,560	3,270	2,700	2,630	920	814	764
10	2,260	1,640	1,750	1,340	1,500	1,650	3,470	2,800	2,510	836	842	705
11	2,360	1,560	1,700	1,350	1,460	1,650	3,930	3,000	2,510	780	956	715
12	2,300	1,520	1,730	1,380	1,400	1,690	3,640	3,500	2,440	700	1,060	736
13	2,260	1,500	1,760	1,320	1,440	1,760	3,300	3,430	2,370	650	1,110	731
14	2,180	1,370	1,700	1,300	1,400	1,820	2,900	3,570	2,290	660	1,020	986
15	2,150	1,470	1,800	1,300	1,390	1,870	2,810	3,010	2,410	665	866	1,040
16	2,100	1,600	1,800	1,260	1,380	1,780	2,550	2,390	2,810	695	842	1,100
17	2,100	1,580	1,800	1,230	1,370	1,810	2,210	1,970	2,970	710	1,000	1,110
18	2,060	1,620	1,730	1,280	1,360	1,820	1,970	1,680	2,540	726	1,120	1,160
19	2,020	1,670	1,730	1,200	1,350	1,820	1,780	1,460	1,880	748	992	1,210
20	1,980	1,650	1,730	1,280	1,350	1,820	1,740	1,160	1,700	830	830	1,260
21	2,010	1,590	1,730	1,400	1,350	1,870	1,710	944	1,420	890	710	890
22	2,060	1,570	1,730	1,380	1,340	1,950	1,570	842	1,050	939	640	944
23	2,170	1,560	1,700	1,380	1,280	2,120	1,720	753	797	908	748	920
24	2,450	1,580	1,750	1,400	1,230	2,170	2,060	753	814	890	998	914
25	2,430	1,620	1,800	1,400	1,120	2,170	1,970	848	848	830	1,030	920
26	*2,300	1,570	1,750	1,450	1,160	2,300	1,750	726	775	819	944	926
27	2,250	*1,370	1,400	1,400	1,080	2,610	1,680	600	786	872	926	866
28	1,980	1,390	1,200	1,450	944	2,790	1,720	530	731	893	986	830
29	1,700	1,440	1,170	1,460	1,190	2,870	1,720	530	802	842	980	*802
30	1,660	1,460	1,270	1,470	-------	2,520	1,690	630	1,020	824	914	736
31	1,620	-------	1,300	1,480	-------	*2,180	-------	770	-------	830	854	-------
Total	64,150	46,170	51,040	40,620	39,474	57,980	69,630	56,176	56,483	25,843	27,476	27,007
Mean	2,069	1,540	1,646	1,310	1,361	1,870	2,321	1,812	1,883	834	886	900
Ac-ft	127,200	91,580	101,200	80,570	78,300	115,000	138,100	111,400	112,000	51,270	54,500	53,570

Calendar year 1959: Max 4,000 Min 630 Mean 1,593 Ac-ft 1,153,000
Water year 1959-60: Max 3,930 Min 530 Mean 1,536 Ac-ft 1,115,000

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 10 to Feb. 23, Mar. 1-11.

Smaller Reservoirs in Henrys Fork basin

390. Henrys Lake.--Lat 44°36', long 111°21', in NW¼ sec.26, T.15 N., R.43 E., at dam on Henrys Fork, 4 miles south of former Lake, Idaho, Post Office. Drainage area, 98 sq mi, approximately, including 6 sq mi of Dry Creek basin. Records available, June 1923 to September 1960 (fragmentary). Staff gage. Datum of gage is 6,457.16 ft above mean sea level (levels by Bureau of Reclamation). Maximum contents observed during year, 78,200 acre-ft June 21 (gage height, 14.81 ft); minimum observed, 45,500 acre-ft Sept. 28 (gage height, 9.40 ft). Maximum contents observed during period 1923-60, 85,100 acre-ft June 14, 1957, May 29, 1958 (gage height, 15.90 ft); minimum observed, 140 acre-ft Nov. 8, 1934 (gage height, 0.03 ft).

Reservoir is formed on natural lake by concrete dam; storage began Sept. 21, 1922; dam completed July 1923. Capacity, 79,351 acre-ft between gage heights 0.0 (low-water level of Henrys Lake prior to construction of dam) and 15.0 ft (top of 5-foot flashboards on spillway). Floodwaters of Dry Creek are diverted into Henrys Lake at times (some diverted during water year 1960). Water used for irrigation near St. Anthony. Gage read occasionally. Records given herein represent usable contents, except an allowance is usually made of 3,000 acre-ft for loss and dead storage from maximum contents. Capacity table furnished by North Fork Reservoir Co.

465. Grassy Lake.--Lat 44°07'45", long 110°49'05", in NE¼ sec.18, T.48 N., R.116 W., in gatehouse at dam on Grassy Creek, half a mile upstream from mouth and 24 miles northwest of Moran, Wyo. Drainage area, 10.4 sq mi, including basin of Cascade Creek, from which water is diverted into Grassy Lake. Records available, October 1939 to September 1960. Mercury pressure gage. Datum of gage is at mean sea level (levels by Bureau of reclamation). Maximum contents observed during year, 15,210 acre-ft June 17 (elevation, 7,210.10 ft); minimum contents observed, 4,350 acre-ft Aug. 22, 31 (elevation, 7,167.65 ft). Maximum contents observed during period 1939-60, 15,446 acre-ft July 2, 1943 (elevation, 7,210.85 ft); no contents Oct. 2-5, 1940.

Reservoir is formed by earth-fill, rock-faced dam; storage began Oct. 18, 1939. Capacity, 15,182 acre-ft between elevations 7,135.0 (sill of trashrack) and 7,210.0 ft (crest of spillway). Water is used for irrigation of lands in Fremont-Madison irrigation district, Idaho. Gage read about twice monthly. Records given herein represent usable contents. Gage-height record and capacity table furnished by Bureau of Reclamation.

Month-end elevation and contents, water year October 1959 to September 1960

Date	Gage Height (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	Henrys Lake			Grassy Lake		
Sept.30	-	a63,100	-	-	a6,370	-
Oct. 31	-	a67,400	+4,300	-	a7,020	+650
Nov. 30	-	a70,700	+3,300	7,188.20	7,530	+510
Dec. 31	-	a73,400	+2,700	7,183.80	7,920	+390
Calendar year 1959	-	-	+14,200	-	-	-2,750
Jan. 31	-	a76,800	+3,400	-	a8,410	+490
Feb. 29	-	a75,800	-1,000	7,187.75	8,890	+480
Mar. 31	-	a75,100	-700	-	a9,360	+470
Apr. 30	-	a77,200	+2,100	7,192.10	10,010	+650
May 31	-	a78,100	+900	-	a13,200	+3,190
June 30	-	a76,600	-1,500	-	a15,200	+2,000
July 31	-	a62,400	-14,200	-	a9,650	-5,550
Aug. 31	-	a47,600	-14,800	7,167.65	4,350	-5,300
Sept.30	-	a45,500	-2,100	-	a4,460	+110
Water year 1959-60	-	-	-17,600	-	-	-1,910

a No gage-height record; contents interpolated.

595. Diversions from Snake River between Heise and Shelley gaging stations, Idaho

Between Heise and Shelley gaging stations, 47 canals divert water from Snake River for irrigation; of these 36 divert above mouth of Henrys Fork. Records available during each irrigation season from 1919 to 1960. Two of the canals are equipped with water-stage recorders, the others with staff gages which are read once daily. Discharge combined to show total diverted flow. Records include Riley ditch which diverts 1½ miles above Heise gaging station. Records good.

Discharge, in cubic feet per second, water year May to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								1,730	9,980	9,180	8,350	7,910
2								2,070	10,200	8,500	8,870	7,650
3								2,290	10,200	8,490	8,910	6,690
4								2,420	10,000	8,410	9,000	6,120
5								2,560	10,000	9,260	8,740	6,710
6								2,830	9,970	9,540	6,970	7,170
7								3,280	10,100	9,810	6,040	7,030
8								3,710	10,200	9,910	7,570	6,990
9								3,940	9,900	9,910	8,320	6,990
10								4,900	9,560	9,780	8,400	6,060
11								6,080	9,240	9,920	8,460	5,580
12								6,610	8,380	9,980	8,190	7,160
13								7,580	8,490	10,100	5,610	7,490
14								8,190	8,940	10,400	5,110	7,530
15								8,410	9,010	10,300	7,500	7,290
16								8,680	9,120	10,300	8,070	6,660
17								9,010	9,170	10,100	7,790	4,620
18								9,040	9,070	10,400	7,910	4,180
19								8,460	8,990	10,300	7,480	5,260
20								8,280	9,120	10,400	5,400	6,350
21								8,150	9,240	10,400	4,950	6,360
22								7,860	9,240	10,200	7,630	6,320
23								7,870	9,280	7,810	6,940	6,000
24								7,940	9,370	7,550	7,000	5,140
25								7,990	9,230	9,640	7,040	4,620
26								8,320	9,090	9,890	6,780	4,770
27								8,520	9,160	9,960	6,050	5,000
28								8,440	9,270	9,870	5,960	5,310
29								8,630	9,430	9,540	6,750	5,190
30					-------			8,860	9,430	7,230	7,160	4,700
31		-------			-------		-------	9,610	-------	6,520	7,380	-------
Total								202,260	282,380	293,480	226,330	184,850
Mean								6,525	9,413	9,467	7,301	6,162
Ac-ft								401,200	560,100	582,100	448,900	366,600

Calendar year : Max Min Mean Ac-ft
The period: : Max - Min - Mean - Ac-ft 2,359,000

600. Snake River near Shelley, Idaho

Location.--Lat 43°24'50", long 112°08'05", in SW¼ sec.17, T.1., R.37 E., on right bank a quarter of a mile southeast of Woodville and 2½ miles north of Shelley.

Drainage area.--9,790 sq mi, approximately, excluding nontributary area on Snake River plains.

Records available.--March 1915 to September 1960 (prior to October 1931, irrigation seasons only).

Gage.--Water-stage recorder. Datum of gage is 4,599.0 ft above mean sea level, datum of 1929.

Average discharge.--29 years (1931-60), 5,197 cfs (3,762,000 acre-ft per year).

Extremes.--Maximum discharge during year, 9,290 cfs Aug. 21 (gage height, 7.86 ft); minimum, 1,600 cfs Feb. 26, 29 (gage height, 4.80 ft).
1915-60: Maximum discharge, 47,200 cfs June 17, 1918 (gage height, 16.97 ft); minimum, 288 cfs Nov. 5, 1934 (gage height, 2.22 ft).
Maximum discharge known, 75,000 cfs (estimated June 6, 1894, at former station at Eagle Rock (now Idaho Falls), 7 miles upstream from present site.

Remarks.--Records exeellent except those for periods of ice effect, which are good. Some regulation by Jackson Lake (see p. 13), Palisades Reservoir (see p. 25). Island Park Reservoir (see p. 29), Henrys and Grassy Lakes (see p. 39). Many diversions above station for irrigation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

4.9	1,700	6.0	3,540
5.2	2,060	7.0	6,370
5.5	2,540	8.0	9,790

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,530	3,220	b3,100	b2,500	b2,850	2,080	3,300	2,800	4,360	5,630	8,560	2,910
2	3,240	3,220	b3,180	b2,350	2,820	2,200	2,970	3,070	4,420	6,210	7,870	3,260
3	2,870	3,190	3,190	b2,000	b8,000	2,560	2,700	3,390	4,740	6,400	6,930	4,140
4	2,740	3,170	b3,100	b1,800	b2,700	2,460	2,580	3,910	5,510	6,500	6,270	4,600
5	2,720	3,190	b3,100	b2,000	b2,650	2,510	2,740	4,470	6,500	5,570	6,310	4,790
6	2,540	3,320	3,030	b1,900	b2,600	2,630	3,280	4,490	6,800	5,440	6,470	4,440
7	2,580	3,300	b3,000	b2,400	b2,600	2,850	3,890	4,260	6,400	5,190	7,900	4,080
8	2,540	3,360	b3,200	b2,350	b2,700	*2,930	4,440	4,210	6,110	5,250	8,520	4,010
9	2,720	3,430	b3,200	b2,600	b2,750	3,030	4,600	4,310	6,210	5,440	7,600	3,990
10	2,950	3,450	b3,400	b2,850	2,800	b2,850	4,550	4,110	6,570	5,540	7,000	4,360
11	2,970	3,500	b3,400	b3,000	2,890	b2,800	4,910	3,630	6,800	5,760	6,900	4,760
12	3,030	3,470	b3,350	b3,000	b2,800	2,760	5,120	3,590	7,530	5,380	7,160	4,600
13	*2,990	3,500	b3,200	b2,900	b2,800	2,820	4,910	4,760	*8,180	5,030	7,900	*4,180
14	2,870	3,700	b2,800	b2,800	b2,750	b2,800	4,310	6,540	7,430	4,740	8,620	4,940
15	2,780	3,820	b3,300	b2,700	b2,650	b2,750	4,080	7,600	7,030	4,820	8,480	5,410
16	2,760	3,700	b3,250	b2,400	b2,550	b2,750	3,910	6,730	7,060	4,910	7,630	6,080
17	2,720	*3,360	*b3,400	b2,300	b2,500	2,760	3,590	5,950	7,390	5,470	7,500	6,730
18	2,650	3,410	3,540	b2,000	b2,450	2,800	3,240	5,600	7,260	5,380	7,630	7,560
19	2,930	3,410	3,540	b1,900	b2,450	2,850	2,930	5,570	6,930	5,250	7,800	7,560
20	3,260	3,430	b3,400	b1,900	b2,400	2,970	2,650	5,410	6,470	5,310	8,210	7,260
21	3,300	3,500	b3,400	b1,900	b2,420	3,090	2,630	5,220	5,830	5,410	8,840	6,440
22	3,390	3,430	b3,300	b2,100	b2,400	3,130	2,610	5,570	5,510	*5,600	8,590	6,050
23	3,610	3,450	b3,300	b2,600	b2,250	3,220	2,780	5,730	5,120	6,110	7,100	6,210
24	3,590	3,390	b3,400	b2,900	b2,150	3,340	3,240	5,540	5,220	7,330	6,020	6,570
25	3,630	3,300	3,500	*b3,000	2,030	3,410	*3,820	5,510	5,350	7,530	6,050	6,440
26	3,630	3,220	b3,350	2,850	1,980	3,500	3,790	5,380	5,510	6,630	5,860	4,010
27	3,520	3,190	b3,200	3,070	1,900	3,750	3,430	5,090	5,760	6,540	5,760	3,300
28	3,450	3,000	b2,800	b3,000	1,830	4,110	3,450	5,090	5,380	6,630	5,860	2,950
29	3,260	3,070	b2,500	b2,900	1,810	4,290	3,360	4,910	5,440	6,860	5,470	2,520
30	3,110	b3,050	b2,400	b2,900	-------	4,160	3,170	4,910	5,440	7,200	4,600	2,560
31	3,070	-------	b2,600	2,950	-------	3,790	-------	4,660	-------	8,240	3,470	-------
Total	94,940	100,750	98,430	77,820	72,280	93,950	106,960	152,010	184,260	183,300	218,880	146,710
Mean	3,063	3,358	3,175	2,510	2,492	3,031	3,565	4,904	6,142	5,913	7,061	4,890
Ac-ft	188,300	199,800	195,200	154,400	143,400	186,300	212,200	301,500	365,500	363,600	434,100	291,000

Calendar year 1959: Max 11,600 Min 2,090 Mean 4,325 Ac-ft 3,131,000
Water year 1959-60: Max 8,840 Min 1,800 Mean 4,181 Ac-ft 3,035,000

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

685. Blackfoot River near Blackfoot, Idaho

Location.--Lat 43°07'50", long 112°28'35", at east quarter corner of sec.28, T.3 S., R.34 E., on left bank 125 ft downstream from highway bridge, 2 miles upstream from mouth, and 8 miles southwest of Blackfoot.

Drainage area.--1,295 sq mi, including that of Sand Creek whose flow is diverted to Blackfoot River through the Idaho canal.

Records available.--July 1913 to September 1960 (prior to October 1931, summer months only). Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 4,420 ft (river-profile survey). Prior to May 8, 1926, staff gages and May 8, 1926, to June 25, 1937, water-stage recorder, at site half a mile upstream at different datum.

Average discharge.--29 years (1931-60), 152 cfs (110,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,070 cfs Mar. 9 (gage height, 6.42 ft); no flow May 10-13, 16-18, June 1-3.
1913-60: Maximum discharge, that of Mar. 9, 1960; no flow for many days.

Remarks.--Records good except those below 5 cfs and those for periods of ice effect or no gage-height record, which are poor. Flow regulated by Blackfoot-Marsh Reservoir (capacity at spillway crest, 312,000 acre-ft, and maximum capacity with flashboards, 413,000 acre-ft). Many diversions above station for irrigation. Most of flow during nonirrigation season and part of that during irrigation season is supplied by waste from Snake River canals.

Cooperation.--Gage-height record furnished by Bureau of Indian Affairs.

Revisions.--WSP 1217: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 4-12, Apr. 8-16, 26-28, May 4, 5, May 31 to June 6, June 29 to Sept. 24)

0.8	0	1.6	40	4.0	420
1.0	2	2.0	86	5.0	655
1.3	17	3.0	229	6.1	968

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	342	350	142	50	37	20	131	103	a0	a2	19	3
2	344	a350	140	50	45	*20	112	104	0	a2	12	*3
3	295	a350	*95	45	25	60	98	194	a0	a2	10	3
4	215	a338	76	40	*24	140	*121	*420	2	8	9	5
5	200	324	62	44	35	239	170	342	a1	a4	*21	20
6	185	314	60	*49	38	354	191	251	3	a3	17	12
7	174	305	57	48	51	810	238	205	a1	2	20	13
8	191	299	62	50	66	810	527	86	a1	2	15	4
9	192	299	55	48	75	968	857	54	a2	*1	13	a2
10	194	305	55	48	75	586	770	0	22	4	14	a2
11	188	303	52	48	69	332	810	0	*57	8	8	8
12	190	301	47	47	57	138	759	0	50	a6	10	8
13	270	301	51	45	44	87	742	0	107	a4	3	1
14	283	288	45	44	49	78	588	9	98	a2	6	4
15	169	297	48	42	48	73	358	17	23	a1	3	19
16	297	254	76	42	55	66	292	a0	13	a1	4	28
17	314	232	72	38	49	19	190	a0	10	a1	4	30
18	318	208	49	33	40	19	138	a0	10	a8	5	10
19	330	136	43	24	40	20	103	26	34	a10	4	18
20	362	118	67	30	40	29	85	70	32	a5	3	10
21	424	20	57	37	40	28	86	49	10	a2	3	4
22	*438	10	70	38	40	34	87	54	10	*2	4	18
23	416	a5	79	35	40	47	94	95	14	a2	4	14
24	380	125	69	35	40	64	142	74	10	a2	4	11
25	348	142	66	38	30	75	186	36	*4	3	16	15
26	336	139	61	40	30	94	318	12	a6	a4	29	*27
27	320	145	55	38	30	116	332	9	8	a3	24	7
28	318	152	50	38	20	164	593	50	a4	6	23	5
29	320	149	45	35	20	410	394	32	8	9	10	13
30	314	143	40	35	-------	180	92	14	8	13	5	10
31	350	-------	45	35	-------	147	-------	*1	-------	6	4	-------
Total	9,021	6,702	1,991	1,269	1,252	6,227	9,604	2,307	548	128	328	327
Mean	291	223	64.2	40.9	43.2	201	320	74.4	18.3	4.13	10.6	10.9
Ac-ft	17,890	13,290	3,950	2,520	2,480	12,350	19,050	4,580	1,090	254	651	649

Calendar year 1959: Max 971 Min 0 Mean 107 Ac-ft 77,110
Water year 1959-60: Max 968 Min 0 Mean 108 Ac-ft 78,750

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 3 discharge measurements and weather records.
Note.--Stage-discharge relation affected by ice Nov. 27 to Dec. 2, Dec. 4 to Mar. 4 (no gage-height record Jan. 13-24, 28-31, Feb. 18 to Mar. 1); discharge estimated on basis of 4 discharge measurements, weather records, and records for Snake River near Blackfoot. No gage-height record Nov. 2-4, 23.

690. Diversions from Snake River between Shelley and Blackfoot gaging stations, Idaho

Between Shelley and Blackfoot gaging stations, 13 canals divert water from Snake River for irrigation of 158,000 acres of land. Records available during each irrigation season from 1919 to 1960. The two largest canals are equipped with recorders, the others with staff gages which are read once daily. Discharge combined to show total diverted flow. Records good.

Discharge, in cubic feet per second, May to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								1,050	3,900	3,890	3,190	2,380
2								1,140	4,020	3,930	3,250	2,320
3								1,230	4,260	3,910	3,210	2,420
4								1,300	4,420	3,900	3,250	2,280
5								1,440	4,390	3,910	3,170	2,220
6								1,610	4,190	3,970	3,040	2,280
7								1,830	4,280	4,020	2,760	2,220
8								2,250	4,250	3,720	2,920	2,170
9								2,730	4,240	3,980	3,080	2,120
10								3,140	4,150	3,770	3,010	2,110
11								3,220	4,010	3,940	2,910	2,200
12								3,150	3,890	4,100	3,120	2,210
13								3,780	3,920	4,100	3,110	2,180
14								3,910	3,770	4,090	3,170	2,130
15								3,900	3,780	4,150	3,160	1,940
16								4,000	3,830	4,190	3,060	1,720
17								3,930	3,900	4,180	2,990	1,620
18								3,800	3,820	4,170	2,910	1,660
19								3,680	3,660	4,080	2,320	1,950
20								3,650	3,600	4,120	2,050	2,220
21								3,690	3,520	4,140	2,050	2,080
22								3,680	3,390	4,120	2,440	1,990
23								3,420	3,400	4,160	2,380	1,930
24								3,400	3,590	4,060	2,180	1,880
25								3,610	3,630	3,840	2,090	1,450
26								3,790	3,720	3,810	2,010	1,510
27								3,830	3,770	3,820	1,970	1,550
28								3,850	3,790	3,810	2,030	1,820
29								3,880	3,790	3,690	2,130	2,160
30					-------			3,980	3,780	3,680	2,230	1,770
31		-------			-------		-------	4,130	-------	3,460	2,340	-------
Total								96,000	116,660	122,710	83,510	60,490
Mean								3,097	3,889	3,958	2,694	2,016
Ac-ft								190,400	231,400	243,400	165,600	120,000

Calendar year : Max Min Mean Ac-ft
The period: : Max - Min - Mean - Ac-ft 950,800

695. Snake River near Blackfoot, Idaho

Location.--Lat 43°07'35", long 112°31'25", in SE¼ sec.30, T.3 S., R.34 E., on right bank 1,000 ft downstream from highway bridge, half a mile downstream from Blackfoot River, and 10 miles southwest of Blackfoot.

Drainage area.--11,310 sq mi, approximately, excluding nontributary area on Snake River plains.

Records available.--June 1910 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Published as "at Clough Ranch, near Blackfoot" 1924-45.

Gage.--Water-stage recorder. Datum of gage is 4,400.83 ft above mean sea level, datum of 1929 (preliminary adjustment). Prior to July 6, 1913, staff gages at practically same site and datum.

Average discharge.--34 years (1926-60), 3,970 cfs (2,874,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,330 cfs Aug. 22 (gage height, 5.00 ft); minimum daily, 170 cfs May 13.

1910-60: Maximum discharge, 46,200 cfs June 18, 1918 (gage height, 14.80 ft); minimum, 111 cfs Nov. 10, 1934 (gage height, 0.80 ft).

Late in summer of 1905 there was no flow in Snake River for a distance of 10 miles in vicinity of Blackfoot. Aug. 9, 1905, discharge of Snake River just below mouth of Blackfoot River was 39 cfs, supplied by ground-water inflow a short distance upstream.

Remarks.--Records excellent except those below 300 cfs, which are fair. Flow regulated by Jackson Lake (see p. 13), Palisades Reservoir (see p. 25), Henrys and Grassy Lakes (see p. 39), Island Park Reservoir (see p. 29), and Blackfoot-Marsh Reservoir, having a combined capacity of 2,883,000 acre-ft. About 694,000 acres of land irrigated by diversions above station.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 14-17)

0	140	2.0	1,440
.5	310	3.0	2,700
1.0	600	4.0	4,360
1.5	970	5.0	6,230

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,110	3,260	3,110	2,490	2,440	1,470	3,450	2,110	483	1,650	4,920	1,000
2	3,230	3,360	3,160	2,430	2,550	*1,650	3,080	1,900	452	2,090	4,700	684
3	2,740	3,350	*3,130	2,130	2,430	1,970	2,740	2,330	360	2,340	4,130	1,330
4	2,430	3,240	3,030	1,760	*2,370	2,180	*2,600	*2,720	561	2,500	3,190	2,030
5	2,360	*3,280	3,060	1,850	2,370	2,320	2,600	3,190	1,510	2,250	*3,020	2,600
6	2,250	3,450	2,760	*1,750	2,330	2,500	2,940	3,230	2,270	1,460	3,280	2,400
7	2,140	3,480	2,790	2,070	2,260	2,880	3,470	2,820	2,250	1,360	3,890	2,030
8	2,140	3,520	3,100	2,430	2,430	3,110	4,230	2,390	1,904	1,530	5,100	1,880
9	2,260	3,580	3,160	2,500	2,540	3,230	4,920	1,990	1,900	*1,550	4,760	1,840
10	2,500	3,620	3,210	2,760	2,610	2,960	4,900	1,390	2,320	1,510	3,990	2,070
11	2,550	3,640	3,240	2,920	2,640	2,840	5,030	522	*2,800	1,700	3,760	2,300
12	2,610	3,640	3,210	2,960	2,550	2,780	5,240	200	3,380	1,500	3,720	2,700
13	2,730	3,620	3,180	2,850	2,580	2,720	5,320	170	4,130	1,220	4,160	2,090
14	2,730	3,910	2,850	2,700	2,490	2,860	4,810	1,060	4,150	*930	4,630	2,490
15	2,560	4,110	3,240	2,660	2,340	2,790	4,180	3,180	3,380	719	5,220	3,050
16	2,850	3,890	3,190	2,220	2,300	2,840	3,920	2,920	3,240	747	4,700	3,860
17	2,840	3,450	3,430	1,890	2,320	2,880	3,580	2,230	3,300	938	4,450	4,500
18	2,730	3,400	3,520	1,640	2,220	2,920	3,210	1,910	3,620	1,430	4,500	5,040
19	2,780	3,380	3,420	1,320	2,260	2,900	2,800	2,050	3,420	1,240	5,030	5,510
20	3,190	3,360	3,310	1,370	2,200	2,860	2,330	2,030	3,380	1,230	*5,560	4,950
21	3,330	3,330	3,350	1,590	2,290	2,980	1,940	1,780	2,840	1,230	5,890	4,650
22	3,420	3,310	3,260	1,850	2,250	2,970	1,600	2,020	2,460	*1,370	6,150	4,010
23	3,620	3,280	3,210	2,230	2,080	2,980	1,420	2,340	2,260	1,570	5,300	4,040
24	3,650	3,430	3,400	2,440	2,030	3,110	1,740	2,610	1,780	2,290	4,220	4,400
25	3,600	3,300	3,600	2,430	1,820	3,210	2,500	2,090	*1,780	3,350	3,940	4,790
26	3,640	3,230	3,470	2,560	1,530	3,280	3,080	1,910	1,830	3,130	4,030	*3,820
27	3,530	3,180	3,260	2,520	1,450	3,400	2,760	1,550	2,120	2,550	3,790	2,090
28	3,420	3,050	2,600	2,500	1,690	3,860	2,840	1,500	1,940	2,640	3,760	1,540
29	3,360	2,940	2,360	2,490	1,380	4,290	2,880	1,330	1,760	2,640	3,600	810
30	3,140	3,000	2,260	2,480	-------	4,150	2,370	1,100	1,700	3,160	2,790	554
31	3,080	-------	2,480	2,540	-------	3,910	-------	*906	-------	3,790	1,820	-------
Total	90,520	102,590	96,350	70,330	64,750	90,800	98,480	59,478	69,316	57,814	132,000	85,058
Mean	2,920	3,420	3,108	2,269	2,233	2,929	3,283	1,919	2,311	1,865	4,258	2,835
Ac-ft	179,500	203,500	191,100	139,500	128,400	180,100	195,300	118,000	137,500	114,700	261,800	168,700

Calendar year 1959: Max 8,620 Min 150 Mean 2,892 Ac-ft 2,094,000
Water year 1959-60: Max 6,150 Min 170 Mean 2,780 Ac-ft 2,018,000

* Discharge measurement made on this day.

730. Portneuf River at Topaz, Idaho

Location.--Lat 42°37', long 112°05', in sec.23, T.9 S., R.37 E., on right bank 200 ft upstream from Bob Smith Creek, 800 ft downstream from Topaz siding, 1½ miles upstream from diversion dam of Portneuf-Marsh Valley Canal Co., and 4 miles west of Lava Hot Springs.

Drainage area.--570 sq mi, approximately (includes that of Bob Smith Creek). Mean altitude, 6,080 ft.

Records available.--January 1913 to September 1915, July 1919 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 4,918.00 ft above mean sea level, preliminary, unadjusted. Prior to July 20, 1919, staff gage at site three-eighths of a mile downstream at datum 3.0 ft lower. July 20, 1919, to June 22, 1954, staff gage at site a third of a mile downstream at datum 2.00 ft lower than present datum.

Average discharge.--43 years, 193 cfs (139,700 acre-ft per year).

Extremes.--Maximum discharge during year, 486 cfs Mar. 27 (gage height, 4.05 ft); minimum, 72 cfs Aug. 8 (gage height, 2.19 ft).
1913-15, 1919-60: Maximum discharge, 1,040 cfs Feb. 25, 1957 (gage height, 5.71 ft); minimum observed, 65 cfs Oct. 9, 1934 (gage height, 0.81 ft, site and datum then in use).

Remarks.--Records good. Flow regulated by Portneuf-Marsh Valley Reservoir (capacity, 23,695 acre-ft) and Chesterfield Reservoir on Twenty Four Mile Creek (capacity, 685 acre-ft). Diversions above station for irrigation of about 22,000 acres.

Revisions (water years).--WSP 1347: 1920-22, 1924-25(M). WSP 1567: Drainage area.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	116	119	123	125	125	125	258	184	222	200	85	81
2	114	121	121	123	131	127	245	188	222	194	78	87
3	116	121	123	121	127	129	255	194	218	194	80	85
4	116	123	121	121	123	131	262	200	220	194	78	85
5	110	118	118	121	125	135	276	202	216	192	78	81
6	112	118	119	121	125	154	283	202	214	198	78	80
7	118	121	119	125	127	168	262	206	214	186	76	80
8	118	*121	119	125	142	200	247	*214	216	166	76	80
9	121	121	119	125	154	192	247	216	220	160	76	81
10	121	123	119	125	136	160	260	216	222	142	78	81
11	118	121	121	129	131	150	247	226	*218	116	78	78
12	119	119	121	129	125	148	236	241	210	106	80	78
13	119	119	121	127	127	156	218	249	204	100	78	78
14	*116	118	119	125	127	160	214	245	204	100	80	78
15	118	119	119	127	129	150	204	232	204	*102	83	80
16	116	119	*119	*121	129	146	198	224	210	93	85	80
17	116	119	119	116	129	144	192	212	212	95	87	81
18	118	119	121	116	129	146	192	206	208	89	*85	80
19	118	123	121	119	131	156	200	194	210	95	85	80
20	119	123	119	120	129	168	200	178	210	97	85	80
21	119	125	121	121	133	186	204	168	206	93	85	81
22	121	125	121	123	131	204	212	164	202	91	87	81
23	121	125	121	123	127	228	220	160	198	93	89	81
24	119	127	123	121	127	260	218	148	196	91	85	78
25	119	125	133	121	127	*291	216	160	192	87	83	78
26	121	121	127	123	127	337	212	222	204	87	81	78
27	119	121	119	123	127	368	206	212	206	85	80	80
28	119	121	119	123	*129	348	210	208	194	85	80	78
29	119	121	119	121	125	270	202	194	188	85	78	78
30	118	121	119	123	-------	281	188	196	194	83	78	76
31	121	-------	123	123	-------	291	-------	220	-------	89	80	-------
Total	3,655	3,637	3,746	3,808	3,756	6,129	6,784	6,301	6,254	3,788	2,515	2,403
Mean	118	121	121	123	130	198	226	203	208	122	81.1	80.1
Ac-ft	7,250	7,210	7,430	7,550	7,450	12,160	13,460	12,500	12,400	7,510	4,990	4,770

Calendar year 1959: Max 258 Min 85 Mean 149 Ac-ft 107,600
Water year 1959-60: Max 388 Min 76 Mean 144 Ac-ft 104,700

* Discharge measurement made on this day.

750. Marsh Creek near McCammon, Idaho

Location.--Lat 42°37'50", long 112°13'30", in NE¼ sec.22, T.9 S., R.36 E., near center of downstream side of abandoned highway bridge, 80 ft upstream from highway crossing and 2 miles southwest of McCammon.

Drainage area.--355 sq mi. Mean altitude, 5,630 ft.

Records available.--September 1954 to September 1960.

Gage.--Wire-weight gage read once or twice daily. Altitude of gage is 4,610 ft (by barometer).

Average discharge.--6 years, 71.7 cfs (51,840 acre-ft per year).

Extremes.--Maximum discharge observed during year, 321 cfs Mar. 9 (gage height, 6.11 ft); minimum observed, 27 cfs June 2-4; minimum gage height observed, 2.80 ft June 4.
1954-60: Maximum discharge observed, 342 cfs Feb. 25, 1958 (gage height, 6.72 ft); minimum observed, that of June 2-4, 1960; minimum gage height observed, 2.00 ft Feb. 3, 1955 (result of ice jam upstream).

Remarks.--Records fair. Diversions above station for irrigation. Part of Birch Creek (tributary to Marsh Creek) diverted into Devil Creek in Bear River basin.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	67	64	66	64	66	216	61	28	30	134	40
2	100	66	64	66	63	66	205	59	27	30	82	49
3	88	68	64	65	59	65	108	70	27	30	59	46
4	96	68	64	64	61	67	100	69	27	30	44	46
5	89	68	62	64	58	70	96	64	29	30	42	48
6	84	68	64	63	59	73	101	55	30	30	42	50
7	82	69	64	64	70	263	115	51	31	32	35	49
8	93	*65	64	64	122	265	110	*50	33	35	34	48
9	93	66	63	65	140	314	110	49	35	37	33	46
10	102	66	65	66	113	270	110	43	44	36	32	46
11	99	66	65	67	90	231	112	40	*46	38	32	46
12	100	63	65	71	70	219	110	40	50	40	32	44
13	*71	61	65	66	70	182	100	34	36	39	32	43
14	63	61	65	66	70	190	95	30	34	40	38	42
15	62	62	*64	66	70	115	90	32	37	*44	40	40
16	68	62	64	*66	68	78	82	34	36	43	38	39
17	68	64	64	64	67	76	80	34	34	42	*42	38
18	68	64	66	64	67	73	77	34	33	40	35	39
19	69	66	66	63	66	71	76	33	33	40	34	39
20	70	66	66	b64	66	186	75	32	32	39	33	40
21	70	68	66	b65	66	208	73	32	32	39	31	42
22	70	67	66	66	67	223	70	32	31	38	32	46
23	73	66	68	64	66	233	64	32	30	38	68	44
24	74	66	68	64	b66	219	66	31	30	38	61	40
25	74	66	66	64	b67	*163	68	30	29	38	49	44
26	72	66	66	63	b67	161	72	30	31	36	47	49
27	68	65	66	64	b67	149	71	30	33	35	46	61
28	68	65	65	64	*b67	169	68	31	33	35	44	47
29	68	65	64	65	b67	143	66	30	33	34	43	46
30	67	64	64	65	-------	121	66	30	33	34	43	48
31	66	-------	64	64	-------	116	-------	29	-------	34	42	-------
Total	2,435	1,967	2,011	2,012	2,113	4,845	2,852	1,251	997	1,124	1,399	1,345
Mean	78.5	65.6	64.9	64.9	64.9	156	95.1	40.4	33.2	36.3	45.1	44.8
Ac-ft	4,830	3,900	3,990	3,990	3,990	9,610	5,660	2,480	1,980	2,230	2,770	2,670

Calendar year 1959: Max 167 Min 34 Mean 66.5 Ac-ft 48,120
Water year 1959-60: Max 314 Min 27 Mean 66.5 Ac-ft 48,300

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

755. Portneuf River at Pocatello, Idaho

Location.--Lat 42°51'40", long 112°27'25", in NE¼NE¼ sec.34, T.6 S., R.34 E., on right bank 30 ft upstream from Fremont Street Bridge at Pocatello and 2.5 miles upstream from Pocatello Creek.

Drainage area.--1,250 sq mi, approximately. Mean altitude, 5,850 ft.

Records available.--May to September 1897, March 1898 to October 1899, August 1911 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,430 ft (from topographic map). May 18, 1897, to Oct. 14, 1899, staff gage at site 0.6 mile upstream at different datum. Aug. 31, 1911, to May 13, 1927, and Oct. 13, 1927, to June 13, 1928, staff gages near Carson Street Bridge 0.8 mile downstream at different datum. May 14 to Oct. 12, 1927, water-stage recorder at site 1.1 miles downstream at different datum. June 14, 1928, to Sept. 28, 1950, water-stage recorder near Carson Street Bridge 0.8 mile downstream at same datum as former staff gages at this site.

Average discharge.--47 years (1912-16, 1917-60), 252 cfs (182,400 acre-ft per year).

Extremes.--Maximum discharge during year, 760 cfs Mar. 28 (gage height, 6.15 ft); minimum, 1 cfs July 5 (gage height, 2.98 ft).
1897-99, 1911-60: Maximum discharge, more than 2,000 cfs sometime during period May 13 to June 14, 1917; minimum, that of July 5, 1960.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Flow regulated by Portneuf-Marsh Valley Reservoir formed by earth dam completed in 1912 and raised 7 ft in 1950 (capacity, 23,695 acre-ft; 16,410 acre-ft prior to 1950) and Chesterfield Reservoir (capacity, 685 acre-ft). Diversions above station for irrigation of about 33,000 acres (1948 determination).

Revisions.--WSP 1567: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 10-30)

3.0	1	3.6	17	4.5	134
3.2	3	3.8	30	5.0	280
3.4	8	4.1	62	6.0	710

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	172	144	242	218	270	233	592	239	19	19	44	51
2	169	148	252	203	280	273	548	224	16	12	57	48
3	177	146	252	227	265	270	530	212	17	8	61	52
4	239	148	252	209	250	266	556	224	18	2	66	50
5	242	151	239	185	245	276	579	227	21	1	60	51
6	236	163	224	224	255	294	620	230	21	7	50	51
7	236	188	230	245	265	371	646	227	22	2	48	49
8	209	*206	233	259	280	448	610	*224	29	3	54	46
9	153	236	233	242	301	494	588	209	37	9	54	44
10	151	236	233	252	339	484	606	185	47	5	52	48
11	166	239	236	262	312	471	602	132	60	11	51	60
12	156	230	236	245	280	512	561	139	*62	31	48	63
13	153	218	236	242	265	494	520	146	55	26	36	58
14	*156	212	236	236	255	435	480	123	43	16	29	58
15	151	221	230	233	250	427	458	69	28	11	36	57
16	148	245	*233	227	250	367	427	61	60	*31	38	58
17	144	256	224	*177	250	319	415	65	61	27	41	57
18	144	252	227	170	245	308	399	61	49	27	*43	65
19	141	256	230	170	245	319	387	58	52	26	50	70
20	139	256	230	175	240	379	387	69	50	30	61	69
21	144	262	230	185	235	431	375	66	49	29	60	66
22	146	266	227	200	230	480	379	51	50	27	61	70
23	148	270	230	210	230	534	371	54	50	26	58	76
24	148	266	230	220	225	592	359	41	48	16	68	78
25	146	270	242	230	220	*638	343	39	47	12	69	66
26	139	266	259	240	210	670	343	30	46	11	62	63
27	141	256	236	250	200	700	308	25	47	21	69	68
28	146	248	224	255	195	730	290	26	44	34	78	75
29	141	248	221	255	*192	705	284	21	39	34	78	72
30	141	248	230	260	------	638	266	14	33	34	60	70
31	144	------	224	265	------	610	------	12	------	38	58	------
Total	5,066	6,751	7,261	6,971	7,279	14,168	13,829	3,503	1,220	586	1,700	1,809
Mean	163	225	234	225	251	457	461	113	40.7	18.9	54.8	60.3
Ac-ft	10,050	13,390	14,400	13,830	14,440	28,100	27,430	6,950	2,420	1,160	3,370	3,590

Calendar year 1959: Max 502 Min 11 Mean 197 Ac-ft 142,800
Water year 1959-60: Max 730 Min 1 Mean 192 Ac-ft 139,100

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 18-23, Feb. 29. No gage-height record Jan. 24 to Feb. 7, Feb. 13-28 (stage-discharge relation affected by ice most of periods); discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby stations.

764. Michaud Canal at American Falls, Idaho

Location.--Lat 42°46'45", long 112°52'20", in SE¼SE¼ sec.30, T.7 S., R.31 E., 800 ft downstream from dam at American Falls.

Records available.--October 1957 to September 1960.

Gage.--Sparling meter in pipeline at pumping plant.

Extremes.--Maximum discharge during year, 104 cfs July 9-13; no flow Oct. 17 to Apr. 17. 1957-60: Maximum discharge, that of July 9-13, 1960; no flow for many days.

Remarks.--Records good. Flow controlled by pumping plant which lifts water from American Falls Reservoir to point in NE¼ sec.32. Completed project will irrigate 6,600 acres from this canal and 5,600 acres by pumping from ground water.

Cooperation.--Record of pump operation furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18						0	17	64	90	80	49
2	18						0	17	68	90	71	49
3	18						0	17	70	90	66	25
4	18						0	17	70	90	73	32
5	15						0	17	70	90	77	50
6	14						0	18	70	91	77	50
7	14						0	19	70	96	77	50
8	14						0	19	70	*100	77	37
9	17						0	22	74	104	77	32
10	18						0	26	*72	104	71	32
11	18						0	27	70	104	67	32
12	18						0	27	70	104	73	32
13	18						0	34	70	104	76	29
14	18						0	36	70	103	76	29
15	18						0	36	67	102	75	27
16	6						0	37	68	103	78	26
17	0						0	40	75	103	79	27
18	0						11	40	81	102	79	27
19	0						17	40	82	99	*70	27
20	0						17	40	82	97	64	*27
21	0						17	40	82	97	64	27
22	0						17	40	82	97	63	27
23	0						17	40	82	92	53	27
24	0						17	40	*83	88	49	27
25	0						17	48	87	88	42	27
26	0						17	55	88	83	44	27
27	0						17	57	90	84	45	27
28	0						17	57	90	86	45	27
29	0						17	57	89	83	45	27
30	0				-------		17	59	89	82	48	27
31	0	-------			-------		-------	60	-------	82	49	-------
Total	260	0	0	0	0	0	215	1,099	2,295	2,928	2,030	959
Mean	8.4	0	0	0	0	0	7.2	35.5	76.5	94.5	65.5	32.0
Ac-ft	516	0	0	0	0	0	426	2,180	4,550	5,810	4,030	1,900

Calendar year 1959: Max 89 Min 0 Mean 22.4 Ac-ft 16,190
Water year 1959-60: Max 104 Min 0 Mean 26.7 Ac-ft 19,410

* Discharge measurement made on this day.

765. American Falls Reservoir at American Falls, Idaho

Location.--Lat 42°46'45", long 112°52'45", in sec.30, T.7 S., R.31 E., near right end of dam at outlet gates of reservoir on Snake River at American Falls.

Drainage area.--13,580 sq mi, excluding nontributary area on Snake River plains.

Records available.--March 1926 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents during year, 1,718,000 acre-ft Apr. 17, 18 (elevation, 4,354.82 ft); minimum, 9,000 acre-ft Sept. 17, 18 (elevation, 4,298.15 ft).
1926-60: Maximum contents, 1,729,000 acre-ft June 26, 1951 (elevation, 4,355.02 ft); minimum since full capacity was attained July 13, 1927, that of Sept. 17, 18, 1960.

Remarks.--Reservoir is formed by concrete gravity dam with earth dikes at each end; partial storage began in 1926, full storage in 1927. Capacity, 1,700,000 acre-ft between elevations 4,295.66 (bottom of outlet gage) and 4,354.50 ft (top of spillway radial gates). Small amount of dead storage. Water is used for irrigation by canals diverting from Snake River at Minidoka and Milner Dams. Contents given herein are computed from mean daily elevations, practically all available for release.

Cooperation.--Reservoir elevations and capacity table furnished by Bureau of Reclamation.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in thousands of acre-feet)

4,298.0	8	4,325.0	469
4,300.0	19	4,330.0	616
4,302.0	34	4,335.0	787
4,305.0	65	4,340.0	984
4,310.0	136	4,345.0	1,209
4,315.0	229	4,350.0	1,457
4,320.0	341	4,355.0	1,728

Contents, in thousands of acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	327	605	898	1,133	1,363	1,628	1,665	1,283	906	380	106
2	105	335	615	906	1,141	1,369	1,638	1,655	1,268	888	371	96
3	113	341	622	909	1,150	1,376	1,646	1,645	1,252	872	363	84
4	120	358	632	920	1,158	1,382	1,656	1,637	1,232	855	354	73
5	126	372	643	927	1,167	1,389	1,659	1,629	1,215	839	345	65
6	132	383	655	933	1,175	1,396	1,660	1,624	1,201	822	335	59
7	136	395	666	940	1,183	1,404	1,664	1,618	1,186	804	324	52
8	143	407	676	948	1,192	1,415	1,669	1,610	1,172	788	315	47
9	147	417	685	956	1,201	1,425	1,676	1,603	1,159	769	308	41
10	152	422	695	964	1,211	1,436	1,680	1,593	1,146	751	299	35
11	159	427	705	973	1,220	1,450	1,690	1,582	1,133	734	288	30
12	166	432	714	981	1,230	1,460	1,694	1,568	1,122	719	276	25
13	173	443	724	990	1,238	1,470	1,704	1,542	1,112	703	263	22
14	180	452	734	999	1,247	1,478	1,711	1,528	1,102	684	251	16
15	187	460	744	1,008	1,255	1,487	1,716	1,513	1,091	666	239	12
16	195	470	754	1,017	1,263	1,497	1,716	1,497	1,082	647	228	9
17	203	481	764	1,025	1,272	1,504	1,717	1,483	1,072	628	219	9
18	211	491	773	1,032	1,280	1,511	1,717	1,467	1,063	608	209	9
19	218	498	783	1,038	1,286	1,518	1,711	1,454	1,055	589	200	12
20	224	507	794	1,043	1,293	1,526	1,711	1,441	1,042	572	191	15
21	232	514	803	1,048	1,301	1,536	1,710	1,422	1,033	554	183	17
22	240	522	813	1,054	1,308	1,543	1,706	1,412	1,026	536	175	17
23	249	531	823	1,060	1,316	1,551	1,701	1,399	1,017	517	168	16
24	259	541	832	1,067	1,324	1,559	1,695	1,388	1,006	499	163	14
25	266	549	841	1,075	1,332	1,566	1,690	1,376	993	481	156	13
26	277	561	850	1,083	1,339	1,574	1,687	1,365	979	467	149	13
27	286	570	859	1,091	1,345	1,582	1,684	1,352	966	450	141	15
28	293	579	868	1,100	1,351	1,591	1,680	1,340	953	435	135	16
29	302	587	875	1,107	1,357	1,601	1,677	1,328	940	421	130	16
30	314	596	882	1,115	-------	1,612	1,672	1,313	924	407	125	14
31	319	-------	889	1,124	-------	1,617	-------	1,298	-------	392	116	-------
(†)	4,319.08	4,329.36	4,337.69	4,343.18	4,348.05	4,353.01	4,354.00	4,346.85	4,338.56	4,322.06	4,308.74	4,299.20
(‡)	+229	+277	+293	+235	+233	+260	+55	-374	-374	-532	-276	-102

Calendar year 1959..... ‡ +15
Water year 1959-60..... ‡ -76

† Elevation, in feet, at end of month.
‡ Change in contents, in thousands of acre-feet.

770. Snake River at Neeley, Idaho

Location.--Lat 42°46'20", long 112°52'45", in SW¼ sec.31, T.7 S., R.31 E., on right bank 400 ft upstream from fish hatchery buildings and 0.9 mile downstream from American Falls Dam. Records computed to show flow at former site in sec.11, T.8 S., R.30 E., half a mile north of Neeley and 2½ miles downstream from present site, by adding inflow between sites.

Drainage area.--13,600 sq mi, approximately, excluding nontributary area on Snake River plains.

Records available.--March 1906 to September 1960. Monthly discharge only for some periods published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 4,241.6 ft above mean sea level (levels by Bureau of Reclamation). Prior to Aug. 8, 1910, staff gages and Aug. 8, 1910, to June 6, 1930, water-stage recorder, at site 2½ miles downstream at different datum. June 7, 1930, to Mar. 19, 1945, water-stage recorder at site 0.4 mile upstream at datum 0.4 ft higher.

Average discharge.--34 years (1926-60), 6,721 cfs (4,866,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,800 cfs July 24 (gage height, 6.92 ft); minimum, 53 cfs Nov. 6, 7 (gage height, 0.83 ft).
1906-60: Maximum daily discharge, 48,400 cfs June 20, 1918 (gage height, 13.5 ft, site and datum then in use); minimum, 50 cfs Oct. 22, 23, Nov. 14-16, 1941.

Remarks.--Records excellent. Flow regulated by American Falls Reservoir (see preceding page) and other reservoirs, having a combined usable capacity of 4,600,000 acre-ft. About 740,000 acres of land irrigated by water diverted from river and tributaries above station.

Cooperation.--Gage-height record and capacity table furnished by Bureau of Reclamation.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 23-26)

0.9	58	2.3	360	4.0	2,040
1.3	102	2.6	560	5.0	5,010
1.7	160	3.0	840	6.0	9,180
2.0	235	3.5	1,320	7.0	14,200

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,310	2,060	1,160	1,340	1,170	1,100	2,040	9,370	11,500	12,900	12,200	9,320
2	2,450	640	965	1,340	1,050	1,110	2,040	9,810	11,600	13,100	11,400	9,370
3	2,570	65	956	1,340	965	1,110	124	9,710	12,300	13,200	10,900	*8,860
4	2,610	58	696	1,360	1,030	1,080	3,250	9,230	12,400	13,200	*10,900	8,500
5	2,660	60	108	1,360	1,110	1,070	4,970	9,000	12,200	13,100	10,800	8,180
6	2,520	60	107	1,360	1,120	1,060	4,060	9,040	12,100	12,800	10,900	7,860
7	2,430	61	638	1,370	1,150	1,070	3,430	9,370	12,100	12,600	11,100	7,560
8	2,450	774	904	1,300	1,070	992	3,430	9,760	12,100	*12,400	11,300	7,300
9	2,500	3,430	888	*1,220	938	840	3,470	9,860	12,100	12,200	11,600	6,960
10	2,520	3,470	896	1,220	912	848	3,470	9,860	*12,100	12,200	12,100	6,760
11	2,540	*3,500	896	1,230	896	856	3,530	10,400	11,300	12,300	12,600	6,720
12	2,430	2,760	904	1,230	929	864	3,530	11,300	10,800	12,500	12,700	6,680
13	2,190	1,650	904	1,230	938	872	3,640	12,400	10,800	12,500	12,700	6,960
14	2,100	1,650	904	1,150	947	1,340	4,250	*12,600	11,000	12,700	12,700	6,920
15	2,120	1,670	965	1,090	1,020	937	6,560	12,100	11,400	13,000	12,600	6,520
16	*2,120	1,670	1,020	1,080	1,060	1,790	6,720	12,200	11,300	13,000	12,600	6,440
17	2,150	1,670	1,030	1,080	1,080	2,040	6,520	12,300	11,300	13,100	12,400	6,480
18	2,150	1,680	1,020	1,170	1,090	2,030	6,520	12,300	11,000	13,100	12,200	6,680
19	1,920	1,700	1,010	1,490	1,090	*2,160	6,440	12,200	10,600	13,000	*11,900	7,000
20	1,870	1,680	1,010	1,490	1,100	127	5,980	11,900	10,500	12,900	11,700	7,420
21	1,940	1,670	1,020	1,490	1,120	2,030	6,440	11,600	10,400	13,200	11,500	8,000
22	1,960	1,670	1,200	1,380	*1,130	2,020	7,420	11,200	10,600	*13,300	11,500	8,090
23	1,970	1,670	1,180	1,300	1,100	2,020	7,730	11,000	10,900	13,500	11,500	7,820
24	1,970	1,670	*1,420	1,300	1,080	2,020	7,730	11,000	11,100	13,700	11,100	7,640
25	1,990	1,670	1,630	1,300	1,090	2,020	7,690	11,000	*11,300	13,700	10,800	7,640
26	2,010	1,650	1,630	1,310	1,090	2,030	7,470	10,900	11,400	13,600	10,100	6,090
27	2,020	*1,560	1,630	1,310	1,090	128	7,340	11,100	11,300	13,500	9,520	5,200
28	2,040	1,430	1,630	1,310	1,110	2,020	7,860	*11,200	11,600	13,300	9,420	5,160
29	2,060	1,490	1,440	1,150	1,110	2,020	8,270	11,200	12,300	12,900	9,420	5,160
30	2,060	1,490	1,340	1,060	-------	2,030	*8,540	11,400	12,700	12,600	9,810	*5,120
31	2,060	-------	1,340	1,080	-------	2,030	-------	11,500	-------	12,400	9,810	-------
Total	68,690	46,278	32,441	39,440	30,585	43,664	160,464	337,810	344,100	401,500	351,780	214,410
Mean	2,216	1,543	1,046	1,272	1,055	1,409	5,349	10,900	11,470	12,950	11,350	7,147
Ac-ft	136,200	91,790	64,350	78,230	60,660	86,610	318,300	670,000	682,500	796,400	697,700	425,300

Calendar year 1959: Max 13,100 Min 58 Mean 5,551 Ac-ft 4,019,000
Water year 1959-60: Max 13,700 Min 58 Mean 5,659 Ac-ft 4,108,000

* Discharge measurement made on this day.

775. Rock Creek near Rockland, Idaho

Location.--Lat 42°31'40", long 112°51'40", in NE¼NW¼ sec.29, T.10 S., R.21 E., on right bank 10 ft upstream from culvert on private road, 3 miles south of Rockland, and 3¾ miles upstream from East Fork.

Drainage area.--182 sq mi. Mean altitude, 5,670 ft.

Records available.--May 1955 to September 1960 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 4,720 ft (from topographic map).

Average discharge.--5 years, 5.14 cfs (3,720 acre-ft per year).

Extremes.--Maximum discharge during year, 275 cfs Mar. 6 (gage height, 6.21 ft); no flow for long periods.
1955-60: Maximum discharge, that of Mar. 6, 1960, from rating curve extended above 70 cfs on basis of slope-area measurement at gage height 6.10 ft; no flow for long periods in each year.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Practically entire flow diverted for irrigation above station during growing season. Discharge measurements of East Fork made about once a month to supplement this record (see p. 254).

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 2				Mar. 3 to Sept. 30			
1.03	0	1.5	3.0	1.03	0	2.2	18
1.1	.2	1.7	5.8	1.1	.2	2.5	26
1.2	.6	2.0	13	1.2	.7	3.0	41
1.3	1.2	3.0	43	1.4	2.3	4.0	76
				1.6	5.1	5.0	115
				1.9	11	6.0	219

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Avg.	Sept.
1		0	0	b3.8	10	b8.0	12	3.5	0		0.1	0
2		0	0	b3.6	8.3	b7.0	11	3.5	0		.1	0
3		0	0	b3.4	7.0	7.2	11	2.7	0		0	0
4		0	0	b3.3	6.0	7.6	11	3.1	0		0	0
5		0	0	b3.1	6.0	19	11	2.4	0		0	0
6		0	0	b3.2	6.5	89	10	2.1	0		0	0
7		0	0	b3.3	7.5	81	10	2.4	0		0	0
8		*0	0	[illegible]	12	123	9.8	*4.6	0		0	0
9		0	0	3.8	25	71	9.5	5.1	0		0	0
10		0	0	4.2	40	24	9.1	2.0	.2		0	0
11		0	0	4.6	37	18	8.9	.2	0		0	0
12		0	0	5.0	35	16	8.7	.2	*0		0	0
13		0	0	4.9	32	16	8.7	.2	0		0	0
14	(*)	0	13	4.7	28	20	8.3	.3	0	(*)	0	0
15		0	7.2	4.9	25	15	8.3	.2	0		0	0
16		0	*6.0	4.7	20	14	8.3	.2	0		0	0
17		0	6.2	*b7.0	17	14	7.8	.2	0		0	.2
18		0	5.5	5.0	15	17	7.6	.2	0		*0	.2
19		.1	5.0	3.6	14	42	7.4	.2	0		0	.2
20		.5	4.9	3.8	13	54	7.2	.2	0		0	.4
21		.2	4.9	3.9	12	52	7.4	.2	0		0	.3
22		0	4.7	4.0	11	52	6.4	.2	0		0	.4
23		0	4.7	4.2	11	*41	5.1	.2	0		0	.4
24		0	4.7	4.6	10	*31	4.6	.1	0		0	.4
25		0	4.7	5.0	10	29	3.3	.1	0		0	.2
26		0	4.7	5.5	10	24	3.5	0	0		0	.2
27		0	4.9	6.0	9.5	21	3.8	0	0		0	.2
28		0	4.4	12	9.2	16	3.8	0	0		0	.2
29		0	b4.3	30	*9.0	14	4.8	0	0		0	.2
30		0	b4.1	25	-------	12	3.7	0	0		0	.2
31		-------	b4.0	14	-------	13	-------	0	-------		0	-------
Total	0	0.8	97.9	197.5	456	967.8	232.0	34.3	0.2	0	0.2	3.7
Mean	0	0.03	3.16	6.37	15.7	31.2	7.73	1.11	0.007	0	0.006	0.12
Ac-ft	0	1.6	194	392	904	1,920	460	68.0	0.4	0	0.4	7.3

Calendar year 1959: Max 33 Min 0 Mean 2.89 Ac-ft 2,100
Water year 1959-60: Max 123 Min 0 Mean 5.44 Ac-ft 3,950

* Discharge measurement or observation of no flow made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 18 to Feb. 28 (stage-discharge relation affected by ice part of period), Sept. 28-30; discharge estimated on basis of weather records and records for nearby stations.

777. George Creek near Yost, Utah

Location.--Lat 41°55'10", long 113°28'50", in SW¼SW¼ sec.20, T.14 N., R.14 W., on right bank 1,000 ft upstream from section corner and boundary of Sawtooth National Forest, 4½ miles southeast of Yost, 5 miles south of Utah-Idaho State line, and 16 miles southwest of Strevell, Idaho.

Drainage area.--8.3 sq mi, approximately.

Records available.--July 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 7,000 ft (from topographic map).

Extremes.--1959: Maximum discharge recorded during period July to September, 8.9 cfs July 15 (gage height, 1.00 ft); minimum, 1.4 cfs Sept. 10, 11, 12.
1959-60: Maximum discharge during water year, 45 cfs May 12 (gage height, 1.46 ft) minimum recorded, 1.3 cfs Dec. 6.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No diversion above station.

Rating table, July 9, 1959, to Sept. 30, 1960 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 9-13, 1959)

0.7	0.9	1.1	9.4
.8	1.6	1.2	16
.9	3.0	1.3	25
1.0	5.4	1.4	37

Discharge, in cubic feet per second, 1959

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		2.5	1.7	9	5.4	1.9	1.5	17	3.8	1.6	2.5	25	2.3	1.8	2.2
2		2.5	1.6	10	5.4	1.8	1.5	18	3.4	*2.3	2.2	26	2.8	1.8	3.2
3		2.2	1.5	11	4.9	1.8	1.5	19	3.4	2.5	2.8	27	2.6	1.7	2.8
4	a6.5	2.2	1.5	12	4.9	1.8	1.5	20	3.0	2.8	2.6	28	2.3	1.7	2.3
5		2.1	1.6	13	4.6	1.7	1.6	21	3.0	2.1	2.2	29	2.3	1.6	2.2
6		2.1	1.6	14	4.6	1.8	1.9	22	2.6	1.9	2.1	30	2.2	1.6	2.2
7		1.9	1.6	15	4.9	1.7	2.6	23	*2.3	1.8	2.1	31	2.3	1.6	-
8	(*)	1.8	1.6	16	4.1	1.7	*2.2	24	2.3	1.8	2.1				
Total													131.4	60.1	60.5
Mean													4.24	1.94	2.02
Runoff in acre-feet													261	119	120

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 1 discharge measurement, trend of flow, and records for Clear Creek near Naf, Idaho.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	2.3	1.7	1.7	1.7	1.8	2.6	4.6	*31	4.9	2.3	*1.6
2	2.1	2.3	1.7	1.6	1.7	1.8	2.5	4.9	33	4.9	1.9	1.6
3	2.1	2.3	1.7	1.6	1.7	1.8	2.8	5.2	32	4.6	*2.1	1.6
4	2.1	2.1	1.6	1.6	1.7	1.8	3.6	5.2	31	4.1	1.9	1.6
5	2.1	1.9	1.4	1.6	1.7	1.6	4.9	5.2	27	3.6	1.9	1.6
6	2.1	2.1	1.4	1.6	1.7	a1.6	6.8	5.2	25	*3.6	1.8	1.6
7	2.1	2.1	1.4	1.6	1.6	a1.6	*7.2	5.2	22	3.4	1.8	1.6
8	2.1	2.1	1.4	1.6	1.8	1.5	7.2	5.2	22	3.2	1.7	1.6
9	2.3	2.1	*1.6	1.6	1.6	1.4	8.0	11	19	3.0	1.7	1.5
10	2.3	2.1	1.6	1.6	1.5	a1.4	9.4	*25	17	3.0	1.7	1.5
11	2.1	1.9	1.5	1.7	1.5	a1.4	8.4	30	12	3.0	1.7	1.5
12	2.2	1.9	1.5	1.7	1.5	a1.5	7.6	*33	9.9	3.0	1.7	1.5
13	*2.2	1.6	1.5	1.7	1.5	a1.6	6.4	33	9.4	2.6	1.7	1.4
14	2.2	1.8	1.5	1.7	1.5	a1.6	5.8	26	9.4	2.6	1.8	1.4
15	2.1	1.8	1.5	1.7	1.5	a1.5	5.2	23	8.9	2.6	1.9	1.4
16	2.2	*1.9	1.6	*1.7	1.5	a1.5	4.9	19	*9.4	2.5	1.8	1.4
17	2.2	1.8	1.6	1.6	1.5	*a1.5	4.6	18	8.9	2.5	1.7	1.4
18	2.2	1.9	1.6	1.6	*1.5	a1.6	4.3	17	8.4	2.3	1.7	1.4
19	2.3	1.9	1.6	1.6	1.5	a1.6	4.6	14	8.0	2.2	1.6	1.4
20	2.5	1.9	1.6	1.6	1.5	a1.7	4.9	*13	7.6	2.2	1.6	1.4
21	2.5	1.9	1.6	1.6	1.5	a2.0	6.8	13	7.2	2.5	1.6	1.4
22	2.6	1.9	1.6	1.6	1.5	a2.2	8.0	12	6.8	2.2	1.7	1.4
23	2.6	1.9	1.6	1.6	1.5	a2.5	7.2	11	6.4	2.2	1.9	1.4
24	2.6	2.1	1.6	1.6	1.6	3.0	6.4	10	6.1	2.2	1.8	1.4
25	2.6	1.9	1.7	1.6	1.7	3.4	5.4	10	5.8	2.2	1.7	1.4
26	2.6	1.7	1.7	1.7	1.7	4.1	5.2	10	5.4	2.2	1.6	1.4
27	2.6	1.7	1.7	1.7	1.7	4.3	*5.2	10	5.4	2.2	1.7	1.4
28	2.5	1.7	1.7	1.7	1.7	*4.1	5.2	11	5.2	2.2	1.5	1.4
29	2.3	1.7	1.7	1.7	1.7	3.4	4.6	13	4.9	2.2	1.5	1.4
30	2.3	1.7	1.7	1.7	-------	3.0	4.6	20	4.9	2.2	1.5	1.4
31	2.5	-------	1.7	1.7	-------	2.8	-------	25	-------	2.3	1.5	-------
Total	71.3	58.0	49.3	50.9	46.3	66.6	170.3	447.7	409.0	88.4	54.0	44.0
Mean	2.30	1.93	1.59	1.64	1.60	2.15	5.68	14.4	13.6	2.85	1.74	1.47
Ac-ft	141	115	98	101	92	132	338	888	811	175	107	87

Calendar year 1959: Max - Min - Mean - Ac-ft -
Water year 1959-60: Max 33 Min 1.4 Mean 4.25 Ac-ft 3,086

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 1 discharge measurement, weather records, and records for Clear Creek near Naf, Idaho.

780. Raft River at Peterson Ranch, near Bridge, Idaho

Location.--Lat 42°04', long 113°27', in sec.5, T.16 S., R.26 E., on left bank 100 ft upstream from One Mile Creek, 400 ft downstream from road bridge, 7½ miles southwest of Bridge Post Office, and 16 miles south of Malta.

Drainage area.--412 sq mi.

Records available.--September 1946 to December 1953, May 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,980 ft (by barometer).

Average discharge.--12 years, 19.1 cfs (13,830 acre-ft per year).

Extremes.--Maximum discharge during year, 112 cfs Mar. 8 (gage height, 2.33 ft); minimum, 2.1 cfs Aug. 9 (gage height, 1.22 ft).
1946-53, 1955-60: Maximum discharge, 1,090 cfs Feb. 5, 1951 (gage height, 4.52 ft), from rating curve extended above 200 cfs on basis of slope-area measurement of peak flow; minimum, 1.2 cfs Jan. 13, 1950 (gage height, 0.90 ft), caused by ice jam upstream.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Rating table, water year 1959-60, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 31 to Sept. 30)

1.0	2.2	1.4	14
1.1	3.6	1.6	28
1.2	5.8	1.8	44
1.3	8.9	2.0	65

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a6.1	7.0	6.7	7.0	11	b10	16	11	7.4	5.1	4.5	4.5
2	a6.1	7.0	7.4	6.7	12	10	23	11	7.0	4.7	3.6	5.1
3	a6.1	7.0	7.4	6.7	10	11	23	12	7.0	4.5	3.2	4.5
4	a6.4	7.0	7.4	6.7	10	13	23	11	6.7	4.5	2.9	4.0
5	a6.2	6.4	7.4	7.7	11	18	23	11	7.0	4.0	3.0	3.8
6	a6.2	6.4	7.4	8.3	12	18	21	10	7.0	4.0	2.9	3.8
7	a6.6	*7.0	7.7	8.0	13	56	23	*9.9	7.7	4.0	2.9	3.8
8	a6.6	6.7	7.7	8.3	16	57	26	9.4	8.0	4.0	2.9	3.6
9	a10	7.0	7.0	8.6	20	42	23	9.4	8.0	3.6	2.9	3.6
10	a10	7.4	7.7	8.9	18	26	22	8.9	*8.3	4.0	3.0	4.0
11	a7.0	7.4	7.7	8.9	16	19	18	8.6	7.4	4.7	3.6	4.0
12	*6.7	7.4	7.7	9.4	13	15	16	8.3	7.0	4.0	3.3	4.0
13	6.7	7.4	8.0	8.6	14	15	16	8.3	6.7	3.8	3.2	4.0
14	6.7	6.7	*7.4	8.9	12	14	13	8.3	7.0	4.0	3.2	4.0
15	6.7	7.0	7.4	*8.6	14	12	12	8.3	7.4	3.8	4.5	4.0
16	6.7	7.4	7.7	8.3	12	11	12	8.6	7.0	4.0	4.3	4.3
17	6.4	7.4	7.7	7.7	12	11	11	8.6	6.1	3.6	4.0	4.7
18	6.4	7.7	8.0	7.7	12	12	11	8.6	6.4	*3.6	4.0	4.7
19	6.7	7.7	7.7	7.7	14	12	11	8.3	6.7	3.3	*3.8	4.5
20	6.7	8.3	7.4	8.0	14	15	11	8.3	5.6	3.3	3.6	4.3
21	6.7	8.0	7.4	8.0	13	16	11	8.3	5.4	3.5	3.3	4.5
22	6.7	8.6	7.7	8.0	13	16	11	8.3	5.6	3.5	3.8	4.7
23	6.7	8.0	7.7	8.3	12	15	11	8.3	6.1	3.5	5.4	4.7
24	6.7	8.9	7.7	8.6	9.9	13	12	8.6	5.6	3.5	4.9	4.7
25	7.0	8.9	8.0	8.9	12	12	11	8.3	5.4	3.5	4.7	4.5
26	6.7	8.3	7.7	9.4	11	*12	11	8.3	5.1	3.5	4.3	*4.7
27	7.0	7.7	6.7	9.9	*b9.4	14	11	8.9	4.9	4.3	4.3	4.9
28	7.0	8.0	7.0	10	b9.2	15	11	8.3	4.9	3.8	4.3	4.9
29	7.0	6.7	6.7	11	b9.0	16	11	8.0	4.9	3.5	4.3	5.1
30	7.0	6.7	6.7	11	------	15	11	7.7	4.9	3.8	4.3	5.1
31	7.0	------	7.0	11	------	14	------	7.7	------	4.6	4.0	------
Total	212.5	223.1	230.8	264.8	364.5	555	465	278.5	194.2	121.5	116.9	131.2
Mean	6.85	7.44	7.45	8.54	12.6	17.9	15.5	8.98	6.47	3.92	3.77	4.37
Ac-ft	421	443	458	525	723	1,100	922	552	385	241	232	260

Calendar year 1959: Max 28 Min 3.5 Mean 9.42 Ac-ft 6,820
Water year 1959-60: Max 57 Min 2.9 Mean 8.63 Ac-ft 6,260

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 1 discharge measurement, weather records, and records for Cassia Creek near Elba.
b Stage-discharge relation affected by ice.

790. Clear Creek near Naf, Idaho

Location.--Lat 41°58'00", long 113°17'05", in NW¼SW¼ sec.1, T.14 N., R.13 W., Salt Lake meridian, on right bank 2 miles south of Utah-Idaho State line, 3 miles south of Naf, and 20 miles upstream from mouth.

Drainage area.--19 sq mi, approximately.

Records available.--January 1910 to June 1911, June to December 1912 (gage heights only), October 1944 to September 1960. Monthly discharge only for October and November 1944, published in WSP 1317.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,840 ft (by barometer). Prior to Dec. 31, 1912, staff gage at site 30 ft upstream at different datum. Nov. 23, 1944, to Mar. 28, 1950, water-stage recorder at site 600 ft upstream at different datum, above one small diversion.

Average discharge.--16 years (1944-60), 9.16 cfs (6,630 acre-ft per year).

Extremes.--Maximum discharge during year, 118 cfs May 13 (gage height, 1.81 ft); minimum, 0.1 cfs Aug. 7.
1910-11, 1944-60: Maximum discharge, 220 cfs May 25, 1958 (gage height, 2.12 ft); minimum, 0.1 cfs several times in summers of 1952-54, 1956, 1959-60.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Three small diversions for irrigation above station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	0.2	1.4	18
1.1	.7	1.5	30
1.2	3.4	1.6	47
1.3	8.4	1.8	104

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	2.0	1.3				3.4	6.1	*39	6.1	3.7	1.8
2	2.3	2.0	1.3				3.0	6.6	41	6.1	2.6	3.4
3	2.3	2.0	1.3			1.0	3.4	6.6	41	6.6	*2.3	2.0
4	2.3	1.8	b1.2				3.7	7.2	38	6.6	2.0	1.8
5	2.6	1.3	b1.4				5.1	7.2	36	*6.6	1.8	1.8
6	2.6	b1.5	b1.4				6.6	7.8	34	3.7	1.5	1.3
7	2.3	1.8	b1.4				*7.2	9.8	34	3.9	.7	1.1
8	2.0	1.5	b1.4				7.8	13	34	5.6	.8	1.1
9	2.6	1.5	*b1.4				9.1	15	31	5.6	1.3	.9
10	3.0	1.5					11	*19	30	5.6	1.3	.7
11	2.6	1.5			1.2	1.7	11	41	26	5.1	1.3	.7
12	2.3	1.5					9.8	*72	26	5.1	.9	.6
13	2.0	b.4					9.1	85	24	4.6	.7	.6
14	*2.0	1.1					8.4	58	21	2.7	1.1	.7
15	2.0	1.5					7.8	51	21	2.5	1.1	.7
16	2.0	*1.1		1.0			7.2	45	*21	3.7	1.0	.7
17	2.0	1.1		(*)		(*)	b1.8	6.6	41	19	3.4	1.8	.9
18	2.0	1.1					2.0	6.6	36	18	3.4	1.5	.7
19	2.0	1.1			(*)		2.3	6.6	29	16	3.4	1.3	.4
20	2.0	1.1	1.2				3.0	6.6	*21	15	3.4	.7	.3
21	1.8	1.1					3.7	7.2	18	13	3.0	.6	.4
22	2.0	1.3					3.7	8.4	18	13	2.0	1.5	.6
23	2.0	1.5					3.7	8.4	14	12	1.8	2.3	.6
24	2.0	1.5					4.2	8.4	11	12	3.0	2.0	.4
25	1.8	1.5				1.0	4.2	4.6	9.1	11	2.6	1.8	.4
26	1.8	b.4					4.6	3.3	11	9.1	2.3	1.5	.4
27	2.0	1.1					4.6	*4.2	13	6.1	2.3	1.5	.3
28	1.8	1.3					4.6	4.2	16	7.2	3.0	1.8	.4
29	1.5	1.3					*4.2	5.6	18	6.6	3.0	1.3	.4
30	1.5	1.3			-------		3.7	6.1	25	6.6	2.2	.9	.4
31	1.8	-------			-------		3.4	-------	34	-------	2.0	*.8	-------
Total	65.2	40.7	38.5	31.0	33.0	78.1	200.4	764.4	661.6	120.9	45.4	26.5
Mean	2.10	1.36	1.24	1.0	1.14	2.52	6.68	24.7	22.1	3.90	1.46	0.88
Ac-ft	129	81	76	61	65	155	397	1,520	1,310	240	90	53

Calendar year 1959: Max 56 Min 0.3 Mean 5.94 Ac-ft 4,300
Water year 1959-60: Max 85 Min 0.3 Mean 5.75 Ac-ft 4,180

Peak discharge (base, 70 cfs).--May 13 (1 a.m.) 118 cfs (1.81 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 10 to Mar. 16 (affected by ice most of period); discharge estimated on basis of 3 discharge measurements, weather records, trend of flow, and records for George Creek near Yost, Utah.

792. Cassia Creek near Elba, Idaho

Location.--Lat 42°17', long 113°31', in SE¼ sec.22, T.13 S., R.25 E., on left bank 200 ft downstream from bridge on State Highway 77, 3 miles northeast of Elba, and 7¾ miles southwest of Malta.

Drainage area.--84 sq mi, approximately.

Records available.--November 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,910 ft (by barometer).

Extremes.--Maximum discharge during year, 160 cfs July 31 (gage height, 4.08 ft); minimum, 1.8 cfs Nov. 13 (gage height, 1.39 ft), but may have been less during period of backwater from beaver dam.
1956-60: Maximum discharge, 233 cfs May 14, 1957 (gage height, 4.61 ft); minimum, that of Nov. 13, 1960.

Remarks.--Records good except those for periods of ice effect or backwater from beaver dam, which are poor. Numerous diversions for irrigation above station.

Rating table, water year 1959-60, except periods of ice effect or backwater from beaver dam (gage height, in feet, and discharge, in cubic feet per second)

1.4	2.3	1.9	16
1.5	3.8	2.1	27
1.7	8.6	2.4	48

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	5.9	5.9	7.0	8.1	b7.8	29	18	21	8.6	6.0	3.0
2	6.4	5.9	5.7	7.5	8.1	7.5	25	20	30	8.2	5.0	3.0
3	6.4	5.7	5.7	7.0	7.5	8.3	26	19	34	8.0	4.5	3.0
4	7.0	5.3	4.9	7.5	8.3	17	28	19	40	7.8	4.0	2.9
5	6.7	4.9	4.9	7.5	8.1	19	32	19	43	7.6	3.8	2.9
6	6.7	*4.9	5.7	8.1	8.3	32	37	19	39	7.4	3.6	2.8
7	7.2	5.1	5.5	8.1	14	20	39	*19	38	7.2	3.5	2.8
8	7.2	5.1	5.3	8.6	25	22	37	21	39	7.0	3.4	2.8
9	12	5.1	5.3	8.6	18	17	36	21	36	7.0	3.3	2.8
10	12	5.1	5.7	8.1	13	11	36	22	*34	7.0	3.2	2.9
11	8.1	5.3	5.5	8.3	11	11	32	26	28	6.8	3.1	3.0
12	7.5	5.3	5.3	8.1	9.3	13	34	34	25	6.8	3.0	3.0
13	7.5	4.3	5.5	7.2	11	13	27	38	23	6.8	3.0	3.1
14	7.5	4.7	*5.5	8.3	8.9	8.3	25	38	22	6.8	3.0	3.1
15	7.2	4.9	6.4	*8.3	9.9	11	24	38	27	6.6	3.0	3.2
16	7.2	5.1	6.2	7.8	9.3	12	21	38	25	6.6	2.9	3.2
17	7.2	5.1	6.2	b7.3	8.3	13	20	38	23	6.6	2.9	3.3
18	7.2	5.5	6.7	b7.5	8.6	17	20	40	22	*6.5	2.9	3.3
19	7.0	5.5	6.7	b8.0	8.1	20	20	38	22	6.4	*2.9	3.3
20	6.7	5.5	6.2	b8.0	7.2	22	20	33	20	6.2	2.9	3.3
21	6.7	5.9	6.7	b8.0	7.5	26	19	31	19	6.0	2.9	3.3
22	7.0	5.7	6.2	b8.0	8.3	32	19	29	18	5.8	2.9	3.3
23	7.0	6.2	7.0	b8.0	7.0	34	21	26	17	5.6	3.0	3.4
24	6.7	6.2	7.2	7.8	8.1	38	21	24	15	5.4	3.0	3.4
25	6.7	5.7	7.0	7.8	7.2	40	20	22	14	5.2	3.0	3.4
26	6.4	5.1	5.5	8.3	*7.5	*41	19	22	13	5.0	3.0	*3.4
27	6.2	5.3	6.2	8.6	b7.8	37	19	21	12	4.9	3.0	3.4
28	6.4	5.5	6.7	8.3	b7.8	40	19	20	11	4.8	3.0	3.4
29	6.7	5.5	6.7	8.3	b7.8	30	19	20	10	4.7	3.0	3.5
30	7.0	5.7	6.7	8.1	-------	28	18	20	9.0	4.6	3.0	3.5
31	6.4	-------	7.0	8.1	-------	28	-------	20	-------	28	3.0	-------
Total	224.3	161.0	187.7	246.1	279.0	675.9	762	813	729.0	222.9	102.7	94.7
Mean	7.24	5.37	6.05	7.94	9.62	21.8	25.4	26.2	24.3	7.19	3.31	3.16
Ac-ft	445	319	372	488	553	1,340	1,510	1,610	1,450	442	204	188

Calendar year 1959: Max 48 Min 3.4 Mean 13.6 Ac-ft 9,830
Water year 1959-60: Max 43 Min 2.8 Mean 12.3 Ac-ft 8,920

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--Stage-discharge relation indefinite June 21 to Sept. 30 due to backwater from beaver dam; discharge estimated on basis of 3 discharge measurements and records for Raft River near Bridge.

800. North Side Minidoka Canal near Minidoka, Idaho

Location.--Lat 42°40', long 113°29', in sec.1, T.9 S., R.25 E., on left bank 600 ft downstream from headgates at Minidoka Dam and 6 miles south of Minidoka.

Records available.--April 1908 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 4,180.33 ft above mean sea level (Bureau of Reclamation bench mark). April to November 1910 at datum 0.08 ft higher.

Average discharge.--19 years (1941-60), 618 cfs (447,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,810 cfs May 14 (gage height, 10.23 ft); no flow Oct. 18 to Apr. 13.
1908-60: Maximum discharge, 1,810 cfs July 9, 1953, May 14, 1960; no flow in winters.

Remarks.--Records excellent. Flow controlled by headgates. Canal diverts water from Lake Walcott at right end of Minidoka Dam for irrigation of 64,000 acres under North Side Minidoka project. Diversion began in June 1907.

Cooperation.--Gage-height record furnished by Bureau of Reclamation.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 11 to June 7, July 3 to Aug. 11)

0.8	31	2.0	118	6.0	746
1.0	43	3.0	229	8.0	1,210
1.5	77	4.0	375	10.3	1,800

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	313						0	1,300	1,670	1,760	1,230	1,360
2	313						0	1,340	1,650	1,770	1,170	1,210
3	315						0	1,190	1,690	1,770	*1,220	1,070
4	315						0	1,000	1,670	1,770	1,280	1,060
5	315						0	948	1,660	*1,770	1,300	968
6	316						0	1,020	1,700	1,770	1,420	900
7	313						0	1,040	1,710	1,760	1,470	849
8	360						0	1,040	1,700	1,760	1,520	*852
9	332						0	1,090	1,580	1,760	1,590	885
10	*316						0	1,220	1,390	1,760	1,660	891
11	318						0	*1,500	1,260	*1,760	*1,680	876
12	316						0	1,700	1,300	1,760	1,660	856
13	363						0	1,780	*1,360	1,770	1,560	878
14	387						25	1,780	1,390	1,770	1,550	887
15	385						201	1,760	1,410	1,770	1,550	900
16	385						336	1,760	1,250	1,760	1,550	885
17	128						382	1,760	1,200	1,760	*1,520	823
18	0						538	1,760	1,150	*1,760	1,500	786
19	0						*573	1,760	1,120	1,770	1,540	867
20	0						684	1,760	1,200	1,770	1,560	913
21	0						893	1,570	1,360	1,780	1,530	889
22	0						1,120	1,540	*1,440	1,780	1,470	860
23	0						1,050	1,610	1,570	1,800	1,340	854
24	0						1,050	1,520	1,640	1,790	1,200	871
25	0						1,050	1,480	1,660	*1,780	*1,110	898
26	0						1,090	1,540	1,660	1,760	1,050	955
27	0						1,220	1,510	1,690	1,660	988	1,010
28	0						1,220	1,360	*1,730	1,590	946	1,070
29	0						1,150	1,340	1,740	1,540	1,000	1,070
30	0				-------		1,180	1,440	1,750	1,490	1,240	1,050
31	0	-------			-------		-------	*1,600	-------	1,400	1,370	-------
Total	5,490	0	0	0	0	0	13,762	45,018	45,300	53.670	42,774	28,243
Mean	177	0	0	0	0	0	459	1,452	1,510	1,731	1,380	941
Ac-ft	10,890	0	0	0	0	0	27,300	89,290	89,850	106.500	84,840	56,020

Calendar year 1959: Max 1,770 Min 0 Mean 627 Ac-ft 453,700
Water year 1959-60: Max 1,800 Min 0 Mean 640 Ac-ft 464,700

* Discharge measurement made on this day.

805. South Side Minidoka Canal near Minidoka, Idaho

Location.--Lat 42°40', long 113°29', in sec.12, T.9 S., R.25 E., on right bank 900 ft downstream from headgates at Minidoka Dam and 6 miles south of Minidoka.

Records available.--April 1908 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 4,184 ft above mean sea level (Bureau of Reclamation bench mark). Prior to 1910, at site 600 ft upstream at same datum.

Average discharge.--19 years (1941-60), 486 cfs (351,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,400 cfs July 22, 23; maximum gage height, 6.15 ft July 18; no flow Oct. 17 to Apr. 14.
1908-60: Maximum discharge, 1,430 cfs July 7, 1959; maximum gage height, that of July 18, 1960 (backwater from aquatic growth); no flow for long periods during non-irrigation seasons.

Remarks.--Records good. Flow controlled by headgates. Canal diverts water from Lake Walcott at left end of Minidoka Dam for irrigation of 54,000 acres under South Side Minidoka project. Diversion began in April 1908.

Cooperation.--Gage-height record furnished by Bureau of Reclamation.

Revisions (water years).--WSP 1347: 1910.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	276						0	934	1,280	1,340	1,230	1,160
2	276						0	1,010	1,290	1,340	1,190	1,150
3	276						0	1,040	1,320	1,340	*1,130	1,090
4	280						0	1,050	1,340	1,330	1,150	1,060
5	284						0	1,050	1,340	*1,320	1,170	1,040
6	286						0	1,050	1,330	1,320	1,200	*995
7	288						0	1,050	1,310	1,320	1,240	940
8	288						0	1,050	*1,310	1,320	1,300	871
9	296						0	989	1,280	1,350	1,330	830
10	*297						0	989	1,270	1,360	1,320	822
11	294						0	1,110	1,230	*1,350	*1,320	760
12	296						0	1,210	1,180	1,340	1,310	755
13	296						0	1,300	*1,160	1,330	1,290	790
14	294						0	*1,330	1,170	1,310	1,290	819
15	292						92	1,330	1,160	1,300	1,270	819
16	111						325	1,320	1,160	1,300	1,260	804
17	0						398	1,340	1,220	1,300	*1,220	777
18	0						398	1,350	1,190	*1,280	1,220	755
19	0						*400	1,320	1,180	970	1,230	*736
20	0						420	1,290	1,200	1,390	1,250	777
21	0						554	1,280	1,220	1,380	1,260	848
22	0						697	1,260	*1,220	1,390	1,240	928
23	0						*694	1,280	1,240	1,390	1,160	980
24	0						705	1,260	1,260	1,390	1,100	955
25	0						702	1,240	1,280	*1,380	*1,010	877
26	0						705	1,220	1,290	1,330	943	886
27	0						771	1,230	1,280	1,310	937	868
28	0						839	*1,240	*1,290	1,310	913	865
29	0						859	1,250	1,330	1,290	986	880
30	0				-------		859	1,240	1,330	1,280	1,040	874
31	0	-------			-------		-------	1,250	-------	1,260	1,100	-------
Total	4,430	0	0	0	0	0	9,418	36,862	37,660	40,920	36,609	26,711
Mean	143	0	0	0	0	0	314	1,189	1,255	1,320	1,181	890
Ac-ft	8,790	0	0	0	0	0	18,680	73,110	74,700	81,160	72,610	52,980

Calendar year 1959: Max 1,410 Min 0 Mean 487 Ac-ft 352,700
Water year 1959-60: Max 1,390 Min 0 Mean 526 Ac-ft 382,000

* Discharge measurement made on this day.

810. Lake Walcott near Minidoka, Idaho

Location.--Lat 42°40', long 113°29', in sec.1, T.9 S., R.25 E., on south wall in powerhouse at Minidoka Dam on Snake River, 6 miles southeast of Minidoka.

Drainage area.--15,700 sq mi, approximately, excluding nontributary area on Snake River plains.

Records available.--April 1909 to September 1960.

Gage.--Staff gage and glass tubes connected to lake through pipes read at 8 a.m. and 4 p.m. Datum of gage is 4,200 ft above datum of Bureau of Reclamation, which is 49.52 ft below mean sea level. Prior to Feb. 1, 1941, hook gages at approximately same site at same datum.

Extremes.--Maximum contents during year, 102,780 acre-ft Apr. 7 (gage height, 45.63 ft); minimum, 32,290 acre-ft Sept. 20 (gage height, 39.26 ft).
1909-60: Maximum contents, 110,740 acre-ft Aug. 8, 1922 (gage height, 46.28 ft); minimum, -101,410 acre-ft Nov. 17, 1941 (gage height, 15.19 ft).

Remarks.--Reservoir is formed by rock-fill dam with concrete core; storage began in 1906. Capacity, 107,240 acre-ft between gage heights 36.00 (sill of powerhouse penstock) and 46.00 ft (top of flashboards). Dead storage below gage height 36.00 ft, about 115,000 acre-ft. Water used for power development and irrigation on Minidoka project of Bureau of Reclamation. Contents given herein are above gage height 36.0 ft. Figures of daily contents computed from mean or twice-daily readings.

Cooperation.--Gage-height record and capacity table furnished by Bureau of Reclamation.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

4,239.0	29,590	4,244.0	83,540
4,240.0	39,960	4,246.0	107,240
4,242.0	61,280		

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94,020	96,870	82,640	68,530	68,310	67,650	90,990	94,020	94,020	90,530	95,910	91,690
2	93,550	97,110	81,740	68,310	68,200	67,760	93,200	94,490	93,320	91,690	98,080	88,900
3	94,020	92,970	79,140	68,310	68,090	67,650	94,490	94,720	91,920	92,860	97,590	86,570
4	94,600	89,600	79,710	68,090	67,430	68,090	92,860	94,490	92,390	94,490	97,720	83,540
5	93,790	86,800	78,130	68,310	67,430	68,420	97,840	95,070	93,090	96,150	96,870	80,610
6	95,430	83,770	76,210	68,090	67,430	68,640	101,450	95,550	93,440	97,230	95,180	77,680
7	92,390	80,160	74,290	68,530	67,760	68,750	101,690	94,370	93,550	97,840	93,320	74,290
8	94,950	77,230	73,390	68,750	68,310	68,530	101,210	94,140	95,430	97,720	92,040	71,390
9	93,790	77,790	72,720	68,750	68,310	67,650	100,850	94,250	95,910	96,390	89,710	68,530
10	94,720	80,610	71,610	68,640	67,980	67,430	98,200	94,490	96,870	95,790	88,310	64,900
11	95,550	83,540	70,620	68,530	67,650	67,320	99,280	94,020	97,590	94,490	88,200	61,500
12	95,430	85,750	69,960	68,200	67,430	67,100	96,750	93,320	97,110	94,020	88,900	58,050
13	95,430	88,900	68,640	68,090	66,990	66,990	97,960	91,920	96,150	94,250	89,600	54,070
14	94,490	88,430	67,650	68,310	66,990	67,210	95,310	93,550	94,840	94,140	91,110	51,820
15	93,320	86,330	66,770	68,090	66,770	67,650	95,430	93,790	93,200	94,370	91,690	47,880
16	93,090	87,500	66,110	67,980	67,210	67,870	95,910	92,390	95,790	94,250	91,230	44,190
17	93,090	87,850	65,890	67,870	67,210	69,630	95,550	92,970	94,490	94,250	92,390	40,490
18	93,440	87,150	65,450	67,650	67,210	71,720	95,180	93,090	96,390	94,140	93,320	37,260
19	93,790	85,750	65,010	67,870	66,990	73,960	95,070	93,790	96,270	94,600	94,020	35,090
20	93,090	86,450	64,800	68,420	66,990	75,530	97,960	94,720	92,740	94,020	94,490	32,600
21	93,790	82,190	64,360	68,970	67,210	74,740	96,510	94,250	95,670	92,970	94,720	32,700
22	93,320	85,640	64,360	68,860	67,320	76,890	94,250	95,670	95,180	93,440	94,250	33,320
23	94,140	84,940	64,470	68,860	67,430	78,690	94,950	94,950	94,950	92,970	94,490	33,740
24	94,490	85,400	64,470	68,750	67,430	80,610	93,320	95,670	94,720	92,620	95,310	36,230
25	92,860	82,300	64,580	68,750	67,980	82,410	95,790	95,670	93,320	93,440	96,030	38,090
26	95,180	84,700	66,000	68,750	67,650	83,770	96,150	95,310	93,790	94,490	96,390	39,650
27	94,720	84,940	67,210	68,750	67,870	85,640	96,030	93,550	93,790	94,720	94,720	37,890
28	93,790	84,010	67,870	68,750	67,870	82,190	94,720	94,840	92,160	95,180	94,720	36,020
29	95,430	83,430	68,310	68,970	67,980	86,330	94,720	95,180	90,530	95,910	94,250	34,780
30	95,430	83,090	68,090	68,530	-------	88,080	93,790	94,490	90,990	95,670	93,670	32,800
31	96,390	-------	68,310	68,530	-------	88,310	-------	93,900	-------	96,630	92,740	-------
(†)	45.10	43.96	42.64	42.66	42.61	44.41	44.88	44.89	44.64	45.12	44.79	39.31
(‡)	+1,210	-13,300	-14,780	+220	-550	+20,330	+5,480	+110	-2,910	+5,640	-3,890	-59,940

Calendar year 1959..... ‡ +9,180
Water year 1959-60..... ‡ -62,380

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

815. Snake River near Minidoka, Idaho

Location.--Lat 42°40', long 113°30', in sec.2, T.9 S., R.25 E., on right bank 1 mile downstream from Minidoka Dam and 6 miles south of Minidoka.

Drainage area.--15,700 sq mi, approximately, excluding nontributary area on Snake River plains.

Records available.--August 1895 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Published as "below Minidoka dam, at Howell's Ferry" 1911. Records for August 1895 to Apr. 20, 1910, at site 6 miles downstream "at Montgomery Ferry."

Gage.--Water-stage recorder. Datum of gage is 4,132.2 ft above mean sea level (river-profile survey). Prior to Apr. 21, 1910, staff gage at site 6 miles downstream at different datum. Apr. 21, 1910, to Aug. 28, 1911, staff gage at present site and datum.

Average discharge.--34 years (1926-60), 5,687 cfs (4,117,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,300 cfs July 23; maximum gage height, 8.47 ft Aug. 16; minimum discharge, 81 cfs Mar. 12, 13 (gage height, 1.58 ft).
1895-1960: Maximum discharge, 47,500 cfs May 29, 30, 1897 (gage height, 12.6 ft, former site and datum); minimum, 58 cfs Dec. 2, 1951 (gage height, 1.93 ft).

Remarks.--Records good. Flow regulated by American Falls Reservoir (see p. 49), Lake Walcott (see p. 58), and other reservoirs, having a combined usable capacity of about 4,700,000 acre-ft; many diversions above station for irrigation.

Cooperation.--Gage-height record furnished by Bureau of Reclamation.

Revisions (water years).--WSP 1347: 1911.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,800	1,750	1,780	1,570	1,320	1,140	1,240	6,860	8,730	9,610	9,360	7,820
2	2,000	1,970	1,370	1,430	1,360	1,150	1,190	7,210	8,960	9,830	8,840	7,980
3	2,010	2,050	1,400	1,400	1,170	1,100	1,230	7,340	9,230	9,770	*8,290	7,870
4	2,060	2,090	1,330	1,380	1,200	1,190	1,760	7,100	9,320	9,640	8,410	7,820
5	2,020	1,990	1,290	1,260	1,200	1,240	2,020	6,990	9,230	*9,570	8,780	7,820
6	2,010	1,810	1,300	1,240	1,190	1,290	3,450	7,240	8,870	9,640	8,870	7,480
7	2,160	*1,970	1,280	1,190	1,140	1,320	4,020	7,540	8,610	9,610	9,050	7,480
8	1,920	1,780	1,300	1,330	1,250	1,820	3,820	7,900	*8,730	9,800	9,200	*7,180
9	2,040	1,780	1,320	1,210	1,270	1,160	*3,860	7,900	8,760	9,960	9,360	6,970
10	*2,130	1,870	1,330	1,280	1,340	1,090	3,970	7,760	8,730	9,930	9,360	7,020
11	2,040	1,910	1,330	1,250	1,230	1,050	3,940	7,980	8,490	*9,830	*9,260	6,990
12	2,010	1,960	1,460	1,310	1,080	1,080	4,070	8,350	8,240	9,570	9,200	6,970
13	1,970	1,770	1,540	1,260	1,130	1,100	3,780	9,140	*8,070	9,510	9,230	7,130
14	1,980	1,840	1,390	1,230	1,110	1,250	4,240	9,230	8,150	9,510	9,230	7,240
15	1,950	1,880	1,420	1,220	1,200	1,080	6,590	9,020	8,120	9,730	9,230	7,210
16	1,890	1,900	*1,450	1,180	1,130	1,060	6,670	8,990	8,320	9,960	9,730	7,100
17	*1,880	*1,850	1,310	1,200	1,070	*1,060	6,130	9,080	8,150	10,100	*9,450	7,020
18	1,810	1,780	1,270	1,200	1,150	1,080	5,440	9,230	8,100	*10,000	9,200	6,940
19	1,850	1,800	1,270	1,400	1,100	1,110	4,670	9,020	7,930	9,570	8,640	6,700
20	1,890	1,720	1,250	1,360	*1,120	1,100	4,540	8,730	7,930	10,200	8,410	6,620
21	1,850	2,220	1,120	*1,480	1,200	1,100	5,410	8,610	7,790	9,800	8,640	6,540
22	1,880	1,790	1,230	1,440	1,120	1,120	6,160	8,100	*7,790	9,570	8,990	6,320
23	1,870	2,140	1,190	1,490	1,110	1,110	*6,050	8,070	8,040	9,960	8,550	5,870
24	1,860	1,960	1,160	1,460	1,100	1,090	6,050	8,150	8,180	10,100	*8,210	5,260
25	1,960	2,080	1,250	1,430	1,100	1,100	5,710	8,150	8,290	*9,860	8,150	5,240
26	1,840	1,770	1,260	1,380	1,100	1,150	5,690	8,260	8,640	9,640	8,010	5,100
27	2,000	1,770	1,270	1,460	*1,180	1,150	5,820	8,490	9,050	9,830	8,010	*4,490
28	1,920	*1,790	1,350	1,410	1,140	1,240	6,050	*8,380	*9,450	9,890	7,700	4,490
29	1,890	1,720	1,400	1,440	1,190	1,060	6,370	8,290	9,700	9,540	7,560	4,120
30	1,880	1,790	*1,460	*1,370	-------	1,130	6,510	8,460	9,800	9,320	7,650	4,120
31	2,020	-------	1,280	1,360	-------	1,210	-------	8,550	-------	9,390	7,700	-------
Total	60,360	56,500	41,340	41,620	33,980	35,910	136,450	254,120	257,400	302,240	270,270	196,710
Mean	1,947	1,883	1,334	1,343	1,172	1,158	4,548	8,197	8,580	9,750	8,718	6,557
Ac-ft	119,700	112,100	82,000	82,550	67,400	71,230	270,600	504,000	510,500	599,500	535,100	390,200

Calendar year 1959: Max 9,930 Min 1,120 Mean 4,462 Ac-ft 3,231,000
Water year 1959-60: Max 10,200 Min 1,050 Mean 4,609 Ac-ft 3,346,000

* Discharge measurement made on this day.

825. Goose Creek above Trapper Creek, near Oakley, Idaho

Location.--Lat 42°07'10", long 113°56'20", in sec.13, T.15 S., R.21 E., on right bank a quarter of a mile upstream from maximum flowline of Oakely Reservoir, 5 miles upstream from Trapper Creek, 5 miles south of Oakley Dam, and 9 miles southwest of Oakley.

Drainage area.--633 sq mi. Mean altitude, 6,030 ft.

Records available.--April 1911 to September 1916, March 1919 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 4,770 ft (by barometer). Prior to Aug. 29, 1912, at site 200 ft downstream at different datum.

Average discharge.--46 years, 44.8 cfs (32,430 acre-ft per year).

Extremes.--Maximum discharge during year, 183 cfs Mar. 7 (gage height, 3.23 ft); minimum, 2.2 cfs Nov. 18 (gage height, 1.22 ft).
1911-16, 1919-60: Maximum discharge, 1,670 cfs Jan. 23 or Feb. 24, 1943 (gage height, 7.6 ft, from floodmark), from rating curve extended above 600 cfs by logarithmic plotting; no flow July 22 to Aug. 10, Aug. 22-30, 1934, Aug. 15 to Oct. 3, 1935, July 22 to Sept. 25, 1940, Sept. 14, 1947.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Decreed water rights are reported to apply to about 2,700 acres above station. Diversions for irrigation are made as flow permits to a major part of this acreage. Flow of artesian well, completed in 1935, enters below station. Practically entire flow passing station is stored in Oakley Reservoir (see p. 62).

Revisions.--WSP 1567: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.2	1.9	2.0	36
1.3	3.2	2.3	63
1.4	5.1	2.6	93
1.5	7.6	2.9	132
1.7	16		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	22	18	14	16	13	66	48	31	7.6	7.9	3.3
2	19	22	18	14	19	15	61	45	26	7.4	7.9	3.5
3	18	24	18	14	18	17	58	54	21	7.6	9.6	6.4
4	17	24	17	13	16	25	55	61	15	7.6	8.3	10
5	17	20	15	12	18	50	60	60	12	7.1	6.4	6.4
6	17	*16	14	13	18	86	69	*58	11	6.8	5.8	5.8
7	17	18	14	13	22	117	79	54	11	7.1	4.9	5.1
8	18	20	14	16	35	115	89	57	10	6.8	4.9	4.9
9	19	20	14	21	32	89	94	58	*11	6.4	4.3	4.3
10	22	21	14	15	29	60	98	59	12	6.6	3.9	4.1
11	25	20	14	19	27	47	103	57	14	7.1	4.3	4.3
12	*22	20	14	20	25	42	108	50	13	7.9	4.1	5.1
13	22	19	*15	16	24	44	106	51	12	9.0	3.2	5.1
14	21	18	14	14	25	47	92	50	9.0	8.3	2.9	4.9
15	20	16	*14	*16	29	46	90	48	8.3	6.8	3.0	4.9
16	19	13	14	15	26	37	84	51	7.6	6.1	3.5	5.1
17	19	13	14	14	21	40	77	50	7.1	5.6	3.2	4.9
18	19	13	14	12	21	42	72	50	7.1	*4.9	2.8	5.4
19	19	14	14	13	21	51	67	51	8.6	4.3	*3.7	5.6
20	20	19	14	15	22	55	66	50	7.9	3.7	3.0	6.1
21	20	24	14	18	23	54	60	51	8.6	3.5	2.6	6.1
22	20	19	14	20	20	56	65	52	10	3.2	2.5	6.1
23	20	21	14	20	16	58	72	52	10	3.2	3.2	6.4
24	22	22	17	20	15	62	75	50	10	3.0	4.1	6.6
25	22	24	24	20	15	66	75	49	10	2.8	4.3	6.8
26	22	20	17	20	*14	*69	68	48	10	2.8	4.1	*7.1
27	22	15	14	20	13	75	62	42	10	2.9	3.7	7.1
28	22	15	14	17	12	79	57	36	10	2.9	3.3	7.1
29	22	16	14	15	12	80	56	35	9.3	3.3	3.3	7.6
30	22	17	14	16	-------	73	51	34	8.3	4.9	3.5	7.4
31	22	-------	14	17	-------	68	-------	33	-------	8.3	3.5	-------
Total	626	565	467	502	604	1,778	2,235	1,544	350.8	175.5	135.7	173.5
Mean	20.2	18.8	15.1	16.2	20.8	57.4	74.5	49.8	11.7	5.66	4.38	5.78
Ac-ft	1,240	1,120	926	996	1,200	3,530	4,430	3,060	696	348	269	344

Calendar year 1959: Max 85 Min 1.0 Mean 23.4 Ac-ft 16,930
Water year 1959-60: Max 117 Min 2.5 Mean 25.0 Ac-ft 18,160

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 14-20, Nov. 27 to Dec. 17, Dec. 19-24, Dec. 26 to Jan. 6, Jan. 8 to Mar. 4 (no gage-height record Jan. 26 to Feb. 15; discharge estimated on basis of recorded range in stage, weather records, and records for Trapper Creek near Oakley and Cassia Creek near Elba).

830. Trapper Creek near Oakley, Idaho

Location.--Lat 42°10', long 113°59', in sec.34, T.14 S., R.21 E., on left bank 4 miles upstream from Oakley Dam and 7 miles southwest of Oakley.

Drainage area.--53.7 sq mi. Mean altitude, 6,360 ft.

Records available.--May 1911 to September 1916, March 1919 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,820 ft (by barometer). Prior to Sept. 1, 1912, water-stage recorder at approximately present site at different datum. Sept. 1-30, 1912, staff gage at site three-quarters of a mile downstream at different datum. Apr. 8, 1913, to Sept. 30, 1916, and Mar. 28, 1919, to Aug. 15, 1931, water-stage recorder at site 1 mile upstream from present site at different datum.

Average discharge.--46 years, 14.7 cfs (10,640 acre-ft per year).

Extremes.--Maximum discharge during year, 34 cfs Mar. 7 (gage height, 5.13 ft); minimum, 3.3 cfs Feb. 29 (gage height, 4.61 ft).
1911-16, 1919-60: Maximum discharge recorded, 270 cfs Aug. 17, 1941 (gage height, 6.99 ft), from rating curve extended above 100 cfs on basis of velocity-area studies and peak flow over weir (a higher flow may have occurred Aug. 15, 1931); minimum recorded, 2.3 cfs Feb. 22, 1949, result of freezeup.

Remarks.--Records good. A few small diversions above station. Flow of artesian well, completed in 1936, enters above. Practically entire flow passing station is stored in Oakley Reservoir.

Cooperation.--Water-stage recorder inspected occasionally by employees of Oakley Canal Co.

Revisions (water years).--WSP 1063: 1941, 1943. WSP 1567: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

4.7	4.8
4.8	8.3
4.9	14
5.1	28

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	11	11	12	11	18	18	15	10	8.3	7.6
2	11	10	11	11	12	11	17	19	14	10	7.6	8.3
3	11	10	10	11	11	11	16	19	14	10	7.6	7.6
4	10	10	9.9	7.[illegible]	12	12	18	19	14	10	7.2	7.6
5	9.9	9.3	8.0	10	12	16	20	18	14	10	7.2	7.6
6	9.3	*9.9	10	14	11	20	21	*18	14	11	7.2	7.2
7	9.9	9.9	11	12	13	20	23	19	16	10	8.0	7.2
8	9.9	10	11	12	16	18	24	20	16	10	8.3	7.2
9	12	10	10	11	14	14	25	19	*16	10	8.3	6.9
10	12	9.9	11	12	13	12	27	20	16	12	8.8	6.9
11	10	9.9	10	12	12	12	27	20	15	11	8.8	6.9
12	*10	9.9	10	12	12	12	25	21	14	10	8.8	6.6
13	10	10	*11	9.9	12	14	24	21	14	10	8.8	6.6
14	10	9.9	9.9	10	11	14	24	21	14	10	8.8	6.6
15	10	9.9	11	*13	12	14	23	21	14	9.3	8.8	6.6
16	10	10	10	12	12	13	22	20	14	9.3	8.8	6.9
17	10	10	10	11	11	14	21	20	13	8.8	8.8	6.9
18	10	10	10	6.6	12	15	21	20	12	9.3	8.0	6.6
19	10	10	10	10	12	16	21	20	12	9.3	*8.0	6.6
20	11	10	10	14	11	18	20	19	12	9.3	7.6	6.9
21	11	11	10	13	11	18	20	19	12	9.3	7.2	7.2
22	11	11	10	13	11	19	21	18	12	9.3	8.3	7.6
23	11	11	10	12	12	19	22	18	11	9.3	8.8	7.2
24	11	11	10	12	11	20	21	17	11	8.8	8.3	7.2
25	10	10	11	12	12	20	21	17	11	7.6	8.3	*8.0
26	10	9.9	8.8	12	*12	20	20	17	11	7.2	8.0	9.9
27	10	9.3	7.6	12	11	*20	19	17	10	7.2	8.0	9.9
28	10	10	10	12	9.9	20	20	16	10	7.2	8.0	9.9
29	10	10	9.9	12	7.2	19	20	16	10	7.6	8.0	9.9
30	11	10	11	12	-------	19	19	16	10	8.8	7.6	9.9
31	11	-------	11	12	-------	18	-------	16	-------	9.3	7.6	-------
Total	323.0	302.8	314.1	356.1	340.1	499	642	579	391	290.9	251.8	228.0
Mean	10.4	10.1	10.1	11.5	11.7	16.1	21.4	18.7	13.0	9.38	8.12	7.60
Ac-ft	641	601	623	706	675	990	1,270	1,150	776	577	499	452

Calendar year 1959: Max 18 Min 7.2 Mean 11.3 Ac-ft 8,200
Water year 1959-60: Max 27 Min 6.6 Mean 12.3 Ac-ft 8,960

* Discharge measurement made on this day.

835. Oakley Reservoir near Oakley, Idaho

Location.--Lat 42°12', long 113°55', in sec.19, T.14 S., R.22 E., just upstream from right abutment of dam on Goose Creek, 4 miles southwest of Oakley.

Drainage area.--729 sq mi.

Records available.--October 1912 to September 1960.

Gage.--Staff gage below 54.5 ft and wire-weight gage above, read about once a week. Altitude of gage is 4,630 ft (by barometer). Prior to Apr. 15, 1954, staff gage only.

Extremes.--Maximum contents observed during year, 19,100 acre-ft May 9 (gage height, 69.6 ft); minimum observed, 794 acre-ft Sept. 30 (gage height, 14.3 ft).
1912-60: Maximum contents observed, 74,600 acre-ft June 15, 1921 (gage height, 136.2 ft); reservoir drained at close of seasons in 1915, 1919-20, 1923, 1933, 1950, 1959.

Remarks.--Reservoir is formed by earth dam constructed in 1911-13; storage began in 1911. Capacity, 74,350 acre-ft between gage heights 0.0 (bottom of diversion tunnel) and 136.0 ft (crest of spillway). Dead storage negligible. Water is used for irrigation of lands along Goose Creek in Oakley Canal Co. project. Figures given herein represent usable contents.

Cooperation.--Gage readings and capacity table furnished by Oakley Canal Co.

Revisions.--WSP 1567: Drainage area.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

10.0	450	30.0	3,450
15.0	860	40.0	6,320
20.0	1,430	50.0	9,900
25.0	2,320	70.0	19,300

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	2,300	4,190	-	7,360	9,410	13,600	-	-	9,420	3,940	-
2	-	-	-	5,680	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	18,800	-	-	-	2,120
4	-	-	-	5,790	-	-	-	-	-	-	-	-
5	-	-	4,300	-	-	-	-	18,900	-	9,530	-	-
6	-	2,580	-	-	-	-	-	19,000	14,800	-	-	1,740
7	-	-	-	-	-	-	-	-	-	-	3,450	-
8	-	-	-	-	-	10,400	-	-	-	-	-	-
9	-	-	-	-	-	-	-	19,100	-	-	-	-
10	-	-	-	-	-	-	-	-	13,400	-	3,550	-
11	-	-	-	-	-	-	-	-	-	7,750	-	1,870
12	1,030	-	-	-	-	-	-	-	-	-	-	-
13	-	-	4,730	-	-	-	-	-	13,000	-	3,300	-
14	-	-	4,760	-	-	-	-	-	-	-	-	1,420
15	1,200	3,130	-	6,360	8,480	11,400	16,400	18,700	12,700	6,610	2,990	-
16	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	5,800	-	-
18	-	-	-	-	-	11,600	-	-	-	5,680	-	-
19	-	-	-	-	-	-	-	-	-	-	2,910	1,560
20	-	-	-	-	-	-	-	-	12,100	5,040	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	8,980	-	-	-	-	-	2,370	1,100
23	-	-	-	-	-	-	-	17,600	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	1,210
26	-	-	-	-	9,220	-	-	-	-	-	-	-
27	-	-	-	-	-	12,800	17,800	-	11,000	-	-	1,250
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	a9,360	13,100	-	16,800	-	-	-	-
30	-	a4,120	-	-	-	-	18,300	-	a9,820	3,810	1,980	794
31	a2,240	-------	a5,580	a7,300	-------	a13,400	-------	a16,300	-------	a3,680	a2,020	-------
(†)	-	-	-	-	-	-	68.1	-	-	-	-	14.3
($)	+2,240	+1,880	+1,460	+1,720	+2,060	+4,040	+4,900	-2,000	-6,480	-5,940	-1,860	-1,226

Calendar year 1959..... $ -5,020
Water year 1959-60..... $ +794

† Gage height, in feet, at end of month.
$ Change in contents, in acre-feet.
a No gage-height record; contents interpolated.

855. Minidoka North Side Pump Canal near Burley, Idaho

Location.--Lat 42°32', long 113°57', in SW¼SW¼ sec.24, T.10 S., R.21 E., at head of canal, 3 miles east of Milner Dam and 7 miles west of Burley.

Records available.--October 1956 to September 1960.

Gage.--Sparling meter at pumping plant.

Extremes.--Maximum daily discharge during year, 248 cfs July 5-7, 12, 13; no flow Oct. 1 to Apr. 14.
1956-60: Maximum discharge, 267 cfs June 26 to July 25, 1958; no flow for many days in nonirrigation season.

Remarks.--Records good. Flow controlled by pumping plant which lifts water from Snake River for irrigation of 13,600 acres of land in Minidoka North Side project.

Cooperation.--Record of pump operation and 28 discharge measurements furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	82	194	*240	228	138
2							0	82	194	240	228	138
3							0	*82	198	242	200	138
4							0	87	204	246	200	138
5							0	87	204	248	*175	133
6							0	87	220	*248	175	*133
7							0	79	220	248	182	*121
8							0	79	213	*246	*188	*107
9							0	84	208	246	193	107
10							0	84	208	244	195	107
11							0	94	189	244	210	107
12							0	114	184	248	*210	107
13							0	*124	169	248	215	91
14							0	145	174	246	215	*91
15							23	145	*182	*246	215	91
16							20	162	189	246	215	91
17							26	185	189	246	215	91
18							26	196	189	246	*205	91
19							26	198	189	246	*205	91
20							36	*197	194	246	200	91
21							44	191	208	246	197	88
22							48	196	213	*246	197	*88
23							48	196	*213	246	*197	88
24							59	195	213	246	*183	82
25							59	195	213	246	*164	82
26							*59	195	213	*244	*150	*82
27							64	*195	218	236	*141	82
28							64	195	231	233	141	*77
29							75	195	238	*233	145	*77
30					-------		75	195	240	228	*145	77
31		-------			-------		-------	*195	-------	228	*138	-------
Total	0	0	0	0	0	0	752	4,536	6,111	7,542	5,867	3,025
Mean	0	0	0	0	0	0	25.1	146	204	243	189	101
Ac-ft	0	0	0	0	0	0	1,490	9,000	12,120	14,960	11,640	6,000

Calendar year 1959: Max 245 Min 0 Mean 72.2 Ac-ft 52,330
Water year 1959-60: Max 248 Min 0 Mean 76.0 Ac-ft 55,210

* Discharge measurement made on this day.
Note.--Sparling meter out of order June 3 to Sept. 30; discharge computed on basis of 26 discharge measurements and daily pump records.

858. P. A. lateral near Milner, Idaho

Location.--Lat 42°32', long 114°01', in sec.22, T.10 S., R.21 E., on left bank 600 ft downstream from pumping station and 2½ miles northeast of Milner.

Records available.--October 1915 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Staff gage read twice daily. Altitude of gage is 4,196 ft (river survey).

Average discharge.--12 years (1948-60), 26.0 cfs (18,820 acre-ft per year).

Extremes.--Maximum discharge observed during year, 76 cfs July 19 (gage height, 1.58 ft); no flow Oct. 1 to Apr. 24, Sept. 25-30.
1915-60: Maximum discharge observed, that of July 19, 1960; no flow for many days in nonirrigation season.

Remarks.--Records excellent. Flow regulated by pumping plant which lifts water 65.3 ft from Snake River for irrigation on North Side Twin Falls tract.

Cooperation.--Gage-height record and three discharge measurements furnished by North Side Canal Co.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	30	64	70	71	61
2							0	40	65	70	71	61
3							0	40	64	68	71	63
4							0	44	64	71	71	63
5							0	49	63	72	71	63
6							0	49	63	72	71	56
7							0	59	62	71	70	*54
8							0	60	72	*74	*70	*53
9							0	60	66	71	71	52
10							0	60	66	73	68	52
11							0	*60	*66	73	62	54
12							0	64	66	70	65	54
13							0	64	66	73	65	54
14							0	64	66	70	65	48
15							0	64	61	65	65	48
16							0	64	62	68	70	48
17							0	64	62	67	72	48
18							0	62	62	63	72	48
19							0	64	62	*61	73	47
20							0	64	62	70	73	47
21							0	64	62	70	73	52
22							0	65	62	71	73	52
23							0	65	*63	68	*72	52
24							0	65	63	70	72	52
25							16	65	63	70	72	0
26							*16	64	64	67	71	0
27							16	64	64	71	71	0
28							27	64	64	71	66	0
29							27	65	64	71	66	0
30					-------		32	65	62	71	61	0
31		-------			-------		-------	*65	-------	71	61	-------
Total	0	0	0	0	0	0	134	1,836	1,915	2,163	2,145	1,282
Mean	0	0	0	0	0	0	4.5	59.2	63.8	69.8	69.2	42.7
Ac-ft	0	0	0	0	0	0	266	3,640	3,800	4,290	4,250	2,540

Calendar year 1959: Max 73 Min 0 Mean 25.1 Ac-ft 18,130
Water year 1959-60: Max 74 Min 0 Mean 25.9 Ac-ft 18,790

* Discharge measurement made on this day.

860. Milner low-lift canal near Milner, Idaho

Location.--Lat 42°31', long 114°01', in sec.32, T.10 S., R.21 E., at head of canal, 1 mile south of Milner.

Records available.--October 1919 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Prior to October 1922, published as Murtaugh Canal near Milner.

Gage.--Rated pumps. Prior to May 1, 1945, water-stage recorder at site 600 ft downstream.

Average discharge.--16 years (1944-60), 79.0 cfs (57,190 acre-ft per year).

Extremes.--1919-60: Maximum daily discharge, 272 cfs July 24, 25, 1960: no flow for many days in each year.

Remarks.--Records excellent. Flow controlled by pumping plant which lifts water from Snake River above Milner Dam for irrigation of 12,600 acres of land in Milner low-lift irrigation district. Pumps rated by current-meter measurements.

Cooperation.--Record of pump operation furnished by Milner low-lift irrigation district.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	105	144	236	*225	191
2							0	130	232	236	219	186
3							0	130	232	241	219	*174
4							0	157	232	244	222	167
5							0	157	234	247	233	151
6							0	157	236	256	233	144
7							0	182	*238	*256	234	144
8							0	182	238	256	234	144
9							0	189	238	256	229	144
10							0	212	235	256	230	141
11							0	203	230	249	235	132
12							0	211	230	252	237	121
13							0	211	225	255	237	117
14							0	211	211	255	240	117
15							0	226	208	260	246	117
16							0	*224	193	260	246	117
17							0	224	181	261	246	112
18							0	224	*176	268	245	109
19							43	224	176	270	239	112
20							44	224	172	271	245	125
21							50	224	167	*271	248	136
22							78	214	181	271	241	124
23							28	198	177	271	*231	115
24							28	198	183	272	231	109
25							50	206	191	272	231	109
26							80	226	205	267	226	112
27							80	232	*209	*264	219	129
28							*105	232	213	262	216	136
29							105	232	220	251	201	136
30					-------		105	232	231	245	196	119
31		-------			-------		-------	224	-------	239	196	-------
Total	0	0	0	0	0	0	796	6,201	6,238	7,970	7,130	3,990
Mean	0	0	0	0	0	0	26.5	200	208	257	230	133
Ac-ft	0	0	0	0	0	0	1,580	12,300	12,370	15,810	14,140	7,910

Calendar year 1959: Max 264 Min 0 Mean 88.0 Ac-ft 63,730
Water year 1959-60: Max 272 Min 0 Mean 88.3 Ac-ft 64,110

* Discharge measurement made on this day.

865. Gooding Canal at Milner, Idaho

Location.--Headgates of canal, lat 42°31', long 114°01', in sec.28, T.10 S., R.21 E., at Milner Dam.

Records available.--October 1929 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder on Milner-Gooding Canal at site 3 miles downstream from headgates. Staff gage on A lateral 1½ miles downstream from headgates and differential recorder on control gates of diversion 3 miles downstream from headgates.

Average discharge.--25 years (1935-60), total 998 cfs (722,500 acre-ft per year); Milner-Gooding project, 574 cfs; North Side Canal Co. project, 424 cfs.

Extremes.--Maximum daily discharge during year, 2,680 cfs July 29; no flow for many days. 1930-60: Maximum discharge, 2,740 cfs Aug. 2, 1953; no flow for many days in each year.

Remarks.--Records good. Gooding Canal diverts water from Snake River for Milner-Gooding project of Bureau of Reclamation and in part for project of North Side Canal Co. The latter project also receives water through the North Side Twin Falls Canal and P. A. lateral. Discharge of canal is computed by combining the discharge of Milner-Gooding diversion and that of North Side Canal Co. diversions below their division point and adding 35 cfs to that sum for loss between headgates and division point.

Cooperation.--Gage-height record furnished by North Side Canal Co. and American Falls Reservoir District No. 2.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	759					0	1,880	2,220	2,490	2,630	2,150
2	0	759					0	1,900	2,530	2,100	2,630	2,170
3	0	754					0	1,920	2,550	2,540	2,580	2,190
4	0	744					0	2,020	2,550	2,520	2,510	2,160
5	0	753					0	2,050	2,580	2,530	2,520	2,160
6	0	749					0	2,050	2,580	2,550	2,500	2,140
7	0	693					0	2,080	2,530	2,540	2,510	2,150
8	0	655					0	2,130	2,540	2,550	2,560	2,160
9	0	540					0	2,160	2,550	2,560	2,550	2,160
10	0	147					0	2,160	2,570	2,560	2,540	2,150
11	0	0					0	2,140	2,580	2,570	2,510	2,140
12	0	0					0	2,120	2,580	2,590	2,490	2,120
13	0	0					0	2,160	2,560	2,590	2,480	2,080
14	0	0					0	2,250	2,520	2,580	2,480	2,090
15	0	0					0	2,280	2,480	2,560	2,460	2,100
16	0	0					0	2,260	2,530	2,580	2,470	2,120
17	0	0					0	2,270	2,530	2,630	2,550	2,120
18	0	0					0	2,230	2,520	2,660	2,530	2,100
19	0	0					440	2,240	2,470	2,670	2,490	2,100
20	0	0					1,180	2,220	2,430	2,670	2,330	2,070
21	0	0					1,380	2,110	2,470	2,670	2,250	2,070
22	0	0					1,350	2,130	2,450	2,640	2,260	2,100
23	132	0					1,340	2,090	2,440	2,620	2,290	2,080
24	494	0					1,400	2,130	2,450	2,610	2,250	2,060
25	508	0					1,600	2,130	2,420	2,670	2,210	2,060
26	575	0					1,680	2,120	2,430	2,630	2,220	2,030
27	575	0					1,680	2,130	2,460	2,630	2,180	1,250
28	806	0					1,730	2,200	2,510	2,630	2,170	840
29	670	0					1,780	2,240	2,520	2,630	2,140	790
30	735	0			------		1,830	2,220	2,560	2,630	2,110	780
31	754	------			------		------	2,220	------	2,630	2,110	------
Total	5,049	6,553	0	0	0	0	17,390	66,240	75,090	80,590	74,510	58,690
Mean	163	218	0	0	0	0	580	2,137	2,503	2,599	2,404	1,956
Ac-ft	10,010	13,000	0	0	0	0	34,490	131,400	148,900	159,800	147,800	116,400
(†)	0	0	0	0	0	0	21,100	88,520	90,800	99,470	88,620	33,350
(‡)	10,010	13,000	0	0	0	0	13,390	42,860	58,140	60,330	59,170	53,060

Calendar year 1959: Max 2,530 Min 0 Mean 998 Ac-ft 722,600
Water year 1959-60: Max 2,680 Min 0 Mean 1,049 Ac-ft 761,800

† To Milner-Gooding project, in acre-feet; total for water year, 451,900 acre-ft.
‡ To North Side Canal Co. project, in acre-feet; total for water year, 310,000 acre-ft.

870. North Side Twin Falls Canal at Milner, Idaho

Location.--Lat 42°32', long 114°01', in sec.20, T.10 S., R.21 E., on right bank half a mile north of Milner and three-quarters of a mile downstream from headgates at Milner Dam.

Records available.--May 1909 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 4,123.4 ft above mean sea level, datum of 1929. Prior to Apr. 1, 1916, staff gages at two sites within half a mile of present site at slightly different datum.

Average discharge.--25 years (1935-60), 1,261 cfs (912,900 acre-ft per year).

Extremes.--Maximum discharge during year, 3,020 cfs July 25 (gage height, 8.55 ft); no flow Oct. 11 to Nov. 9, Mar. 28 to Apr. 5.
1909-60: Maximum daily discharge, 3,200 cfs for several days in 1921, 1928-29; no flow at times when headgates were closed.

Remarks.--Records excellent. Flow controlled by headgates. Water diverted by this canal and by P. A. lateral and part of that diverted by Gooding Canal, all at Milner, is used for irrigation of 163,000 acres of land under the North Side Canal Co. system. Diversions began in April 1908.

Cooperation.--Gage-height record and four discharge measurements furnished by North Side Canal Co.

Revisions (water years).--WSP 1347: 1912, 1917.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 1-27, Apr. 10 to May 1, June 18 to July 2, Sept. 12-30)

0.5	40	2.0	312	7.0	1,820
.7	61	3.0	612	8.0	2,730
1.0	102	4.0	972	8.6	3,030
1.5	192	5.0	1,390		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	632	0	440	361	285	275	0	1,850	2,510	2,590	*2,860	2,350
2	705	0	440	358	282	275	0	2,100	*2,510	2,640	2,780	2,330
3	726	0	440	361	282	275	0	2,200	2,500	2,670	2,750	2,260
4	722	0	440	358	285	285	0	2,210	2,500	2,780	2,700	2,270
5	722	0	437	358	280	296	0	2,190	2,500	2,820	2,720	2,270
6	716	0	440	344	282	298	473	2,230	2,500	2,820	2,720	2,260
7	709	0	440	290	280	298	702	2,200	2,490	*2,810	2,720	2,250
8	716	0	440	270	282	298	698	2,230	2,480	2,760	2,740	2,200
9	692	0	440	270	288	304	*692	2,320	2,480	2,780	2,730	2,190
10	224	362	437	270	293	*293	789	2,350	2,450	2,820	*2,710	2,180
11	0	574	437	272	296	280	1,050	*2,350	2,390	2,820	2,720	2,160
12	0	574	434	270	301	278	1,120	2,410	2,390	*2,800	2,720	2,130
13	0	590	434	272	301	272	*1,110	2,460	2,370	2,810	2,720	2,040
14	0	558	431	268	304	253	1,090	2,550	2,370	2,800	2,720	*1,990
15	0	545	440	268	304	262	1,090	2,560	2,370	2,810	2,710	*1,990
16	0	500	431	268	301	262	1,120	2,530	2,380	2,820	2,720	1,940
17	0	482	404	270	301	265	1,110	2,520	2,370	2,850	2,720	1,940
18	0	497	404	268	301	268	1,230	2,530	*2,350	2,880	2,730	1,870
19	0	491	401	270	298	270	1,430	2,520	2,340	2,920	2,710	1,860
20	0	491	401	270	296	270	1,360	2,500	2,340	2,960	2,700	1,820
21	0	479	395	270	293	270	1,520	2,490	2,320	*2,970	2,720	1,790
22	0	500	389	*270	298	255	1,620	2,500	2,340	2,940	2,680	1,720
23	0	461	386	268	285	230	1,670	2,510	2,330	2,950	*2,680	1,680
24	0	449	375	268	275	242	1,650	2,510	2,320	2,990	2,590	1,520
25	0	428	375	275	*282	255	1,690	2,510	2,320	2,990	2,500	1,440
26	0	443	372	282	285	262	1,670	2,520	2,320	2,940	2,460	1,460
27	0	443	372	288	285	170	1,640	2,500	*2,410	*2,940	2,460	1,420
28	0	*440	372	288	282	0	1,640	2,520	2,560	2,950	2,390	1,430
29	0	440	372	288	280	0	*1,680	2,500	2,580	2,890	2,340	1,400
30	0	440	375	288	-------	0	1,680	2,510	*2,590	2,860	*2,350	1,380
31	0	-------	*369	285	-------	0	-------	2,510	-------	2,840	2,360	-------
Total	6,564	10,187	12,763	9,006	8,407	7,261	31,524	74,390	72,680	88,220	82,130	57,540
Mean	212	340	412	291	290	234	1,051	2,400	2,423	2,846	2,649	1,918
Ac-ft	13,020	20,210	25,320	17,860	16,680	14,400	62,530	147,600	144,200	175,000	162,900	114,100

Calendar year 1959: Max 2,950 Min 0 Mean 1,281 Ac-ft 927,400
Water year 1959-60: Max 2,990 Min 0 Mean 1,259 Ac-ft 913,800

* Discharge measurement made on this day.

875. South Side Twin Falls Canal at Milner, Idaho

Location.--Lat 42°31', long 114°01', in sec.29, T.10 S., R.21 E., on right bank 30 ft (revised) upstream from highway bridge and 700 ft downstream from headgates at Milner Dam.

Records available.--May 1909 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 4,121.5 ft above mean sea level, datum of 1929. Prior to May 13, 1913, staff gage and May 13, 1913, to Apr. 24, 1914, water-stage recorder, near present site, and Apr. 25, 1914, to May 13, 1960, water-stage recorder at site 50 ft upstream, all at same datum.

Average discharge.--34 years (1926-60), 1,754 cfs (1,270,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,880 cfs May 14 (gage height, 10.55 ft); minimum observed, 43 cfs Nov. 3, 4 (gage height, 1.46 ft).
1909-60: Maximum daily discharge, 4,600 cfs Aug. 12, 1918, including about 1,200 cfs wasted through spillway below station and returned to river; maximum discharge for irrigation use, that of May 14, 1960; no flow Sept. 20, 1920, Oct. 14-17, 1956.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Flow controlled by headgates. Diversions began in March 1905 when 30,000 acres was reported as irrigated. By 1912 this had increased to 147,000 acres and during recent years the irrigated area has been reported as 202,000 acres.

Cooperation.--Gage-height record furnished by Twin Falls Canal Co.

Revisions (water years).--WSP 1347: 1910-16.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 25-31, May 13 to July 26, Aug. 4 to Sept. 7)

0.8	22	2.0	117	7.0	1,730
1.1	30	2.5	216	9.0	2,800
1.3	37	3.0	338	10.0	3,830
1.5	49	4.0	604		
1.7	72	5.0	907		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	731	48	524	b495	446	423	187	3,010	3,440	3,620	*3,600	3,290
2	674	46	524	b495	441	423	494	3,090	3,520	3,650	3,570	3,270
3	615	43	518	b475	441	415	643	3,060	3,550	3,660	3,540	3,250
4	610	234	534	b465	446	415	632	3,060	3,560	3,640	3,540	3,230
5	*610	464	540	b455	441	415	695	3,140	3,570	3,630	3,540	3,210
6	635	457	532	449	425	415	750	3,240	3,520	3,630	3,510	3,140
7	640	467	526	459	420	415	778	3,150	*3,500	*3,610	3,520	3,110
8	621	472	510	459	412	415	853	3,210	3,490	3,680	3,530	3,090
9	593	593	510	462	431	415	872	3,270	3,460	3,690	3,560	3,090
10	618	695	510	464	446	415	927	3,220	3,380	3,710	*3,620	*3,010
11	598	710	518	457	451	415	998	3,360	3,260	3,710	3,640	2,900
12	598	643	518	444	449	415	1,030	3,480	3,240	*3,710	3,650	2,880
13	610	624	526	428	449	415	*1,140	3,690	3,240	3,730	3,650	2,880
14	590	596	532	b425	449	415	1,310	3,780	3,240	3,750	3,660	2,850
15	601	565	526	b425	449	402	1,390	3,620	*3,230	3,750	3,630	2,820
16	579	529	510	b425	454	402	1,440	3,590	3,270	3,750	3,640	2,810
17	554	521	505	b425	454	407	1,540	3,610	3,240	3,750	3,620	2,790
18	568	534	505	b425	449	407	1,560	3,610	3,160	3,750	3,510	2,720
19	508	534	508	b425	449	407	1,790	*3,600	3,160	3,780	3,470	2,580
20	368	524	502	b425	454	407	1,970	3,560	3,190	3,800	3,460	2,460
21	340	537	497	b430	454	407	2,380	3,470	3,230	*3,790	3,470	2,430
22	410	524	497	*b437	449	381	2,610	3,400	3,270	3,770	3,480	2,340
23	556	529	502	b435	*446	232	2,400	3,340	3,270	3,770	*3,470	2,110
24	638	*540	502	b435	449	172	2,420	3,360	3,310	3,750	3,360	2,040
25	672	534	497	b435	441	103	2,620	3,350	3,410	3,690	3,340	1,990
26	722	526	497	b440	454	78	2,750	3,390	3,490	3,660	3,300	1,990
27	674	526	480	b440	444	78	2,830	3,380	*3,510	*3,650	3,270	2,030
28	632	526	491	b440	428	81	2,870	3,390	3,540	3,660	3,290	2,040
29	457	526	497	b440	428	81	*2,910	3,370	3,500	3,660	3,290	2,040
30	225	524	*497	444	-------	86	2,930	3,380	3,540	3,590	*3,290	2,030
31	88	-------	497	444	-------	*96	-------	3,390	-------	3,580	3,280	-------
Total	17,335	14,591	15,832	13,802	12,849	10,053	47,719	104,570	101,290	114,570	108,300	80,420
Mean	559	486	511	445	443	324	1,591	3,373	3,376	3,696	3,494	2,681
Ac-ft	34,380	28,940	31,400	27,380	25,490	19,940	94,650	207,400	200,900	227,200	214,800	159,500

Calendar year 1959: Max 3,690 Min 43 Mean 1,690 Ac-ft 1,222,000
Water year 1959-60: Max 3,800 Min 43 Mean 1,752 Ac-ft 1,272,000

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

880. Snake River at Milner, Idaho

Location.--Lat 42°32', long 114°01', in sec.29, T.10 S., R.21 E., on left bank 200 ft downstream from highway bridge at Milner and a third of a mile downstream from Milner Dam.

Drainage area.--17,180 sq mi, approximately, excluding nontributary area on Snake River plains.

Records available.--May 1909 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 4,062.9 ft above mean sea level, datum of 1929. Prior to May 28, 1919, staff gages at slightly different sites and datums.

Average discharge.--34 years (1926-60), 1,992 cfs (1,442,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,080 cfs Apr. 17 (gage height, 9.52 ft); minimum, 6 cfs May 19 (gage height, 1.40 ft).
1909-60: Maximum discharge, 40,000 cfs June 21, 1918 (gage height, 19.9 ft, site and datum then in use); minimum, 2 cfs Mar. 17-28, 1936 (gage height, 1.18 ft).

Remarks.--Records good. Flow regulated by American Falls Reservoir (see p. 49), Lake Walcott (see p. 58), and other reservoirs having a combined usable capacity of about 4,700,000 acre-ft. About 1,340,000 acres of land irrigated by diversion from river and its tributaries above station, from which the return flow in large part enters Snake River between Milner and King Hill stations. Flow includes some stored water released for use downstream by Idaho Power Co.

Cooperation.--Gage-height record furnished by Twin Falls Canal Co. and North Side Canal Co.

Revisions (water years).--WSP 1347: 1909-12, 1915-16, 1942-44, 1946-48.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.5	8	4.0	360
1.7	12	5.0	726
2.0	25	6.0	1,400
2.3	47	7.0	2,320
2.6	75	8.0	3,500
3.0	128	9.0	4,520
3.5	223	10.0	5,580

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	804	1,040	1,080	710	804	722	810	26	*9	253	264	246
2	1,070	1,300	1,080	710	775	718	954	28	11	253	264	243
3	1,430	1,380	769	714	792	714	948	31	10	246	99	*246
4	1,550	930	550	718	764	714	948	36	9	240	13	248
5	1,540	*798	550	753	753	710	954	33	14	256	13	256
6	1,670	834	615	792	742	706	1,020	33	25	256	13	261
7	2,190	852	646	792	726	714	*2,520	32	13	*253	13	258
8	3,080	858	650	822	573	722	2,880	34	10	253	*14	264
9	2,900	658	650	840	517	737	2,330	49	9	253	169	258
10	3,320	599	654	840	525	748	1,800	22	10	256	253	246
11	3,140	619	654	834	532	742	1,890	13	12	253	256	243
12	2,560	539	646	822	539	722	1,550	13	17	251	253	251
13	2,310	539	646	816	536	690	1,820	13	20	251	253	256
14	2,110	565	646	816	547	619	1,770	15	14	248	253	256
15	2,000	569	666	816	543	670	2,620	17	12	248	251	256
16	2,430	588	706	816	543	521	4,510	16	18	248	251	256
17	*2,310	619	706	804	550	456	4,590	17	16	248	256	258
18	1,990	642	702	792	554	463	3,680	14	73	248	269	256
19	2,230	742	698	792	547	473	1,080	8	90	253	271	248
20	1,990	840	694	792	539	477	160	18	13	253	253	251
21	1,960	786	615	792	521	288	47	9	10	256	251	253
22	1,390	906	517	798	543	251	46	19	10	251	248	256
23	1,010	936	517	792	694	264	515	10	*9	246	253	251
24	742	1,060	562	804	804	266	488	9	9	243	253	248
25	539	1,040	577	798	798	274	557	8	9	251	253	248
26	623	1,110	577	804	*764	274	62	8	8	251	258	246
27	646	1,110	584	810	742	304	47	8	9	*248	251	246
28	658	1,090	584	*816	737	304	*26	8	9	251	253	246
29	748	1,090	619	822	726	*313	26	10	174	261	253	246
30	864	*1,080	623	822	-------	473	26	9	251	258	248	248
31	948	-------	*674	810	-------	569	-------	9	-------	261	248	-------
Total	52,752	25,719	20,457	24,659	18,730	16,618	40,674	575	903	7,797	6,450	7,545
Mean	1,702	857	660	795	646	536	1,356	18.5	30.1	252	208	252
Ac-ft	104,600	51,010	40,580	48,910	37,150	32,960	80,680	1,140	1,790	15,470	12,790	14,970

Calendar year 1959: Max 3,320 Min 8 Mean 555 Ac-ft 402,000
Water year 1959-60: Max 4,590 Min 8 Mean 609 Ac-ft 442,000

* Discharge measurement made on this day.

900. Snake River near Kimberly, Idaho

Location.--Lat 42°36', long 114°22', in NW¼ sec.4, T.10 S., R.18 E., on left bank 1,200 ft downstream from Twin Falls powerplant, 2½ miles upstream from Shoshone Falls, and 4 miles north of Kimberly.

Records available.--July 1923 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,362.67 ft above mean sea level (levels by Idaho Power Co.). Prior to Aug. 31, 1938, at site 2,000 ft downstream at different datum.

Average discharge.--37 years, 2,493 cfs (1,805,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,000 cfs Apr. 17 (gage height, 11.42 ft); minimum, 12 cfs Apr. 30, May 1, 2, 3, 7, 8, June 1, 2 (gage height, 1.20 ft); minimum daily, 217 cfs May 26.
1923-60: Maximum discharge, 27,200 cfs July 4, 1927 (gage height, 14.76 ft, site and datum then in use), from rating curve extended above 20,000 cfs; minimum recorded, 10 cfs May 17, 1944 (gage height, 1.15 ft); minimum daily recorded, 110 cfs Apr. 6, 1959.

Remarks.--Records good. Flow regulated by Twin Falls powerplant and several reservoirs above station. At times practically entire flow is diverted at Milner during irrigation season; no diversion between Milner and Kimberly.

Revisions (water years).--WSP 1347: 1924-26, 1928-30, 1942-44, 1946-48.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

3.0	159	7.0	1,350
4.0	332	9.0	2,520
5.0	580	12.0	5,750

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	740	1,440	1,480	1,080	1,150	1,060	961	258	307	550	646	654
2	945	1,580	1,480	1,080	1,150	1,050	1,230	381	315	687	632	643
3	1,670	1,780	1,440	1,080	1,120	1,060	1,300	335	304	552	635	670
4	1,910	1,620	1,030	1,080	1,120	1,090	1,290	338	382	576	565	652
5	1,910	1,200	869	1,080	1,110	1,080	1,300	404	340	543	407	630
6	1,900	1,220	925	1,120	1,100	1,060	1,300	*282	316	588	411	679
7	2,270	1,250	1,000	1,170	1,100	1,070	2,220	375	391	557	416	676
8	3,120	1,260	1,030	1,170	1,230	1,070	3,010	311	329	591	389	685
9	*3,270	1,250	1,030	1,190	1,010	1,070	2,730	221	*358	574	382	681
10	3,280	1,040	1,020	1,200	857	1,080	2,300	352	272	539	536	668
11	3,520	1,010	1,030	1,200	778	1,090	2,140	367	457	591	640	671
12	2,930	1,030	*1,020	1,190	849	1,080	1,960	348	323	549	714	654
13	2,680	993	1,020	1,180	873	1,070	2,000	334	354	618	605	674
14	2,500	849	1,020	1,160	865	1,020	2,070	328	369	573	627	666
15	2,360	997	1,020	1,150	861	953	2,240	334	376	573	640	628
16	2,510	997	1,060	1,150	857	1,000	4,030	344	344	573	621	669
17	2,700	993	1,070	1,150	845	824	4,760	346	411	573	638	672
18	2,390	1,030	1,070	1,150	857	764	4,030	348	323	573	*678	665
19	2,450	1,070	1,060	1,140	853	778	2,280	354	426	582	649	661
20	2,430	1,230	1,060	1,140	853	782	873	354	452	582	674	681
21	2,310	1,240	1,050	1,140	853	800	395	363	423	658	668	704
22	2,070	1,200	1,020	1,150	853	577	503	426	378	592	642	683
23	1,590	1,340	792	1,180	917	598	390	437	353	628	643	683
24	1,310	1,340	937	1,160	1,040	544	776	325	276	625	641	654
25	1,060	1,460	901	1,160	*1,140	571	882	409	379	589	675	696
26	989	1,440	949	1,160	1,120	562	757	217	331	618	675	699
27	1,050	1,480	917	1,160	1,100	592	442	408	346	621	672	611
28	1,070	1,480	917	1,170	1,090	631	409	325	348	620	675	640
29	1,110	1,480	949	1,170	1,070	631	349	357	333	620	641	678
30	1,250	1,480	973	1,170	-------	631	336	289	306	619	647	611
31	1,340	-------	977	1,170	-------	849	-------	350	-------	621	704	-------
Total	62,634	37,779	32,116	35,650	28,621	27,037	49,263	10,620	10,622	18,373	18,788	19,938
Mean	2,020	1,259	1,036	1,150	987	872	1,642	343	354	593	606	665
Ac-ft	124,200	74,930	63,700	70,710	56,770	53,630	97,710	21,060	21,070	36,440	37,270	39,550

Calendar year 1959: Max 3,520 Min 110 Mean 938 Ac-ft 679,100
Water year 1959-60: Max 4,760 Min 217 Mean 960 Ac-ft 697,000

* Discharge measurement made on this day.

910. Blue Lakes Spring near Twin Falls, Idaho

Location.--Lat 42°37', long 114°28', in N½SE¼ sec.28, T.9 S., R.17 E., on left bank at outlet of upper Blue Lake, 1.4 miles northwest of Perrine Memorial Bridge and 3½ miles north of Twin Falls.

Records available.--April 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,300 ft (from Snake River profile map).

Average discharge.--10 years, 228 cfs (165,100 acre-ft per year).

Extremes.--1950-60: Maximum daily discharge, 256 cfs Nov. 10, 11, 1951, Oct. 24 to Nov. 13, 1952, Sept. 29, 30, 1953, Oct. 23, 24, 1957; minimum daily, 199 cfs June 22, Aug. 11-13, 1960.

Remarks.--Records excellent. No regulation or diversion above station.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.7	190
1.8	224
1.9	266

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	220	244	236	220	224	240	228	216	205	205	202	212
2	220	244	236	220	228	240	228	216	205	202	202	212
3	220	246	236	220	228	240	228	216	202	202	202	212
4	220	*248	236	220	228	240	228	*216	202	202	202	212
5	216	248	236	216	228	236	228	216	202	202	202	212
6	216	248	236	216	232	236	228	216	202	202	202	216
7	216	248	236	216	232	236	224	216	*202	205	202	216
8	220	248	236	212	232	236	224	212	202	205	202	216
9	*220	248	236	212	232	236	224	212	202	205	202	216
10	220	244	*236	212	232	236	224	212	205	205	202	216
11	224	244	236	212	236	236	220	212	202	205	199	216
12	224	244	232	212	236	236	220	212	202	202	199	216
13	224	244	232	*212	232	236	220	212	202	202	199	220
14	228	244	232	212	232	236	220	212	202	202	202	220
15	228	244	232	216	232	236	220	212	202	205	202	220
16	224	244	228	216	236	236	220	212	202	205	202	220
17	228	244	228	216	236	236	220	208	202	*205	202	224
18	228	244	228	216	236	232	220	208	202	205	*202	224
19	228	244	228	220	236	232	220	208	202	205	202	224
20	232	244	224	220	236	232	220	208	202	205	202	228
21	232	240	224	220	240	232	220	208	202	202	202	232
22	232	240	224	220	240	228	220	208	199	202	205	232
23	236	240	224	220	240	228	216	208	202	202	205	232
24	236	240	224	224	240	228	216	205	202	202	208	*232
25	236	240	224	224	*240	228	216	202	202	202	208	232
26	240	240	224	224	240	228	216	202	202	205	208	232
27	240	240	224	224	240	228	216	205	205	205	208	232
28	240	240	220	224	240	228	216	205	205	205	208	232
29	240	236	220	224	240	228	216	205	205	205	212	232
30	240	236	220	224	-------	*228	216	202	205	205	212	232
31	240	-------	220	224	-------	228	-------	205	-------	202	212	-------
Total	7,068	7,300	7,108	6,768	6,804	7,236	6,632	6,507	6,078	6,313	6,319	6,672
Mean	228	243	229	218	235	233	221	210	203	204	204	222
Ac-ft	14,020	14,460	14,100	13,420	13,500	14,350	13,150	12,910	12,060	12,520	12,530	13,230

Calendar year 1959: Max 248 Min 202 Mean 222 Ac-ft 161,100
Water year 1959-60: Max 248 Min 199 Mean 221 Ac-ft 160,300

* Discharge measurement made on this day.

920. Rock Creek near Rock Creek, Idaho

Location.--Lat 42°22', long 114°18', in sec.25, T.12 S., R.18 E., on right bank 0.1 mile downstream from road bridge, three-quarters of a mile from West Fork Rock Creek, 5 miles south of Rock Creek settlement, and 12 miles south of Hansen.

Drainage area.--80 sq mi, approximately. Mean Altitude, 6,330 ft.

Records available.--November 1909 to August 1913, November 1938 to July 1939, November 1943 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,340 ft (by barometer). Nov. 28, 1909, to Aug. 16, 1913, staff gage at site 2 miles downstream at different datum. Nov. 23, 1938, to July 21, 1939, staff gage at present site at datum 1.25 ft higher.

Average discharge.--18 years (1910-12, 1944-60), 33.6 cfs (24,330 acre-ft per year).

Extremes.--Maximum discharge during year, 119 cfs Apr. 10 (gage height, 1.35 ft); minimum, 4.5 cfs Aug. 21 (gage height, -0.15 ft).
1909-13, 1938-39, 1943-60: Maximum discharge observed, 429 cfs May 21, 1912 (gage height, 10.4 ft, site and datum then in use); minimum observed, 3.6 cfs Aug. 7-12, 1910 (gage height, 0.3 ft, site and datum then in use).

Remarks.--Records excellent except those for periods of ice effect, which are good. Small ranch diversions above station.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 29		Mar. 1 to Sept. 30			
-0.1	6.3	-0.2	3.7	0.4	25
.1	13	0.0	8.3	.8	60
.3	22	.2	15	1.4	123

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	9.9	11	9.9	9.6	10	52	55	37	11	8.3	5.5
2	9.2	9.9	11	10	10	11	46	60	34	11	7.5	5.5
3	8.9	9.9	11	9.9	9.6	11	46	65	31	11	6.5	5.3
4	8.6	9.9	9.9	8	9.6	14	53	70	32	10	6.2	5.5
5	8.3	9.6	7.8	8.9	9.6	14	63	70	30	10	6.2	5.7
6	8.3	*9.6	9.9	11	9.6	17	79	*73	30	10	6.0	5.7
7	8.9	9.6	10	12	11	19	88	78	30	10	5.7	6.2
8	9.6	9.6	9.9	11	16	27	96	81	31	9.5	5.7	6.2
9	13	9.6	10	11	17	24	106	84	*30	9.5	5.5	6.2
10	15	9.9	11	10	15	21	112	87	27	9.5	5.3	6.2
11	*13	9.9	11	9.9	14	20	111	91	25	9.2	5.3	6.0
12	12	9.9	*10	10	13	19	106	96	24	8.9	5.1	5.7
13	11	8.9	11	*7.8	13	18	94	94	22	8.6	5.3	5.7
14	11	8.0	8.6	b6.5	12	18	91	88	21	8.3	5.5	6.0
15	10	9.6	b9.5	11	11	18	85	84	21	8.0	6.2	6.2
16	10	9.6	b9.5	10	11	18	78	80	20	*7.5	6.0	6.5
17	10	9.6	11	9.9	10	17	73	76	19	7.5	6.0	6.5
18	10	9.9	11	b6.5	11	18	70	75	18	7.0	6.0	6.0
19	10	9.9	11	b8	11	20	71	69	18	6.7	*5.5	6.0
20	10	9.9	10	11	10	24	66	64	18	6.5	5.3	6.0
21	10	10	11	11	11	30	72	64	17	6.5	4.9	6.5
22	10	10	10	11	10	36	77	60	17	6.5	6.2	6.7
23	11	10	10	11	9.2	42	76	57	16	6.5	7.5	6.7
24	10	11	11	9.9	8.0	48	72	54	15	6.7	6.7	6.7
25	9.9	11	11	9.9	*11	54	67	50	14	6.5	6.7	*6.5
26	9.9	10	9.6	10	8.9	60	62	46	14	6.2	6.2	6.2
27	9.9	9.2	7.2	10	8.6	65	60	46	13	6.2	6.2	6.2
28	9.9	11	8.9	9.9	8.0	68	58	43	13	6.5	6.5	6.2
29	9.9	10	8.3	9.6	b8.0	60	58	41	12	6.5	6.2	6.5
30	9.9	10	9.6	9.6	-------	*58	55	39	12	8.6	5.7	6.2
31	9.9	-------	10	9.9	-------	54	-------	37	-------	8.9	5.3	-------
Total	316.7	294.9	310.7	304.1	315.7	933	2,243	2,077	661	255.3	187.2	183.0
Mean	10.2	9.83	10.0	9.81	10.9	30.1	74.8	67.0	22.0	8.24	6.04	6.10
Ac-ft	628	585	616	603	626	1,850	4,450	4,120	1,310	506	371	363

Calendar year 1959: Max 65 Min 4.5 Mean 16.5 Ac-ft 11,900
Water year 1959-60: Max 112 Min 4.9 Mean 22.1 Ac-ft 16,030

Peak discharge (base, 130 cfs).--No peak above base.

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

937. Niagara Springs near Buhl, Idaho

Location.--Lat 42°39'48", long 114°40'25", in NE¼NE¼ sec.10, T.9 S., R.15 E., in spring outlet channel 300 ft upstream from mouth, 700 ft downstream from source, and 6 miles northeast of Buhl.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,005 ft (from topographic map).

Extremes.--1958-60: Maximum daily discharge, 355 cfs (estimated) Oct. 1-10, 1958; minimum daily, 240 cfs May 8-13, 1960.

Remarks.--Records excellent. Figures of daily discharge do not include discharge in the diversions between springs and gage.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.5	223	1.8	315
1.6	252	1.9	349
1.7	283		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	332	318	299	293	296	271	258	246	249	277	271	277
2	329	318	299	293	293	271	261	246	249	277	271	283
3	329	*315	299	293	293	274	261	*246	252	277	274	286
4	329	315	299	293	286	271	261	249	252	280	271	289
5	329	315	296	293	286	271	261	249	255	280	274	293
6	332	315	296	293	286	268	255	246	255	280	274	293
7	332	312	293	293	286	268	255	243	*255	280	274	293
8	*332	312	*293	293	286	268	255	240	258	280	277	293
9	332	312	293	286	283	268	255	240	261	280	274	293
10	332	309	293	286	280	268	255	240	264	280	274	293
11	332	309	293	286	280	268	255	240	264	280	274	293
12	332	309	293	*286	283	268	255	240	268	280	274	293
13	329	305	293	286	280	268	255	240	264	*280	277	293
14	329	305	293	286	280	268	255	243	264	277	274	293
15	329	305	293	289	277	268	258	243	264	274	274	293
16	325	305	293	289	274	268	255	243	268	274	*274	296
17	325	305	293	289	274	268	252	243	268	274	274	296
18	322	305	293	289	274	264	252	246	264	274	271	296
19	322	305	293	289	274	264	252	246	264	277	271	296
20	322	305	293	289	274	264	249	246	264	274	271	299
21	322	305	293	293	271	264	249	246	264	274	271	*299
22	322	305	293	293	271	264	249	246	264	274	271	299
23	322	305	293	293	271	264	249	249	264	274	274	299
24	322	305	293	293	*271	264	249	249	268	277	274	299
25	322	305	293	293	271	261	249	249	271	274	274	302
26	322	305	293	293	271	258	249	249	271	274	274	299
27	322	305	293	293	271	258	246	249	274	274	274	299
28	322	302	293	296	271	258	246	249	274	274	274	299
29	322	302	293	296	271	258	246	249	274	274	274	299
30	322	302	293	296	-------	258	246	249	277	271	277	299
31	318	-------	293	296	-------	*258	-------	249	-------	271	277	-------
Total	10,113	9,240	9,113	9,029	8,084	8,231	7,593	7,608	7,903	8,566	8,482	8,834
Mean	326	308	294	291	279	266	253	245	263	276	274	294
Ac-ft	20,060	18,330	18,080	17,910	16,030	16,330	15,060	15,090	15,680	16,990	16,820	17,520

Adjusted for diversions between springs and gage

Mean Cfsm	355	336	320	316	303	291	283	284	309	329	322	344
In.												
Ac-ft	21,820	20,000	19,670	19,440	17,420	17,880	16,860	17,470	18,390	20,220	19,800	20,490

Observed

Calendar year 1959:	Max	332	Min	252	Mean	292	Ac-ft 211,400
Water year 1959-60:	Max	332	Min	240	Mean	281	Ac-ft 203,900

Adjusted

Calendar year 1959: Mean	323	Cfsm		In.		Ac-ft 233,900
Water year 1959-60: Mean	316	Cfsm		In.		Ac-ft 229,500

* Discharge measurement made on this day.

Note.--Diversions above gage estimated on basis of 11 discharge measurements and sudden changes in flow past gage as noted on the recorder chart for this station.

940. Snake River near Buhl, Idaho

Location.--Lat 42°40', long 114°43', in NW¼ sec.9, T.9 S., R.15 E., on left bank 2 miles downstream from Niagara Springs, 3¾ miles upstream from outlet of Clear Lakes, and 6 miles northeast of Buhl.

Records available.--December 1946 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,952.9 ft above mean sea level (stadia levels). Prior to Jan. 17, 1947, staff gage at same site and datum.

Average discharge.--13 years (1947-60), 4,629 cfs (3,351,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,540 cfs Apr. 18 (gage height, 4.05 ft); minimum, 1,720 cfs May 10 (gage height, 0.13 ft).
1946-60: Maximum discharge, 23,100 cfs June 13, 1947 (gage height, 10.34 ft); minimum, that of May 10, 1960.

Remarks.--Records excellent except those for periods of no gage-height record, which are good. Flow regulated by Twin Falls and Shoshone Falls powerplants and several reservoirs above station. No diversion except by small ranch ditches between this station and station at Milner, where at times practically entire flow is diverted during irrigation seasons.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

0.2	1,770
1.0	2,400
2.0	3,450
3.0	4,750
4.0	6,450

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,900	3,300	3,110	2,590	2,630	2,410	2,150	1,890	1,970	2,100	2,680	2,680
2	3,100	3,400	3,090	2,670	2,640	2,410	2,310	1,880	2,000	2,260	2,750	2,620
3	3,800	*3,520	3,090	2,640	2,600	2,440	2,550	2,050	1,960	2,380	2,730	2,640
4	4,000	3,490	2,890	2,630	2,560	2,470	2,580	*2,040	1,960	2,320	2,710	2,660
5	4,000	3,130	2,540	2,630	2,570	2,520	2,620	2,100	2,050	2,330	2,560	2,680
6	4,000	2,900	2,500	2,670	2,560	2,480	2,660	1,990	2,030	2,290	2,360	2,690
7	*4,400	2,940	2,540	2,750	2,590	2,440	3,010	1,880	2,050	2,300	2,300	2,690
8	4,750	2,950	2,610	2,760	2,790	2,490	4,300	1,940	2,130	2,300	2,350	2,710
9	5,410	3,010	*2,620	2,750	2,750	2,440	4,250	1,930	2,160	2,310	2,260	2,700
10	5,040	2,920	2,620	2,730	2,500	2,390	3,890	1,770	2,260	2,330	2,220	2,710
11	5,640	2,780	2,620	2,730	2,300	2,400	3,570	1,800	2,230	2,350	2,360	2,700
12	5,090	2,760	2,650	*2,720	2,280	2,400	3,620	1,840	2,220	*2,330	2,480	2,690
13	4,660	2,740	2,710	2,700	2,320	2,400	3,380	1,870	*2,190	2,310	2,520	2,680
14	4,470	2,620	2,670	2,640	2,300	2,300	3,570	1,880	2,180	2,300	2,520	2,720
15	4,320	2,610	2,640	2,660	2,340	2,300	3,560	1,900	2,230	2,350	2,540	2,740
16	4,230	2,680	2,660	2,670	2,300	2,300	4,940	1,860	2,300	2,330	*2,540	2,750
17	4,690	2,650	2,700	2,650	2,280	2,200	6,300	1,850	2,290	2,350	2,560	*2,760
18	4,360	2,680	2,700	2,600	2,280	2,100	5,860	1,930	2,300	2,350	2,600	2,780
19	4,160	2,730	2,700	2,560	2,300	2,100	4,620	2,050	2,290	2,390	2,540	2,780
20	4,420	2,810	2,670	2,570	2,290	2,100	2,980	1,980	2,310	2,390	2,540	2,750
21	4,150	2,940	2,680	2,560	2,290	2,100	2,380	2,090	2,340	2,420	2,520	2,780
22	4,100	2,920	2,660	2,570	2,290	1,900	2,270	2,150	2,320	2,420	2,560	2,810
23	3,570	2,980	2,560	2,590	2,270	1,900	2,330	2,120	2,200	2,440	2,610	2,810
24	3,290	3,000	2,490	2,600	*2,340	1,900	2,210	2,090	2,130	2,440	2,620	2,770
25	3,080	3,080	2,580	2,620	2,480	1,900	2,500	2,080	2,050	2,460	2,620	2,760
26	2,800	3,100	2,510	2,690	2,470	1,900	2,410	2,050	2,110	2,490	2,640	2,750
27	2,900	3,100	2,460	2,740	2,460	1,900	2,250	1,940	2,130	2,490	2,630	2,720
28	2,900	3,100	2,480	2,700	2,440	1,900	2,100	2,070	2,070	2,490	2,660	2,730
29	3,000	3,100	2,540	2,650	2,400	1,900	2,110	2,000	2,080	2,470	2,650	2,670
30	3,100	3,120	2,530	2,650	-------	*1,900	1,990	2,050	2,070	2,490	2,610	2,700
31	3,200	-------	2,540	2,650	-------	2,000	-------	2,000	-------	2,530	2,630	-------
Total	123,530	89,060	82,360	82,340	70,620	68,290	95,250	61,070	64,610	73,610	78,870	81,630
Mean	3,985	2,969	2,657	2,656	2,435	2,203	3,175	1,970	2,154	2,375	2,544	2,721
Ac-ft	245,000	176,600	163,400	163,300	140,100	135,500	188,900	121,100	128,200	146,000	156,400	161,900

Calendar year 1959: Max 6,370 Min 1,880 Mean 2,757 Ac-ft 1,996,000
Water year 1959-60: Max 6,300 Min 1,770 Mean 2,654 Ac-ft 1,926,000

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 1-7, Oct. 26 to Nov. 2, Mar. 11-30; discharge estimated on basis of records for stations near Kimberly and below Lower Salmon Falls, near Hagerman.

955. Box Canyon Springs near Wendell, Idaho

Location.--Lat 42°42'30", long 114°48'45", in NE¼ sec.28, T.8 S., R.14 E., on left bank 150 ft downstream from waterfall, half a mile upstream from mouth, three-quarters of a mile downstream from source, and 7½ miles southwest of Wendell.

Records available.--April 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,950 ft (from topographic map).

Average discharge.--10 years, 416 cfs (301,200 acre-ft per year).

Extremes.--1950-60: Maximum daily discharge, 480 cfs Sept. 29, 1950; minimum daily, 372 cfs Apr. 12, 1951, Mar. 23-27, 1956, and many days in April, May 1960.

Remarks.--Records excellent except those for periods of no gage-height record, which are good. No regulation or surface diversion above station. Discharge affected by variable surface waste from irrigation canals over rimrocks into springs above station. Waste flow estimated Oct. 8 (0.5 cfs); May 3 (0.5 cfs); June 7 (2.5 cfs); July 13 (1.0 cfs); Aug. 16 (0.2 cfs); Sept. 21 (0.1 cfs); no waste flow Dec. 9, Jan. 12, Mar. 31.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 18 to Nov. 7)

1.4	352
1.5	377
1.7	427
1.9	480

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	435	404	414	412	397	387	380	372	382	392	400	420
2	435	404	414	412	397	386	377	372	380	390	394	420
3	432	*404	417	412	397	386	377	*374	380	390	400	420
4	432	407	414	412	396	386	377	374	380	390	400	420
5	432	404	414	410	396	385	374	372	377	390	402	420
6	432	404	414	410	396	385	374	372	380	390	404	422
7	432	404	420	410	395	384	374	374	*382	390	404	422
8	*432	404	420	410	395	384	374	374	380	390	404	420
9	435	404	*422	410	395	384	374	374	382	390	407	420
10	435	407	422	407	394	383	374	372	384	387	407	422
11	437	407	422	407	394	383	374	372	384	387	407	422
12	435	410	422	*407	394	382	374	374	384	387	407	424
13	432	407	422	407	393	382	372	374	384	*387	407	424
14	432	410	420	407	393	382	372	374	384	387	410	424
15	430	407	420	407	393	382	372	374	387	387	410	427
16	427	404	417	404	392	382	372	374	387	387	*410	427
17	424	404	417	402	392	382	372	377	390	387	407	427
18	422	407	417	402	392	382	372	377	387	387	407	427
19	422	407	414	402	391	380	372	377	387	390	410	427
20	422	410	414	401	391	377	372	374	387	392	412	430
21	420	412	412	401	391	377	372	377	387	394	414	*424
22	417	412	412	401	390	377	372	377	390	394	414	424
23	414	412	412	400	390	374	372	380	390	392	412	424
24	414	410	412	400	390	374	372	382	392	392	412	427
25	410	414	414	400	390	377	372	380	390	392	414	430
26	410	412	412	399	390	380	372	380	390	390	417	427
27	410	414	414	399	390	382	372	384	392	390	417	430
28	410	414	414	399	387	382	372	384	392	390	417	430
29	410	414	414	398	387	382	372	384	392	390	417	432
30	407	414	414	396	-------	382	372	384	392	394	420	432
31	404	-------	414	398	-------	*380	-------	382	-------	397	420	-------
Total	13,141	12,247	12,900	12,544	11,388	11,831	11,199	11,671	11,575	12,092	12,683	12,745
Mean	424	408	416	405	393	382	373	376	386	390	409	425
Ac-ft	26,060	24,290	25,590	24,880	22,590	23,470	22,210	23,150	22,960	23,980	25,160	25,280

Calendar year 1959: Max 440 Min 384 Mean 409 Ac-ft 295,800
Water year 1959-60: Max 437 Min 372 Mean 399 Ac-ft 289,600

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 18 to Feb. 23, Feb. 29 to Mar. 12; discharge estimated on basis of records for Blue Lake Springs near Twin Falls and Niagara Springs near Buhl.

960. Salmon Falls Creek above upper Vineyard ditch, near Contact, Nev.

Location.--Lat 41°44', long 114°53', near northwest corner of sec.5, T.44 N., R.63 E., on left bank three-quarters of a mile upstream from former diversion point for upper Vineyard ditch, 1¼ miles upstream from present diversion dam, and 6 miles southwest of Contact.

Drainage area.--461 sq mi. Mean altitude, 6,760 ft.

Records available.--May 1914 to July 1915, October 1948 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,570 ft (by barometer). May 17, 1914, to July 25, 1915, at site three-quarters of a mile downstream at different datum.

Average discharge.--12 years (1948-60), 89.1 cfs (64,510 acre-ft per year).

Extremes.--Maximum discharge during year, 556 cfs May 13 (gage height, 3.62 ft); minimum, 16 cfs Aug. 21, 22 (gage height, 1.16 ft).
1914-15, 1948-60: Maximum discharge, 1,170 cfs May 4, 1952 (gage height, 4.82 ft); minimum, 6.8 cfs Dec. 26, 1954 (gage height, 0.93 ft).

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Many diversions above and below station for irrigation.

Revisions.--WSP 1567: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	15	2.1	112
1.2	19	2.5	192
1.4	32	3.0	325
1.7	62	4.0	715

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	30	28	b26	27	b28	126	133	246	a40	27	18
2	26	30	30	25	27	30	119	152	275	a36	28	18
3	26	31	30	b23	26	31	126	171	287	a33	25	18
4	29	31	28	b20	26	32	156	169	292	a31	20	18
5	27	*27	b24	b23	26	37	209	*169	287	a33	18	18
6	26	28	28	b26	26	52	264	174	262	a35	18	18
7	26	29	28	25	28	93	319	194	251	a33	18	18
8	26	29	26	26	39	152	352	228	*231	a31	18	18
9	27	31	26	28	*45	75	390	254	264	a30	18	18
10	28	32	28	28	35	49	404	292	254	a30	18	18
11	*32	31	*28	28	32	45	418	362	a230	a30	18	19
12	32	32	26	29	29	48	376	453	a200	a29	18	19
13	31	29	28	b25	32	79	328	520	a170	a29	18	19
14	31	28	b24	b23	30	69	292	496	a150	*a30	18	19
15	32	28	26	b24	31	47	267	425	a135	29	17	19
16	31	29	26	b28	31	44	241	380	a120	26	17	20
17	30	29	26	26	30	47	224	349	a110	23	*17	20
18	30	29	27	b24	31	63	209	334	a100	24	16	20
19	30	31	26	b22	31	72	197	298	a92	21	16	21
20	30	31	25	b24	29	74	194	257	a85	21	16	20
21	29	32	26	25	31	92	211	251	a80	21	16	20
22	29	29	27	26	29	120	221	257	a76	23	17	*21
23	29	32	28	26	29	146	244	226	a72	26	18	22
24	30	33	29	26	b25	165	234	204	a66	25	18	22
25	30	34	30	26	b30	183	202	204	a63	22	18	22
26	30	30	29	27	31	204	183	167	a66	21	18	22
27	31	28	b25	27	30	199	171	171	a60	22	18	22
28	30	29	b24	26	b29	197	156	178	a55	22	18	22
29	31	29	b27	26	b24	*167	140	202	a50	23	18	23
30	30	30	b30	27	-------	152	133	216	a43	27	18	22
31	29	-------	26	27	-------	137	-------	228	-------	25	18	-------
Total	907	901	839	792	869	2,929	7,106	8,114	4,672	851	574	594
Mean	29.3	30.0	27.1	25.5	30.0	94.5	237	262	156	27.5	18.5	19.8
Ac-ft	1,800	1,790	1,660	1,570	1,720	5,810	14,090	16,090	9,270	1,690	1,140	1,180

Calendar year 1959: Max 199 Min 15 Mean 48.4 Ac-ft 35,010
Water year 1959-60: Max 520 Min 16 Mean 79.6 Ac-ft 57,810

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 2 discharge measurements, weather records, and records for station near San Jacinto.
b Stage-discharge relation affected by ice.

1050. Salmon Falls Creek near San Jacinto, Nev.

Location.--Lat 41°57', long 114°42', in sec.23, T.47 N., R.64 E., on right bank in canyon, 600 ft downstream from bridge on U. S. Highway 93, 750 ft downstream from Shoshone Creek, and 5 miles north of San Jacinto.

Drainage area.--1,450 sq mi, approximately. Mean altitude, 6,350 ft.

Records available.--September 1909 to June 1910 (gage heights only), June 1910 to September 1916, October 1918 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 5,120 ft (by barometer). Prior to June 30, 1910, staff gage at nearby site at different datum.

Average discharge.--48 years (1910-16, 1918-60), 133 cfs (96,290 acre-ft per year).

Extremes.--Maximum discharge during year, 629 cfs Apr. 11 (gage height, 6.45 ft); minimum, 7.8 cfs Aug. 21, 22 (gage height, 2.96 ft).
1909-16, 1918-60: Maximum discharge, between 2,060 and 2,420 cfs Feb. 24, 1943 (gage height exceeded range of recorder, 10.20 ft, but was not more than 1.2 ft higher), from rating curve extended above 1,400 cfs; minimum, 2.8 cfs Nov. 13, 1947, during channel improvement work upstream.

Remarks.--Records good except those for periods of doubtful gage-height record, which are fair. Many diversions above station for irrigation. Salmon Dam of Salmor River Canal Co., 15 miles below station, forms a reservoir having a capacity of 182,650 acre-ft (see following page).

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	52	56	46	61	45	272	176	232	44	30	12
2	49	53	56	46	61	*57	246	185	246	41	30	15
3	48	53	56	42	60	65	236	216	270	38	28	20
4	45	53	51	37	60	70	268	234	282	35	26	17
5	46	*51	36	41	60	72	330	*238	284	32	22	16
6	46	52	41	50	62	75	402	234	290	34	19	15
7	46	52	50	57	65	94	479	244	284	38	18	18
8	46	52	44	58	77	185	557	266	*272	36	19	26
9	49	54	46	59	86	157	584	290	276	34	15	28
10	50	56	52	59	78	100	599	310	302	34	d12	28
11	*50	56	*50	60	69	81	608	358	254	34	d12	28
12	51	55	49	56	64	76	596	408	220	34	d12	30
13	51	54	50	47	60	90	542	488	192	32	d12	30
14	50	51	40	*42	60	105	476	560	167	*32	d12	28
15	50	56	48	43	60	88	438	533	146	35	d12	28
16	49	60	49	51	60	75	395	476	130	33	d11	29
17	49	56	52	50	60	76	352	440	121	30	*d11	30
18	49	55	60	44	60	84	315	425	111	d26	9.6	30
19	49	55	55	41	60	101	290	405	100	d28	9.6	30
20	49	56	50	50	58	105	278	358	90	d21	9.2	29
21	49	55	59	52	58	113	262	330	84	d20	8.2	30
22	50	56	56	53	56	140	278	332	80	21	8.7	*31
23	50	57	57	56	57	170	308	300	78	22	11	32
24	50	58	60	57	47	198	315	274	73	23	13	32
25	50	58	62	58	58	240	298	250	69	20	14	32
26	50	57	56	60	62	295	266	232	66	19	14	32
27	51	51	38	61	56	352	240	212	68	19	12	33
28	51	52	36	60	53	380	224	204	64	21	11	34
29	52	53	44	60	38	*365	218	202	55	22	12	34
30	53	56	49	60	------	310	196	210	47	25	12	36
31	52	------	47	61	------	286	------	220	------	30	12	------
Total	1,527	1,635	1,555	1,617	1,766	4,650	10,868	9,610	4,953	913	457.3	813
Mean	49.3	54.5	50.2	52.2	60.9	150	362	310	165	29.5	14.8	27.1
Ac-ft	3,030	3,240	3,080	3,210	3,500	9,220	21,560	19,060	9,820	1,810	907	1,610

Calendar year 1959: Max 290 Min 8.2 Mean 73.2 Ac-ft 52,960
Water year 1959-60: Max 608 Min 8.2 Mean 110 Ac-ft 80,050

* Discharge measurement made on this day.
d Doubtful gage-height record; discharge estimated on basis of recorder record and record for Salmon Falls Creek near Contact.

1060. Salmon River Canal Co. canal near Rogerson, Idaho

Location.--Lat 42°15', long 114°45', in sec.7, T.14 S., R.15 E., on left bank half a mile downstream from Salmon River Canal Co. reservoir and 7 miles west of Rogerson.

Records available.--April 1937 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,940 ft (by barometer). Oct. 1, 1953, to Sept. 30, 1954, staff gage at same site and datum.

Extremes.--1937-60: Maximum daily discharge, 660 cfs July 21-24, 1944; no flow for long periods in each year.

Remarks.--Records excellent. Canal diverts from Salmon River Canal Co. reservoir for irrigation of land in Salmon River Canal Co. project.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		103				(*)		0	363	356	0	0
2		144						0	387	340	0	0
3		69						0	375	330	244	0
4		*0						*0	367	312	303	0
5		0						0	379	312	323	0
6		0						0	381	338	357	0
7		0						0	366	350	348	0
8		0						204	*357	396	337	0
9		0						284	353	405	243	0
10	(*)	0	(*)					308	351	420	0	0
11		0						361	370	418	0	0
12		0						369	404	414	0	0
13		0		(*)				415	410	409	285	0
14		0						317	434	*402	383	0
15		0						0	314	406	393	0
16		0						0	0	419	393	0
17		0						0	0	422	*367	0
18		0						292	0	460	354	0
19		0						391	0	330	248	0
20		0						359	0	0	0	0
21		0						355	247	0	0	1.4
22		0						339	309	0	0	0
23		0						326	316	320	0	*0
24		0						328	364	412	0	0
25		0						322	364	402	0	0
26		0						322	378	387	0	0
27		0						321	379	361	0	0
28		0						323	376	275	0	0
29		0				(*)		351	370	255	0	0
30		0			-------			354	362	226	0	0
31		-------			-------		-------	357	-------	169	0	-------
Total	0	316	0	0	0	0	0	6,998	9,076	10,046	4,578	1.4
Mean	0	10.5	0	0	0	0	0	226	303	324	148	0.047
Ac-ft	0	627	0	0	0	0	0	13,880	18,000	19,930	9,080	2.8

Calendar year 1959: Max 434 Min 0 Mean 56.6 Ac-ft 40,970
Water year 1959-60: Max 460 Min 0 Mean 84.7 Ac-ft 61,520

* Discharge measurement or observation of no flow made on this day.

1065. Salmon River Canal Co. reservoir near Rogerson, Idaho

Location.--Lat 42°13', long 114°44', in NE¼ sec.18, T.14 S., R.15 E., at dam on Salmon Falls Creek, 7½ miles west of Rogerson.

Drainage area.--1,610 sq mi, approximately.

Records available.--January 1922 to September 1960.

Gage.--Wire-weight gage read once daily. Datum of gage is 4,945.8 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Jan. 5, 1955, staff gage at same datum.

Extremes.--Maximum contents observed during year, 49,600 acre-ft May 18, 19 (gage height, 30.40 ft); minimum observed, 6,280 acre-ft Sept. 10-14 (gage height, 4.80 ft).
1922-60: Maximum contents observed, 123,700 acre-ft May 30, 31, 1922 (gage height, 61.1 ft); minimum observed, 125 acre-ft Sept. 21 to Oct. 5, 1934 (gage height, 0.1 ft).

Remarks.--Reservoir is formed by gravity-section concrete-arch dam completed in 1911; storage began in 1910. Capacity, 182,650 acre-ft between gage heights 0.0 (bottom of outlet tunnel) and 80.0 ft (maximum operating level). Dead storage unknown. Water is used for irrigation of lands in Salmon River Canal Co. project. Figures given herein represent usable contents.

Cooperation.--Gage readings and capacity table furnished by Salmon River Canal Co.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

4.0	5,200	15.0	21,500
7.0	9,460	20.0	30,000
10.0	13,800	40.0	89,800

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,210	9,020	10,300	12,100	14,100	17,100	25,700	44,700	46,800	36,100	16,300	6,480
2	7,280	8,740	10,400	12,100	14,200	17,200	26,200	45,000	46,300	35,400	16,400	6,420
3	7,380	8,520	10,500	12,100	14,200	17,300	26,600	45,400	45,900	34,800	16,400	6,420
4	7,430	8,440	10,500	12,100	14,300	17,500	27,000	45,700	45,700	33,900	15,800	6,420
5	7,500	8,520	10,500	12,200	14,400	17,600	27,500	46,100	45,400	33,400	15,200	6,350
6	7,500	8,590	10,600	12,200	14,500	17,700	28,100	46,500	45,100	32,600	14,600	6,350
7	7,580	8,660	10,600	12,300	14,600	17,800	28,700	46,900	44,900	31,900	13,800	6,350
8	7,580	8,740	10,700	12,400	14,800	18,000	29,600	47,500	44,700	31,400	13,100	6,350
9	7,650	8,810	10,700	12,400	14,900	18,300	30,400	47,200	44,400	30,600	12,400	6,350
10	7,720	8,880	10,800	12,500	15,100	18,500	31,400	47,100	44,100	29,800	12,100	6,280
11	7,790	8,950	10,800	12,600	15,200	18,800	32,400	46,900	43,800	29,100	12,100	6,280
12	7,860	9,020	10,800	12,600	15,400	19,100	33,600	46,900	43,400	28,200	12,100	6,280
13	7,940	9,100	10,800	12,700	15,500	19,300	34,700	46,800	43,000	27,500	12,100	6,280
14	8,010	9,170	10,900	12,800	15,600	19,500	35,600	46,600	42,500	26,600	11,300	6,280
15	8,080	9,240	11,000	12,900	15,700	19,700	36,500	47,200	41,900	25,800	10,500	6,350
16	8,160	9,320	11,100	12,900	15,800	19,800	37,200	48,100	41,800	24,900	9,600	6,350
17	8,160	9,390	11,100	12,900	15,800	19,900	37,900	48,900	42,000	24,000	8,740	6,350
18	8,230	9,460	11,200	13,000	16,000	20,100	38,600	49,600	42,100	23,200	8,010	6,350
19	8,300	9,530	11,300	13,100	16,000	20,300	39,200	49,600	42,300	22,300	7,280	6,350
20	8,370	9,600	11,300	13,100	16,100	20,500	39,700	49,500	42,300	21,700	6,920	6,350
21	8,440	9,680	11,400	13,100	16,300	20,600	40,300	49,400	42,400	21,800	6,920	6,350
22	8,520	9,750	11,400	13,100	16,400	20,800	40,800	49,300	42,000	21,800	6,840	6,350
23	8,590	9,820	11,500	13,200	16,500	21,100	41,200	49,200	41,400	21,800	6,770	6,350
24	8,590	9,900	11,600	13,300	16,600	21,400	41,600	49,200	40,900	20,900	6,700	6,350
25	8,660	9,970	11,600	13,400	-	21,800	42,200	49,100	40,200	20,100	6,620	6,350
26	8,740	10,000	11,700	13,400	-	22,200	42,700	48,900	39,600	19,300	6,620	6,350
27	8,810	10,100	11,800	13,500	-	22,700	43,100	48,600	38,900	18,500	6,620	6,420
28	8,880	10,200	11,900	13,600	-	23,300	43,500	48,300	38,200	17,800	6,550	6,420
29	8,880	10,300	11,900	13,700	17,000	23,900	44,000	48,000	37,500	17,200	6,550	6,420
30	8,950	10,300	12,000	13,800	-------	24,600	44,500	47,600	36,900	16,900	6,550	6,420
31	8,950	-------	12,000	14,000	-------	25,200	-------	47,200	-------	16,400	6,480	-------
(†)	6.65	7.55	8.75	10.10	12.15	17.15	27.85	29.20	23.80	11.75	4.95	4.90
(‡)	+1,810	+1,350	+1,700	+2,000	+3,000	+8,200	+19,300	+2,700	-10,300	-20,500	-9,920	-60

Calendar year 1959..... ‡ -7,000
Water year 1959-60..... ‡ -720

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

1067. Cedar Creek Reservoir near Roseworth, Idaho

Location.--Lat 42°13', long 114°53', near center of sec.12, T.14 S., R.13 E., just upstream from right end of dam on Cedar Creek, 10¼ miles south of Roseworth.

Drainage area.--128 sq mi.

Records available.--April 1957 to September 1960.

Gage.--Wire-weight gage read intermittently. Altitude of gage is 5,160 ft (by barometer).

Extremes.--Maximum contents observed during year, 12,500 acre-ft May 13 (gage height, 48.55 ft); minimum observed, 2,100 acre-ft Sept. 15 (gage height, 21.97 ft).
1957-60: Maximum contents observed, 20,120 acre-ft May 15, 1958; minimum observed, that of Sept. 15, 1960.

Remarks.--Reservoir is formed by earth-fill dam constructed in 1920; storage began in 1921. Total capacity, 29,930 acre-ft at 72.0 ft gage height (crest of spillway). Dead storage not known. Water is used for irrigation of lands in Roseworth tract. Since 1920 water has been diverted from Deadwood Creek (tributary of East Fork Bruneau River) and Devil Creek to House Creek which enters Cedar Creek Reservoir.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

20.0	1,720
30.0	4,320
40.0	8,020
50.0	13,300

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						6,250	-	-	11,570	8,410	4,900	2,780
2						-	-	12,040	-	-	-	-
3						-	-	-	-	-	-	-
4		3,710				-	9,320	12,220	-	-	-	-
5						-	-	-	-	8,280	-	-
6						-	-	-	11,060	-	4,550	-
7						-	-	-	10,990	8,070	-	-
8						-	-	-	-	-	-	-
9						-	-	12,450	-	-	4,310	-
10	3,230				5,840	-	-	-	-	7,650	-	-
11						-	10,220	-	-	-	-	2,300
12						-	-	-	10,550	-	-	-
13						-	-	12,500	-	7,230	-	-
14						-	-	-	-	-		
15						-	-	-	-	-	3,770	2,100
16						-	-	12,420	10,180	6,790	-	-
17						-	-	12,360	-	-	3,660	-
18						-	11,100	-	-	-	-	-
19						-	11,210	-	-	-	3,520	-
20						-	-	-	-	6,360	-	-
21						-	11,320	12,230	-	-	3,360	-
22						-	-	-	9,480	-	-	-
23						-	-	-	-	-	-	-
24						-	11,570	-	-	-	3,150	2,230
25						-	-	12,140	-	5,740	-	-
26						-	-	12,010	-	-	-	-
27						-	-	-	-	-	3,000	-
28						8,630	-	-	-	-	-	-
29				5,630		-	-	-	-	5,120	-	-
30						-	-	-	-	-	2,850	-
31						-		-		-	-	

1070. Cedar Creek near Roseworth, Idaho

Location.--Lat 42°15', long 114°52', in SW¼ sec.31, T.13 S., R.14 E., on right bank 21 ft upstream from stock bridge, 1.7 miles downstream from Cedar Creek Dam, and 8¾ miles south of Roseworth.

Drainage area.--130 sq mi, approximately.

Records available.--May 1909 to December 1914, February to June 1916, May 1957 to September 1960.

Gage.--Water-stage recorder and artificial control. Altitude of gage is 5,050 ft (by barometer). Prior to May 1957, staff gage at site 1.8 miles upstream at different datum.

Extremes.--Maximum discharge during year, 85 cfs July 16 (gage height, 2.65 ft); no flow for long periods.
1909-16, 1957-60: Maximum daily discharge, 200 cfs (estimated) Mar. 1, 1910 (gage submerged); no flow for long periods most years during non-irrigation seasons.

Remarks.--Records good except those below 5 cfs, which are poor. Flow completely regulated by Cedar Creek Reservoir (see preceding page). Several diversions for irrigation above station. Since 1920 water has been diverted from Deadwood Creek (tributary of East Fork Bruneau River) and Devil Creek to House Creek which enters Cedar Creek Reservoir.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 21 to Sept. 14)

0.74	0	1.4	15
.8	.5	1.7	30
.9	1.9	2.0	48
1.0	3.6	2.5	80
1.2	8.5	3.0	115

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.3	0		0		*0	0	8.0	59	60	50	29
2	4.0	0		0		0	0	17	59	67	48	29
3	4.0	7.2		0		0	0	22	67	3.6	47	29
4	4.3	*16		0		2.4	0	*32	69	.2	47	30
5	6.9	16		0		6.6	0	37	67	.6	47	30
6	6.9	16		0		3.8	0	37	*70	65	47	30
7	6.9	18		0		1.9	0	41	68	75	49	30
8	6.9	7.6		0		1.5	0	42	64	81	48	30
9	6.6	0		0		1.1	0	56	64	81	43	30
10	*6.9	0		0	(*)	1.2	0	59	62	80	39	31
11	7.2	0		0		1.2	0	59	61	79	41	31
12	7.4	0		0		1.2	0	60	59	79	40	31
13	7.2	0		0		1.2	0	66	63	83	41	31
14	7.2	0		0		2.2	0	69	61	82	41	30
15	.8	0		0		1.8	0	69	59	84	41	22
16	.6	0		0		1.6	0	68	59	*84	41	10
17	.5	0		0		1.6	0	65	60	84	*41	11
18	.4	0		0		1.5	0	62	61	82	43	11
19	.3	0		0		1.2	.8	61	58	76	41	11
20	.3	0		0		1.1	2.9	61	61	73	43	11
21	.2	0		0		.9	5.6	63	62	72	40	11
22	.2	0		0		.8	8.0	61	52	72	38	11
23	.2	0		0		.8	8.0	61	55	71	37	11
24	.2	0		0		13	8.0	63	57	71	34	*9.4
25	.1	0		0		30	8.2	62	55	70	29	8.2
26	.1	0		0		13	8.2	61	55	70	28	8.0
27	0	0		0		.2	8.0	57	57	70	29	8.0
28	0	0		0		*.1	8.0	58	56	65	30	7.7
29	0	0		6.5		0	8.0	58	57	57	30	7.7
30	0	0		15	-------	0	8.0	58	58	53	30	7.2
31	0	-------		9.0	-------	0	-------	58	-------	52	29	-------
Total	90.6	80.8	0	30.5	0	91.9	81.7	1,651.0	1,815	2,042.4	1,232	586.2
Mean	2.92	2.69	0	0.98	0	2.96	2.72	53.3	60.5	65.9	39.7	19.5
Ac-ft	180	160	0	60	0	182	162	3,270	3,600	4,050	2,440	1,160

Calendar year 1959: Max 80 Min 0 Mean 22.7 Ac-ft 16,460
Water year 1959-60: Max 84 Min 0 Mean 21.0 Ac-ft 15,260

* Discharge measurement or observation of no flow made on this day.
Note.--No gage-height record Jan. 12 to Feb. 10; discharge estimated on basis of records of gate openings at Cedar Creek Dam 1.7 miles upstream.

1120. Camas Creek at Camas, Idaho

Location.--Lat 44°00', long 112°13', in E½SE¼ sec.21, T.8 N., R.36 E., on left bank 150 ft upstream from Oregon Short Line Railroad bridge at Camas and half a mile upstream from Beaver Creek.

Drainage area.--404 sq mi, approximately. Mean altitude, 6,450 ft.

Records available.--April 1925 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,780 ft (by barometer). Prior to Aug. 21, 1925, staff gage at site 0.1 mile downstream at different datum. Aug. 21, 1925, to Mar. 25, 1927, staff gage and Mar. 26, 1927, to Sept. 14, 1938, water-stage recorder, at site 250 ft upstream at datum 2.01 ft higher.

Average discharge.--34 years (1926-60), 28.0 cfs (20,270 acre-ft per year).

Extremes.--Maximum discharge during year, 530 cfs Apr. 12 (gage height, 4.48 ft); no flow Dec. 30 to Mar. 4, May 23, June 17 to Sept. 30.
1925-60: Maximum discharge, 1,220 cfs May 2 or 3, 1952 (gage height, 6.53 ft); from rating curve extended above 510 cfs by logarithmic plotting; no flow at times in many years.

Remarks.--Records good except those for periods of ice effect, indefinite stage-discharge relation, or no gage-height record, which are poor. Diversions above and below station for irrigation and stock water.

Cooperation.--Water-stage recorder inspected and five discharge measurements furnished by employees of Water District No. 66.

Revisions (water years).--WSP 813: 1935. WSP 1123: 1947. WSP 1567: Drainage area.

Rating tables, water year 1959-60, except periods of ice effect or indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 7-19, Apr. 6-11)

Oct. 1-31		Nov. 1 to Sept. 30			
1.5	0	1.2	0	2.0	30
1.6	.2	1.3	.6	2.2	47
1.7	.8	1.4	2.0	2.5	84
1.8	1.9	1.5	4.4	3.0	161
1.9	4.2	1.6	7.6	4.0	382
		1.8	16	4.4	486

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	e4.0	2.1			0	12	51	32			
2	*1.4	e5.0	2.4			0	15	49	30			
3	1.2	e5.0	2.8			0	20	57	22			
4	1.2	e4.6	2.6			0	30	84	18			
5	.4	3.0	2.4			.3	50	*126	10			
6	.7	2.5	2.2			.6	77	101	8.7			
7	1.5	*4.5	2.0			.8	88	69	8.0			
8	1.5	4.3	2.0			1.2	*92	54	*2.7			
9	1.5	3.5	2.1			1.5	146	47	1.9			
10	1.4	4.0	*2.3			*1.5	344	41	1.6			
11	1.8	3.5	2.5			1.5	464	30	4.7	(*)		
12	3.2	3.0	2.5			1.5	456	*21	3.0			
13	2.2	2.0	2.6			1.5	332	28	3.2			
14	1.8	2.0	2.6			1.5	190	36	3.7			
15	1.5	2.0	2.7			1.5	163	42	1.6		(*)	
16	1.3	2.0	2.7			1.5	112	28	.5			
17	1.5	2.0	2.7			1.5	77	21	0			
18	1.4	2.0	2.8			1.5	68	14	0			
19	1.4	2.2	2.8			1.6	68	6.6	0			
20	1.4	2.5	2.8			1.8	83	6.0	0			
21	1.8	2.6	2.8			2.0	87	4.2	0			
22	1.6	2.8	2.8			2.1	90	1.0	0			
23	1.6	3.0	2.7	(*)		2.2	97	0	0			
24	1.8	3.0	2.6			2.3	84	1.7	0			
25	2.9	2.8	2.5			2.5	78	*13	0			
26	3.4	2.5	2.3			2.7	68	36	0			
27	2.7	2.1	1.8			3.0	59	33	0			
28	2.4	1.9	1.0			4.5	60	*30	0			
29	2.4	1.9	.5			5.0	*71	33	0			
30	e2.5	2.0	0		-------	*7.4	64	36	0	-------		-------
31	e3.0	-------	0		-------	9.0	-------	*34	-------			
Total	56.5	88.2	68.6	0	0	64.0	3,645	1,133.5	151.6	0	0	0
Mean	1.82	2.94	2.21	0	0	2.06	122	36.6	5.05	0	0	0
Ac-ft	112	175	136	0	0	127	7,230	2,250	301	0	0	0

Calendar year 1959: Max 210 Min 0 Mean 16.7 Ac-ft 12,090
Water year 1959-60: Max 464 Min 0 Mean 14.2 Ac-ft 10,330

* Discharge measurement or observation of no flow made on this day.
e Stage-discharge relation indefinite; discharge estimated on basis of weather records and records for nearby stations.
Note.--Stage-discharge relation affected by ice Nov. 5-13, Apr. 1-5. No gage-height record Nov. 14 to Mar. 31 (stage-discharge relation affected by ice most of period); discharge estimated on basis of recorder record, weather records, 4 discharge measurements, and records for Beaver Creek at Dubois and other nearby stations).

1135. Beaver Creek at Dubois, Idaho

Location.--Lat 44°11', long 112°14', in NW¼ sec.21, T.10 N., R.36 E., on left bank half a mile north of Dubois.

Drainage area.--220 sq mi, approximately. Mean altitude, 6,760 ft.

Records available.--April 1921 to September 1960 (no winter records 1925-28, 1930).

Gage.--Water-stage recorder. Datum of gage is 5,158.87 ft above mean sea level, datum of 1929. Prior to May 8, 1927, staff gage at site 175 ft downstream at datum 1.16 ft lower. May 8, 1927, to Sept. 15, 1957, at same site at datum 0.92 ft higher.

Average discharge.--33 years (1921-24, 1928-29, 1931-60), 16.8 cfs (12,160 acre-ft per year).

Extremes.--Maximum discharge during year, 283 cfs Apr. 6 (gage height, 3.52 ft); no flow for long periods.
1921-60: Maximum discharge, 858 cfs Apr. 7, 1930 (gage height, 4.77 ft); no flow for long periods in each year.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation above station.

Cooperation.--Water-stage recorder inspected and six discharge measurements furnished by employees of Water District No. 66.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0	0	0.9	13.8
.1	.1	1.1	25
.2	.2	1.5	52
.3	.7	2.0	98
.5	2.8	3.0	215
.7	6.7	3.4	267

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		2.3				0	30	9.8				
2	(*)	4.2				0	*27	9.8				
3		3.6				0	45	18				
4		2.8				0	78	27				
5		a2				0	179	*29				
6		0				0	255	15				
7		*0				0	178	10				
8		3.1				0	*120	8.6	(*)			
9		1.9				*0	99	6.0				
10		3.9	(*)			0	78	3.6				
11		a3.5				0	a65	.7		(*)		
12		a2				0	a55	*0				
13		0				0	a45	0				
14		0				0	a35	a1				
15		0			(*)	*0	a27	*.6			(*)	
16		0				0	a23	0				
17		0				0	a21	0				
18		0				0	a18	.6				
19		0				0	*15	.5				
20		0				0	12	a1				
21		0				0	10	a2				
22		a1				0	9.5	3.3				
23		a2		(*)		0	11	7.9				
24		1.6				0	16	20				
25		1.6				20	14	11				
26		a1				35	14	3.9				
27		0				50	*14	1.6				
28		0				45	*21	1.1				
29		0				50	19	*1.4				
30		0			-------	*55	12	0				
31		-------			-------	35	-------	0	-------			-------
Total	0	36.5	0	0	0	290	1,545.5	193.4	0	0	0	0
Mean	0	1.22	0	0	0	9.4	51.5	6.24	0	0	0	0
Ac-ft	0	72.4	0	0	0	575	3,070	384	0	0	0	0

Calendar year 1959: Max 130 Min 0 Mean 10.4 Ac-ft 7,530
Water year 1959-60: Max 255 Min 0 Mean 5.64 Ac-ft 4,100

* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of weather records, 2 discharge measurements, and records for station at Camas and other nearby stations.
Note.--Stage-discharge relation affected by ice Nov. 24, 25, Mar. 25 to Apr. 3.

1140. Beaver Creek at Camas, Idaho

Location.--Lat 44°01', long 112°14', in NE¼ sec.21, T.8 N., R.36 E., on right bank a quarter of a mile northwest of Oregon Short Line Railroad station at Camas and three-eighths of a mile upstream from mouth.

Drainage area.--510 sq mi, approximately. Mean altitude, 6,190 ft.

Records available.--April 1921 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,790 ft (by barometer). Prior to Dec. 22, 1949, staff gages at nearby sites at present datum.

Average discharge.--39 years, 4.04 cfs (2,920 acre-ft per year).

Extremes.--Maximum discharge during year, 139 cfs Apr. 7 (gage height, 2.96 ft); no flow for most of year.
1921-60: Maximum discharge, 136 cfs Apr. 28, 1952 (gage height, 3.48 ft); no flow for long periods in each year; no flow for entire water years 1929, 1931-37, 1940.

Remarks.--Records good. Flow affected by irrigation diversions above Dubois, 14 miles above station, and by heavy channel losses below Dubois.

Cooperation.--Occasional inspections of recorder and one discharge measurement furnished by Water District No. 66.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

0.86	0	1.2	4.0	1.8	28
.9	.3	1.3	6.2	2.0	42
1.0	1.2	1.4	9.5	2.5	85
1.1	2.4	1.6	18	3.0	134

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0					
2	(*)						0					
3							0					
4							0					
5							29					
6							119					
7		(*)					134					
8							101		(*)			
9						(*)	75					
10			(*)				57					
11							43			(*)		
12							26	(*)				
13							19					
14							11					
15							6				(*)	
16							0					
17							0					
18							0					
19							0					
20							0					
21							0					
22							0					
23				(*)			0					
24							0					
25							0					
26							0					
27							0					
28							0					
29							0					
30					-------	(*)	0					
31		-------			-------		-------		-------			-------
Total	0	0	0	0	0	0	620	0	0	0	0	0
Mean	0	0	0	0	0	0	20.7	0	0	0	0	0
Ac-ft	0	0	0	0	0	0	1,230	0	0	0	0	0

Calendar year 1959: Max 56 Min 0 Mean 1.49 Ac-ft 1,080
Water year 1959-60: Max 134 Min 0 Mean 1.69 Ac-ft 1,230

* Discharge measurement or observation of no flow made on this day.

1150. Mud Lake near Terreton, Idaho

Location.--Lat 43°54', long 112°21', in NE¼SE¼ sec.32, T.7 N., R.35 E., 670 ft north of mouth of Camas Creek, 4.4 miles northeast of First Owsley pumphouse, and 5½ miles northeast of Terreton.

Drainage area.--1,130 sq mi, approximately, not including Medicine Lodge Creek.

Records available.--April 1921 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,774.99 ft above mean sea level, unadjusted. Prior to Oct. 31, 1931, staff gages at or near pumphouse (now used as supplementary gage) at same datum. Oct. 31, 1931, to Sept. 30, 1954, water-stage recorder at site 2.7 miles southwest and 2 miles north of First Owsley pumphouse at same datum.

Extremes.--Maximum contents during year, 26,900 acre-ft May 11; maximum gage height, 6.36 ft May 12 (affected by wind); minimum contents, 3,570 acre-ft Nov. 4; minimum gage height -0.01 ft Nov. 4 (affected by wind).

1921-60: Maximum contents observed, 61,660 acre-ft May 5, 1923 (gage height, 9.20 ft); practically no contents Oct. 1 to Nov. 15, 1937, due to bypassing Camas Creek (see Remarks).

Remarks.--Mud Lake is a perched body of water confined by earth dikes and fed by ground water and surface tributaries augmented by well flows and surface inflow from North Lake. For complete description of Mud Lake region, see WSP 818. Water for irrigation is diverted from lake by pumping. During low-lake stages, inflow from Camas Creek may be bypassed through Camas Creek diversion canal directly to lake outlet channel leading to First Owsley pumping plant. Bypass was not used during 1960. Other irrigation diversions are made by various means from adjacent lakes and wells and Camas Creek above lake. Area of Mud Lake is varied from time to time by changes in dikes. Figures given herein represent contents above gage height -4.0 ft. Capacity table prepared from surveys made by Geological Survey and adjusted for changes in dikes. High winds are frequent, and stage at recorder during wind does not usually represent the mean for the lake.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 66.

Revisions.--WSP 1567: Drainage area.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

0	3,410	4.0	15,800
1.0	5,460	5.0	20,500
2.0	8,150	6.0	25,700
3.0	11,600	7.0	31,600

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,460	3,780	6,330	10,500	14,400	18,300	20,900	25,100	20,300	10,500	4,540	a5,400
2	5,360	3,720	6,430	10,600	14,600	18,400	21,000	25,200	19,800	10,100	4,450	a5,500
3	5,460	f3,630	6,580	10,800	14,700	18,600	21,000	25,700	19,400	9,790	4,450	a5,600
4	5,530	3,570	6,660	10,900	14,700	18,700	21,100	25,900	18,900	9,450	4,410	5,700
5	5,630	3,880	6,790	11,100	14,700	18,900	21,200	26,100	18,500	9,220	4,250	5,870
6	f5,700	3,970	6,900	11,200	14,700	18,900	21,200	26,400	18,000	9,120	4,210	5,970
7	5,770	4,090	7,040	11,400	14,800	19,000	21,300	f26,500	17,600	8,950	4,050	6,020
8	5,820	4,190	7,150	11,600	15,100	19,000	21,500	26,600	17,400	8,790	4,070	6,200
9	5,850	4,330	7,290	11,600	15,300	19,000	21,500	26,800	17,300	8,630	4,050	6,430
10	5,970	4,430	7,380	11,700	a15,400	19,000	21,600	26,800	17,000	8,470	4,070	6,580
11	6,100	4,560	7,520	11,800	a15,600	19,100	f21,900	26,800	16,900	8,340	4,010	6,790
12	6,170	f4,580	7,640	12,100	a15,800	19,100	22,300	f26,600	16,700	8,210	3,990	6,960
13	6,200	4,620	7,760	12,200	a15,900	19,200	22,700	26,200	16,600	8,060	f3,970	7,090
14	6,170	4,710	7,880	12,300	a16,000	19,300	23,000	26,000	f16,500	7,840	3,950	7,120
15	6,120	4,770	8,000	12,500	16,200	19,400	23,400	25,600	16,200	7,760	3,990	7,150
16	6,150	4,860	8,090	12,600	16,300	19,400	23,700	25,000	f16,100	7,580	4,010	7,230
17	6,330	4,920	8,210	12,700	16,400	19,500	23,700	24,500	15,900	7,290	4,090	7,230
18	6,400	5,010	8,370	12,900	16,500	19,500	23,900	24,000	15,600	7,060	4,210	7,260
19	6,430	5,120	8,470	12,900	16,700	19,600	23,900	23,600	f15,400	6,900	4,290	7,320
20	6,430	5,190	8,600	12,900	a16,800	19,600	23,900	23,000	15,000	6,610	4,370	7,290
21	6,220	5,300	8,730	13,100	a17,000	19,700	24,000	22,500	14,600	6,300	4,410	7,230
22	5,870	5,370	8,860	13,100	a17,100	19,900	24,200	22,400	14,200	6,000	f4,540	7,290
23	5,530	5,480	9,020	13,600	a17,200	20,000	24,300	22,200	13,900	5,820	4,620	7,200
24	5,250	5,600	9,220	13,700	a17,400	20,100	24,600	22,000	13,500	5,580	4,730	7,150
25	4,970	5,680	9,480	13,800	a17,600	20,200	24,700	21,800	13,100	5,390	4,770	7,090
26	4,750	5,820	9,550	13,900	a17,800	20,300	24,800	21,500	12,700	5,230	4,920	7,060
27	4,580	5,900	9,720	13,900	a17,900	20,400	24,800	21,100	12,200	5,100	4,880	6,960
28	4,330	6,020	9,860	14,100	a18,000	20,500	24,800	20,900	11,800	4,940	4,920	6,790
29	4,130	6,150	10,000	14,100	a18,200	20,600	24,800	20,800	11,300	4,830	5,100	6,640
30	3,990	6,250	10,100	14,200	-------	20,600	25,000	20,700	11,000	4,710	a5,200	6,480
31	3,860	-------	10,300	14,300	-------	20,900	-------	20,500	-------	4,580	a5,300	-------
(†)	0.24	1.32	2.84	3.66	-	5.07	5.86	4.99	2.82	0.60	-	1.41
(‡)	-1,480	+2,390	+4,050	+4,000	+3,900	+2,700	+4,100	-4,500	-9,500	-6,420	+720	+1,180

Calendar year 1959..... ‡ -800
Water year 1959-60..... ‡ +1,140

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
a No gage-height record; contents interpolated.
f Contents computed from partly estimated gage height.

1160. Medicine Lodge Creek at Ellis Ranch, near Argora, Idaho

Location.--Lat 44°17', long 112°30', in sec.7, T.11 N., R.34 E., on left bank 4 miles upstream from Middle Creek, 6½ miles southeast of Argora, and 17 miles northwest of Dubois.

Drainage area.--165 sq mi. Mean altitude, 7,520 ft.

Records available.--October 1940 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,710 ft (from topographic map of dam sites). Prior to Nov. 16, 1940, staff gage at site 0.2 mile upstream at different datum. Nov. 16, 1940, to May 30, 1950, at site 50 ft downstream at present datum.

Average discharge.--19 years (1941-60), 42.0 cfs (30,410 acre-ft per year).

Extremes.--Maximum discharge during year, 67 cfs Mar. 11 (gage height, 2.75 ft); minimum, 5 cfs Apr. 16 (gage height, 1.52 ft).
1940-60: Maximum discharge, 229 cfs June 9, 1944 (gage height, 4.23 ft), from rating curve extended above 120 cfs by logarithmic plotting; minimum, 4.0 cfs Feb. 15, 1953, Nov. 28, 1954 (gage height, 1.24 ft).

Remarks.--Records good. Several diversions above and below station for irrigation.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	44	25	14	44	17	41	17	42	30	30	28
2	*39	44	31	14	44	18	31	21	41	29	28	28
3	41	44	44	13	44	20	30	47	41	29	28	28
4	38	40	34	13	44	24	30	59	41	28	28	28
5	39	21	29	14	44	31	29	59	40	29	28	27
6	40	28	25	14	45	42	26	55	40	29	28	25
7	41	*38	22	16	45	49	21	54	41	29	28	24
8	41	41	21	25	46	55	20	54	42	28	27	24
9	43	32	23	36	45	56	19	53	*43	26	28	25
10	41	33	*25	41	44	*50	18	51	45	25	28	26
11	42	34	28	48	44	45	17	50	43	*25	28	26
12	41	33	29	53	44	50	18	*50	41	25	28	26
13	42	14	32	50	44	47	17	51	40	25	28	26
14	41	17	30	38	36	47	17	52	39	25	28	27
15	41	16	34	44	40	45	17	50	40	25	*28	27
16	40	14	44	33	36	44	14	50	40	25	30	26
17	40	13	47	27	32	45	19	48	38	25	30	26
18	41	13	49	27	30	44	19	48	38	24	28	26
19	42	18	47	24	33	41	19	47	37	25	28	25
20	43	21	49	24	31	44	17	46	37	25	27	25
21	43	22	48	25	36	45	14	45	37	26	26	25
22	44	29	47	28	28	44	14	45	36	25	28	25
23	41	39	48	*32	21	46	14	*44	36	26	32	26
24	41	39	52	38	22	50	15	44	34	28	29	25
25	41	38	51	48	22	53	15	42	34	28	29	25
26	41	26	32	56	17	53	15	41	33	28	29	25
27	42	23	24	50	14	50	16	41	32	28	29	25
28	44	19	22	48	14	47	16	44	32	30	30	25
29	44	19	19	47	16	43	16	41	31	30	30	25
30	43	20	18	46	-------	44	16	41	31	29	29	25
31	43	-------	18	45	-------	*42	-------	41	-------	30	28	-------
Total	1,281	832	1,047	1,031	1,005	1,331	590	1,431	1,145	839	883	774
Mean	41.3	27.7	33.8	33.3	34.7	42.9	19.7	46.2	38.2	27.1	28.5	25.8
Ac-ft	2,540	1,650	2,080	2,040	1,990	2,640	1,170	2,840	2,270	1,660	1,750	1,540

Calendar year 1959: Max 56 Min 10 Mean 37.3 Ac-ft 27,000
Water year 1959-60: Max 59 Min 13 Mean 33.3 Ac-ft 24,170

* Discharge measurement made on this day.

1170. Birch Creek near Reno, Idaho

Location.--Lat 44°12', long 112°57', in sec.13, T.10 N., R.29 E., on left bank 200 ft west of State Highway 28, 2.6 miles south of the Lemhi-Clark County line, 5 miles southeast of former Reno Post Office, and 35 miles west of Dubois.

Drainage area.--320 sq mi, approximately. Mean altitude, 7,580 ft.

Records available.--September 1910 to June 1912 (published as "near Kaufman"), April 1921 to January 1923, October 1950 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,240 ft (by barometer). Prior to Oct. 1, 1950, staff gage at site half a mile downstream at different datum.

Average discharge.--12 years (1910-11, 1921-22, 1950-60), 79.3 cfs (57,410 acre-ft per year).

Extremes.--Maximum discharge during year, 93 cfs Mar. 6, 7 (gage height, 1.66 ft); maximum gage height, 2.06 ft Jan. 3 (backwater from ice); minimum discharge, 75 cfs Jan. 1 (gage height, 1.51 ft).
1910-12, 1921-23, 1950-60: Maximum discharge, 111 cfs Mar. 24, 1956 (gage height, 1.96 ft); maximum gage height observed, 2.76 ft Jan. 19, 1957 (backwater from ice); minimum discharge recorded, 61 cfs Jan. 29, 1951; minimum gage height, 1.47 ft Jan. 30, 1956, Mar. 22, 23, 1959.

Remarks.--Records good. Small diversions for stock ranches and hay meadows above station.

Revisions (water years).--WSP 1447: 1911-12.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.5	75
1.6	85
1.7	95

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*87	83	79	b78	83	89	86	88	90	82	81	84
2	87	83	79	b78	83	90	86	89	90	81	81	85
3	87	83	79	b78	83	91	86	89	90	81	81	85
4	86	83	79	b79	83	*92	86	90	90	81	81	86
5	86	82	79	81	83	92	86	90	89	81	82	86
6	86	82	79	80	83	93	87	89	90	81	82	85
7	86	*82	79	81	83	93	87	89	90	80	82	85
8	85	83	79	81	83	92	88	89	*91	80	82	85
9	84	82	*79	82	83	92	88	89	90	80	83	85
10	85	81	79	81	83	92	88	89	91	79	84	84
11	85	81	79	81	83	91	89	*89	91	*79	84	83
12	85	81	79	82	84	91	88	89	90	78	84	83
13	85	b80	79	83	85	90	88	89	89	78	84	84
14	85	80	b79	b83	b85	90	90	89	89	78	84	84
15	85	80	79	83	85	90	89	89	88	78	*84	84
16	85	b80	80	b82	85	90	88	89	87	78	85	84
17	84	80	80	b81	86	89	89	89	86	78	85	84
18	84	80	79	b80	b86	88	88	89	86	79	85	84
19	84	80	79	b80	87	88	88	89	86	79	84	83
20	84	80	79	b80	88	88	87	89	84	79	84	83
21	84	81	78	b81	89	88	88	90	85	80	83	83
22	84	81	78	82	b88	87	88	90	85	79	85	83
23	84	81	79	*84	b88	87	88	90	85	80	85	83
24	83	81	80	83	b88	87	88	89	83	80	84	84
25	82	81	80	83	b87	87	87	89	84	79	84	84
26	82	80	b80	83	b87	86	87	91	84	80	85	84
27	82	80	b79	83	87	86	87	91	83	80	85	84
28	82	80	79	82	88	86	88	90	82	81	85	84
29	83	79	b79	82	88	86	88	90	82	80	85	84
30	84	79	80	82	-------	86	88	90	82	80	85	84
31	84	-------	79	83	-------	*86	-------	90	-------	80	85	-------
Total	2,619	2,429	2,453	2,522	2,474	2,763	2,629	2,771	2,612	2,469	2,593	2,522
Mean	84.5	81.0	79.1	81.4	85.3	89.1	87.6	89.4	87.1	79.6	83.6	84.1
Ac-ft	5,190	4,820	4,870	5,000	4,910	5,480	5,210	5,500	5,180	4,900	5,140	5,000

Calendar year 1959: Max 88 Min 71 Mean 80.3 Ac-ft 58,170
Water year 1959-60: Max 93 Min 78 Mean 84.3 Ac-ft 61,200

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Feb. 27 to Mar. 3; discharge estimated on basis of weather records.

1187. Little Lost River below Wet Creek, near Howe, Idaho

Location.--Lat 44°05'30", long 113°14'40", in NW¼SE¼ sec.4, T.9 N., R.27 E., on right bank at Clyde school, a quarter of a mile downstream from Wet Creek and 27 miles northwest of Howe.

Drainage area.--440 sq mi, approximately.

Records available.--January 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,880 ft (from topographic map).

Extremes.--Maximum discharge during year, 165 cfs May 13 (gage height, 2.78 ft); maximum gage height, 3.06 ft Dec. 14 (ice jam); minimum daily discharge, 13 cfs Jan. 17, 18.
1958-60: Maximum discharge, 432 cfs May 26, 1958 (gage height, 3.72 ft); minimum daily, that of Jan. 17, 18, 1960.

Remarks.--Records good except those for periods of ice effect or doubtful or no gage-height record, which are poor. A few small diversions above station for irrigation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.8	17	2.4	87
2.0	32	2.7	147
2.2	56		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*56	48	23	15	21	16	36	53	100	d40	36	36
2	55	47	23	15	20	17	*43	56	105	d38	*39	35
3	55	47	22	15	19	18	56	60	107	40	34	35
4	56	44	21	15	18	20	69	62	107	42	32	36
5	56	34	20	15	18	*21	87	62	d106	43	34	35
6	56	*24	19	16	19	21	100	60	d110	*43	34	35
7	56	23	19	16	20	20	101	62	*d115	42	32	34
8	55	23	20	17	21	20	94	63	117	41	32	32
9	55	23	*20	17	22	21	101	63	103	39	32	31
10	57	24	21	18	21	21	94	72	101	38	32	32
11	56	23	22	18	20	21	84	*96	103	36	32	32
12	56	24	22	18	20	21	77	117	98	39	30	30
13	56	24	21	17	20	21	69	143	94	36	30	31
14	56	24	20	15	20	21	70	125	94	38	29	34
15	56	25	20	14	21	21	63	109	91	36	31	*33
16	56	25	20	14	20	21	51	101	87	34	34	32
17	53	25	20	13	20	21	53	96	82	33	36	32
18	52	23	20	13	20	22	62	94	75	32	34	28
19	52	21	20	14	20	22	57	87	66	32	32	28
20	51	20	20	14	19	23	55	77	65	33	32	27
21	51	21	19	15	19	24	53	80	66	33	31	27
22	51	22	19	*16	18	25	57	79	53	31	33	28
23	52	22	18	17	18	26	57	74	d50	33	44	28
24	52	23	18	18	17	28	56	75	48	36	41	28
25	51	24	18	19	17	30	52	74	48	32	41	28
26	51	24	17	20	17	37	55	70	48	29	40	29
27	51	22	17	20	16	50	53	72	d48	29	38	28
28	51	21	16	19	15	45	57	74	47	30	38	27
29	48	22	16	19	15	42	55	75	44	33	38	27
30	46	22	16	20	-------	40	51	77	43	32	38	28
31	41	-------	16	21	-------	38	-------	89	-------	35	35	-------
Total	1,646	794	603	513	551	794	1,968	2,497	2,421	1,108	1,074	926
Mean	53.1	26.5	19.5	16.5	19.0	25.6	65.6	80.5	80.7	35.7	34.6	30.9
Ac-ft	3,260	1,570	1,200	1,020	1,090	1,570	3,900	4,950	4,800	2,200	2,130	1,840

Calendar year 1959: Max 175 Min 16 Mean 52.5 Ac-ft 37,970
Water year 1959-60: Max 143 Min 13 Mean 40.7 Ac-ft 29,530

* Discharge measurement made on this day.
d Doubtful gage-height record; discharge estimated on basis of no gage-height record.
Note.--Stage-discharge relation affected by ice Oct. 29, Nov. 5-18, Nov. 26 to Mar. 15. No gage-height record Nov. 30 to Dec. 3, Dec. 18 to Feb. *21, Feb. 25 to Apr. 2, July 3-6; discharge estimated on basis of weather records, records for station near Howe, and records for stations in Big Lost River basin.

1190. Little Lost River near Howe, Idaho

Location.--Lat 43°53', long 113°06', in sec.3, T.6 N., R.28 E., on left bank a quarter of a mile upstream from diversion dam of Blaine County Investment Co. and 7 miles northwest of Howe.

Drainage area.--703 sq mi.

Records available.--April 1921 to September 1960 (no winter records prior to 1941). Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 5,020 ft (by barometer). Prior to Sept. 2, 1938, staff gage at site 120 ft downstream at datum 1.39 ft higher.

Average discharge.--20 years (1940-60), 69.7 cfs (50,460 acre-ft per year).

Extremes.--Maximum discharge during year, 153 cfs Apr. 7 (gage height, 3.53 ft); maximum gage height recorded, 6.18 ft Jan. 28 (ice jam); minimum daily discharge, 26 cfs Jan. 19.

1921-60: Maximum discharge, about 450 cfs Aug. 11, 1936 (gage height, 3.1 ft, datum then in use, from floodmark), from rating curve extended above 220 cfs; maximum gage height observed, 6.63 ft Jan. 23, 1957; minimum discharge observed, 4.1 cfs Dec. 12, 1940.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above and below station for irrigation of about 11,900 acres.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 9.

Revisions.--WSP 1637: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 4-10)

2.3	22
2.6	46
3.0	89
3.5	153

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*86	82	43	32	44	32	62	90	114	69	56	52
2	85	81	43	31	43	35	58	95	121	65	57	51
3	82	81	42	31	41	38	*63	97	127	69	*56	49
4	80	79	41	31	39	39	66	96	126	69	55	49
5	80	59	40	32	38	*39	72	96	126	69	53	51
6	87	*42	39	33	39	40	80	96	126	*69	53	51
7	88	40	38	35	41	39	102	96	126	68	52	53
8	89	39	39	36	44	40	116	100	*130	64	52	52
9	88	39	*40	38	46	40	116	97	127	64	54	50
10	88	40	40	39	44	40	117	*101	121	63	54	54
11	88	39	41	40	42	41	113	113	126	64	55	54
12	86	40	42	40	41	41	109	123	122	62	53	53
13	85	40	41	37	40	41	102	136	116	59	52	52
14	86	42	40	33	40	40	100	142	118	63	52	55
15	86	44	39	31	41	40	97	*135	118	62	52	*56
16	85	45	40	29	40	40	88	130	113	57	55	55
17	86	46	39	28	39	40	88	129	106	56	56	55
18	82	45	37	27	39	41	90	129	101	53	54	55
19	81	43	39	26	40	41	90	123	97	53	52	52
20	82	42	39	27	39	44	89	117	93	56	52	51
21	81	41	39	29	38	45	87	113	91	56	51	50
22	84	41	38	*31	37	47	90	116	91	56	53	51
23	85	42	38	33	36	50	93	109	82	54	63	51
24	82	43	37	36	35	53	93	108	78	58	62	51
25	82	46	37	38	34	53	94	108	77	58	59	52
26	85	45	36	40	32	62	91	101	75	55	59	53
27	86	42	35	40	31	67	93	101	76	53	57	53
28	86	41	34	38	30	84	95	103	75	54	52	51
29	84	41	34	39	30	77	93	99	75	57	54	49
30	81	42	34	41	-------	69	90	100	71	55	51	45
31	76	-------	33	45	-------	65	-------	107	-------	55	51	-------
Total	2,612	1,432	1,197	1,066	1,123	1,463	2,737	3,406	3,145	1,865	1,687	1,556
Mean	84.3	47.7	38.6	34.4	38.7	47.2	91.2	110	105	60.2	54.4	51.9
Ac-ft	5,180	2,840	2,370	2,110	2,230	2,900	5,430	6,760	6,240	3,700	3,350	3,090

Calendar year 1959: Max 155 Min 29 Mean 72.2 Ac-ft 52,230
Water year 1959-60: Max 142 Min 26 Mean 63.6 Ac-ft 46,200

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 11-17, 26-30, Dec. 4-9, 14-16, Dec. 26 to Mar. 5, Mar. 10-12 (no gage-height record Jan. 14 to Feb. 19, Mar. 1-5; discharge estimated on basis of weather records, 2 discharge measurements, and records for station below Wet Creek and Big Lost River stations).

1195. Blaine County Investment Co.'s canal near Howe, Idaho

Location.--Lat 43°53', long 113°05', in NW¼NW¼ sec.11, T.6 N., R.28 E., on left end of weir, 900 ft downstream from headgates and 7 miles northwest of Howe.

Records available.--April 1924 to September 1960 (prior to 1938, irrigation seasons only).

Gage.--Staff gage and Cippoletti weir; gage read once daily. Prior to June 25, 1927, staff gage at site 700 ft upstream at different datum. June 26, 1927, to May 6, 1945, staff gage at site 180 ft upstream at present datum.

Extremes.--1924-60: Maximum daily discharge, 102 cfs June 9, 1958; no flow for long periods in each year.

Remarks.--Records good. Canal diverts from Little Lost River in sec.2, T.6 N., R.28 E., for irrigation of lands in project of Blaine County Investment Co.

Cooperation.--Gage readings furnished by Water District No. 9.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*16					0	-	8.9	21	6.2	0	6.2
2	16					0	-	9.6	24	5.9	5.2	6.2
3	17					0	(*)	10	27	6.2	*6.9	5.9
4	17					0	-	9.6	30	6.2	6.5	5.9
5	17					*0	-	9.6	34	6.2	6.2	5.9
6	16	(*)				-	42	9.3	34	*6.2	6.5	1.5
7	11					-	46	9.3	32	5.9	11	0
8	8.2					-	58	9.3	*30	5.6	12	0
9	8.2		(*)			-	65	9.3	32	5.6	12	0
10	8.2					-	63	9.3	27	5.6	12	0
11	8.9					-	62	*9.9	26	5.6	12	0
12	9.3					-	61	17	26	5.2	12	0
13	9.3					-	58	23	24	7.0	12	4.2
14	9.3					-	43	29	21	7.6	12	6.6
15	9.3					-	38	32	23	7.6	12	*6.5
16	9.3					-	38	31	23	7.6	12	6.5
17	9.3					-	33	30	16	7.2	2.9	6.5
18	9.3					-	21	30	14	7.2	0	6.5
19	9.3					-	14	30	12	6.9	0	6.5
20	9.3					-	12	29	10	7.6	0	6.1
21	9.3					-	11	28	10	7.6	0	5.9
22	9.3			(*)		-	10	28	9.6	7.6	5.2	1.5
23	8.6					-	10	28	9.1	7.6	7.6	0
24	8.6					-	10	22	8.4	7.6	7.9	0
25	8.6					-	11	17	7.9	1.9	7.9	0
26	8.9					-	10	16	7.9	0	7.9	0
27	9.6					-	9.3	16	7.9	0	7.9	0
28	10					-	9.3	16	7.9	0	7.2	0
29	10					-	8.9	16	7.9	0	6.9	0
30	4.6				-------	-	8.9	16	7.2	0	6.5	0
31	0	-------			-------	-	-------	16	-------	0	6.2	-------
Total	314.7	0	0	0	0	-	-	574.1	569.8	161.4	224.4	88.4
Mean	10.2	0	0	0	0	-	-	18.5	19.0	5.21	7.24	2.95
Ac-ft	624	0	0	0	0	-	-	1,140	1,130	320	445	175

Calendar year 1959: Max 57 Min 0 Mean 10.4 Ac-ft 7,540
Water year 1959-60: Max - Min 0 Mean - Ac-ft -

* Discharge measurement or observation of no flow made on this day.

1200. Big Lost River at Wild Horse, near Chilly, Idaho

Location.--Lat 43°56', long 114°07', in sec.17, T.7 N., R.20 E., on right bank a quarter of a mile upstream from East Fork Big Lost River, 2 miles downstream from Wild Horse damsite, and 16 miles southeast of Chilly.

Drainage area.--114 sq mi. Mean altitude, 8,540 ft.

Records available.--March 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,820 ft (from topographic map).

Average discharge.--16 years, 99.8 cfs (72,250 acre-ft per year).

Extremes.--Maximum discharge during year, 433 cfs June 3 (gage height, 3.73 ft); minimum, 7.8 cfs Feb. 12 (gage height, 1.10 ft).
1944-60: Maximum discharge, 1,270 cfs May 24, 1956 (gage height, 6.18 ft); minimum, 7.1 cfs Mar. 2, 1957 (gage height, 1.08 ft).

Remarks.--Records good.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.3	14	3.0	210
1.5	26	3.5	350
2.0	63	4.0	510
2.5	119		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	40	27	21	21	19	33	57	328	124	66	28
2	48	41	27	22	22	19	33	61	372	118	60	29
3	*47	41	30	22	19	22	37	62	398	113	50	27
4	46	41	21	24	19	21	44	63	379	112	47	30
5	44	*32	22	22	21	20	59	68	360	111	45	30
6	44	37	25	22	20	20	79	75	356	105	42	29
7	44	38	25	22	21	*19	97	75	353	*101	40	28
8	44	37	21	22	21	19	106	111	350	99	39	27
9	45	37	22	22	21	19	128	120	294	98	38	27
10	43	36	23	24	20	16	134	176	294	98	*38	27
11	43	35	24	24	19	17	118	288	*321	90	39	26
12	44	35	22	24	20	19	99	369	312	83	36	26
13	43	28	24	20	22	18	90	372	328	81	36	*25
14	42	26	*23	21	21	17	*83	271	334	78	35	27
15	41	31	23	24	24	17	75	227	321	74	36	27
16	41	27	24	21	22	17	66	206	303	70	36	25
17	41	27	23	22	22	18	66	*174	300	67	35	26
18	41	30	24	21	21	18	63	150	244	64	33	25
19	41	32	23	22	22	18	63	132	229	62	31	24
20	41	30	22	23	21	19	61	124	215	60	30	23
21	40	33	22	22	22	22	61	124	172	57	28	22
22	40	29	21	22	22	23	61	111	157	56	31	23
23	40	34	22	22	19	26	57	106	152	56	35	23
24	40	32	22	22	19	29	56	100	157	53	34	22
25	41	32	22	*22	22	33	53	94	164	52	33	23
26	41	23	21	22	21	41	53	91	157	50	32	24
27	41	26	18	22	18	42	53	97	144	49	30	22
28	40	27	21	19	19	40	53	113	134	52	30	21
29	40	26	22	21	17	34	53	148	132	51	30	21
30	39	27	22	21	------	35	54	199	124	49	29	21
31	39	------	22	21	------	34	------	277	------	49	27	------
Total	1,314	970	710	681	598	731	2,088	4,641	7,884	2,382	1,151	758
Mean	42.4	32.3	22.9	22.0	20.6	23.6	69.6	150	263	76.8	37.1	25.3
Cfsm	0.372	0.283	0.201	0.193	0.181	0.207	0.611	1.32	2.31	0.674	0.325	0.222
In.	0.43	0.32	0.23	0.22	0.20	0.24	0.68	1.51	2.57	0.78	0.38	0.25
Ac-ft	2,610	1,920	1,410	1,350	1,190	1,450	4,140	9,210	15,640	4,720	2,280	1,500

Calendar year 1959: Max 436 Min 16 Mean 65.3 Cfsm 0.573 In. 7.78 Ac-ft 47,310
Water year 1959-60: Max 398 Min 16 Mean 65.3 Cfsm 0.573 In. 7.81 Ac-ft 47,420

Peak discharge (base, 300 cfs).--May 12 (11:15 p.m.) 424 cfs (3.70 ft); June 3 (2 a.m.) 433 cfs (3.73 ft).

* Discharge measurement made on this day.

1205. Big Lost River at Howell Ranch, near Chilly, Idaho

Location.--Lat 44°00' long 114°02', in sec.30, T.8 N., R.21 E., on left bank at Howell Ranch, 1¼ miles downstream from Burnt Creek, 6 miles downstream from East Fork, 9 miles southwest of Chilly, and 21 miles northwest of Mackay.

Drainage area.--450 sq mi. Mean altitude, 8,590 ft.

Records available.--April 1904 to November 1914, May 1920 to September 1930 (no winter records 1904, 1906-14, 1920-48).

Gage.--Water-stage recorder. Datum of gage is 6,621.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 20, 1906, staff gage at site 1¼ miles downstream at different datum. Apr. 20, 1906, to June 6, 1912, staff gage at site 100 ft downstream at different datum. June 7, 1912, to Nov. 14, 1914, staff gage at present site at datum 2.07 ft lower. May 11 to June 16, 1920, staff gage at present site and datum.

Average discharge.--13 years (1904-5, 1948-60), 295 cfs (213,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,550 cfs June 3 (gage height, 3.71 ft); minimum recorded, 53 cfs Nov. 13 (gage height, 1.04 ft), but may have been less during periods of ice effect.

1904-14, 1920-60: Maximum discharge, 3,960 cfs June 26, 1954 (gage height, 6.00 ft), caused by cloudburst on Wild Horse Creek; minimum observed, 19 cfs Dec. 12, 1939 (discharge measurement).

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are poor. No regulation. Several small diversions above station. Hammerly ditch (capacity, about 20 cfs) diverts a quarter of a mile downstream.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 27.

Revisions.--WSP 1287: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	47	1.7	193	3.0	900
1.2	77	2.0	300	3.5	1,370
1.4	115	2.5	555	4.0	1,940

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	154	112	82	68	74	68	105	131	989	317	181	71
2	146	113	82	68	77	68	105	141	1,200	304	184	77
3	*141	111	90	68	67	80	108	148	1,380	238	141	77
4	136	109	66	70	67	76	*120	146	1,300	234	122	88
5	133	*85	68	70	74	72	143	151	1,150	277	113	93
6	133	100	78	70	70	72	212	156	1,090	230	107	81
7	133	110	78	70	74	*70	247	199	1,050	*230	101	75
8	129	101	65	70	74	70	265	232	1,070	261	97	74
9	131	99	67	70	74	70	339	247	778	254	97	74
10	129	97	68	78	70	58	366	385	860	257	*95	72
11	126	93	71	78	66	60	300	729	*972	232	99	61
12	129	97	66	78	70	68	250	1,130	916	212	95	69
13	126	77	70	66	70	65	222	1,280	964	203	91	*69
14	124	75	*70	70	74	61	*219	828	980	203	90	71
15	122	76	70	82	84	61	190	674	948	190	93	74
16	120	77	70	72	78	61	167	622	868	178	91	71
17	120	78	70	72	78	64	159	*513	852	167	90	71
18	117	79	70	72	74	64	151	420	641	159	84	77
19	117	80	70	74	78	64	146	357	615	156	81	74
20	115	80	68	80	74	68	143	326	579	151	79	71
21	113	82	68	76	74	80	151	330	435	146	75	66
22	115	80	68	76	74	82	156	288	405	141	77	67
23	117	90	68	76	67	94	146	261	405	141	95	66
24	117	100	68	77	67	102	138	243	430	136	93	66
25	117	90	68	*77	78	112	122	222	440	126	91	67
26	117	80	64	77	76	134	129	206	415	122	86	71
27	117	80	58	77	66	134	131	222	371	120	82	69
28	113	82	66	67	68	130	131	273	343	124	81	66
29	111	82	68	74	62	108	131	385	339	129	77	66
30	111	82	68	74	-------	110	129	573	304	124	74	64
31	111	-------	68	74	-------	108	-------	813	-------	133	71	-------
Total	3,840	2,697	2,171	2,271	2,099	2,534	5,321	12,631	23,089	6,095	3,033	2,158
Mean	124	89.9	70.0	73.3	72.4	81.7	177	407	770	197	97.8	71.9
Ac-ft	7,620	5,350	4,310	4,500	4,160	5,030	10,550	25,050	45,800	12,090	6,020	4,280

Calendar year 1959: Max 1,510 Min - Mean 192 Ac-ft 138,800
Water year 1959-60: Max 1,380 Min 58 Mean 186 Ac-ft 134,800

Peak discharge (base, 900 cfs).--May 13 (3:30 a.m.) 1,500 cfs (3.66 ft); June 3 (5 a.m.) 1,550 cfs (3.71 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice most of time Nov. 5-7, Nov. 14 to Apr. 4 (no gage-height record Dec. 7 to Apr. 4; discharge estimated on basis of 4 discharge measurements, weather records, and records for station at Wild Horse).

1260. Mackay Reservoir near Mackay, Idaho

Location.--Lat 43°57', long 113°40', in sec.12, T.7 N., R.23 E., on headgate tower of dam on Big Lost River, 4 miles northwest of Mackay.

Drainage area.--788 sq mi.

Records available.--January 1919 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 6,000 ft above mean sea level, Utah Construction Co. datum, or 6,000.4 ft above mean sea level, datum of 1929, Pacific Northwest supplementary adjustment of 1947. Prior to Oct. 15, 1959, staff gage at same site and datum.

Extremes.--Maximum contents during year, 32,070 acre-ft Apr. 29 (gage height, 56.79 ft); minimum not determined.
1919-60: Maximum contents observed, 44,710 acre-ft June 28, 1957 (gage height, 66.75 ft); no available contents during periods in 1919-20, 1924, 1926, 1929, 1931-35; minimum gage height observed, 6.3 ft Aug. 5, 1934.

Remarks.--Reservoir is formed by earth- and rock-fill dam, which was reconstructed in 1917-18; storage impounded by original dam not recorded. Crest of spillway was raised 5 ft in September 1956. Capacity is 44,370 acre-ft between gage heights 7.0 and 66.5 ft (crest of spillway). Dead storage reported to be about 125 acre-ft. Water is used for irrigation of about 33,000 acres in Big Lost River irrigation district. About 9,000 acres irrigated from Big Lost River and tributaries above reservoir. Considerable seepage around dam because of its porous foundation, but the greater part of this water returns to Big Lost River between reservoir and station below reservoir, near Mackay. Prior to Oct. 1, 1959, contents below 1,000 acre-ft may be in error at times as readings at gage were too low because of fall in outlet channel. Figures given herein represent usable contents.

Cooperation.--Gage readings and capacity table furnished by Water District No. 27.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

9.0	363	25.0	5,990	50.0	24,680
10.0	580	30.0	8,730	55.0	30,020
13.0	1,350	35.0	12,020	60.0	35,900
16.0	2,250	40.0	15,760		
20.0	3,740	45.0	19,940		

Contents, in acre-feet, at 12 p.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	660	5,900	14,290	20,640	25,050	28,340	31,140	31,880	25,410	16,560	1,790	
2	660	6,200	14,540	20,790	25,190	28,460	31,230	31,860	24,960	15,870	1,560	
3	800	6,520	14,780	20,950	25,310	28,580	31,310	31,810	24,700	15,260	1,380	
4	1,150	6,780	15,000	21,110	25,430	28,710	31,400	31,800	24,590	14,760	1,200	
5	1,250	7,070	15,220	21,260	25,550	28,810	31,460	31,780	24,350	14,290	-	
6	1,010	7,380	15,460	21,420	25,680	28,880	31,520	31,760	23,970	13,850	-	
7	940	7,700	15,730	21,580	25,790	29,040	31,590	31,750	23,500	13,470	-	
8	920	8,010	15,890	21,740	25,960	29,090	31,650	31,710	23,120	13,210	-	
9	850	8,300	16,110	21,890	26,050	29,190	31,720	31,680	22,670	13,000	-	
10	1,020	8,610	16,320	22,070	26,190	29,290	31,750	31,670	22,500	12,810	-	
11	1,320	8,920	16,550	22,240	26,300	29,390	31,800	31,630	22,460	12,650	-	
12	1,360	9,210	16,760	22,390	26,410	29,490	31,810	31,570	22,530	12,320	-	
13	1,330	9,480	16,980	22,530	26,520	29,580	31,810	31,530	22,710	12,040	-	
14	1,310	9,770	17,160	22,710	26,630	29,670	31,810	31,560	23,140	11,610	-	
15	1,150	10,070	17,350	22,860	26,740	29,760	31,840	31,640	23,600	11,140	-	
16	1,110	10,330	17,560	23,000	26,860	29,850	31,820	31,580	24,050	10,600	-	
17	1,100	10,580	17,760	23,150	26,980	29,940	31,840	31,440	24,270	10,020	-	
18	1,100	10,890	17,970	23,290	27,090	30,020	31,880	31,300	24,240	9,410	-	
19	1,380	11,170	18,170	23,440	27,210	30,100	31,890	31,140	24,060	8,810	-	
20	1,790	11,450	18,360	23,590	27,320	30,190	31,890	30,970	23,810	8,180	-	
21	2,180	11,740	18,560	23,740	27,430	30,270	31,900	30,740	23,440	7,540	-	
22	2,580	11,990	18,770	23,840	27,550	30,350	31,930	30,520	22,940	6,910	-	
23	2,950	11,220	18,960	24,010	27,670	30,430	31,940	30,260	22,330	6,260	-	
24	3,310	12,550	19,190	24,130	27,780	30,510	31,960	29,900	21,670	5,690	-	
25	3,660	12,800	19,390	24,260	27,890	30,590	31,960	29,460	20,920	5,110	-	
26	3,990	13,050	19,560	24,380	28,000	30,670	31,970	28,990	20,160	4,540	-	
27	4,340	13,320	19,720	24,500	28,110	30,750	32,010	28,510	19,400	3,970	-	
28	4,660	13,550	19,900	24,580	28,180	30,830	32,050	27,920	18,640	3,410	-	
29	4,980	13,800	20,100	24,680	28,250	30,910	32,010	27,300	17,910	2,890	-	
30	5,290	14,050	20,290	24,780	-------	30,990	31,940	26,700	17,210	2,440	-	615
31	5,590	-------	20,480	24,890	-------	31,070	-------	26,000	-------	2,050	569	-------
(†)	24.16	37.78	45.60	-	-	-	56.68	51.28	41.81	15.38	-	-
(‡)	+5,150	+8,460	+6,430	+4,410	+3,360	+2,820	+870	-5,940	-8,790	-15,160	-1,480	+46

Calendar year 1959..... ‡ -2,250
Water year 1959-60..... ‡ +171

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--No gage-height record Oct. 1-5, 7-13, Jan. 2-6, 14-23, 28-31, Feb. 12 to Mar. 3, Mar. 9 to Apr. 3, Aug. 5 to Sept. 30; contents estimated on basis of inflow-outflow data and records for Big Lost River stations.

1265. Sharp ditch near Mackay, Idaho

Location.--Lat 43°57', long 113°39', in sec.7, T.7 N., R.24 E., on left bank 1,600 ft downstream from head of ditch, three-quarters of a mile downstream from Mackay Reservoir, and 3½ miles northwest of Mackay.

Records available.--June 1912 to October 1914, March 1919 to September 1960 (seasonal records only 1912-14, 1919-20, 1923-26, 1930, 1937).

Gage.--Water-stage recorder and broad-crested weir. Datum of gage is 5,939.48 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1936, and June 24, 1938, to Apr. 24, 1939, staff gage, and Oct. 1, 1938, to June 23, 1938, water-stage recorder, at several sites 1,300 to 1,600 ft upstream at various datums.

Extremes.--1912-14, 1919-60: Maximum daily discharge, 46 cfs May 30, 1951; no flow at times in most years.

Remarks.--Records excellent except those below 2 cfs, which are poor. Sharp ditch diverts from east side of Big Lost River in SE¼ sec.12, T.7 N., R.23 E., half a mile below Mackay Reservoir and 1 mile above station on Big Lost River below Mackay Reservoir, near Mackay. Water used for irrigation northwest of Mackay and above Streeter ditch. Hintze ditch, which diverts from Sharp ditch above station, was reported by watermaster to have carried 122 acre-ft during year (38 in June, 84 in July).

Cooperation.--Water-stage recorder inspected by employees of Water District No. 27.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	2.0			0.4	0.1	0	8.0	14	20	8.5	8.0
2	5.2	1.2			.4	.1	0	5.5	16	22	15	6.6
3	3.1	1.0			.4	.1	0	2.6	18	22	18	8.2
4	0	2.7			.4	0	0	3.1	17	19	16	9.9
5	2.4	3.4			.4	0	0	3.1	18	17	14	9.6
6	*5.7	*3.6			.4	0	0	3.1	18	15	13	9.6
7	4.8	3.6			.4	0	0	2.9	19	*15	12	9.9
8	4.8	3.6			.4	0	0	2.7	19	12	10	10
9	5.0	2.1			.3	0	0	1.4	19	12	10	10
10	2.7	2.0			.3	0	0	.3	18	12	*11	10
11	.5	2.1			.3	0	0	.3	*18	13	12	11
12	1.4	1.2			.3	0	1.0	2.0	18	14	12	11
13	1.5	.5			.3	0	4.0	5.0	17	14	11	11
14	5.7	.5			.3	0	*4.0	5.0	15	13	11	11
15	8.0	.5	**0.5	0.5	.3	0	4.0	5.0	14	11	11	11
16	7.7	.5			.3	0	4.0	5.0	13	9.9	11	*9.3
17	9.0	.5			.3	0	4.0	*4.2	14	9.9	8.8	8.5
18	9.6	.5			.2	0	3.6	4.0	15	9.9	8.2	8.8
19	4.3	.5			.2	0	3.6	4.0	15	14	8.5	7.2
20	0	.5			.2	0	4.8	4.2	16	19	9.3	6.2
21	0	.5			.2	0	6.0	4.4	16	21	9.0	6.2
22	0	.5			.2	0	6.0	4.0	16	21	9.0	7.7
23	0	.5			.2	0	6.0	4.2	16	19	10	9.0
24	.3	.5			.2	0	6.0	4.4	18	15	10	9.0
25	2.0	.5		(**)	.1	0	7.4	7.2	20	14	10	9.0
26	3.1	.5			.1	0	7.4	11	24	13	10	9.3
27	2.9	.5			.1	0	7.4	14	26	13	10	9.3
28	3.2	.5			.1	0	7.4	15	24	13	10	9.3
29	3.4	.5			.1	0	7.7	15	21	11	10	9.3
30	3.2	.5			-------	0	8.0	16	19	6.9	11	7.7
31	2.9	-------			-------	0	-------	15	-------	5.0	9.9	-------
Total	107.4	37.5	15.5	15.5	7.8	0.3	102.3	181.6	531	445.6	339.2	272.6
Mean	3.46	1.25	0.5	0.5	0.27	0.01	3.41	5.86	17.7	14.4	10.9	9.09
Ac-ft	213	74	31	31	15	0.6	203	360	1,050	884	673	541

Calendar year 1959: Max 33 Min 0 Mean 7.35 Ac-ft 5,320
Water year 1959-60: Max 26 Min 0 Mean 5.62 Ac-ft 4,080

* Discharge measurement made on this day.
** Field estimate made on this day.
Note.--No gage-height record Nov. 13 to Apr. 13; discharge interpolated or estimated on basis of 2 field estimates, 1 observation of no flow, and records for Big Lost River below Mackay Reservoir, near Mackay.

1270. Big Lost River below Mackay Reservoir, near Mackay, Idaho

Location.--Lat 43°56', long 113°38', in sec.18, T.7 N., R.24 E., on left bank 1 mile downstream from head of Sharp ditch, 1½ miles downstream from Mackay Reservoir, and 2½ miles northwest of Mackay.

Drainage area.--813 sq mi.

Records available.--December 1903 to August 1906 and May 1912 to March 1915 (published as "near Mackay"), January 1919 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,946.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to May 12, 1912, and June 5, 1912, to Apr. 28, 1913, staff gages at sites within 1 mile upstream at different datums. May 12 to June 4, 1912, staff gages at site 1½ miles upstream (above Sharp ditch) at different datums. Apr. 29, 1913, to Mar. 15, 1915, staff gage at site 1 mile downstream (below Streeter ditch) at different datum.

Average discharge.--44 years (1904-5, 1912-14, 1919-60), 281 cfs (203,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,070 cfs June 7 (gage height, 3.62 ft); minimum, 19 cfs Oct. 4 (gage height, 1.22 ft).
1903-6, 1912-15, 1919-60: Maximum discharge, 2,990 cfs June 10, 1921 (gage height, 5.79 ft); minimum, 18 cfs Nov. 1, 1934; minimum gage height, that of Oct. 4, 1959.

Remarks.--Records good. Sharp ditch (see preceding page) is only diversion between station and reservoir; about 9,000 acres of land is irrigated by diversions from river and tributaries above reservoir. Flow regulated by Mackay Reservoir (see p. 93).

Cooperation.--Water-stage recorder inspected by employees of Water District No. 27.

Revisions (water years).--WSP 1347: 1904-6.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.2	17	2.5	380
1.4	40	3.0	660
1.7	93	3.7	1,110
2.0	174		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	214	40	73	89	110	115	117	156	630	570	335	168
2	226	42	73	91	110	115	117	159	708	564	298	171
3	154	43	75	91	110	115	117	153	804	518	269	168
4	*28	43	75	91	110	115	117	150	837	468	256	165
5	151	43	77	95	107	115	117	141	896	441	240	165
6	*350	*43	79	95	110	115	117	141	967	420	222	165
7	273	44	79	95	110	*115	117	141	1,040	*375	211	165
8	244	46	77	98	110	115	120	141	1,020	321	200	165
9	269	48	79	98	110	115	120	141	986	294	197	165
10	154	49	79	98	110	115	120	141	798	273	*194	168
11	76	50	79	98	110	115	120	147	*740	269	194	168
12	211	54	79	100	110	115	117	174	684	303	190	168
13	248	50	*79	100	110	115	112	187	618	321	177	*168
14	237	52	79	100	110	115	*112	222	512	350	174	168
15	229	54	79	100	112	115	112	237	496	400	174	168
16	222	55	81	100	112	115	115	303	452	380	187	168
17	218	57	81	100	112	115	115	*330	524	452	194	168
18	214	59	81	100	112	117	115	316	594	463	200	168
19	114	59	81	103	112	117	115	316	594	458	187	168
20	24	60	83	103	112	117	122	312	588	463	174	168
21	23	62	83	103	112	117	122	326	594	468	168	165
22	25	64	83	103	112	117	122	330	624	474	168	165
23	26	64	83	105	115	117	122	326	648	474	171	165
24	27	66	85	105	115	117	122	370	654	463	168	165
25	30	66	85	*105	115	117	120	400	678	458	168	165
26	30	68	85	107	112	117	120	410	696	452	168	168
27	31	68	85	107	112	117	120	420	690	452	168	168
28	34	67	87	107	112	120	120	441	666	446	165	168
29	35	71	87	107	113	117	139	480	630	430	165	168
30	37	71	89	107	-------	117	156	507	600	410	165	168
31	38	-------	89	107	-------	117	-------	582	-------	375	165	-------
Total	4,192	1,658	2,509	3,108	3,226	3,596	3,597	8,600	20,968	13,005	6,112	5,010
Mean	135	55.3	80.9	100	111	116	120	277	699	420	197	167
Ac-ft	8,310	3,290	4,980	6,160	6,400	7,130	7,130	17,060	41,590	25,800	12,120	9,940

Calendar year 1959: Max 1,080 Min 23 Mean 219 Ac-ft 158,800
Water year 1959-60: Max 1,040 Min 23 Mean 207 Ac-ft 149,900

* Discharge measurement made on this day.

1325. Big Lost River near Arco, Idaho

Location.--Lat 43°35', long 113°16', near line between secs.17 and 20, T.3 N., R.27 E., on right bank a quarter of a mile downstream from head of box canyon, 0.4 mile downstream from slough entering from left bank, and 4 miles southeast of Arco.

Drainage area.--1,410 sq mi, approximately.

Records available.--August 1946 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,240 ft (by barometer). Prior to Oct. 14, 1952, at site 800 ft upstream at datum 3.08 ft higher.

Average discharge.--14 years, 68.4 cfs (49,520 acre-ft per year).

Extremes.--Maximum discharge during year, 26 cfs Oct. 15 (gage height, 2.90 ft), but may have been more during period of ice effect; maximum gage height, 4.48 ft Dec. 26; no flow for many days May to September.
1946-60: Maximum discharge, 1,190 cfs June 1, 1958 (gage height, 6.59 ft); no flow for many days May to September 1960.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Station is below all large diversions for irrigation in Big Lost River Valley. Flow regulated by Mackay Reservoir (see p. 93). About 42,000 acres of land irrigated by diversions from river and tributaries above station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.9	0	2.3	4.1
2.0	.3	2.5	9.3
2.1	1.0	2.7	17
2.2	2.3	3.0	34

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.7	14	18	9	16	7	11	4.3		0.2		
2	7.6	15	18	9	15	7	12	3.9		.5		
3	8.4	16	17	9	14	8	*12	3.2		.6		
4	8.3	16	15	9	13	*9	12	2.7		1.1		
5	9.3	16	15	9	12	10	11	2.5		1.0		
6	9.3	*16	16	9	13	11	10	2.5		*.6		
7	11	16	16	10	14	11	10	2.3	(*)	.7		
8	12	17	16	11	15	12	10	2.2		.6		
9	14	17	*16	12	15	12	9.6	1.9		.3	(*)	
10	15	17	17	12	14	10	8.4	*1.3		.3		
11	17	16	16	12	13	10	7.3	1.1		.5		
12	16	16	16	12	12	10	7.3	.9		.2		
13	16	15	15	10	12	11	7.0	.2		.4		(*)
14	17	15	15	9	12	11	7.3	0		.2		
15	24	15	15	9	12	11	7.8	0		.2		
16	22	15	14	9	12	11	8.1	0		.1		
17	21	17	15	8	11	12	9.0	0		0		
18	20	19	15	8	11	12	9.0	0		.2		
19	20	22	14	8	11	12	8.7	0		.2		
20	18	23	15	9	12	13	8.1	0		.1		
21	17	21	14	*10	11	14	7.8	0		.1		
22	16	20	13	11	11	14	8.1	0		0		
23	16	22	13	13	10	14	7.3	0		0		
24	16	23	14	13	10	15	7.6	0		0		
25	15	23	15	14	10	15	7.0	0		0		
26	16	21	14	14	9	14	6.4	0		0		
27	16	19	12	13	8	14	5.9	0		0		
28	15	17	11	13	7	13	6.4	0		0		
29	15	18	11	14	7	12	5.5	0		0		
30	16	18	11	15	-------	11	4.8	0	-------	0		-------
31	15	-------	10	16	-------	11	-------	0		0		
Total	466.6	535	452	339	342	357	252.4	29.0	0	8.1	0	0
Mean	15.1	17.8	14.6	10.9	11.8	11.5	8.41	0.94	0	0.26	0	0
Ac-ft	925	1,060	897	672	678	708	501	58	0	16	0	0

Calendar year 1959: Max 106 Min 1.0 Mean 32.7 Ac-ft 23,690
Water year 1959-60: Max 24 Min 0 Mean 7.60 Ac-ft 5,520

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 5, 6, 13-23, Nov. 26 to Mar. 15. No gage-height record Dec. 6-9, Jan. 9 to Apr. 2, July 15-17, 19-21; discharge estimated on basis of weather records, 4 discharge measurements, and records for station below Mackay Reservoir.

1350. Snake River below Lower Salmon Falls, near Hagerman, Idaho

Location.--Lat 42°50'55", long 114°54'02", in lot 3, sec.2, T.7 S., R.13 E., on right bank half a mile downstream from Lower Salmon Falls powerplant, 1 mile upstream from Big Wood River, and 2¼ miles north of Hagerman.

Records available.--October 1937 to September 1960. Monthly discharge only for October 1937, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 2,727.7 ft above mean sea level, datum of 1929, supplementary adjustment of 1947, by stadia levels. Prior to Jan. 3, 1950, at site 340 ft upstream at same datum.

Extremes.--Maximum discharge during year, 14,900 cfs Dec. 12 (gage height, 10.15 ft); minimum, 1,280 cfs Aug. 31 (gage height, 3.38 ft); minimum daily, 5,250 cfs May 11.
1937-60: Maximum discharge, 29,800 cfs June 27, 1950 (gage height, 15.60 ft); minimum, probably less than 100 cfs Jan. 10, 11, 1950, when river was below intake pipes; minimum daily, 3,970 cfs July 8, 1951.

Remarks.--Records excellent except those for periods of no gage-height record, which are good. Flow regulated by Lower Salmon Falls powerplant and many reservoirs above station. At times, practically entire flow is diverted at Milner during irrigation seasons; only minor diversions below Milner.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 15 to Jan. 2)

6.0	4,900
7.0	6,900
8.0	9,100
10.0	14,000

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,590	8,320	8,340	7,040	6,830	6,710	*5,780	5,790	5,910	6,100	6,320	6,860
2	8,410	*8,410	7,900	7,000	6,310	*6,680	6,150	5,810	5,740	6,270	7,650	6,730
3	8,340	8,250	8,500	6,930	6,980	6,780	6,310	5,790	5,910	6,290	7,130	7,220
4	8,850	8,600	7,700	7,160	6,890	6,520	6,350	5,870	5,730	6,150	6,630	7,120
5	9,170	8,080	7,510	7,080	6,820	6,440	6,480	5,330	5,630	6,350	6,910	6,550
6	8,710	7,490	6,360	6,760	6,780	6,930	6,990	5,900	6,110	6,170	6,740	7,170
7	9,100	7,660	7,500	7,250	6,890	7,620	7,410	5,790	6,040	6,320	6,400	6,840
8	*8,850	7,560	*7,510	7,090	6,890	5,920	7,820	5,600	6,010	6,210	6,570	7,100
9	10,500	7,570	7,690	7,310	7,530	6,410	8,640	*5,760	6,010	6,150	6,420	7,090
10	10,400	7,760	7,530	7,020	8,450	6,840	7,340	5,620	6,320	6,300	6,420	7,070
11	10,300	7,720	7,400	*7,320	6,260	6,680	7,600	5,250	6,400	6,360	6,280	6,970
12	10,500	7,440	7,510	7,260	6,660	6,050	7,480	5,370	6,120	*5,890	6,680	7,500
13	9,620	7,690	7,360	7,050	6,210	6,410	7,440	5,610	*6,080	6,240	6,660	7,070
14	9,420	7,650	7,450	6,890	6,650	7,280	7,340	5,420	6,410	6,200	6,720	7,130
15	9,320	7,580	7,290	7,060	6,500	6,020	7,440	5,570	6,390	6,450	*6,550	7,210
16	9,100	7,550	7,160	6,990	6,330	6,260	8,740	5,590	6,050	6,330	6,750	7,030
17	9,790	7,710	7,570	7,080	6,620	6,620	10,600	5,440	6,100	6,410	6,830	7,240
18	9,320	7,620	7,440	6,860	6,190	6,450	8,840	5,750	6,500	6,160	6,820	7,270
19	9,000	7,620	7,630	6,830	6,310	6,100	9,010	5,600	6,150	6,380	6,650	*7,190
20	9,270	7,890	7,480	7,090	6,500	6,240	7,010	6,050	6,710	6,320	6,850	7,110
21	9,180	7,510	7,420	6,640	6,450	6,710	5,880	5,700	6,440	6,790	6,520	7,080
22	9,000	7,680	7,010	6,720	6,680	6,080	6,170	6,400	6,580	6,360	6,700	7,280
23	8,860	7,880	7,120	7,000	6,550	6,040	6,430	6,160	6,370	6,510	7,060	7,280
24	7,690	7,900	7,370	6,620	6,270	6,080	6,300	5,730	6,330	6,550	7,020	7,360
25	8,020	7,800	7,040	7,260	6,830	6,230	6,170	6,340	5,880	6,550	6,920	7,300
26	7,830	8,020	7,040	7,010	7,040	6,080	6,210	6,130	5,920	6,580	7,070	7,190
27	7,680	7,840	6,990	6,750	6,610	5,990	6,200	6,090	6,360	6,620	6,890	7,530
28	7,810	7,620	6,890	7,230	6,080	6,140	5,860	5,750	5,930	6,620	6,880	7,210
29	7,920	7,970	7,040	6,850	6,900	6,170	5,950	5,700	5,740	6,680	6,870	6,520
30	7,940	7,720	7,000	7,040	-------	5,890	5,950	5,730	6,260	6,720	7,130	8,020
31	8,240	- - - -	6,900	6,530	-------	5,870	-------	6,020	-------	6,690	6,610	-------
Total	275,330	234,110	228,650	216,720	194,010	198,220	211,890	178,660	184,130	197,720	209,630	214,240
Mean	8,882	7,804	7,376	6,991	6,690	6,394	7,063	5,763	6,138	6,378	6,762	7,141
Ac-ft	546,100	464,400	453,500	429,900	384,800	393,200	420,300	354,400	365,200	392,200	415,800	424,900

Calendar year 1959: Max 10,500 Min 5,560 Mean 7,057 Ac-ft 5,109,000
Water year 1959-60: Max 10,600 Min 5,250 Mean 6,949 Ac-ft 5,045,000

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 5 to Dec. 8; discharge estimated on basis of stage record of tailrace at powerplant half a mile upstream.

1355. Big Wood River near Ketchum, Idaho

Location.--Lat 43°48', long 114°26', in sec.4, T.5 N., R.17 E., on left bank half a mile upstream from North Fork and 8 miles northwest of Ketchum.

Drainage area.--137 sq mi. Mean altitude, 8,120 ft.

Records available.--May 1948 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 6,240 ft (from topographic map). Prior to Nov. 7, 1950, staff gage at site 560 ft upstream at different datum.

Average discharge.--12 years, 166 cfs (120,200 acre-ft per year).

Extremes.--Maximum discharge during year, 611 cfs May 12 (gage height, 4.30 ft); minimum, 21 cfs Nov. 26, Mar. 10; minimum gage height, 2.10 ft Nov. 26.
1948-60: Maximum discharge, 1,620 cfs May 24, 1956 (gage height, 6.44 ft); minimum recorded, 14 cfs sometime during period Jan. 1-22, 1951 (gage height, 1.52 ft).

Remarks.--Records excellent except those for periods of ice effect, which are fair. Minor diversions for nonconsumptive uses on Boulder Creek. About 97 acre-ft of storage in ponds on Prairie Creek.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.2	27	3.0	150
2.4	47	3.5	300
2.6	73	4.2	575

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	81	75	54	b45	b44	*b40	63	138	427	143	73	51
2	78	*75	52	b40	49	b40	63	153	494	136	70	58
3	78	76	52	b42	43	44	70	150	539	132	65	57
4	76	73	28	b45	b38	44	94	160	518	132	65	59
5	76	54	b30	b50	52	43	138	168	502	129	63	63
6	76	66	b42	b53	42	43	196	184	*482	125	63	58
7	76	76	*b42	53	52	43	219	216	478	121	60	55
8	76	70	b34	51	48	42	247	216	466	117	58	53
9	86	70	38	b50	47	42	304	234	419	111	57	53
10	83	69	44	b49	48	b34	311	300	400	107	57	52
11	83	66	49	51	40	b32	266	427	407	103	57	52
12	89	66	48	51	40	46	228	539	396	100	57	49
13	84	46	51	b41	47	44	210	526	392	96	54	51
14	83	51	b38	b34	38	42	204	419	392	94	55	52
15	79	60	b48	b38	b42	40	201	362	388	91	55	53
16	*79	57	b42	b42	b42	36	148	336	366	89	55	52
17	81	53	b45	b42	b38	43	138	290	347	86	55	51
18	79	58	53	b45	b41	46	*138	260	297	83	52	48
19	79	62	42	*b46	b43	51	141	228	276	81	51	47
20	79	63	33	b50	b40	57	145	213	253	*81	*49	47
21	79	65	b34	53	48	60	155	*213	228	79	49	48
22	81	58	b35	52	44	69	153	193	213	76	57	48
23	81	65	b40	51	b33	75	134	190	201	75	62	48
24	83	62	47	51	b35	78	125	179	198	75	58	48
25	83	59	47	51	b40	84	113	163	193	73	57	49
26	81	36	39	51	b40	96	115	160	182	72	55	51
27	81	48	29	48	b40	94	113	163	168	72	54	*47
28	79	51	b33	43	b37	84	113	176	158	70	54	47
29	76	51	b40	51	b38	75	119	213	153	70	53	47
30	75	52	b45	49	------	72	127	244	145	73	51	47
31	73	------	b45	48	------	65	------	347	------	69	51	------
Total	2,473	1,833	1,299	1,466	1,229	1,704	4,788	7,760	10,078	2,931	1,772	1,541
Mean	79.8	61.1	41.9	47.3	42.4	55.0	160	250	336	95.5	57.2	51.4
Cfsm	0.582	0.446	0.306	0.345	0.309	0.401	1.17	1.82	2.45	0.697	0.418	0.375
In.	0.67	0.50	0.35	0.40	0.33	0.46	1.30	2.11	2.74	0.80	0.48	0.42
Ac-ft	4,910	3,640	2,580	2,910	2,440	3,380	9,500	15,390	19,990	5,870	3,510	3,060

Calendar year 1959: Max 629 Min 18 Mean 119 Cfsm 0.869 In. 11.82 Ac-ft 86,440
Water year 1959-60: Max 539 Min 28 Mean 106 Cfsm 0.774 In. 10.56 Ac-ft 77,180

Peak discharge (base, 400 cfs).--Nov. 17 (2:30 p.m.) 419 cfs (3.82 ft); May 12 (10 to 11 p.m.) 611 cfs (4.30 ft); June 3 (2:30 a.m.) 575 cfs (4.22 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

1390. Big Wood Slough at Hailey, Idaho

Location.--Lat 43°31'00", long 114°19'30", in sec.9, T.2 N., R.18 E., on left bank 40 ft upstream from bridge on State Highway 22, an eighth of a mile northeast of Big Wood River at Hailey gaging station, and an eighth of a mile southwest of Hailey.

Drainage area.--See Big Wood River at Hailey on following page.

Records available.--June 1915 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,301.17 ft above mean sea level, unadjusted. Prior to Apr. 12, 1936, staff gages at or near highway bridge, at same datum.

Extremes.--Maximum discharge during year, 35 cfs Aug. 1 (gage height, 2.46 ft); maximum gage height, 3.16 ft Jan. 16 and Feb. 14 (ice jams); minimum discharge, 3.3 cfs Apr. 27 (gage height, 1.62 ft).
1915-60: Maximum discharge observed, 419 cfs June 6, 1921, from rating curve extended above 280 cfs; maximum gage height, 5.55 ft (top of ice in well) Jan. 20-23, 1937; no flow at times in several years.

Remarks.--Records good. Flow controlled at inoperative powerplant half a mile upstream to meet the requirements of irrigation diversion and sewage dilution. Big Wood Slough is a natural channel of Big Wood River and its discharge plus the discharge of Big Wood River at Hailey (see following page) is total discharge of river at this point.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 7 AB.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	2.9	2.1	18
1.7	5.1	2.4	33
1.9	11		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	20	18	b16	14	b13	20	8.6	22	24	32	19
2	22	*20	18	b15	15	13	20	8.3	25	24	32	20
3	22	20	18	b15	b14	b13	20	6.7	28	22	28	22
4	22	20	17	b15	b14	14	23	6.4	26	20	26	24
5	22	19	b16	b15	15	14	26	6.1	25	20	26	26
6	22	19	16	b16	b14	14	14	6.1	*24	23	24	24
7	22	20	*16	b16	15	14	14	6.1	26	24	24	23
8	22	20	b16	16	14	13	14	6.1	25	24	24	22
9	22	20	16	16	b15	b13	13	6.7	20	22	23	22
10	22	19	16	16	15	b13	12	16	19	22	23	20
11	22	18	16	16	14	13	12	16	20	20	22	20
12	22	19	16	16	b13	14	11	12	20	19	21	19
13	22	18	17	b16	14	13	11	9.8	19	18	22	18
14	22	17	b16	b15	b14	13	10	6.7	18	17	22	19
15	22	18	17	b15	14	13	9.8	6.7	18	14	23	20
16	21	18	16	15	b14	12	9.5	*10	18	14	23	20
17	*21	18	16	15	b14	12	9.2	8.9	18	14	22	20
18	21	18	17	*a15	b14	13	*9.2	7.7	15	13	21	19
19	20	18	16	b15	14	13	9.2	8.6	14	11	20	20
20	20	18	16	b15	b13	14	9.2	6.1	13	*9.5	*20	18
21	20	19	16	b15	14	14	9.2	5.6	10	8.3	18	20
22	20	18	16	b16	14	16	9.2	4.7	8.3	8.3	20	22
23	20	18	16	b16	b13	17	9.2	4.2	7.4	8.0	24	22
24	20	18	16	17	b13	18	9.5	4.2	7.2	15	20	22
25	21	19	17	16	b13	20	8.9	4.2	7.7	23	22	22
26	21	18	17	16	b13	24	8.6	5.4	7.2	22	22	24
27	21	16	b15	16	b13	26	8.3	7.2	16	26	21	*22
28	21	17	b15	b15	b13	26	8.3	8.6	24	27	20	22
29	21	18	b15	16	*b13	24	8.6	11	22	28	20	22
30	20	18	b15	15	-------	23	8.6	11	22	29	19	22
31	20	-------	b16	15	-------	21	-------	14	-------	29	18	-------
Total	658	556	504	482	402	493	364.5	249.7	544.8	598.1	702	635
Mean	21.2	18.5	16.3	15.5	13.9	15.9	12.2	8.05	18.2	19.3	22.6	21.2
Ac-ft	1,310	1,100	1,000	956	797	978	723	495	1,080	1,190	1,390	1,260

Calendar year 1959: Max 45 Min 3.8 Mean 20.0 Ac-ft 14,480
Water year 1959-60: Max 32 Min 4.2 Mean 16.9 Ac-ft 12,280

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

1395. Big Wood River at Hailey, Idaho

Location.--Lat 43°31', long 114°20', in SW¼ sec.9, T.2 N., R.18 E., on left bank 35 ft downstream from bridge on State Highway 22, a quarter of a mile southwest of Hailey, and three-eighths of a mile upstream from Croy Creek.

Drainage area.--640 sq mi, approximately (total area above river and slough stations).

Records available.--July to December 1889, June 1915 to September 1960. Published as Wood River at Hailey in 1889.

Gage.--Water-stage recorder. Datum of gage is 5,298.00 ft above mean sea level, unadjusted. July to December 1889 staff gage at nearby site at different datum. June 11, 1915, to Nov. 15, 1934, staff gages at bridge 35 ft upstream at different datum.

Average discharge.--Average combined discharge of Big Wood River and Big Wood Slough, 45 years, 426 cfs (308,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,720 cfs May 13 (gage height, 3.48 ft); minimum, 48 cfs Feb. 8 (gage height, 0.18 ft).
1915-60 (river only): Maximum discharge, 4,640 cfs May 24, 1956; maximum gage height, 8.66 ft June 12, 1921, present datum; no flow Sept. 15-23, Nov. 20, 22, 23, 1931, Oct. 25, 1937.
1915-60 (combined): Maximum daily discharge, 4,520 cfs May 25, 1958; minimum daily, 15 cfs Dec. 27, 1921.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Water diverted around station through Big Wood Slough (see preceding page). Total flow of river at Hailey (combined flow of Big Wood River and Big Wood Slough) is given on following page. Diversions for irrigation of about 10,300 acres (1950 determination) above station. Flow bypasses station for irrigation of about 1,800 acres. Storage above station is negligible.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 7 AB.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 2 to Sept. 30)

Oct. 1-19		Oct. 20 to May 12				May 13 to Sept. 30			
0.8	216	0.7	103	2.0	685	0.1	77	1.4	355
.9	246	1.0	174	3.0	1,340	.5	122	2.0	685
		1.5	400	3.2	1,480	1.0	217	3.3	1,560

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	234	210	148	130	118	b105	239	422	894	307	144	87
2	234	*206	145	120	127	b111	231	460	1,080	315	144	91
3	228	199	148	120	116	b115	244	482	1,220	296	130	97
4	219	199	129	120	111	118	308	494	1,180	292	124	104
5	216	171	116	120	124	118	482	516	1,120	289	121	108
6	216	171	124	130	116	118	715	538	*1,080	271	117	103
7	219	196	*127	130	127	122	842	613	1,040	262	114	100
8	219	185	122	140	122	118	868	649	1,050	262	111	99
9	231	185	118	130	127	120	1,000	655	868	255	109	98
10	234	181	124	130	127	b107	1,040	804	842	252	106	97
11	225	178	127	140	116	b105	940	1,140	908	243	103	97
12	234	178	127	140	112	122	797	1,460	894	238	100	96
13	231	157	130	130	122	120	715	1,550	908	233	97	97
14	225	136	125	120	b111	116	691	1,170	920	225	96	98
15	225	154	125	120	b107	114	619	998	875	215	95	102
16	222	157	125	120	b109	111	543	914	842	212	94	100
17	*219	148	125	117	b109	111	510	*804	842	208	90	100
18	219	157	130	*117	b109	116	*477	703	685	201	87	100
19	216	160	130	b117	b109	122	460	577	661	192	84	102
20	214	157	130	b120	111	131	455	504	607	*181	*82	100
21	214	165	130	127	122	140	477	488	504	173	82	103
22	214	157	130	131	118	157	494	430	455	171	85	105
23	210	162	130	129	b109	185	466	405	445	167	95	106
24	214	165	130	127	b107	210	433	395	440	158	94	106
25	223	168	140	127	b107	257	400	385	440	146	94	109
26	223	143	140	127	b108	328	390	375	420	144	91	111
27	218	129	130	124	b108	374	384	365	370	140	89	*108
28	214	136	120	114	b107	384	384	395	333	137	89	105
29	206	140	120	127	*b105	318	374	460	320	137	90	104
30	206	143	120	124	------	298	390	560	304	137	88	103
31	210	------	130	122	------	266	------	727	------	137	87	------
Total	6,832	4,993	3,995	3,890	3,321	5,237	16,368	20,438	22,547	6,596	3,132	3,036
Mean	220	166	129	125	115	169	546	659	752	213	101	101
Ac-ft	13,550	9,900	7,920	7,720	6,590	10,390	32,470	40,540	44,720	13,090	6,210	6,020

Calendar year 1959: Max 1,420 Min 112 Mean 286 Ac-ft 207,000
Water year 1959-60: Max 1,550 Min 82 Mean 274 Ac-ft 199,100

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 12 to Jan. 18; discharge estimated on basis of weather records, recorded range in stage, and records for Big Wood Slough.

1395. Big Wood River at Hailey, Idaho--Continued

Combined discharge, in cubic feet per second, of Big Wood River and Big Wood Slough at Hailey, Idaho, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	256	230	166	146	132	118	259	431	916	331	176	106
2	256	226	163	135	142	124	251	468	1,100	339	176	111
3	250	219	166	135	130	128	264	489	1,250	318	158	119
4	241	219	146	135	125	132	331	500	1,210	312	150	128
5	238	190	132	135	139	132	508	522	1,140	309	147	134
6	238	190	140	146	130	132	729	544	1,100	294	141	127
7	241	216	143	146	142	136	856	619	1,070	286	138	123
8	241	205	138	156	136	131	882	655	1,080	286	135	121
9	254	205	134	146	142	133	1,010	662	888	277	132	120
10	256	200	140	146	142	120	1,050	820	861	274	129	117
11	247	196	143	156	130	118	952	1,160	928	263	125	117
12	256	197	143	156	125	136	808	1,470	914	257	121	115
13	253	175	147	146	136	133	726	1,560	927	251	119	115
14	247	153	141	135	125	129	701	1,180	938	242	118	117
15	247	172	142	135	121	127	629	1,000	893	229	118	122
16	243	175	141	135	123	123	552	924	860	226	117	120
17	240	166	141	132	123	123	519	813	860	222	112	120
18	240	175	147	132	123	129	486	711	700	214	108	119
19	236	178	146	132	123	135	469	586	675	203	104	122
20	234	175	146	135	124	145	464	510	620	190	102	118
21	234	184	146	142	136	154	486	494	514	181	100	123
22	234	175	146	147	132	173	503	435	463	179	105	127
23	230	180	146	145	122	202	475	409	452	175	119	128
24	234	183	146	144	120	228	442	399	447	173	114	128
25	244	187	157	143	120	277	409	389	448	169	116	131
26	244	161	157	143	121	352	399	380	427	166	113	135
27	239	145	145	140	121	400	392	372	386	166	110	130
28	235	153	135	129	120	410	392	404	357	164	109	127
29	227	158	135	143	118	342	383	471	342	165	110	126
30	226	161	135	139	------	321	399	571	326	166	107	125
31	230	------	146	137	------	287	------	741	------	166	105	------
Total	7,491	5,549	4,499	4,372	3,723	5,730	16,726	20,689	23,092	7,193	3,834	3,671
Mean	242	185	145	141	128	185	558	667	770	232	124	122
Ac-ft	14,860	11,010	8,920	8,670	7,380	11,370	33,180	41,040	45,800	14,270	7,600	7,280

Calendar year 1959: Max 1,450 Min 130 Mean 306 Ac-ft 221,500
Water year 1959-60: Max 1,560 Min 100 Mean 291 Ac-ft 211,400

1410. Big Wood River near Bellevue, Idaho

Location.--Lat 43°19'30", long 114°19'30", in SE¼NW¼ sec. 21, T.1 S., R.18 E., on right bank 2½ miles upstream from flow line of Magic Reservoir, 3¾ miles upstream from Camas Creek, and 10 miles southwest of Bellevue.

Drainage area.--823 sq mi.

Records available.--July 1911 to September 1960 (no winter records prior to 1943 except 1916, 1921-22, 1940-41).

Gage.--Water-stage recorder. Altitude of gage is 4,820 ft (by barometer). Prior to July 8, 1921, at site 1.1 miles downstream at different datum. July 8, 1921, to Oct. 5, 1954, at site three-quarters of a mile downstream at different datum.

Average discharge.--22 years (1915-16, 1921-22, 1939-41, 1942-60), 285 cfs (206,300 acre-ft per year).

Extremes.--Maximum discharge during year, 929 cfs May 13 (gage height, 4.60 ft); minimum discharge, 16 cfs Mar. 14 (gage height, 2.30 ft).
1911-60: Maximum discharge, 4,130 cfs May 25, 1956; maximum gage height, 6.43 ft May 12, 1958; minimum discharge recorded, 7 cfs Apr. 14, 1932 (gage height, 1.10 ft, site and datum then in use).

Remarks.--Records good except those for periods of doubtful gage-height record, which are poor. Diversions for irrigation of about 36,400 acres (1950 determination) above station. Storage above station is negligible.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 7 AB.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 26, 27, 31, Apr. 1-3)

Oct. 1-5		Oct. 6 to Mar. 25		Mar. 26 to Sept. 30			
3.5	64	2.4	26	2.4	36	3.3	277
3.6	87	2.5	36	2.5	55	3.6	398
3.7	116	2.6	46	2.6	76	4.0	587
		2.8	74	2.8	122	4.5	865
		3.0	115	3.0	177		
		3.2	172				

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	d75	118	87	49	41	34	208	241	82	73	73	55
2	d80	115	85	46	37	*32	208	263	208	76	76	55
3	d88	*113	87	48	38	32	224	277	389	89	76	55
4	d96	110	81	46	41	30	270	273	485	89	71	55
5	d105	104	71	45	40	32	372	277	486	89	69	55
6	d110	99	71	46	39	32	509	288	*434	86	69	57
7	d120	113	70	46	40	32	623	315	407	84	67	57
8	d130	110	66	46	41	32	638	351	438	86	67	55
9	d130	110	65	46	40	30	680	343	368	86	67	63
10	d150	113	64	46	38	28	752	339	331	84	67	59
11	d140	110	62	46	38	28	746	452	335	84	67	55
12	d130	108	64	46	38	30	*659	702	347	84	67	54
13	d130	108	66	46	37	30	597	810	343	86	59	55
14	d130	95	64	45	37	28	577	607	351	80	59	55
15	d130	92	*62	44	37	30	533	420	327	71	61	55
16	d130	99	62	44	37	28	466	*327	311	67	63	52
17	*126	95	65	42	37	30	434	259	304	63	63	50
18	126	97	66	43	37	28	394	224	288	59	65	50
19	120	97	66	45	37	30	*368	148	248	*57	65	46
20	120	99	66	45	34	32	351	73	211	52	*65	44
21	120	99	65	42	36	32	351	59	171	52	65	44
22	120	102	64	42	34	34	381	57	132	50	69	46
23	113	104	65	41	36	38	381	57	98	54	78	42
24	110	104	66	41	34	40	351	55	76	52	76	40
25	110	102	60	41	34	43	327	57	84	52	69	42
26	115	95	56	*41	34	80	311	55	80	52	67	38
27	115	87	53	41	34	171	310	63	76	52	65	*36
28	115	83	53	41	34	266	310	59	76	55	61	42
29	115	85	50	41	34	252	285	63	80	59	61	42
30	115	85	49	41	-------	252	245	65	82	61	59	44
31	120	-------	49	41	-------	234	-------	69	-------	63	57	-------
Total	3,534	3,051	2,020	1,363	1,074	2,050	12,861	7,648	7,628	2,147	2,063	1,498
Mean	117	102	65.2	44.0	37.0	66.1	429	247	254	69.3	66.5	49.9
Ac-ft	7,210	6,050	4,010	2,700	2,130	4,070	25,510	15,170	15,130	4,260	4,090	2,970

Calendar year 1959: Max 585 Min 37 Mean 121 Ac-ft 87,750
Water year 1959-60: Max 810 Min 28 Mean 129 Ac-ft 93,300

* Discharge measurement made on this day.
d Doubtful gage-height record; discharge estimated on basis of weather records, appearance of recorder chart, and records for other Big Wood River stations.

1415. Camas Creek near Blaine, Idaho

Location.--Lat 43°20', long 114°33', in sec.15, T.1 S., R.16 E., on left bank a quarter of a mile north of Macon siding on Hill City branch of Oregon Short Line Railroad, three-eighths of a mile downstream from Willow Creek, 2½ miles upstream from backwater of Magic Reservoir, and 4 miles southeast of Blaine.

Drainage area.--648 sq mi. Mean altitude, 5,600 ft.

Records available.--May 1912 to September 1921 and April 1923 to October 1925 (fragmentary), March 1926 to September 1944 (no winter records), October 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,870 ft (by barometer).

Average discharge.--16 years (1944-60), 179 cfs (129,600 acre-ft per year).

Extremes.--Maximum discharge during year, 5,280 cfs Apr. 10 (gage height, 11.93 ft); minimum, 2.1 cfs Aug. 13 (gage height, 1.20 ft).
1912-60: Maximum discharge recorded, 9,780 cfs Apr. 8, 1943; maximum gage height, 15.48 ft about Apr. 18, 1938, from floodmark; minimum discharge recorded, 1.2 cfs Aug. 11, 12, 1959; minimum gage height, that of Aug. 13, 1960.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Water diverted for irrigation of about 9,300 acres (1950 determination) above station. Flow regulated by Twin Lakes Reservoir on Lake Creek (capacity, 31,240 acre-ft) and three minor reservoirs (combined capacity, 580 acre-ft).

Cooperation.--Gage inspected occasionally by employees of Water District No. 7 AB.

Revisions.--WSP 1217: Drainage area.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 31		Apr. 1 to Sept. 30			
1.5	5.2	1.2	2.1	4.0	353
1.7	12	1.4	7.4	5.0	634
2.0	30	1.6	14	6.0	990
2.5	75	1.8	23	8.0	2,020
3.0	145	2.0	35	10.0	3,480
3.5	240	2.5	82	12.0	5,350
		3.0	148		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	9.6	12	12	25	20	232	333	88	10	2.8	2.8
2	9.2	10	12	11	26	*21	277	318	82	8.7	3.1	2.8
3	8.4	*10	12	11	25	22	343	323	82	7.1	3.1	3.1
4	8.4	10	10	11	24	23	543	338	83	7.4	2.8	3.1
5	8.4	10	9.0	12	24	25	824	328	74	8.0	2.8	3.1
6	8.1	9.2	10	14	25	30	*1,090	321	*67	7.7	2.6	3.1
7	8.4	9.2	12	15	40	35	1,620	311	65	8.4	2.6	3.1
8	8.4	9.6	12	16	50	40	1,950	311	63	8.0	2.6	3.1
9	10	10	12	15	55	36	3,460	314	62	7.4	2.8	3.1
10	9.6	10	12	15	52	32	4,770	316	63	6.6	2.8	2.8
11	10	10	12	14	50	30	*4,150	333	58	6.3	2.6	2.8
12	10	9.6	12	13	45	28	2,820	376	42	6.6	2.4	3.1
13	9.6	9.6	12	12	40	27	1,930	392	36	6.0	2.4	3.1
14	9.2	8.8	12	11	35	26	1,460	371	31	5.7	2.4	3.1
15	9.2	9.2	*13	10	32	25	1,070	321	27	4.9	2.4	3.4
16	8.8	9.4	12	9.0	30	25	882	*286	24	4.4	2.6	3.6
17	8.8	9.0	12	8.5	28	25	736	259	18	4.1	2.6	3.6
18	8.8	9.2	12	8.5	26	25	646	238	16	4.1	2.6	3.4
19	9.2	9.4	12	9.0	25	26	601	214	14	4.1	2.6	3.4
20	9.2	9.6	12	10	24	27	532	188	11	*4.6	2.6	3.4
21	8.8	11	12	12	24	28	503	172	11	4.4	*2.6	3.6
22	9.6	11	13	15	22	32	549	161	10	4.1	3.1	3.6
23	9.2	13	15	20	21	39	560	150	10	4.1	3.1	3.6
24	9.2	13	16	20	22	44	532	144	12	4.1	3.1	3.6
25	9.2	12	17	20	22	50	433	134	12	4.1	3.1	3.6
26	8.8	11	16	*21	22	62	384	126	10	3.6	3.1	3.8
27	9.2	10	15	23	21	74	340	98	10	3.1	3.1	3.8
28	10	11	15	24	20	96	318	95	10	3.1	2.8	*3.8
29	10	12	14	25	20	100	395	90	9.6	3.1	2.8	4.4
30	10	12	14	25	-------	124	376	84	9.3	3.1	2.6	4.4
31	9.6	-------	13	25	-------	173	-------	83	-------	2.8	2.6	-------
Total	285.3	307.4	394.0	467.0	875	1,370	34,326	7,528	1,109.9	169.7	85.2	101.2
Mean	9.20	10.2	12.7	15.1	30.2	44.2	1,144	243	37.0	5.47	2.75	3.37
Ac-ft	566	610	781	926	1,740	2,720	68,080	14,930	2,200	337	169	201

Calendar year 1959: Max 1,090 Min 1.4 Mean 71.8 Ac-ft 51,960
Water year 1959-60: Max 4,770 Min 2.4 Mean 128 Ac-ft 93,260

Peak discharge (base, 500 cfs).--Apr. 10 (7 p.m.) 5,280 cfs (11.93 ft).

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 7-9, Nov. 15 to Mar. 19; discharge estimated on basis of 3 discharge measurements, weather records, records for Mores Creek above Robie Creek, near Arrowrock, and inflow-outflow study of Magic Reservoir.

1420. Magic Reservoir near Richfield, Idaho

Location.--Lat 43°15', long 114°22', in NE¼SE¼ sec. 18, T.2 S., R.18 E., at dam on Big Wood River, 18 miles northwest of Richfield.

Drainage area.--1,600 sq mi, approximately.

Records available.--February to April 1909 (gage heights only), April 1909 to September 1960.

Gage.--Staff gage read once or twice daily. Datum of gage is 4,800 ft above datum of Idaho Irrigation Co., which is reported to be about 137 ft below mean sea level. Prior to Apr. 1, 1937, tape or staff gages at dam. Datum of gages prior to Oct. 1, 1942, was 4,800 ft lower.

Extremes.--Maximum contents observed during year, 160,000 acre-ft May 14-16 (gage height, 126.4 ft); minimum observed, 1,520 acre-ft Sept. 27 (gage height, 32.5 ft).
1909-60: Maximum contents observed, 194,200 acre-ft Apr. 30, 1951 (gage height, 135.7 ft); no storage for several days in 1909, 1919-20, 1924, 1928, 1935.

Remarks.--Reservoir is formed by earth- and rock-fill dam, completed in 1909, and raised 5 ft in 1917. Capacity, 191,500 acre-ft between gage heights 21.4 (2.9 ft above bottom of outlet pipe) and 135.0 ft (top of 5-foot flashboards). Dead storage unknown. Water is used for irrigation of lands in Carey Act project of Big Wood Canal Co. Figures given herein represent usable contents including bank storage. Gage read in morning except during irrigation season when it was read morning and evening; contents computed from once-daily or average of twice-daily readings.

Cooperation.--Gage readings and capacity table furnished by Water District 7 AB.

Revisions.--WSP 1217: Drainage area.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

32.0	1,400	60.0	18,380
35.0	2,110	70.0	31,230
40.0	3,660	90.0	66,790
45.0	5,980	110.0	111,900
50.0	9,190	130.0	172,600

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	30,360	36,120	41,390	45,500	50,990	60,290	155,900	141,900	111,100	62,640	20,310
2	-	30,800	36,280	41,560	45,550	51,170	61,260	156,600	140,700	109,800	61,070	19,840
3	-	30,940	36,440	41,560	45,550	51,360	62,830	157,300	139,500	108,300	59,710	18,160
4	-	31,230	36,600	41,730	45,730	51,540	64,600	157,300	138,900	106,800	57,780	17,300
5	-	31,530	-	41,730	45,730	51,730	67,180	157,900	138,300	105,500	56,430	16,250
6	-	31,830	-	41,900	45,910	51,730	70,590	158,600	137,700	104,000	54,720	15,440
7	-	31,980	-	41,900	45,910	51,910	75,080	158,600	137,100	102,800	52,470	14,360
8	-	32,120	-	42,240	46,260	52,100	80,300	158,900	136,500	102,000	51,730	13,420
9	-	32,420	-	42,410	46,620	52,280	86,400	158,900	136,000	100,300	50,440	12,520
10	-	32,870	-	42,580	46,800	52,470	95,320	158,900	135,700	98,170	48,970	11,740
11	-	33,180	-	42,760	47,160	52,660	106,300	158,900	133,900	96,980	46,440	-
12	-	33,330	-	42,930	47,520	52,660	115,500	158,900	133,100	95,560	45,910	10,030
13	25,520	33,630	-	43,100	47,700	52,660	121,700	159,300	132,500	94,150	44,500	9,190
14	25,790	33,940	-	43,280	47,880	52,840	126,600	160,000	131,400	92,520	42,580	8,410
15	26,190	34,090	-	43,280	48,060	52,840	130,200	160,000	131,800	90,910	41,220	7,670
16	26,460	34,240	-	43,450	48,420	53,220	133,100	160,000	129,700	89,090	39,870	6,970
17	26,720	-	-	43,450	48,790	53,400	135,400	159,300	128,500	87,730	38,380	6,260
18	26,860	33,330	-	43,450	48,970	53,590	137,700	158,600	128,000	85,950	37,240	-
19	27,130	33,020	-	43,620	49,150	53,780	139,800	157,900	126,600	84,190	36,120	5,190
20	27,400	33,180	-	43,620	49,520	53,970	141,000	156,600	125,800	82,450	34,710	4,580
21	27,680	33,480	-	43,620	49,700	-	142,800	155,300	124,400	80,730	33,330	4,360
22	27,960	33,780	-	43,800	49,880	54,160	144,700	154,300	123,300	79,460	31,380	3,820
23	28,230	34,090	-	43,800	50,070	54,340	146,600	153,300	121,900	76,520	30,940	3,260
24	28,510	34,400	-	43,970	50,250	54,530	148,100	152,000	120,900	75,700	29,780	2,750
25	28,790	34,710	-	44,140	50,440	54,720	149,700	150,700	119,800	74,050	27,820	-
26	29,070	34,870	-	44,500	50,620	55,100	151,300	149,400	118,400	72,420	27,540	1,560
27	29,220	35,180	-	44,850	50,800	55,860	152,600	148,500	116,600	70,390	26,460	1,520
28	29,500	35,490	-	45,020	50,800	56,620	154,000	147,200	115,000	69,180	25,260	-
29	29,780	35,650	-	45,200	50,800	57,580	155,300	145,900	113,200	67,180	24,350	-
30	30,070	35,960	40,710	45,380	-------	58,350	155,600	144,700	112,400	65,600	23,330	2,000
31	30,220	-------	41,220	45,380	-------	59,320	-------	143,500	-------	64,210	22,340	-------
(†)	69.3	73.1	76.3	78.7	81.7	86.2	125.1	121.3	110.2	88.7	63.4	-
(‡)	+10,380	+5,740	*5,260	+4,160	+5,420	+8,520	+96,280	-12,100	-31,100	-48,190	-41,870	-20,340

Calendar year 1959..... ‡ -71,180
Water year 1959-60..... ‡ -17,840

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

1425. Big Wood River below Magic Dam, near Richfield, Idaho

Location.--Lat 43°14', long 114°22', in sec.18, T.2 S., R.18 E., on right bank half a mile downstream from Magic Dam and 18 miles northwest of Richfield.

Drainage area.--1,600 sq mi, approximately.

Records available.--April 1911 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,665 ft (by barometer).

Average discharge.--48 years (1912-60), 432 cfs (312,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,020 cfs July 23 (gage height, 4.78 ft); minimum, 2.8 cfs Oct. 25 (gage height, 1.78 ft).
1911-60: Maximum discharge, 10,000 cfs Apr. 26, 1952 (gage height, 15.68 ft, from floodmark); no flow Feb. 3, 1915.

Remarks.--Records excellent except those below 20 cfs, which are good, and those for periods of ice effect or no gage-height record, which are fair. Water diverted for irrigation of about 47,100 acres (1950 determination) above station. Flow regulated by Magic Reservoir (see preceding page), Twin Lakes Reservoir on tributary of Camas Creek (capacity, 31,240 acre-ft), and smaller reservoirs having combined capacity of about 680 acre-ft.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 7 AB.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 9 to Aug. 26)

1.7	1.6	2.5	63
1.8	4.0	3.0	154
1.9	7.5	3.5	324
2.0	13	4.0	575
2.2	30	4.6	955

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	4.6	4.9	5.2	5.5	*a6.2	7.5	320	815	763	836	575
2	5.8	4.6	4.9	b5.2	5.5	b6.2	7.5	328	829	776	843	586
3	5.5	*4.6	4.9	b5.2	5.5	6.2	7.5	324	850	789	836	586
4	5.2	4.6	4.9	5.2	5.5	6.2	7.5	320	857	782	822	580
5	5.2	4.9	5.2	5.2	5.5	6.6	7.5	356	857	782	822	586
6	5.2	4.9	5.2	5.2	5.5	6.6	7.5	410	864	776	796	580
7	4.6	4.9	5.2	5.2	5.5	7.5	7.5	470	857	782	789	558
8	4.6	4.9	5.2	5.2	5.8	7.0	8.0	570	857	802	789	553
9	4.3	4.9	5.2	5.2	5.5	7.0	8.5	636	850	802	776	548
10	4.0	4.9	5.2	5.2	5.5	6.6	8.5	696	850	822	756	542
11	3.7	4.6	5.2	5.2	5.5	6.6	9.0	744	850	836	732	536
12	3.7	4.3	5.2	5.2	5.8	7.0	9.0	796	*850	864	726	526
13	3.7	4.6	5.2	5.2	5.8	7.0	10	815	843	899	714	514
14	3.7	4.9	5.2	b5.2	5.8	6.6	9.5	829	843	892	708	504
15	3.7	8.6	*5.2	b5.2	5.8	6.6	10	829	843	892	720	492
16	3.7	311	5.2	a5.2	5.8	6.6	10	829	829	899	714	476
17	3.7	316	5.2	a5.2	5.8	6.6	11	843	822	899	714	465
18	3.7	316	5.2	a5.2	5.8	6.6	12	864	802	899	714	492
19	3.7	316	5.2	a5.2	5.8	7.0	12	878	796	*913	714	498
20	3.4	138	5.2	a5.2	5.8	6.6	12	850	789	899	*708	460
21	3.4	4.9	5.2	a5.5	5.5	6.6	13	836	782	913	690	440
22	3.4	4.9	5.2	a5.5	5.8	6.6	14	*829	770	920	672	415
23	3.7	4.9	5.2	a5.5	6.2	6.6	14	829	763	927	648	369
24	3.7	4.9	5.2	a5.5	6.2	7.0	14	815	750	927	636	311
25	3.1	4.6	5.2	a5.5	6.2	7.0	15	796	756	920	642	234
26	3.7	4.9	5.2	a5.5	6.2	7.5	15	776	763	899	619	162
27	3.7	4.9	b5.2	*5.5	6.2	7.5	16	763	782	899	608	76
28	3.4	4.9	5.2	5.5	a6.2	7.5	106	776	796	913	597	*3.7
29	3.7	4.9	b5.2	5.5	a6.2	7.5	282	782	776	920	580	3.4
30	4.0	4.9	5.2	5.5	-------	7.5	320	776	770	899	570	3.1
31	4.3	-------	5.2	5.5	-------	7.5	-------	789	-------	857	570	-------
Total	127.0	1,520.5	160.0	164.5	167.7	212.1	991.0	21,474	24,461	26,762	22,061	12,674.2
Mean	4.10	50.7	5.16	5.31	5.78	6.84	33.0	693	815	863	712	422
Ac-ft	252	3,020	317	326	333	421	1,970	42,590	48,520	53,080	43,760	25,140

Calendar year 1959: Max 906 Min 3.1 Mean 318 Ac-ft 230,200
Water year 1959-60: Max 927 Min 3.1 Mean 303 Ac-ft 219,700

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage and records for Magic Reservoir.
b Stage-discharge relation affected by ice.

1479. Little Wood River above High Five Creek, near Carey, Idaho

Location.--Lat 43°29'30", long 114°03'15", about center of sec.22, T.2 N., R.20 E., on left bank above maximum flow line of Little Wood Reservoir, 0.4 mile downstream from Copper Creek, 0.6 mile upstream from High Five Creek, and 13.5 miles northwest of Carey.

Drainage area.--248 sq mi.

Records available.--October 1958 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,320 ft (by barometer).

Extremes.--Maximum discharge during year, 822 cfs Apr. 9 (gage height, 4.29 ft); minimum, 20 cfs Aug. 21, 22, Sept. 10, 11 (gage height, 1.40 ft).
1958-60: Maximum discharge, that of Apr. 9, 1960; minimum, that of Aug. 21, 22, Sept. 10, 11, 1960, but may have been less during periods of ice effect.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation of about 5,250 acres (1950 determination).

Cooperation.--Water-stage recorder inspected by employees of Little Wood Reservoir Co. and Idaho Water District No. 11 C.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 9, Mar. 4-7, 9, 13-15, 18, 19)

Oct. 1 to Apr. 4				Apr. 5 to Sept. 30			
1.7	34	2.6	150	1.4	20	3.0	277
2.0	63	3.0	250	1.6	37	3.5	450
2.3	101			2.0	81	4.0	700
				2.5	157		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	55	43	39	45	39	134	133	246	72	36	23
2	61	55	48	37	45	41	134	143	286	68	37	24
3	61	55	51	37	42	*45	150	155	313	66	32	24
4	63	*55	38	38	41	43	209	153	295	63	30	26
5	62	46	37	38	45	42	*333	155	266	63	28	25
6	61	50	39	40	45	42	460	159	246	*62	26	24
7	58	59	39	45	45	42	520	173	*244	59	26	23
8	55	58	*39	50	45	42	550	177	244	*58	26	24
9	65	60	40	48	45	43	640	179	188	56	*26	23
10	61	60	39	48	43	37	665	*209	218	55	25	22
11	58	59	39	49	43	40	455	307	249	52	24	22
12	59	59	40	49	42	44	346	395	228	48	23	23
13	56	47	45	47	43	43	295	414	226	46	22	*23
14	56	40	40	42	41	42	*269	304	216	43	22	23
15	55	41	38	40	40	41	233	257	209	42	24	24
16	54	42	38	40	39	41	201	233	192	38	27	23
17	55	43	40	40	39	43	186	201	177	35	27	23
18	54	48	45	40	39	45	169	184	141	35	25	24
19	53	50	42	40	39	48	159	163	139	34	23	22
20	52	50	41	*42	40	55	150	146	128	33	22	22
21	50	55	40	44	42	65	150	143	107	32	22	22
22	51	51	40	46	41	79	153	136	100	32	24	22
23	52	53	42	47	39	93	153	133	95	32	28	23
24	54	54	43	46	39	104	150	125	97	32	28	22
25	54	53	45	46	40	121	139	117	97	30	27	26
26	53	40	40	45	39	163	131	110	91	29	26	26
27	54	38	37	45	39	184	131	111	84	28	26	23
28	58	38	37	45	38	189	146	114	78	28	25	23
29	55	39	38	45	37	164	144	136	78	29	25	23
30	54	40	39	45	------	163	133	163	74	28	24	23
31	56	------	39	45	------	144	------	211	------	28	22	------
Total	1,754	1,493	1,261	1,348	1,200	2,327	7,688	5,739	5,352	1,356	808	700
Mean	56.6	49.8	41.0	43.5	41.4	75.1	2.56	185	178	43.7	26.1	23.3
Ac-ft	3,480	2,960	2,500	2,670	2,380	4,620	15,250	11,380	10,620	2,690	1,600	1,390

Calendar year 1959: Max 354 Min 22 Mean 77.4 Ac-ft 56,030
Water year 1959-60: Max 665 Min 22 Mean 84.8 Ac-ft 61,540

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 5, 6, 13-19, Nov. 26 to Dec. 2, Dec. 4-12, 14-17, 19-22, Dec. 26 to Jan. 5, Jan. 14 to Feb. 8, Feb. 10 to Mar. 3, Mar. 8, 10-12, 16, 17 (no gage-height record Dec. 31, Jan. 1, 6-11, 23-26; discharge estimated on basis of weather records and records for station near Carey).

1482. Little Wood Reservoir near Carey, Idaho

Location.--Lat 43°25'30", long 114°01'30", in NW¼NW¼ sec.13, T.1 N., R.20 E., at gate-control structure near right end of dam on Little Wood River, 8½ miles northwest of Carey.

Drainage area.--279 sq mi.

Records available.--October 1955 to September 1960.

Gage.--Staff gage read once daily, usually about 10 a.m. Datum of gage is 5,100 ft above mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 30,200 acre-ft May 13 (gage height, 137.72 ft); minimum observed, 67 acre-ft Nov. 4 (gage height, 30.22 ft).
1955-60: Maximum contents, that of May 13, 1960; minimum observed, 66 acre-ft Aug. 17, 1959 (gage height, 30.22 ft), but may have been less during period Aug. 14 to Sept. 13, 1959.

Remarks.--Reservoir is formed by earth- and rock-fill dam constructed in 1939 and raised 39.9 ft in 1959. Capacity of reservoir is 29,960 acre-ft between gage heights 27.4 (0.4 ft below bottom of outlet gates) and 137.3 ft (spillway crest). Water is used for irrigation of land near Carey. Storage began Feb. 12, 1941.

Cooperation.--Gage readings furnished by Little Wood Reservoir Co. and Water District No. 11 C. Capacity curve furnished by Bureau of Reclamation.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

30.0	61	45.0	857	90.0	9,160
32.0	122	50.0	1,300	110.0	16,370
35.0	240	60.0	2,490	130.0	25,930
40.0	504	70.0	4,150	140.0	31,530

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	1,476	3,855	6,695	9,278	14,490	29,950	25,320	16,120	4,240	928
2		-	1,572	3,936	6,810	9,358	14,810	30,080	25,090	15,930	3,855	928
3		-	1,672	4,015	6,894	9,451	15,090	30,080	24,950	15,670	3,471	928
4		67	1,752	4,098	6,973	9,538	15,420	30,020	24,820	15,380	3,060	933
5		-	1,782	4,182	7,048	9,638	15,910	30,090	24,620	15,210	2,752	937
6		-	1,852	4,267	7,138	9,745	16,630	30,040	24,410	15,050	2,429	939
7		-	1,919	4,349	7,252	9,840	17,630	30,040	24,180	14,790	2,118	941
8		-	1,992	4,466	7,382	9,941	18,710	30,060	23,740	14,550	1,834	941
9		-	2,067	4,559	7,475	10,040	19,840	30,060	-	14,280	1,483	940
10		-	2,144	4,654	7,608	10,110	21,150	30,100	23,200	13,990	1,237	940
11		-	2,221	4,758	7,674	10,180	22,460	30,130	-	13,750	995	940
12		-	2,301	4,881	7,769	10,280	23,310	30,190	-	13,510	969	937
13		-	2,382	4,971	7,853	10,380	24,030	30,200	22,860	13,240	958	941
14		-	2,458	5,054	7,943	10,460	24,580	30,090	-	12,910	957	948
15		-	2,523	5,120	8,034	10,550	25,120	29,960	-	12,640	958	954
16		-	2,594	5,208	8,132	10,620	25,560	30,000	22,130	11,970	960	961
17		-	2,668	5,294	8,201	10,700	26,040	29,920	21,850	11,720	971	968
18		-	2,766	5,370	8,282	10,790	26,340	29,710	-	11,010	971	975
19		-	2,854	5,448	8,381	10,870	26,780	29,630	-	10,620	969	982
20		-	2,928	5,540	8,468	10,970	26,990	29,320	20,740	9,999	963	990
21		-	3,000	5,637	8,556	11,100	27,320	28,970	20,260	9,414	952	1,000
22		-	3,076	5,732	8,651	11,230	27,690	28,590	19,840	8,913	914	1,007
23		-	3,154	5,836	8,728	11,400	27,950	28,200	19,440	8,468	918	998
24		-	3,235	5,932	8,805	11,630	28,200	27,780	18,880	8,052	923	982
25		-	3,346	6,025	8,883	11,900	28,420	27,480	18,590	7,575	914	964
26		-	3,444	6,127	8,980	12,230	28,720	27,160	18,290	7,032	916	958
27		-	3,492	6,227	9,064	12,630	28,940	26,780	17,820	6,540	918	948
28		-	3,544	6,272	9,137	13,090	29,200	26,450	17,340	6,030	918	935
29		-	3,607	6,413	9,210	13,490	29,460	26,080	17,000	5,526	923	931
30		a1,380	3,678	6,505	-------	13,830	29,700	25,790	16,580	5,089	925	929
31	a68	-------	3,763	6,576	-------	14,200	-------	25,540	-------	4,682	928	-------
(†)	-	-	67.94	80.82	90.18	104.64	136.84	129.26	110.48	72.58	45.86	45.88
(‡)	-10	+1,312	+2,383	+2,813	+2,634	+4,990	+15,500	-4,160	-8,960	-11,918	-3,734	+1

Calendar year 1959..... ‡ +202
Water year 1959-60..... ‡ +851

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
a No gage-height record; contents estimated on basis of inflow-outflow study.

1485. Little Wood River near Carey, Idaho

Location.--Lat 43°23', long 114°00', in E½ sec.30, T.1 N., R.21 E., on right bank a third of a mile upstream from West Canal, 1 1/3 miles upstream from East Canal, 2 miles downstream from Little Fish Creek, 3 miles downstream from Little Wood Reservoir, and 6 miles northwest of Carey.

Drainage area.--312 sq mi.

Records available.--April 1904 to May 1905 (gage heights only), September 1926 to November 1942, April 1943 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Records for February 1920 to September 1926 at site 6 miles upstream not equivalent owing to diversion and inflow.

Gage.--Water-stage recorder. Datum of gage is 4,990.59 ft above mean sea level, unadjusted. Apr. 28, 1904, to May 31, 1905, staff gage, Sept. 20, 1926, to Apr. 22, 1938, water-stage recorder, and Apr. 23 to Aug. 17, 1938, staff gage, all at datum 0.74 ft higher.

Average discharge.--33 years (1926-42, 1943-60), 135 cfs (97,740 acre-ft per year).

Extremes.--Maximum discharge during year, 513 cfs May 13 (gage height, 4.26 ft); minimum daily, 1.5 cfs Nov. 26-29, but may have been less during period of ice effect.
1904-5, 1926-60: Maximum discharge, 6,000 cfs (due to failure of reservoirs on Little Fish Creek) Apr. 20, 1938 (gage height, 12.81 ft, present datum, from floodmark), from rating curve extended above 1,800 cfs by logarithmic plotting; minimum, 1 cfs Jan. 26, 1945, Jan. 20, 1948.

Remarks.--Records excellent except those above 200 cfs, which are good, and those for periods of ice effect or doubtful or no gage-height record, which are fair. Diversions above station for irrigation of about 6,450 acres (1950 determination). Storage in Little Wood Reservoir (capacity, 12,180 acre-ft) began Feb. 12, 1941. Flow is also affected by Campbell, Cameron, and Howard Reservoirs (combined capacity, 690 acre-ft) on South Fork Muldoon and Little Fish Creeks.

Cooperation.--Water-stage recorder inspected by employees of Little Wood Reservoir Co. and Water District No. 11 C.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	1.2	2.0	16
1.4	1.6	2.3	36
1.5	2.4	2.6	69
1.6	3.6	3.0	136
1.7	5.6	3.5	272
1.8	8.3	4.1	486

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66	59	1.7	1.8	3.3	3.5	19	58	359	235	266	23
2	63	61	1.8	1.8	3.7	3.8	19	130	366	211	272	23
3	61	62	1.9	1.8	3.2	*4.2	24	156	384	208	247	22
4	62	61	1.7	1.8	3.2	4.8	*34	160	384	178	223	22
5	63	52	1.6	1.8	3.3	5.0	49	170	377	143	208	22
6	62	*50	1.6	2.2	3.5	4.8	57	166	395	*149	203	22
7	59	59	1.6	2.5	4.0	4.8	33	163	*399	173	186	22
8	55	59	*1.6	2.8	4.2	5.0	24	170	403	203	197	22
9	63	59	1.7	2.8	4.1	4.8	18	*170	370	194	*200	22
10	63	48	1.6	2.6	4.0	4.5	16	186	335	178	173	22
11	64	5.9	1.6	2.7	4.0	4.5	14	247	311	191	90	22
12	66	4.0	1.6	2.7	4.0	5.0	13	359	311	203	33	*22
13	58	3.2	1.8	2.6	4.2	5.0	*11	452	324	205	27	20
14	57	91	1.7	2.5	4.0	5.0	10	392	348	226	23	19
15	59	143	1.7	2.2	4.2	4.8	9.0	269	377	253	23	19
16	57	39	1.7	2.2	4.0	5.0	7.8	250	373	291	23	19
17	57	6.0	1.7	2.2	4.0	5.0	8.3	304	348	311	26	19
18	56	3.4	1.9	2.2	4.0	5.2	8.3	307	348	345	27	19
19	57	2.5	1.8	2.3	4.0	5.2	8.6	318	348	377	27	19
20	55	2.1	1.8	2.5	4.0	5.6	8.6	230	348	370	27	19
21	54	1.9	1.9	*2.8	4.0	6.4	8.6	342	342	323	30	19
22	55	1.8	1.9	3.0	4.0	7.5	7.8	345	311	283	36	22
23	56	1.7	1.9	3.2	3.5	10	26	348	291	273	27	27
24	57	1.7	2.0	3.5	3.5	14	39	338	298	291	34	31
25	58	1.7	2.1	3.5	3.5	15	41	311	311	311	30	31
26	58	1.5	2.0	3.5	3.5	22	46	301	311	318	27	32
27	59	1.5	1.9	3.1	3.5	22	45	298	307	321	26	31
28	61	1.5	1.8	3.1	3.5	28	47	298	311	304	24	28
29	61	1.5	1.8	3.5	3.5	21	47	304	304	288	23	25
30	59	1.6	1.8	3.5	-------	26	48	321	288	266	23	25
31	59	-------	1.8	3.5	-------	22	-------	338	-------	253	23	-------
Total	1,840	886.5	55.0	82.2	109.4	289.4	747.0	8,201	10,282	7,884	2,804	690
Mean	59.4	29.6	1.77	2.65	3.77	9.34	24.9	265	343	254	90.5	23.0
Ac-ft	3,650	1,760	109	163	217	574	1,480	16,270	20,390	15,640	5,560	1,370

Calendar year 1959: Max 345 Min 1.5 Mean 80.4 Ac-ft 58,220
Water year 1959-60: Max 452 Min 1.5 Mean 92.5 Ac-ft 67,180

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 14, 17, 18, Feb. 22 to Mar. 3, Mar. 10, 11, 17. Doubtful or no gage-height record Nov. 19 to Feb. 21 (affected by ice most of period); discharge estimated on basis of 3 discharge measurements, weather records, and records for Little Wood Reservoir near Carey.

1505. Silver Creek near Picabo, Idaho

Location.--Lat 43°17', long 114°01', in sec.1, T.2 S., R.20 E., on left bank 1½ miles downstream from drain ditch of Blaine County Drainage District No. 1 and 3 miles southeast of Picabo.

Drainage area.--88 sq mi, approximately.

Records available.--May 1920 to September 1960 (1923-35, irrigation seasons only).

Gage.--Water-stage recorder. Altitude of gage is 4,790 ft (by barometer).

Average discharge.--27 years (1920-22, 1935-60), 154 cfs (111,500 acre-ft per year).

Extremes.--Maximum discharge during year, 274 cfs Apr. 5 (gage height, 2.98 ft); maximum gage height, 3.33 ft Jan. 21 (ice jam); minimum discharge, 77 cfs July 27 (gage height, 1.10 ft).

1920-60: Maximum discharge recorded, 357 cfs Dec. 24, 1955 (gage height, 3.70 ft); maximum gage height recorded, 4.57 ft Jan. 22, 1950 (ice jam); minimum discharge, 26 cfs June 2, 1920 (gage height, 0.48 ft).

Remarks.--Records excellent except those for periods of ice effect, which are fair. Diversions for irrigation of about 9,000 acres (1950 determination) above station. Two small canals bypass station. Silver Creek receives considerable return flow resulting from Big Wood River irrigation. Records of discharge do not include water bypassed around station at times by slough on right bank from which there is some diversion for irrigation. Discharge measurements of slough made during year are as follows:

Discharge measurements, in cubic feet per second, water year October 1959 to September 1960

Nov. 6	3.04	May 17	e1.5
Dec. 8	1.33	June 6	e.75
Jan. 26	1.68	July 5	8.0
Mar. 1	e1.0	Aug. 8	5.06
Apr. 5	45.4	Sept.12	3.11

e Estimated.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	74	2.0	166
1.5	114	3.0	276

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	163	156	146	b120	143	*b120	248	144	85	97	93	98
2	168	156	145	b110	b144	b165	251	144	89	96	93	97
3	165	156	146	b120	b125	b160	260	143	90	100	92	92
4	162	156	146	b140	b130	144	267	137	86	103	86	89
5	161	152	b145	b150	144	143	*270	134	84	*104	85	87
6	163	*153	144	b180	143	144	268	137	*85	104	88	86
7	162	153	144	b180	146	145	258	134	86	104	89	87
8	160	153	*145	b155	155	149	242	137	85	103	*89	85
9	162	154	145	143	153	143	225	133	87	105	86	85
10	166	155	145	143	146	138	213	112	92	109	88	84
11	165	153	144	143	143	143	199	101	86	117	88	87
12	164	152	144	144	142	143	188	96	87	113	87	*89
13	163	148	146	142	144	143	176	91	88	108	85	92
14	163	b148	146	128	141	142	172	84	87	101	82	93
15	162	148	147	b120	144	143	166	87	90	100	82	96
16	162	145	144	b115	140	143	161	86	93	98	85	95
17	160	145	143	b115	143	143	159	*82	94	99	86	92
18	161	146	143	b155	144	144	158	88	95	101	89	92
19	161	148	143	b120	143	145	158	89	95	99	90	91
20	160	148	143	b150	142	147	152	87	92	99	88	88
21	160	150	142	b170	144	150	149	89	90	97	87	87
22	161	149	142	b160	143	158	150	89	90	96	89	89
23	160	149	142	b155	143	165	157	89	96	94	97	89
24	160	152	145	b150	142	177	158	89	97	96	92	88
25	160	153	159	145	144	192	154	93	97	94	94	91
26	158	150	146	*146	143	212	149	91	96	92	94	91
27	155	148	117	145	142	228	148	93	98	83	96	94
28	148	147	b140	143	b135	240	152	89	96	89	96	96
29	148	147	b130	144	b130	254	147	89	99	90	97	103
30	154	147	b130	143	-------	254	145	88	95	90	97	104
31	155	-------	b120	143	-------	257	-------	87	-------	89	96	-------
Total	4,972	4,517	4,407	4,377	4,121	5,174	5,700	3,232	2,730	3,070	2,786	2,739
Mean	160	151	142	141	142	167	190	104	91.0	99.0	89.9	91.3
Ac-ft	9,860	8,960	8,740	8,680	8,170	10,260	11,310	6,410	5,410	6,090	5,530	5,430

Calendar year 1959: Max 205 Min 89 Mean 136 Ac-ft 98,130
Water year 1959-60: Max 270 Min 82 Mean 131 Ac-ft 94,850

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

1510. Little Wood River near Richfield, Idaho

Location.--Lat 43°03', long 114°08', in sec.30, T.4 S., R.20 E., on right bank half a mile upstream from Byrns Slough and heading of Dietrich Canal, 1 mile east of railroad station at Richfield, and 14 miles downstream from Silver Creek.

Drainage area.--570 sq mi, approximately.

Records available.--January 1911 to September 1960 (irrigation seasons only prior to 1955 except 1913, 1921).

Gage.--Water-stage recorder. Altitude of gage is 4,270 ft (by barometer). Prior to Sept. 5, 1918, staff gage at site 500 ft downstream at datum 0.92 ft lower. Sept. 5, 1918, to Apr. 13, 1920, staff gage and Apr. 14, 1920, to May 20, 1954, water-stage recorder, at site 500 ft downstream at datum 0.08 ft higher than present datum.

Average discharge.--8 years (1912-13, 1920-21, 1954-60), 149 cfs (107,900 acre-ft per year).

Extremes.--Maximum discharge during year, 220 cfs Apr. 5 (gage height, 3.27 ft); maximum gage height, 6.56 ft Jan. 7 (ice jam); minimum discharge, 41 cfs Aug. 14 (gage height, 2.12 ft).

1911-60: Maximum discharge recorded, 868 cfs May 3, 1938 (gage height, 3.97 ft, site and datum then in use); maximum gage height recorded, 8.60 ft Feb. 21, 1956 (ice jam); minimum discharge recorded, 7.6 cfs June 24, 25, 1920 (gage height, 0.52 ft, site and datum then in use).

Remarks.--Records good except those for periods of ice effect, which are fair. Diversions for irrigation of about 38,300 acres above station (1950 determination). Flow partly regulated by Little Wood Reservoir (capacity, 12,180 acre-ft), Fish Creek Reservoir (capacity, 13,700 acre-ft), and three small reservoirs on tributaries (combined capacity, 690 acre-ft). River above Silver Creek is dry a large part of the time because of channel losses and irrigation diversions above Carey.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second
(Shifting-control method used May 24 to June 10)

Oct. 1 to June 10		June 11 to Sept. 30	
2.0	50	2.1	39
2.4	82	2.3	57
2.9	152	2.5	81
3.4	247		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	127	126	110	130	90	212	133	54	59	51	73
2	134	127	124	100	130	160	198	133	54	60	53	78
3	136	128	126	105	125	150	206	133	54	60	51	72
4	133	132	125	120	120	140	214	130	54	61	50	66
5	132	*128	125	130	125	135	218	121	52	*66	46	65
6	128	128	120	150	130	140	216	115	51	67	48	59
7	128	127	115	150	130	149	210	110	52	62	47	61
8	128	128	*115	140	135	155	200	106	52	60	*49	60
9	132	128	125	130	135	144	189	110	52	62	47	54
10	132	128	125	120	130	136	178	94	53	67	45	59
11	133	128	125	120	130	*136	173	71	53	76	45	60
12	132	128	125	120	130	139	167	62	*48	74	45	64
13	132	127	125	120	130	144	*157	60	48	68	46	62
14	132	127	115	120	130	142	154	64	52	67	43	61
15	132	127	125	100	130	138	149	68	51	64	43	60
16	132	127	130	95	130	139	146	*64	55	62	46	61
17	132	127	130	95	130	138	142	61	55	60	47	61
18	130	126	130	95	130	141	141	61	59	58	53	59
19	130	124	130	*95	130	142	139	64	61	62	58	56
20	130	124	130	110	130	142	136	61	61	60	64	53
21	133	124	130	140	130	146	133	59	57	58	53	50
22	133	127	130	140	130	147	134	61	55	56	50	49
23	134	127	130	130	130	152	136	60	57	56	57	52
24	133	128	135	130	130	160	139	60	61	57	62	51
25	130	130	145	130	130	169	136	60	59	57	65	51
26	130	127	130	130	120	182	134	62	57	55	65	53
27	130	125	115	130	110	193	132	60	56	51	65	51
28	127	125	100	130	100	200	134	58	57	45	71	53
29	126	125	100	130	90	206	136	54	57	47	69	*55
30	124	125	110	130	-------	206	132	56	60	48	71	60
31	126	-------	110	130	-------	212	-------	55	-------	48	69	-------
Total	4,052	3,809	3,826	3,775	3,660	4,773	4,891	2,466	1,647	1,853	1,674	1,769
Mean	131	127	123	122	126	154	163	795	54.9	59.8	54.0	59.0
Ac-ft	8,040	7,560	7,590	7,490	7,260	9,470	9,700	4,890	3,270	3,680	3,320	3,510

Calendar year 1959: Max 222 Min 57 Mean 112 Ac-ft 80,790
Water year 1959-60: Max 218 Min 43 Mean 104 Ac-ft 75,780

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 14-17, 27-30, Dec. 4 to Mar. 6.

1515. Little Wood River at Shoshone, Idaho

Location.--Lat 42°56', long 114°24', in sec.2, T.6 S., R.17 E., on left bank just upstream from dam used prior to 1955 for diversion of town water supply, 400 ft upstream from highway bridge in Shoshone.

Drainage area.--620 sq mi, approximately.

Records available.--April 1922 to December 1959, discontinued (irrigation seasons only prior to 1955).

Gage.--Water-stage recorder. Datum of gage is 3,956.99 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 18, 1954, at datum 1.98 ft higher.

Extremes.--Maximum discharge during period October to December 1959, 151 cfs Oct. 1 (gage height, 2.18 ft, stage falling); minimum daily, 40 cfs Oct. 5, 6.
1922-59: Maximum discharge recorded, 697 cfs May 13, 1958 (gage height, 4.78 ft); maximum gage height, 9.42 ft Feb. 27, 1957 (ice jam); no flow July 29, 1931, Oct. 3, 1938.

Remarks.--Records good except those for periods of ice effect, which are fair. Diversions for irrigation of about 52,200 acres (1950 determination) above station. Flow affected by operation of Milner-Gooding canal, which diverts from Snake River and crosses Little Wood River above station, by operation of five reservoirs above Carey (see Remarks for station near Richfield), and by Big Wood River water deliveries through Byrrs Slough to Dietrich Canal which diverts from left bank of Little Wood River at Richfield.

Rating table, Oct. 1 to Dec. 31, 1959 (gage height, in feet, and discharge, in cubic feet per second)

0.8	35
1.6	96
2.0	132

Discharge, in cubic feet per second, October to December 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	46	80									
2	53	49	90									
3	41	*48	95									
4	41	48	95									
5	40	49	95									
6	40	50	90									
7	41	55	90									
8	43	52	*90									
9	42	52	95									
10	41	52	95									
11	43	53	95									
12	46	51	95									
13	46	49	95									
14	46	47	85									
15	43	45	90									
16	43	45	98									
17	46	50	103									
18	46	55	110									
19	46	60	109	†50								
20	48	60	103									
21	48	60	103									
22	49	55	100									
23	49	55	105									
24	50	55	111									
25	48	55	115									
26	47	54	105									
27	48	46	90									
28	47	47	75									
29	46	50	70									
30	45	50	80		-------		-------		-------			-------
31	46	-------	80		-------							
Total	1,461	1,543	2,932									
Mean	47.1	51.4	94.6									
Ac-ft	2,900	3,060	5,820									

Calendar year 1959: Max 530 Min 40 Mean 263 Ac-ft 190,600
Water year 1959-60: Max - Min - Mean - Ac-ft -

* Discharge measurement made on this day.
† Result of discharge measurement.
Note.--Stage-discharge relation affected by ice Nov. 13-23, Nov. 27 to Dec. 16, Dec. 20-22, 26-31.

1525. Big Wood River near Gooding, Idaho
(Formerly published as Malad River near Gooding)

Location.--Lat 42°53'10", long 114°48'10", in NE¼SW¼ sec.21, T.6 S., R 14 E., on right bank at Hudson Ranch, 2 miles downstream from bridge on Bliss-Gooding highway, 3½ miles downstream from confluence of Big Wood and Little Wood Rivers, 5 miles upstream from diversion dam for King Hill project, and 6 miles southwest of Gooding.

Drainage area.--2,990 sq mi, approximately.

Records available.--March 1916 to September 1960 (fragmentary October 1923 to September 1926; no winter records for water years 1923, 1936-37, 1942; irrigation seasons only for water years 1927-35). October 1950 to September 1959 published as Malad River near Gooding.

Gage.--Water-stage recorder. Altitude of gage is 3,345 ft (from topographic map). Prior to Apr. 13, 1921, staff gage at same site and datum.

Average discharge.--28 years (1916-22, 1937-41, 1942-60), 234 cfs (169,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,190 cfs Mar. 8 (gage height, 8.30 ft); maximum gage height, 8.82 ft Feb. 9 (ice jam); minimum discharge, 3.1 cfs Oct. 28 (gage height, 0.59 ft).
1916-60: Maximum discharge, 6,500 cfs Apr. 27, 1952 (gage height, 10.67 ft); no flow at times in many years.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 155,000 acres above station (1950 determination). Flow regulated by Magic Reservoir (see p. 104) and by several smaller reservoirs on tributaries and affected by deliveries from canals diverting from Snake River at Milner.

Revisions (water years).--WSP 1347: 1934.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	5.0	3.0	258
.9	11	4.0	450
1.1	20	5.0	752
1.4	41	6.0	1,170
1.8	83	7.0	1,830
2.4	165		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	432	123	b122	b70	b95	b100	188	67	22	78	93	27
2	188	122	129	b70	95	b95	190	101	24	67	126	14
3	71	*131	144	b70	b90	b90	189	102	22	50	116	14
4	41	127	130	b72	b85	b100	194	82	46	51	106	27
5	36	129	b145	a75	b80	127	204	54	79	*52	106	30
6	35	134	b145	a80	b75	236	192	44	83	55	93	16
7	34	141	*b150	a86	b100	488	174	21	86	48	86	18
8	33	148	144	a92	b380	1,720	136	25	78	40	*77	17
9	104	150	148	97	b1,000	842	129	32	82	30	61	20
10	113	150	b150	104	442	478	137	45	100	15	61	23
11	88	150	b155	110	194	294	240	41	106	8.5	63	24
12	68	155	b145	112	154	202	218	38	*106	8.9	71	22
13	21	b150	126	b100	123	172	237	14	131	15	50	27
14	6.0	b140	b120	a85	116	195	232	8.5	138	16	32	21
15	18	b140	b110	a80	97	208	202	36	133	15	24	14
16	25	148	b115	a80	91	155	194	*78	129	14	22	15
17	24	b135	b120	a80	91	141	221	81	129	21	30	19
18	22	b120	129	*b80	102	157	201	93	123	27	60	20
19	25	b140	120	b85	105	223	*115	116	119	23	82	20
20	20	145	b110	b90	112	268	45	119	97	24	73	28
21	19	171	b100	b95	96	323	24	152	86	24	53	50
22	20	159	b90	92	95	355	351	158	93	23	19	69
23	19	145	84	b90	92	384	358	110	90	30	77	95
24	19	138	112	b96	104	347	297	117	66	29	113	82
25	18	129	129	106	101	303	299	91	41	43	131	91
26	11	106	b110	126	b100	266	204	76	23	58	136	87
27	6.8	b90	b90	131	a105	245	180	64	15	72	110	68
28	31	b80	b85	126	a125	314	202	50	30	63	109	45
29	120	b85	b80	119	*a135	314	172	32	56	59	91	*11
30	137	b120	b75	116	-------	239	123	39	88	63	69	5.8
31	133	-------	b72	99	-------	282	-------	39	-------	81	41	-------
Total	1,937.8	4,001	3,684	2,914	4,580	9,663	5,848	2,125.5	2,421	1,213.4	2,381	1,019.8
Mean	62.5	133	119	94.0	158	312	195	68.6	80.7	39.1	76.8	34.0
Ac-ft	3,840	7,940	7,310	5,780	9,080	19,170	11,600	4,220	4,800	2,410	4,720	2,020

Calendar year 1959: Max 711 Min 6.0 Mean 143 Ac-ft 103,500
Water year 1959-60: Max 1,720 Min 5.8 Mean 114 Ac-ft 82,890

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for upstream stations.
b Stage-discharge relation affected by ice.

1530. King Hill Canal near Hagerman, Idaho

Location.--Lat 42°52', long 114°55', in SW¼ sec.27, T.6 S., R.13 E., on left bank above entrance to inverted siphon crossing Snake River, half a mile west of highway bridge over Big Wood River and 3½ miles north of Hagerman.

Records available.--March 1930 to September 1960 (irrigation seasons only 1930-37, 1940-46).

Gage.--Water-stage recorder. Altitude of gage is 2,850 ft (by barometer). Prior to Apr. 1, 1948, staff gage at site 400 ft upstream at datum 1.95 ft higher. Apr. 1, 1948, to May 22, 1951, staff gages at present site at different datum prior to Apr. 12, 1949, at present datum thereafter. Supplementary gage 500 ft downstream from siphon efflux, used June 1, 1949, to May 22, 1951.

Extremes.--1930-60: Maximum daily discharge, 348 cfs July 2, 1956; no flow or minor leakage at headgate during nonirrigation seasons and other periods when gates are closed.

Remarks.--Records excellent. This canal, which is operated by King Hill Irrigation District to provide water for irrigation of about 10,000 acres, diverts from Idaho Power Co.'s canal, which diverts from Big Wood River (Malad Springs water).

Cooperation.--Staff-gage readings for supplementary gage furnished by King Hill Irrigation District.

Revisions (water years).--WSP 723: 1930.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	319					0	*133	328	333	324	323	320
2	318	(*)				0	134	329	331	324	325	320
3	318					0	134	332	330	323	311	319
4	317					0	197	334	331	323	326	318
5	318					0	228	338	331	323	328	316
6	*320					0	228	343	331	323	327	316
7	322		(*)			0	229	345	330	324	328	320
8	323					0	229	345	329	324	328	324
9	218					0	228	*345	329	324	328	324
10	3					0	228	346	329	325	328	324
11	2			(*)		0	228	345	329	*325	328	324
12	1					0	228	344	328	325	330	324
13	0					0	264	344	328	279	326	324
14	0					0	281	344	*328	328	325	322
15	0					0	281	343	327	179	324	320
16	0					0	281	343	325	0	*324	321
17	0					0	281	343	325	0	324	321
18	0					0	281	343	327	0	326	321
19	0					0	311	343	7	0	326	312
20	0					0	326	343	0	131	327	*304
21	0					0	326	342	0	319	325	302
22	0					0	328	342	268	319	325	303
23	0				(*)	1	328	342	332	321	323	305
24	0					2	327	340	331	321	321	304
25	0					2	327	338	330	322	323	304
26	0					2	326	337	324	323	323	303
27	0					4	329	337	329	324	321	300
28	0					106	331	335	326	272	321	298
29	0					133	330	334	326	319	320	299
30	0					133	330	335	326	321	320	300
31	0					133		333		321	320	
Total	2,779	0	0	0	0	516	8,012	10,535	8,820	8,286	10,054	9,412
Mean	89.6	0	0	0	0	16.6	267	340	294	267	324	314
Ac-ft	5,510	0	0	0	0	1,020	15,890	20,900	17,490	16,440	19,940	18,670

Calendar year 1959: Max 333 Min 0 Mean 166 Ac-ft 120,300
Water year 1959-60: Max 346 Min 0 Mean 160 Ac-ft 115,900

* Discharge measurement or observation of no flow made on this day.

1540. Clover Creek near Bliss, Idaho

Location.--Lat 43°01'30", long 115°00'20", in NE¼ sec.3, T.5 S., R.12 E., just downstream from Calf Creek, 6½ miles northwest of Bliss.
Drainage area.--140 sq mi. Mean altitude, 4,700 ft.
Records available.--April 1938 to October 1943, August 1957 to September 1960.
Gage.--Water-stage recorder. Datum of gage is 3,119.97 ft, datum of 1929 (levels by Bureau of Reclamation). April 1938 to October 1943 at site 3 miles downstream at different datum.
Average discharge.--8 years, 30.3 cfs (21,860 acre-ft per year).
Extremes.--Maximum discharge during year, 2,700 cfs Mar. 7 (gage height, 7.57 ft); minimum, 0.4 cfs for many days June to August.
1938-43, 1957-60: Maximum discharge, that of Mar. 7, 1960; no flow for many days in 1938-40, 1942.
Flood in December 1955 reached a stage of 10.2 ft, site and datum used in 1943, from floodmarks.
Revisions.--The figures of maximum discharge for the water years 1958-59 have been revised to 1,360 cfs Apr. 3, 1958 (gage height, 6.08 ft), and 875 cfs Mar. 31, 1959 (gage height, 5.21 ft), superseding those published in WSP 1567 and 1637, respectively.
Remarks.--Records fair except those for periods of ice effect, no gage-height record, or backwater from beaver dam, which are poor. Many diversions above and below station for irrigation.
Revisions.--Revised figures of discharge, in cubic feet per second, for high-water periods in the water years 1958-59, superseding those published in WSP 1567 and 1637, are given herewith:

Mar. 21, 1958..... 566
Apr. 3, 1958..... 430
Mar. 31, 1959..... 280

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
March 1958.....	2,397	566	19	77.3	4,750
April.....	2,612	430	30	87.1	5,180
Water year 1957-58.....	-	566	.6	28.7	20,750
Calendar year 1958.....	-	566	.6	28.6	20,720
March 1959.....	860.9	280	9.1	27.8	1,710
Water year 1958-59.....	-	280	.1	8.62	6,250

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	3.9	3.7	3.7	5.1	8.8	112	9.2	1.4	1.2	0.5	c0.5
2	2.7	3.9	3.7	b3.7	6.7	9.1	86	7.9	1.0	1.2	.5	c.5
3	2.5	4.1	3.9	3.9	5.6	9.8	92	7.0	1.2	1.2	.5	c.5
4	2.5	4.1	3.7	b3.9	4.8	16	89	6.1	.8	1.2	.5	c.5
5	2.5	4.1	3.5	b3.9	4.6	68	82	4.6	1.2	1.4	.5	c.5
6	2.5	4.1	3.5	4.1	4.6	242	75	4.0	1.2	1.6	.5	c.5
7	2.7	*4.1	*3.7	3.9	22	*541	72	3.7	.7	1.0	.5	c.5
8	3.1	4.3	b3.6	4.3	*500	*685	65	4.0	1.2	.7	.5	c.5
9	7.0	4.3	b3.6	4.3	412	282	62	4.0	1.4	.7	.7	c.5
10	7.4	3.9	b3.6	4.3	142	*118	57	3.1	1.0	.7	.8	c.5
11	3.9	3.9	3.5	5.6	78	74	50	3.4	.5	.7	.5	c.5
12	3.1	3.9	3.7	6.5	46	54	43	2.8	*.5	.7	.4	c.5
13	3.1	3.7	3.7	5.4	32	74	37	2.8	.5	.5	.5	c.5
14	3.3	3.7	b3.5	5.1	23	100	32	3.1	.5	.4	.5	c.5
15	3.3	3.7	3.5	4.8	22	60	30	2.2	.5	.4	.5	c.5
16	3.3	3.7	b3.5	4.8	17	49	28	2.1	.4	.5	.5	c.7
17	3.1	3.7	3.5	4.8	15	83	26	2.1	.4	.5	c.5	c.7
18	3.3	3.9	3.5	*b4.5	14	170	24	2.8	.4	.7	c.5	c.7
19	3.5	3.9	3.5	b4.5	14	243	*22	4.6	.4	.5	c.5	c.7
20	3.7	3.7	3.7	4.3	13	299	21	3.7	.4	.5	c.5	c.7
21	3.7	3.9	3.7	4.3	12	344	20	4.3	.4	*.4	*c.5	c.7
22	3.9	3.7	3.7	4.1	12	342	19	*4.0	.7	.4	c.5	c.7
23	3.9	3.7	3.7	3.9	*11	356	20	3.7	1.4	.4	c.5	c.7
24	3.7	3.7	3.9	4.1	11	379	18	3.1	1.4	.4	c.5	c.7
25	3.7	3.7	6.2	4.3	10	333	16	2.1	1.0	.5	c.5	c.7
26	3.5	3.7	5.9	5.4	9.4	265	14	1.9	.8	.7	c.5	c1.2
27	3.7	3.7	4.3	5.6	9.1	200	12	1.7	.8	.5	c.5	1.2
28	3.7	3.7	3.9	4.8	a8.8	455	12	1.7	.8	.5	c.4	1.0
29	3.7	3.7	3.9	4.8	*a8.8	193	10	1.6	1.0	.5	c.5	*.7
30	3.7	3.5	3.9	5.6	-------	306	9.7	1.6	1.4	.4	c.5	.7
31	3.9	-------	3.9	5.6	-------	202	-------	1.7	-------	.5	c.5	-------
Total	110.5	115.6	119.1	142.8	1,473.5	6,540.7	1,255.7	110.6	25.3	21.5	15.8	19.3
Mean	3.56	3.85	3.84	4.61	50.8	211	41.9	3.57	0.84	0.69	0.51	0.64
Ac-ft	219	229	236	283	2,920	12,970	2,490	219	50	43	31	38

Calendar year 1959: Max 280 Min 0.1 Mean 8.64 Ac-ft 6,260
Water year 1959-60: Max 685 Min 0.4 Mean 27.2 Ac-ft 19,730

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of flow for adjacent periods, weather records, and appearance of recorder chart.
b Stage-discharge relation affected by ice.
c Backwater from beaver dam; discharge estimated the same as for "a" above.

1545. Snake River at King Hill, Idaho

Location.--Lat 43°00'10", long 115°12'05", in SW¼ sec.7, T.5 S., R.11 E., on right bank 300 ft east of railroad station at King Hill and 20 miles downstream from Big Wood River.

Drainage area.--35,800 sq mi, approximately.

Records available.--May 1909 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,492.3 ft above mean sea level, by stadia levels. May 13, 1909, to Mar. 1, 1910, staff gage on left bank at present site at datum 2.20 ft higher. Mar. 7 to Aug. 16, 1910, staff gage three-quarters of a mile upstream at different datum. Aug. 17, 1910, to Oct. 7, 1928, staff gage at present site and datum.

Extremes.--Maximum discharge during year, 15,300 cfs Mar. 7 (gage height, 8.65 ft); minimum, 2,980 cfs May 2 (gage height, 3.49 ft); minimum daily, 6,070 cfs May 5.
1909-60: Maximum discharge observed, 47,200 cfs June 22, 1918 (gage height, 16.3 ft), from rating curve extended above 30,000 cfs; minimum observed, 1,250 cfs Jan. 10, 1950 (gage height, 1.75 ft); minimum daily, 4,760 cfs July 7-9, Aug. 15, 16, 1910.

Remarks.--Records excellent. Flow regulated by powerplants at Lower Salmon Falls and near Bliss and by many reservoirs above station. Practically entire flow at Milner diverted at times during some irrigation seasons; flow at King Hill is then derived largely from springs and seepage entering below Milner. Diversions for irrigation of about 1,590,000 acres above station. Records of chemical analyses and water temperatures for the water year 1960 are given in WSP 1744.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 24 to Sept. 3)

5.0	5,730
6.0	7,840
7.0	10,300
8.0	13,200

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,180	9,610	9,820	8,360	9,200	8,780	7,900	6,610	6,660	7,240	7,430	7,870
2	9,890	*9,660	9,380	8,870	7,920	8,640	7,880	6,710	6,620	7,340	8,090	7,740
3	9,520	9,860	10,100	8,540	8,930	*9,060	8,030	6,850	6,890	7,200	8,370	8,050
4	10,200	10,000	8,850	8,660	8,800	8,520	8,120	6,750	6,560	7,200	7,680	8,120
5	9,980	9,550	8,860	8,700	8,660	8,380	8,070	6,070	6,600	7,200	7,840	7,990
6	*10,300	9,250	8,000	8,[illegible]	8,600	8,730	8,510	6,850	6,970	7,460	7,800	8,050
7	10,300	9,260	*9,080	8,640	8,800	10,500	9,370	6,570	6,940	7,390	7,360	8,100
8	10,500	9,140	8,480	8,750	9,220	10,000	9,240	6,470	6,920	7,220	7,380	7,960
9	12,000	9,050	8,800	8,760	10,700	9,990	9,680	*6,540	6,910	6,990	7,290	8,170
10	12,300	9,320	8,960	8,530	10,900	9,540	8,760	6,580	7,150	7,300	7,250	8,190
11	12,100	9,400	8,640	*8,850	8,640	8,840	9,540	6,080	7,190	*7,640	7,210	8,310
12	12,300	9,320	8,980	9,060	8,620	8,200	9,120	6,440	7,100	7,280	7,270	8,350
13	11,700	9,310	8,480	8,800	8,140	7,940	8,650	6,420	7,310	7,050	7,460	8,310
14	10,700	9,220	9,140	8,740	8,360	9,500	8,800	6,160	*7,600	7,160	7,560	8,370
15	11,200	9,450	8,570	8,800	8,720	7,960	8,840	6,380	7,270	7,340	*7,430	8,300
16	10,700	8,700	8,550	8,720	8,040	7,970	9,800	6,480	7,230	7,580	7,900	8,240
17	11,500	9,240	8,930	8,720	8,360	8,540	12,000	6,440	7,150	7,750	7,520	8,310
18	10,500	9,140	8,720	8,750	7,900	8,260	10,200	6,660	7,150	7,480	7,820	8,850
19	10,900	9,180	8,940	8,700	8,270	8,080	10,400	6,680	7,670	7,480	7,580	8,120
20	10,500	9,010	8,800	8,620	8,210	8,690	8,620	6,870	8,040	7,740	7,780	*8,350
21	10,900	9,280	8,900	8,710	8,160	9,120	6,970	6,840	7,440	7,730	7,450	8,410
22	10,500	9,560	8,660	8,310	8,390	8,750	7,280	7,170	7,720	7,390	7,820	8,580
23	10,500	9,620	8,460	8,600	8,430	8,500	7,920	7,110	7,330	7,030	7,860	8,560
24	9,080	9,350	8,690	8,430	8,100	8,800	7,730	6,840	7,600	7,540	8,020	8,460
25	9,460	9,420	9,920	8,890	8,720	8,680	7,480	7,270	6,910	7,560	8,150	8,760
26	9,520	9,450	8,620	8,900	8,900	8,540	7,400	7,030	6,870	7,530	8,030	8,580
27	9,100	9,460	8,560	8,520	8,480	8,300	7,220	7,060	7,350	7,500	8,140	8,730
28	8,700	9,420	8,320	9,120	7,820	8,700	7,150	6,680	7,010	7,480	7,790	8,580
29	9,100	9,340	8,670	8,820	8,950	8,600	7,020	6,740	6,790	7,640	8,030	8,000
30	9,600	9,340	8,450	9,000	-------	8,360	6,980	6,540	7,380	7,450	8,130	9,120
31	9,590	-------	8,480	8,590	-------	*8,170	-------	7,070	-------	7,550	7,990	-------
Total	322,320	280,910	273,810	269,920	250,940	270,640	254,480	206,960	214,330	229,440	239,430	249,530
Mean	10,400	9,364	8,833	8,707	8,653	8,730	8,483	6,676	7,144	7,401	7,724	8,318
Ac-ft	639,300	557,200	543,100	535,400	497,700	536,800	504,800	410,500	425,100	455,100	474,900	494,900

Calendar year 1959: Max 12,300 Min 6,910 Mean 8,643 Ac-ft 6,257,000
Water year 1959-60: Max 12,300 Min 6,070 Mean 8,368 Ac-ft 6,075,000

* Discharge measurement made on this day.

1605. Mountain Home feeder canal near Mountain Home, Idaho

Location.--Lat 43°13', long 115°42', in sec.36, T.2 S., R.6 E., on right bank 40 ft downstream from point of diversion from Canyon Creek and 5 miles north of Mountain Home.

Records available.--April 1924 to September 1929, April 1931 to September 1960 (irrigation seasons only 1924-29, 1931-35, 1938-45).

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,330 ft (by barometer). Prior to May 4, 1924, staff gage and May 4, 1924, to Sept. 30, 1929, water-stage recorder, at site 30 ft downstream at datum 0.07 ft lower.

Extremes.--1924-29, 1931-60: Maximum daily discharge, 182 cfs Jan. 1, 1943; no flow at times in most years.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Canal diverts from Canyon Creek in sec.36, T.2 S., R.6 E., and delivers water to Mountain Home cooperative canal, which heads in Mountain Home feeder canal half a mile below station, for irrigation of about 5,000 acres in Mountain Home Irrigation District. During nonirrigation season and at times when there is a surplus of water for irrigation, canal feeds directly into Mountain Home Reservoir. No diversion from canal above station. Flow regulated by headgates in Canyon Creek and by Long Tom and Little Camas Reservoirs.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	4.8	2.9	2.0	6.4	10	30	47	45	71	66	29
2	5.6	4.8	2.9	1.9	12	11	27	46	45	72	62	38
3	5.2	4.8	2.9	1.9	5.2	12	42	45	54	70	58	50
4	4.8	4.8	2.8	1.9	5.2	*12	57	45	55	70	56	41
5	4.5	4.8	2.7	2.0	4.8	14	73	40	56	71	55	33
6	4.5	4.5	2.6	2.5	4.5	26	75	33	56	70	54	28
7	4.5	4.5	2.6	3.0	17	93	74	39	70	69	54	27
8	*4.5	4.5	2.6	4.0	65	120	70	45	71	69	53	27
9	5.2	4.5	2.6	3.8	71	84	71	44	72	74	52	26
10	4.5	4.1	2.6	3.5	48	67	43	42	63	74	52	26
11	4.8	4.1	2.7	3.2	35	57	47	42	62	73	51	25
12	4.8	4.1	2.9	3.0	29	50	*59	42	62	71	50	26
13	4.8	2.9	2.7	2.5	25	47	80	*48	62	70	49	25
14	4.8	2.7	2.3	2.2	21	44	92	59	62	69	48	*25
15	4.8	3.5	*3.0	2.0	20	41	85	59	63	68	48	26
16	4.8	*4.2	3.3	1.8	17	*37	78	60	62	67	*47	25
17	4.8	4.0	3.3	1.7	15	40	73	60	62	66	47	24
18	4.8	4.0	3.2	1.7	14	52	69	61	61	*64	46	22
19	4.8	2.9	3.2	1.8	13	69	66	58	58	64	51	22
20	4.8	2.9	3.2	2.0	12	89	61	52	56	63	52	22
21	5.2	2.9	3.2	2.1	12	110	59	53	*57	62	53	22
22	5.6	2.9	3.3	2.5	11	125	69	53	56	62	58	23
23	5.6	3.3	3.5	2.7	11	128	65	45	57	61	58	23
24	5.6	3.3	4.1	2.8	9.4	129	63	44	56	60	50	22
25	5.6	3.3	4.5	*3.0	9.4	133	59	45	63	59	36	22
26	5.2	2.9	4.1	6.0	9.4	126	56	44	63	58	36	21
27	5.2	2.9	3.3	6.8	9.4	93	62	42	64	58	37	21
28	5.2	3.0	2.7	6.8	9.6	74	62	43	63	57	38	20
29	5.2	3.0	2.7	13	9.8	59	61	42	63	56	31	29
30	5.2	3.0	2.5	10	-------	39	58	42	64	55	21	42
31	5.2	-------	2.3	6.0	-------	35	-------	45	-------	56	26	-------
Total	166.1	111.9	93.2	110.1	531.1	2,006	1,886	1,465	1,803	2,029	1,495	812
Mean	5.36	3.73	3.01	3.55	18.3	64.7	62.9	47.3	60.1	65.5	48.2	27.1
Ac-ft	329	222	185	218	1,050	3,980	3,740	2,910	3,580	4,020	2,970	1,610

Calendar year 1959: Max 76 Min 2.3 Mean 29.1 Ac-ft 21,050
Water year 1959-60: Max 133 Min 1.7 Mean 34.2 Ac-ft 24,810

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13, 15-18, Nov. 27 to Dec. 2, Dec. 4-23, 25-28, Jan. 4-11, Feb. 28 to Mar. 3. No gage-height record Dec. 29 to Jan. 3, Jan. 12-25, July 20 to Aug. 16; discharge estimated on basis of weather records and records for nearby stations in the Boise and Bruneau River basins.

1625. East Fork Jarbidge River near Three Creek, Idaho

Location.--Lat 42°02', long 115°22', in SE¼SE¼ sec.14, T.16 S., R 9 E., on left bank a quarter of a mile downstream from Murphy Hot Springs, 2 miles upstream from mouth, and 11 miles southwest of Three Creek.

Drainage area.--89 sq mi, approximately. Mean altitude, 7,600 ft.

Records available.--October 1928 to March 1933, September 1953 to September 1960. Monthly discharge only for October 1928, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 5,150 ft (by barometer). Prior to Sept. 23, 1953, at same site at datum about 1.6 ft higher.

Average discharge.--11 years (1928-32, 1953-60), 51.2 cfs (37,070 acre-ft per year).

Extremes.--Maximum discharge during year, 515 cfs June 3 (gage height, 4.56 ft); minimum, 2.2 cfs Dec. 27 (gage height, 2.45 ft).
1928-33, 1953-60: Maximum discharge, 614 cfs June 5, 1957 (gage height, 5.11 ft); minimum, 1.4 cfs Dec. 31, 1957 (gage height, 1.95 ft).

Remarks.--Records fair. No diversion or regulation above station.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 14				July 15 to Sept. 30	
2.5	4.1	3.2	85	2.6	4.0
2.6	8.6	3.4	131	2.7	9.0
2.7	14	3.7	211	2.8	16
2.8	22	4.0	304	2.9	25
3.0	46	4.4	450	3.0	39

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	21	12	9.8	8.2	10	55	72	400	79	29	8.5
2	27	20	11	8.6	10	10	50	79	415	74	24	8.0
3	26	19	13	7.7	7.2	9.8	55	85	434	64	20	8.0
4	26	20	5.9	8.6	11	10	79	92	404	62	19	8.5
5	26	*12	5.4	9.8	9.2	10	126	*87	389	59	18	8.0
6	27	17	8.6	9.8	9.2	11	170	96	*389	59	17	8.0
7	26	17	11	9.8	11	22	183	119	385	53	16	8.0
8	24	17	9.8	9.8	16	30	161	136	356	53	14	8.0
9	44	17	10	9.2	30	28	183	170	288	53	14	7.5
10	*66	17	11	8.6	*23	21	186	214	238	52	13	7.5
11	48	16	*10	9.2	18	19	178	345	226	48	12	7.0
12	45	16	8.2	9.8	13	19	146	423	250	44	12	7.0
13	40	12	8.2	5.9	17	18	126	404	282	41	12	7.0
14	34	12	6.8	8.2	12	18	121	328	291	40	13	7.0
15	32	16	11	11	14	19	107	272	291	*37	13	7.0
16	29	13	10	9.2	12	17	94	250	301	36	12	7.0
17	28	12	10	9.2	9.8	17	81	229	304	33	12	7.0
18	27	12	10	6.4	13	21	74	211	263	30	*12	7.0
19	25	13	8.6	9.8	11	30	77	191	226	28	10	7.0
20	24	12	7.2	8.6	11	50	77	172	205	26	10	7.0
21	23	14	11	8.6	11	72	98	170	170	26	9.0	7.0
22	22	12	9.2	8.6	9.2	90	114	154	144	24	10	7.5
23	21	16	9.8	8.6	9.2	107	103	144	129	23	13	*8.0
24	25	16	9.8	8.6	8.2	112	92	134	126	23	12	8.0
25	26	14	10	8.2	11	124	79	121	124	22	11	7.5
26	26	9.8	7.2	8.2	9.8	129	81	117	121	21	10	7.5
27	25	8.2	4.6	8.2	8.6	114	68	141	112	21	10	7.5
28	23	14	9.2	8.2	8.2	*103	66	170	105	22	10	7.5
29	22	12	9.2	8.6	7.3	81	68	220	92	21	10	7.5
30	21	13	10	8.6	-------	66	70	266	83	22	8.5	7.5
31	20	-------	9.8	9.2	-------	57	-------	342	-------	22	8.5	-------
Total	904	440.0	287.5	272.6	348.1	1,444.8	3,168	5,954	7,543	1,218	414.0	225.5
Mean	29.2	14.7	9.27	8.79	12.0	46.6	106	192	251	39.3	13.4	7.52
Ac-ft	1,790	873	570	541	690	2,870	6,280	11,810	14,960	2,420	821	447

Calendar year 1959: Max 307 Min 4.6 Mean 44.0 Ac-ft 31,860
Water year 1959-60: Max 434 Min 4.6 Mean 60.7 Ac-ft 44,070

Peak discharge (base,200 cfs).--Apr. 7 (1 a.m.) 205 cfs (3.68 ft); May 13 (1:30 a.m.) 478 cfs (4.47 ft); June 3 (1:30 a.m.) 515 cfs (4.56 ft); June 17 (9:30 a.m.) 321 cfs (4.05 ft).

* Discharge measurement made on this day.

1670. East Fork Bruneau River below Three Creek, near Three Creek, Idaho

Location.--Lat 42°10', long 115°13', in NE¼ sec.31, T.14 S., R.11 E., on left bank 1 mile downstream from Three Creek and 7 miles northwest of Three Creek Post Office.

Drainage area.--210 sq mi, approximately.

Records available.--May to September 1953, November 1953 to November 1954, January 1955, March 1955 to September 1960, discontinued (fragmentary May, August, November 1953, June to November 1954, January, March, June to August 1955).

Gage.--Water-stage recorder. Altitude of gage, 5,150 ft (by barometer). Prior to Aug. 30, 1955, staff gage at Salls Ranch 3 miles downstream at different datum.

Average discharge.--5 years (1955-60), 28.9 cfs (20,920 acre-ft per year).

Extremes.--Maximum discharge during year, 254 cfs May 13 (gage height, 5.55 ft); minimum, 4.9 cfs Nov. 20 (gage height, 2.81 ft).
1953-60: Maximum discharge recorded, 451 cfs May 19, 1957 (gage height, 7.43 ft); minimum recorded, 1.1 cfs Sept. 11, 12, 13, 1955 (gage height, 2.32 ft).

Remarks.--Records good except those for periods of ice effect, which are fair. Diversions for irrigation above and below station. Water diverted from Deadwood Creek, tributary of the East Fork, to Cedar Creek Reservoir in Salmon Falls Creek basin for irrigation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.8	4.0	4.0	86
2.9	7.0	4.5	136
3.1	16	5.0	188
3.5	43	5.5	243

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	9.1	7.8	7.0	8.3	7.0	63	65	81	17	10	8.3
2	7.0	9.1	7.8	7.0	7.8	8.0	60	76	86	17	10	8.3
3	6.7	9.1	8.3	7.0	8.3	10	57	98	89	18	9.5	8.3
4	7.0	9.1	7.8	7.0	7.4	12	60	100	88	16	8.7	8.7
5	6.7	*9.0	7.0	7.5	7.8	19	71	*101	84	15	8.7	7.8
6	6.7	8.7	7.5	8.0	9.1	37	89	102	*79	15	9.1	7.4
7	7.0	8.7	7.2	8.5	13	37	107	113	77	15	8.7	7.4
8	7.4	8.3	7.2	8.5	23	43	121	139	76	13	8.3	7.4
9	8.7	8.3	7.5	8.5	20	42	134	140	77	13	9.5	7.8
10	*8.7	8.7	*7.5	8.5	*14	25	146	155	77	12	10	8.3
11	8.3	8.3	7.5	9.0	11	23	146	182	68	12	10	8.7
12	8.3	8.3	7.5	9.1	11	24	143	228	60	13	9.9	8.7
13	8.3	7.5	7.5	8.0	11	24	126	243	55	13	9.9	8.3
14	8.7	7.5	7.5	7.5	11	23	112	228	52	12	10	8.3
15	9.5	8.0	7.5	7.5	10	20	104	194	50	*12	11	8.3
16	9.9	7.8	7.5	7.0	9.5	18	93	170	47	12	9.9	8.3
17	9.9	7.8	7.5	7.0	9.5	22	86	158	46	11	9.5	8.7
18	9.9	7.8	8.0	7.0	9.5	40	75	166	46	11	*8.7	8.7
19	9.9	7.8	7.5	7.0	9.5	62	68	149	43	10	8.7	8.7
20	9.5	7.8	7.5	7.5	9.5	63	64	123	39	9.9	8.3	8.3
21	9.1	8.3	7.5	8.0	9.2	62	59	124	40	9.5	7.0	8.3
22	9.1	7.8	7.5	9.0	8.8	60	68	142	38	9.9	7.0	8.3
23	9.1	8.7	7.5	9.0	8.5	65	81	114	34	9.5	8.7	*8.7
24	9.1	8.3	7.5	8.0	8.5	74	81	109	33	9.5	8.7	8.7
25	8.7	8.3	7.5	8.0	9.0	76	74	97	30	9.1	8.7	8.7
26	8.7	7.5	7.0	8.0	9.0	82	65	89	28	9.1	8.3	7.8
27	8.7	7.0	7.0	8.0	8.0	88	61	85	26	9.5	8.3	6.7
28	8.7	8.0	7.0	8.0	7.0	*95	67	77	24	9.1	8.7	7.0
29	9.1	8.0	7.0	8.0	7.0	81	74	77	22	8.3	8.3	7.4
30	9.5	8.0	7.0	8.0	-------	74	68	80	20	9.5	8.3	7.8
31	9.1	-------	7.0	8.0	-------	68	-------	76	-------	9.5	8.7	-------
Total	264.4	246.6	230.6	244.1	295.2	1,384	2,623	4,000	1,615	369.4	279.1	244.1
Mean	8.53	8.22	7.44	7.87	10.2	44.6	87.4	129	53.8	11.9	9.00	8.14
Ac-ft	524	489	457	484	586	2,750	5,200	7,930	3,200	733	554	484

Calendar year 1959: Max 84 Min 3.2 Mean 15.1 Ac-ft 10,940
Water year 1959-60: Max 243 Min 6.7 Mean 32.2 Ac-ft 23,390

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 5, 6, 13-18, 22, 26-30, Dec. 3 to Jan. 31, Feb. 12, 14, 16-18, Feb. 20 to Mar. 5, Mar. 10-16 (no gage-height record Jan. 17-31; discharge estimated on basis of weather records and records for other stations in the Bruneau River basin).

1675. East Fork Bruneau River near Hot Spring, Idaho

Location.--Lat 42°33'25", long 115°30'35", in SW¼NW¼ sec.15, T.10 S., R.8 E., on right bank at Winter Camp Ranch, 10 miles upstream from mouth and 20 miles southeast of Hot Spring.

Drainage area.--620 sq mi, approximately.

Records available.--August 1910 to November 1914, February to April 1915, December 1948 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,864.7 ft, datum of 1929, supplementary adjustment of 1947. Prior to Dec. 10, 1948, staff gage at approximately present site at different datum.

Average discharge.--15 years (1910-14, 1949-60), 30.7 cfs (22,230 acre-ft per year).

Extremes.--Maximum discharge during year, 239 cfs May 14 (gage height, 5.00 ft); minimum, 1.8 cfs Sept. 20-21; minimum gage height, 1.51 ft Nov. 22, Aug. 12.
1910-15, 1948-60: Maximum discharge recorded, 463 cfs May 20, 1957 (gage height, 7.12 ft), but may have been more during period of ice effect Mar. 7, 8, 1911; maximum gage height observed, 10.8 ft Mar. 8, 1911, datum then in use (ice jam); no flow for long periods during irrigation seasons in 1954, 1955, and shorter periods in 1959.
Maximum stage known, 16.9 ft, from floodmark, datum then in use, during spring of 1910.

Remarks.--Records good except those for periods of ice effect, which are poor. Diversions for irrigation above station. Water diverted from Deadwood Creek, tributary of East Fork, to Cedar Creek Reservoir in Salmon Falls Creek basin for irrigation.

Revisions (water years).--WSP 1397: 1949.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 8				May 9 to Sept. 30	
1.5	1.8	2.4	32	3.2	77
1.6	3.0	2.8	53	3.6	108
1.7	4.6	3.2	77	4.0	141
1.8	6.8	3.6	107	4.5	188
2.0	14	4.2	157	5.0	239

Note.--Same as preceding table below 3.2 ft.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	7.1	6.0	4.0	5.8	5.5	69	63	68	15	7.7	4.4
2	5.3	7.1	6.0	4.0	5.8	6.2	64	60	71	13	6.8	4.6
3	5.3	7.1	6.0	4.0	6.0	7.8	60	68	75	11	6.6	4.4
4	5.3	7.1	5.4	4.0	5.8	11	56	92	82	11	6.6	4.4
5	5.0	6.0	4.5	4.5	5.8	15	56	95	78	10	5.5	4.4
6	*4.6	6.5	4.5	5.5	6.0	28	66	99	75	10	3.8	3.3
7	4.4	7.1	4.5	6.0	8.5	43	83	99	72	9.9	3.8	3.2
8	4.8	8.0	4.5	6.5	12	46	103	109	67	9.3	4.0	3.3
9	5.7	8.4	5.0	6.5	19	49	118	136	65	9.0	4.1	3.5
10	5.9	8.4	5.5	6.5	24	43	129	138	68	8.7	3.8	4.0
11	6.1	7.4	6.0	6.5	13	30	137	149	68	8.4	3.2	4.1
12	6.6	6.8	6.0	6.5	9.0	34	*146	168	59	8.0	2.3	4.1
13	5.9	6.0	5.0	5.5	8.0	31	147	*207	53	7.1	2.8	4.3
14	5.5	4.5	4.5	5.0	8.0	30	134	231	47	7.4	4.0	*4.1
15	5.5	4.0	*4.5	5.5	8.0	26	117	228	43	9.9	4.1	3.8
16	6.1	*4.0	4.5	5.0	7.5	*22	110	202	42	7.7	*4.1	4.0
17	6.4	4.0	4.5	4.5	7.5	27	96	177	38	5.9	5.0	4.1
18	6.8	4.5	5.0	4.5	7.5	26	87	168	36	5.0	5.5	3.8
19	6.6	5.5	5.0	*5.0	7.5	34	74	172	36	5.9	5.0	2.8
20	6.6	6.0	4.5	5.5	7.5	34	66	158	*34	7.1	4.3	2.2
21	6.6	5.5	4.5	6.0	7.2	64	63	134	30	6.4	3.8	2.0
22	6.6	5.0	4.5	7.0	6.8	60	56	128	29	4.6	3.6	2.6
23	6.4	5.0	5.0	7.0	6.6	58	64	151	29	4.4	4.0	2.9
24	6.6	9.0	6.0	7.0	6.6	61	73	123	28	4.8	4.0	3.3
25	6.6	7.7	6.0	6.0	7.0	70	77	114	23	4.6	3.8	3.5
26	6.6	7.2	5.0	6.0	7.0	75	71	102	21	4.8	4.4	4.1
27	6.6	5.6	4.5	6.0	6.4	81	62	90	20	4.8	4.4	4.3
28	6.4	4.0	4.0	6.0	5.5	90	59	83	18	5.0	4.4	4.1
29	6.8	6.0	4.0	6.0	5.5	95	62	75	17	5.5	4.3	3.6
30	6.8	6.0	4.0	6.0	-------	84	67	73	16	5.5	4.6	3.0
31	6.8	-------	4.0	6.0	-------	74	-------	75	-------	6.1	4.6	-------
Total	186.2	186.5	152.9	174.0	240.8	1,360.5	2,572	3,967	1,408	235.6	139.9	110.2
Mean	6.01	6.22	4.93	5.61	8.30	43.9	85.7	128	46.9	7.60	4.48	3.67
Ac-ft	369	370	303	345	478	2,700	5,100	7,870	2,790	467	276	219

Calendar year 1959: Max 77 Min 0 Mean 12.1 Ac-ft 8,780
Water year 1959-60: Max 231 Min 2.0 Mean 29.3 Ac-ft 21,290

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 5, 6, 13-23, Nov. 26 to Mar. 5.

1685. Bruneau River near Hot Spring, Idaho

Location.--Lat 42°46'17", long 115°43'10", in SE¼ sec.34, T.7 S., R.6 E., on right bank at Dunham Ranch, 1 mile downstream from Hot Creek, 1½ miles south of Hot Spring Post Office, 9 miles southeast of Bruneau, and 19 miles downstream from East Fork.

Drainage area.--2,630 sq mi, approximately. Mean altitude, 5,600 ft.

Records available.--July 1909 to March 1915, October 1943 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,598.5 ft above mean sea level, datum of 1929. Prior to Mar. 12, 1910, staff gage at site a quarter of a mile upstream at different datum. Mar. 12, 1910, to Mar. 15, 1915, staff gage at present site and datum.

Average discharge.--22 years (1909-14, 1943-60), 391 cfs (283,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,570 cfs May 13 (gage height, 6.76 ft); minimum, 35 cfs Dec. 6 (gage height, 3.32 ft).
1909-15, 1943-60: Maximum discharge observed, 6,500 cfs Mar. 1, 1910 (gage height, 13.0 ft, from floodmark, present site and datum), from rating curve extended above 1,200 cfs; minimum observed, 32 cfs Jan. 4, 1959 (gage height, 3.30 ft).

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. Several small reservoirs on tributaries above station. Diversions above station for irrigation of about 8,500 acres.

Revisions (water years).--WSP 1063: 1913. WSP 1517: 1910(M). WSP 1567: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

3.3	35	4.2	224	5.5	785
3.6	80	4.6	352	6.0	1,080
3.9	145	5.0	520	7.0	1,740

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	102	75	73	111	a90	550	a490	1,010	236	113	66
2	118	103	82	78	111	a110	498	a510	1,130	221	113	63
3	115	102	82	84	104	a130	466	a560	1,180	213	111	63
4	109	100	84	86	102	*a135	570	a670	1,160	199	94	62
5	104	98	82	70	98	136	746	a670	1,150	193	90	63
6	*102	92	43	77	113	145	936	a700	1,090	186	84	65
7	100	86	47	94	111	155	1,090	a780	1,040	180	80	63
8	102	100	54	107	122	320	1,150	a880	1,010	173	77	60
9	104	96	60	120	150	511	1,190	a900	936	165	73	60
10	98	94	66	111	186	360	1,210	a1,000	829	162	72	60
11	175	94	73	102	178	259	1,190	a1,130	763	158	68	60
12	155	92	82	100	150	236	*1,130	a1,400	702	152	66	62
13	140	90	88	96	136	244	996	*a1,500	714	148	65	62
14	134	90	78	73	131	216	882	1,450	730	140	63	*62
15	127	88	*72	72	124	216	807	1,260	702	134	83	62
16	120	*80	70	80	122	199	a740	1,140	692	131	*65	60
17	115	88	70	82	115	188	a660	1,060	658	122	68	62
18	111	80	77	84	111	180	a580	996	636	*118	68	62
19	109	88	86	*75	109	186	a520	920	565	113	70	62
20	104	98	88	82	118	291	a490	846	*502	111	68	60
21	102	92	84	92	107	406	a460	790	457	107	65	58
22	100	94	77	92	109	511	a590	746	402	102	65	58
23	100	92	78	98	98	636	a560	735	367	98	63	57
24	100	88	86	98	90	807	a540	680	342	94	66	58
25	100	94	94	104	94	942	a540	625	324	92	72	57
26	102	92	100	107	104	1,030	a510	580	310	92	68	58
27	104	86	86	104	109	1,030	a500	555	294	90	68	58
28	104	65	62	107	a90	954	a460	575	278	88	66	60
29	104	57	52	107	a80	870	a440	642	262	90	66	60
30	100	77	58	107	------	692	a470	746	250	92	66	60
31	100	------	60	111	------	631	------	864	------	96	66	------
Total	3,478	2,677	2,276	2,873	3,383	12,816	21,493	26,400	20,505	4,296	2,302	1,823
Mean	112	89.2	73.4	92.7	117	413	716	852	684	139	74.3	60.8
Ac-ft	6,900	5,310	4,510	5,700	6,710	25,420	42,630	52,360	40,670	8,520	4,570	3,620

Calendar year 1959: Max 870 Min 36 Mean 180 Ac-ft 130,400
Water year 1959-60: Max 1,500 Min 43 Mean 285 Ac-ft 206,900

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for nearby stations.

1715. C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW¼ sec.34, T.5 S., R.4 E., at dam on Snake River, 1 mile downstream from Bruneau River and 7 miles southeast of Grand View. Records available, March 1952 to September 1960. Remote registering water-stage recorder in channel leading to Grand View Irrigation District canal. Datum of gage is at mean sea level (levels by Idaho Power Co.).

Reservoir is formed by earth-fill and rock-faced dam. Storage began in February 1952. Total capacity, 250,000 acre-ft at elevation 2,455 ft (top of spillway gates), of which about 50,000 acre-ft will be controlled storage. Reservoir is used for power generation in plant of Idaho Power Co. Elevations and area-elevation curve furnished by Idaho Power Co. Figures given herein represent total contents.

Month-end elevation and contents at 12 p.m., water year October 1959 to September 1960

Date	Elevation (feet)	Contents (acre-feet)
Oct. 31, 1959	2,454.33	245,000
Nov. 30	2,454.44	245,800
Dec. 31	2,454.28	244,700
Jan. 31, 1960	2,454.39	245,400
Feb. 29	2,453.66	240,100
Mar. 31	2,454.73	248,000
Apr. 30	2,454.39	245,400
May 31	2,454.56	246,700
June 30	2,454.10	243,300
July 31	2,454.51	246,400
Aug. 31	2,454.13	243,500
Sept.30	2,453.87	241,700

1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant and 7½ miles northeast of Murphy.
Drainage area.--41,900 sq mi, approximately.
Records available.--August to October 1912, August 1913 to September 1960.
Gage.--Water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher.
Extremes.--Maximum discharge during year, 18,300 cfs Oct. 13 (gage height, 7.28 ft); minimum, 6,620 cfs July 20 (gage height, 3.49 ft); minimum daily, 6,770 cfs July 9, 1912-60: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.
Remarks.--Records excellent. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 1,630,000 acres above station.
Revisions((water years).--WSP 1637: 1933(M).

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10,200	9,200	9,490	8,010	9,030	8,740	8,360	7,580	6,970	7,200	7,400	8,010
2	9,880	9,640	9,580	8,360	*9,090	8,450	8,770	7,060	7,140	6,850	7,520	7,930
3	10,400	10,200	9,520	8,770	8,420	8,540	9,400	7,000	7,520	6,880	7,520	8,220
4	9,760	9,290	9,940	8,540	8,330	8,540	8,820	7,000	7,260	6,910	8,330	8,010
5	11,200	10,900	8,880	*9,170	8,450	8,650	8,940	7,000	7,320	6,940	7,840	8,390
6	9,730	9,730	9,140	8,910	8,560	8,240	9,000	7,000	8,560	6,910	7,520	7,060
7	10,700	9,380	8,330	8,680	8,820	8,390	10,900	7,000	7,870	6,880	7,550	7,520
8	10,800	9,320	9,000	9,000	8,390	10,800	11,600	7,000	8,010	6,820	7,290	7,640
9	10,800	9,380	8,620	9,000	9,840	10,600	11,100	7,230	7,610	6,770	7,080	8,160
10	12,900	9,120	8,650	8,770	12,100	10,500	10,800	6,970	7,610	6,800	6,970	8,130
11	13,000	8,910	9,380	9,200	9,850	10,500	11,000	6,970	7,580	6,820	7,060	7,840
12	11,600	9,200	8,850	8,880	9,290	9,430	10,300	6,940	7,750	6,850	7,140	7,780
13	13,000	9,670	8,940	8,710	8,970	8,850	10,300	7,400	7,350	6,940	7,080	8,510
14	10,400	9,170	9,170	8,910	8,450	*7,350	10,200	8,220	7,580	6,910	7,200	8,190
15	11,400	9,400	9,120	8,800	8,360	9,850	9,170	7,640	8,240	6,850	6.970	8,240
16	11,000	9,090	8,360	8,710	8,300	8,710	10,200	7,030	8,130	6,850	7,170	8,070
17	11,200	9,320	9,030	8,680	8,160	7,380	11,200	7,080	8,220	6,850	7,080	7,960
18	11,600	9,320	8,510	8,710	8,390	8,650	12,400	7,060	7,110	6,850	7,290	8,100
19	*10,400	9,260	8,590	8,880	7,810	8,360	*11,500	7,060	7,170	7,290	7,640	8,710
20	11,300	9,090	9,030	8,880	8,510	8,510	11,400	7,200	7,460	7,230	7,750	8,850
21	10,800	9,030	9,030	8,650	8,300	8,970	8,910	7,460	7,840	7,840	7,380	7,720
22	10,300	9,260	9,120	8,270	8,100	10,100	7,400	7,720	7,870	7,580	7,960	8,650
23	11,100	9,460	9,430	8,070	8,100	9,670	7,200	8,040	*8,510	7,080	7,810	7,870
24	10,500	10,000	8,850	8,770	8,240	10,300	8,560	*7,660	7,520	6,910	8,190	8,560
25	9,380	9,460	9,060	8,300	8,800	9,970	8,450	8,650	7,350	*6,910	7,780	8,480
26	9,850	9,200	8,420	8,510	8,800	11,300	7,840	8,390	6,910	7,260	7,780	8,240
27	9,320	*9,970	8,620	8,560	9,640	10,300	8,420	7,080	6,970	7,060	7,580	8,850
28	8,510	9,550	9,060	8,740	9,490	10,700	7,380	7,030	6,970	7,170	7,840	8,390
29	8,620	9,060	8,800	8,880	8,240	9,580	7,290	7,380	6,940	7,230	*7,930	9,030
30	10,300	9,140	8,620	9,170	-------	8,740	7,200	7,000	6,850	7,140	7,980	9,120
31	10,400	-------	8,650	8,620	-------	8,650	-------	6,970	-------	7,750	8,130	-------
Total	330,350	282,720	277,790	270,110	254,630	287,320	284,010	226,820	226,190	218,330	233.760	246,230
Mean	10,660	9,424	8,961	8,713	8,780	9,268	9,467	7,317	7,540	7,043	7,541	8,208
Ac-ft	655,200	560,800	551,000	535,800	505,100	569,900	563,300	449,900	448,600	433,100	463.700	488,400

Calendar year 1959: Max 14,100 Min 6,940 Mean 8,817 Ac-ft 6,383,000
Water year 1959-60: Max 13,000 Min 6,770 Mean 8,574 Ac-ft 6,225,000

* Discharge measurement made on this day.

1740. Wild Horse Reservoir near Gold Creek, Nev.

Location.--Lat 41°41'10", long 115°51'20", in NE¼NW¼ sec.25, T.44 N., R.54 E., at Wild Horse Dam on Owyhee River, 8 miles west of Gold Creek and 12 miles southeast of Mountain City.

Drainage area.--209 sq mi.

Records available.--March 1938 to September 1960. Month-end contents for some periods, published in WSP 1317.

Gage.--Gage readings obtained about twice a month, more frequently during irrigation season, from reference point on dam. Datum of gage is 6,109.18 ft above mean sea level (levels by Bureau of Indian Affairs).

Extremes.--Maximum contents observed during year, 27,150 acre-ft June 2 (gage height, 76.8 ft); minimum observed, 8,380 acre-ft Oct. 20, Nov. 14.
1938-60: Maximum contents observed, 35,630 acre-ft Apr. 29, 1952 (gage height, 81.56 ft); no contents at times in each year 1938-41.

Remarks.--Reservoir is formed by concrete-arch dam; storage began Mar. 18, 1938. Capacity, 32,690 acre-ft between gage height 20.0 (sill of outlet gate) and 80.0 ft (spillway crest). No dead storage. Water is used for irrigation on Duck Valley project.

Cooperation.--Most of gage-height record and base data for capacity table furnished by Bureau of Indian Affairs.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

60.0	7,810
65.0	11,890
70.0	17,370
80.0	32,690

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	9,050	-	13,290	-	-	21,930	-	-
2	8,520	-	-	-	-	-	-	24,140	27,150	-	-	14,130
3	-	-	-	-	-	-	-	-	27,060	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	8,450	-	-	-	-	24,600	-	-	16,760	-
6	-	-	-	-	-	-	-	24,760	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	17,880	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	20,590	-	13,600
10	-	-	-	-	-	-	-	-	-	-	16,160	-
11	-	-	-	-	-	-	-	-	-	-	-	13,600
12	-	-	-	-	-	-	-	-	-	-	16,040	-
13	-	-	-	-	-	-	-	25,850	-	-	-	-
14	-	8,380	-	-	-	9,610	-	-	-	-	-	-
15	-	-	-	8,750	-	-	-	-	-	19,570	-	-
16	-	-	-	-	-	-	-	26,170	25,690	-	15,580	-
17	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	26,340	-	-	15,290	-
20	8,380	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	10,100	-	-	-	-	-	-
22	-	-	-	-	-	-	22,500	-	-	-	-	-
23	-	-	-	-	-	-	-	26,980	-	-	14,620	-
24	-	-	-	-	-	-	-	-	23,540	-	-	13,290
25	-	-	-	-	-	-	-	-	-	18,000	-	-
26	-	-	-	-	-	-	-	-	-	-	14,620	-
27	-	-	-	-	-	-	-	26,980	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	9,610	-	23,690	-	-	17,370	14,350	-
30	-	a8,430	-	-	-	-	a23,840	-	a22,160	-	-	13,080
31	a8,380	-	a8,640	a9,030	-	a13,000	-	a27,090	-	a17,200	a14,240	-
(‡)	-170	+50	+210	+390	+560	+3,390	+10,840	+3,250	-4,930	-4,960	-2,960	-1,160

Calendar year 1959..... ‡ -12,010
Water year 1959-60..... ‡ +4,530

‡ Change in contents, in acre-feet.
a No gage-height record; contents interpolated.

1745. Owyhee River near Gold Creek, Nev.

Location.--Lat 41°41'10", long 115°51'30", in NW¼NW¼ sec.25, T.44 N., R.54 E., on right bank 500 ft downstream from Wild Horse Dam, 8 miles west of Gold Creek, and 12 miles southeast of Mountain City.

Drainage area.--209 sq mi.

Records available.--March to November 1916, April 1917 to September 1925, October 1936 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 6,130 ft (from topographic map). Prior to Oct. 1, 1936, at site a quarter of a mile upstream at different datum.

Average discharge.--32 years (1917-25, 1936-60), 42.3 cfs (30,620 acre-ft per year), unadjusted.

Extremes.--Maximum daily discharge during year, 120 cfs June 17-24; no flow Oct. 16 to June 1.
1916-25, 1936-60: Maximum discharge, 1,810 cfs May 5, 1922 (gage height, 10.11 ft, site and datum then in use), from rating curve extended above 400 cfs; no flow at times when reservoir gates were closed.

Remarks.--Records good. Small diversions for irrigation above station. Flow regulated by Wild Horse Reservoir (see preceding page) beginning Mar. 18, 1938.

Revisions (water years).--WSP 1317: 1939-42(M).

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 30 to Sept. 30)

0.4	0	1.1	2.0	2.2	31
.5	.1	1.3	3.5	2.6	66
.6	.2	1.5	5.8	3.0	123
.7	.3	1.7	9.7		
.9	.9	1.9	16		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.3								0	97	40	24
2	1.2								29	73	29	24
3	2.9								*47	73	29	24
4	2.6								47	73	29	24
5	2.5							(*)	57	73	29	24
6	2.5								64	73	29	24
7	2.6								64	73	29	24
8	2.6						(*)		64	73	41	24
9	2.6								64	*73	53	24
10	2.7								64	73	46	24
11	2.6								64	73	38	23
12	2.6								64	72	47	16
13	2.5								64	72	53	4.8
14	2.5								64	72	52	4.6
15	1.8								64	72	52	4.8
16	0								98	71	*52	4.8
17	0								120	71	52	4.9
18	0								120	71	52	4.9
19	0							(*)	120	71	51	4.9
20	*0								120	70	51	*4.8
21	0								120	70	51	4.9
22	0								120	70	51	4.9
23	0								120	70	41	4.8
24	0								120	70	25	4.8
25	0								118	70	25	4.6
26	0								116	70	25	4.5
27	0								116	70	25	4.6
28	0								116	70	25	4.9
29	0								116	55	25	4.9
30	0				-------				116	50	24	4.8
31	0	-------			-------		-------		-------	50	24	-------
Total	49.5	0	0	0	0	0	0	0	2,576	2,184	1,195	365.2
Mean	1.60	0	0	0	0	0	0	0	85.9	70.5	38.5	12.2
Ac-ft	98	0	0	0	0	0	0	0	5,110	4,330	2,370	724

Calendar year 1959: Max 111 Min 0 Mean 25.1 Ac-ft 18,200
Water year 1959-60: Max 120 Min 0 Mean 17.4 Ac-ft 12,630

* Discharge measurement or observation of no flow made on this day.

1760. Owyhee River above China diversion dam, near Owyhee, Nev.

Location.--Lat 41°55'20", long 116°04'10", in NW¼ sec.6, T.46 N., R.53 E., on right bank 1,000 ft downstream from Skull Creek, 1 mile upstream from China diversion dam, and 2 miles southeast of Owyhee.

Drainage area.--458 sq mi.

Records available.--March 1939 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,425 ft above mean sea level, unadjusted. Prior to Oct. 1, 1939, at datum 1.48 ft higher.

Average discharge.--21 years, 141 cfs (102,100 acre-ft per year).

Extremes.--Maximum discharge during year, 437 cfs Apr. 7 (gage height, 6.07 ft); minimum, 2.1 cfs Nov. 26, result of freezeup.
1939-60: Maximum discharge, 2,710 cfs May 3 or 4, 1952 (gage height, 10.07 ft); minimum daily, 2 cfs Sept. 15-18, 1940.

Remarks.--Records good except those for periods of ice effect, which are poor. Numerous diversions for irrigation above station. Flow partly regulated by Wild Horse Reservoir (see p. 122).

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	6.9	3.0	120
1.3	14	4.0	208
1.6	28	5.0	311
2.0	50	6.0	428
2.5	82		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	12				20	189	133	101	118	71	28
2	19	12				22	191	161	98	98	57	29
3	18	13				30	200	185	*137	87	47	29
4	15	13	(*)			50	239	191	148	83	42	31
5	9.4	13				75	293	*189	147	80	40	31
6	7.8	11				100	347	191	158	81	39	31
7	7.2	11				140	390	213	170	81	39	30
8	7.8	12				325	*414	237	158	*81	36	30
9	14	11				262	403	248	159	80	45	30
10	21	11				156	402	255	152	76	55	30
11	21	11				135	379	266	142	77	46	29
12	18	12				128	337	278	134	75	35	28
13	19	*11				131	290	268	125	74	40	28
14	16	*9.0				143	277	253	120	72	42	16
15	15	10		(*)		117	241	230	122	69	*44	11
16	14	11	10	11	14	100	208	215	118	72	46	9.7
17	14	11				87	186	198	152	76	55	9.7
18	13	11				90	175	199	156	77	54	8.4
19	12	10				132	191	*189	150	77	52	7.5
20	*12	10				183	189	162	142	77	49	*7.2
21	12	11				*224	222	166	142	78	51	6.9
22	12	12				258	237	171	144	76	52	7.5
23	13	11				286	209	162	142	76	54	7.8
24	13	11				309	186	157	138	75	46	7.8
25	12	10				311	164	136	135	74	31	7.2
26	13	10				320	152	130	135	75	28	7.5
27	12	10				292	148	122	133	78	27	8.4
28	11	11				292	149	113	130	75	26	7.8
29	12	11			(*)	228	142	110	126	73	26	7.5
30	13	11				204	134	110	124	64	28	7.8
31	12	-------			-------	192	-------	102	-------	64	28	-------
Total	428.2	333.0	310	341	406	5,342	7,284	5,740	4,138	2,417	1,331	529.7
Mean	13.8	11.1	10	11	14	172	243	185	138	78.0	42.9	17.7
Ac-ft	849	660	615	676	805	10,600	14,450	11,390	8,210	4,790	2,640	1,050

Calendar year 1959: Max 220 Min 7.2 Mean 48.7 Ac-ft 35,260
Water year 1959-60: Max 414 Min 6.9 Mean 78.1 Ac-ft 56,740

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 14-27, Nov. 29 to Mar. 7 (no gage-height record Dec. 26 to Jan. 14, Feb. 27-29; discharge estimated on basis of 1 discharge measurement, weather records, trend of flow, engineers' notes, and records for nearby streams).

1772. South Fork Owyhee River at Spanish Ranch, near Tuscarora, Nev.

Location.--Lat 41°25'40", long 116°10'40", in NW¼NW¼ sec.30, T.41 N., R.52 E., on left bank 0.2 mile downstream from Hot Creek, 2¾ miles west of Spanish Ranch headquarters, and 8 miles north of Tuscarora.

Drainage area.--330 sq mi, approximately.

Records available.--August 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,550 ft (from topographic map).

Extremes.--1959: Maximum discharge during period August to September, 22 cfs Sept. 26 (gage height, 2.39 ft); minimum, 2.1 cfs Aug. 28.
1959-60: Maximum discharge during water year, 158 cfs May 21 (gage height, 3.67 ft); minimum, 2.2 cfs Sept. 18, 19.

Remarks.--Records good except those for periods of ice effect, which are fair. Many diversions for irrigation above station.

Discharge, in cubic feet per second, 1959

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	3.0	7	-	4.3	13	-	7.3	19	-	11	25	4.3	16
2	-	3.2	8	-	4.1	14	-	11	20	-	13	26	3.6	17
3	-	3.8	9	-	3.8	15	-	16	21	*4.8	16	27	3.2	17
4	-	3.8	10	-	3.8	16	-	10	22	4.8	15	28	2.4	16
5	-	4.1	11	-	*6.6	17	-	9.0	23	4.6	14	29	2.4	15
6	-	4.1	12	-	6.6	18	-	9.0	24	4.3	14	30	2.8	16
												31	2.8	-
Total													-	293.5
Mean													-	9.78
Runoff in acre-feet													-	582

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	17	15		b17	b20	83	41	33	17	29	3.0
2	15	17	b15		17	b21	74	59	*40	17	22	3.0
3	15	17	15		b16	27	73	74	67	19	20	3.4
4	15	16	b15		b17	21	78	*69	83	19	19	3.8
5	15	b15	(*)		17	20	74	51	86	19	17	3.6
6	15	b16			16	23	88	41	86	19	16	3.6
7	15	16			18	49	99	42	88	18	14	3.4
8	15	15			41	80	99	43	90	*20	13	3.0
9	16	15			29	60	*91	40	92	27	12	3.0
10	16	15			22	43	88	39	84	28	12	3.0
11	16	15			20	34	99	38	67	28	11	3.0
12	16	15			b19	43	102	58	56	25	10	3.0
13	16	*14			18	66	83	94	48	22	9.0	3.0
14	16	b15		(*)	b18	47	64	117	47	21	8.6	2.8
15	16	b15		b16	b19	43	58	110	48	20	*8.2	2.8
16	16	b14			17	*37	54	96	42	17	7.9	3.0
17	16	b14			b16	46	49	88	34	15	7.9	3.0
18	16	b14	b14		b16	68	44	*122	36	14	6.6	2.8
19	*16	15			16	88	72	117	34	14	5.7	*2.8
20	16	15			b16	102	50	79	28	19	5.4	2.6
21	16	15			b16	103	36	116	29	20	5.1	3.0
22	16	b15			b16	112	46	110	29	20	5.7	3.2
23	16	16			b18	*109	68	95	26	20	6.0	3.6
24	16	15			*b21	105	79	99	24	20	5.1	4.3
25	16	15			19	98	70	73	23	20	4.6	5.4
26	16	b14			b19	86	59	56	22	20	4.1	5.4
27	16	b15			b18	77	63	47	21	21	3.8	6.0
28	16	b16			b18	92	60	44	20	23	3.6	6.6
29	17	b15			b19	69	53	39	20	23	3.6	6.6
30	17	b15			-------	72	45	36	20	23	3.6	7.0
31	16	-------			-------	72	-------	34	-------	23	3.4	-------
Total	491	456	438	496	549	1,933	2,101	2,167	1,423	631	302.9	112.7
Mean	15.8	15.2	14.1	16	18.9	62.4	70.0	69.9	47.4	20.4	9.77	3.76
Ac-ft	974	904	869	984	1,090	3,830	4,170	4,300	2,820	1,250	601	224

Calendar year 1959: Max - Min - Mean - Ac-ft -
Water year 1959-60: Max 122 Min 2.6 Mean 30.3 Ac-ft 22,020

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

1778. South Fork Owyhee River near Whiterock, Nev.

Location.--Lat 41°48', long 116°29', in NE¼ sec.16, T.45 N., R.49 E., on right bank 500 ft downstream from Rye Grass Creek, 1¾ miles upstream from Chimney Creek, and 17 miles northwest of Whiterock.

Drainage area.--1,080 sq mi, approximately.

Records available.--October 1955 to September 1960.

Gage.--Water-stage recorder.

Average discharge.--5 years, 143 cfs (103,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,200 cfs Mar. 21 (gage height, 4.74 ft); maximum gage height, 4.95 ft Mar. 6 (backwater from ice); no flow part of Sept. 17, 28. 1955-60: Maximum discharge, 3,420 cfs May 20, 1957 (gage height, 7.17 ft); no flow Oct. 1-12, 1955, part of Sept. 17, 28, 1960.

Remarks.--Records good except those for periods of ice effect, which are poor. Diversions for irrigation above station. Flow partly regulated by four small reservoirs (total capacity, about 16,100 acre-ft).

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 29				Mar. 30 to Sept. 30			
1.7	2.2	2.5	101	1.6	0	2.2	26
1.8	4.8	3.0	227	1.7	.7	2.4	56
1.9	8.8	3.5	417	1.8	2.2	2.7	124
2.0	16	4.0	682	1.9	4.8	3.0	210
2.1	26	4.5	1,000	2.0	9.2	3.3	309
2.2	41			2.1	16		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	17				30	216	70	81	18	36	2.2
2	4.2	17				35	242	72	*83	16	30	2.4
3	5.4	18				50	232	88	92	12	20	2.4
4	6.6	16	(*)			70	242	*151	114	16	12	2.6
5	7.0	15				100	*266	160	127	12	6.7	3.3
6	7.4	15				175	268	135	114	14	3.9	2.8
7	7.4	15				250	268	112	163	21	2.6	.9
8	7.4	16				386	258	116	129	*18	2.4	1.5
9	11	16				273	242	124	106	14	2.4	1.2
10	15	16				171	242	129	102	11	2.8	1.1
11	32	16				148	207	154	106	8.1	2.4	.9
12	23	16				166	201	157	92	14	1.7	.9
13	22	*18				212	174	160	70	12	2.4	.8
14	19	19		(*)		233	160	213	46	12	4.6	.6
15	17	21				176	140	249	26	11	*11	.4
16	20	22	18	22	27	139	124	220	18	9.2	6.4	.3
17	18	23				137	99	183	15	9.2	4.5	.2
18	18	22				187	92	*189	15	7.6	3.9	1.1
19	*17	21				313	83	210	15	6.3	3.3	*1.1
20	17	20				445	90	198	17	5.5	2.8	1.5
21	19	20				762	79	189	20	3.9	2.6	1.5
22	16	21				*556	76	258	20	4.2	2.8	1.7
23	16	22				450	83	289	17	5.1	2.6	1.7
24	17	24				344	94	285	18	4.8	2.8	1.5
25	17	23				290	112	255	14	6.4	2.8	1.2
26	18	22				266	109	198	14	6.3	2.8	.9
27	18	22				262	94	151	18	7.6	2.8	.7
28	18	23			(*)	302	114	124	23	10	2.6	.2
29	18	22				276	104	106	24	16	2.4	2.4
30	17	22				229	85	104	30	13	2.4	1.7
31	17	-------				216	-------	92	-------	16	2.0	-------
Total	469.6	580	558	682	783	7,669	4,798	5,141	1,729	341.2	190.4	41.7
Mean	15.1	19.3	18	22	27	247	160	166	57.6	11.0	6.14	1.39
Ac-ft	931	1,150	1,110	1,350	1,550	15,210	9,520	10,200	3,430	677	378	83

Calendar year 1959: Max 76 Min 1.0 Mean 26.0 Ac-ft 18,850
Water year 1959-60: Max 762 Min 0.2 Mean 62.8 Ac-ft 45,590

Peak discharge (base, 600 cfs).--Mar. 21 (7:30 p.m.) 1,200 cfs (4.74 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 30, 31, Nov. 5-22, Nov. 26 to Mar. 7 (no gage-height record Jan. 26 to Feb. 11; discharge estimated on basis of engineers' notes, trend of flow, weather records, and records for nearby streams).

1780. Jordan Creek above Lone Tree Creek, near Jordan Valley, Oreg.

Location.--Lat 42°52', long 116°57', in SE¼NE¼ sec. 29, T.6 S., R.5 W., on right bank half a mile downstream from propsed damsite, 0.6 mile upstream from Morgan Ranchhouse, 1 mile downstream from Williams Creek, 4 miles upstream from Lone Tree Creek, 4 miles east of the Idaho-Oregon State line, and 9 miles southeast of Jordan Valley.

Drainage area.--440 sq mi, approximately. Mean altitude, 5,780 ft.

Records available.--April 1955 to September 1960. October 1945 to January 1953 at site 2 miles downstream; records equivalent except during late summer months when considerable difference may result from irrigation and return flow between sites.

Gage.--Water-stage recorder. Datum of gage is 4,501.98 ft above mean sea level (levels by Bureau of Reclamation). Prior to June 14, 1952, water-stage recorder, and June 14, 1952, to Jan. 31, 1953, staff gage, at site 2 miles downstream at datum 30.45 ft lower.

Average discharge.--12 years (1945-52, 1955-60), 199 cfs (144,100 acre-ft per year).

Extremes.--Maximum discharge during year, 2,740 cfs Mar. 7 (gage height, 7.91 ft); minimum 1.1 cfs Sept. 3 (gage height, 1.36 ft).
1945-53, 1955-60: Maximum discharge, 3,250 cfs Apr. 14, 1952 (gage height, 5.57 ft, site and datum then in use); no flow part of each day Oct. 4, 5, 1948.

Remarks.--Records good except those for periods of ice effect, which are fair. Diversions above station for irrigation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 6-30)

1.2	0.5	1.9	23	4.0	435
1.3	1.5	2.3	58	5.0	845
1.4	3.2	2.7	110	6.0	1,360
1.6	8.5	3.3	226		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	23	17	14	28	19	549	241	205	22	2.6	1.2
2	25	23	16	13	43	19	565	278	197	20	2.3	1.2
3	23	23	19	13	*28	20	645	325	190	16	3.0	1.1
4	22	23	14	14	28	29	791	352	184	12	3.0	1.6
5	20	19	12	*15	40	315	926	319	170	13	2.8	1.5
6	19	19	14	18	41	608	1,060	319	154	13	2.6	1.4
7	18	22	15	21	291	1,080	*1,230	374	143	13	2.6	1.4
8	20	21	15	23	763	812	1,210	452	124	8.9	2.4	1.5
9	71	23	15	24	270	397	1,090	428	112	8.2	2.4	1.5
10	104	21	14	24	131	217	1,090	452	106	7.2	2.3	1.6
11	60	21	14	21	87	*186	976	502	95	5.9	2.1	1.8
12	47	21	15	18	56	184	854	*484	88	*5.9	1.8	2.1
13	38	16	13	16	55	214	719	470	83	6.1	1.8	*2.1
14	35	14	13	16	37	219	692	374	77	4.1	1.6	2.1
15	32	19	14	15	38	166	589	322	74	3.6	*1.8	2.1
16	31	20	14	14	33	134	502	319	69	3.4	1.8	2.1
17	30	16	14	12	26	158	449	278	63	3.4	1.8	2.1
18	30	18	14	12	31	303	418	278	48	3.2	1.9	1.9
19	30	22	14	13	29	456	435	238	50	3.0	2.1	2.1
20	*31	18	14	15	23	593	400	203	38	2.8	2.3	1.9
21	32	20	14	19	28	940	452	226	34	2.8	2.4	1.9
22	31	16	14	19	23	886	404	219	*35	2.8	2.8	1.8
23	32	22	15	22	23	990	359	203	30	3.0	2.3	1.8
24	31	22	16	23	23	*1,080	331	201	27	3.4	1.9	2.1
25	28	22	23	24	24	1,100	301	192	23	3.4	1.6	1.9
26	28	16	20	26	21	1,100	278	184	21	3.0	1.5	1.9
27	26	16	17	28	16	985	278	184	19	2.4	1.5	1.8
28	26	16	16	28	17	948	264	178	18	2.6	1.4	1.9
29	26	18	16	30	18	764	254	186	16	2.4	1.4	1.9
30	25	*19	16	29	-------	688	251	186	18	2.6	1.4	1.8
31	23	-------	15	29	-------	585	-------	192	-------	2.3	1.2	-------
Total	1,020	589	472	608	2,271	16,195	18,362	9,159	2,511	205.4	64.4	53.1
Mean	32.9	19.6	15.2	19.6	78.3	522	612	295	83.7	6.63	2.08	1.77
Ac-ft	2,020	1,170	936	1,210	4,500	32,120	36,420	18,170	4,980	407	128	105

Calendar year 1959: Max 705 Min 0.9 Mean 70.2 Ac-ft 50,820
Water year 1959-60: Max 1,230 Min 1.1 Mean 141 Ac-ft 102,200

Peak discharge (base, 700 cfs).--Feb. 8 (4 p.m.) 1,440 cfs (6.14 ft); Mar. 7 (7:30 p.m) 2,740 cfs (7.91 ft); Mar. 26 (3 a.m.) 1,250 cfs (5.82 ft); Apr. 7 (11:10 p.m.) 1,250 cfs (5.82 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 4-23, Dec. 26 to Jan. 10, Jan. 12-26, Feb. 24 to Mar. 3.

1810. Owyhee River near Rome, Oreg.

Location.--Lat 42°52', long 117°39' (revised), in NE¼ sec.14, T.31 S., R.41 E., on right bank half a mile downstream from Jordan Creek and 2½ miles north of Rome.

Drainage area.--About 8,000 sq mi.

Records available.--October 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,344.20 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Feb. 10, 1960, at datum 0.24 ft lower.

Average discharge.--11 years, 908 cfs (657,400 acre-ft per year).

Extremes.--Maximum discharge during year, 10,400 cfs Mar. 24 (gage height, 8.86 ft); minimum, 67 cfs Aug. 29, 30, Sept. 1-3.
1949-60: Maximum discharge, 27,800 cfs Apr. 14, 1952 (gage height, 15.36 ft, present datum); minimum, 42 cfs Aug. 12, 1954.
Flood of Apr. 14, 1952, is highest in 70 years, from information by local resident.

Remarks.--Records for periods October to January and May to September, fair, and those for February to April, poor. Flow regulated by Antelope Reservoir (capacity, 55,000 acre-ft, increased in 1959), Wild Horse Reservoir (see p. 122), and numerous small reservoirs. Diversions above station for irrigation. Records of chemical analyses for the water year 1960 are given in WSP 1724.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9		Feb. 10 to Sept. 30			
0.9	107	0.5	62	4.0	1,850
1.0	127	.7	96	5.0	2,950
1.5	250	1.0	160	6.0	4,370
2.0	410	1.5	290	7.0	6,200
3.0	860	2.0	470	8.0	8,300
4.0	1,540	3.0	1,030		
5.0	2,470				

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	127	129	117	b110	190	a160	3,300	438	293	108	108	70
2	*133	131	121	b105	185	a170	a3,500	438	275	100	114	70
3	133	131	125	b110	180	a180	a3,800	462	252	96	114	68
4	131	138	121	b110	170	a200	a4,000	426	238	106	114	75
5	125	127	121	113	178	a250	a4,200	480	228	104	106	76
6	121	*127	121	119	178	a400	a4,300	515	222	106	104	73
7	117	127	119	131	212	680	a4,200	565	228	106	108	73
8	121	127	b115	127	531	7,050	a4,000	570	238	*104	116	73
9	123	127	115	131	1,600	7,680	a3,600	510	235	98	110	75
10	192	127	b115	133	1,650	4,810	a3,200	480	248	96	100	80
11	226	127	*117	133	1,110	2,850	a2,700	475	242	98	85	80
12	170	129	117	133	685	2,130	a2,000	458	230	96	76	82
13	159	129	119	b125	525	1,890	a1,800	438	210	98	*78	78
14	188	129	b120	117	446	1,890	a1,500	438	205	102	80	80
15	170	125	119	*b120	383	2,400	a1,200	442	205	106	80	78
16	166	117	115	b120	369	2,220	a1,000	434	195	96	76	*78
17	161	119	115	123	327	1,960	a900	480	180	100	78	78
18	159	121	117	121	*284	1,760	a850	500	165	102	78	78
19	155	123	b120	b120	a250	1,990	a800	442	153	92	75	78
20	148	121	b115	b120	a220	3,530	*744	406	139	83	72	78
21	142	123	b115	b125	a210	6,200	670	426	129	98	72	78
22	142	125	117	140	a200	7,790	650	446	120	94	82	78
23	142	127	121	144	a190	8,100	615	458	116	87	96	78
24	140	127	119	144	a180	8,280	575	458	118	87	91	76
25	138	133	125	144	a170	*7,930	545	535	116	91	83	76
26	135	131	131	148	a160	7,550	550	575	116	96	131	78
27	135	127	133	150	a155	7,040	545	555	116	106	78	76
28	133	123	125	150	a150	6,220	550	505	116	98	76	78
29	131	117	b120	148	a150	5,420	515	446	110	83	75	80
30	129	115	117	152	-------	4,470	438	383	108	83	70	83
31	127	-------	b115	182	-------	3,740	-------	341	-------	94	72	-------
Total	4,519	3,779	3,702	4,048	11,238	116,940	57,247	14,525	5,546	3,014	2,798	2,302
Mean	146	126	119	131	388	3,772	1,908	469	185	97.2	90.3	76.7
Ac-ft	8,960	7,500	7,340	8,030	22,290	231,900	113,500	28,810	11,000	5,980	5,550	4,570

Calendar year 1959: Max 1,730 Min 59 Mean 194 Ac-ft 140,400
Water year 1959-60: Max 8,280 Min 68 Mean 627 Ac-ft 455,400

Peak discharge (base, 5,400 cfs).--Mar. 8 (5 p.m.) 9,210 cfs (8.38 ft); Mar. 24 (7 p.m.) 10,400 cfs (8.86 ft).

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for Malheur River near Drewsey.
b Stage-discharge relation affected by ice.

1825. Lake Owyhee near Nyssa, Oreg.

Location.--Lat 43°38'30", long 117°14'40", in sec.20, T.22 S., R.45 E., near left abutment on Owyhee Dam, 21 miles southwest of Nyssa.

Drainage area.--11,160 sq mi, approximately.

Records available.--October 1932 to September 1960. Prior to October 1958, published as Owyhee Reservoir at Owyhee Dam, near Nyssa.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 943,800 acre-ft Apr. 18-21 (elevation, 2,655.10 ft); minimum observed, 577,000 acre-ft Oct. 1 (elevation, 2,615.55 ft).
1932-60: Maximum contents observed, 1,140,000 acre-ft Apr. 15, 1952 (elevation, 2,671.40 ft); minimum observed since full capacity was attained May 7, 1936, 462,700 acre-ft Oct. 10, 1955 (elevation, 2,599.44 ft).

Remarks.--Reservoir is formed by concrete arch-gravity dam, completed in September 1932; storage began Oct. 16, 1932. Capacity, 1,122,000 acre-ft between elevations 2,367.5 (bottom of sluice gates) and 2,670.0 ft (top of spillway gate), 715,000 acre-ft between elevations 2,590.2 (diversion tunnel) and 2,670.0 ft. Dead storage below elevation 2,367.5 ft negligible. Figures given herein are of contents above elevation 2,367.5 ft. The reservoir will generally not be drawn below elevation 2,590.2 ft. Water is released through diversion tunnel to South Canal for irrigation of lands west of Snake River in vicinity of Homedale, Idaho, and to North Canal for irrigation of lands north and west of Owyhee River, and through sluice gates to river for Owyhee Canal, which diverts about 18 miles downstream.

Cooperation.--Records of elevations furnished by Bureau of Reclamation.

Month-end elevation and contents, water year October 1959 to September 1960

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	2,615.50	576,600	-
Oct. 31	2,617.31	590,700	+14,100
Nov. 30	2,618.76	602,100	+11,400
Dec. 31	2,620.44	615,500	+13,400
Calendar year 1959	-	-	-258,300
Jan. 31	2,622.30	630,600	+15,100
Feb. 29	2,625.90	660,600	+30,000
Mar. 31	2,647.80	865,300	+204,700
Apr. 30	2,653.70	928,400	+63,100
May 31	2,649.40	882,000	-46,400
June 30	2,642.08	807,500	-74,500
July 31	2,632.05	713,900	-93,600
Aug. 31	2,623.24	638,400	-75,500
Sept.30	2,616.30	582,800	-55,600
Water year 1959-60	-	-	+6,200

1830. Owyhee River below Owyhee Dam, Oreg.

Location.--Lat 43°39'10", long 117°15'00", in SW¼ sec.17, T.22 S., R.45 E., on left bank 0.8 mile downstream from Owyhee Dam and 20 miles southwest of Nyssa.

Drainage area.--11,160 sq mi, approximately.

Records available.--February 1929 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,343.67 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--28 years (1932-60), 353 cfs (255,600 acre-ft per year).

Extremes.--Maximum discharge during year, 272 cfs Sept. 12 (gage height, 1.77 ft); minimum daily determined, 3 cfs Oct. 1 to Apr. 9.
1929-60: Maximum discharge, 22,900 cfs Apr. 15, 1952 (gage height, 15.7 ft); no flow for part of Aug. 8, 9, 1932, when temporary diversion tunnel at Owyhee Dam was closed.

Remarks.--Records fair above 10 cfs and poor below. Flow regulated by Lake Owyhee since October 1932 (see preceding page), by Wild Horse Reservoir since March 1938 (see p. 122), and by many smaller reservoirs. About 450,000 acre-ft diverted annually from Lake Owyhee for irrigation of lands below station and outside the basin. Many smaller diversions for irrigation above station.

Cooperation.--Water-stage recorder inspected and four discharge measurements made by employees of Bureau of Reclamation.

Revisions (water years).--WSP 983: 1941-42. WSP 1397: 1930, 1933, 1946.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 6, July 27 to Sept. 30)

-1.1	3	-0.2	24
-1.0	4	0.0	34
-.8	7	.5	74
-.6	10	1.0	136
-.4	16		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								95	89	83	81	56
2								93	99	84	71	*77
3	3							93	109	85	65	*84
4								92	109	85	65	99
5							3	92	82	85	65	101
6	*3							92	64	85	[illegible]	78
7								92	57	85	* 65	65
8								92	51	85	66	66
9								82	51	85	66	53
10							90	84	*54	85	66	44
11							132	84	57	85	68	44
12							122	84	58	85	78	108
13							110	85	59	86	*83	119
14							114	85	61	86	83	119
15							114	85	64	86	83	118
16		3	3	3	3	3	114	90	65	86	80	119
17							114	98	66	87	70	119
18							*114	98	66	86	71	119
19	3						*113	98	66	86	73	121
20							113	98	66	86	77	119
21							114	90	66	*86	80	113
22							92	83	66	82	85	116
23							82	83	66	80	76	113
24							90	83	67	82	65	97
25							96	83	67	83	*65	87
26							96	82	68	84	63	87
27							96	72	75	85	60	103
28							96	64	83	87	53	113
29							96	65	83	86	49	113
30					-------		96	65	83	85	33	113
31		-------			-------		-------	72	-------	83	34	-------
Total	93	90	93	93	87	93	2,231	2,654	2,117	2,629	2,104	2,883
Mean	3	3	3	3	3	3	74.4	85.6	70.6	84.8	67.9	96.1
Ac-ft	184	179	184	184	173	184	4,430	5,260	4,200	5,210	4,170	5,720

Calendar year 1959: Max 163 Min - Mean 38.2 Ac-ft 27,690
Water year 1959-60: Max 132 Min - Mean 41.4 Ac-ft 30,080

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 1-5, Oct. 7 to Apr. 9; discharge estimated on basis of operational records for Lake Owyhee.

1850. Boise River near Twin Springs, Idaho

Location.--Lat 43°40', long 115°44', in sec.27, T.4 N., R.6 E., on right bank a quarter of a mile upstream from Birch Creek, 1½ miles upstream from maximum flow line of Arrowrock Reservoir, 4 miles downstream from Twin Springs, and 13 miles upstream from Arrowrock.

Drainage area.--830 sq mi, approximately. Mean altitude, 6,350 ft.

Records available.--March 1911 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,251.08 ft above mean sea level, unadjusted. Prior to Apr. 4, 1915, staff gage at same site and datum.

Average discharge.--49 years, 1,181 cfs (855,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,280 cfs May 13 (gage height, 6.37 ft); minimum, 253 cfs Jan. 14 (gage height, 1.72 ft).
1911-60: Maximum discharge, 11,200 cfs May 24, 1956 (gage height, 8.76 ft); maximum gage height, 9.59 ft Feb. 3, 1956 (ice jam); minimum discharge, 109 cfs Dec. 10, 1944; minimum gage height, 1.56 ft Dec. 15, 16, 1935.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	245	2.7	900	5.0	3,940
1.9	330	3.0	1,210	6.0	5,660
2.1	435	3.5	1,810	7.0	7,590
2.4	635	4.0	2,460		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*575	620	441	b410	350	b280	1,530	1,840	3,960	1,220	534	326
2	554	598	435	b400	360	b300	1,350	*1,970	4,430	1,180	534	326
3	547	598	453	a420	360	b330	1,310	2,120	4,920	1,100	471	335
4	521	635	391	a410	340	380	1,660	2,190	4,940	1,050	441	396
5	508	514	312	a450	360	391	2,540	2,230	4,700	1,020	430	430
6	502	521	312	a500	350	435	3,530	2,330	4,400	960	418	360
7	540	582	375	a500	418	508	3,910	2,730	*4,400	872	408	345
8	534	540	375	a460	528	582	4,080	3,120	4,240	872	391	335
9	852	528	370	418	582	521	4,210	3,180	3,590	824	386	330
10	950	521	424	424	508	441	4,280	3,680	3,320	778	375	330
11	787	502	465	447	465	408	3,800	4,840	3,460	751	370	321
12	881	514	471	424	418	435	3,170	5,660	3,400	715	360	316
13	834	453	483	335	418	418	2,750	5,700	3,320	691	355	330
14	778	380	391	b300	396	413	2,630	4,450	3,410	667	355	335
15	742	b420	435	b350	396	396	2,290	3,750	3,580	628	355	335
16	715	b460	b410	a350	391	375	2,030	3,500	3,350	612	350	326
17	683	408	*b380	a350	365	402	1,850	3,110	3,220	598	350	326
18	651	*435	424	a360	370	465	1,740	2,820	2,700	575	345	316
19	628	465	413	a370	375	620	1,860	2,520	2,470	554	335	316
20	605	465	b350	a390	365	920	1,820	2,320	2,380	547	330	312
21	590	502	b340	a420	370	1,290	1,810	2,290	2,020	521	326	308
22	628	477	b350	a420	360	1,670	1,730	2,100	1,840	*508	326	308
23	990	508	b370	a390	345	1,980	1,620	1,990	1,760	502	*418	312
24	930	635	435	a380	321	2,200	1,530	1,900	1,760	489	408	308
25	862	560	471	a380	355	2,340	1,440	1,800	1,740	477	430	312
26	805	477	418	*380	370	2,610	1,370	1,760	1,640	483	386	321
27	769	396	345	370	360	2,320	1,380	1,840	1,510	465	375	312
28	724	453	b320	360	312	2,470	1,480	1,940	1,400	453	365	308
29	699	465	b330	355	*b270	2,120	1,540	2,170	1,350	447	365	303
30	651	447	b360	355	------	1,970	1,670	2,610	1,280	441	350	*303
31	628	------	b400	360	------	*1,810	------	*3,290	------	471	340	------
Total	21,663	15,079	12,249	12,238	11,178	31,800	67,910	87,750	90,490	21,471	11,982	9,841
Mean	699	503	395	395	385	1,026	2,264	2,831	3,016	693	387	328
Cfsm	0.842	0.606	0.476	0.476	0.464	1.24	2.73	3.41	3.63	0.835	0.466	0.395
In.	0.97	0.68	0.55	0.55	0.50	1.42	3.04	3.93	4.05	0.96	0.54	0.44
Ac-ft	42,970	29,910	24,300	24,270	22,170	63,070	134,700	174,000	179,500	42,590	23,770	19,520

Calendar year 1959: Max 4,820 Min 257 Mean 1,085 Cfsm 1.31 In. 17.75 Ac-ft 785,600
Water year 1959-60: Max 5,700 Min 270 Mean 1,076 Cfsm 1.30 In. 17.63 Ac-ft 780,800

Peak discharge (base 3,700 cfs).--Apr. 10 (1:30 a.m.) 4,520 cfs (5.40 ft); May 13 (2 a.m.) 6,280 cfs (6.37 ft); June 4 (3:30 a.m.) 5,300 cfs (5.79 ft).

* Discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice part of periods); discharge estimated on basis of weather records and records for South Fork Boise River near Featherville.
b Stage-discharge relation affected by ice.

1860. South Fork Boise River near Featherville, Idaho

Location.--Lat 43°29'40", long 115°18'20", in lot 6, NE¼ sec. 19, T.2 N., R.10 E., on right bank 2½ mile upstream from Deer Creek and 8 miles southwest of Featherville.

Drainage area.--635 sq mi. Mean altitude, 6,840 ft.

Records available.--April 1945 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,220 ft (from topographic map of Bureau of Reclamation).

Average discharge.--15 years, 806 cfs (583,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,440 cfs May 13 (gage height, 6.02 ft) minimum, 126 cfs Dec. 6 (gage height, 0.74 ft).
1945-60: Maximum discharge, 7,580 cfs May 24, 1956 (gage height, 8.62 ft); minimum, 30 cfs Feb. 10, 1949 (gage height, 0.60 ft), result of snowslide upstream.

Remarks.--Records good. No regulation. Small ranch diversions above station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	140	3.0	1,060
1.1	194	4.0	1,910
1.5	304	5.0	3,030
2.0	505	6.0	4,410

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	311	322	232	213	202	b180	590	1,050	2,480	610	255	181
2	304	311	218	211	207	b190	565	1,130	2,870	580	255	194
3	297	315	232	220	209	*b200	630	1,240	3,080	541	238	202
4	297	326	192	213	196	209	834	1,240	2,990	532	228	235
5	290	258	150	232	202	213	1,240	1,260	2,860	550	218	235
6	287	264	154	264	211	215	1,780	1,390	*2,660	510	215	211
7	*284	315	190	264	207	222	2,120	1,660	2,620	482	209	198
8	287	294	188	252	222	222	2,250	1,760	2,470	460	204	194
9	398	290	181	235	222	218	2,530	1,890	2,070	439	202	190
10	410	284	190	228	222	204	2,590	2,360	1,930	418	198	186
11	359	273	207	228	218	192	2,250	3,380	1,990	406	194	184
12	386	273	222	228	198	204	1,830	3,970	1,930	386	190	179
13	382	232	232	213	200	222	*1,600	3,910	1,860	374	186	179
14	367	194	209	202	209	218	1,530	2,910	1,870	367	184	181
15	359	230	225	200	196	211	1,320	2,440	1,950	351	184	190
16	355	264	*226	200	215	202	1,160	*2,250	1,810	336	184	186
17	351	*220	211	b200	190	198	1,060	1,980	1,690	322	186	183
18	340	228	232	b205	188	228	1,010	1,730	1,370	308	*184	184
19	333	246	222	b210	202	267	1,030	1,530	1,250	*287	179	188
20	322	246	198	b225	204	315	1,030	1,400	1,180	270	175	184
21	315	284	184	240	200	386	1,070	1,340	1,030	264	171	184
22	322	258	186	*240	207	487	1,060	1,220	936	255	177	184
23	439	280	194	222	194	590	962	1,150	894	249	215	183
24	452	301	213	215	184	695	900	1,100	870	249	218	181
25	410	273	236	215	194	810	840	1,030	852	243	213	183
26	390	222	215	215	207	969	810	988	804	240	207	186
27	378	190	194	211	200	900	828	1,010	744	235	198	183
28	351	220	173	207	b180	900	852	1,090	706	230	194	181
29	344	232	181	204	b170	766	870	1,260	680	228	190	181
30	333	220	194	209	------	733	943	1,550	645	225	188	181
31	326	------	211	211	------	660	------	1,980	------	228	163	------
Total	10,779	7,865	6,290	6,832	5,856	12,226	38,084	54,198	51,091	11,175	6,222	5,691
Mean	348	262	203	220	202	394	1,269	1,748	1,703	360	201	190
Cfsm	0.548	0.413	0.320	0.346	0.318	0.620	2.00	2.75	2.68	0.567	0.317	0.299
In.	0.63	0.46	0.37	0.40	0.34	0.72	2.23	3.17	2.99	0.65	0.36	0.33
Ac-ft	21,380	15,600	12,480	13,550	11,620	24,250	75,540	107,500	101,300	22,170	12,340	11,290

Calendar year 1959: Max 2,960 Min 150 Mean 614 Cfsm 0.967 In. 13.12 Ac-ft 444,400
Water year 1959-60: Max 3,970 Min 150 Mean 591 Cfsm 0.931 In. 12.65 Ac-ft 429,000

Peak discharge (base, 2,000 cfs).--Apr. 10 (2:30 a.m.) 2,800 cfs (4.81 ft); May 13 (3:30 a.m.) 4,440 cfs (6.02 ft); June 3 (3 a.m.) 3,410 cfs (5.29 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

1890. Little Camas Canal at heading, near Bennett, Idaho

Location.--Lat 43°21'30", long 115°23'00", in sec.9, T.1 S., R.9 E., on right bank 400 ft downstream from Little Camas Reservoir, 4 miles northeast of Bennett, and 22 miles northeast of Mountain Home.

Records available.--June to November 1917, October 1923 to September 1960.

Gage.--Staff gage read once daily. Datum of gage is 4,926 ft above mean sea level (datum of Mountain Home Irrigation District). June 1 to Nov. 29, 1917, water-stage recorder and Apr. 16 to May 11, 1924, staff gage, at datum 6.00 ft lower. May 12, 1924, to Sept. 30, 1929, water-stage recorder at present datum.

Extremes.--1917, 1924-60: Maximum daily discharge, 77 cfs Apr. 27-30, May 1, 3, 9, 1924; no flow during nonirrigation seasons and at times during the irrigation seasons.

Remarks.--Records good. Canal diverts from Little Camas Reservoir (South Fork Boise River drainage) in sec.9, T.1 S., R.9 E., and discharges into Long Tom Creek basin, where water is stored in Long Tom Reservoir for irrigation of 5,000 acres of land near Mountain Home. No diversion above station. Flow regulated by Little Camas Reservoir.

Cooperation.--Gage readings furnished by Mountain Home Irrigation District.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	46	52	60	57
2								0	47	52	60	56
3								0	47	52	60	56
4								0	47	52	60	56
5								0	50	52	60	56
6								15	*53	52	60	55
7								30	53	52	60	22
8								a30	53	52	60	0
9								a30	53	52	60	0
10								a30	53	52	60	0
11								a30	53	52	60	0
12								30	53	24	60	0
13								a30	53	0	60	0
14								a30	52	22	60	0
15								a30	52	22	59	0
16								*35	52	0	58	0
17								36	52	31	59	0
18								a38	52	55	*60	0
19								38	52	*59	60	0
20								a38	52	60	60	0
21								a38	52	60	59	0
22								a38	52	60	59	0
23								40	52	60	59	0
24								a43	52	60	59	0
25								43	52	60	59	0
26								43	52	60	60	0
27								43	52	60	60	0
28								43	52	60	60	0
29								44	52	60	59	0
30					-------			44	52	60	59	0
31		-------			-------		-------	44	-------	60	58	-------
Total	0	0	0	0	0	0	0	935	1,545	1,505	1,847	358
Mean	0	0	0	0	0	0	0	30.2	51.5	48.5	59.6	11.9
Ac-ft	0	0	0	0	0	0	0	1,850	3,060	2,990	3,660	710

Calendar year 1959: Max 65 Min 0 Mean 23.2 Ac-ft 16,760
Water year 1959-60: Max 60 Min 0 Mean 16.9 Ac-ft 12,270

* Discharge measurement made on this day.
a No gage-height record; discharge interpolated.

1900. Anderson Ranch Reservoir at Anderson Ranch Dam, Idaho

Location.--Lat 43°21'30", long 115°27'10", in SE¼ sec.1, T.1 S., R.8 E., on inlet structure of outlet works of dam on South Fork Boise River, 1½ miles downstream from Camas Creek and 3 miles northwest of Bennett (Dixie Store).

Drainage area.--980 sq mi, approximately.

Records available.--December 1945 to September 1960.

Gage.--Staff gage or supplementary pressure gage in powerhouse read once daily. Datum of gage is at mean sea level (surveys by Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 465,000 acre-ft June 16 (elevation, 4,196.17 ft); minimum observed, 308,900 acre-ft Sept. 30 (elevation, 4,158.48 ft).
1945-60: Maximum contents observed, 472,800 acre-ft June 1, 1956 (elevation, 4,197.81 ft); no usable contents prior to Jan. 27, 1946; minimum since full capacity was attained June 21, 1951, 145,000 acre-ft Mar. 23, 1956 (elevation, 4,103.22 ft).

Remarks.--Reservoir is formed by earth-fill dam. Storage began Dec. 15, 1945. Usable contents, 464,200 acre-ft between elevations 3,992 and 4,196 ft (top of spillway gates). Elevation of spillway crest, 4,174 ft, and of top of dam, 4,206 ft. Dead storage below 3,992 ft is 28,980 acre-ft. Figures given herein represent usable contents. Water is used for irrigation in Boise Valley and for power production.

Cooperation.--Gage readings and capacity table furnished by Bureau of Reclamation.

Capacity table (elevation, in feet, and contents, in acre-feet)

4,155.0	296,500	4,180.0	392,400
4,160.0	314,400	4,185.0	413,900
4,165.0	332,800	4,190.0	436,300
4,170.0	352,000	4,200.0	483,400
4,175.0	371,800		

Contents, in acre-feet, at about 8 a.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	387,900	399,500	404,500	385,000	365,800	349,300	365,700	459,200	464,000	454,300	405,200	343,500
2	387,900	400,400	404,100	384,300	365,000	346,200	367,600	459,400	464,400	453,300	403,300	342,300
3	387,800	401,200	403,600	384,000	364,200	343,900	369,400	460,100	464,000	452,200	401,500	340,600
4	387,800	402,100	403,200	383,200	363,300	341,600	371,800	460,900	464,200	451,000	399,500	339,400
5	387,800	402,800	403,200	382,300	362,500	340,400	475,100	461,600	464,200	449,900	397,500	339,000
6	387,800	403,200	402,200	380,900	361,600	341,200	379,200	462,400	464,200	448,900	395,600	337,800
7	387,800	404,100	401,500	381,200	362,400	341,900	386,100	462,900	464,300	447,700	393,500	336,600
8	388,300	404,700	400,700	378,700	363,300	341,600	392,900	463,500	464,300	446,400	391,600	335,300
9	388,700	405,400	399,800	379,700	362,700	341,300	400,300	464,200	464,000	445,000	389,500	333,800
10	389,100	406,100	398,900	379,300	361,800	340,900	408,100	463,800	464,100	443,700	387,400	332,600
11	389,000	406,800	398,300	378,600	360,800	340,300	415,900	464,800	464,400	442,200	385,300	331,300
12	389,000	407,500	397,800	378,100	359,700	339,800	422,100	463,700	464,200	440,700	383,400	330,100
13	388,700	408,200	397,400	377,400	358,700	340,400	427,400	463,500	464,300	439,100	381,400	328,900
14	388,500	408,400	397,200	376,300	359,100	340,900	432,400	463,500	464,500	437,500	379,300	327,600
15	388,300	408,700	396,200	375,900	359,800	340,700	436,900	462,900	464,600	436,000	377,100	326,400
16	387,800	408,200	395,600	374,500	358,700	340,500	440,700	463,900	465,000	434,400	374,900	325,100
17	387,400	408,200	394,900	373,500	357,500	350,600	444,000	464,200	464,800	432,600	373,000	323,900
18	387,300	408,000	394,400	372,800	356,600	340,600	447,100	463,700	464,900	431,000	370,800	322,700
19	387,600	408,000	393,700	372,100	355,400	340,800	449,000	463,900	464,600	429,200	369,100	321,500
20	388,300	407,700	393,100	371,100	354,400	341,700	450,600	463,900	464,200	427,200	366,600	320,400
21	389,900	407,500	392,400	370,000	354,700	342,700	451,900	463,700	463,900	425,700	364,600	319,400
22	390,700	407,400	391,800	369,200	355,400	343,400	453,000	463,500	463,400	423,700	362,300	318,200
23	391,500	407,200	391,000	368,800	354,300	344,400	454,700	463,800	462,800	421,900	360,400	317,100
24	392,700	406,900	390,500	369,300	353,100	345,900	455,300	463,900	462,000	420,100	358,300	315,900
25	393,700	406,800	390,300	369,400	352,000	348,000	456,200	464,000	461,100	418,200	356,400	314,800
26	394,500	406,400	389,800	368,500	350,800	350,800	456,700	463,600	460,100	416,300	354,400	314,100
27	395,400	406,100	388,900	367,500	349,800	353,500	457,400	463,500	459,300	414,400	352,300	313,200
28	396,400	405,600	388,300	366,600	350,300	356,400	457,800	463,300	458,000	412,600	350,300	312,200
29	397,200	405,100	387,500	365,600	349,300	358,800	458,300	463,400	455,300	410,800	348,200	310,700
30	397,600	404,900	386,400	364,900	-------	361,400	458,800	464,000	455,700	408,900	346,200	308,900
31	398,600	-------	385,600	365,400	-------	363,900	-------	464,500	-------	407,000	344,700	-------
(†)	4,181.47	4,182.92	4,178.36	4,173.41	4,169.32	4,173.02	4,194.87	4,196.06	4,194.20	4,183.41	4,168.12	4,158.48
(‡)	+10,600	+6,300	-19,300	-20,200	-16,100	+14,600	+94,900	+5,700	-8,800	-48,700	-62,300	-35,800

Calendar year 1959..... ‡ +50,200
Water year 1959-60..... ‡ -79,100

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

1905. South Fork Boise River at Anderson Ranch Dam, Idaho

Location.--Lat 43°20', long 115°29', in SW¼ sec.11, T.1 S., R.8 E., on right bank 600 ft upstream from Dixie Creek, 1½ miles downstream from Anderson Ranch Reservoir, and 2¼ miles northwest of Bennett (Dixie Store).

Drainage area.--982 sq mi.

Records available.--April 1943 to September 1960 (includes flow of Dixie Creek prior to October 1946 and excludes Dixie Creek thereafter).

Gage.--Water-stage recorder. Altitude of gage is 3,850 ft (from topographic map of Bureau of Reclamation).

Average discharge.--17 years, 992 cfs (718,200 acre-ft per year).

Extremes.--Maximum discharge during year, 5,260 cfs May 11 (gage height, 7.73 ft); minimum, 0.1 cfs Nov. 13 (gage height, 1.04 ft).
1943-60: Maximum discharge, 9,850 cfs May 25, 1956 (gage height, 10.56 ft); minimum, that of Nov. 13, 1959; minimum gage height, 0.99 ft Feb. 16, 1950.

Remarks.--Records excellent. Flow of Little Camas Creek is stored in Little Camas Reservoir (no spill most years) and diverted out of basin through Little Camas Canal (see p. 133) for irrigation of about 5,000 acres of land in vicinity of Mountain Home. Flow regulated by Anderson Ranch Reservoir (see preceding page) beginning Dec. 15, 1945.

Cooperation.--Water-stage recorder inspected by employees of Bureau of Reclamation.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.0	0	1.5	18	2.6	276	5.0	1,890
1.1	1.0	1.7	37	3.0	450	6.0	2,930
1.2	3.0	2.0	86	3.5	730	7.0	4,190
1.3	7.0	2.3	168	4.0	1,050	8.0	5,660

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	360	3.8	485	588	738	1,380	33	1,420	2,790	1,380	1,220	831
2	371	3.4	555	588	743	1,430	32	1,460	3,310	1,380	1,220	832
3	336	3.8	588	599	741	1,430	30	1,460	3,100	1,370	1,220	865
4	264	2.2	560	652	772	1,430	28	1,460	3,220	1,360	1,220	851
5	330	1.4	560	658	776	55	27	1,470	3,310	1,350	1,230	869
6	331	3.4	550	730	37	38	26	1,580	*2,930	1,340	1,250	859
7	*341	2.8	544	730	30	530	26	1,940	2,860	1,340	1,260	869
8	330	2.4	538	724	779	528	26	2,020	2,720	1,340	1,250	845
9	336	2.2	544	676	834	530	26	2,600	2,370	1,320	1,260	853
10	555	2.2	544	500	825	546	26	2,780	2,120	1,300	1,270	840
11	569	2.2	544	706	834	530	26	4,280	2,300	1,300	1,270	842
12	563	2.2	544	712	844	42	27	4,660	2,310	1,300	1,270	815
13	570	.8	550	700	29	32	*26	4,730	2,040	1,300	1,270	828
14	570	54	555	694	25	411	26	3,660	2,050	1,290	1,270	872
15	570	372	550	700	835	397	29	2,640	2,060	1,280	1,270	836
16	570	385	*588	694	838	288	29	*2,790	2,140	1,270	1,270	825
17	566	*380	577	516	836	261	29	2,660	1,830	1,260	*1,260	816
18	20	385	582	700	830	268	486	2,300	1,840	1,260	1,260	835
19	5.4	460	588	706	804	41	742	1,980	1,710	*1,250	1,270	800
20	4.6	470	588	784	29	36	1,060	1,980	1,630	1,230	1,280	718
21	3.8	465	588	808	24	258	1,060	1,980	1,560	1,240	1,280	725
22	3.4	475	594	*802	810	266	1,060	1,620	1,560	1,230	1,280	730
23	3.0	475	594	55	810	272	1,020	1,510	1,580	1,240	1,280	729
24	3.0	480	588	44	834	38	1,030	1,510	1,590	1,230	1,280	732
25	2.8	485	599	847	834	26	1,020	1,560	1,600	1,230	1,280	732
26	2.4	485	588	877	831	25	1,020	1,480	1,610	1,230	1,280	704
27	2.2	485	594	788	29	25	1,020	1,480	1,630	1,220	1,270	713
28	4.2	495	594	786	25	25	1,080	1,500	1,610	1,200	1,280	716
29	3.8	490	594	753	838	24	1,080	1,480	1,640	1,220	1,280	1,230
30	4.2	485	594	38	-------	23	1,080	1,760	1,640	1,220	1,280	1,250
31	3.4	-------	594	16	-------	41	-------	2,420	-------	1,220	826	-------
Total	7,598.2	7,358.8	17,655	19,171	17,214	11,226	13,230	68,170	64,660	39,700	38,706	24,962
Mean	245	245	570	618	594	362	441	2,199	2,155	1,281	1,249	832
Ac-ft	15,070	14,600	35,020	38,030	34,140	22,270	26,240	135,200	128,300	78,740	76,770	49,510

Calendar year 1959: Max 3,650 Min 0.8 Mean 689 Ac-ft 498,400
Water year 1959-60: Max 4,730 Min 0.8 Mean 901 Ac-ft 653,900

* Discharge measurement made on this day.

1940. Arrowrock Reservoir at Arrowrock, Idaho

Location.--Lat 43°36', long 115°55', in E½ sec.13, T.3 N., R.4 E., at dam on Boise River at Arrowrock, 14 miles east of Boise.

Drainage area.--2,210 sq mi, approximately.

Records available.--October 1917 to September 1960.

Gage.--Staff gage graduated on face of dam read once daily. Datum of gage is at mean sea level (surveys by Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 291,900 acre-ft Apr. 13 (elevation, 3,217.7 ft); minimum observed, 2,080 acre-ft Sept. 12 (elevation, 3,009.0 ft).
1917-60: Maximum contents observed, 301,200 acre-ft May 29, 1948 (elevation, 3,219.1 ft); no usable contents during period in each of several years when sluice gates were open and natural flow was passing through reservoir.

Remarks.--Reservoir is formed by gravity-section concrete-arch dam completed in 1915 and raised 5 ft in 1937; storage began in 1915. Capacity, 286,600 acre-ft between elevations 2,974 (9.5 ft above sluice gate sill) and 3,216 ft (highest position of movable crest of spillway). Silt deposition at dam has raised the lower storage level and decreased the capacity of the reservoir. Prior to Oct. 1, 1952, contents in publications of the Geological Survey applied from original capacity table and no silt corrections were made. Beginning Oct. 1, 1952, contents applied from revised table, which is the original table reduced by amounts varying from 347 acre-ft at elevation 2,974 to 5,000 acre-ft at elevation 3,085 ft and above. Water is used for irrigation in Boise valley.

Cooperation.--Gage readings and capacity table furnished by Bureau of Reclamation.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

3,000.0	1,160	3,050.0	11,920	3,140.0	107,500
3,010.0	2,210	3,060.0	16,770	3,160.0	146,000
3,020.0	3,800	3,080.0	30,000	3,180.0	189,500
3,030.0	5,870	3,100.0	49,000	3,200.0	240,000
3,040.0	8,270	3,120.0	75,000	3,218.0	292,800

Contents, in acre-feet, at 8 a.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33,440	101,700	151,700	215,000	216,300	213,500	273,900	256,000	253,700	257,500	81,150	5,350
2	35,530	103,100	154,000	216,900	216,900	215,000	273,600	249,800	258,400	252,600	76,650	4,720
3	37,600	104,600	155,900	218,400	217,600	217,400	273,600	243,900	265,300	247,300	71,640	4,400
4	39,500	105,800	158,200	220,500	218,400	219,200	273,600	240,300	270,600	242,000	67,610	4,200
5	41,200	107,300	160,300	222,600	218,900	221,800	274,200	239,000	275,700	236,900	62,540	4,640
6	43,200	108,400	161,800	224,900	219,500	221,800	275,700	238,200	279,600	232,200	58,900	4,520
7	44,930	109,800	163,000	228,000	219,200	221,800	278,400	237,900	283,200	227,000	54,760	3,330
8	47,020	111,100	165,100	230,100	219,500	224,900	279,300	239,500	286,900	222,100	47,130	3,070
9	49,240	112,500	167,000	230,600	222,600	226,700	279,600	242,000	288,500	216,900	40,500	2,840
10	52,600	113,600	169,200	229,600	225,200	228,000	279,900	245,600	288,200	211,600	35,800	2,470
11	55,780	114,700	171,400	227,800	226,500	228,600	281,100	251,200	288,200	206,000	31,440	2,250
12	59,030	116,100	173,400	226,500	228,000	229,300	289,100	262,700	289,100	200,300	25,860	2,080
13	62,930	117,300	175,400	225,400	229,100	229,100	291,900	275,100	289,100	194,300	21,680	3,470
14	65,400	118,200	177,300	223,900	228,800	228,800	289,100	286,000	289,700	188,600	18,880	6,770
15	68,840	119,000	179,400	222,800	228,000	229,100	288,200	287,200	289,700	182,600	16,660	9,510
16	71,780	120,700	181,400	221,300	228,800	229,600	287,200	285,700	290,000	177,100	14,560	12,720
17	74,440	122,800	183,500	220,000	229,600	229,600	286,600	286,900	290,300	171,000	14,420	15,260
18	77,400	124,500	185,600	217,900	230,600	229,900	286,000	287,200	289,400	165,100	13,500	18,030
19	79,050	126,400	187,900	216,600	229,300	230,400	286,000	286,000	288,800	159,400	12,810	20,480
20	80,550	128,600	190,200	215,000	228,300	231,200	286,900	285,700	288,200	153,600	12,180	23,200
21	82,050	130,400	191,900	213,800	226,000	233,000	287,500	284,100	287,500	147,300	11,410	25,500
22	83,460	132,600	193,800	214,500	223,100	234,800	287,500	282,900	287,500	141,600	10,740	27,990
23	84,900	134,800	195,700	215,300	221,800	240,000	287,500	280,800	287,500	136,000	9,870	30,400
24	87,940	137,400	198,100	214,800	220,800	245,300	287,200	277,500	285,000	129,000	9,310	32,640
25	90,020	139,600	200,500	214,000	219,700	250,100	287,200	273,300	282,600	123,000	8,790	34,630
26	91,860	142,200	202,800	214,800	218,900	255,400	287,200	269,400	279,000	116,900	8,330	37,060
27	93,390	144,000	205,000	215,800	218,200	261,000	283,200	265,300	275,400	110,600	7,780	26,220
28	95,600	145,800	207,000	216,300	215,600	265,900	278,100	261,500	271,200	104,100	7,230	15,980
29	97,130	147,900	209,000	216,900	213,000	270,900	270,900	256,900	266,800	98,660	6,720	7,910
30	98,660	149,800	210,800	217,600	-------	273,600	263,200	253,200	262,400	92,200	6,240	5,300
31	100,200	-------	212,800	217,100	-------	274,500	-------	251,200	-------	86,500	5,800	-------
(†)	3,135.7	3,161.8	3,189.5	3,191.2	3,189.6	3,212.0	3,208.2	3,204.0	3,207.9	3,127.5	3,029.7	3,027.4
(‡)	+69,400	+49,600	+63,000	+4,300	-4,100	+61,500	-11,300	-12,000	+11,200	-175,900	-80,700	-500

Calendar year 1959..... ‡ +32,000
Water year 1959-60..... ‡ -25,500

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

1965. Bannock Creek near Idaho City, Idaho

Location.--Lat 43°48'30", long 115°46'30", in SE¼SW¼ sec.32, T.6 N., R.6 E., on right bank three-quarters of a mile upstream from West Fork, 2¼ miles upstream from mouth, and 3 miles southeast of Idaho City.

Drainage area.--5.75 sq mi. Mean altitude, 5,240 ft.

Records available.--January 1939 to November 1941, December 1950 to September 1960.

Gage.--Water-stage recorder and broad-crested wooden control with V-notch for low stages. Altitude of gage is 4,090 ft (from topographic map).

Average discharge.--11 years (1939-41, 1951-60), 2.26 cfs (1,636 acre-ft per year).

Extremes.--Maximum daily discharge during year, 14 cfs Apr. 8, 9; minimum, 0.2 cfs Aug. 21 (gage height, 0.21 ft).
1939-41, 1950-60: Maximum discharge, 34 cfs May 12, 1958; maximum gage height, 2.03 ft Feb. 6, 1952 (backwater from ice); minimum discharge, 0.07 cfs Aug. 23, 1940; minimum gage height, 0.06 ft Nov. 29, 1952 (result of siphon action at weir).

Remarks.--Records good except those below 1.0 cfs, which are fair, and those for periods of ice effect or no gage-height record, which are poor. No regulation or diversion.

Revisions (water years).--WSP 1447: 1952. WSP 1567: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.2	0.2	0.8	3.9
.3	.4	1.0	6.6
.4	.7	1.2	10
.5	1.1	1.4	15
.6	1.8		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	0.8	0.7	0.7	0.8	0.5	5.1	4.1	3.3	1.0	0.6	0.4
2	.8	.8	.7	.7	.8	.5	5.1	4.2	3.3	.9	.4	.4
3	.8	.9	b.6	.7	.7	.5	5.6	4.1	3.1	.9	.4	.4
4	.8	.9	b.6	.7	.7	*.5	7.0	4.5	3.0	.8	.4	.7
5	.7	.8	.6	.7	.7	.7	9.0	4.5	2.8	.8	.4	.4
6	.7	.8	.6	.7	.7	1.0	11	4.5	2.7	.8	.4	.4
7	.7	.8	.7	.8	1.0	1.0	13	5.1	2.5	.8	.4	.4
8	.7	.8	.7	.9	1.0	1.0	*14	5.7	*2.4	.7	.3	.4
9	*1.5	.8	.7	.9	1.0	.8	14	5.7	2.3	.7	.3	.4
10	1.1	.8	.7	.9	.8	b.8	13	5.8	2.2	.7	.3	.4
11	1.0	.8	.8	.9	.8	b.8	11	6.3	2.1	.6	.3	.4
12	1.1	.8	.8	.8	.7	b.7	10	6.4	2.0	.6	.3	.4
13	1.1	.6	.8	.8	.7	.7	9.0	6.2	1.9	.6	.3	.4
14	*1.1	.7	.7	.7	.7	.6	*7.5	6.0	1.9	.5	.3	.4
15	1.1	.7	.8	.7	.7	.7	5.8	5.8	1.9	.5	.3	.4
16	1.0	.7	.7	.7	.7	b.7	5.6	5.7	1.8	.5	.3	.4
17	1.0	.6	.7	.6	.6	.7	5.2	*5.4	1.7	.4	.3	.4
18	1.0	.7	.8	.6	.6	.7	4.5	5.1	1.6	.4	.3	.4
19	.9	*.7	.8	.6	.6	.8	4.5	4.8	1.6	.4	.3	.4
20	.9	.8	.8	*.7	.6	.9	4.4	4.6	1.5	.4	.3	.4
21	.8	.8	.8	.7	.6	1.1	4.6	4.6	1.5	*.4	.3	.4
22	1.1	.8	*.8	.7	.6	1.5	4.4	4.4	1.5	.4	*.4	.4
23	1.1	.9	.9	.8	.5	1.8	4.2	4.1	1.4	.4	.4	.4
24	1.0	.8	1.1	.8	.5	2.3	4.1	4.0	1.4	.3	.4	.4
25	.9	.8	1.1	.8	.6	2.6	4.0	3.8	1.3	.3	.4	.4
26	.9	.7	1.0	.8	.5	3.3	4.1	3.8	1.2	.3	.4	.4
27	.9	.7	.9	.8	.5	4.0	*4.2	3.6	1.2	.3	.4	.4
28	.8	.8	.9	.8	.5	5.7	4.4	3.6	1.2	.3	.4	.4
29	.8	.8	.9	.8	.5	5.1	4.2	3.5	1.1	.3	.4	.4
30	.8	.8	.8	.8	------	5.8	4.1	3.5	1.0	.4	.4	.4
31	.8	------	.8	.8	------	5.4	------	3.4	------	.4	.4	------
Total	28.7	23.2	24.3	23.4	19.7	53.2	206.6	146.8	58.4	16.8	11.2	12.3
Mean	0.93	0.77	0.78	0.75	0.68	1.72	6.89	4.74	1.95	0.54	0.36	0.41
Cfsm	0.162	0.134	0.136	0.130	0.118	0.299	1.20	0.824	0.339	0.094	0.063	0.071
In.	0.19	0.15	0.16	0.15	0.13	0.34	1.34	0.95	0.38	0.11	0.07	0.08
Ac-ft	57	46	48	46	39	106	410	291	116	33	22	24

Calendar year 1959: Max 5.4 Min 0.3 Mean 1.53 Cfsm 0.266 In. 3.62 Ac-ft 1,110
Water year 1959-60: Max 14.0 Min 0.3 Mean 1.71 Cfsm 0.297 In. 4.05 Ac-ft 1,240

Peak discharge (base, 4.5 cfs).--Mar. 28 (3 a.m.) 6.6 cfs (0.97 ft); Apr. 8 or 9 (time and discharge unknown); May 12 (3 a.m.) 6.6 cfs (1.01 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 5 to Jan. 30, Feb. 17 to Mar. 4, Apr. 4-14; discharge estimated on basis of 5 discharge measurements, weather records, and records for Mores Creek and Robie Creek.

2000. Mores Creek above Robie Creek, near Arrowrock, Idaho

Location.--Lat 43°38'45", long 115°58'45", in SE¼ sec.28, T.4 N., R.4 E., on left bank at State roadside park, 1.7 miles upstream from Robie Creek, 5 miles northwest of Arrowrock, and 5.8 miles upstream from mouth.

Drainage area.--399 sq mi.

Records available.--October 1950 to September 1960. Prior to October 1958, published as Moore Creek above Robie Creek, near Arrowrock.

Gage.--Water-stage recorder. Altitude of gage is 3,120 ft (from topographic map).

Average discharge.--10 years, 327 cfs (236,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,010 cfs Apr. 7 (gage height, 6.18 ft); minimum, 23 cfs Aug. 22 (gage height, 1.75 ft).
1950-60: Maximum discharge, 5,440 cfs Dec. 23, 1955 (gage height, 9.55 ft); minimum, 16 cfs Sept. 2-11, 1955; minimum gage height, 1.74 ft Aug. 16, 1959.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Diversions above station and from Robie Creek for irrigation of about 900 acres.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	20	3.0	220
1.8	26	3.5	396
2.0	42	4.0	635
2.2	62	5.0	1,220
2.4	89	6.0	1,880
2.7	143		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	84	83	60	115	82	884	527	518	109	60	32
2	84	86	83	55	120	89	836	547	537	102	67	32
3	80	88	88	55	118	100	908	567	567	98	52	32
4	77	100	56	55	109	*101	1,110	640	562	92	44	44
5	73	82	44	60	109	120	1,420	593	537	89	41	54
6	70	77	58	70	106	174	1,730	598	508	84	39	46
7	73	80	70	90	181	288	1,800	728	484	80	36	40
8	76	84	80	110	294	333	*1,790	896	462	76	34	37
9	192	83	64	100	318	280	1,710	830	418	72	33	35
10	198	83	66	100	283	206	1,640	854	388	68	33	33
11	137	76	64	90	232	184	1,420	968	368	64	30	32
12	124	82	67	70	195	184	1,220	1,020	348	61	28	32
13	113	68	64	60	171	171	1,070	998	326	58	27	32
14	*104	55	60	*60	152	164	1,010	818	308	56	26	33
15	100	72	67	55	137	154	890	734	314	55	26	33
16	95	77	65	50	130	130	772	712	290	51	28	32
17	92	61	*65	45	117	159	696	*646	266	49	28	31
18	89	*72	65	45	111	203	668	603	250	46	28	31
19	88	73	65	50	109	283	723	537	229	45	27	30
20	84	74	65	60	100	400	684	498	212	42	24	28
21	82	88	65	70	108	537	668	494	214	*40	24	29
22	101	86	66	75	96	*718	630	448	189	38	24	31
23	137	101	75	90	84	854	572	422	176	36	*34	33
24	124	118	110	90	89	944	527	413	*164	35	40	34
25	109	102	148	90	102	772	494	392	150	34	45	34
26	101	80	120	100	101	1,130	466	392	141	34	42	36
27	98	58	90	105	88	1,030	457	400	132	32	40	36
28	94	76	80	110	74	1,150	537	396	126	32	39	35
29	92	88	70	113	76	998	522	422	120	31	40	35
30	90	86	70	113	------	1,180	508	439	117	35	34	34
31	88	------	65	113	------	1,110	------	484	------	44	32	------
Total	3,154	2,440	2,298	2,409	4,005	14,228	28,362	19,016	9,421	1,788	1,105	1,036
Mean	102	81.3	74.1	77.7	138	459	945	613	314	57.7	35.6	34.5
Cfsm	0.256	0.204	0.186	0.195	0.346	1.15	2.37	1.54	0.787	0.145	0.089	0.086
In.	0.29	0.23	0.21	0.22	0.37	1.33	2.64	1.77	0.88	0.17	0.10	0.10
Ac-ft	6,260	4,840	4,560	4,780	7,940	28,220	56,260	37,720	18,690	3,550	2,190	2,050

Calendar year 1959: Max 1,120 Min 23 Mean 203 Cfsm 0.509 In. 6.90 Ac-ft 147,000
Water year 1959-60: Max 1,800 Min 24 Mean 244 Cfsm 0.612 In. 8.31 Ac-ft 177,100

Peak discharge (base, 800 cfs).--Mar. 30 (6 p.m.) 1,340 cfs (5.20 ft); Apr. 7 (12 p.m.) 2,010 cfs (6.18 ft); May 13 (5 a.m.) 1,050 cfs (4.71 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 7, 19, Dec. 9 to Jan. 28 (no gage-height record Dec. 9-24, Dec. 26 to Jan. 1, Jan. 6-13; discharge estimated on basis of 2 discharge measurements and records for Bannock Creek near Idaho City).

2005. Robie Creek near Arrowrock, Idaho

Location.--Lat 43°37'30", long 115°59'45", in N½ sec.5, T.3 N., R.4 E., on left bank 0.5 mile upstream from mouth and 5 miles northwest of Arrowrock.

Drainage area.--15.8 sq mi. Mean altitude, 4,960 ft.

Records available.--October 1950 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,080 ft (from topographic map).

Average discharge.--10 years, 9.21 cfs (6,670 acre-ft per year).

Extremes.--Maximum discharge during year, 73 cfs Mar. 7 (gage height, 2.09 ft); minimum, 0.3 cfs July 18 (gage height, 0.67 ft).
1950-60: Maximum discharge, 163 cfs Dec. 23, 1955 (gage height, 2.67 ft); minimum, 0.1 cfs for several days in August and September 1955, Aug. 2, 3, 1959; minimum gage height, 0.58 ft Aug. 11, 30, 31, 1955.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Small diversions above station for irrigation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 18-30)

0.6	0.3	1.2	7.8
.7	.6	1.4	14
.8	1.2	1.7	32
.9	2.2	2.0	64
1.0	3.6		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	3.0	3.0	b2.5	3.6	b3.7	35	13	4.3	a0.8	1.7	0.5
2	2.4	3.0	2.9	b2.4	5.0	b3.8	34	14	4.1	a.8	1.1	.5
3	2.3	3.4	2.9	b2.4	3.4	4.1	36	14	3.6	a.7	.9	.5
4	2.2	3.4	2.4	b2.4	3.4	4.5	44	16	3.7	.7	.9	.9
5	2.2	3.0	2.3	b2.6	3.6	7.4	53	14	3.6	a.7	.7	.7
6	2.2	3.0	b2.5	b3.6	3.4	9.2	60	14	3.4	a.7	.7	.5
7	2.3	a3.4	b2.6	b4.0	9.8	*26	62	18	*3.3	a.6	.7	.5
8	2.6	a3.2	2.6	b4.0	22	20	*57	18	3.3	a.6	.6	.5
9	2.2	a3.2	b2.5	4.7	16	15	52	17	3.0	a.6	.6	.5
10	5.6	a3.2	b2.6	4.7	12	12	49	16	2.7	a.5	.6	.5
11	4.5	a3.0	b2.5	4.3	9.2	11	41	16	2.6	a.5	.6	.4
12	3.9	3.0	2.7	3.6	7.5	10	36	14	2.3	.5	.5	.4
13	3.6	2.3	2.6	3.3	7.0	11	31	14	2.1	.5	.6	.5
14	*3.2	2.4	2.4	3.1	6.6	10	28	12	1.8	*.4	.5	.5
15	3.1	2.9	2.7	2.9	b6.0	9.5	24	11	a1.8	.5	.5	.5
16	3.1	2.7	2.7	a2.7	b5.8	9.5	23	11	a1.7	.5	.6	.5
17	3.0	2.6	*2.6	a2.5	b5.6	11	21	*11	a1.6	.4	.6	.4
18	2.9	*2.9	2.6	a2.3	5.4	14	21	12	a1.6	.4	.5	.4
19	2.9	3.0	2.6	a2.3	5.4	21	21	10	a1.5	.4	.5	.5
20	2.9	3.0	2.6	a2.4	b4.8	30	20	9.2	a1.4	.4	.5	.8
21	3.0	3.4	2.6	a2.6	4.8	39	19	10	a1.4	.4	.5	.9
22	4.5	3.4	2.7	a2.8	b4.8	*45	18	9.2	a1.3	.4	.5	.9
23	5.0	4.7	2.9	a3.0	b4.0	52	17	8.3	a1.2	.4	*.6	.6
24	4.3	4.5	4.3	a3.0	b4.3	54	16	8.6	a1.2	.6	.6	.6
25	3.7	3.7	6.1	a3.0	4.7	57	16	8.3	a1.1	.6	.6	.6
26	3.4	3.1	3.7	*a3.1	4.5	57	15	8.3	a1.1	.5	.6	.6
27	3.3	3.0	b3.3	3.1	b3.5	50	*15	8.0	a1.0	.4	.6	.6
28	3.3	3.3	b3.0	3.0	b3.5	50	15	7.0	a1.0	.4	.6	.6
29	3.1	3.3	b2.8	4.1	b3.6	41	14	6.6	a.9	.4	.6	.6
30	3.1	3.3	b2.7	4.3	------	45	14	5.6	a.9	.5	.6	.7
31	3.0	------	b2.6	3.7	------	41	------	5.0	------	.9	.6	------
Total	106.5	95.3	89.0	98.4	183.2	773.7	907	359.1	64.5	16.7	20.3	17.2
Mean	3.44	3.18	2.87	3.17	6.32	25.0	30.2	11.6	2.15	0.54	0.65	0.57
Cfsm	0.218	0.201	0.182	0.201	0.400	1.58	1.91	0.734	0.136	0.034	0.041	0.036
In.	0.25	0.22	0.21	0.23	0.43	1.82	2.13	0.84	0.15	0.04	0.05	0.04
Ac-ft	211	189	177	195	363	1,530	1,800	712	128	33	40	34

Calendar year 1959: Max 24 Min 0.1 Mean 4.75 Cfsm 0.301 In. 4.07 Ac-ft 3,440
Water year 1959-60: Max 62 Min 0.4 Mean 7.46 Cfsm 0.472 In. 6.41 Ac-ft 5,410

Peak discharge (base, 35 cfs).--Feb. 8 (1:30 p.m.) 72 cfs (2.05 ft); Mar. 7 (4 p.m.) 73 cfs (2.09 ft); Mar. 25 (8 p.m.) 67 cfs (2.05 ft); Apr. 6 (8 p.m.) 69 cfs (2.10 ft).

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Mores Creek above Robie Creek and Bannock Creek near Idaho City.
b Stage-discharge relation affected by ice.

2015. Lucky Peak Reservoir near Boise, Idaho

Location.--Lat 43°32', long 116°04', in SW¼NW¼ sec.12, T.2 N., R.3 E., at outlet control tower at dam on Boise River, 2 miles upstream from diversion dam for New York Canal, 7 miles downstream from Mores Creek, and 9 miles southeast of Boise.

Drainage area.--2,680 sq mi, approximately.

Records available.--October 1954 to September 1960.

Gage.--Remote registering water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to May 13, 1955, staff gage at same site and datum.

Extremes.--Maximum contents during year, 301,910 acre-ft June 16 (elevation, 3,058.17 ft); minimum, 57,700 acre-ft Sept. 26 (elevation, 2,934.33 ft).
1954-60: Maximum contents, 305,130 acre-ft June 25, 1955 (elevation, 3,059.32 ft); minimum since near-full capacity was attained June 25, 1955, 29,250 acre-ft Oct. 15, 1955 (elevation, 2,905.69 ft).

Remarks.--Reservoir is formed by earth-fill dam. Storage began Oct. 16, 1954. Dam completed in February 1955. Capacity, 307,040 acre-ft between elevations 2,827.0 (sill of outlet gates) and 3,060.0 ft (spillway crest). Minimum proposed operating level, 2,905.0 ft (28,770 acre-ft), but all storage can be released. Water is stored for flood control and irrigation of lands in Boise valley.

Cooperation.--Elevation record and capacity table furnished by Corps of Engineers.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

2,920.0	42,160	3,020.0	205,580
2,940.0	64,600	3,060.0	307,040
2,980.0	125,090		

Contents, in acre-feet, at 12 p.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	148,060	148,470	150,550	152,160	216,890	234,020	267,120	277,010	284,480	293,630	293,830	206,960
2	148,160	148,600	150,590	152,120	216,840	233,650	271,250	280,910	285,100	293,880	293,910	201,680
3	148,260	148,680	150,700	152,120	216,560	233,360	275,340	283,650	287,190	294,270	293,830	196,060
4	148,330	148,790	150,700	152,120	216,330	233,050	279,840	284,670	289,610	294,540	294,380	190,720
5	148,350	148,810	150,680	152,120	216,050	232,900	285,460	284,670	291,850	294,600	293,960	185,620
6	147,760	148,830	150,700	152,230	215,790	232,980	291,470	284,540	293,300	294,460	293,140	181,150
7	146,840	148,930	150,720	152,470	215,910	233,800	295,260	285,080	294,490	294,210	294,290	176,340
8	146,120	149,000	150,720	153,830	216,560	234,190	296,800	285,860	295,590	293,940	296,190	171,510
9	145,930	149,060	150,720	156,930	217,120	234,430	298,020	286,680	297,130	293,850	296,190	166,900
10	145,870	149,160	150,760	160,630	217,330	234,460	297,630	287,540	297,490	293,770	295,560	162,330
11	146,080	149,200	150,800	164,440	217,520	234,410	290,180	288,710	297,740	293,880	295,230	157,630
12	146,250	149,240	150,840	168,200	217,520	234,410	281,690	288,960	298,930	293,990	294,050	152,350
13	146,400	149,310	150,930	171,990	217,520	234,410	278,420	287,430	299,350	293,940	291,710	145,150
14	146,520	149,290	150,950	175,630	217,450	234,310	277,250	287,330	299,960	293,940	288,060	137,680
15	146,610	149,270	151,050	179,430	217,280	234,210	277,410	288,440	301,190	294,070	284,030	130,330
16	146,740	149,370	151,110	183,090	217,350	234,020	277,550	286,760	301,880	294,240	279,700	123,100
17	146,840	149,390	151,150	186,790	217,210	233,970	277,310	284,130	301,690	294,270	275,240	115,890
18	146,900	149,410	151,200	190,500	219,250	233,990	276,590	281,630	301,300	294,270	270,650	108,660
19	147,010	149,510	151,300	194,050	220,940	234,630	275,740	277,120	300,520	294,240	266,000	101,600
20	147,070	149,560	151,300	197,740	222,520	235,160	274,810	274,810	299,350	294,210	261,440	91,500
21	147,150	149,600	151,340	200,110	224,010	235,990	273,490	274,360	296,940	294,320	256,680	87,480
22	147,300	149,780	151,360	201,990	225,480	237,190	271,700	273,200	294,290	294,290	252,180	80,650
23	147,530	149,890	151,400	203,700	226,870	238,710	269,600	272,620	293,140	294,490	247,680	73,910
24	147,680	150,050	151,650	205,530	228,320	240,380	269,550	273,180	292,640	294,600	243,270	67,260
25	147,830	150,180	151,830	207,440	229,910	242,330	263,690	274,020	292,590	294,540	238,950	60,560
26	147,950	150,280	151,940	209,320	231,400	244,410	262,680	274,760	292,640	294,490	234,580	61,850
27	148,030	150,300	151,940	211,150	232,860	246,300	263,770	275,980	292,750	294,490	230,340	67,380
28	148,120	150,320	152,000	213,040	234,210	248,480	266,490	277,520	292,970	294,430	225,980	70,810
29	148,220	150,370	152,020	214,840	234,480	251,040	269,240	280,290	293,250	294,210	221,550	71,060
30	148,290	150,470	152,080	215,820	-------	256,420	273,250	282,570	293,500	294,430	217,170	68,370
31	148,390	-------	152,120	216,680	-------	262,370	-------	283,780	-------	294,130	212,280	-------
(†)	2,992.67	2,993.75	2,994.60	3,024.83	3,032.31	3,043.44	3,047.61	3,051.56	3,055.13	3,055.36	3,022.93	2,942.95
(‡)	+440	+2,080	+1,650	+64,560	+17,800	+27,890	+10,880	+10,530	+9,720	+630	-81,850	-143,910

Calendar year 1959..... ‡ +24,980
Water year 1959-60..... ‡ -79,580

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

2020. Boise River near Boise, Idaho

Location.--Lat 43°32', long 116°04', in NE¼ sec.11, T.2 N., R.3 E., at gate-control house at outlet works of Lucky Peak Reservoir, 1.8 miles upstream from diversion dam for New York Canal, 7½ miles downstream from mouth of Mores Creek, and 9 miles southeast of Boise.

Drainage area.--2,680 sq mi, approximately. Mean altitude, 5,910 ft.

Records available.--January 1895 to September 1916 (no winter records 1904-5, 1907), October 1954 to September 1960. Published as "near Highland" 1905-15 and as "below Moore Creek, near Arrowrock" 1916.

Gage.--Remote gate-opening recorder and staff gage on each of six slide gates, recorder and dial gage on hollow-jet valve, and water-stage recorder on Lucky Peak Reservoir. Elevation of sills of six slide gates, 2,827.0 ft (levels by Corps of Engineers). Prior to Mar. 18, 1905, staff gages at sites about 1 mile downstream at different datums. Mar. 18, 1905, to Mar. 20, 1915, staff gages and Mar. 21, 1915, to Sept. 30, 1916, water-stage recorders, at sites 5 to 7 miles upstream at different datums.

Average discharge.--23 years (1895-96, 1897-1903, 1905-6, 1907-16, 1954-60), 3,018 cfs (2,185,000 acre-ft per year).

Extremes.--Maximum daily discharge during year, 8,200 cfs May 15; minimum daily, 1 cfs Jan. 11-17, seepage, when gates were closed.
1895-1916, 1954-60: Maximum discharge observed, 35,500 cfs June 14, 1896; no flow for several days in 1954-55, 1957-59, when gates were closed.

Remarks.--Records excellent except those below 50 cfs, which are fair. Daily discharge computed from gate ratings. Flow regulated by Lucky Peak Reservoir (see preceding page), Arrowrock Reservoir (see p. 136), and Anderson Ranch Reservoir (see p. 134). Small diversions from tributaries upstream from irrigation.

Cooperation.--Records of gate operation, stage in Lucky Peak Reservoir, and gate rating curves furnished by Corps of Engineers.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	50	50	50	1,080	1,230	1,250	5,610	5,370	5,250	4,580	4,350
2	50	50	50	50	1,150	1,230	1,240	5,540	5,360	5,200	4,380	4,350
3	50	50	50	50	1,190	1,230	1,240	5,520	5,350	5,170	4,170	4,350
4	50	50	50	50	1,190	1,240	1,560	5,460	5,550	5,170	4,120	4,300
5	50	50	50	50	1,190	1,240	1,760	4,380	5,660	5,170	4,120	4,240
6	569	50	50	50	1,180	1,240	2,660	5,350	5,670	5,160	4,160	4,150
7	565	50	50	50	1,180	*1,240	4,540	5,170	5,670	5,150	4,280	4,090
8	441	50	50	50	1,190	1,240	6,390	5,100	5,990	5,150	4,390	4,030
9	373	50	50	50	1,190	1,240	6,710	5,100	*6,180	5,150	4,440	3,960
10	272	50	50	27	1,190	1,240	7,020	5,090	6,190	5,150	4,450	3,930
11	49	50	50	1	1,190	1,240	7,480	5,090	5,850	5,090	4,510	3,930
12	50	50	50	1	1,190	1,240	7,520	5,690	5,660	5,070	4,570	3,940
13	50	50	50	1	1,190	1,240	7,500	6,750	5,660	5,150	4,580	3,940
14	50	50	50	1	1,190	1,240	5,710	7,800	5,660	*5,150	4,580	3,930
15	50	50	50	1	1,190	1,240	4,340	8,200	5,490	5,150	4,570	3,930
16	50	50	50	1	*1,190	1,240	3,800	*8,190	5,680	5,150	4,570	3,900
17	50	50	50	1	1,180	1,240	3,610	8,160	5,870	5,150	4,570	3,890
18	50	*50	50	*18	538	1,240	3,740	8,180	5,570	5,050	4,580	3,880
19	38	50	50	40	1,220	1,240	3,940	8,200	5,290	5,000	4,560	3,830
20	*50	50	50	*40	1,240	1,240	4,150	7,130	5,250	5,000	4,540	3,810
21	50	50	50	34	1,240	1,240	*4,590	6,180	5,190	5,000	4,530	3,760
22	50	50	50	27	1,240	1,240	4,900	6,180	5,120	5,000	4,530	*3,700
23	50	50	50	18	1,240	1,240	4,940	6,160	5,080	5,000	4,490	3,640
24	50	50	50	43	1,230	1,240	5,110	5,870	5,120	5,010	*4,470	3,590
25	50	50	50	44	1,220	1,240	5,310	5,470	5,300	4,970	4,380	3,590
26	50	50	50	44	1,230	1,240	5,350	5,470	5,380	4,940	4,410	3,550
27	50	50	50	44	1,230	1,240	5,500	5,400	5,380	4,910	4,380	3,550
28	50	50	50	*44	1,230	1,240	5,660	5,360	5,380	4,870	4,380	3,530
29	50	50	50	44	1,230	1,240	5,630	5,360	5,370	4,840	4,360	3,520
30	50	50	50	521	-------	1,240	5,620	5,360	5,290	4,820	4,350	3,520
31	50	-------	50	568	-------	1,240	-------	5,370	-------	4,780	4,350	-------
Total	3,507	1,500	1,550	2,013	34,138	38,410	138,770	187,890	165,580	156,820	137,350	116,680
Mean	113	50	50	64.9	1,177	1,239	4,626	6,061	5,519	5,059	4,431	3,889
Ac-ft	6,960	2,980	3,070	3,990	67,710	76,190	275,200	372,700	328,400	311,000	272,400	231,400

Calendar year 1959: Max 5,390 Min 0 Mean 2,108 Ac-ft 1,526,000
Water year 1959-60: Max 8,200 Min 1 Mean 2,689 Ac-ft 1,952,000

* Discharge measurement made on this day.

2035. Lake Lowell near Caldwell, Idaho

Location.--Lat 43°35', long 116°45', in SE¼ sec.19, T.3 N., R.3 W., on outlet structure at lower embankment, 5½ miles southwest of Caldwell; and lat 43°34', long 116°39', in NW¼ sec.36, T.3 N., R.3 W., on outlet structure at upper embankment, 5 miles west of Nampa.

Records available.--October 1917 to September 1960. Prior to October 1945, published as Deer Flat Reservoir near Caldwell.

Gage.--Staff gages read once daily. Datum of gages is 2,500.5 ft above mean sea level (surveys of Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 173,200 acre-ft Apr. 19 (gage height, 29.59 ft); minimum observed, 20,480 acre-ft Oct. 29 (gage height, 10.06 ft, upper pool; 2.23 ft, lower pool).

1917-60: Maximum contents observed, 178,900 acre-ft Apr. 27, 28, 1922, Apr. 24, 1932 (gage height, 30.18 ft); minimum observed, 5,390 acre-ft Oct. 22, 1924[d] (gage height, 3.27 ft, upper pool; 0.85 ft, lower pool).

Remarks.--Reservoir is formed by two earth embankments; dams were completed and storage began in 1908. Capacity, 177,150 acre-ft, between gage heights 0.0 (sill of outlet gates) and 30.0 ft (maximum operating level). Dead storage, about 13,000 acre-ft. Below gage height 12.0 ft, reservoir divides into two pools. In addition to water received from local drainage, reservoir receives water from Boise River through New York Canal of Boise project. Water is used for irrigation of lower project lands. Figures given herein represent usable contents.

Cooperation.--Gage-height record and capacity table furnished by Board of Control for Boise project.

Capacity table, water year 1959-60 (gage height, in feet, and contents, in acre-feet)

7.0	20,380	16.0	66,110
8.0	24,380	18.0	79,110
10.0	33,180	22.0	107,900
12.0	43,080	26.0	140,500
14.0	54,060	30.0	177,200

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29,480	20,590	23,310	23,200	27,690	88,550	152,200	161,300	165,400	126,200	75,440	52,520
2	29,060	20,600	23,280	23,200	28,640	90,600	154,300	160,200	164,900	124,000	75,310	52,630
3	28,610	20,700	23,250	23,150	29,100	92,960	156,500	159,300	164,000	121,800	76,040	52,800
4	28,190	20,820	23,280	23,100	31,570	95,060	158,300	158,900	162,800	120,100	77,030	53,140
5	27,800	20,950	23,300	23,170	33,960	97,250	160,100	158,200	161,600	117,800	77,760	53,780
6	27,460	21,040	23,270	23,140	36,650	99,530	162,100	157,900	160,500	116,200	79,580	54,290
7	27,310	21,180	23,230	23,150	39,020	101,900	163,500	157,900	159,400	114,200	80,320	55,220
8	27,300	21,350	23,290	23,190	41,280	104,000	165,100	158,600	158,700	112,400	80,730	56,860
9	27,450	21,480	23,280	23,200	43,700	106,200	166,300	159,300	158,300	110,500	80,320	57,980
10	27,420	21,680	23,240	23,200	46,150	108,600	167,500	160,200	157,700	108,400	79,310	59,360
11	27,380	21,840	23,230	23,200	48,380	110,700	169,000	161,000	157,200	106,500	77,430	60,750
12	27,110	22,060	23,230	23,200	50,650	112,900	170,300	161,600	156,600	104,700	75,240	62,150
13	26,780	22,140	23,210	23,200	52,800	115,100	171,200	161,900	156,100	103,000	73,080	63,560
14	26,400	22,330	23,200	23,200	55,100	116,700	172,100	162,100	155,100	101,100	71,330	64,860
15	25,960	22,520	23,200	23,200	57,270	118,500	172,400	162,300	154,000	99,460	69,590	66,360
16	25,510	22,550	23,210	23,200	59,300	120,600	172,600	162,300	152,600	97,540	67,870	67,620
17	25,080	22,680	23,210	23,200	61,540	122,700	172,800	162,200	151,300	95,530	65,610	69,080
18	24,630	22,790	23,210	23,200	63,990	124,800	173,100	161,600	149,800	94,770	63,810	70,810
19	24,150	22,840	23,210	23,200	65,050	126,800	173,200	161,300	148,300	93,320	62,020	72,040
20	23,500	22,930	23,210	23,200	66,740	128,700	172,700	161,000	146,800	91,460	60,320	73,730
21	23,320	23,020	23,210	23,140	68,830	130,800	171,700	161,200	145,300	89,610	58,940	75,040
22	22,840	23,150	23,210	23,140	71,260	132,800	170,600	161,200	143,600	87,910	57,270	76,370
23	22,080	23,280	23,210	23,140	73,140	134,800	169,600	161,400	142,100	86,300	56,330	77,900
24	21,570	23,380	23,210	23,140	75,310	136,800	168,900	161,700	140,600	84,430	55,050	79,040
25	21,130	23,500	23,200	23,140	77,360	138,800	168,200	162,300	138,600	83,190	54,120	80,660
26	20,930	23,470	23,200	23,140	79,440	140,700	167,000	162,700	136,700	81,950	53,260	82,230
27	20,730	23,380	23,200	23,140	81,950	142,800	166,000	163,300	134,700	80,590	52,630	83,810
28	20,610	23,340	23,200	23,140	84,220	144,600	164,600	163,900	132,600	79,650	52,860	85,050
29	20,480	23,360	23,200	23,090	86,510	146,700	163,600	164,900	130,500	78,370	52,520	86,370
30	20,530	23,360	23,200	23,140	-------	148,700	162,200	165,400	128,300	76,970	52,520	87,700
31	20,540	-------	23,200	24,930	-------	150,300	-------	165,800	-------	76,230	52,630	-------
(†)	(a)	(b)	(c)	(d)	19.08	27.12	28.43	28.82	24.56	17.57	13.75	19.25
(‡)	-9,250	+2,820	-160	+1,730	+61,580	+63,790	+11,900	+3,600	-37,500	-52,070	023,600	+35,070

Calendar year 1959..... ‡ +84,800
Water year 1959-60.....‡ +57,910

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
a Upper pool, 10.20 ft; lower pool, 1.95 ft.
b Upper pool, 11.42 ft; lower pool, 1.58 ft.
c Upper pool, 11.40 ft; lower pool, 1.47 ft.
d Upper pool, 10.15 ft; lower pool, 5.45 ft.

2045. Diversions from Boise River between near Boise and at Boise gaging stations, Idaho

Between near Boise and at Boise gaging stations (prior to 1955 water year, published as between Dowling Ranch and Boise gaging stations), six principal canals and several small farm laterals divert water from Boise River for irrigation.

Records of total diversion during period April to September for each canal for years 1919-46, combined daily diversion covering period April to September for years 1947-60, and daily flow of New York Canal February 1939 to October 1948 in reports of Geological Survey. Records of daily diversion for each canal from 1916-60 on file in office of Idaho State Reclamation Engineer. No record of October to March diversions except for New York Canal. Diversion through New York Canal for period October to March as reported by Boise Project, Board of Control was: October, 3,400 acre-ft; January, 854 acre-ft; February, 62,060 acre-ft; March, 72,160 acre-ft.

Records show summation of discharge for these diversions. Staff gages on canals read daily or several times weekly and discharge measurements made frequently. Field data obtained and records summarized under direction of E. B. Karn, watermaster for Boise River.

Discharge, in cubic feet per second, April to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							1,170	3,560	3,770	3,720	3,510	3,390
2							1,170	3,550	3,610	3,710	3,340	3,390
3							1,170	3,550	3,650	3,720	3,360	3,390
4							1,170	3,540	3,650	3,710	3,340	3,320
5							1,170	3,580	3,660	3,710	3,360	3,290
6							1,170	3,560	3,650	3,710	3,430	3,230
7							1,220	3,550	3,660	3,790	3,380	3,270
8							1,260	3,550	3,660	3,790	3,380	3,220
9							1,270	3,540	3,760	3,780	3,390	3,210
10							1,480	3,560	3,760	3,790	3,390	3,150
11							1,480	3,560	3,760	3,780	3,430	3,130
12							1,660	3,630	3,760	3,750	3,370	3,080
13							1,680	3,670	3,760	3,780	3,380	3,100
14							1,680	3,730	3,760	3,760	3,370	3,110
15							1,820	3,760	3,780	3,760	3,370	3,110
16							1,950	3,800	3,780	3,750	3,380	3,090
17							2,040	3,770	3,790	3,740	3,390	3,050
18							2,090	3,760	3,780	3,740	3,390	3,050
19							2,360	3,740	3,780	3,610	3,320	3,030
20							2,840	3,760	3,780	3,610	3,310	3,000
21							2,900	3,740	3,770	3,660	3,320	3,010
22							3,240	3,740	3,780	3,660	3,320	3,010
23							3,390	3,760	3,790	3,670	3,310	3,020
24							3,410	3,770	3,800	3,660	3,310	2,950
25							3,440	3,760	3,800	3,650	3,370	2,960
26							3,520	3,760	3,810	3,640	3,360	2,940
27							3,540	3,750	3,760	3,660	3,360	2,940
28							3,560	3,750	3,820	3,640	3,360	2,930
29							3,550	3,750	3,810	3,670	3,350	2,950
30							3,550	3,760	3,700	3,650	3,350	2,950
31								3,750		3,630	3,360	
Total							65,750	114,010	112,400	114,900	104,360	93,270
Mean							2,192	3,678	3,747	3,706	3,366	3,109
Ac-ft							130,400	226,100	222,900	227,900	207,000	185,000

Calendar year	: Max	Min	Mean	Ac-ft	
Water year	: Max	Min	Mean	Ac-ft	

2055. Boise River at Boise, Idaho

Location.--Lat 43°37', long 116°13', in SW¼ sec.10, T.3 N., R.2 E., on right bank at Capital Boulevard Bridge at Boise.

Drainage area.--2,760 sq mi, approximately.

Records available.--March 1938 to September 1939 (gage heights only), February 1940 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,675.46 ft above mean sea level (datum of Corps of Engineers, Boise River surveys). Prior to Apr. 30, 1943, at site 1 mile upstream at datum 13.69 ft higher. Apr. 30 to July 10, 1943, at site 400 ft downstream at present datum.

Extremes.--Maximum discharge during year, 5,840 cfs Apr. 10 (gage height, 6.72 ft); minimum, 3.1 cfs Jan. 16 (gage height, 2.30 ft); minimum daily, 7.0 cfs Jan. 14-17.
1940-60: Maximum discharge, 21,000 cfs Apr. 20, 1943 (gage height, 10.00 ft, site and datum then in use); minimum, 1.3 cfs Feb. 3, 1955 (gage height, 2.21 ft); minimum daily, 4.8 cfs Jan. 3, 1959.

Remarks.--Records good except those between 10 and 50 cfs, which are fair, and those below 10 cfs or those for periods of ice effect, which are poor. Flow regulated by Arrowrock Reservoir (see p. 136), Anderson Ranch Reservoir (see p. 134), and Lucky Peak Reservoir (see p. 140). New York, Ridenbaugh, and four small canals (see p. 143) divert between station near Boise and this station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.4	8	3.6	388
2.5	14	4.0	793
2.6	23	4.5	1,550
2.7	36	5.0	2,480
2.8	52	6.0	4,510
3.0	98	7.0	6,340
3.3	210		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	66	60	b56	98	54	88	2,020	1,590	1,310	1,170	926
2	58	66	*58	b56	75	58	88	1,950	1,550	1,280	940	926
3	60	68	60	b56	70	54	88	1,870	1,520	1,270	781	954
4	58	64	60	b55	70	54	171	1,860	1,680	1,280	781	996
5	60	62	60	b55	70	62	498	1,770	1,820	1,250	695	954
6	64	62	60	b60	70	75	863	1,710	1,840	1,230	720	913
7	82	64	60	66	88	107	2,790	1,600	1,870	1,220	806	833
8	88	62	62	66	116	113	4,910	1,480	2,100	1,220	913	806
9	88	62	62	60	113	95	5,170	1,480	2,310	1,220	954	744
10	85	62	60	58	107	82	5,330	1,460	2,310	1,220	940	744
11	245	60	62	30	90	75	*5,710	1,430	2,040	1,160	996	756
12	110	60	62	22	85	77	5,570	1,770	1,820	1,130	1,070	789
13	*85	62	60	b9.0	82	72	5,570	2,760	1,800	1,190	1,080	781
14	80	64	b62	b7.0	77	68	4,210	4,410	1,770	1,200	1,100	781
15	77	58	62	b7.0	77	70	2,370	4,250	1,620	1,190	1,100	793
16	75	60	60	b7.0	72	70	1,730	4,250	1,730	1,190	1,100	806
17	75	60	60	b7.0	70	70	1,380	4,210	1,990	1,200	1,100	781
18	72	62	60	*8.0	*60	75	1,330	4,270	1,730	1,220	1,080	793
19	62	62	60	12	50	77	1,250	*4,230	1,410	1,220	1,080	769
20	64	60	62	36	64	85	1,190	3,530	1,380	1,220	1,070	756
21	66	58	72	35	62	*88	1,250	2,310	*1,400	1,220	1,050	744
22	68	62	64	35	58	93	1,410	2,310	1,280	1,220	1,070	683
23	66	62	60	30	56	95	1,380	2,310	1,220	1,220	1,050	671
24	68	58	68	36	58	95	1,450	2,140	1,250	1,220	1,020	628
25	64	*60	66	46	54	98	1,640	1,910	1,380	*1,190	*1,010	618
26	68	58	58	52	54	98	1,660	1,930	1,480	1,170	982	618
27	64	60	60	54	54	95	*1,780	1,730	1,480	1,160	954	618
28	66	60	58	68	56	93	2,080	1,550	1,460	1,130	954	607
29	64	60	58	77	54	93	2,080	1,590	1,450	1,080	940	607
30	66	60	56	93	-------	93	1,950	1,600	1,400	1,100	926	596
31	68	-------	56	113	-------	85	-------	1,600	-------	1,110	940	-------
Total	2,376	1,844	1,888	1,372.0	2,110	2,519	66,986	73,290	49,680	37,240	30,372	22,971
Mean	76.6	61.5	60.9	44.3	72.8	81.3	2,233	2,364	1,656	1,201	980	766
Ac-ft	4,710	3,660	3,740	2,720	4,190	5,000	132,900	145,400	98,540	73,860	60,240	45,560

Calendar year 1959: Max 1,800 Min 4.8 Mean 535 Ac-ft 387,200
Water year 1959-60: Max 5,710 Min 7.0 Mean 800 Ac-ft 580,500

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2075. Dry Creek near Eagle, Idaho

Location.--Lat 43°43'55", long 116°18'15", in NW¼ sec.35, T.5 N., R.1 E., on left bank 80 ft downstream from State Highway 15, 500 ft downstream from Spring Valley Creek, and 3.6 miles northeast of Eagle.

Drainage area.--59.4 sq mi.

Records available.--June 1954 to September 1960.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,692.80 ft above mean sea level, unadjusted.

Average discharge.--6 years, 10.6 cfs (7,670 acre-ft year).

Extremes.--Maximum discharge during year, 316 cfs Mar. 7 (gage height, 3.55 ft); minimum daily, 0.1 cfs for several periods in July, August, and September; minimum gage height, 1.06 ft July 26, 27, 28, 29, 30.
1954-60: Maximum discharge, 339 cfs Feb. 26, 1957 (gage height, 4.70 ft); no flow at times in August and September 1959.

Remarks.--Records good except those for periods of doubtful or no gage-height record and those below 1.5 cfs, which are poor. Diversions above station for irrigation.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.1	0.1	1.6	11
1.2	.7	1.8	23
1.3	2.0	2.0	41
1.4	4.2	2.6	127
1.5	7.3		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	1.6	1.6	1.6	32	4.0	34	1.6	1.0	0.3	0.1	0.1
2	2.0	1.6	1.9	1.6	45	6.4	29	1.7	1.4	.3	.1	.4
3	1.7	1.7	1.9	1.6	15	7.3	30	1.7	1.4	.3	.3	.8
4	1.3	1.7	1.6	1.6	11	8.9	32	1.7	.9	.3	.4	1.2
5	1.3	1.7	1.4	1.6	*17	27	34	1.7	.8	.3	.2	1.6
6	1.4	1.7	1.4	1.6	15	55	35	.6	.7	.2	.2	.5
7	1.3	1.7	1.4	1.7	57	116	36	.8	.5	.2	.5	.4
8	1.4	1.7	1.6	2.0	*94	74	34	3.1	.3	.2	.2	.3
9	3.9	1.7	1.6	2.3	*53	*51	27	1.2	.3	.2	.2	.2
10	3.5	1.7	1.6	2.3	35	37	24	.8	.2	.2	.2	.5
11	2.7	1.7	1.6	2.9	24	32	21	1.0	.2	.2	.2	.6
12	2.0	1.7	1.6	3.5	20	31	21	1.0	.2	.2	.1	.6
13	*1.9	1.4	1.6	2.3	17	30	21	.8	.2	.1	.1	.5
14	1.9	1.4	1.4	2.0	15	29	8.5	.7	.4	.1	.1	.8
15	1.9	1.4	1.7	1.8	15	27	5.1	.8	1.6	.1	.1	1.0
16	1.7	1.4	1.6	1.8	13	25	4.8	.9	1.6	.1	.1	1.2
17	1.7	1.4	1.7	1.8	*11	25	3.5	.8	1.4	.1	.1	.4
18	1.7	1.6	1.7	1.8	11	31	2.0	1.3	1.3	.2	.1	.1
19	1.6	1.9	1.7	1.9	11	40	2.0	1.2	1.3	.2	.1	.1
20	1.6	2.3	1.7	2.1	7.3	54	2.0	1.4	1.2	.2	.1	.1
21	1.9	2.3	1.7	2.0	8.9	*65	*1.9	6.0	.4	.2	.1	.1
22	2.0	2.3	1.9	2.3	6.0	72	2.3	8.1	.4	*.1	.1	.1
23	3.1	2.5	1.9	2.6	4.2	76	2.3	*8.9	.6	.2	.1	.1
24	2.3	*2.7	2.9	2.9	6.7	73	2.7	7.0	*.5	.1	.1	.1
25	2.3	2.3	7.0	3.5	8.1	66	2.7	5.1	.4	.1	.1	.6
26	2.3	1.7	2.9	3.9	7.3	61	2.3	6.4	.3	.1	.1	1.0
27	2.3	1.4	1.7	5.4	3.5	47	1.9	5.7	.2	.1	.1	1.2
28	2.3	1.4	1.9	*3.9	3.1	45	2.3	4.8	.4	.1	.1	1.2
29	1.9	1.4	2.0	8.9	3.3	41	2.3	2.0	.2	.1	.1	1.2
30	1.4	1.6	2.0	28	-------	43	1.6	1.2	.4	.1	.1	1.2
31	1.4	-------	*1.9	19	-------	37	-------	1.4	-------	.1	*.1	-------
Total	62.0	52.6	60.1	122.2	569.4	1,336.6	428.2	81.4	20.7	5.3	4.6	18.2
Mean	2.00	1.75	1.94	3.94	19.6	43.1	14.3	2.63	0.69	0.17	0.15	0.61
Ac-ft	123	104	119	242	1,130	2,650	849	161	41	11	9.1	36

Calendar year 1959: Max 16 Min 0 Mean 2.75 Ac-ft 1,990
Water year 1959-60: Max 116 Min 0.1 Mean 7.54 Ac-ft 5,480

* Discharge measurement made on this day.
Note.--Doubtful or no gage-height record Jan. 2-5, 13-25, Feb. 29 to Mar. 1, Mar. 27 to Apr. 10; discharge estimated on basis of weather records, recorder trace, and records for adjacent periods.

2120. Diversions from Boise River between at Boise and Notus gaging stations, Idaho

Between at Boise and at Notus gaging stations, 21 principal canals and several small farm laterals divert water from Boise River for irrigation.

Records of total diversions during period April to September for each canal for years 1919-46 and combined daily diversions covering period April to September for years 1947-60 in reports of Geological Survey. Records of daily diversions for each canal from 1916-60 on file in office of Idaho State Reclamation Engineer. Diversions usually made also during October and March; no record available.

Records show summation of discharge for these diversions. Staff gages on diversions read daily or several times weekly, and discharge measurements made frequently. Field data obtained and records summarized under direction of E. B. Karn, watermaster for Boise River.

Discharge, in cubic feet per second, April to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	2,350	2,250	2,420	1,870	1,900
2							0	2,340	2,320	2,410	1,830	1,890
3							0	2,320	2,320	2,400	1,770	1,870
4							0	2,360	2,350	2,390	1,820	1,770
5							0	2,330	2,390	2,380	1,850	1,740
6							0	2,310	2,400	2,380	1,840	1,680
7							34	2,200	2,390	2,370	1,830	1,660
8							78	2,120	2,370	2,360	1,880	1,580
9							265	2,100	2,390	2,340	1,960	1,570
10							224	2,070	2,380	2,330	1,970	1,560
11							426	2,130	2,380	2,320	1,990	1,550
12							456	2,210	2,390	2,200	2,000	1,590
13							565	2,210	2,370	2,340	2,080	1,580
14							614	2,240	2,360	2,340	2,090	1,590
15							752	2,280	2,360	2,340	2,080	1,540
16							796	2,300	2,370	2,340	2,110	1,510
17							832	2,320	2,380	2,300	2,080	1,500
18							1,040	2,300	2,360	2,340	2,090	1,500
19							1,230	2,300	2,360	2,330	2,090	1,480
20							1,450	2,290	2,350	2,320	2,130	1,480
21							1,700	2,230	2,340	2,320	2,130	1,480
22							1,910	2,220	2,350	2,280	2,160	1,490
23							2,020	2,170	2,370	2,250	2,090	1,440
24							2,100	2,170	2,420	2,240	2,090	1,420
25							2,210	2,130	2,450	2,210	2,040	1,410
26							2,240	2,140	2,480	2,160	2,010	1,410
27							2,290	2,160	2,470	2,130	2,000	1,440
28							2,330	2,170	2,470	2,120	1,920	1,440
29							2,370	2,180	2,480	2,110	1,920	1,440
30					-------		2,330	2,180	2,460	2,100	1,910	1,430
31		-------			-------		-------	2,230	-------	2,040	1,900	-------
Total							30,262	69,060	71,530	70,910	61,530	46,940
Mean							1,009	2,228	2,384	2,287	1,985	1,565
Ac-ft							60,020	137,000	141,900	140,647	122,000	93,100

Calendar year	: Max	Min	Mean	Ac-ft
Water year	: Max	Min	Mean	Ac-ft

2125. Boise River at Notus, Idaho

Location.--Lat 43°43', long 116°48', in SE¼ sec.34, T.5 N., R.4 W., on right bank 1,100 ft upstream from county road bridge, a quarter of a mile southeast of Notus, and 7 miles northwest of Caldwell.

Drainage area.--3,820 sq mi, approximately.

Records available.--April 1920 to September 1960 (irrigation seasons only 1923-24).

Gage.--Water-stage recorder. Datum of gage is 2,288.55 ft above mean sea level (datum of Corps of Engineers, Boise River surveys). Prior to Aug. 26, 1936, staff gage at site 1,100 ft downstream at same datum.

Extremes.--Maximum discharge during year, 5,620 cfs Apr. 11 (gage height, 7.26 ft); minimum daily, 30 cfs Apr. 24.
1920-60: Maximum discharge, 20,500 cfs Apr. 20, 1943 (gage height, 10.43 ft); minimum observed, 10 cfs Aug. 18, 21, 1920.

Remarks.--Records fair except those for periods of doubtful or no gage-height record, which are poor. Diversions above station for irrigation of about 309,300 acres (1946 determination). Diversions between station and mouth for irrigation of about 5,300 acres (1946 determination). Flow regulated by Arrowrock Reservoir (see p. 136), Anderson Ranch Reservoir (see p. 134), and Lucky Peak Reservoir (see p. 140). Records of chemical analyses and water temperatures for the water year 1960 are given in WSP 1744.

Revisions (water years).--WSP 1347: 1930.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	706	753	661	569	1,210	526	597	772	718	188	1,280	530
2	691	748	656	554	*1,480	526	578	987	652	117	1,440	520
3	686	758	661	564	769	545	569	980	575	130	1,160	500
4	681	748	646	550	636	545	569	1,200	530	171	872	646
5	671	727	641	569	607	554	711	1,210	812	238	712	896
6	686	727	636	588	617	622	944	1,190	968	222	613	902
7	686	727	641	593	676	706	1,690	1,220	968	93	385	836
8	716	722	636	597	944	958	4,510	1,460	1,030	65	300	778
9	*758	722	632	593	986	*756	5,070	1,400	1,400	70	165	712
10	742	722	632	578	870	686	5,040	1,280	1,420	64	130	657
11	764	722	627	588	758	651	*5,420	1,040	1,420	74	177	591
12	986	722	627	583	686	641	5,360	830	920	*74	106	575
13	859	701	617	550	671	627	5,150	1,620	848	76	115	*535
14	830	701	593	536	661	622	5,010	2,890	812	82	178	550
15	836	706	607	536	656	612	2,860	3,920	878	99	*196	570
16	847	696	602	526	646	607	2,160	3,800	701	130	230	596
17	853	686	597	517	*622	597	1,110	3,840	1,060	168	268	570
18	847	691	602	494	617	612	920	3,920	1,030	230	286	545
19	876	696	593	503	602	627	670	3,980	618	234	272	545
20	830	691	588	536	583	632	460	3,920	430	242	230	535
21	824	691	*583	545	583	656	260	2,420	398	268	230	510
22	830	676	597	559	579	666	270	2,110	372	372	281	495
23	830	691	588	545	564	671	180	2,150	*290	362	390	485
24	830	686	607	540	559	656	30	2,100	178	367	495	480
25	819	701	651	550	569	641	140	*1,670	135	416	580	460
26	808	681	602	573	564	632	160	1,680	174	475	591	445
27	802	*866	578	573	536	622	160	1,620	290	450	591	408
28	780	666	583	569	526	612	400	1,190	286	495	570	376
29	774	661	583	593	517	602	860	1,050	254	416	624	372
30	764	656	588	1,020	---	602	830	974	246	380	591	394
31	758	---	588	1,460	---	607	---	818	---	800	570	---
Total	24,370	21,141	19,043	18,651	20,294	19,691	52,688	59,241	20,413	7,568	14,628	17,014
Mean	786	705	614	602	700	633	1,756	1,911	680	244	472	567
Ac-ft	48,340	41,930	37,770	36,990	40,250	38,920	104,500	117,500	40,490	15,010	29,010	33,750

Calendar year 1959: Max 2,600 Min 66 Mean 533 Ac-ft 386,200
Water year 1959-60: Max 5,420 Min 30 Mean 805 Ac-ft 584,500

* Discharge measurement made on this day.
Note.--Doubtful or no gage-height record Apr. 17-28; discharge estimated on basis of records for nearby stations.

2140. Malheur River near Drewsey, Oreg.

Location.--Lat 43°47', long 118°20', in SE¼ sec.31, T.20 S., R.36 E., on left bank 300 ft downstream from bridge on U. S. Highway 20, half a mile downstream from Cottonwood Creek, and 3 miles southeast of Drewsey.

Drainage area.--910 sq mi, approximately.

Records available.--June 1920 to September 1921, November, December 1921, March, April 1922, April to September 1923, June 1926 to September 1960. Monthly discharge only for some periods, published in WSP 1317. March to September 1914 at site 13 miles upstream; records not equivalent owing to inflow from several creeks.

Gage.--Water-stage recorder. Datum of gage is 3,479.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 27, 1923, water-stage recorder or staff gage at site half a mile downstream at different datum. Apr. 27, 1923, to June 6, 1939, water-stage recorder at site 7 miles downstream at different datum.

Average discharge.--34 years (1926-60), 175 cfs (126,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,860 cfs Mar. 26 (gage height, 8.23 ft); minimum, 1.5 cfs Aug. 15, 21.
1920-23, 1926-60: Maximum discharge, 10,700 cfs Feb. 24, 1957 (gage height, 13.20 ft), from rating curve extended above 3,500 cfs on basis of contracted-opening measurement of peak flow; no flow at times.

Remarks.--Records good except those for periods of ice effect, which are poor. Diversions for irrigation of about 13,000 acres above station

Revisions (water years).--WSP 1093: 1927. WSP 1287: Drainage area. WSP 1397: 1921, 1927-31, 1937, drainage area (former site). WSP 1517: 1952.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 8				Mar. 9 to Sept. 30			
3.1	40	5.0	390	2.3	1.3	4.0	190
3.5	84	6.0	730	2.4	3.3	5.0	440
4.0	153	7.0	1,170	2.5	6.8	6.0	780
4.5	250			2.7	18	8.0	1,750
				3.0	42		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	58	60	45	65	50	796	242	155	13	3.6	8.9
2	49	58	60	45	65	55	876	260	164	14	3.6	9.4
3	49	*58	55	50	60	62	1,060	268	*172	11	3.3	9.4
4	46	59	50	45	55	70	1,260	298	196	15	3.1	12
5	46	60	45	50	50	176	1,450	258	204	15	3.1	11
6	45	61	41	55	55	397	1,580	216	214	*13	2.9	7.8
7	*44	58	45	60	60	758	1,620	190	196	11	2.9	6.8
8	52	62	*51	65	160	775	1,640	218	186	9.9	2.7	6.8
9	65	62	49	70	343	448	1,630	214	202	10	2.5	6.4
10	78	60	48	70	196	213	1,440	194	182	9.4	2.1	4.7
11	69	60	53	70	144	166	1,240	180	148	7.8	*2.1	4.4
12	65	60	60	*65	123	150	965	178	93	6.1	1.9	4.7
13	60	60	61	50	107	256	788	216	*125	5.8	1.9	4.7
14	58	42	58	45	96	298	704	240	98	5.4	1.7	*5.0
15	56	44	48	50	90	230	637	206	85	5.0	1.7	5.0
16	57	45	58	50	*87	262	554	172	89	5.0	1.7	4.8
17	56	47	60	50	87	329	509	174	81	5.0	1.9	4.7
18	56	46	61	45	65	618	479	166	69	5.4	1.9	5.0
19	54	67	55	45	70	750	470	168	59	4.4	1.9	5.4
20	53	62	50	50	70	884	440	128	49	3.1	1.9	5.0
21	53	63	50	45	70	1,120	*422	158	46	3.3	1.7	5.0
22	56	69	45	50	65	1,300	383	184	44	3.6	1.7	5.4
23	65	65	51	55	64	*1,380	360	162	35	4.0	1.9	8.4
24	62	88	62	60	62	1,450	340	152	27	4.7	2.1	7.8
25	58	87	77	55	58	1,550	320	182	23	5.0	2.3	7.3
26	54	73	69	50	55	1,680	300	228	20	5.0	2.7	8.9
27	54	50	62	55	55	1,650	288	265	20	5.0	4.0	9.9
28	56	53	50	60	50	1,560	282	232	22	4.4	8.4	10
29	56	55	40	60	50	1,120	268	192	18	2.7	8.4	11
30	56	60	45	65	-------	1,020	248	176	15	2.5	7.8	12
31	56	-------	52	65	-------	1,080	-------	174	-------	2.7	8.4	-------
Total	1,734	1,792	1,671	1,695	2,577	21,857	23,349	6,291	3,037	217.2	97.8	217.6
Mean	55.9	59.7	53.9	54.7	88.9	705	778	203	101	7.01	3.15	7.25
Ac-ft	3,440	3,550	3,310	3,360	5,110	43,350	46,310	12,480	6,020	431	194	432

Calendar year 1959: Max 627 Min 1.0 Mean 83.2 Ac-ft 60,240
Water year 1959-60: Max 1,680 Min 1.7 Mean 176 Ac-ft 128,000

Peak discharge (base, 800 cfs).--Mar. 8 (1 a.m.) 1,460 cfs (7.57 ft); Mar. 26 (2 p.m.) 1,860 cfs (8.23 ft); Apr. 8 (7 p.m.) 1,840 cfs (8.18 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 16, Nov. 29 to Dec. 5, Dec. 19, 20, 30, Jan. 1 to Feb. 7, Feb. 19-22, Feb. 26 to Mar. 2.

2150. Malheur River below Warmsprings Reservoir, near Riverside, Oreg.

Location.--Lat 43°34', long 118°12', in SW¼ sec.17, T.23 S., R.37 E., on left bank 1 mile downstream from Warmsprings Dam, 3 miles upstream from South Fork, and 4 miles northwest of Riverside.

Drainage area.--1,100 sq mi, approximately.

Records available.--January 1906 to March 1907 and December 1908 (gage heights only), January 1909 to September 1910, December 1914 to July 1917, March 1919 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Figures of discharge for January 1906 to March 1907, published in WSP 272 and 370, have been found to be unreliable and should not be used. Published as Middle Fork of Malheur River at Riverside 1906-7, as Middle Fork of Malheur River above South Fork, at Riverside 1909-10, as Malheur River above South Fork, at Riverside, in WSP 370, 1906-10, and as Malheur River at Warm Springs reservoir site, near Riverside 1914-17.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,305 ft (by barometer). Jan. 3, 1906, to May 25, 1910, staff or chain gages at several sites about 3 miles downstream, 200 ft upstream from South Fork, at various datums. Dec. 9, 1914, to July 24, 1917, water-stage recorder and Mar. 18, 1919, to Apr. 27, 1920, staff gage, at sites about 1 mile upstream at different datums. Apr. 28, 1920, to Sept. 28, 1949, staff or hook gages at sites within 80 ft of present site at present datum.

Average discharge.--41 years (1919-60), 171 cfs (123,800 acre-ft per year).

Extremes.--Maximum discharge during year, 605 cfs July 12 (gage height, 4.99 ft); minimum not determined.
1909-10, 1915-17, 1919-60: Maximum discharge observed, 7,200 cfs Mar. 1, 1910 (gage height, 10.7 ft, site and datum then in use), from rating curve extended above 820 cfs by logarithmic plotting; no flow at times.

Remarks.--Records good above 100 cfs and poor below. Flow completely regulated since November 1919 by Warmsprings Reservoir (see p. 154). Diversions for irrigation of 13,000 acres above station.

Revisions (water years).--WSP 833: 1936. WSP 1063: 1942-45. WSP 1397: 1909-10, 1917. WSP 1447: 1955. See also Records available.

Rating table, water year 1959-60, (gage height, in feet, and discharge, in cubic feet per second)

2.5	0	3.0	7.0	4.0	160
2.6	.2	3.2	17	4.5	360
2.7	.6	3.4	33	5.0	610
2.8	2.0	3.7	80		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0.1						385	262	565	460	400
2		.1						385	333	565	450	400
3		**.1						351	*405	560	420	400
4								246	460	560	405	395
5								163	475	560	405	375
6								139	475	565	405	351
7							1.5	139	470	560	405	315
8								139	470	565	405	310
9								166	470	565	440	292
10								198	450	570	465	284
11								230	*480	570	*495	274
12								284	490	585	515	262
13							1.7	328	480	595	525	254
14							2.0	342	480	595	535	226
15							117	342	480	590	560	218
16	0.1	.1	0.2	0.5	0.8	1	184	342	480	590	565	218
17							187	342	480	590	550	218
18							*214	342	480	580	535	214
19							226	342	465	580	525	230
20							254	338	450	555	520	234
21							333	338	450	545	510	230
22							385	338	450	540	505	230
23							385	338	430	535	500	202
24							385	320	455	535	495	163
25							385	284	465	530	465	166
26							385	279	510	525	435	166
27							385	254	510	525	410	166
28							385	238	505	530	410	166
29							385	238	525	515	405	154
30							385	238	565	490	405	145
31								254		480	400	
Total	3.1	3.0	6.2	15.5	23.2	31	5,001.7	8,662	13,900	17,215	14,525	7,658
Mean	0.1	0.1	0.2	0.5	0.8	1	165	279	463	555	469	255
Ac-ft	6.1	6.0	12	31	46	61	9,920	17,180	27,570	34,150	28,810	15,190

Calendar year 1959: Max 590 Min - Mean 180 Ac-ft 130,300
Water year 1959-60: Max 595 Min - Mean 183 Ac-ft 133,000

* Discharge measurement made on this day.
** Field estimate made on this day.
Note.--No gage-height record Oct. 1 to Apr. 12; discharge interpolated on basis of field estimate.

2165. North Fork Malheur River above Agency Valley Reservoir, near Beulah, Oreg.

Location.--Lat 43°57', long 118°10', in NE¼ sec.4, T.19 S., R.37 E., on left bank 500 ft upstream from Agency Valley Reservoir, 2½ miles upstream from Warm Springs Creek, and 3½ miles northwest of Beulah.

Drainage area.--355 sq mi.

Records available.--January to September 1914, June 1936 to September 1960. Published as "at Scott's Ranch, near Beulah" 1914.

Gage.--Water-stage recorder. Datum of gage is 3,351 ft above mean sea level, datum of 1929, supplementary adjustment of 1947, based on levels to high-water marks at Agency Valley Reservoir. Jan. 1 to Sept. 30, 1914, staff gage and June 10, 1936, to Oct. 14, 1958, water-stage recorder, at site 0.5 mile upstream at different datums.

Average discharge.--24 years (1936-60), 128 cfs (92,670 acre-ft per year).

Extremes.--Maximum discharge during year, 1,000 cfs Apr. 6 (gage height, 3.90 ft); minimum, 25 cfs Dec. 5.
1914, 1936-60: Maximum discharge, 1,600 cfs Feb. 24, 1957 (gage height, 3.50 ft, site and datum then in use), from rating curve extended above 620 cfs by logarithmic plotting; maximum gage height, 4.60 ft Mar. 26, 1940, site and datum then in use; minimum discharge determined, 12 cfs Jan. 27, 1948, Jan. 3, 1959.

Remarks.--Records good except those for periods of ice effect, which are poor. Diversions for irrigation of about 900 acres above station.

Revisions (water years).--WSP 883: 1938(M). WSP 1093: 1944(m). WSP 1397: 1914, 1937, 1941-42, 1944, 1950.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 21				Mar. 22 to Sept. 30			
1.5	28	2.2	145	1.6	29	2.5	205
1.7	53	2.5	235	1.8	50	3.0	400
2.0	100	3.0	485	2.0	82	3.5	670
				2.2	125	3.8	910

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	58	50	40	59	40	323	187	216	66	54	41
2	50	58	45	35	54	45	391	208	226	63	51	40
3	50	*56	45	40	45	50	525	212	*230	63	46	40
4	50	64	45	35	54	55	634	233	226	61	44	44
5	52	46	35	50	60	60	748	205	219	58	44	44
6	53	54	30	55	58	64	829	196	205	*60	42	42
7	*54	59	30	60	60	71	820	205	193	58	40	41
8	58	54	*30	68	68	74	820	222	184	57	40	41
9	72	54	35	65	66	70	756	216	168	56	40	41
10	65	53	45	65	65	56	658	233	158	54	*40	40
11	60	53	50	*60	60	58	562	268	150	53	39	39
12	59	54	50	45	58	64	475	283	140	51	38	41
13	58	49	45	35	58	68	425	287	*135	50	38	*43
14	56	40	40	40	53	70	400	254	128	49	39	46
15	56	45	40	45	*58	71	355	233	130	49	40	42
16	54	45	45	45	54	74	319	240	123	48	42	41
17	54	40	45	40	43	88	295	226	109	47	42	39
18	53	40	45	40	58	123	279	219	104	46	41	39
19	53	50	45	45	50	169	275	199	98	46	40	39
20	53	56	35	40	54	248	*264	193	96	46	39	38
21	53	58	40	45	58	324	264	212	94	46	39	38
22	58	56	45	45	54	*340	244	190	90	46	40	39
23	59	60	47	50	43	415	230	181	84	46	41	40
24	59	68	60	50	45	486	212	184	80	46	42	40
25	56	59	56	45	45	565	202	193	77	47	43	39
26	54	49	40	45	40	622	190	193	75	47	42	39
27	54	40	35	50	40	586	190	196	75	48	42	39
28	54	45	30	50	35	490	190	181	71	48	43	39
29	58	50	35	54	35	378	181	181	69	47	42	39
30	56	50	40	56	-------	470	178	193	68	47	42	40
31	58	-------	45	52	-------	382	-------	205	-------	49	41	-------
Total	1,731	1,563	1,303	1,490	1,530	6,676	12,234	6,628	4,021	1,598	1,296	1,213
Mean	55.8	52.1	42.0	48.1	52.8	215	408	214	134	51.5	41.8	40.4
Ac-ft	3,430	3,100	2,580	2,960	3,030	13,240	24,270	13,150	7,980	3,170	2,570	2,410

Calendar year 1959: Max 370 Min 25 Mean 82.4 Ac-ft 59,690
Water year 1959-60: Max 829 Min 30 Mean 113 Ac-ft 81,890

Peak discharge (base, 500 cfs).--Mar. 25 (7:30 p.m.) 883 cfs (3.77 ft); Apr. 6 (1 a.m.) 1,000 cfs (3.90 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 14-19, Nov. 27 to Dec. 16, Dec. 18-22, Dec. 26 to Jan. 7, Jan. 12-28, Feb. 3, Feb. 24 to Mar. 5.

2175. North Fork Malheur River at Beulah, Oreg.

Location.--Lat 43°54', long 118°09', in NW¼NE¼ sec.22, T.19 S., R.37 E., on left bank at Beulah, a quarter of a mile downstream from Agency Valley Dam and 12 miles northwest of Juntura.

Drainage area.--440 sq mi, approximately.

Records available.--June 1926 to September 1960. Published as "near Beulah" June 1926 to September 1935.

Gage.--Water-stage recorder. Datum of gage is 3,262.20 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. June 26, 1926, to Apr. 24, 1936, water-stage recorder at site 1 mile downstream at different datum. Apr. 25, 1936, to Sept. 30, 1949, staff gage at site 20 ft downstream at present datum.

Average discharge.--25 years (1935-60), 136 cfs (98,460 acre-ft per year).

Extremes.--Maximum discharge during year, 400 cfs July 6 (gage height, 2.48 ft); minimum, 0.7 cfs sometime during period Feb. 22 to Mar. 21.
1926-60: Maximum discharge, 7,000 cfs May 7, 1942 (gage height, 8.4 ft, from flood-mark), from computation of peak flow over dam, caused by failure of gates at Agency Valley Dam; no flow at times.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Flow regulated by Agency Valley Reservoir since December 1935 (see p. 154). Diversions for irrigation of 2,400 acres above station. Prior to Apr. 25, 1936, station was downstream from intake of diversions for irrigation of about 120 acres below station.

Revisions (water years).--WSP 1397: 1927-32, 1934, drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

-0.2	0.4	0.5	26
-.1	1.0	.7	47
0.0	2.0	1.0	84
.1	4.0	1.5	165
.2	7.0	2.0	280
.3	12	2.5	405

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	1.7	1.3	1.1	0.9	0.9	1.5	302	280	365	240	175
2	1.6	1.7	1.2	1.1	.9	.9	1.5	290	*280	360	215	165
3	1.6	1.7	1.2	1.1	.9	.9	1.5	288	282	352	199	160
4	1.6	1.3	1.1	1.1	.8	.9	1.5	285	280	352	179	158
5	1.6	1.4	1.1	1.0	.8	.9	1.5	285	300	*355	169	158
6	1.6	1.4	1.0	1.0	.8	.9	1.5	272	312	388	169	158
7	*1.5	1.3	1.0	1.0	.9	.9	1.5	262	315	392	169	158
8	1.6	1.3	1.0	1.0	1.3	.9	1.5	262	315	390	183	137
9	1.5	1.3	1.0	1.0	1.3	.9	7	265	315	380	208	130
10	1.4	1.3	1.0	1.0	1.3	.9	10	265	315	365	*232	128
11	1.4	1.3	1.0	1.0	1.1	.9	60	265	318	335	230	128
12	1.2	1.3	1.1	.9	1.0	1.0	170	265	318	308	230	128
13	.9	1.3	1.1	.9	1.0	1.0	260	265	*318	290	228	*122
14	.9	1.3	1.1	.9	1.0	1.0	260	265	308	285	225	115
15	.9	1.3	1.1	.9	1.0	1.0	200	268	300	275	222	115
16	.9	1.3	1.2	.9	.9	1.0	161	268	288	265	222	113
17	.9	1.3	1.2	.8	.9	1.0	163	260	288	258	222	112
18	.9	1.3	1.2	.8	.8	1.0	163	260	298	255	220	142
19	.9	1.3	1.2	.8	.8	1.0	*183	260	302	255	220	169
20	.9	1.3	1.2	.8	.8	1.0	195	280	300	255	210	183
21	1.0	1.3	1.2	.9	.8	1.0	195	288	310	255	205	181
22	.9	1.3	1.2	.8	.8	*1.0	215	288	325	252	203	179
23	.9	1.3	1.1	.8	.8	1.1	242	288	325	252	203	167
24	1.0	1.3	1.1	.9	.8	1.1	205	288	322	252	195	151
25	1.1	1.3	1.1	.9	.8	1.2	185	290	350	252	187	144
26	1.4	1.3	1.1	.9	.8	1.4	189	290	368	242	185	140
27	1.5	1.3	1.1	.8	.8	1.5	232	290	365	238	185	151
28	1.7	1.3	1.1	.8	.8	1.5	288	268	360	240	183	147
29	1.9	1.3	1.1	.9	.8	1.6	305	255	362	240	183	142
30	1.9	1.3	1.1	.8	-------	1.6	305	272	368	240	181	133
31	1.8	-------	1.1	.9	-------	1.5	-------	280	-------	240	181	-------
Total	40.6	40.4	34.6	28.5	26.4	33.4	4,205.0	8,529	9,487	9,183	6,283	4,389
Mean	1.31	1.35	1.12	92.0	0.91	1.08	140	275	316	296	203	146
Ac-ft	81	80	69	57	52	66	8,340	16,920	18,820	18,210	12,460	8,710

Calendar year 1959: Max 366 Min 0.1 Mean 90.1 Ac-ft 65,250
Water year 1959-60: Max 392 Min 0.8 Mean 116 Ac-ft 83,860

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 15-25, Dec. 1-7, Dec. 17 to Jan. 10, Feb. 14, Feb. 22 to Mar. 21, Mar. 31 to Apr. 15; discharge estimated on basis of recorded range in stage, record of regulation at Agency Valley Dam, or interpolated.

2200. Malheur River at Little Valley, near Hope, Oreg.

Location.--Lat 43°54', long 117°30', in SE¼ sec.24, T.19 S., R.42 E., on right bank 500 ft downstream from bridge at Little Valley, 8 miles southwest of Hope, and 14 miles southwest of Vale.

Drainage area.--3,010 sq mi, approximately.

Records available.--April 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,424.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--11 years, 219 cfs (158,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,910 cfs Mar. 8 (gage height, 6.55 ft); minimum, 21 cfs Feb. 29.

1949-60: Maximum discharge, 12,300 cfs Feb. 24, 1957 (gage height, 11.5 ft, from floodmark), from rating curve extended above 1,700 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs Oct. 27, 1955.

The two greatest floods known occurred in March 1894 and March 1910, on basis of records for former station near Namorf.

Remarks.--Records good except those for periods of ice effect, which are poor. Flow regulated by Warmsprings and Agency Valley Reservoirs (see p. 154). Vale-Oregon Canal diverts as much as 600 cfs on left bank at Namorf in sec.31, T.20 S., R.41 E., for irrigation of about 31,000 acres, largely below station. Many small diversions for irrigation above station.

Revisions (water years).--WSP 1217: 1949-50(M). WSP 1397: 1950.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.8	32	3.5	570
2.0	54	4.0	910
2.2	86	4.5	1,350
2.5	150	5.0	1,900
3.0	320	6.0	3,150

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	38	34	38	55	50	226	158	111	264	244	132
2	48	*39	37	36	55	52	202	199	*125	252	256	128
3	47	39	40	35	57	60	208	187	142	256	212	130
4	44	39	37	36	58	63	202	193	150	264	193	160
5	44	39	37	40	58	116	145	155	181	*256	184	155
6	42	39	40	42	60	646	111	130	202	252	170	142
7	*42	38	*43	44	62	1,890	92	130	196	280	158	150
8	42	38	44	45	236	2,990	72	128	199	288	148	165
9	44	38	46	42	1,690	1,200	66	119	193	300	130	152
10	42	38	47	40	*668	510	56	105	196	304	140	142
11	42	38	44	*40	374	324	48	115	*190	296	*165	130
12	40	38	43	38	236	240	43	125	212	264	175	*128
13	49	37	44	35	178	212	62	165	216	252	184	132
14	53	36	40	35	152	338	97	193	212	252	184	125
15	50	35	42	35	135	316	150	205	219	233	190	119
16	48	36	39	35	121	260	130	199	226	230	199	111
17	48	34	38	35	109	252	172	178	240	233	205	101
18	47	34	38	35	101	684	*168	165	212	233	216	96
19	44	39	37	35	92	740	155	155	199	244	205	94
20	42	37	38	35	83	1,030	130	160	181	240	196	88
21	41	39	39	35	81	1,040	142	165	172	212	190	107
22	42	39	41	38	78	*926	178	148	162	199	184	113
23	41	38	42	40	72	816	208	140	158	199	181	123
24	41	38	47	45	69	678	205	140	152	205	184	115
25	40	38	47	42	68	588	170	130	162	230	181	96
26	40	36	47	40	66	528	140	125	190	230	172	84
27	40	35	50	45	56	475	152	121	208	219	150	79
28	39	38	47	48	54	415	190	111	190	222	145	81
29	39	34	47	50	52	342	175	115	199	240	135	79
30	38	35	42	52	------	268	152	123	222	222	125	72
31	38	------	40	55	------	233	------	121	------	208	125	------
Total	1,347	1,119	1,297	1,246	5,176	18,282	4,247	4,603	5,617	7,579	5,526	3,529
Mean	43.5	37.3	41.8	40.2	178	590	142	148	187	244	178	118
Ac-ft	2,670	2,220	2,570	2,470	10,270	36,260	8,420	9,130	11,140	15,030	10,960	7,000

Calendar year 1959: Max 451 Min 17 Mean 99.6 Ac-ft 72,080
Water year 1959-60: Max 2,990 Min 34 Mean 163 Ac-ft 118,100

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 18, 20, Dec. 31 to Jan. 6, Jan. 8 to Feb. 2, Feb. 4-6, 29, Mar. 1.

2270. Bully Creek near Vale, Oreg.

Location.--Lat 43°57'30", long 117°20'30", in SW¼ sec.33, T.18 S., R.44 E., on right bank 5 miles southwest of Vale and 7 miles upstream from mouth.
Drainage area.--570 sq mi, approximately.
Records available.--May 1933 to September 1934, November 1934, March 1935, March, April 1936, June 1937 to September 1960. Monthly discharge only for some periods, published in WSP 1317.
Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,313 ft (by levels to reference point furnished by Union Pacific Railroad). Prior to Mar. 15, 1937, water-stage recorder or staff gage at site 2 miles upstream at different datum. Mar. 15, 1937, to Jan. 1, 1940, water-stage recorder at present site at datum 0.38 ft higher.
Average discharge.--24 years (1933-34, 1937-60), 42.0 cfs (30,410 acre-ft per year).
Extremes.--Maximum discharge during year, 1,320 cfs Mar. 21 or 22 (gage height, 4.64 ft, from floodmark); minimum, 2.8 cfs sometime during period Nov. 5 to Dec. 7, but may have been less during periods of ice effect.
1933-34, 1937-60: Maximum discharge, 8,980 cfs Feb. 24, 1957 (gage height, 10.5 ft, from floodmarks), from rating curve extended above 2,600 cfs on basis of slope-area measurement of peak flow; no flow at times.
Remarks.--Records fair except those for periods of ice effect or no gage-height record and those above 50 cfs, which are poor. Occasional fluctuations caused by releases from Vale-Oregon Canal which diverts water for irrigation of lands west of Vale; considerable return flow at times enters Bully Creek above station. Diversions for irrigation of about 7,000 acres above station. Records of suspended sediment loads and water temperatures for water year 1960 are given in WSP 1744.
Revisions (water years).--WSP 1183: 1946-47. WSP 1397: 1948. WSP 1447: Drainage area.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 9 to Sept. 30)

Oct. 1 to Jan. 29		Jan. 30 to Sept. 30			
0.9	6.0	1.0	5.0	2.0	125
1.0	10	1.1	9.0	2.5	245
1.2	25	1.3	22	3.0	425
		1.5	47	3.5	650

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	7.6	a14	b8	7.4	b7	180	9.5	12	21	20	18
2	16	*11	a13	a7	8.6	b7.5	163	12	*12	23	16	16
3	15	11	a12	a8	b8.5	b8	159	11	12	24	16	16
4	15	9.6	a12	a8	b9	9.0	153	11	12	22	17	17
5	14	8.0	a12	a9	8.2	a30	145	11	12	*20	16	17
6	14	a9	a13	a10	8.2	a100	142	11	12	21	16	16
7	*14	a10	*13	a11	8.6	a250	158	11	12	21	14	16
8	14	a10	b11	a12	22	a350	147	11	13	22	15	15
9	14	a10	b8	a13	51	a250	129	11	14	22	16	15
10	14	a10	b8	a13	*46	a150	101	12	16	23	15	15
11	14	a10	8.8	*12	30	86	88	11	*16	22	15	15
12	14	a10	8.4	a11	16	64	73	10	16	22	*15	*16
13	14	a10	8.4	b10	13	48	57	10	16	22	16	16
14	14	a8	b8	b9	12	56	38	10	16	22	16	14
15	14	a6	8.4	b10	10	63	26	11	18	22	17	14
16	15	a8	b7.5	b10	10	66	16	11	19	22	17	14
17	16	a7	7.6	9.2	9.0	a80	12	10	18	22	18	14
18	15	a7	b8	a9	8.6	a150	*12	11	20	23	18	14
19	14	a8	b7.5	a9	8.2	a350	11	18	21	23	18	15
20	14	a10	b7	a8.5	8.6	a450	11	16	23	23	18	16
21	14	a11	b7	a8	8.6	*a600	11	12	27	22	17	16
22	14	a11	b7.5	a8.5	8.6	*a600	10	27	27	22	17	16
23	14	a11	8.0	a9	7.8	331	10	26	29	22	17	15
24	12	a12	9.2	a9	b7.5	286	10	12	30	20	17	15
25	11	a14	10	a8	b7.5	230	10	12	28	20	16	15
26	7.6	a15	8.8	a7	7.4	248	9.5	15	27	20	17	14
27	8.8	a14	b8.5	a7.5	b7	a280	9.0	14	28	19	17	13
28	7.6	a12	b8	a8	b6.5	a350	9.0	14	24	19	17	13
29	7.6	a13	b8	a8	b6.5	233	8.6	14	23	18	17	14
30	7.2	a14	8.4	a8	-------	190	9.0	13	22	17	18	13
31	6.0	-------	b8.5	7.8	-------	168	-------	14	-------	19	18	-------
Total	400.8	307.2	287.5	285.5	370.3	6,120.5	1,917.1	401.5	575	660	517	453
Mean	12.9	10.2	9.27	9.21	12.8	197	63.9	13.0	19.2	21.3	16.7	15.1
Ac-ft	795	609	570	566	734	12,140	3,800	796	1,140	1,310	1,030	899

Calendar year 1959: Max 98 Min 6.0 Mean 13.8 Ac-ft 10,020
Water year 1959-60: Max 600 Min 6.0 Mean 33.6 Ac-ft 24,390

Peak discharge (base, 180 cfs).--Mar. 8 (time and discharge unknown); Mar. 21 or 22 (time unknown) 1,320 cfs (4.64 ft); Mar. 28 (time and discharge unknown).

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records at Vale and records for North Fork Malheur River above Agency Valley Reservoir and Malheur River near Drewsey.
b Stage-discharge relation affected by ice.

Reservoirs in Malheur River basin, Oreg.

2145. Warmsprings Reservoir.--Lat 43°35', long 118°12', in SE¼ sec.8, T.23 S., R.37 E., near right end of dam on Malheur River, 4 miles upstream from South Fork and 3 miles northwest of Riverside. Drainage area, 1,100 sq mi, approximately. Records available, January 1920 to October 1929, December 1929 to September 1960. Wire-weight gage read once daily with some exceptions April to September, and about once each week October to April. Datum of gage is 3,327.0 ft above mean sea level (levels by Bureau of Reclamation); gage readings have been reduced to elevations above mean sea level. Maximum contents observed during year, 132,400 acre-ft Apr. 22 (elevation, 3,392.16 ft); minimum observed, 13,580 acre-ft Sept. 30 (elevation, 3,347.63 ft). Maximum contents observed during period 1920-60, 196,100 acre-ft Apr. 16, May 13, 1958 (elevation, 3,407.10 ft); no contents Sept. 18 to Nov. 1, 1929, Aug. 26 to sometime in November 1935, Sept. 18 to Oct. 11, 1950.

Reservoir is formed by concrete-arch dam; capacity, 191,000 acre-ft between elevations 3,327.0 (bottom of outlet tunnel) and 3,406.0 ft (top of flashboards). Dead storage, 1,400 acre-ft below elevation 3,327.0 ft, not included in records. Storage began in 1919. Water used to irrigate lands on both sides of river between Namorf and Ontario. Data for computing capacity table furnished by Bureau of Reclamation.

2170. Agency Valley Reservoir.--Lat 43°55', long 118°09', in SE¼ sec.15, T.19 S., R.37 E., in control house at dam on North Fork Malheur River, a quarter of a mile northwest of Beulah. Drainage area, 440 sq mi, approximately. Records available, December 1935 to September 1960. Pressure gage with mercury column read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation); add 7.49 ft to obtain mean sea level elevation, datum of 1929, supplementary adjustment of 1947. Maximum contents observed during year, 56,800 acre-ft Apr. 23 (elevation, 3,338.33 ft); minimum observed, 6,730 acre-ft Oct. 1 (elevation, 3,296.24 ft). Maximum contents observed during period 1935-60, 62,770 acre-ft May 3, 1941 (elevation, 3,341.50 ft); no contents Sept. 17 to Oct. 13, 1950, Aug. 28 to Oct. 4, 1955.

Reservoir is formed by earth-fill, rock-faced dam. Storage began in December 1935. Capacity, 59,920 acre-ft between elevations 3,263.21 (bottom of outlet tunnel) and 3,340.0 ft (top of spillway gates); with gates open the capacity is 32,220 acre-ft. No dead storage. Water is used for irrigation of lands below Juntura, on Vale project of Bureau of Reclamation. Capacity table furnished by Bureau of Reclamation.

Revisions.--WSP 1397: Drainage area.

Other reservoirs.--There are several other reservoirs in the Malheur River basin, all with less than 3,500 acre-ft capacity except Willow Creek No. 3 Reservoir near Malheur, which has a capacity of 49,000 acre-ft, now limited to 14,000 acre-ft.

Month-end elevation and contents, water year October 1959 to September 1960

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	Warmsprings Reservoir			Agency Valley Reservoir		
Sept.30	-	a16,300	-	3,296.05	6,630	-
Oct. 31	3,351.96	19,940	+3,640	3,301.70	10,100	+3,470
Nov. 30	-	a23,800	+3,860	3,305.90	13,260	+3,160
Dec. 31	-	a27,400	+3,600	3,309.17	16,130	+2,870
Calendar year 1959	-	-	-84,900	-	-	-3,100
Jan. 31	3,358.26	31,550	+4,150	3,312.67	19,680	+3,550
Feb. 29	-	a40,000	+8,450	3,315.85	23,200	+3,520
Mar. 31	-	a89,900	+49,900	3,328.00	39,460	+16,260
Apr. 30	3,391.69	130,700	+40,800	3,337.96	56,120	+16,660
May 31	3,390.13	124,900	-5,800	3,335.80	52,230	-3,890
June 30	3,383.00	100,300	-24,600	3,329.30	41,440	-10,790
July 31	3,370.87	62,640	-37,660	3,317.54	25,230	-16,210
Aug. 31	3,357.49	29,980	-32,660	3,307.20	14,340	-10,890
Sept.30	3,347.63	13,580	-16,400	3,298.38	7,970	-6,370
Water year 1959-60	-	-	-2,720	-	-	+1,340

a No gage-height record; contents interpolated.

2350. South Fork Payette River at Lowman, Idaho

Location.--Lat 44°05'00", long 115°37'30", in SW¼ sec.27, T.9 N., R.7 E., on right bank 1,200 ft upstream from Rock Creek, half a mile northwest of Lowman, and 4,100 ft downstream from Clear Creek.

Drainage area.--456 sq mi. Mean altitude, 6,780 ft.

Records available.--May 1941 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,790 ft (from river-profile map). Prior to Dec. 18, 1941, staff gage at site 900 ft upstream at different datum.

Average discharge.--19 years, 886 cfs (641,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,700 cfs June 4 (gage height, 5.69 ft); minimum, 208 cfs Feb. 28 (gage height, 2.52 ft).
1941-60: Maximum discharge, 7,050 cfs May 24, 1956 (gage height, 7.45 ft); minimum, 148 cfs Dec. 9, 1944 (gage height, 2.40 ft).

Remarks.--Records excellent except those for periods of ice effect, which are fair. No regulation. Several small diversions for irrigation and placer mining, the return flow from which enters river above station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.6	230	4.0	1,170
2.8	301	4.5	1,770
3.0	400	5.0	2,530
3.5	740	6.0	4,240

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	460	492	374	286	271	256	658	852	2,710	1,080	546	333
2	448	486	363	267	290	263	609	908	3,100	1,060	525	347
3	442	486	368	b270	271	263	630	932	3,500	1,000	490	342
4	442	492	319	282	274	286	732	985	3,460	994	460	418
5	430	412	290	329	282	293	1,010	994	3,580	956	442	389
6	442	454	319	352	267	301	1,320	1,050	3,390	924	430	363
7	480	454	338	352	306	306	1,460	1,230	3,390	900	424	352
8	473	436	315	352	319	*301	1,540	1,430	*3,310	868	418	338
9	*644	424	319	352	315	282	1,630	1,450	2,820	836	412	338
10	588	418	342	363	306	230	1,640	1,770	2,660	812	400	333
11	574	406	379	358	297	267	1,500	2,420	2,750	780	389	329
12	651	406	379	333	282	286	1,290	2,990	2,740	732	384	324
13	630	358	363	271	293	271	1,170	3,100	2,670	718	379	333
14	595	363	319	250	267	271	*1,130	2,480	2,750	710	379	333
15	581	400	363	315	293	271	1,030	2,100	2,880	672	388	329
16	567	368	333	274	278	256	932	1,980	2,720	651	374	319
17	546	363	338	282	263	278	884	*1,780	2,610	637	368	315
18	525	406	333	246	286	290	860	1,600	2,240	616	358	315
19	512	*379	319	263	278	333	916	1,430	2,030	602	352	310
20	499	368	290	b280	260	424	876	1,340	1,920	581	342	306
21	486	389	b280	b290	286	539	852	1,420	1,660	*567	342	306
22	546	384	*b285	b300	271	651	828	1,290	1,500	553	*358	306
23	612	436	301	319	237	756	868	1,240	1,420	539	412	306
24	680	454	338	315	243	828	764	1,200	1,430	525	412	301
25	658	424	363	306	290	884	732	1,130	1,430	512	412	306
26	657	358	315	293	278	960	710	1,110	1,360	506	384	306
27	609	342	246	*282	263	884	718	1,170	1,270	499	374	301
28	581	400	b270	278	230	924	748	1,220	1,230	480	358	297
29	553	418	290	282	243	812	756	1,380	1,180	473	358	297
30	525	379	306	278	------	804	804	1,640	1,030	473	347	297
31	506	------	306	271	------	725	------	2,180	------	506	338	------
Total	16,922	12,355	10,063	9,291	8,039	14,495	29,597	47,801	70,740	21,762	12,325	9,789
Mean	546	412	325	300	277	468	987	1,542	2,358	702	398	326
Cfsm	1.20	0.904	0.713	0.658	0.607	1.03	2.16	3.38	5.17	1.54	0.873	0.715
In.	1.38	1.01	0.82	0.76	0.66	1.18	2.41	3.90	5.77	1.77	1.01	0.80
Ac-ft	33,560	24,510	19,960	18,430	15,950	28,750	58,700	94,810	140,300	43,160	24,450	19,420

Calendar year 1959: Max 3,740 Min 210 Mean 772 Cfsm 1.69 In. 22.97 Ac-ft 558,600
Water year 1959-60: Max 3,580 Min 230 Mean 719 Cfsm 1.58 In. 21.47 Ac-ft 522,000

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2360. Deadwood Reservoir near Lowman, Idaho

Location.--Lat 44°18', long 115°39', in SE¼ sec.8, T.11 N., R.7 E., at dam on Deadwood River, 15 miles north of Lowman.

Drainage area.--112 sq mi.

Records available.--October 1935 to September 1960.

Gage.--Staff gage on face of dam read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Datum of Geological Survey levels (1952, preliminary) is 22.8 ft higher.

Extremes.--Maximum elevation observed during year, 5,335.33 ft June 19; minimum observed, 5,289.06 ft Oct. 1.
1935-60: Maximum elevation observed, 5,337.1 ft June 1, 2, 1943; minimum observed, 5,205.0 ft Sept. 18 to Oct. 11, 1951, when reservoir was drained for repairs.

Remarks.--Reservoir is formed by concrete-arch dam completed in 1930; storage began Nov. 2, 1930. Reported capacity, 160,400 acre-ft between elevations 5,230.0 ft (minimum operating level because of fish protections, 27 ft above sill of emergency gate in front of needle valve) and 5,334.0 ft (crest of spillway). Storage below elevation 5,230 ft, about 1,500 acre-ft. Water is used to augment flow of Payette River at Black Canyon powerplant near Ennett and, since 1956, as supplemental irrigation supply for Ennett Irrigation district and other users. Small diversion from a tributary of Johnson Creek in Salmon River basin to Deadwood River basin for supplemental storage in Deadwood Reservoir. Below are discharge measurements, in cubic feet per second, of this canal.

Oct. 5	2.35
Nov. 7	2.26
July 17	4.11
Aug. 19	1.97
Sept.24	.76

Cooperation.--Gage readings furnished by Bureau of Reclamation.

Revisions.--WSP 1567: Drainage area.

Elevation, in feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	289.06	293.82	296.70	299.03	301.30	303.27	306.08	311.18	325.90	334.91	328.10	313.77
2	289.18	293.93	296.78	299.12	301.43	303.33	306.18	311.22	326.56	334.88	328.08	312.68
3	289.30	294.04	296.88	299.20	301.49	303.40	306.25	311.42	327.30	334.84	327.80	311.57
4	289.41	294.17	296.90	299.28	301.54	303.48	306.37	311.80	328.10	334.81	327.87	310.40
5	289.54	294.23	296.96	299.36	301.62	303.55	306.51	312.10	328.90	334.78	327.83	309.32
6	289.66	294.34	297.04	299.45	301.69	303.66	306.72	312.50	329.64	334.76	327.89	308.23
7	289.78	294.47	297.15	299.50	301.81	303.74	306.97	312.92	330.38	334.73	327.93	307.12
8	289.94	294.59	297.18	299.62	301.92	303.83	307.26	313.52	331.04	334.40	327.98	305.84
9	290.05	294.71	297.27	299.68	302.07	303.94	307.58	314.02	331.68	334.10	327.93	304.62
10	290.30	294.79	297.36	299.74	302.15	303.97	307.93	314.52	332.28	33[illegible].71	327.33	303.38
11	290.48	294.90	297.44	299.84	302.20	304.01	308.28	315.20	332.82	333.62	326.38	302.13
12	290.70	295.00	297.50	299.89	302.24	304.07	308.50	316.04	333.36	333.57	325.69	300.88
13	290.89	295.08	297.63	299.92	302.32	304.12	308.97	316.96	333.86	333.51	325.09	299.48
14	291.08	295.16	297.69	299.98	302.37	304.20	309.30	317.80	334.33	333.47	324.46	298.09
15	291.24	295.22	297.75	300.02	302.45	304.25	309.60	318.49	334.80	333.43	323.83	296.70
16	291.37	295.27	297.80	300.11	302.49	304.29	309.78	319.13	335.04	333.38	323.27	295.27
17	291.54	295.32	297.85	300.19	302.54	304.33	310.00	319.74	335.23	33[illegible].34	322.91	293.78
18	291.68	295.37	297.90	300.28	302.59	304.38	310.25	320.25	335.30	33[illegible].27	322.62	292.31
19	291.82	295.45	298.03	300.37	302.64	304.45	310.40	320.70	335.33	333.22	322.30	290.78
20	291.96	295.55	298.07	300.45	302.69	304.50	310.70	321.12	335.32	333.16	321.99	290.65
21	292.09	295.69	298.22	300.53	302.74	304.56	310.90	321.60	335.30	33[illegible].69	321.68	290.70
22	292.25	295.87	298.29	300.62	302.80	304.63	311.10	322.00	335.25	33[illegible].11	321.35	290.80
23	292.50	296.00	298.38	300.70	302.85	304.74	311.30	322.36	335.22	331.55	321.08	290.84
24	292.68	296.10	298.47	300.77	302.90	304.87	311.50	322.70	335.17	33[illegible].95	320.77	290.90
25	292.82	296.20	298.56	300.83	302.95	305.00	311.60	323.05	335.16	33[illegible].35	320.50	290.99
26	292.99	296.32	298.65	300.90	303.00	305.15	311.40	323.37	335.10	329.73	320.10	291.09
27	293.13	296.40	298.69	300.99	303.07	305.26	311.20	323.72	335.06	329.14	319.40	291.14
28	293.26	296.45	298.76	301.04	303.13	305.46	311.02	324.07	335.02	328.47	318.37	291.22
29	293.40	296.53	298.82	301.11	303.20	305.61	311.18	324.44	334.96	328.20	317.33	291.30
30	293.54	296.62	298.88	301.19	-------	305.80	311.28	324.86	334.94	328.16	316.10	291.35
31	293.68	-------	298.97	301.24	-------	305.96	-------	325.34	-------	328.13	314.86	-------

Note.--Add 5,000 ft to obtain elevation above mean sea level. Gage read at different times each day.

2365. Deadwood River below Deadwood Reservoir, near Lowman, Idaho

Location.--Lat 44°18', long 115°39', in NE¼ sec. 17, T. 11 N., R.7 E., on right bank 300 ft upstream from Wilson Creek, a quarter of a mile downstream from Deadwood Dam at lower end of Deadwood basin, 15 miles north of Lowman, and 18 miles upstream from mouth.

Drainage area.--112 sq mi. Mean altitude, 6,630 ft.

Records available.--October 1926 to September 1960. Monthly discharge only prior to May 1927, published in WSP 1317. Published as "at Beaver Creek ranger station, near Lowman" prior to October 1934.

Gage.--Water-stage recorder. Datum of gage is 5,180.52 ft above mean sea level (levels by Bureau of Reclamation). Datum of Geological Survey levels (1952, preliminary) is 22.8 ft higher. Prior to June 22, 1935, water-stage recorder at site 600 ft upstream at datum 5.85 ft higher. June 22 to Sept. 30, 1935, staff gage at site 20 ft upstream at datum 2.00 ft higher. Oct. 1, 1935, to Aug. 3, 1955, water-stage recorder at present site at datum 1.00 ft higher.

Average discharge.--34 years, 224 cfs (162,200 acre-ft per year).

Extremes.--Maximum discharge during year, 2,020 cfs Aug. 30 (gage height, 8.54 ft); minimum observed, 0.2 cfs Sept. 24 (result of discharge measurement).
1926-60: Maximum discharge, 2,580 cfs July 14,1953; maximum gage height, 8.93 ft June 7, 1956; no flow or small amount of leakage from reservoir for long periods in 1934-37 when gates in dam were closed.

Remarks.--Records excellent except those below 10 cfs, which are fair, and those for periods of no gage-height record or backwater from Wilson Creek, which are poor. Flow regulated by Deadwood Reservoir (see preceding page).

Revisions (water years).--WSP 1123: 1943. WSP 1517: 1956. WSP 1567: Drainage area.

Rating table, water year 1959-60, except periods of backwater from Wilson Creek (gage height, in feet, and discharge, in cubic feet per second)

0.7	0.4	1.4	16	5.0	575
.8	.9	1.7	33	6.0	900
.9	1.6	2.0	58	7.0	1,300
1.0	2.7	2.5	110	9.0	2,200
1.1	4.5	3.0	170		
1.2	7.3	4.0	325		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	2.4	2.2	2.4	2.6	2.7	2.7	300	3.8	289	186	1,470
2	3.6	2.4	2.2	g2.4	2.6	2.6	g2.7	199	3.8	274	550	1,460
3	3.6	2.4	2.2	2.4	2.6	2.6	2.7	46	3.8	260	5.9	1,450
4	3.6	2.4	2.2	2.4	2.6	2.6	2.7	3.0	4.0	250	82	1,470
5	*3.6	2.0	2.2	2.4	2.7	g2.6	2.7	3.0	4.0	239	48	1,460
6	3.6	1.8	2.2	2.5	g2.7	2.6	2.7	3.0	4.0	230	7.0	1,460
7	3.4	*2.0	2.3	2.5	2.7	2.6	2.7	3.0	4.1	537	7.0	1,450
8	3.4	2.2	2.3	2.5	2.7	2.6	2.7	3.0	4.1	688	12	1,450
9	3.6	2.2	2.3	g2.5	2.7	2.7	g2.7	3.0	4.0	706	806	1,450
10	3.2	2.2	2.3	2.5	2.7	2.7	2.7	3.2	4.1	458	1,350	1,430
11	3.2	2.2	2.3	2.5	2.6	2.7	2.7	3.2	4.1	239	1,250	1,420
12	3.1	2.2	2.3	2.5	2.5	g2.7	2.8	3.2	4.1	223	988	1,450
13	3.1	2.2	2.3	2.5	g2.5	2.7	2.8	3.2	24	216	988	1,480
14	2.9	2.2	2.3	2.5	2.5	2.7	2.8	3.2	121	202	988	1,460
15	2.9	2.2	2.3	2.5	2.5	2.7	2.8	3.2	*262	202	701	1,450
16	2.9	2.2	2.3	g2.5	2.6	2.6	g2.8	3.4	381	202	870	1,460
17	2.9	2.2	2.3	2.5	2.6	2.6	2.8	3.4	466	*202	496	1,450
18	2.9	2.2	2.3	2.5	2.6	2.6	2.8	3.4	504	202	496	1,400
19	2.7	2.2	g2.3	2.5	2.7	g2.6	2.8	3.4	512	203	*496	615
20	2.7	2.2	2.3	2.6	g2.7	2.6	2.9	3.4	498	574	496	1.8
21	2.7	2.2	2.3	2.6	2.7	2.6	2.9	3.4	485	1,020	493	1.0
22	3.1	2.2	2.3	2.6	2.7	2.6	2.9	3.6	458	1,010	493	.2
23	2.9	2.2	2.3	g2.6	2.7	2.6	g2.9	3.6	432	1,020	493	.2
24	2.7	2.2	2.5	2.6	2.7	2.6	192	3.6	409	1,020	493	*.2
25	1.5	2.2	2.6	2.6	2.7	2.6	298	3.6	392	1,020	506	.3
26	.7	2.2	g2.6	2.6	2.7	g2.6	400	3.6	369	1,030	500	.8
27	.7	2.2	2.6	2.6	g2.7	2.6	471	3.6	347	1,090	1,060	4.5
28	1.3	2.2	2.5	2.6	2.7	2.6	282	3.8	329	798	1,470	4.8
29	2.4	2.2	2.5	2.6	2.7	2.6	90	3.8	314	176	1,580	4.5
30	2.5	2.2	2.5	g2.6	-------	2.6	419	3.8	302	176	1,690	4.5
31	2.5	-------	2.4	2.6	-------	2.6	-------	3.8	-------	180	1,470	-------
Total	87.5	66.0	72.5	78.2	76.7	81.4	2,215.7	639.4	6,652.9	14,936	21,670.9	26,757.8
Mean	2.82	2.20	2.34	2.52	2.64	2.63	73.9	20.6	22.2	482	699	892
Ac-ft	174	131	144	155	152	161	4,390	1,270	13,200	29,630	43,980	53,070

Calendar year 1959: Max 1,450 Min 0.7 Mean 213 Ac-ft 154,200
Water year 1959-60: Max 1,890 Min 0.2 Mean 200 Ac-ft 145,500

* Discharge measurement made on this day.
g Computed from once-daily staff-gage readings.
Note.--No gage-height record Nov. 23 to Apr. 24, Sept. 22-26, except staff-gage readings as noted; discharge estimated on basis of partial day of record, 1 discharge measurement, and record of gate settings at Deadwood Reservoir. Stage-discharge relation affected by backwater from Wilson Creek Mar. 26 to Apr. 23, May 4 to June 5; discharge estimated on basis of appearance of recorder record and record of gate settings at Deadwood Reservoir.

2375. South Fork Payette River near Garden Valley, Idaho

Location.--Lat 44°03'40", long 115°55'10", in E½NE¼ sec. 1, T.8 N., R.4 E., on right bank at Garden Valley ranger station, 300 ft upstream from Station Creek, 2.7 miles southeast of Garden Valley, and 5.9 miles upstream from Middle Fork.

Drainage area.--779 sq mi. Mean altitude, 6,400 ft.

Records available.--May 1921 to September 1960 (discontinued). Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 3,090 ft (from river-profile map). Prior to Aug. 3, 1926, staff gage at datum 0.98 ft higher. Aug. 3, 1926, to Dec. 5, 1933, staff gage at present datum.

Average discharge.--39 years, 1,306 cfs (945,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,860 cfs May 13 (gage height, 5.26 ft); minimum, 280 cfs Dec. 28 (gage height, 1.60 ft).
1921-60: Maximum discharge observed, 10,600 cfs May 26, 1928 (gage height, 8.0 ft); minimum, 75 cfs Dec. 15, 1935, Jan. 26, 1936 (gage height, 0.70 ft), from rating curve extended below 280 cfs; minimum daily, 196 cfs Dec. 10, 1944.

Remarks.--Records excellent except those for periods of ice effect, which are poor. Small diversions above station. Since Nov. 2, 1930, flow has been regulated by Deadwood Reservoir (see p. 156).

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	280	3.5	2,060
1.8	395	4.0	2,740
2.0	530	5.0	4,370
2.5	955	6.0	6,480
3.0	1,460		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	613	645	474	b380	389	330	1,080	1,700	3,480	1,700	898	1,880
2	598	629	460	b370	428	b350	984	1,750	3,910	1,650	1,150	1,880
3	590	629	474	b370	389	377	964	1,650	4,410	1,580	779	1,880
4	575	661	414	b380	383	377	1,120	1,650	4,660	1,540	605	2,000
5	568	645	371	b410	389	408	1,320	1,650	4,580	1,500	677	1,980
6	568	560	365	b420	383	454	2,020	1,730	4,370	1,440	582	1,920
7	621	605	408	b430	447	474	2,310	2,030	4,370	1,540	552	1,890
8	605	575	434	447	545	495	2,360	2,450	*4,230	1,650	538	1,880
9	888	568	383	434	530	447	2,530	2,460	3,700	1,780	888	1,880
10	870	552	447	434	488	*389	2,570	2,770	3,430	1,690	1,750	1,870
11	779	538	460	434	454	377	2,400	3,590	3,480	1,270	1,910	1,850
12	*842	545	454	440	460	414	2,070	4,330	3,410	1,200	1,490	1,860
13	824	481	460	b360	428	402	1,850	4,600	3,320	1,200	1,470	1,910
14	779	421	402	347	389	395	*1,800	3,760	3,410	1,150	1,470	1,890
15	753	538	447	414	421	383	1,620	3,240	3,640	1,100	1,430	1,880
16	728	495	434	b370	395	365	1,470	3,060	3,720	1,070	1,290	1,870
17	702	447	408	b380	359	389	1,350	2,800	3,620	1,050	1,010	1,880
18	677	495	434	b330	377	421	1,320	*2,570	3,320	1,020	1,000	1,820
19	661	*509	421	b350	389	509	1,380	2,290	3,070	1,000	984	1,580
20	645	488	383	b360	365	637	1,330	2,140	2,940	*1,030	964	454
21	621	523	371	b370	395	806	1,310	2,230	2,670	1,730	964	402
22	685	502	*389	b375	371	993	1,280	2,030	2,460	1,740	*974	402
23	860	560	389	b380	335	1,150	1,220	1,940	2,330	1,730	1,060	402
24	860	629	434	377	330	1,260	1,230	1,880	2,280	1,700	1,050	395
25	815	575	474	408	389	1,330	1,420	1,770	2,270	1,690	1,050	395
26	788	495	414	421	389	1,490	1,450	1,750	2,180	1,690	1,250	395
27	753	395	359	*428	359	1,400	1,580	1,830	2,050	1,730	1,750	395
28	728	474	341	402	b318	1,500	1,650	1,880	1,930	1,770	1,920	389
29	702	502	377	389	b315	1,320	1,250	2,060	1,870	860	1,920	383
30	685	481	389	395	-------	1,330	1,670	2,350	1,790	779	2,330	383
31	653	-------	402	402	-------	1,240	-------	2,950	-------	843	1,920	-------
Total	22,036	16,062	12,872	12,207	11,609	22,212	48,108	74,890	96,900	43,672	37,625	39,995
Mean	711	535	415	394	400	717	1,604	2,416	3,230	1,409	1,214	1,333
Ac-ft	43,710	31,860	25,530	24,210	23,030	44,060	95,420	148,500	192,200	86,620	74,630	79,330

Calendar year 1959: Max 4,720 Min 300 Mean 1,270 Ac-ft 919,200
Water year 1959-60: Max 4,660 Min 315 Mean 1,197 Ac-ft 869,100

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2380. South Fork Payette River near Banks, Idaho

Location.--Lat 44°05'30", long 116°06'00", in sec.28, T.9 N., R.3 E., on right bank 1 mile upstream from confluence with North Fork Payette River and 1½ miles northeast of Banks.

Drainage area.--1,200 sq mi, approximately. Mean altitude, 6,020 ft.

Records available.--August 1921 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,805 ft (from river-profile map). Prior to Sept. 12, 1922, staff gage at same site and datum.

Average discharge.--39 years, 1,766 cfs (1,279,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,980 cfs May 13 (gage height, 8.64 ft); minimum, 405 cfs Dec. 28 (gage height, 0.42 ft).
1921-60: Maximum discharge, 13,800 cfs May 17, 1927 (gage height, 10.6 ft, from floodmarks); minimum, 225 cfs Dec. 15, 1935, Jan. 26, 1936, Dec. 26, 1939.

Remarks.--Records excellent except those for periods of ice effect, no gage-height record, or shifting-control, which are fair. Small diversions above station for irrigation. Flow regulated by Deadwood Reservoir (see p. 156).

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 30, 31)

Oct. 1 to Jan. 31		Feb. 1 to Sept. 30			
0.5	450	0.5	450	5.0	3,260
1.0	705	1.0	616	7.0	5,200
2.0	1,370	2.0	1,060	8.4	6,720
		3.0	1,650		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	813	832	661	b550	540	497	2,120	2,680	4,970	2,120	1,100	2,040
2	789	819	644	a500	578	544	1,870	2,780	5,440	2,030	1,310	2,030
3	777	825	672	a510	557	557	1,790	2,760	6,030	1,940	1,100	2,040
4	759	884	595	*a530	533	554	2,110	2,790	6,320	1,850	780	2,170
5	747	741	459	a540	537	598	2,890	2,760	6,200	1,810	834	2,200
6	747	729	486	a560	527	696	3,800	2,850	5,930	1,740	750	2,060
7	807	819	580	a570	606	802	4,400	3,430	5,870	1,800	704	2,020
8	801	771	628	a580	874	900	4,450	4,140	5,680	2,160	676	2,000
9	1,260	759	590	a580	865	794	4,630	4,030	*5,150	2,060	894	1,990
10	1,290	753	650	b580	759	672	4,650	4,420	4,830	2,000	1,790	1,970
11	1,060	723	661	b580	672	631	4,300	5,440	4,790	1,510	2,140	1,950
12	*1,150	741	666	550	620	642	3,710	6,300	4,710	1,420	1,600	1,960
13	1,100	672	666	a490	602	631	3,300	6,630	4,540	1,410	1,580	2,040
14	1,030	525	585	a470	564	638	3,220	5,580	4,590	1,360	1,570	2,010
15	1,060	723	617	b560	574	609	2,880	4,950	4,820	1,290	1,570	2,000
16	955	672	617	a510	567	588	2,550	4,740	4,740	1,260	1,450	1,980
17	929	590	590	a520	533	616	2,340	4,320	4,700	1,230	1,130	2,010
18	896	656	612	a460	533	700	*2,290	*4,010	4,320	1,200	1,100	1,910
19	864	700	600	a475	554	880	2,400	3,600	3,970	1,180	1,090	1,810
20	838	688	555	a500	530	1,120	2,350	3,340	3,790	*1,140	1,070	620
21	813	729	530	a510	557	1,420	2,300	3,470	3,480	1,890	1,060	533
22	910	717	540	a510	540	1,760	2,200	3,190	3,180	1,890	*1,060	530
23	1,140	*759	545	a520	503	2,060	a2,100	3,020	3,010	1,870	1,200	527
24	1,100	896	595	a530	475	2,290	a2,100	2,880	2,920	1,850	1,180	523
25	1,040	813	711	a560	537	2,480	a2,400	2,740	2,860	1,840	1,240	523
26	994	705	622	a580	564	2,700	a2,400	2,710	2,750	1,830	1,360	527
27	955	555	468	*590	523	2,530	a2,600	2,880	2,580	1,850	1,840	523
28	916	628	482	570	475	2,810	a2,500	2,910	2,430	1,920	2,080	520
29	896	711	b540	545	466	2,450	*a2,000	3,120	2,320	1,070	2,070	516
30	864	666	b560	520	-------	2,850	2,520	3,500	2,220	930	2,500	516
31	838	-------	b580	530	-------	2,560	------	4,250	-------	1,020	2,110	-------
Total	29,138	21,801	18,307	16,580	16,765	39,559	85,170	116,220	129,140	50,470	41,938	44,048
Mean	940	727	591	535	578	1,276	2,839	3,749	4,305	1,628	1,353	1,468
Ac-ft	57,790	43,240	36,310	32,890	33,250	78,460	168,900	230,500	256,100	100,100	83,180	87,370

Calendar year 1959: Max 6,000 Min 324 Mean 1,703 Ac-ft 1,233,000
Water year 1959-60: Max 6,630 Min 459 Mean 1,664 Ac-ft 1,208,000

* Discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during part of periods); discharge estimated on basis of records for station near Garden Valley, North Fork Payette River near Banks, and Payette River near Horseshoe Bend.
b Stage-discharge relation affected by ice.
Note.--Shifting-control method used Jan. 29-31.

2385. Payette Lake at McCall, Idaho

Location.--Lat 44°55', long 116°07', in sec.8, T.18 N., R.3 E., at outlet of lake on North Fork Payette River at McCall.

Drainage area.--144 sq mi.

Records available.--August 1921 to September 1960 (fragmentary prior to Nov. 23, 1943). Prior to October 1942 published as "at Lardo."

Gage.--Water-stage recorder. Datum of gage is 4,982.73 ft above mean sea level, unadjusted. Prior to Aug. 26, 1931, staff gage at site 25 ft downstream at datum 2.0 ft higher. Aug. 26, 1931, to Nov. 22, 1943, staff gage at site 75 ft downstream at present datum.

Extremes.--Maximum gage height during year, 7.11 ft June 10; minimum, 1.78 ft Mar. 1. 1921-60: Maximum gage height observed, 8.75 ft July 13, 1935; minimum observed, 0.95 ft Oct. 3, 1931.

Remarks.--Flow from Payette Lake is regulated within natural range by tainter gates and removable stoplogs of a buttress and slab-type dam completed in November 1943. During period 1923-43 lake was regulated by structure consisting of a series of concrete-filled cribs supporting removable flashboards. Some regulation is reported to have been effected by timber flashboards for several years prior to 1923. Lake area is approximately 5,000 acres. No capacity table has been developed. Water is used for irrigation in vicinity of Emmett. No diversion above station.

Cooperation.--Water-stage recorder inspected by employees of U. S. Forest Service.

Revisions (water years).--WSP 753: 1931. WSP 1013: Drainage area.

Gage height, in feet, at 12 p.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.79	2.79	2.10	-	1.82	1.78	2.32	3.00	5.73	6.85	7.01	5.08
2	5.64	2.73	2.09	-	1.85	1.79	2.31	3.12	6.18	6.90	6.99	5.00
3	5.53	2.70	2.07	-	1.86	1.81	2.31	3.22	6.66	6.89	6.97	4.91
4	5.40	2.65	2.05	-	1.83	1.83	2.32	3.25	6.88	6.92	6.95	4.88
5	5.28	2.61	2.04	-	1.84	1.84	2.37	3.25	6.83	7.00	6.93	4.82
6	5.26	2.56	2.01	-	1.86	1.83	2.48	3.30	6.78	6.98	6.91	4.76
7	5.18	2.52	1.99	1.86	1.87	1.88	2.62	3.56	6.74	6.98	6.90	4.71
8	5.11	2.48	1.98	1.89	1.90	1.88	2.81	3.78	6.59	7.01	6.89	4.63
9	5.12	2.45	1.96	1.87	1.93	1.89	2.98	3.93	6.59	7.02	6.87	4.57
10	5.07	2.40	1.95	1.88	1.92	1.89	3.14	4.26	7.10	7.00	6.86	4.49
11	5.12	2.38	1.95	1.91	1.90	1.88	3.24	-	7.00	7.01	6.85	4.42
12	5.11	2.35	1.95	1.92	1.90	1.86	3.24	-	6.93	7.00	6.83	4.36
13	4.86	-	1.93	1.90	1.90	1.86	3.21	5.41	6.79	7.00	6.81	4.29
14	4.61	-	1.91	1.85	-	1.85	3.24	5.23	6.67	7.00	6.77	4.22
15	4.39	-	1.90	-	1.90	1.86	3.20	5.13	6.67	7.00	6.66	4.14
16	4.18	-	1.90	-	1.90	-	3.15	5.20	6.50	7.00	6.56	4.05
17	3.99	-	1.90	-	1.88	-	3.10	5.11	6.34	6.99	6.45	3.96
18	3.79	-	1.90	-	1.88	-	3.09	4.92	6.20	6.97	6.35	3.88
19	3.62	-	1.88	-	1.87	-	3.07	4.72	6.19	6.96	6.26	3.78
20	3.47	-	1.87	-	1.85	-	3.07	4.61	6.23	6.96	6.16	3.68
21	3.35	-	1.86	-	1.87	-	3.04	4.58	6.34	6.95	6.08	3.57
22	3.38	-	1.85	-	1.86	-	3.00	4.45	6.40	6.94	6.00	3.46
23	3.51	2.19	1.85	-	1.85	-	2.96	4.36	6.33	6.93	5.90	3.37
24	3.51	2.20	1.94	1.82	1.85	1.87	2.92	4.26	6.22	6.90	5.85	3.30
25	3.44	2.19	1.95	1.82	1.84	1.90	2.87	4.15	6.14	6.89	5.75	3.22
26	3.35	2.17	1.95	1.83	1.84	1.95	2.85	4.14	6.11	6.89	5.65	3.14
27	3.26	2.15	1.91	1.82	1.83	2.02	2.84	4.34	6.17	6.88	5.56	3.05
28	3.16	2.14	1.89	1.82	1.82	2.12	2.87	4.48	6.36	6.87	5.45	2.95
29	3.08	2.13	1.87	1.82	1.79	2.20	2.88	4.63	6.53	6.87	5.37	2.86
30	2.96	2.11	-	1.82	-------	2.30	2.92	4.93	6.57	6.88	5.28	2.76
31	2.87	-------	-	1.81	-------	2.32	-------	5.35	-------	6.92	5.18	-------

2390. North Fork Payette River at McCall, Idaho

Location.--Lat 44°54'30", long 116°07'30", in sec.8, T.18 N., R.3 E., on left bank at McCall, a quarter of a mile downstream from outlet of Payette Lake.

Drainage area.--144 sq mi. Mean altitude, 6,520 ft.

Records available.--September 1908 to June 1917, May 1919 to September 1960. Prior to October 1942, published as "at Lardo."

Gage.--Water-stage recorder. Altitude of gage is 4,970 ft (by barometer). Prior to Oct. 14, 1908, staff gage at site 1 mile downstream at different datum. Oct. 14, 1908, to Dec. 18, 1923, staff gages at sites near present gage at present datum.

Average discharge.--49 years (1908-16, 1919-60), 358 cfs (259,200 acre-ft per year).

Extremes.--Maximum discharge during year, 2,740 cfs June 5 (gage height, 6.20 ft); minimum, 2.5 cfs Aug. 14 (gage height, 1.73 ft).
1908-17, 1919-60: Maximum discharge, 4,260 cfs June 10, 1933, June 4, 1948; maximum gage height, 7.71 ft June 4, 1948; no flow Nov. 5-8, 1931, Nov. 17-24, 1933, Nov. 14-27, 1935, Oct. 22 to Nov. 11, 1938.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow partly regulated by gates at outlet of Payette Lake (see preceding page) and several smaller lakes upstream. Diversion for fish hatchery bypasses station and is returned below gage. Records of daily discharge of this diversion published in annual water-supply papers from October 1942 to February 1953.

Cooperation.--Water-stage recorder inspected by employees of U. S. Forest Service.

Revisions.--WSP 963: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.7	23	3.5	486
2.0	48	4.0	770
2.3	90	5.0	1,530
2.6	154	6.0	2,520
3.0	275	6.2	2,740

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	501	359	140	101	83	79	190	486	1,300	43	40	248
2	*486	339	140	a98	90	77	190	548	1,470	206	130	248
3	472	320	137	a96	90	80	190	597	1,660	406	63	248
4	452	301	132	94	87	85	193	642	2,280	254	34	244
5	438	*275	130	90	90	*87	207	648	2,670	108	32	241
6	429	258	126	94	88	88	232	654	2,610	225	32	238
7	420	248	123	92	95	90	279	*733	2,540	128	32	244
8	434	235	121	101	99	92	351	904	2,450	66	30	248
9	472	222	119	101	107	95	429	911	2,090	69	28	248
10	467	213	*115	97	107	95	512	975	442	251	26	255
11	462	a204	113	105	105	92	575	1,240	2,140	170	26	251
12	671	a195	113	111	103	90	602	1,560	*2,380	168	26	248
13	1,050	a187	111	107	103	88	591	1,840	2,360	136	26	244
14	960	a180	107	105	103	88	602	1,750	2,250	103	43	248
15	878	a175	a103	103	105	88	591	1,570	2,330	*117	251	248
16	812	a170	a101	101	103	88	569	1,540	2,300	99	*251	244
17	751	a165	a101	99	99	85	537	1,530	2,190	66	248	241
18	690	a160	a101	95	97	82	532	1,410	1,760	45	248	241
19	625	a155	a98	*95	92	80	527	1,260	1,160	43	248	251
20	575	a150	a96	92	88	80	522	1,140	564	43	248	251
21	532	a150	95	90	90	80	512	1,110	575	43	248	238
22	512	a152	95	90	90	80	491	1,050	699	42	241	248
23	548	a155	94	90	87	82	476	982	1,110	38	248	*244
24	569	a158	105	88	87	87	452	911	1,240	32	251	241
25	553	a158	117	87	87	92	434	854	1,100	31	251	235
26	522	157	115	88	83	99	420	812	800	30	248	251
27	491	154	111	88	83	108	406	842	591	30	244	251
28	472	152	108	88	82	132	424	890	41	28	248	248
29	443	149	105	87	79	*149	438	946	41	28	248	235
30	411	142	105	87	------	178	448	1,030	181	27	248	238
31	389	------	103	85	------	190	------	1,150	------	27	244	------
Total	17,487	6,038	3,480	2,945	2,702	3,006	12,922	32,515	45,324	3,102	4,781	7,358
Mean	564	201	112	95.0	93.2	97.0	431	1,049	1,511	100	154	245
Ac-ft	34,680	11,980	6,900	5,840	5,360	5,960	25,630	64,490	89,900	6,150	9,480	14,590

Calendar year 1959: Max 2,450 Min 43 Mean 391 Ac-ft 283,400
Water year 1959-60: Max 2,670 Min 26 Mean 387 Ac-ft 281,000

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for Payette Lake and recorded range in stage.

2400. Lake Fork Payette River above Jumbo Creek, near McCall, Idaho

Location.--Lat 44°55', long 115°59', in NE¼ sec. 8, T.18 N., R.4 E., on left bank 200 ft upstream from bridge at abandoned powerplant, a quarter of a mile upstream from Jumbo Creek, 3½ miles upstream from Lake Fork Reservoir dam, and 5½ miles east of McCall.

Drainage area.--48.9 sq mi.

Records available.--October 1945 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,140 ft (from topographic map). Prior to Nov. 10, 1945, staff gage at site 200 ft downstream at different datum.

Average discharge.--15 years, 150 cfs (108,600 acre-ft per year).

Extremes.--Maximum discharge recorded during year, 944 cfs June 15 (gage height, 7.19 ft), was probably exceeded June 3-5 during period of no gage-height record; minimum, 10 cfs Sept. 30 (gage height, 2.12 ft).
1945-60: Maximum discharge, 2,600 cfs June 3, 1948 (gage height, 9.19 ft), from rating curve extended above 1,000 cfs by logarithmic plotting; minimum, 5.5 cfs Nov. 9, 1952 (gage height, 1.62 ft).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No diversion above station.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 27				Mar. 28 to Sept. 30			
2.4	22	4.5	161	2.1	9.8	4.0	100
2.6	28	5.0	230	2.2	12	5.0	224
3.0	45	5.5	308	2.5	21	6.0	424
3.5	73	6.0	425	3.0	38	7.0	830
4.0	112			3.5	62	8.0	1,600

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	81	106	b54	b29	b26	24	70	205	a740	271	42	19
2	79	100	b56	b28	b25	24	66	230	a820	232	55	18
3	*78	b99	59	b27	b25	25	67	248	a900	200	41	17
4	79	b87	57	b27	b25	25	88	235	a930	190	35	19
5	77	b80	b50	b27	b25	25	144	218	a900	179	32	23
6	107	*b84	b50	b27	b25	25	266	238	a820	161	30	20
7	118	83	a50	b27	b25	27	311	386	a740	148	28	18
8	103	80	a47	b27	b25	27	344	*479	a680	134	27	17
9	197	79	a45	b27	b25	26	374	421	a650	120	26	16
10	150	76	*b45	b27	b25	26	376	550	a720	110	24	16
11	248	72	b47	b27	b25	26	307	a680	a780	98	26	15
12	260	71	b47	b27	26	26	257	a780	a780	87	22	15
13	200	b50	45	b25	b24	26	232	a880	*765	81	21	15
14	176	b56	b38	b23	23	26	248	574	745	73	20	18
15	172	b64	b39	b23	b24	25	221	502	866	68	20	17
16	159	b56	40	b23	b23	26	189	560	705	*66	20	16
17	140	b56	39	b23	b23	26	172	473	725	59	*20	15
18	126	b58	38	b23	b23	26	166	381	585	54	20	14
19	119	b58	b36	*a23	b23	28	205	339	578	50	19	13
20	116	58	b32	a24	b24	31	186	325	502	47	18	12
21	109	58	b32	a24	b24	35	179	398	376	44	17	12
22	200	55	b32	a25	b23	44	162	342	376	42	16	12
23	310	b56	b34	a25	*b23	54	146	313	393	40	21	*12
24	224	b56	b36	a25	23	65	138	290	430	38	30	12
25	193	b54	b36	a25	25	80	128	272	441	36	32	13
26	162	b52	b32	a26	25	105	122	287	376	35	29	14
27	145	b54	b30	a26	24	112	122	444	274	33	26	13
28	133	b54	b30	a26	23	116	150	414	151	32	25	12
29	125	b54	b30	a26	24	93	162	424	290	31	23	11
30	116	b52	b30	a27	------	*94	176	560	292	30	21	11
31	110	------	b30	a27	------	81	------	660	------	32	20	------
Total	4,612	2,018	1,266	796	703	1,399	5,774	12,908	18,330	2,821	808	455
Mean	149	67.3	40.8	25.7	24.2	45.1	192	416	611	91.0	26.1	15.2
Cfsm	3.05	1.38	0.834	0.526	0.495	0.922	3.93	8.51	12.5	1.86	0.534	0.311
In.	3.51	1.53	0.96	0.61	0.53	1.06	4.39	9.82	12.9	2.15	0.61	0.35
Ac-ft	9,150	4,000	2,510	1,580	1,390	2,780	11,450	25,600	36,360	5,600	1,600	902

Calendar year 1959: Max 1,070 Min 17 Mean 148 Cfsm 3.03 In. 41.17 Ac-ft 107,400
Water year 1959-60: Max 930 Min 11 Mean 142 Cfsm 2.90 In. 39.43 Ac-ft 102,900

Peak discharge (base, 850 cfs).--Sometime June 3-5 a peak occurred that is probably maximum for year; June 15 (10 a.m.) 944 cfs (7.19 ft).

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for station below Lake Irrigation District Canal.
b Stage-discharge relation affected by ice.

2410. Lake Fork Reservoir near McCall, Idaho

Location.--Lat 44°54', long 116°03', in NW¼NW¼ sec. 13, T.18 N., R.3 E., at outlet gate near center of dam on Lake Fork Payette River, 3 miles east of McCall.

Drainage area.--64 sq mi, approximately.

Records available.--April 1926 to September 1960 (fragmentary).

Gage.--Staff gage and graduations on concrete gate-control structure of dam; gage read once or twice daily during irrigation season. Datum of gage is at mean sea level (levels by Lake Irrigation District).

Extremes.--Maximum contents observed during year, 20,140 acre-ft June 25-28 (elevation, 5,119.00 ft); practically no storage during winter months.
1926-60: Maximum contents observed, 20,140 acre-ft June 24, 25, 1958, June 25, 30, July 5, 6, 1959, June 25-28, 1960 (elevation, 5,119.00 ft); no storage above elevation 5,101.0 ft for long periods in fall and winter of most years.

Remarks.--Reservoir is formed by earth- and rock-fill dam completed in 1926. Capacity, 16,940 acre-ft between elevations 5,101.0 (lower limit of capacity table, 4.0 ft above gate sill of outlet) and 5,117.0 ft (top of flashboards, 5.0 ft above spillway crest). Dead storage unknown. Water is used for irrigation of about 6,800 acres of land near McCall and Norwood. Figures given herein represent contents above 5,101.0 ft. There is some usable storage below elevation 5,101.0 ft, but natural flow passing through reservoir when outlet gates are operating prevents withdrawal of storage to elevation of sill of gates. Elevation, in feet, in reservoir during water year 1960 reported below 5,101.1 ft as follows:

Jan. 25..... 5,100.40 Feb. 23..... 5,099.90

Cooperation.--Elevation record and capacity table furnished by Lake Irrigation District.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

5,101.0	0	5,110.0	6,770
5,102.0	481	5,112.0	9,380
5,103.0	969	5,114.0	12,320
5,104.0	1,500	5,116.0	15,390
5,106.0	2,810	5,119.0	20,140
5,108.0	4,550		

Contents, in acre-feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-						-	-	-	19,820	10,390	3,000
2	-						-	-	16,560	19,720	10,210	2,920
3	4,220						-	-	-	19,620	9,950	2,810
4	-						-	-	17,860	19,430	9,670	2,780
5	-						-	10,850	18,050	19,270	9,380	2,720
6	-	5,730					-	-	18,050	19,070	9,110	2,660
7	-						-	11,300	-	19,010	8,950	2,600
8	-						-	-	18,400	18,820	8,700	2,510
9	-						-	12,470	18,330	18,330	8,430	2,440
10	-		461				-	-	18,490	18,080	8,160	2,370
11	-						3,750	-	18,780	17,800	7,900	2,290
12	-						-	-	18,850	17,510	7,650	2,180
13	-						4,810	15,260	18,850	17,250	7,400	2,100
14	-						-	-	19,170	16,880	7,120	2,030
15	-						-	-	19,490	16,560	6,770	1,950
16	-						-	-	19,820	16,250	6,420	-
17	-						-	-	19,820	15,910	6,140	-
18	-						6,700	13,970	19,690	15,540	5,840	-
19	-						-	-	19,460	15,230	5,550	-
20	-						-	-	19,330	14,890	5,220	-
21	-						6,940	13,920	19,390	14,520	5,020	-
22	-						-	-	19,430	14,150	4,550	-
23	8,680				0		-	-	19,590	13,690	4,420	1,380
24	-						-	13,600	19,850	13,390	4,170	-
25	-			0			-	-	20,140	12,990	3,990	-
26	-						-	13,620	20,140	12,620	3,880	-
27	-						-	-	20,140	12,200	3,710	-
28	-						8,810	-	20,140	11,870	3,530	-
29	-						-	-	19,880	11,420	3,370	-
30	-				-------		-	14,590	19,850	11,060	3,240	-
31	-	-------			-------		9,240	a15,250	19,850	10,670	3,130	-------
(†)	-	-	-	-	-	-	5,111.90	-	5,118.82	5,112.90	5,106.40	-
(‡)	-	-	-	-	-	-	-	+6,010	+4,600	-9,180	-7,540	-

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
a No gage-height record; contents estimated.

2420. Lake Irrigation District Canal near McCall, Idaho

Location.--Lat 44°54', long 116°03', in SW¼ sec.13, T.18 N., R.3 E., on right bank 600 ft downstream from head of canal, half a mile south of Lake Fork Reservoir, and 3 miles southeast of McCall.

Records available.--May 1926 to September 1960 (irrigation seasons only 1927-34, 1942, 1946).

Gage.--Staff gage read once daily. Altitude of gage is 5,090 ft (from topographic map). Prior to May 1947, staff gage at same site at different datum.

Extremes.--1926-60: Maximum daily discharge, 205 cfs July 18, 1953; no flow or small amount of leakage through headgate during nonirrigation seasons.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No diversions between headgate and station. Canal diverts from right bank of Lake Fork Payette River in SW¼ sec.13, T.18 N., R.3 E., for irrigation of 6,800 acres near McCall and Norwood, in the Lake Irrigation District project.

Cooperation.--Gage readings furnished by Lake Irrigation District.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	5						0	a27	188	124	41
2	19	0						0	37	188	113	31
3	14	0						0	a44	188	110	26
4	a15	0						0	60	182	106	26
5	a15	0						0	66	172	100	26
6	a16	*0						0	63	168	89	26
7	a16	0						0	a66	168	85	26
8	17	0						0	79	168	85	26
9	a17	0						*0	91	168	83	26
10	a17	0	(*)					0	100	172	82	26
11	a17	0						0	102	174	82	26
12	a17	0						0	*110	165	87	26
13	a17	0					(*)	0	126	162	88	26
14	a17	0						0	145	157	92	26
15	17	0						0	160	*157	100	26
16	17	0						0	171	157	104	a26
17	14	0						0	174	152	*104	a26
18	a11	0						0	178	148	104	a25
19	a11	0						0	180	146	104	a25
20	a10	0						0	176	146	104	a25
21	a10	0						0	173	146	103	a25
22	9	0						0	176	146	102	a25
23	a9	0			(*)			0	183	147	100	*24
24	a9	0						0	186	148	98	a24
25	a9	0		(*)				0	185	150	96	a24
26	a9	0						14	188	150	79	a24
27	a9	0						a21	188	148	66	a23
28	9	0						a21	183	147	65	a23
29	8	0						a21	186	146	65	a23
30	a8	0			-------			25	188	143	57	a23
31	a8	-------			-------		-------	a27	-------	137	47	-------
Total	421	5	0	0	0	0	0	129	3,991	4,934	2,824	775
Mean	13.6	0.2	0	0	0	0	0	42	133	159	91.1	25.8
Ac-ft	835	9.9	0	0	0	0	0	256	7,920	9,790	5,600	1,540

Calendar year 1959: Max 189 Min 0 Mean 40.8 Ac-ft 29,530
Water year 1959-60: Max 186 Min 0 Mean 35.7 Ac-ft 25,950

* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of change in flow at station on Lake Fork Payette River below Lake Irrigation District Canal.

2425. Lake Fork Payette River below Lake Irrigation District Canal, near McCall, Idaho

Location.--Lat 44°54', long 116°03', in SW¼ sec.13, T.18 N., R.3 E., on right bank 300 ft downstream from diversion dam for Lake Irrigation District Canal, half a mile downstream from Lake Fork Reservoir, and 3 miles southeast of McCall.

Drainage area.--64 sq mi, approximately.

Records available.--October 1940 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 5,080 ft (from topographic map).

Average discharge.--20 years, 129 cfs (93,390 acre-ft per year).

Extremes.--Maximum discharge during year, 980 cfs June 6 (gage height, 5.46 ft); minimum, 4.6 cfs Oct. 24 (gage height, 2.08 ft).
1940-60: Maximum discharge, 2,120 cfs June 3, 1948 (gage height, 7.09 ft), from rating curve extended above 1,200 cfs by logarithmic plotting; minimum, 0.4 cfs Mar. 27, 28, 1944; minimum gage height, 1.76 ft Mar. 28, 1944.

Remarks.--Records excellent except those for periods of ice effect, which are good. Flow regulated by McDowell Reservoir (capacity, about 600 acre-ft) and by Lake Fork Reservoir (see p. 163). Lake Irrigation District Canal (see preceding page) diverts above station for irrigation of about 6,800 acres.

Revisions (water years).--WSP 963: 1941.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 13, 14)

Oct. 1 to May 12				May 13 to Sept. 30			
2.6	26	3.5	154	2.5	19	4.0	275
2.7	33	4.0	280	2.7	33	5.0	720
3.0	65	5.0	640	3.0	66	6.0	1,260
				3.5	152		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	268	100	45	30	b29	76	92	448	94	72	37
2	36	266	99	b43	30	b29	78	95	575	91	65	33
3	*44	260	97	41	b30	32	81	104	735	87	66	32
4	44	257	93	41	30	30	82	119	870	94	62	31
5	44	254	89	40	30	28	89	129	910	95	63	31
6	45	*248	85	39	28	28	102	148	910	94	65	30
7	46	243	84	38	29	28	129	188	805	94	56	30
8	46	235	81	39	30	28	156	254	730	92	62	30
9	48	229	78	38	31	29	172	*304	695	91	61	29
10	52	214	*73	38	31	b29	190	352	635	87	60	30
11	65	199	72	37	30	b30	139	444	700	89	65	30
12	61	194	69	b37	30	30	81	575	730	94	61	30
13	61	188	68	b34	29	30	*82	705	*605	95	57	30
14	63	183	66	b35	b29	30	82	720	507	92	58	29
15	63	183	64	37	29	28	84	675	530	*91	58	29
16	64	163	63	36	28	b28	85	645	595	91	57	28
17	63	154	61	b35	b27	28	85	625	605	89	*57	28
18	64	148	60	b33	b27	b28	87	570	556	89	56	28
19	64	144	59	b33	b27	b29	89	484	489	89	58	27
20	65	144	57	34	b27	29	89	374	286	87	54	27
21	65	148	55	33	27	29	89	382	178	84	51	26
22	66	148	54	32	b27	31	90	374	142	87	51	26
23	92	141	53	32	*b28	32	90	362	89	87	51	*25
24	94	137	52	32	b28	35	90	296	132	86	49	24
25	172	133	53	*32	29	39	90	260	132	89	39	24
26	248	125	52	32	b29	44	89	245	138	78	34	24
27	295	117	51	32	b28	51	90	254	134	78	35	24
28	289	111	50	32	b28	58	92	275	94	80	40	23
29	283	108	49	31	b28	63	92	292	86	80	40	22
30	277	104	48	30	-------	71	92	296	94	83	39	21
31	274	-------	46	b30	-------	76	-------	362	-------	78	39	-------
Total	3,224	5,446	2,081	1,101	834	1,109	2,962	11,000	14,135	2,735	1,684	838
Mean	104	182	67.1	35.5	28.8	35.8	98.7	355	471	88.2	54.3	27.9
Ac-ft	6,390	10,800	4,130	2,180	1,650	2,200	5,880	21,820	28,040	5,420	3,340	1,660

Calendar year 1959: Max 965 Min 3.7 Mean 125 Ac-ft 90,540
Water year 1959-60: Max 910 Min 21 Mean 129 Ac-ft 93,510

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2445. Cascade Reservoir at Cascade, Idaho

Location.--Lat 44°31'30", long 116°03'05", in NE¼NE¼ sec.26, T.14 N., R.3 E., just upstream from left abutment of dam on North Fork Payette River, half a mile downstream from Willow Creek and three-quarters of a mile northwest of Cascade.

Drainage area.--620 sq mi.

Records available.--January to December 1948 (fragmentary), January 1949 to September 1960.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Nov. 7, 1958, staff gage at same site and datum.

Extremes.--Maximum contents during year, 717,600 acre-ft June 17 (elevation, 4,828.54 ft); minimum, 394,200 acre-ft Sept. 30 (elevation, 4,814.45 ft).
1948-60: Maximum contents observed, 727,000 acre-ft June 10, 11, 1957 (elevation, 4,828.89 ft); no contents at times in March, September 1948.

Remarks.--Reservoir is formed by earth-fill dam completed in May 1949. Storage began Nov. 7, 1947. Capacity, 703,200 acre-ft between elevations 4,766 (4.0 ft above sill of outlet tunnel) and 4,828 ft (top of spillway gates). Figures given herein represent contents above elevation 4,766 ft. The Bureau of Reclamation plans to limit withdrawal to elevation 4,787.5 ft, retaining 50,000 acre-ft capacity as dead storage. Contents table computed from tables furnished by Bureau of Reclamation (revised 1950). Water is used for irrigation of lands in the Payette Division of the Boise project and for power at Black Canyon powerplant near Emmett.

Cooperation.--Gage readings and capacity table furnished by Bureau of Reclamation.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

4,812.0	348,600	4,824.0	601,400
4,816.0	424,600	4,828.0	703,200
4,820.0	508,500	4,829.0	730,000

Contents, in acre-feet, at 12 p.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	468,800	512,700	521,800	482,200	482,200	484,100	499,300	609,900	667,900	702,700	583,400	465,000
2	468,400	514,300	520,500	482,200	483,000	482,200	501,300	614,400	670,200	699,700	580,100	463,300
3	467,900	517,100	519,400	482,000	483,000	480,700	503,900	618,100	673,600	697,100	575,800	461,400
4	467,500	518,300	518,000	481,800	483,300	480,000	506,300	622,000	677,700	695,900	569,900	460,200
5	467,100	518,900	516,700	481,300	483,700	480,000	509,600	625,000	682,900	691,100	565,200	458,900
6	467,100	520,500	514,400	481,300	483,900	480,300	513,800	628,000	689,000	687,800	559,800	457,300
7	466,200	521,800	514,300	481,500	485,000	481,500	518,500	633,000	693,900	685,000	554,700	455,800
8	466,500	523,000	512,700	482,800	486,700	482,000	524,100	637,300	698,400	682,200	549,100	454,200
9	470,000	524,300	511,400	482,600	487,800	483,000	529,100	639,100	702,100	679,600	544,800	453,000
10	471,300	525,000	510,000	482,800	488,200	483,300	533,800	645,700	705,500	675,700	541,600	451,700
11	473,400	525,900	508,500	483,500	488,600	483,000	539,300	649,700	705,300	671,800	538,100	449,900
12	475,100	528,100	507,400	485,900	488,900	482,800	543,600	654,800	708,200	667,700	534,700	449,100
13	477,700	527,500	506,100	483,900	489,300	482,400	548,000	660,500	712,000	663,500	530,400	447,800
14	480,300	527,900	504,500	483,500	489,700	482,200	553,800	664,800	714,900	659,200	526,100	446,400
15	482,800	528,800	503,200	482,800	489,900	482,400	557,900	667,700	716,000	654,800	521,600	445,000
16	484,600	528,800	502,100	482,400	490,200	481,500	560,700	671,800	717,300	650,200	516,000	443,800
17	486,700	529,300	500,600	481,800	490,400	480,700	563,100	675,100	716,800	645,700	511,400	442,300
18	488,400	529,500	499,300	481,300	490,200	480,500	568,000	678,000	716,500	640,800	506,700	441,300
19	490,000	529,700	497,800	480,700	489,900	480,500	572,000	677,200	716,200	636,000	502,100	438,300
20	491,700	530,200	496,200	480,000	489,700	480,700	576,700	674,400	712,800	631,800	497,500	434,300
21	493,200	530,900	494,700	479,600	489,700	481,300	581,000	673,300	712,200	628,000	493,600	429,600
22	496,000	530,200	493,200	479,800	489,500	482,000	583,900	670,500	712,000	624,500	488,200	424,800
23	498,200	530,000	492,500	480,000	489,300	482,600	586,800	668,900	712,000	620,800	483,900	421,100
24	500,400	529,300	491,200	480,000	489,100	483,300	589,700	665,500	713,300	616,800	480,900	416,500
25	501,900	528,600	491,200	480,500	489,100	483,900	592,100	662,800	712,800	613,100	477,500	413,200
26	503,700	527,500	489,700	480,900	488,700	485,200	594,800	664,600	711,400	609,700	474,700	409,200
27	505,400	526,100	488,000	481,300	488,600	486,900	597,900	665,100	710,400	606,200	472,800	405,700
28	507,000	525,200	486,500	481,300	487,800	489,100	601,400	664,800	709,600	601,600	470,700	402,000
29	508,700	524,100	485,000	481,300	486,300	491,500	604,000	664,800	707,400	596,000	469,200	397,900
30	509,600	523,000	483,700	481,800	-------	494,700	607,000	665,300	705,300	591,900	469,000	394,200
31	511,200	-------	482,600	481,800	-------	497,300	-------	666,600	-------	587,300	466,900	-------
(†)	4,820.12	4,820.65	4,818.81	4,818.77	4,818.98	4,819.37	4,824.23	4,826.60	4,828.08	4,823.42	4,818.07	4,814.45
(‡)	+42,000	+11,800	-40,400	-800	+4,500	+11,000	+109,700	+59,600	+38,700	-118,000	-120,400	-72,700

Calendar year 1959..... ‡ +24,500
Water-year 1959-60..... ‡ -75,000

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

2450. North Fork Payette River at Cascade, Idaho

Location.--Lat 44°31'30", long 116°02'45", in NW¼ sec.25, T.14 N., R.3 E., on right bank 500 ft downstream from Cascade Dam and half a mile northwest of Cascade.

Drainage area.--620 sq mi. Mean altitude, 5,960 ft.

Records available.--May 1941 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,735.25 ft above mean sea level (preliminary, unadjusted levels of U. S. Coast and Geodetic Survey). Prior to Jan. 28, 1947, staff gage and Jan. 28, 1947, to Nov. 5, 1958, water-stage recorder, at site 1.7 miles downstream at different datum. Supplemental gage is same as that used Jan. 28, 1947, to Nov. 5, 1958.

Average discharge.--19 years, 1,026 cfs (742,800 acre-ft per year).

Extremes.--Maximum discharge during year, 4,180 cfs May 19 (gage height, 11.77 ft); minimum observed, 3.8 cfs May 4 (gage height, 0.81 ft).
1941-60: Maximum discharge recorded, 7,320 cfs May 10, 1947 (gage height, 6.29 ft, site and datum then in use); minimum, 2 cfs or less in January 1948 when stage was below intake.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Cascade Reservoir (see preceding page), Payette Lake (see p. 160), and Lake Fork Reservoir (see p. 163). Diversions above station for irrigation of about 37,000 acres.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second) (Shifting-control method used Jan. 1-10, 14-26, Feb. 18-27, Mar. 5, 11-17)

Oct. 1 to May 18						May 19 to Sept. 30			
0.8	3.8	2.5	25	6.0	480	6.0	460	10.0	2,430
1.2	6.0	3.0	43	7.0	810	7.0	787	11.8	4,210
1.6	9.4	4.0	102	9.0	1,820	8.0	1,240		
2.0	15	5.0	235	11.0	3,250				

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	920	158	1,020	383	287	1,220	154	a4.0	2,320	1,460	2,510	1,300
2	920	159	1,020	386	251	1,260	156	a4.0	2,320	1,580	1,870	1,270
3	915	159	1,010	386	200	1,230	158	a4.0	2,330	1,790	2,580	1,280
4	915	160	1,010	386	200	823	158	*3.8	2,340	1,850	2,720	1,220
5	980	160	1,010	386	200	486	159	88	2,350	1,850	2,650	1,140
6	*1,020	160	1,010	386	200	352	160	134	2,370	1,850	2,640	1,050
7	1,020	162	*1,000	388	200	235	160	134	2,370	1,610	2,640	986
8	789	162	1,000	388	200	200	162	134	2,250	1,540	2,760	947
9	252	*162	1,030	388	200	200	164	134	2,340	1,530	2,300	977
10	165	162	1,040	388	202	365	165	559	2,340	1,920	1,560	1,000
11	167	162	1,030	337	202	460	159	1,020	2,340	2,160	1,650	1,000
12	159	156	1,030	294	202	460	149	1,020	2,360	2,200	1,880	991
13	150	144	1,030	349	202	460	150	1,400	2,360	2,270	1,970	986
14	147	240	1,030	519	202	460	150	2,010	2,660	2,370	2,060	960
15	147	289	1,030	585	202	460	152	2,030	*3,270	2,350	2,490	942
16	149	289	1,030	585	202	579	152	2,040	3,510	2,370	2,610	938
17	150	291	1,040	585	*325	651	152	2,060	3,510	*2,510	2,610	934
18	150	291	1,040	*600	348	413	153	2,060	3,510	2,490	2,600	955
19	152	291	1,040	600	391	234	153	3,250	3,510	2,470	2,590	1,780
20	152	291	1,030	600	391	209	153	4,120	2,470	2,220	*2,590	2,490
21	154	770	1,040	483	391	209	153	4,110	1,580	1,790	2,590	2,450
22	156	1,000	1,040	278	391	209	58	4,090	1,270	1,780	2,600	2,450
23	158	1,010	1,030	198	391	209	4.4	*4,080	1,060	1,770	2,580	2,450
24	156	1,010	1,030	198	388	209	4.2	4,070	1,240	1,760	2,450	2,460
25	156	1,010	1,030	198	388	211	4.2	2,580	1,840	1,750	2,290	*2,360
26	156	1,000	1,030	198	388	211	4.2	1,830	1,970	1,740	1,830	2,270
27	240	995	1,040	198	388	211	4.3	2,120	1,420	1,730	1,270	2,190
28	285	960	1,080	257	583	212	4.2	2,310	1,040	2,300	1,340	2,190
29	287	1,020	1,140	287	1,040	173	4.1	2,310	1,300	2,640	1,010	2,180
30	221	1,020	1,140	287	-------	*153	4.0	2,310	1,460	2,620	575	2,200
31	159	-------	651	287	-------	154	-------	2,320	-------	2,590	1,380	-------
Total	11,547	13,843	31,731	11,788	9,155	12,918	3,363.6	54,338.8	67,010	62,860	67,195	46,346
Mean	372	461	1,024	380	316	417	112	1,753	2,234	2,028	2,168	1,545
Ac-ft	22,900	27,460	62,940	23,380	18,160	25,620	6,670	107,800	132,900	124,700	133,300	91,930

Calendar year 1959: Max 2,990 Min 4.2 Mean 945 Ac-ft 684,200
Water year 1959-60: Max 4,120 Min 3.8 Mean 1,071 Ac-ft 777,800

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of 1 discharge measurement and knowledge that gates on dam were closed.

2460. North Fork Payette River near Banks, Idaho

Location.--Lat 44°07', long 116°06', in SE¼ sec.16, T.9 N., R.3 E., on right bank 40 ft downstream from highway bridge, 2½ miles north of Banks, and 3 miles upstream from confluence with South Fork.

Drainage area.--933 sq mi. Mean altitude, 5,800 ft.

Records available.--April 1947 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,081.13 ft above mean sea level, unadjusted.

Average discharge.--13 years, 1,364 cfs (987,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,870 cfs May 21 (gage height, 10.64 ft); minimum, 195 cfs Nov. 13 (gage height, 3.95 ft).
1947-60: Maximum discharge, 8,830 cfs May 11, 1947 (gage height, about 13.5 ft), estimated on basis of records for station near Smiths Ferry; minimum recorded, 36 cfs Dec. 31, 1947 (gage height, 3.01 ft).

Remarks.--Records excellent except those for periods of ice effect or doubtful or no gage-height record, which are good. Flow regulated by Payette Lake (see p. 160), Lake Fork Reservoir (see p. 163), Cascade Reservoir (see p. 166), and occasionally by milldam at Cascade. Many diversions from tributaries above station for irrigation.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

4.0	213	8.0	2,200
5.0	513	10.0	4,020
6.0	940	11.0	5,220

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	298	1,120	b520	*428	b1,240	970	623	3,270	1,660	2,660	1,450
2	1,050	298	1,120	b420	434	b1,320	906	668	3,340	1,680	2,300	1,340
3	1,040	301	1,120	b420	348	1,360	945	723	3,390	1,770	2,080	1,360
4	1,040	339	1,100	*b410	312	1,340	1,120	789	3,410	1,940	2,700	1,380
5	1,040	309	b1,060	b420	312	727	1,340	780	3,380	2,000	2,690	1,280
6	1,130	295	b1,080	b440	309	639	1,620	812	3,330	1,970	2,660	1,190
7	*1,160	298	1,090	b450	348	502	1,930	1,030	3,330	1,920	2,670	1,110
8	1,170	289	b1,060	475	401	414	2,020	1,290	3,220	1,890	2,670	1,050
9	1,030	286	b1,070	468	389	379	2,040	1,150	*3,120	1,660	2,780	1,030
10	539	292	b1,090	461	367	*348	2,020	1,200	3,120	1,700	1,970	1,070
11	437	278	1,120	471	351	558	1,720	1,880	3,100	2,100	1,560	1,080
12	454	289	1,120	414	339	600	a1,420	2,330	3,040	2,210	1,850	1,070
13	398	247	1,120	315	342	596	a1,200	2,340	3,010	2,210	1,980	1,080
14	348	244	b1,100	b350	312	596	a1,250	2,930	3,040	2,310	2,020	1,060
15	324	342	1,100	b630	342	600	a1,070	2,980	3,630	2,340	2,160	1,020
16	312	395	1,100	b640	b315	604	a960	3,050	4,050	2,320	2,710	1,010
17	312	405	1,100	b640	b300	789	a900	2,980	4,050	2,400	2,630	1,000
18	298	401	1,110	b630	b350	803	*a810	*2,950	3,980	2,460	2,620	1,000
19	292	408	1,110	b600	454	485	a850	3,040	3,930	2,430	2,620	1,060
20	286	408	1,110	b640	488	401	882	4,470	3,670	*2,420	*2,590	2,320
21	278	428	1,090	b630	496	401	886	4,840	2,300	1,870	2,620	2,460
22	348	1,040	b1,090	b500	482	421	821	4,760	1,890	1,850	2,620	2,460
23	475	*1,160	1,080	385	471	458	826	4,690	1,560	1,840	2,650	2,490
24	382	1,210	1,130	309	482	492	596	4,660	1,340	1,820	2,540	2,470
25	345	1,170	1,130	304	488	589	550	*4,470	1,780	1,800	2,460	2,470
26	324	1,120	1,090	304	485	639	528	2,790	2,180	1,790	2,150	2,370
27	312	1,110	b1,070	306	b470	697	520	2,840	2,120	1,780	1,700	2,270
28	411	1,100	b1,100	306	b460	920	592	3,100	1,480	1,860	1,400	2,250
29	444	1,100	b1,140	385	b720	1,040	652	3,110	1,220	2,580	1,470	2,230
30	437	1,130	1,190	434	-------	1,100	611	3,160	1,860	2,620	706	2,230
31	336	-------	1,170	434	-------	1,130	-------	3,250	-------	2,660	1,060	-------
Total	17,812	16,990	34,280	14,111	11,795	22,168	32,555	79,705	85,940	63,760	69,296	47,660
Mean	575	566	1,106	455	407	715	1,085	2,571	2,865	2,057	2,235	1,589
Ac-ft	35,330	33,700	67,990	27,990	23,400	43,970	64,570	158,100	170,500	126,500	137,400	94,530

Calendar year 1959: Max 3,320 Min 158 Mean 1,193 Ac-ft 863,400
Water year 1959-60: Max 4,840 Min 244 Mean 1,355 Ac-ft 984,000

* Discharge measurement made on this day.
a Doubtful or no gage-height record; discharge estimated on basis of weather records, 1 discharge measurement, and records for other Payette River stations.
b Stage-discharge relation affected by ice.

2475. Payette River near Horseshoe Bend, Idaho

Location.--Lat 45°56'30", long 116°12'00", in SE¼ sec.15, T.7 N., R.2 E., on left bank 300 ft upstream from bridge on State Highway 15, half a mile downstream from Porter Creek, and 2 miles north of Horseshoe Bend.

Drainage area.--2,230 sq mi, approximately. Mean altitude, 5,850 ft.

Records available.--February 1906 to September 1916, July 1919 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 2,625.61 ft above mean sea level, unadjusted. Prior to Nov. 23, 1912, staff gage at site 1¾ miles upstream at different datum. Nov. 23, 1912, to Apr. 16, 1953, water-stage recorder at site 1,000 ft downstream at datum 2.1 ft lower.

Average discharge.--51 years, 3,209 cfs (2,323,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,100 cfs June 4 (gage height, 10.65 ft); minimum, 802 cfs Nov. 14 (gage height, 2.66 ft).
1906-16, 1919-60: Maximum discharge, 22,100 cfs June 9, 1921 (gage height, 9.57 ft, site and datum then in use); minimum, 350 cfs Dec. 17, 1935 (gage height, 0.26 ft, site and datum then in use), from rating curve extended below 600 cfs.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good. Flow regulated by Deadwood Reservoir, Payette Lake, Lake Fork Reservoir, and Cascade Reservoir (see elsewhere in this report). Diversions from tributaries above station for irrigation of about 50,000 acres.

Revisions.--WSP 533: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.7	814	7.0	3,920
3.0	920	9.0	6,850
4.0	1,380	11.0	10,900
5.0	2,020		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,920	1,170	1,820	1,190	*1,040	*b1,750	*3,450	3,350	*8,070	3,780	3,790	3,470
2	*1,880	1,160	1,800	b990	1,150	b1,980	3,140	3,470	8,710	3,690	3,680	3,370
3	1,860	1,140	1,840	b1,000	1,020	2,090	3,100	3,520	9,430	3,690	3,310	3,360
4	1,840	1,240	1,750	b990	944	2,020	3,530	3,600	9,780	3,750	3,530	3,470
5	1,820	1,130	1,600	*b1,030	964	1,570	4,470	3,570	9,730	3,850	3,590	3,470
6	1,890	1,040	1,600	1,180	948	1,590	5,820	3,620	9,320	3,700	3,480	3,280
7	1,990	1,130	1,670	1,200	1,130	1,750	6,660	4,360	9,180	3,610	3,440	3,150
8	1,990	1,090	b1,700	1,200	1,940	1,680	6,780	5,480	*8,970	3,810	3,420	3,080
9	2,270	1,070	b1,650	1,160	1,750	1,430	7,070	5,220	8,220	3,670	3,690	3,040
10	2,340	1,070	b1,720	1,140	1,460	1,220	7,050	5,620	7,810	3,690	3,780	3,050
11	1,520	1,040	1,800	1,130	1,260	1,310	6,370	7,310	7,740	3,610	3,670	3,050
12	1,590	1,040	1,840	1,100	1,140	1,400	5,470	8,910	7,630	3,660	3,480	3,040
13	1,520	996	1,840	b950	1,100	1,390	4,790	9,520	7,400	3,690	3,580	3,100
14	1,420	827	b1,720	b850	1,020	1,410	4,700	8,830	7,450	3,670	3,680	3,080
15	1,340	1,040	1,760	a1,250	1,030	1,360	4,140	8,110	8,280	3,670	3,750	3,020
16	1,290	1,130	1,780	a1,300	1,030	1,310	3,620	7,920	8,830	3,610	4,170	2,990
17	1,260	1,020	1,740	a1,250	968	1,510	3,330	7,400	8,690	3,620	3,800	3,000
18	1,220	1,070	1,780	a1,150	1,030	1,700	3,270	7,020	8,240	3,670	3,750	2,940
19	1,190	1,130	1,770	a1,100	1,100	1,630	3,540	6,580	7,860	3,650	3,740	2,950
20	1,160	1,170	1,720	a1,250	1,110	1,770	3,390	7,770	7,560	*3,590	3,700	2,910
21	1,130	1,170	1,640	a1,250	1,140	2,120	3,290	8,390	5,790	3,820	3,720	3,000
22	1,230	1,680	1,660	a1,100	1,110	2,560	3,140	8,110	5,050	3,730	3,730	2,990
23	1,610	1,930	1,670	a950	1,050	2,930	3,050	7,790	4,550	3,690	3,870	3,010
24	1,540	*2,150	1,800	a900	1,020	3,180	2,730	7,580	4,220	3,660	*3,780	3,000
25	1,430	2,030	1,960	a930	1,090	3,420	2,840	7,400	4,470	3,640	3,730	3,000
26	1,360	1,880	1,800	a940	1,140	3,700	2,750	5,560	4,860	3,620	3,540	2,930
27	1,310	1,700	b1,600	a950	b1,050	3,590	2,900	5,680	4,700	3,590	3,540	2,830
28	1,340	1,740	b1,620	a950	b950	4,030	3,180	5,970	3,940	3,720	3,460	2,800
29	1,380	1,840	b1,750	a1,000	b1,050	3,870	*2,970	6,160	3,520	3,790	3,520	2,780
30	1,340	1,840	b1,820	a1,000	-------	4,190	3,100	6,560	3,860	3,590	3,260	2,780
31	1,240	-------	b1,820	a1,000	-------	4,090	-------	7,280	-------	3,720	3,050	-------
Total	48,220	39,663	54,040	33,380	32,734	69,550	123,640	197,660	213,860	114,250	112,230	91,940
Mean	1,555	1,322	1,743	1,077	1,129	2,244	4,121	6,376	7,129	3,685	3,620	3,065
Ac-ft	95,640	78,670	107,200	66,210	64,930	138,000	245,200	392,100	424,200	226,600	222,600	182,400

Calendar year 1959: Max 8,700 Min 680 Mean 2,968 Ac-ft 2,149,000
Water year 1959-60: Max 9,780 Min 827 Mean 3,091 Ac-ft 2,244,000

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for stations near Emmett and near Payette.
b Stage-discharge relation affected by ice.

2495. Payette River near Emmett, Idaho

Location.--Lat 43°56', long 116°27', in sec.22, T.7 N., R.1 W., on right bank three-eighths of a mile downstream from Black Canyon Dam and 5 miles northeast of Emmett.

Drainage area.--2,680 sq mi, approximately

Records available.--June 1925 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,400 ft (from topographic map).

Average discharge.--35 years, 2,994 cfs (2,168,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,400 cfs June 3 (gage height, 8.23 ft); minimum, 120 cfs Feb. 29 (gage height, 0.72 ft); minimum daily, 774 cfs Feb. 27.
1925-60: Maximum discharge, 22,800 cfs May 1, 1938; maximum gage height, 12.98 ft Dec. 22, 1955; minimum daily discharge, 0.7 cfs Jan. 7, 1957 (gage height, -1.49 ft), when gates in dam were closed.

Remarks.--Records excellent. Diversions above station for irrigation of about 135,000 acres (1952 determination). Flow regulated by diversion at and operation of gates in Black Canyon Dam and by Cascade Reservoir, Deadwood Reservoir, Payette Lake, and Lake Fork Reservoir (see elsewhere in this report).

Cooperation.--Gage-height record collected in cooperation with Bureau of Reclamation.

Revisions (water years).--WSP 1153: 1946(m), 1948(m).

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

2.2	720	5.0	4,200
2.5	1,010	6.0	5,860
3.0	1,580	7.0	7,800
4.0	2,820	8.0	9,800

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,840	1,270	1,930	1,480	*1,360	*1,630	4,390	2,110	7,400	2,170	2,240	1,920
2	1,810	1,260	1,900	1,000	2,100	1,940	3,890	2,230	8,060	2,100	2,280	1,800
3	1,760	1,220	1,930	960	1,460	2,200	3,720	2,470	8,820	2,100	1,890	1,800
4	1,760	1,330	1,870	1,020	1,190	2,190	4,170	2,570	9,160	2,130	1,930	1,820
5	1,710	1,260	1,680	1,000	1,040	2,240	5,180	2,610	9,060	2,180	2,070	2,020
6	1,760	1,090	1,660	1,200	1,250	2,640	6,780	2,520	8,520	2,170	2,010	1,840
7	1,870	1,230	1,690	1,220	1,870	3,530	7,680	3,210	8,420	2,050	1,930	1,800
8	1,950	1,150	1,750	1,270	5,190	3,130	7,620	4,920	*8,160	2,170	1,870	1,800
9	*2,310	1,160	1,660	1,250	3,480	2,380	7,840	4,550	7,340	2,110	1,980	1,800
10	2,280	1,180	1,720	1,210	2,520	1,830	7,900	4,840	6,880	2,060	2,170	1,780
11	1,620	1,120	1,900	1,230	1,950	1,740	7,240	6,540	6,680	1,980	2,160	1,780
12	1,740	1,100	1,890	1,230	1,650	1,800	6,090	8,300	6,600	2,010	1,900	1,770
13	1,690	1,110	1,920	1,050	1,580	1,810	5,140	8,900	6,290	1,980	1,900	1,780
14	1,520	880	1,800	783	1,400	1,840	*5,000	8,040	6,260	2,000	1,950	1,770
15	1,410	1,000	1,830	1,010	1,240	1,770	4,390	7,380	6,980	2,000	2,040	1,810
16	1,390	1,220	1,870	1,350	1,250	1,680	3,800	7,080	7,700	1,940	2,510	1,830
17	1,360	1,100	1,800	1,270	1,230	1,890	3,440	6,680	7,540	1,960	2,330	1,830
18	1,320	1,120	1,860	1,300	1,120	2,180	3,200	6,180	7,220	2,000	2,140	1,830
19	1,300	1,200	1,880	1,270	1,360	2,260	3,350	*5,700	6,540	*2,000	2,100	1,830
20	1,240	1,220	1,770	1,460	1,310	2,590	3,110	6,680	6,290	1,950	2,040	1,770
21	1,230	1,230	*1,740	1,600	1,230	2,820	2,850	7,500	4,600	2,160	2,020	1,810
22	1,330	1,650	1,750	1,570	1,380	3,420	2,560	7,320	3,690	2,080	2,040	1,820
23	2,080	1,960	1,770	1,380	1,130	3,870	2,380	7,020	3,170	2,040	2,260	1,820
24	1,950	2,250	1,900	1,110	1,120	4,010	1,920	6,800	2,820	2,010	*2,250	1,830
25	1,780	*2,140	2,380	1,040	1,210	4,330	1,950	6,800	2,870	2,000	2,240	1,840
26	1,150	2,020	2,010	1,020	1,040	4,650	1,740	4,900	3,300	2,000	2,000	1,880
27	1,090	1,810	1,740	1,100	774	4,500	1,860	5,000	3,200	2,010	1,980	1,860
28	1,410	1,780	1,600	1,060	890	4,970	2,110	5,290	2,530	2,100	1,900	1,820
29	1,480	1,920	1,780	1,080	1,040	4,790	2,020	5,640	2,020	2,080	1,900	1,710
30	1,450	1,930	1,840	1,260	-------	5,290	1,530	5,860	2,190	2,000	1,840	1,710
31	1,350	-------	1,830	1,340	-------	5,340	-------	6,620	-------	2,080	1,380	-------
Total	49,950	41,910	56,650	37,123	45,364	91,260	124,850	172,260	180,310	63,620	63,250	54,480
Mean	1,611	1,397	1,827	1,198	1,564	2,944	4,162	5,558	6,010	2,052	2,040	1,816
Ac-ft	99,070	83,130	112,400	73,630	89,980	181,000	247,600	341,700	357,600	126,200	125,500	108,100

Calendar year 1959: Max 7,560 Min 688 Mean 2,447 Ac-ft 1,772,000
Water year 1959-60: Max 9,160 Min 774 Mean 2,680 Ac-ft 1,946,000

* Discharge measurement made on this day.

2510. Payette River near Payette, Idaho

Location.--Lat 44°02'30", long 116°55'30", in SW¼ sec.10, T.8 N., R.5 W., on right bank just upstream from bridge on U. S. Highway 95, 1¾ miles south of Payette.

Drainage area.--3,240 sq mi, approximately.

Records available.--August 1935 to September 1960. Records for January 1895 to July 1897 (published as "at Payette" in 18th and 19th Annual Reports) have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 2,138.44 ft above mean sea level, unadjusted. Aug. 1, 1935, to Aug. 7, 1939, wire-weight gage at site 50 ft downstream at present datum.

Average discharge.--25 years, 3,129 cfs (2,265,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,100 cfs Feb. 9 (gage height, 10.11 ft); minimum, 864 cfs Feb. 18 (gage height, 4.39 ft); minimum daily, 1,090 cfs Apr. 27, 30. 1935-60: Maximum discharge, 23,400 cfs May 2, 1938; maximum gage height, 12.75 ft Dec. 23, 1955; minimum discharge, 180 cfs Oct. 13, 20, 1935 (gage height, 2.04 ft); minimum daily, 220 cfs Oct. 5, 1935.

Remarks.--Records excellent. Diversions above station for irrigation of about 188,000 acres (1952 determination). Flow regulated by Black Canyon Dam and reservoirs on tributary streams.

Revisions (water years).--WSP 1397: 1949(m), 1952, 1953-54(m). See also Records available.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

4.6	1,060	6.0	2,970
4.8	1,270	7.0	4,940
5.0	1,500	8.0	7,230
5.5	2,160	9.0	9,810

* Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,130	1,580	2,130	2,050	2,130	1,670	5,040	1,240	6,560	1,650	2,260	1,480
2	2,100	*1,520	2,090	1,370	4,200	1,800	4,320	1,480	7,180	1,580	2,400	1,650
3	2,050	1,510	2,090	1,290	2,460	2,370	4,020	*1,790	7,880	1,560	2,150	1,700
4	2,050	1,500	2,090	1,280	1,750	2,400	4,120	1,990	8,490	1,560	1,850	1,850
5	2,050	1,560	1,940	1,320	1,570	2,400	4,960	2,120	8,570	1,650	2,050	1,850
6	2,050	1,420	1,850	1,380	1,750	3,400	6,370	2,030	*8,260	1,620	1,960	1,790
7	2,090	1,390	1,890	1,450	2,650	3,620	7,700	2,400	7,930	1,560	1,840	1,720
8	2,190	1,550	1,980	1,510	5,990	5,170	7,860	4,440	7,780	1,450	1,720	1,680
9	2,340	1,420	1,960	1,490	7,220	3,400	7,960	4,440	7,230	1,560	1,580	1,710
10	2,830	1,430	1,920	1,500	3,720	2,460	8,200	4,360	6,630	1,440	1,790	1,760
11	2,120	1,400	2,090	1,460	2,790	2,120	7,830	5,440	6,340	*1,420	1,680	1,700
12	1,890	1,370	2,120	1,570	2,160	2,130	6,730	7,330	6,250	1,500	1,580	1,630
13	1,950	1,390	2,120	1,400	2,010	2,130	5,610	8,280	6,020	1,480	1,420	1,680
14	1,820	1,280	2,090	1,200	1,880	2,180	4,920	7,930	5,830	1,440	1,500	1,660
15	1,720	1,150	2,020	1,130	1,740	2,060	4,770	7,260	6,110	1,490	*1,560	1,700
16	1,750	1,380	*2,060	1,500	1,720	2,060	4,100	6,580	7,110	1,490	1,720	1,720
17	1,670	1,420	2,030	1,520	1,610	1,990	3,550	6,440	7,040	1,430	2,080	1,720
18	1,660	1,350	2,020	1,500	1,500	2,460	3,190	5,950	6,800	1,500	1,760	1,720
19	1,630	1,440	2,050	1,560	1,630	2,740	3,020	5,440	6,250	1,510	1,720	*1,720
20	1,580	1,490	2,020	1,680	1,630	2,810	3,040	5,570	5,950	1,500	1,680	1,680
21	1,550	1,480	1,980	1,760	1,560	3,190	2,620	6,920	4,880	1,570	1,680	1,660
22	1,550	1,600	1,880	1,800	1,580	3,680	2,320	7,130	3,490	1,650	1,710	1,710
23	1,940	2,120	1,940	1,670	1,490	*4,180	2,130	6,730	2,830	1,620	1,880	1,740
24	2,310	2,310	2,050	*1,500	1,450	4,440	1,720	6,630	2,440	1,620	2,050	1,750
25	2,090	2,420	2,570	1,300	1,440	4,620	1,370	6,630	2,190	1,650	2,030	1,750
26	1,910	2,260	2,370	1,280	1,510	4,840	1,320	5,630	2,590	1,650	1,920	1,780
27	1,160	2,080	2,020	1,310	1,180	4,940	1,090	4,750	2,700	1,630	1,780	1,750
28	1,660	1,950	1,800	1,320	1,120	5,000	1,140	5,040	2,360	1,600	1,820	1,750
29	1,720	2,050	1,920	1,300	*1,270	5,500	1,570	5,190	1,740	1,740	1,740	1,670
30	1,740	2,120	2,090	1,580	-------	5,070	1,090	5,300	1,490	1,620	1,710	1,630
31	1,660	-------	1,990	2,010	-------	6,090	-------	5,860	-------	1,830	1,520	-------
Total	58,960	48,940	63,170	45,990	64,710	102,920	123,680	158,320	166,920	48,570	55,140	51,310
Mean	1,902	1,631	2,038	1,484	2,231	3,320	4,123	5,107	5,564	1,567	1,811	1,710
Ac-ft	116,900	97,070	125,300	91,220	128,400	204,100	245,300	314,000	331,100	96,340	111,400	101,800

Calendar year 1959: Max 7,200 Min 886 Mean 2,432 Ac-ft 1,761,000
Water year 1959-60: Max 8,570 Min 1,090 Mean 2,704 Ac-ft 1,963,000

* Discharge measurement made on this day.

2513. West Branch Weiser River near Tamarack, Idaho

Location.--Lat 45°01'30", long 116°26'00", in SE¼SE¼ sec.34, T.20 N., R.1 W. on left bank at Price Valley guard station, 0.1 mile upstream from East Branch Weiser River and 5¼ miles northwest of Tamarack.

Drainage area.--3.96 sq mi.

Records available.--August 1959 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,200 ft (from topographic map).

Extremes.--1959: Maximum discharge during period August to September, 2.7 cfs Sept. 19 (gage height, 2.33 ft); minimum, 0.8 cfs Sept. 10, 11, 12; minimum gage height, 2.14 ft Sept. 11.
1959-60: Maximum discharge during water year, 32 cfs Apr. 8 (gage height, 3.77 ft); minimum daily, 0.8 cfs Jan. 3-6.

Remarks.--Records fair. No regulation or diversion above station. Records of water temperatures for the water year 1960 are given in WSP 1744.

Discharge, in cubic feet per second, 1959

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	1.2	0.9	7	1.0	0.9	13	1.0	1.1	19	1.0	1.7	25	0.9	1.2
2	1.2	.9	8	1.0	.9	14	1.0	1.8	20	*1.5	1.7	26	1.0	1.9
3	*1.1	.9	9	1.0	.9	15	1.0	1.9	21	1.1	1.3	27	.9	1.6
4	1.0	.9	10	1.0	.8	16	1.0	1.2	22	1.0	1.3	28	.9	1.3
5	1.0	1.0	11	1.0	.9	17	1.0	1.1	23	1.0	1.2	29	.9	1.3
6	1.0	1.0	12	1.0	.8	18	1.0	1.1	24	1.0	1.1	30	.9	1.3
												31	.9	-
Total													31.5	35.9
Mean													1.02	1.20
Cubic feet per second per square mile													0.258	0.303
Runoff in inches													0.30	0.34
Runoff in acre-feet													62	71

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.3	1.1	b1.0	1.1	0.9	17	16	8.8	2.0	1.8	1.0
2	*1.2	1.3	1.1	b.9	1.1	1.0	17	20	7.9	2.0	1.3	1.0
3	1.2	1.4	1.1	.8	1.0	1.0	16	22	7.4	1.9	1.2	1.0
4	1.2	1.4	1.0	.8	1.1	1.0	19	22	6.9	1.9	1.1	1.2
5	1.1	*1.2	b1.0	.8	1.1	1.0	25	20	6.3	1.9	1.1	1.1
6	1.4	1.3	b1.0	.8	1.1	1.2	29	19	5.6	1.9	1.0	1.0
7	1.4	1.2	b1.0	.9	1.1	1.4	30	*21	5.3	1.8	1.0	1.1
8	1.4	1.2	b.9	.9	1.2	1.5	31	21	4.6	1.8	1.0	1.0
9	1.8	1.2	b.9	.9	1.2	1.5	30	20	4.4	1.8	1.0	1.0
10	1.6	1.2	b.9	1.0	1.2	1.5	30	20	4.2	1.7	1.0	1.0
11	1.6	1.3	*b1.0	1.0	1.2	1.5	*29	20	*4.0	1.6	1.0	1.0
12	1.5	1.3	b1.0	1.0	1.1	1.5	27	20	3.6	1.5	1.0	1.0
13	1.5	1.0	b1.0	1.0	1.1	1.4	25	19	3.6	1.5	1.0	1.0
14	1.4	1.2	b1.0	1.0	1.0	1.4	24	16	3.6	1.5	1.0	1.0
15	1.4	1.2	b1.0	1.0	1.2	1.4	20	14	3.6	*1.4	1.0	1.0
16	1.3	1.1	1.0	1.0	1.1	1.3	16	13	3.2	1.3	*1.1	1.0
17	1.3	1.1	1.0	1.0	1.1	1.4	15	12	3.0	1.3	1.0	1.0
18	1.1	1.1	1.1	1.0	1.1	1.7	14	11	2.7	1.3	1.1	1.0
19	1.1	1.1	1.1	.9	1.1	2.0	14	9.4	2.5	1.2	1.0	.9
20	1.1	1.1	1.0	.9	1.1	2.5	15	9.1	2.5	1.2	1.0	.9
21	1.1	1.2	b1.0	.9	1.1	3.2	15	9.1	2.5	1.2	1.0	.9
22	1.9	1.1	b.9	.9	1.1	4.2	15	8.8	2.4	1.1	1.2	*1.0
23	1.8	1.5	b.9	.9	1.0	5.6	14	8.5	2.3	1.2	1.3	1.0
24	1.6	1.3	1.0	.9	*1.0	6.9	12	*8.2	2.3	1.1	1.5	1.0
25	1.5	1.3	1.0	.9	1.0	7.1	12	7.9	2.3	1.1	1.3	1.1
26	1.4	1.0	1.0	*1.0	1.0	7.7	12	8.5	2.3	1.1	1.2	1.0
27	1.4	1.2	1.0	1.1	.9	8.8	11	11	2.3	1.1	1.2	1.0
28	1.4	1.2	b1.0	1.1	.9	17	14	11	2.3	1.1	1.1	1.0
29	1.3	1.3	b1.0	1.1	.9	18	15	11	2.3	1.1	1.1	1.0
30	1.3	1.1	b1.0	1.1	------	26	15	10	2.1	1.1	1.0	1.0
31	1.3	------	b1.0	1.1	------	22	------	9.4	------	1.2	1.1	------
Total	42.8	36.4	31.0	29.6	31.2	154.6	578	447.9	116.8	44.9	34.7	30.2
Mean	1.38	1.21	1.00	0.95	1.08	4.99	19.3	14.4	3.89	1.45	1.12	1.01
Cfsm	0.348	0.306	0.253	0.240	0.273	1.26	4.87	3.64	0.982	0.366	0.283	0.255
In.	0.40	0.34	0.29	0.28	0.29	1.45	5.43	4.21	1.10	0.42	0.33	0.28
Ac-ft	85	72	61	59	62	307	1,150	888	232	89	69	60

Calendar year 1959: Max - Min - Mean - Cfsm - In. - Ac-ft -
Water year 1959-60: Max 31 Min 0.8 Mean 4.31 Cfsm 1.09 In. 14.82 Ac-ft 3,130

Peak discharge (base, 30 cfs).--Apr. 8 (5:30 p.m.) 32 cfs (3.77 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Jan. 3 to Mar. 20; discharge estimated on basis of 2 discharge measurements, weather records, and records for Weiser River at Tamarack.

2515. Weiser River at Tamarack, Idaho

Location.--Lat 44°57', long 116°23', in NW¼NE¼ sec. 31, T.19 N., R.1 E., on left bank 43 ft upstream from railroad bridge, 0.65 mile south of Tamarack, and 1½ miles upstream from Beaver Creek.

Drainage area.--36.5 sq mi. Mean altitude, 4,690 ft.

Records available.--September 1936 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 4,080 ft (by barometer). Prior to Oct. 8, 1949, staff gage at site a quarter of a mile upstream at different datum.

Average discharge.--24 years, 43.7 cfs (31,640 acre-ft per year).

Extremes.--Maximum discharge during year, 511 cfs Apr. 7 (gage height, 4.77 ft); minimum, 1.3 cfs Sept. 9 (gage height, 1.05 ft).
1936-60: Maximum discharge, 1,320 cfs Dec. 22, 1955 (gage height, 7.17 ft), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; minimum, 0.5 cfs Sept. 21, 1958.

Remarks.--Records good except those for periods of ice effect, which are fair. No diversion above station. Diurnal fluctuation caused by millpond at Tamarack. Small flow from Boulder Creek in Salmon River basin enters Weiser River above station through transmountain diversion during late irrigation season.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 23-28)

Oct. 1 to Nov. 5		Nov. 6 to Sept. 30			
1.4	6.7	1.0	1.3	2.0	39
1.5	9.5	1.1	2.1	2.5	82
1.7	18	1.2	3.8	3.0	152
		1.3	6.0	4.0	350
		1.4	8.8	5.0	567
		1.6	17		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.9	8.7	7.1	6.0	6.8	b6.3	196	129	58	9.9	9.2	6.3
2	*9.2	8.7	7.1	b5.6	8.8	b6.6	165	163	52	9.2	12	5.6
3	8.9	9.2	7.4	5.1	b6.3	6.6	179	173	47	9.2	9.9	5.8
4	8.7	11	5.8	5.1	6.8	6.6	244	186	42	8.8	8.2	6.8
5	8.7	*8.1	6.0	5.1	7.1	*6.8	318	163	38	7.7	8.8	8.0
6	9.9	8.2	6.6	5.1	7.1	7.7	407	147	30	7.1	9.2	8.0
7	12	8.5	6.6	5.6	7.1	9.5	421	*147	31	4.5	8.2	7.1
8	12	8.0	b5.6	5.8	7.7	10	409	152	29	9.9	4.5	12
9	16	8.2	6.0	5.6	7.7	10	375	128	26	8.2	6.3	1.5
10	11	8.0	5.8	6.0	7.7	b10	334	114	24	9.2	6.6	3.6
11	11	7.7	*6.0	6.3	7.7	b9.5	294	105	*22	8.8	6.6	4.9
12	11	8.2	6.0	b6.1	7.1	9.5	246	100	21	8.8	6.6	5.1
13	10	b6.6	6.0	b6.0	7.4	9.2	202	96	18	8.8	5.8	5.1
14	9.9	7.1	b6.0	b6.0	b6.3	8.8	204	86	17	*8.5	6.0	5.6
15	9.5	7.4	6.0	6.0	7.7	8.8	169	75	18	8.5	6.0	6.0
16	8.7	b6.4	6.0	6.0	7.1	b8.8	138	80	18	8.2	*6.0	6.0
17	8.7	6.8	6.0	b6.0	b6.8	9.2	117	68	17	8.0	6.6	6.0
18	8.4	7.4	6.3	b6.0	7.4	11	124	67	16	7.4	6.8	5.8
19	8.7	7.4	6.3	b5.8	b6.8	13	121	56	14	8.2	6.0	5.6
20	8.7	7.4	6.3	*5.8	b6.8	17	131	53	13	6.8	5.8	5.3
21	8.1	8.2	b6.3	5.8	7.1	23	136	72	14	7.4	5.8	5.8
22	12	8.0	b5.8	5.8	b6.8	34	126	62	9.9	7.1	6.3	*5.3
23	14	8.2	6.0	5.8	b6.8	47	124	56	12	7.4	7.1	5.3
24	13	9.5	6.3	6.0	b6.6	77	105	62	11	6.6	8.0	5.3
25	12	9.5	6.3	5.8	7.1	126	93	64	11	6.6	9.5	6.0
26	11	7.1	b6.3	6.6	b6.8	165	92	68	11	7.1	8.0	6.6
27	10	7.7	b6.0	6.6	b6.6	190	91	100	10	6.8	7.4	6.3
28	10	7.7	6.0	6.6	b6.3	*342	112	88	11	7.4	7.1	5.6
29	9.5	7.4	b5.6	6.6	b6.0	250	120	83	11	7.1	5.6	5.1
30	9.2	7.4	5.8	6.6	-------	344	124	74	10	7.4	6.3	5.3
31	8.9	-------	5.8	6.8	-------	282	-------	67	-------	7.7	6.3	-------
Total	318.6	239.7	191.1	184.0	202.3	2,085.1	5,917	3,086	661.9	244.3	222.5	176.7
Mean	10.3	7.99	6.16	5.94	6.98	66.6	197	99.5	22.1	7.88	7.18	5.89
Ac-ft	632	475	379	365	401	4,100	11,740	6,120	1,310	485	441	350

Calendar year 1959: Max 305 Min 2.5 Mean 33.2 Ac-ft 24,050
Water year 1959-60: Max 421 Min 1.5 Mean 36.9 Ac-ft 26,800

Peak discharge (base, 280 cfs).--Mar. 28 (8:30 a.m.) 415 cfs (4.41 ft); Apr. 7 (9:30 p.m.) 511 cfs (4.77 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2540. Lost Valley Reservoir near Tamarack, Idaho

Location.--Lat 44°57'30", long 116°28'00", in sec.28, T.19 N., R.1 W., a short distance upstream from outlet gates near left end of dam on Lost Creek, 4 miles west of Tamarack and 16 miles north of Council.

Drainage area.--29.4 sq mi.

Records available.--May to September 1924, May 1926 to September 1960 (fragmentary).

Gage.--Staff gage. Datum of gage is 4,748.8 ft above mean sea level (river-profile survey). Prior to May 1926, at datum 1.4 ft higher.

Extremes.--Maximum gage height observed during year, 26.24 ft June 19; minimum observed, 8.44 ft Oct. 2.
1924, 1926-60: Maximum gage height observed, 26.90 ft May 14, 1940; no storage at times in several years.

Remarks.--Reservoir is formed by earth dam completed in 1910 and raised 6 ft in 1929. Permanent spillway crest is at gage height 22.26 ft; flashboard structure built in 1938 to permit storage to gage height 25.9 ft. Bottom of outlet tunnel is at gage height 1.46 ft, but natural flow through reservoir limits withdrawal below about gage height 2.8 ft. Water is used for irrigation of lands in Weiser River basin.

Cooperation.--Thirty gage readings furnished by Lost Valley Reservoir Co. or watermaster for Water District No. 41.

Revisions.--WSP 833: Drainage area.

Gage height, in feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	-	-	-	21.46	-
2	8.44						-	-	-	-	-	15.14
3							-	-	24.34	-	-	-
4							19.10	-	-	-	-	-
5		9.60					-	-	-	26.20	20.90	-
6							-	24.10	-	-	-	-
7							-	24.30	-	-	-	-
8							-	-	-	-	-	-
9							-	25.20	-	-	20.10	14.00
10							-	-	-	-	-	-
11			11.27				24.00	-	26.10	25.32	-	-
12							-	-	26.13	-	-	-
13							-	25.74	-	-	-	-
14							-	-	-	24.70	-	-
15							-	25.70	-	-	18.86	-
16							-	-	-	-	18.68	-
17							-	-	-	-	18.46	-
18							-	-	-	24.00	-	12.50
19							-	-	26.24	-	18.08	-
20							-	-	26.20	-	-	-
21							-	-	-	-	-	-
22							-	25.20	-	23.30	-	11.28
23							-	-	26.20	-	-	-
24					13.90		-	-	-	-	-	-
25							-	-	-	23.62	16.74	-
26							-	-	-	-	-	-
27							-	-	-	-	-	-
28							-	-	26.22	22.10	-	-
29							-	26.10	-	-	15.84	-
30					------		-	-	-	-	-	-
31		------			------		------	-	------	-	-	------

Note.--Gage readings obtained only on days listed above.

2545. Lost Creek near Tamarack, Idaho

Location.--Lat 44°57', long 116°28', in SE¼NW¼ sec.28, T.19 N., R.1 W., on right bank a quarter of a mile downstream from dam of Lost Valley Reservoir, 4 miles west of Tamarack, and 16 miles north of Council.

Drainage area.--29.4 sq mi. Mean altitude, 5,460 ft.

Records available.--January 1910 to August 1914, May 1920 to September 1921, May 1924 to November 1929 (fragmentary); March 1930 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,729.6 ft above mean sea level (river-profile survey). Prior to Apr. 1, 1912, staff gage at same site and datum.

Average discharge.--30 years (1930-60), 39.3 cfs (28,450 acre-ft per year).

Extremes.--Maximum discharge during year, 176 cfs Apr. 12 (gage height, 2.55 ft); practically no flow Nov. 5, Dec. 11.
1910-14, 1920-21, 1924-60: Maximum discharge, 688 cfs May 17, 18, 1921 (gage height, 4.29 ft); no flow at times when gates in dam were closed.

Remarks.--Records good except those below 12 cfs and those for period of no gage-height record, which are poor. No diversion between reservoir and station; practically entire flow diverted below station during irrigation season. Flow regulated since 1910 by Lost Valley Reservoir (see preceding page).

Cooperation.--Water-stage recorder inspected occasionally by employees of Lost Valley Reservoir Co.

Revisions.--WSP 833: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 9 to Apr. 7)

0.5	0.1	1.0	2.8	1.7	34
.6	.2	1.1	4.4	2.0	68
.7	.5	1.2	6.7	2.3	119
.8	1.0	1.3	9.9	2.6	188
.9	1.6	1.5	19		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1					0.1	123	71	10	59	51
2	**.1	.1					.1	140	74	9.9	50	53
3	.1	.1					.1	154	76	9.6	50	58
4	.1	.1					.1	163	77	8.9	50	55
5	.1	(**)					.1	163	77	36	54	54
6	.1						.1	128	76	64	67	53
7	.1						1	*46	72	62	67	52
8	.1						30	63	70	62	65	52
9	.1						75	85	67	62	65	51
10	.1						120	108	63	60	64	51
11	.1		(**)				*166	127	*60	65	64	57
12	.1						173	145	40	71	64	50
13	.1						170	156	16	71	64	50
14	.1						166	158	18	*71	63	48
15	.1		0.1	0.1	0.1	0.1	161	154	21	71	62	47
16	.1						152	152	22	71	*63	47
17	.1	.1					138	145	22	71	62	46
18	.1						127	138	22	71	62	46
19	.1						119	125	23	71	64	47
20	.1						117	117	25	71	68	45
21	.1						117	111	24	72	68	45
22	.1						117	80	23	70	68	*44
23	.1						115	45	20	68	68	43
24	.1				(**)		108	45	8.9	67	68	43
25	.1						102	45	9.9	67	68	43
26	.1						98	46	9.9	67	67	42
27	.1						93	48	10	67	65	41
28	.1						98	53	11	67	65	41
29	.1						104	56	11	67	59	40
30	.1				-------		113	63	11	65	52	40
31	.1	-------			-------		-------	68	-------	65	52	-------
Total	3.1	3.0	3.1	3.1	2.9	3.1	2,780.6	3,250	1,130.7	1,830.4	1,927	1,435
Mean	0.10	0.10	0.1	0.1	0.1	0.1	92.7	105	37.7	59.0	62.2	47.8
Ac-ft	6.1	6.0	6.1	6.1	5.8	6.1	5,520	6,450	2,240	3,630	3,820	2,850

Calendar year 1959: Max 172 Min - Mean 32.9 Ac-ft 23,780
Water year 1959-60: Max 173 Min - Mean 33.8 Ac-ft 24,550

* Discharge measurement made on this day.
** Field estimate made on this day.
Note.--No gage-height record Nov. 5 to Apr. 10; discharge estimated on basis of 3 field estimates, weather records, and knowledge of gate operations at Lost Valley Reservoir.

2585. Weiser River near Cambridge, Idaho

Location.--Lat 44°35', long 116°38', in NE¼ sec.1, T.14 N., R.3 W., on left bank 100 ft upstream from road bridge, 2¼ miles northeast of Cambridge, and 2½ miles upstream from Rush Creek.

Drainage area.--605 sq mi. Mean altitude, 4,650 ft.

Records available.--March 1939 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,660 ft (by barometer). Prior to Apr. 23, 1939, staff gage and Apr. 23, 1939, to Dec. 21, 1955, water-stage recorder at site 35 ft downstream from road bridge at different datum. Dec. 22, 1955, to Aug. 28, 1956, wire-weight gage at bridge 2½ miles downstream at different datum.

Average discharge.--21 years, 659 cfs (477,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,440 cfs Mar. 30 (gage height, 7.05 ft); minimum, 36 cfs about Dec. 4 or 5 (gage height, 1.32 ft).
1939-60: Maximum discharge, 10,100 cfs Dec. 22, 1955 (gage height, 13.9 ft, from floodmark, site and datum then in use); minimum, 8.0 cfs Nov. 16, 1958 (gage height, 1.12 ft, ice jam upstream).

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Flow partly regulated by Lost Valley Reservoir (see p. 174) and other reservoirs. Diversions above station for irrigation of about 9,200 acres (1948 determination).

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	54	3.0	720
1.7	125	4.0	1,420
2.0	225	5.0	2,260
2.5	440	7.0	4,350

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	125	152	110	95	118	b140	2,460	1,100	1,710	175	95	62
2	118	150	110	80	b140	b140	1,910	1,310	1,710	155	137	60
3	112	150	110	80	b130	*152	1,740	1,470	1,760	143	102	60
4	108	*172	100	80	b140	155	1,900	1,510	1,670	137	88	73
5	105	150	100	80	140	195	2,360	1,440	1,520	131	85	90
6	108	135	110	90	134	460	2,860	*1,390	1,420	137	82	80
7	140	140	110	100	225	1,070	3,030	1,570	1,360	152	88	75
8	146	150	90	110	b500	1,540	2,990	1,850	1,200	146	85	73
9	597	140	90	120	b820	1,250	2,890	1,700	*1,060	143	82	73
10	364	140	90	110	b720	786	2,690	1,850	984	143	75	73
11	281	134	100	120	b540	584	2,360	2,120	918	122	73	73
12	285	131	100	130	408	485	2,070	2,220	866	122	69	73
13	245	120	100	100	341	475	1,760	2,140	780	125	60	73
14	221	73	*80	80	281	523	1,710	1,740	732	*110	62	73
15	203	122	110	100	273	523	1,520	1,570	798	108	64	73
16	188	110	102	90	253	490	1,320	1,680	690	102	64	71
17	178	110	102	80	218	672	1,160	1,520	648	90	*64	71
18	172	120	108	70	221	1,050	1,140	1,340	545	85	64	71
19	168	130	102	70	210	1,360	1,170	1,170	490	78	64	73
20	162	130	100	*100	199	1,650	1,120	1,090	460	75	64	73
21	165	130	100	105	206	2,030	1,130	1,300	413	73	67	*73
22	205	130	100	102	181	2,350	1,060	1,130	390	75	71	67
23	220	140	110	102	172	2,570	1,000	998	364	78	85	58
24	188	170	120	105	168	2,710	924	977	341	75	92	58
25	178	160	150	102	185	*2,730	853	1,010	305	75	112	62
26	168	130	110	102	b150	2,890	822	1,080	285	73	102	64
27	168	110	100	105	b120	2,650	798	924	237	71	92	62
28	162	110	95	105	b100	3,760	892	1,600	206	69	88	58
29	158	110	95	108	b115	2,990	950	1,550	195	64	90	56
30	158	110	95	110	-------	3,860	1,030	1,600	185	67	92	56
31	155	-------	95	118	-------	3,460	-------	1,690	-------	78	75	-------
Total	5,951	3,959	3,194	3,049	7,408	45,700	49,619	45,639	24,242	3,277	2,533	2,057
Mean	192	132	103	98.4	255	1,474	1,654	1,472	808	106	81.7	68.6
Ac-ft	11,800	7,850	6,340	6,050	14,690	90,640	98,420	90,520	48,080	6,500	5,020	4,080

Calendar year 1959: Max 2,050 Min 40 Mean 463 Ac-ft 335,200
Water year 1959-60: Max 3,860 Min 56 Mean 537 Ac-ft 390,000

Peak discharge (base, 3,300 cfs).--Mar. 30 (11:30 p.m.) 4,440 cfs (7.05 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 21-23, Nov. 2, 3, 5-8, Nov. 16 to Dec. 13, Dec. 21 to Jan. 19; discharge estimated on basis of 3 discharge measurements, weather records, and records for stations at Tamarack and near Weiser.

2600. Pine Creek near Cambridge, Idaho

Location.--Lat 44°35'23", long 116°44'12", in SE¼ sec.31, T.15 N., R.3 W., on right bank 300 ft upstream from West Fork and 3.2 miles northwest of Cambridge.

Drainage area.--54 sq mi, approximately. Mean altitude, 4,730 ft.

Records available.--April 1938 to September 1960.

Gage.--Staff gage read twice daily. Altitude of gage is 2,800 ft (by barometer). Prior to Mar. 7, 1951, staff gages at nearby sites at present datum.

Average discharge.--22 years, 39.4 cfs (28,520 acre-ft per year).

Extremes.--Maximum discharge observed during year, 215 cfs June 2 (gage height, 3.18 ft); maximum gage height observed, 3.28 ft Jan. 5 (ice jam); minimum discharge observed, 1.1 cfs Sept. 21 (gage height, 1.54 ft).
1938-60: Maximum discharge observed, 850 cfs Feb. 25, 1958 (gage height, 4.5 ft, from floodmark), from rating curve extended above 300 cfs on basis of slope-area measurement of peak flow; minimum observed, 0.7 cfs Aug. 3, 1949, July 13, 14, 1954; minimum gage height observed, 0.29 ft Aug. 5, 1952.

Remarks.--Records fair except those for periods of ice effect, which are poor. Several diversions above station for irrigation.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 6-27)

Oct. 1 to Mar. 2		Mar. 3 to Sept. 30			
2.1	7.1	1.5	0.5	2.2	34
2.2	12	1.6	2.0	2.5	68
2.3	19	1.7	4.9	2.8	118
2.4	28	1.8	8.8	3.1	193
		2.0	19		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	16	14	9.0	10	12	162	43	160	7.6	6.1	3.4
2	11	16	14	8.5	11	*14	158	55	196	7.8	4.0	3.2
3	11	*17	12	9.0	11	15	131	55	150	7.8	3.7	3.4
4	11	16	11	9.0	10	25	122	62	129	6.8	4.6	3.7
5	9.7	16	10	10	10	35	120	*57	120	6.8	4.3	4.0
6	11	15	9.0	11	9.7	44	127	63	120	6.5	4.3	4.3
7	12	14	10	11	14	68	142	70	110	6.5	3.7	4.0
8	16	14	12	11	20	80	152	74	103	6.1	4.0	4.6
9	21	14	10	11	17	71	133	84	*81	5.3	3.7	4.3
10	18	14	12	11	14	63	118	105	96	5.3	3.2	4.6
11	20	14	13	10	13	58	109	129	89	5.3	2.6	4.9
12	18	16	12	9.6	12	55	96	179	86	5.3	2.9	4.6
13	18	16	11	9.4	11	58	83	112	74	*4.6	1.8	4.0
14	16	16	*9.0	9.0	11	57	81	88	68	4.6	2.0	2.9
15	16	18	12	10	11	59	67	88	66	4.0	2.3	2.6
16	16	18	11	9.0	11	66	64	88	63	3.7	2.0	2.0
17	16	19	11	9.0	12	71	57	83	52	3.7	*2.6	2.0
18	16	21	12	9.0	14	83	54	73	46	3.7	2.3	2.0
19	16	19	12	9.5	12	89	54	63	44	4.0	1.8	1.7
20	16	18	9.7	10	11	110	50	59	33	*3.7	2.0	1.7
21	16	16	9.0	*11	11	122	47	55	30	3.2	2.0	*1.4
22	20	17	9.0	11	11	148	46	54	*28	3.2	4.0	1.4
23	20	18	11	11	11	179	44	46	25	3.4	2.6	1.7
24	17	18	15	11	11	179	41	52	22	4.3	2.6	1.7
25	17	16	15	12	11	*160	41	*60	18	4.3	*2.6	2.0
26	17	16	12	12	10	152	42	71	17	4.0	2.6	2.9
27	18	15	10	11	10	145	44	93	15	4.3	3.4	2.6
28	17	16	11	11	9.5	176	50	84	13	3.2	3.7	2.6
29	16	14	10	10	10	142	46	84	12	3.2	3.2	2.9
30	16	14	10	11	-------	168	45	98	9.8	3.2	3.2	2.9
31	16	-------	10	9.7	-------	179	-------	122	-------	6.5	3.2	-------
Total	489.7	487	348.7	315.7	339.2	2,883	2,526	2,449	2,075.8	151.5	97.0	90.0
Mean	15.8	16.2	11.2	10.2	11.7	93.0	84.2	79.0	69.2	4.89	3.13	3.00
Ac-ft	971	966	692	626	673	5,720	5,010	4,860	4,120	300	192	179

Calendar year 1959: Max 116 Min 1.3 Mean 26.2 Ac-ft 19,000
Water year 1959-60: Max 196 Min 1.4 Mean 33.5 Ac-ft 24,310

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 4-11, 13, 14, 16, 21-23, Dec. 26 to Jan. 25, Feb. 26 to Mar. 5.

2610. Little Weiser River near Indian Valley, Idaho

Location.--Lat 44°30', long 116°24', in NE¼ sec.1, T.13 N., R.1 W., on left bank 60 ft downstream from barn at Richardson Ranch, 1 mile upstream from diversion feeding into C. Ben Ross Reservoir, and 4¾ miles southeast of Indian Valley.

Drainage area.--81.9 sq mi. Mean altitude, 5,300 ft.

Records available.--June 1920 to February 1921, March to June 1923, February 1924 to October 1927, April 1938 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,250 ft (by barometer). Prior to Feb. 25, 1924, staff gage at approximately present site at different datum. Feb. 25 to Apr. 22, 1924, staff gage at Burger Ranch 1 mile downstream at different datum. Apr. 23, 1924, to Nov. 18, 1927, water-stage recorder or staff gage at site half a mile downstream at different datum. May 6, 1938, to Aug. 11, 1950, staff gage at present site and datum.

Average discharge.--25 years (1924-27, 1938-60), 105 cfs (76,020 acre-ft per year).

Extremes.--Maximum discharge during year, 684 cfs June 3 (gage height, 3.66 ft); minimum, 5.1 cfs Nov. 14, Sept. 27; minimum gage height, -0.14 ft Nov. 14.
1920-21, 1923-27, 1938-60: Maximum discharge observed, about 1,840 cfs Feb. 4, 1925; minimum recorded, 2.9 cfs Dec. 8, 1956; minimum gage height, -0.19 ft Nov. 30, 1957.

Remarks.--Records good except those for periods of ice effect, which are fair. One small diversion above station. Many diversions below station for irrigation including feeder canal to C. Ben Ross Reservoir.

Revisions (water years).--WSP 1347: 1923. WSP 1637: 1942(M).

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 6-24, May 18-25)

Oct. 1 to Feb. 7				Feb. 8 to June 2				June 3 to Sept. 30			
0.2	11	1.0	57	0.3	18	2.0	192	0.1	3.4	1.5	81
.3	14	1.5	103	.5	29	2.5	307	.3	8.2	2.0	150
.5	24	2.0	178	1.0	63	3.0	455	.5	15	3.0	420
				1.5	113	3.5	630	1.0	40	3.5	620

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*26	33	24	13	26	b22	212	164	484	67	27	9.2
2	25	32	23	12	35	b20	183	194	517	63	25	8.2
3	24	33	23	14	28	*25	183	185	536	59	17	7.9
4	22	*34	14	14	27	27	225	202	512	58	15	9.2
5	20	24	12	16	26	48	302	187	460	55	14	10
6	20	33	15	17	24	93	365	*200	428	53	13	8.5
7	25	34	19	17	56	230	386	334	406	51	11	8.2
8	25	31	16	17	205	172	386	351	347	50	11	7.9
9	141	30	15	17	132	114	380	329	326	48	9.5	7.7
10	72	30	19	15	91	89	359	404	293	42	9.2	7.7
11	67	29	24	16	76	77	315	510	*296	39	8.8	7.4
12	62	30	*24	16	65	71	267	534	282	38	8.5	7.1
13	53	15	22	17	59	71	234	481	250	35	7.9	8.2
14	48	20	17	14	53	69	234	356	232	*29	8.2	7.9
15	44	30	24	17	49	65	202	331	260	27	8.2	7.7
16	40	19	20	15	47	61	174	368	208	26	8.2	7.7
17	37	20	20	14	b40	71	159	302	178	24	*9.5	7.4
18	34	27	22	14	b38	99	169	271	158	24	8.8	7.4
19	33	28	21	b14	b35	135	181	241	146	22	7.9	7.1
20	31	27	17	*15	32	171	171	227	134	23	7.7	7.1
21	31	28	16	15	b32	210	166	282	120	21	7.4	7.1
22	46	26	16	14	b30	246	159	236	112	19	8.5	*6.8
23	59	32	20	14	24	259	146	223	102	18	14	6.8
24	46	34	24	14	b23	257	135	227	96	17	19	6.8
25	43	31	40	15	b24	271	128	225	91	16	17	6.6
26	40	20	14	15	b20	284	125	271	85	15	13	6.0
27	39	18	13	15	b20	286	123	331	81	14	11	5.8
28	38	25	17	15	19	*315	130	315	76	14	11	5.3
29	36	24	14	16	b20	227	136	329	73	13	9.8	5.5
30	34	26	16	20	------	334	151	383	70	13	9.8	5.8
31	33	------	16	22	------	259	------	452	------	20	9.8	------
Total	1,294	823	597	479	1,356	4,678	6,486	9,425	7,359	1,013	365.7	222.0
Mean	41.7	27.4	19.3	15.5	46.8	151	216	304	245	32.7	11.8	7.40
Cfsm	0.509	0.335	0.236	0.189	0.571	1.84	2.64	3.71	2.99	0.399	0.144	0.090
In.	0.59	0.37	0.27	0.22	0.62	2.12	2.95	4.28	3.34	0.46	0.17	0.10
Ac-ft	2,570	1,630	1,180	950	2,690	9,280	12,860	18,690	14,600	2,010	725	440

Calendar year 1959: Max 366 Min 6.0 Mean 73.8 Cfsm 0.901 In. 12.22 Ac-ft 53,380
Water year 1959-60: Max 536 Min 5.3 Mean 93.2 Cfsm 1.14 In. 15.49 Ac-ft 67,620

Peak discharge (base, 400 cfs).--Feb. 8 (2:30 p.m.) 444 cfs (2.97 ft); Mar. 7 (6:45 p.m.) 513 cfs (3.16 ft); Mar. 27 (11:30 p.m.) 404 cfs (2.84 ft); Apr. 7 (9 p.m.) 465 cfs (3.03 ft); May 12 (11 p.m.) 620 cfs (3.49 ft); June 3 (11 p.m.) 684 cfs (3.68 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2640. Crane Creek Reservoir near Midvale, Idaho

Location.--Lat 44°21'30", long 116°37'00", in SE¼ sec.19, T.12 N., R.2 W., at gate-control structure near left end of dam on Crane Creek, 9½ miles southeast of Midvale.

Drainage area.--242 sq mi.

Records available.--November 1923 to September 1960 (fragmentary).

Gage.--Staff gage. Altitude of gage is 3,190 ft (by barometer).

Extremes.--Maximum gage height observed during year, 50.0 ft Mar. 9; minimum observed, 28.7 ft Sept. 30.
1923-60: Maximum gage height observed, 56.3 ft Feb. 22, 1927; no usable contents Sept. 23, 1928, to Feb. 28, 1929, Sept. 25 to Dec. 1, 1929, Oct. 22 to Dec. 3, 1952.

Remarks.--Reservoir is formed by earth dam completed in 1910 and raised in 1920-21. Spillway crest is at gage height 54.9 ft, and bottom of outlet tunnel is at gage height 6.56 ft. Approximate contents is 51,700 acre-ft between gage height 8.0 and 55.0 ft, based on capacity table computed by the Geological Survey in 1927 and extended above 43.0 ft by the Idaho Department of Reclamation in 1935. No usable contents below gage height 7.0 ft.

Cooperation.--Gage readings furnished by Crane Creek Reservoir Administration Board and watermaster for Water District No. 41.

Revisions.--WSP 833: Drainage area.

Gage height, in feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	-	-	-	43.95	-	-	49.9	49.0	42.6	35.00
2		-	-	-	-	-	49.4	-	-	48.9	42.5	-
3		32.01	-	33.4	-	-	-	-	49.8	-	42.3	-
4		-	-	-	-	-	49.0	-	-	-	42.1	-
5		-	-	-	-	-	-	49.65	-	48.4	-	-
6		-	-	-	35.2	-	-	-	-	-	-	-
7		-	-	-	-	46.8	-	49.7	-	-	41.6	33.6
8		32.1	-	-	-	-	-	-	49.72	47.7	41.3	-
9		-	-	-	-	50.0	-	-	-	47.7	41.1	-
10	31.8	-	-	-	-	-	49.3	-	49.7	-	40.9	-
11		-	-	-	-	49.4	-	-	-	-	40.7	-
12		-	-	-	-	-	-	49.1	-	47.05	-	-
13		-	-	-	43	48.5	-	49.65	49.6	-	-	-
14		-	32.3	-	-	-	-	-	-	-	-	-
15		-	-	-	-	-	-	-	-	-	40.6	32.2
16		-	-	-	-	-	-	49.6	-	46.3	39.10	-
17		-	-	-	-	48.2	-	-	-	-	38.95	-
18		-	-	-	-	49	-	49.6	-	45.8	-	31.35
19		-	33.3	-	-	-	-	-	-	45.7	38.4	-
20		-	-	-	43.6	49.2	-	-	49.4	45.4	-	30.95
21		-	-	-	-	-	-	49.6	-	-	-	-
22		-	-	-	-	-	-	-	-	-	-	-
23		-	-	-	-	-	-	49.6	-	-	-	-
24		-	-	-	-	49	-	-	-	-	-	-
25		-	-	-	-	49.10	-	-	49.3	44.7	38.8	-
26		32.2	-	-	-	-	-	-	-	-	38.6	-
27		-	-	-	43.9	-	-	49.8	-	43.7	-	29.28
28		-	-	33.7	-	49.4	-	-	49.3	-	-	-
29		-	-	-	-	-	-	-	-	43.4	-	-
30		32.1	33.4	-	-------	49.5	-	-	-	-	38.6	28.7
31		-------	-	-	-------	49.8	-------	49.8	-------	-	-	-------

2645. Crane Creek near Midvale, Idaho

Location.--Lat 44°21'30", long 116°37'10", in SE¼ sec.19, T.12 N., R.2 W., on left bank 400 ft downstream from Crane Creek Dam and 9½ miles southeast of Midvale.

Drainage area.--242 sq mi.

Records available.--October 1910 to September 1911, January 1912 to September 1915, January to April 1916, May 1924 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,140 ft (by barometer). Prior to May 1, 1924, staff gage at site 100 ft upstream at different datum. May 1, 1924, to Dec. 7, 1952, water-stage recorder on right bank at datum 1.54 ft higher.

Average discharge.--39 years (1912-15, 1924-60), 75.0 cfs (54,300 acre-ft per year).

Extremes.--Maximum discharge during year, 884 cfs Mar. 9 (gage height, 5.02 ft); no flow for many days October to March.
1910-16, 1924-60: Maximum discharge observed, 4,750 cfs Dec. 3, 1910 (gage height, 9.4 ft, from floodmark, site and datum then in use), from rating curve extended above 3,500 cfs; no flow at times in many years when gates in dam were closed.

Remarks.--Records good except those below 10 cfs, which are fair. Flow regulated since 1911 by Crane Creek Reservoir (see preceding page). No large diversion above station.

Cooperation.--Water-stage recorder inspected by employees of Crane Creek Reservoir Administration Board.

Revisions (water years).--WSP 833: Drainage area. WSP 963: 1941(M). WSP 1347: 1925, 1927. WSP 1637: 1911(M).

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.56	0	1.9	12	3.5	193
1.6	.4	2.0	18	4.0	340
1.7	3.3	2.5	59	4.5	560
1.8	7.3	3.0	114	5.0	870

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1					0	535	0.4	9.5	100	218	133
2	0					*0	465	.4	9.5	152	184	144
3	0	(*)				0	400	.4	9.5	172	136	152
4	0					0	193	.4	9.5	172	108	152
5	0					0	17	.4	9.5	187	189	151
6	0					0	17	.4	9.5	197	167	152
7	0					41	17	.4	9.5	197	180	136
8	0					117	17	.4	9.5	200	176	120
9	0					469	17	.4	*9.9	204	172	119
10	0					870	15	.4	9.5	204	195	119
11	0					842	.4	.4	9.5	204	218	118
12	0					814	.4	4.0	9.5	*202	261	118
13	0					648	.4	10	9.5	202	261	117
14	0		(*)			478	.4	15	9.9	202	261	117
15	0					478	.4	15	9.9	200	246	117
16	0					478	.4	12	9.9	200	238	115
17	0					231	.4	9.5	10	197	220	114
18	0					177	.4	7.3	11	202	208	119
19	0					654	.4	5.3	11	215	206	120
20	0					615	.4	5.3	11	238	206	119
21	0					571	.4	8.9	11	240	204	119
22	0					571	.4	11	11	243	202	118
23	0					571	.4	9.1	11	243	202	117
24	0					486	.4	6.9	11	240	200	118
25	0					*117	.4	6.9	11	228	189	118
26	0					115	.4	6.9	11	225	167	117
27	0					114	.4	7.8	11	204	156	100
28	0					98	.4	9.5	16	193	154	80
29	0					36	.4	9.5	87	204	154	79
30	0				-------	128	.4	9.5	87	228	152	79
31	0	-------			-------	353	-------	9.5	-------	228	152	-------
Total	0.1	0	0	0	0	10,072	1,701	183.3	463.6	6,323	5,962	3,597
Mean	0.003	0	0	0	0	325	56.7	5.91	15.5	204	192	120
Ac-ft	0.2	0	0	0	0	19,980	3,370	364	920	12,540	11,830	7,130

Calendar year 1959: Max 246 Min 0 Mean 43.1 Ac-ft 31,220
Water year 1959-60: Max 870 Min 0 Mean 77.3 Ac-ft 56,130

* Discharge measurement or observation of no flow made on this day.
Note.--No gage-height record Apr. 10 to May 12; discharge estimated on basis of 1 discharge measurement, observer's notes, and records for station at mouth.

2655. Crane Creek at mouth, near Weiser, Idaho

Location.--Lat 44°18', long 116°47', in sec.14, T.11 N., R.4 W., on right bank just downstream from highway bridge at Harris Ranch, a quarter of a mile upstream from mouth and 10 miles northeast of Weiser.

Drainage area.--288 sq mi. Mean altitude, 3,340 ft.

Records available.--July to September 1920, February 1921 to September 1960.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,240 ft (by barometer).

Average discharge.--39 years (1921-60), 83.6 cfs (60,520 acre-ft per year).

Extremes.--Maximum discharge during year, 1,210 cfs Mar. 19 (gage height, 4.76 ft); minimum, 0.4 cfs May 22 (gage height, 1.52 ft).
1920-60: Maximum discharge, 3,170 cfs Feb. 26, 1957 (gage height, 6.23 ft); no flow for part of May 1, 1956; minimum daily, 0.2 cfs May 3, 1956; minimum gage height, 1.30 ft Jan. 21, 1922.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by Crane Creek Reservoir (see p. 179). Several small ditches divert above station for irrigation.

Revisions.--WSP 833: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	1.0	2.2	27	3.7	350
1.7	3.0	2.5	53	4.1	575
1.8	6.1	2.9	111	4.5	930
2.0	15	3.3	207	5.0	1,470

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.9	5.8	b5.5	b4.7	17	*b6.0	599	5.8	4.9	77	222	127
2	6.5	5.8	5.5	b4.5	52	b6.4	512	7.7	5.8	119	185	131
3	6.5	*5.8	5.5	b4.5	26	b7.4	405	7.3	5.5	154	149	138
4	6.5	5.5	5.2	b4.5	17	b7.8	278	*7.3	4.2	154	106	147
5	6.1	5.5	b5.0	b4.5	13	46	32	6.5	3.9	166	152	142
6	6.1	5.5	b5.0	b5.0	12	172	29	4.6	5.2	174	156	138
7	6.1	5.5	b5.0	b5.0	37	350	27	2.4	4.6	174	164	129
8	6.5	5.5	b5.0	b5.8	270	449	26	6.1	*3.3	174	169	113
9	14	5.5	b5.0	b6.0	229	610	26	5.8	2.2	185	149	111
10	12	5.5	b5.0	b5.4	162	1,050	25	4.2	3.9	182	174	111
11	8.1	5.5	b5.5	b6.6	104	1,000	18	1.6	3.9	182	199	113
12	6.9	5.5	b6.0	b6.6	68	940	9.3	1.4	1.0	*182	241	113
13	7.3	5.5	6.1	b5.5	40	824	8.9	2.4	1.4	182	241	111
14	6.9	5.5	5.5	b5.0	25	554	8.5	5.5	2.8	179	238	111
15	6.5	5.5	*5.5	b6.5	20	561	6.9	5.8	4.2	179	226	109
16	6.5	b5.8	5.8	b5.6	17	568	5.2	7.3	4.6	182	*226	107
17	6.1	b5.5	5.5	b5.4	14	451	6.1	6.9	2.6	182	213	106
18	6.1	b5.5	5.8	b5.4	12	337	6.9	6.1	5.5	185	193	111
19	5.8	5.5	5.8	b5.0	11	1,000	3.3	3.6	6.5	199	193	115
20	5.8	5.5	b5.5	b5.5	11	910	2.4	1.8	6.1	216	193	*111
21	6.1	5.5	b5.0	b5.5	11	794	3.6	1.0	7.3	219	193	111
22	6.5	6.1	b5.0	*b6.0	9.7	723	6.1	2.6	7.7	226	193	111
23	6.5	6.5	b5.5	b7.0	9.3	680	7.7	4.6	6.9	226	190	111
24	6.5	6.5	b10	8.5	8.9	*623	7.3	5.5	4.2	229	193	113
25	6.1	6.1	149	7.7	8.9	140	7.3	2.4	6.1	213	179	113
26	5.8	5.8	b30	6.9	8.9	129	7.7	1.0	6.5	210	159	111
27	6.1	5.5	b14	6.1	b7.7	127	4.6	3.3	6.1	201	145	104
28	6.1	b5.5	b8.0	5.8	b6.2	133	4.9	4.6	5.8	179	142	77
29	5.8	b5.5	b6.5	5.8	b6.0	55	6.9	3.6	44	179	140	77
30	5.5	b5.5	b5.4	8.1	-------	117	6.5	2.8	72	213	138	78
31	5.5	-------	b4.7	13	-------	346	-------	3.6	-------	216	138	-------
Total	209.7	169.7	351.8	187.4	1,233.6	13,716.6	2,097.1	135.1	248.7	5,738	5,599	3,400
Mean	6.76	5.66	11.3	6.05	42.5	442	69.9	4.36	8.29	185	181	113
Ac-ft	416	337	698	372	2,450	27,210	4,160	268	493	11,380	11,110	6,740

Calendar year 1959: Max 238 Min 2 Mean 47.6 Ac-ft 34,430
Water year 1959-60: Max 1,050 Min 1.0 Mean 90.4 Ac-ft 65,630

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2660. Weiser River near Weiser, Idaho

Location.--Lat 44°16'50", long 116°47'00", in NW¼ sec.23, T.11 N., R.4 W., on right bank 0.4 mile upstream from county road bridge, 1¾ miles downstream from Crane Creek, and 9½ miles northeast of Weiser.

Drainage area.--1,460 sq mi, approximately.

Records available.--March 1890 to June 1891, December 1894 to October 1896, April to September 1897, March 1898 to November 1899, March 1900 to December 1904, October 1910 to December 1914, October 1952 to September 1960. Published as "at Weiser" prior to 1900.

Gage.--Water-stage recorder. Altitude of gage is 2,220 ft (by barometer). Prior to October 1952, staff gages at several sites downstream within 2½ miles of present site at various datums.

Average discharge.--17 years (1895-96, 1898-99, 1900-1904, 1911-14, 1952-60), 1,209 cfs (875,300 acre-ft per year).

Extremes.--Maximum discharge during year, 6,960 cfs Mar. 22 (gage height, 7.01 ft); minimum, 122 cfs Dec. 5, 6 (gage height, 1.66 ft).
1890-91, 1894-1904, 1910-14, 1952-60: Maximum discharge observed, 19,900 cfs Dec. 23, 1955 (gage height, 11.06 ft); minimum observed, 14 cfs Aug. 7, 1911 (gage height, 2.80 ft, site and datum then in use).
Flood of Mar. 19, 1932, reached a discharge of about 17,500 cfs.

Remarks.--Records excellent except those of periods of ice effect, which are fair. Flow partly regulated by Crane Creek Reservoir (see p. 179), Lost Valley Reservoir (see p. 174), and other small reservoirs. Diversions above station for irrigation of about 22,000 acres (1948 determination). Records of water temperatures for the water year 1960 are given in WSP 1724.

Revisions (water years).--WSP 1347: 1895-1905, 1953(M).

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	132	4.0	1,550
2.0	220	5.0	2,910
2.5	420	6.0	4,730
3.0	690	7.0	6,940
3.5	1,080		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	230	254	180	170	230	*250	4,650	1,340	2,610	291	303	220
2	220	251	180	150	250	260	3,580	1,520	2,610	327	319	214
3	210	*247	190	150	240	270	3,050	1,890	2,780	357	319	220
4	217	254	170	150	250	299	2,940	*1,890	2,690	295	234	234
5	207	261	160	150	270	402	3,160	1,890	2,400	303	265	247
6	201	217	160	160	280	870	3,710	1,780	2,200	307	254	261
7	214	230	160	170	360	2,410	3,960	1,880	*2,070	307	265	244
8	251	244	160	190	1,000	4,770	3,980	2,620	1,880	323	303	214
9	532	230	160	230	2,200	4,230	3,870	2,340	1,710	327	240	204
10	797	227	160	230	2,000	3,230	3,640	2,480	1,520	323	247	207
11	495	223	160	220	1,500	2,460	3,250	3,010	1,420	315	265	210
12	490	210	170	250	1,200	2,030	2,800	3,250	1,350	*299	303	207
13	450	210	180	210	908	1,960	2,380	3,280	1,210	299	303	204
14	397	165	140	160	703	2,000	2,230	2,560	1,090	303	295	198
15	370	145	*180	180	619	2,110	2,080	2,220	1,160	303	280	194
16	348	180	160	160	558	2,190	1,820	2,300	1,110	299	*276	188
17	327	160	160	140	485	2,440	1,600	2,190	1,000	287	276	198
18	311	185	170	140	450	3,390	1,530	1,940	855	280	265	194
19	287	200	160	140	430	4,530	1,500	1,700	755	284	254	194
20	276	214	160	180	402	4,890	1,470	1,540	690	295	251	*194
21	265	210	160	180	388	5,240	1,470	1,720	619	307	244	198
22	276	217	160	*180	365	5,630	1,390	1,630	586	307	247	188
23	344	223	180	180	335	5,600	1,330	1,450	531	303	258	188
24	370	244	210	180	311	*5,310	1,240	1,360	480	311	276	185
25	319	269	350	180	323	4,630	1,140	1,450	435	299	295	188
26	303	247	260	180	270	4,650	1,100	1,410	392	295	299	191
27	287	188	200	190	230	4,150	1,060	2,080	357	284	272	182
28	276	160	180	190	200	5,240	1,100	2,240	287	258	258	154
29	265	180	170	190	180	4,440	1,220	2,130	323	254	247	148
30	261	180	170	200	-------	5,310	1,250	2,230	315	272	247	151
31	254	-------	170	210	-------	5,930	-------	2,440	-------	280	240	-------
Total	10,050	6,425	5,530	5,590	16,937	101,121	69,500	63,760	37,435	9,294	8,400	6,019
Mean	324	214	178	180	584	3,262	2,317	2,057	1,248	300	271	201
Ac-ft	19,930	12,740	10,970	11,090	33,590	200,600	137,900	126,500	74,250	18,430	16,660	11,940

Calendar year 1959: Max 5,370 Min 70 Mean 722 Ac-ft 522,900
Water year 1959-60: Max 5,930 Min 140 Mean 929 Ac-ft 674,600

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 15-19, Nov. 28 to Feb. 12, Feb. 26 to Mar. 3.

2665. Weiser Irrigation District Canal near Weiser, Idaho

Location.--Lat 44°15', long 116°51', in sec.32, T.11 N., R.4 W., on left bank 3¼ miles downstream from headworks of canal and 7 miles east of Weiser.

Records available.--April 1920 to September 1960 (winter records fragmentary prior to 1950).

Gage.--Water-stage recorder. Altitude of gage is 2,160 ft (by barometer).

Extremes.--1920-60: Maximum daily discharge, 223 cfs June 24, 1957; no flow at times when gates were closed.

Remarks.--Records excellent except those below 20 cfs, which are fair, and those for periods of no gage-height record, which are poor. Canal diverts water from right bank of Weiser River in sec.35, T.11 N., R.4 W., for irrigation of about 11,700 acres (1953 determination), including about 1,200 acres irrigated from five diversions above station in projects of Weiser and Weiser Bench Irrigation Districts.

Cooperation.--Water-stage recorder inspected by employees of Weiser Irrigation District.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	2.2	1.2	0.5	0.9	*0.8	0.6	181	116	200	199	168
2	97	*2.2	1.2	.5	b1.5	.8	.6	182	18	204	195	153
3	94	2.1	1.2	.5	b.9	.8	.6	*182	15	206	191	164
4	93	2.1	1.2	.5	b.5	.8	.6	*84	15	201	180	172
5	93	2.1	1.2	.5	b.5	.9	.6	17	15	200	183	172
6	94	2.1	1.2	.5	b.5	1.0	.6	17	99	202	188	171
7	94	2.1	1.2	.5	2.8	1.0	.6	115	*160	202	177	168
8	94	2.1	.9	.5	6.3	1.0	1.5	167	168	204	195	161
9	97	2.1	.9	.5	2.1	.9	44	166	182	205	177	154
10	100	1.6	.9	.4	1.4	.9	40	164	188	203	184	155
11	99	1.6	.9	.4	1.0	.9	39	164	192	*199	186	158
12	98	1.6	.9	.4	.8	.9	114	162	194	198	193	154
13	97	1.6	.9	.4	.8	.8	146	169	198	196	198	152
14	96	1.8	.9	.4	.8	.8	144	177	205	199	198	147
15	48	1.6	*.9	.4	.8	.8	142	182	208	198	*195	145
16	2.2	1.6	.8	.4	.8	.8	139	185	210	196	194	142
17	2.2	1.6	.8	.4	.8	.7	137	186	208	192	193	140
18	2.2	1.6	.8	.4	.8	.7	135	185	205	189	192	145
19	2.2	1.6	.8	.4	.8	.7	144	185	204	190	190	141
20	2.2	1.8	.8	.4	.8	.7	151	186	204	194	185	*141
21	2.2	1.8	.8	.4	.8	.6	154	187	202	200	184	140
22	2.2	2.1	.6	*.4	.8	.6	160	187	204	201	182	138
23	2.2	1.8	.6	.4	.8	*.6	167	187	201	202	188	134
24	2.2	1.8	1.0	.4	.8	.6	166	188	201	202	189	132
25	2.2	1.8	1.0	.5	.8	.6	166	189	203	201	189	137
26	2.2	1.8	.6	.7	.8	.6	170	189	202	202	189	137
27	2.2	1.8	.6	.7	.8	.6	174	189	200	200	187	132
28	2.2	1.8	.6	.7	.8	.6	174	188	194	189	184	112
29	2.2	1.6	.5	.7	.8	.6	178	187	199	187	182	107
30	2.2	1.6	.5	.7	-------	.6	180	187	203	196	178	105
31	2.2	-------	.5	.7	-------	.6	-------	187	-------	201	179	-------
Total	1,432.2	55.0	26.9	15.2	32.8	23.3	3,069.7	5,121	5,013	6,159	5,824	4,377
Mean	46.2	1.83	0.87	0.49	1.13	0.75	102	165	167	199	188	146
Ac-ft	2,840	109	53	30	65	46	6,090	10,160	9,940	12,220	11,550	8,680

Calendar year 1959: Max 220 Min 0.4 Mean 97.1 Ac-ft 70,280
Water year 1959-60: Max 210 Min 0.4 Mean 85.1 Ac-ft 61,780

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Oct. 7 to Nov. 2, Dec. 29 to Feb. 1, Feb. 11 to Apr. 8; discharge estimated on basis of 4 discharge measurements, recorded range in stage, and weather records.

2670. Mann Creek near Weiser, Idaho

Location.--Lat 44°23'30", long 116°53'40", in NE¼ sec.11, T.12 N., R.5 W., on left bank 2 miles upstream from U. S. Highway 95, 10 miles northeast of Weiser, and 11½ miles upstream from mouth.

Drainage area.--56 sq mi, approximately. Mean altitude, 4,860 ft.

Records available.--March 1911 to September 1913, July to November 1920, April 1937 to September 1960.

Gage.--Staff gage read twice daily. Crest-stage indicator since July 16, 1957. Altitude of gage is 2,830 ft (from topographic map). Prior to Feb. 9, 1951, staff gages at sites within 1,000 ft upstream at different datums.

Average discharge.--25 years (1911-13, 1937-60), 40.8 cfs (29,540 acre-ft per year).

Extremes.--Maximum discharge during year, 376 cfs Apr. 5 (gage height, 2.75 ft); minimum observed, 1.4 cfs Sept. 20, 22 (gage height, 0.62 ft).
1911-13, 1920, 1937-60: Maximum discharge, 1,540 cfs Mar. 27, 1940 (gage height, 5.45 ft, from floodmark, site and datum then in use), from rating curve extended above slope-area measurement at gage height 4.21 ft; no flow Aug. 18 to Sept. 22, 1937, July 31 to Sept. 13, 1939.

Remarks.--Records fair. One diversion above station for irrigation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	1.2	1.1	14	2.0	152
.8	3.0	1.2	22	2.3	227
.9	5.6	1.4	43	2.6	319
1.0	9.4	1.7	91		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.3	6.7	7.8	b8.0	9.4	b11	122	70	45	10	5.3	2.8
2	4.3	6.7	8.6	b7.6	10	*b11	128	116	46	9.7	9.0	3.2
3	4.3	*7.1	8.6	b8.0	b10	b12	120	120	43	9.4	6.7	2.8
4	4.3	7.5	7.8	b8.0	10	13	190	*116	42	9.1	4.0	2.8
5	4.3	4.0	6.0	b9.0	10	22	278	102	35	8.8	3.6	2.8
6	4.8	3.7	5.3	b9.0	11	34	303	100	28	8.5	3.2	2.8
7	6.4	5.3	b6.0	b9.5	20	59	281	116	20	8.2	3.0	2.8
8	5.1	5.3	b7.0	b10	64	86	262	120	*15	7.9	3.0	2.6
9	8.2	4.8	b6.7	10	41	66	290	112	14	7.6	2.7	2.4
10	7.8	5.1	b7.2	10	32	39	219	120	16	7.3	2.6	2.8
11	6.7	5.6	7.8	9.9	31	33	195	124	15	7.1	2.5	2.4
12	6.7	5.3	7.8	9.9	31	29	173	120	15	6.9	2.5	2.4
13	6.7	3.7	b7.0	b9.0	23	40	150	100	14	*6.7	2.4	2.4
14	6.7	2.8	b6.2	b8.5	20	40	143	82	14	6.7	2.4	2.6
15	6.0	4.8	*b6.7	b9.0	b19	33	126	93	15	6.4	2.6	2.2
16	5.3	6.0	b6.7	b8.6	b17	33	122	74	14	6.4	*2.6	2.2
17	5.3	7.5	b6.7	b8.2	b15	36	110	72	14	5.3	2.4	2.1
18	5.3	7.5	b6.7	b8.2	b15	53	89	72	13	4.8	2.1	2.2
19	5.3	6.7	b6.7	b8.6	b15	79	89	55	13	4.8	2.2	2.1
20	5.3	6.0	b6.5	b9.5	b15	130	82	53	13	4.8	2.1	*1.7
21	5.6	6.7	b6.2	*b10	b14	126	82	53	12	4.8	2.1	1.7
22	7.1	6.7	b6.2	b10	b14	200	80	52	12	4.3	1.9	1.6
23	13	7.5	b10	9.9	14	185	84	48	12	3.7	3.2	1.9
24	8.6	7.5	17	10	b15	185	80	46	11	3.7	3.5	2.1
25	8.2	7.1	26	9.4	14	*235	72	45	11	3.5	3.7	2.1
26	7.1	7.8	16	9.4	b13	227	72	48	11	3.2	3.5	2.1
27	6.7	8.6	b15	9.4	b11	200	70	61	11	3.0	2.8	1.9
28	6.0	9.9	13	9.4	b10	222	69	61	10	3.7	4.0	2.1
29	6.4	7.5	9.4	9.4	b10	159	91	53	10	4.3	3.2	1.9
30	6.7	7.1	8.6	10	-------	170	89	53	10	4.3	3.7	1.7
31	6.7	-------	b9.0	9.9	-------	134	-------	53	-------	4.0	2.8	-------
Total	195.2	188.5	276.2	285.3	533.4	2,900	4,261	2,510	554	188.9	101.3	69.2
Mean	6.30	6.28	8.91	9.20	18.4	93.5	142	81.0	18.5	6.09	3.27	2.31
Ac-ft	387	374	548	566	1,060	5,750	8,450	4,980	1,100	375	201	137

Calendar year 1959: Max 150 Min 0.3 Mean 22.2 Ac-ft 16,070
Water year 1959-60: Max 303 Min 1.6 Mean 33.0 Ac-ft 23,930

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--Doubtful gage-height record Dec. 25, June 5 to July 12, Aug. 4-15; discharge estimated on basis of 1 discharge measurement, observer's notes, weather records, and records for other stations in Weiser River basin.

2690. Snake River at Weiser, Idaho.

Location.--Lat 44°14'40", long 116°58'25", in sec.31, T.11 N., R.5 W., on right bank a third of a mile upstream from highway bridge at Weiser and a third of a mile downstream from Weiser River.

Drainage area.--69,200 sq mi, approximately. Mean altitude, 5,400 ft.

Records available.--October 1910 to September 1960. Fragmentary gage-height record obtained by U. S. Weather Bureau since 1895. Monthly discharge only for October 1910, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 2,086.64 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1914, staff gage half a mile downstream at different datum. Oct. 1, 1914, to Oct. 11, 1933, staff gage at present site and datum.

Extremes.--Maximum discharge during year, 31,100 cfs Apr. 10 (gage height, 7.40 ft); minimum, 9,460 cfs July 10 (gage height, 2.88 ft).
1910-60: Maximum discharge, 84,500 cfs Apr. 29, 1952 (gage height, 14.67 ft); minimum observed, 5,100 cfs Aug. 5, 1924 (gage height, 1.35 ft).
Flood of Mar. 3, 1910, reached a stage of 17.1 ft, present site and datum, from reading on old U. S. Weather Bureau gage (discharge, 120,000 cfs). Flood in June 1894 was considerably higher.

Remarks.--Records excellent. Flow regulated by many reservoirs above station. Diurnal fluctuation caused by Swan Falls powerplant. Diversions for irrigation of about 2,473,000 acres (1948 determination) above station.

Revisions (water years).--WSP 1317: 1918. WSP 1567: 1910(M).

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

2.9	9,400	5.0	17,900
3.0	9,700	6.0	22,900
4.0	13,600	8.0	34,500

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16,100	14,600	13,600	12,700	14,000	11,500	20,900	10,800	17,700	9,820	13,300	12,000
2	15,700	*13,500	13,600	11,300	17,300	12,300	17,900	12,000	18,300	9,970	14,100	12,200
3	15,400	13,400	13,700	11,300	16,200	12,700	17,800	*12,500	19,000	9,700	13,900	12,100
4	15,700	14,000	13,700	11,900	13,000	13,000	18,100	13,200	20,000	9,880	12,600	12,700
5	15,400	13,100	13,800	11,600	12,300	13,100	18,600	13,600	20,000	9,970	13,400	13,100
6	15,900	14,000	13,000	12,300	12,600	15,100	20,700	13,400	*19,600	9,970	12,700	13,500
7	15,600	13,700	12,900	12,300	14,200	17,600	22,600	13,600	19,900	9,760	12,000	12,500
8	15,900	13,100	12,200	12,200	19,900	25,100	25,800	16,200	20,000	9,670	11,600	12,400
9	16,500	12,900	12,600	12,400	26,800	24,000	29,200	16,800	18,500	9,610	11,000	12,300
10	17,500	13,000	12,700	12,500	20,500	19,900	29,300	16,600	18,200	9,550	10,600	13,000
11	18,000	12,900	12,500	12,100	19,800	17,700	28,700	17,100	17,500	*9,610	10,400	12,900
12	18,200	12,200	13,400	12,700	16,600	16,900	27,500	18,900	17,100	9,670	10,100	12,500
13	17,000	12,600	13,000	12,100	14,900	16,200	25,300	20,000	16,900	9,820	10,000	12,400
14	17,800	12,900	12,900	11,600	14,300	15,400	24,100	20,400	16,000	9,850	10,100	12,900
15	16,100	12,900	12,900	11,900	13,400	13,600	22,800	21,900	16,000	9,820	*10,500	12,900
16	16,100	12,700	*13,100	12,000	12,900	15,900	19,000	20,900	17,600	9,820	10,300	12,900
17	15,900	12,600	12,500	12,100	12,600	15,300	17,500	20,000	17,900	9,850	11,100	12,700
18	15,800	12,700	12,900	11,900	12,300	15,300	17,800	19,400	17,800	10,100	10,800	12,600
19	16,100	12,900	12,600	11,900	12,300	18,400	18,000	19,000	16,200	10,200	11,000	*12,700
20	15,200	12,800	12,700	12,100	12,100	19,000	17,000	18,500	15,400	10,500	11,200	13,100
21	15,300	12,700	12,600	12,500	12,100	20,200	16,300	20,000	14,400	10,300	11,300	13,200
22	15,400	12,900	13,100	*12,300	12,000	21,500	13,600	20,000	13,600	11,200	11,000	12,300
23	15,100	13,400	12,900	11,900	11,800	22,800	11,900	19,600	12,600	11,000	12,300	13,600
24	16,200	13,800	13,400	11,500	11,700	*22,800	10,800	19,300	12,600	10,800	11,700	12,600
25	15,700	14,400	14,300	12,000	11,700	22,400	11,200	19,200	11,000	10,700	13,700	13,000
26	14,800	14,000	14,300	11,500	12,200	22,200	11,200	18,600	11,100	10,800	12,200	12,900
27	13,500	13,600	12,600	11,600	11,800	23,300	10,500	18,800	11,000	11,100	12,600	12,900
28	13,900	13,700	12,300	11,900	12,300	23,000	11,100	17,200	10,900	10,600	12,100	13,000
29	13,300	13,900	13,100	11,900	*12,600	23,400	11,300	16,800	10,000	10,900	12,500	12,600
30	12,600	13,300	12,700	12,600	-------	22,000	11,100	17,200	9,790	10,800	12,400	13,200
31	13,900	-------	12,700	14,700	-------	22,900	-------	17,200	-------	11,300	12,300	-------
Total	485,600	398,200	404,300	375,300	416,200	574,500	557,600	538,700	476,590	316,640	364,800	382,700
Mean	15,660	13,270	13,040	12,110	14,350	18,530	18,590	17,380	15,890	10,210	11,770	12,760
Ac-ft	963,200	789,800	801,900	744,400	825,500	‡1,140	‡1,106	‡1,068	945,300	628,000	723,600	759,100

Calendar year 1959: Max 20,000 Min 9,910 Mean 13,780 Ac-ft 9,979,000
Water year 1959-60: Max 29,300 Min 9,550 Mean 14,460 Ac-ft 10,490,000

* Discharge measurement made on this day.
‡ Expressed in thousands.

2725. Unity Reservoir near Unity, Oreg.

Location.--Lat 44°30'20", long 118°11'00", in SW¼SE¼ sec.21, T.12 S., R.37 E., at Unity Dam on Burnt River, 500 ft downstream from Job Creek, 0.5 mile downstream from confluence of North, Middle, and South Forks of Burnt River, and 4½ miles north of Unity.

Drainage area.--309 sq mi.

Records available.--March 1938 to September 1960.

Gage.--Staff gage above elevation 3,803.3 ft, reference marks for lower readings; gage read once daily. Datum of gage is at mean sea level, Bureau of Reclamation bench mark (to convert elevations to datum of 1929, add 0.12 ft). Prior to Nov. 4, 1941, reference mark or mercury pressure gage at same site and datum.

Extremes.--Maximum contents observed during year, 25,770 acre-ft May 4, 5, 8 (elevation, 3,820.60 ft); minimum observed, 1,000 acre-ft Oct. 13-29 (elevation, 3,781.80 ft).
1938-60: Maximum contents observed, 25,770 acre-ft Apr. 13, 1942, May 4, 5, 8, 1960 (elevation, 3,820.60 ft); no contents Sept. 5 to Oct. 4, 1955.

Remarks.--Reservoir is formed by earth-fill dam with concrete spillway and outlet works, completed by Bureau of Reclamation in 1937; storage began Feb. 19, 1938. Capacity, 25,220 acre-ft between elevations 3,776.5 (bottom of outlet gates) and 3,820.0 ft (top of radial gates on spillway when closed). Dead storage, 600 acre-ft below elevation 3,776.5 ft. Records given herein represent usable contents. Water used for irrigation in the Burnt River Irrigation District near Hereford and Bridgeport. Contents computed from capacity table based on surveys by Bureau of Reclamation.

Month-end elevation and contents, water year October 1959 to September 1960

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	3,783.20	1,380	-
Oct. 31	3,782.20	1,100	-280
Nov. 30	3,784.85	1,910	+810
Dec. 31	3,788.10	3,160	+1,250
Calendar year 1959	-	-	-3,670
Jan. 31	3,792.20	5,100	+1,940
Feb. 29	3,795.70	7,000	+1,900
Mar. 31	3,811.42	17,800	+10,800
Apr. 30	3,820.38	25,570	+7,770
May 31	3,817.48	22,940	-2,630
June 30	3,809.80	16,530	-6,410
July 31	3,800.70	10,040	-6,490
Aug. 31	3,790.05	4,040	-6,000
Sept.30	3,782.95	1,310	-2,730
Water year 1959-60	-	-	-70

Note.--Gage read between 4 and 7:30 p.m.

2730. Burnt River near Hereford, Oreg.

Location.--Lat 44°30'20", long 118°10'50", in SE¼ sec.21, T.12 S., R.37 E., on left bank at entrance to canyon, 1,250 ft downstream from Unity Dam, 0.3 mile upstream from Van Cleve ditch, 0.7 mile downstream from South Fork, and 7 miles west of Hereford.

Drainage area.--309 sq mi.

Records available.--March to September 1915, April to September 1916, October 1928 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 3,756.75 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Mar. 16, 1915, to Sept. 4, 1916, staff gage at site 2 miles downstream at different datum. Oct. 22, 1928, to June 28, 1932, water-stage recorder at site 0.9 mile (revised) downstream at different datum. June 29, 1932, to Sept. 16, 1937, water-stage recorder at site 300 ft upstream at different datum. Sept. 17, 1937, to Sept. 30, 1943, water-stage recorder at present site at datum 3.29 ft higher.

Average discharge.--32 years (1928-60), 82.6 cfs (59,800 acre-ft per year).

Extremes.--Maximum discharge during year, 715 cfs Apr. 14 (gage height, 4.67 ft); minimum, 8.5 cfs June 13.

1915-16, 1928-60: Maximum discharge, 2,220 cfs Apr. 17, 1943 (gage height, 7.35 ft, present datum), from rating curve extended above 1,300 cfs by logarithmic plotting; maximum gage height, 7.85 ft Apr. 16, 1943, present datum, just before concrete control washed out; no flow at times; minimum discharge before construction of Unity Dam, 1.6 cfs Aug. 31, 1935.

Remarks.--Records good. Flow regulated since 1938 by Unity Reservoir (see preceding page). Diversions for irrigation of 8,700 acres above station. Eldorado ditch diverts as much as 34 cfs from several tributaries above station for irrigation in Willow Creek basin. A transmountain diversion from headwaters of John Day River delivers 12 cfs to North Fork Burnt River for irrigation.

Revisions (water years).--WSP 903: 1939. WSP 1397: 1916, 1930, 1933(M).

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 22		Nov. 23 to Sept. 30			
1.8	33	1.3	8.5	2.5	122
2.0	50	1.4	12	3.0	195
2.4	92	1.6	23	3.5	295
		1.8	39	4.0	440
		2.0	59	4.5	630

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	36	31	9.2	9.9	9.6	50	94	137	105	92	83
2	50	36	31	9.2	9.9	9.6	57	94	137	105	92	82
3	49	37	31	9.2	9.9	9.6	57	102	136	104	91	81
4	48	38	32	9.2	9.9	9.6	62	146	135	102	91	71
5	48	38	32	9.6	9.9	9.6	99	171	143	100	90	59
6	48	38	33	9.6	9.9	9.6	*207	140	146	99	90	56
7	48	38	33	9.6	9.9	*9.6	308	118	144	96	88	56
8	48	38	33	9.6	9.9	9.6	344	129	144	94	88	55
9	48	38	33	9.9	9.9	9.6	353	147	144	92	87	54
10	49	38	33	9.9	9.9	9.6	486	*149	144	88	87	54
11	49	38	29	9.9	9.9	9.6	404	152	144	98	86	53
12	63	39	25	9.9	9.9	9.6	338	150	144	129	86	52
13	87	39	25	9.9	9.9	9.6	315	144	118	126	96	52
14	85	39	25	9.9	9.9	9.6	243	139	144	123	111	52
15	80	38	21	9.9	9.9	9.6	198	156	*146	121	109	51
16	77	38	11	9.9	9.9	9.6	244	166	150	137	108	50
17	74	*38	8.8	9.9	9.9	9.6	214	128	149	118	108	49
18	72	39	8.8	9.9	9.9	9.6	212	160	146	115	*105	49
19	71	39	9.2	9.9	9.9	9.6	206	164	143	112	102	47
20	73	39	9.2	9.9	9.9	9.9	150	172	139	*108	94	43
21	74	39	*9.2	9.9	9.9	9.9	129	164	137	105	92	43
22	73	39	9.2	10	9.9	11	129	165	135	105	91	42
23	73	120	9.2	10	9.9	11	143	168	132	104	90	42
24	73	102	9.2	10	9.9	12	160	158	128	104	90	41
25	73	64	9.2	10	9.9	50	153	150	122	104	88	40
26	73	40	9.2	*10	9.9	59	142	147	118	104	88	40
27	72	37	9.2	10	9.9	67	103	146	115	121	87	39
28	70	30	9.2	10	9.9	59	100	144	114	149	87	39
29	69	30	9.2	10	9.9	53	95	143	109	126	86	*39
30	53	30	9.2	9.9	-------	50	94	140	107	103	85	37
31	36	-------	9.2	9.9	-------	48	-------	137	-------	94	83	-------
Total	1,957	1,292	595.2	303.7	287.1	622.2	5,795	4,483	4,050	3,391	2,868	1,551
Mean	63.1	43.1	19.2	9.80	9.90	20.1	193	145	135	109	92.5	51.7
Ac-ft	3,880	2,560	1,180	602	569	1,230	11,490	8,890	8,030	6,730	5,690	3,080

Calendar year 1959: Max 235 Min 0.7 Mean 67.4 Ac-ft 48,790
Water year 1959-60: Max 486 Min 8.8 Mean 74.3 Ac-ft 53,930

* Discharge measurement made on this day.

2742. Burnt River near Bridgeport, Oreg.

Location.--Lat 44°32'30", long 117°41'20", in SW¼ sec.3, T.12 S., R.41 E., on left bank 0.5 mile downstream from Dark Canyon, 4½ miles upstream from Deer Creek, and 5 miles northeast of Bridgeport.

Drainage area.--650 sq mi, approximately.

Records available.--October 1956 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,223.22 ft above mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum discharge during year, 644 cfs Apr. 12 (gage height, 3.86 ft); minimum daily, 14 cfs Jan. 13, 14, 19.
1956-60: Maximum discharge, 1,270 cfs Feb. 26, 1957 (gage height, 5.43 ft); minimum, 10 cfs Nov. 1, 2, 4, 1958.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Flow regulated by Unity Reservoir (see p. 186). Many diversions for irrigation above station.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 6		Mar. 7 to Sept. 30			
1.2	16	1.2	34	2.5	230
1.5	40	1.5	58	3.0	360
1.9	90	1.8	95	4.0	700
		2.0	127		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	80	54	b34	b22	24	b18	122	108	141	88	138	47
2	78	50	b36	b17	22	b19	124	106	127	81	124	46
3	72	50	b38	b19	b20	b24	138	98	107	79	107	45
4	71	49	b32	b19	22	b28	149	96	101	79	89	52
5	70	48	b30	b19	21	29	151	122	100	76	91	55
6	70	48	b30	b22	21	36	*173	141	101	69	88	56
7	72	47	b32	b20	22	*b120	201	140	102	67	77	52
8	70	47	b30	b22	28	b110	270	115	98	69	73	48
9	72	47	32	b19	32	102	345	115	91	60	67	46
10	74	46	30	b17	33	65	417	*122	84	57	60	47
11	71	45	36	b20	30	53	484	134	76	51	54	47
12	72	46	34	b17	b26	47	620	101	79	43	56	46
13	*70	b30	32	b14	26	54	498	77	84	49	56	43
14	87	b28	32	b14	b24	b50	444	75	81	57	56	43
15	90	b30	34	b15	24	b50	438	69	*80	73	61	46
16	87	b30	30	b16	25	47	336	75	91	79	64	40
17	84	*b28	26	b16	b24	64	312	81	89	81	65	43
18	81	b28	28	b15	b26	100	322	91	92	88	*66	45
19	80	b34	26	b14	b26	102	292	96	91	88	60	47
20	78	b42	26	b17	b24	108	292	106	91	*80	59	48
21	78	50	*b20	b16	24	115	262	122	89	81	53	47
22	80	b46	b20	b20	b24	127	201	127	91	79	50	46
23	81	49	b24	b19	b22	131	187	140	96	77	46	45
24	81	b46	b28	b20	b22	138	173	151	89	67	49	47
25	80	b42	b26	b18	b24	132	189	157	75	71	51	46
26	78	b34	b24	*b19	b22	157	187	153	75	69	47	44
27	76	b32	b22	b18	b20	161	181	149	75	73	47	45
28	76	b32	b24	b17	b19	163	151	153	81	73	51	44
29	75	b34	b22	b22	b18	149	136	147	88	107	53	*43
30	72	b34	b24	b22	-------	134	117	147	98	124	49	47
31	70	-------	b22	b20	-------	124	-------	147	-------	127	48	-------
Total	2,376	1,226	884	565	695	2,757	7,912	3,661	2,763	2,362	2,055	1,396
Mean	76.6	40.9	28.5	18.2	24.0	88.9	264	118	92.1	76.2	66.3	46.5
Ac-ft	4,710	2,430	1,750	1,120	1,380	5,470	15,690	7,260	5,480	4,680	4,080	2,770

Calendar year 1959: Max 245 Min 17 Mean 64.9 Ac-ft 46,990
Water year 1959-60: Max 620 Min 14 Mean 78.3 Ac-ft 56,820

Peak discharge (base, 350 cfs).--Apr. 12 (4:30 p.m.) 644 cfs (3.86 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 9-20 (stage-discharge relation affected by ice during entire period); discharge estimated on basis of weather records and records for station near Hereford.

2755. Powder River near Baker, Oreg.

Location.--Lat 44°39'20", long 117°52'30", in NE¼ sec.36, T.10 S., R.39 E., on right bank 700 ft downstream from Stices Gulch and 8½ miles south of Baker.

Drainage area.--219 sq mi.

Records available.--December 1903 to August 1914, July 1926 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Published as "near Baker City" December 1903 to December 1905, and as "at Salisbury" January 1906 to August 1914, October 1928 to September 1951.

Gage.--Water-stage recorder and concrete bag-filled control. Datum of gage is 3,632.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Dec. 20, 1903, to Feb. 29, 1912, staff gage at site 400 ft upstream at different datum. Mar. 1, 1912, to Aug. 1, 1914, and June 16, 1926, to Oct. 16, 1933, staff gage at site 0.4 mile downstream at different datum.

Average discharge.--43 years (1904-13, 1926-60), 113 cfs (81,810 acre-ft per year).

Extremes.--Maximum discharge during year, 800 cfs Mar. 25 (gage height, 4.40 ft); minimum, 4.8 cfs Aug. 13.
1903-14, 1926-60: Maximum discharge, 1,820 cfs Mar. 20, 1910 (gage height, 7.05 ft, site and datum then in use, from graph based on gage readings), from rating curve extended above 660 cfs; no flow Aug. 31, 1909, Sept. 7, 1931.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Many small diversions for irrigation above station. At times Auburn ditch diverts water into basin above station.

Revisions (water years).--WSP 813: 1935. WSP 1093: Drainage area. WSP 1397: 1904-13, 1929-31, 1940, 1942, 1949-50.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 19		Feb. 20 to Sept. 30			
1.2	12	1.0	3.2	2.0	135
1.3	20	1.1	6.4	2.5	250
1.5	43	1.2	13	3.5	530
1.8	88	1.3	22	4.4	800
		1.6	61		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	41	b44	b18	32	b24	302	131	340	66	18	8.4
2	24	38	b46	b15	31	30	305	149	431	61	20	7.1
3	23	37	48	b18	26	30	356	157	445	57	18	7.1
4	23	38	b44	b22	30	34	461	198	467	54	14	9.0
5	23	b34	b42	b20	30	a40	617	178	449	48	13	11
6	21	b32	b38	b22	29	a38	*749	173	413	40	12	9.7
7	22	37	b40	b24	32	a40	773	185	356	34	9.7	9.0
8	22	37	b40	b26	35	a36	761	208	302	32	9.0	8.4
9	30	37	b36	b16	38	a34	731	215	272	30	9.7	7.7
10	39	36	b38	b20	38	*34	680	*255	248	28	8.4	7.1
11	41	37	35	b24	32	b40	584	386	242	26	7.7	6.4
12	42	37	33	b18	31	46	479	452	235	24	7.1	6.4
13	*38	b30	b30	b15	32	47	386	410	222	24	6.4	6.4
14	37	b22	b28	b16	b30	46	338	332	210	23	5.8	6.1
15	37	b26	b30	b18	32	47	298	288	*228	21	6.1	6.1
16	36	b26	31	b18	b28	47	260	295	208	19	6.4	6.1
17	35	*b20	30	b16	b26	55	232	270	182	18	7.1	5.8
18	33	b24	b26	b18	b28	84	222	258	163	17	*6.4	5.8
19	32	b30	b20	b20	b30	134	215	225	149	16	6.4	5.8
20	31	37	b17	b22	b32	204	198	215	133	15	6.4	5.8
21	32	42	*b15	b24	34	308	198	222	121	*15	6.1	5.8
22	38	42	b20	b24	34	404	182	200	113	14	6.4	5.8
23	46	52	b30	b26	b32	533	171	195	101	13	7.7	5.8
24	51	74	33	b26	b32	611	161	190	93	12	9.0	5.8
25	48	64	b26	b24	b28	669	155	182	84	12	10	6.1
26	46	b48	b22	*b24	b24	706	151	190	79	12	10	6.4
27	44	b44	b18	b22	b22	674	143	230	75	12	10	6.4
28	43	b44	b22	b22	b20	581	143	208	72	17	9.7	6.1
29	42	b46	b20	b26	b18	464	133	218	71	17	9.0	*6.4
30	41	b46	b22	b28	------	419	125	235	69	17	9.0	6.4
31	39	------	b20	31	------	353	------	260	------	16	8.4	------
Total	1,085	1,158	944	663	866	6,812	10,509	7,310	6,571	811	292.9	206.2
Mean	35.0	38.6	30.5	21.4	29.9	220	350	236	219	26.2	9.45	6.87
Ac-ft	2,150	2,300	1,870	1,320	1,720	13,510	20,840	14,500	13,030	1,610	581	409

Calendar year 1959: Max 566 Min 5.1 Mean 93.7 Ac-ft 67,860
Water year 1959-60: Max 773 Min 5.8 Mean 102 Ac-ft 73,840

Peak discharge (base, 340 cfs).--Mar. 25 (9 p.m.) 800 cfs (4.40 ft); Apr. 7 (4 a.m.) 791 cfs (4.37 ft); May 12 (12:30 p.m.) 479 cfs (3.33 ft); June 4 (8 a.m.) 494 cfs (3.38 ft).

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage and weather records.
b Stage-discharge relation affected by ice.

2867. Powder River near Richland, Oreg.

Location.--Lat 44°46'40", long 117°17'30", in SE¼ sec.14, T.9 S., R.44 E., on left bank 0.4 mile upstream from Upper Timber Canyon and 6 miles west of Richland.

Drainage area.--1,310 sq mi, approximately.

Records available.--October 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,277.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum discharge during year, 1,790 cfs Apr. 10 (gage height, 4.25 ft); maximum gage height, 4.87 ft Feb. 8 (ice jam); minimum discharge, 14 cfs Sept. 21-23.
1957-60: Maximum discharge, 2,210 cfs May 24, 1958 (gage height, 4.76 ft); maximum gage height, that of Feb. 8, 1960; minimum discharge, that of Sept. 21-23, 1960.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Flow partly regulated by several reservoirs, the largest being Thief Valley Reservoir (capacity, 17,400 acre-ft). Many diversions above station for irrigation above and below station. Records of chemical analyses for the water year 1960 are given in WSP 1724.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 8				Mar. 9 to Sept. 30			
1.0	46	2.5	530	0.7	14	1.9	235
1.3	100	3.0	840	.8	23	2.5	560
1.8	240	3.5	1,190	1.0	50	3.5	1,190
				1.4	130	4.5	1,990

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	70	80	80	120	110	1,320	246	370	33	78	35
2	68	68	90	70	110	120	1,190	260	425	48	114	46
3	61	66	100	75	90	138	1,110	278	455	46	82	42
4	58	63	90	75	110	168	1,120	321	525	48	67	44
5	56	61	80	80	150	186	1,210	374	575	48	80	48
6	55	58	80	90	200	275	1,370	410	565	35	78	44
7	56	60	80	90	250	519	*1,480	430	505	46	64	38
8	58	61	80	100	300	*1,140	1,630	420	420	55	57	33
9	58	61	80	90	350	1,110	1,750	410	289	50	40	31
10	56	61	80	80	480	808	1,750	410	243	41	36	29
11	58	60	100	100	404	652	1,670	*445	155	48	33	25
12	58	61	95	90	342	490	1,530	515	107	53	24	23
13	61	42	100	80	300	435	1,380	610	78	53	25	23
14	*65	44	95	80	261	485	1,210	622	*62	50	34	27
15	63	46	100	80	264	475	1,050	555	82	47	41	30
16	63	*46	90	85	225	485	904	495	78	31	55	25
17	63	46	90	90	207	515	784	445	78	25	*42	21
18	60	44	95	80	192	706	712	383	84	34	33	19
19	58	55	90	75	186	904	676	333	69	41	36	18
20	56	65	95	80	183	1,120	634	285	71	42	31	18
21	55	75	90	90	180	1,370	610	301	65	*47	27	16
22	61	72	*110	100	180	1,510	580	289	55	46	22	14
23	72	72	110	95	150	1,560	520	274	57	44	29	17
24	105	79	120	110	150	1,520	470	260	58	57	46	15
25	94	87	110	100	166	1,530	425	250	53	64	46	18
26	85	87	100	110	140	1,620	396	250	48	55	48	18
27	81	70	90	*100	110	1,730	357	309	50	53	53	*28
28	75	75	90	110	110	1,730	293	329	52	48	55	28
29	72	80	90	120	100	1,690	289	353	46	52	57	20
30	72	80	95	110	-------	1,590	274	353	36	55	52	20
31	70	-------	90	100	-------	1,480	-------	349	-------	58	50	-------
Total	2,043	1,915	2,885	2,815	6,010	28,171	28,694	11,564	5,756	1,451	1,535	813
Mean	65.9	63.8	93.1	90.8	207	909	956	373	192	46.8	49.5	27.1
Ac-ft	4,050	3,800	5,720	5,580	11,920	55,880	56,910	22,940	11,420	2,880	3,040	1,610

Calendar year 1959: Max 826 Min 26 Mean 193 Ac-ft 139,600
Water year 1959-60: Max 1,750 Min 14 Mean 256 Ac-ft 185,800

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 13-21, Nov. 27 to Feb. 9, Feb. 23, 24, Feb. 26 to Mar. 2.

2882. Eagle Creek above Skull Creek, near New Bridge, Oreg.

Location.--Lat 44°52'50", long 117°15'10", in SE¼ sec.7, T.8 S., R.45 E., on left bank 0.5 mile upstream from Skull Creek and 6¼ miles northwest of New Bridge.

Drainage area.--156 sq mi.

Records available.--October 1957 to September 1960.

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

Extremes.--Maximum discharge during year, 1,960 cfs June 3 (gage height, 3.41 ft); minimum, 73 cfs Feb. 28.
1957-60: Maximum discharge, 2,690 cfs May 27, 1958 (gage height, 4.02 ft); minimum 69 cfs Dec. 31, 1957.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Some diversions above station for irrigation and one small interbasin diversion for irrigation supply. All diversions are small compared to flow at station during irrigation season.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-10		Oct. 11 to Sept. 30			
1.1	175	0.6	62	2.0	640
1.4	295	.9	125	2.5	1,040
		1.2	220	3.5	2,070
		1.5	350		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	222	256	192	128	101	b85	375	430	1,180	540	305	108
2	214	244	188	b120	103	b100	360	468	1,500	480	224	108
3	214	244	185	b130	99	b140	390	486	1,670	440	182	108
4	214	228	175	b150	101	b150	528	462	1,640	425	156	251
5	210	b200	b150	b140	101	142	766	450	1,500	415	147	179
6	206	210	b140	b170	99	123	950	492	1,500	405	139	139
7	214	210	b160	b160	111	128	*1,040	626	1,400	390	133	131
8	218	202	147	b180	118	*123	1,150	654	1,160	370	128	125
9	286	199	166	b170	118	118	1,140	726	1,070	350	123	120
10	246	196	153	b150	113	118	1,010	1,050	1,060	320	120	115
11	490	192	166	199	108	108	902	*1,360	1,190	296	128	113
12	510	188	159	169	106	106	782	1,490	1,180	284	128	113
13	425	153	150	b130	106	108	696	1,230	1,080	268	128	111
14	*385	166	b130	b140	106	106	661	950	*1,060	260	128	106
15	360	175	150	b150	106	111	598	894	1,310	252	128	101
16	340	*153	147	b140	101	106	534	942	1,190	236	128	97
17	310	166	142	b150	b90	108	498	790	1,070	224	*125	95
18	292	166	139	b130	b95	125	480	703	902	213	123	90
19	280	163	136	b120	b90	156	450	640	870	202	120	88
20	272	156	133	b150	b90	202	445	640	766	196	120	86
21	260	169	131	b160	99	256	430	598	647	*185	118	84
22	472	172	*b120	b180	97	320	415	552	626	179	131	84
23	591	318	139	b170	90	390	390	516	633	172	136	82
24	480	315	145	172	101	425	380	504	689	163	136	82
25	435	260	142	147	101	480	360	474	710	156	131	82
26	380	b200	128	125	95	534	350	498	633	150	125	82
27	340	b180	123	*106	b85	552	350	564	584	150	120	*80
28	315	210	136	103	b80	564	370	558	570	175	118	80
29	292	202	131	103	b75	492	385	619	558	166	115	78
30	276	199	153	103	-------	450	405	766	546	166	111	78
31	264	-------	139	101	-------	415	-------	977	-------	172	111	-------
Total	10,013	6,092	4,595	4,446	2,885	7,341	17,590	22,109	30,494	8,400	4,265	3,196
Mean	323	203	148	143	99.5	237	586	713	1,016	271	138	107
Ac-ft	19,860	12,080	9,110	8,820	5,720	14,560	34,890	43,850	60,480	16,660	8,460	6,340

Calendar year 1959: Max 1,780 Min 95 Mean 359 Ac-ft 259,700
Water year 1959-60: Max 1,670 Min 75 Mean 332 Ac-ft 240,800

Peak discharge (base, 1,700 cfs).--June 3 (9:30 p.m.) 1,960 cfs (3.41 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2897. Brownlee Reservoir at Brownlee Dam, Idaho-Oregon State line (Formerly published as Brownlee Reservoir at Idaho-Oregon State line)

Location.--Lat 44°50'10", long 116°54'00", in SE¼ sec.2, T.17 N., R.5 W., at Brownlee Dam on Snake River near Idaho end of dam, 1.1 miles upstream from Wildhorse River, 3½ miles downstream from Brownlee Creek, and 10½ miles east of Halfway, Oreg.

Drainage area.--72,590 sq mi, approximately.

Records available.--May 1958 to September 1960. Published as "at Idaho-Oregon State line" 1958-59.

Gage.--Remote registering water-stage recorder checked periodically by levels to water surface. Datum of gage is at mean sea level, datum of Idaho Power Co. Prior to Feb. 2, 1959, staff gage or levels to water surface at same site and datum.

Extremes.--Maximum contents during year, 1,435,700 acre-ft Aug. 2 (elevation, 2,077.64 ft); minimum, 766,900 acre-ft Mar. 7 (elevation, 2,017.89 ft).
1958-60: Maximum contents, that of Aug. 2, 1960 (elevation, 2,077.64 ft); minimum since full capacity was attained, 758,800 acre-ft Apr. 17, 1959 (elevation, 2,017.0 ft).

Remarks.--Reservoir is formed by earth-fill dam. Storage began May 5, 1958. Dam was completed in fall of 1958. Normal operating elevations are from 1,976 to 2,077 ft, capacity, 446,450 to 1,426,700 acre-ft, respectively. Water is used for power generation.

Cooperation.--Gage-height record and capacity table furnished by Idaho Power Co.

Capacity table, water year 1959-60 (elevation, in feet, and contents, in acre-feet)

2,010.0	697,900	2,070.0	1,330,200
2,030.0	880,600	2,080.0	1,468,800
2,050.0	1,080,100		

Contents, in thousands of acre-feet, at 12 p.m., water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,387.5	1,313.9	1,286.6	1,216.6	945.4	825.4	1,043.0	1,331.0	1,396.5	1,363.9	1,432.0	1,396.5
2	1,389.6	1,312.0	1,278.8	1,208.1	945.2	812.1	1,044.9	1,335.2	1,403.6	1,358.0	1,431.9	1,396.9
3	1,391.2	1,308.5	1,273.3	1,200.9	947.6	799.3	1,046.2	1,342.5	1,405.4	1,356.1	1,429.1	1,404.1
4	1,393.0	1,306.2	1,269.9	1,190.1	940.8	787.6	1,049.5	1,351.0	1,408.6	1,357.9	1,426.1	1,416.1
5	1,394.6	1,305.1	1,267.1	1,178.7	929.6	777.5	1,059.3	1,354.6	1,413.0	1,354.3	1,427.5	1,421.7
6	1,395.8	1,308.5	1,263.1	1,168.8	919.5	769.4	1,082.1	1,352.9	1,414.7	1,352.9	1,428.2	1,423.1
7	1,396.9	1,313.2	1,257.7	1,160.6	915.3	768.5	1,109.3	1,349.1	1,417.4	1,354.3	1,430.9	1,420.8
8	1,397.0	1,315.7	1,251.2	1,152.8	923.0	783.3	1,145.1	1,349.1	1,419.6	1,354.8	1,428.1	1,418.7
9	1,396.2	1,316.2	1,244.9	1,144.9	952.4	802.3	1,191.6	1,350.5	1,419.4	1,358.0	1,424.7	1,415.8
10	1,395.7	1,317.4	1,239.5	1,140.8	971.9	811.5	1,238.0	1,352.4	1,418.2	1,364.9	1,420.3	1,417.4
11	1,397.2	1,316.6	1,237.2	1,132.9	984.5	807.0	1,281.6	1,353.1	1,416.2	1,367.9	1,416.4	1,424.7
12	1,397.3	1,314.6	1,238.8	1,126.0	991.4	805.2	1,284.6	1,355.7	1,413.3	1,371.2	1,411.5	1,423.8
13	1,395.9	1,313.1	1,239.5	1,117.4	992.2	806.1	1,302.3	1,359.9	1,412.6	1,375.8	1,410.4	1,415.8
14	1,395.4	1,312.7	1,236.1	1,107.5	996.6	801.1	1,316.3	1,364.3	1,412.6	1,379.1	1,413.0	1,408.6
15	1,388.9	1,313.2	1,233.0	1,099.8	994.1	794.8	1,326.9	1,372.6	1,413.2	1,382.7	1,412.6	1,401.1
16	1,384.0	1,309.8	1,234.2	1,090.8	987.2	793.3	1,330.6	1,376.6	1,413.0	1,388.2	1,409.3	1,395.2
17	1,379.2	1,307.0	1,234.0	1,084.3	979.6	791.4	1,329.9	1,380.0	1,412.2	1,393.2	1,407.2	1,395.5
18	1,373.8	1,303.6	1,233.4	1,072.3	969.9	792.5	1,329.9	1,381.4	1,415.8	1,398.2	1,405.5	1,398.4
19	1,369.1	1,302.0	1,235.7	1,059.6	957.7	804.0	1,329.6	1,382.1	1,423.2	1,402.7	1,405.0	1,395.0
20	1,363.0	1,301.9	1,239.4	1,050.0	946.0	822.6	1,327.6	1,381.7	1,425.7	1,407.6	1,409.0	1,390.4
21	1,356.8	1,305.4	1,235.9	1,038.9	933.9	840.1	1,325.8	1,383.5	1,425.0	1,408.3	1,417.2	1,385.1
22	1,351.3	1,310.8	1,233.7	1,027.6	924.4	863.0	1,325.8	1,385.8	1,422.8	1,409.7	1,418.9	1,380.3
23	1,345.4	1,313.4	1,229.8	1,014.8	915.0	888.0	1,325.4	1,387.4	1,418.2	1,414.6	1,419.4	1,376.7
24	1,341.3	1,317.8	1,232.2	1,004.4	901.4	913.4	1,326.6	1,388.2	1,410.1	1,42C.3	1,417.5	1,377.4
25	1,336.0	1,321.5	1,241.5	994.3	888.3	934.2	1,327.3	1,388.6	1,404.4	1,418.2	1,418.3	1,383.9
26	1,331.2	1,320.4	1,246.0	983.6	874.0	952.8	1,326.9	1,389.2	1,403.7	1,417.5	1,414.7	1,382.4
27	1,325.5	1,316.7	1,248.2	974.3	860.4	977.6	1,325.3	1,389.2	1,397.0	1,416.5	1,413.2	1,380.4
28	1,316.1	1,309.0	1,242.9	967.1	850.0	997.1	1,328.0	1,386.8	1,390.3	1,416.0	1,418.2	1,375.8
29	1,310.5	1,301.6	1,236.0	959.5	840.8	1,012.7	1,328.7	1,384.2	1,382.0	1,42C.0	1,414.6	1,371.8
30	1,314.3	1,293.7	1,229.8	951.9	------	1,023.1	1,328.9	1,385.3	1,373.1	1,423.9	1,408.4	1,372.0
31	1,314.4	------	1,220.9	950.4	------	1,035.1	------	1,387.5	------	1,428.5	1,400.0	------
(†)	2,068.84	2,067.30	2,061.79	2,037.28	2,025.80	2,045.78	2,069.91	2,074.18	2,073.14	2,077.13	2,075.08	2,073.06
(‡)	-69.6	-20.7	-72.8	-270.5	-109.6	+194.3	+293.8	+58.6	-14.4	+57.4	-28.5	-28.0

Calendar year 1959..... ‡ +204.0
Water year 1959-60..... ‡ -12.0

† Elevation, in feet, at end of month.
‡ Change in contents, in thousands of acre-feet.

2902. Snake River below Pine Creek, at Oxbow, Oreg.

Location.--Lat 44°58'40", long 116°51'25", in NW¼NW¼ sec.9, T.7 S., R.48 E., on left bank at Oxbow, 0.1 mile upstream from Hansaker Creek, 0.1 mile north of Oxbow school, a third of a mile downstream from Pine Creek, 3.2 miles south of Homestead, and at mile 130.4 from Lewiston.

Drainage area.--73,150 sq mi, approximately.

Records available.--January 1958 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,668.34 ft above mean sea level, datum of Idaho Power Co.

Extremes.--Maximum discharge during year, 22,000 cfs June 6 (gage height, 11.21 ft); minimum, 5,100 cfs July 12 (gage height, 3.91 ft); minimum daily, 6,580 cfs July 10.
1958-60: Maximum discharge, 48,600 cfs May 23, 1958 (gage height, 19.80 ft); minimum daily, 900 cfs Aug. 31, 1958; minimum gage height not determined.

Remarks.--Records excellent. Flow regulated by Brownlee Reservoir (see preceding page) and by many other reservoirs above station. Diversions for irrigation of about 2,628,000 acres (1958 determination) above station. Records of water temperatures for the water year 1960 are given in WSP 1724.

Cooperation.--Recorder inspected by employees of Idaho Power Co.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 19-22)

4.7	6,450	8.0	13,600
5.0	7,010	10.0	18,600
6.0	9,070	12.0	24,000

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*14,800	14,800	17,600	15,600	16,600	18,900	21,200	12,100	16,500	15,200	10,500	14,800
2	14,400	15,100	17,800	15,000	17,700	19,500	21,000	12,000	17,300	13,900	13,500	13,000
3	14,800	15,300	17,100	14,800	16,700	19,500	21,100	11,700	21,300	11,900	14,800	9,330
4	14,800	*15,100	16,000	16,100	16,900	*19,300	21,200	11,200	21,700	9,810	15,300	6,970
5	14,700	14,400	15,500	17,000	18,100	18,900	19,800	*11,800	21,600	11,200	13,200	8,590
6	14,900	12,900	15,500	17,200	18,200	19,500	15,200	16,400	21,700	11,600	12,800	11,700
7	14,900	11,700	15,600	16,700	17,700	19,900	14,400	17,200	21,700	9,650	11,300	12,800
8	16,000	12,100	15,800	16,300	17,200	19,800	13,700	18,900	21,500	9,310	12,000	13,500
9	17,100	12,900	15,600	16,000	14,600	18,800	12,000	19,000	21,400	8,590	12,900	13,600
10	17,900	12,800	15,600	15,300	12,100	18,100	12,200	19,200	*21,300	6,580	13,000	12,800
11	18,000	13,600	14,400	15,400	13,800	19,600	18,500	20,000	21,300	7,590	12,300	9,720
12	18,700	13,000	13,000	16,100	15,000	19,400	20,600	21,400	21,300	7,710	12,300	11,600
13	18,500	13,400	*13,200	16,200	14,800	18,300	21,200	21,600	20,100	*7,750	11,200	14,900
14	18,600	13,000	14,000	16,400	13,600	18,600	21,100	21,500	19,100	7,790	9,090	16,100
15	18,800	12,900	14,800	16,100	14,100	18,800	21,000	21,400	18,000	7,970	9,250	16,300
16	18,800	14,000	13,400	16,000	16,200	18,200	21,000	21,400	19,100	7,100	11,300	15,900
17	18,800	14,200	13,000	15,500	17,600	17,600	20,800	21,300	19,800	7,030	*12,200	13,900
18	18,900	14,400	13,100	17,200	17,700	17,000	20,800	21,300	18,800	7,550	11,800	11,000
19	18,900	14,400	12,300	17,800	18,900	16,000	20,800	21,100	14,700	7,570	11,200	12,900
20	18,900	13,400	11,400	17,600	19,000	14,400	20,900	21,200	14,700	7,470	9,740	14,900
21	18,800	11,700	13,100	*17,700	19,100	14,700	20,600	21,200	16,100	9,180	7,090	*15,500
22	18,800	11,200	14,300	18,300	18,200	14,700	18,000	21,100	15,500	10,100	9,290	15,100
23	18,800	12,000	14,800	18,200	17,100	15,400	15,200	21,100	16,100	8,810	10,200	15,100
24	18,800	12,200	14,200	18,000	18,500	14,800	13,000	21,100	16,900	7,370	12,300	13,200
25	18,900	12,300	11,200	17,200	18,700	16,100	12,200	21,100	16,600	10,400	12,900	10,500
26	18,800	14,200	11,500	17,400	19,500	*17,500	13,100	21,200	13,800	11,300	13,200	11,700
27	16,600	15,200	12,300	16,800	19,600	17,100	13,100	21,300	13,900	10,900	13,500	13,900
28	18,500	17,100	13,600	16,300	18,700	17,500	11,400	21,300	14,900	11,000	11,100	14,400
29	18,300	17,800	16,000	15,400	17,700	20,800	12,600	21,100	14,900	9,530	11,900	14,900
30	11,700	17,600	15,900	16,500	-------	21,300	12,300	20,300	15,000	8,540	14,900	13,700
31	13,300	-------	16,600	15,700	-------	21,400	-------	19,700	-------	8,390	16,200	-------
Total	532,500	414,700	448,200	511,800	493,600	561,400	520,000	592,300	546,600	288,790	372,260	392,310
Mean	17,180	13,820	14,460	16,510	17,020	18,110	17,330	19,110	18,220	9,316	12,010	13,080
Ac-ft	‡1,056	822,500	889,000	‡1,015	979,000	‡1,114	‡1,031	‡1,175	‡1,084	572,800	738,400	778,100

Calendar year 1959: Max 21,000 Min 5,910 Mean 14,390 Ac-ft 10,420,000
Water year 1959-60: Max 21,700 Min 6,580 Mean 15,500 Ac-ft 11,250,000

* Discharge measurement made on this day.
‡ Expressed in thousands.

2905. Snake River near Joseph, Idaho

Location.--Lat 45°49', long 116°45', in SW¼ sec.18, T.4 N., R.49 E., on left bank at China Gulch, a quarter of a mile downstream from Mountain Sheep damsite, 0.7 mile upstream from Imnaha River, 0.9 mile downstream from Divide Creek, 13 miles west of Joseph, 22 miles west of White Bird, and at mile 53.2 from Lewiston.

Drainage area.--73,800 sq mi, approximately.

Records available.--April 1955 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 940.48 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--5 years, 19,640 cfs (14,220,000 acre-ft per year).

Extremes.--Maximum discharge during year, 23,000 cfs Mar. 31 (gage height, 6.78 ft); maximum gage height, 7.01 ft May 13 (backwater from Imnaha River); minimum discharge, 4,020 cfs July 18 (gage height, -1.51 ft); minimum daily, 5,700 cfs July 11.
1955-60: Maximum discharge, 76,700 cfs probably May 23, 1957 (gage height, 21.5 ft, from floodmarks); minimum daily, 1,050 cfs Sept. 1, 1958.

Remarks.--Records excellent except those for periods of backwater from Imnaha River, which are good. Flow regulated by Brownlee Reservoir (see p. 192) and by many other reservoirs above station. Diurnal fluctuation caused by Brownlee powerplant. Diversions for irrigation of about 2,628,000 acres (1948 determination) above station.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15,600	14,500	17,600	16,600	16,000	18,300	22,300	13,300	18,400	15,900	8,820	16,100
2	13,800	15,600	17,700	15,100	17,600	19,200	21,900	11,900	17,200	15,100	13,000	13,600
3	15,000	14,900	17,600	15,400	17,400	*19,100	21,700	13,100	20,700	13,500	14,800	11,600
4	15,100	15,000	16,200	15,000	16,800	19,200	21,900	12,100	22,400	10,800	15,800	8,310
5	15,000	15,500	15,800	16,900	17,900	18,800	22,200	12,100	22,300	9,610	14,200	6,100
6	15,200	13,300	15,600	17,200	18,200	19,300	18,300	16,200	22,200	12,700	13,100	10,300
7	15,200	12,400	15,600	16,900	18,200	19,600	15,900	17,200	22,300	11,100	12,600	12,300
8	16,000	11,900	15,900	16,800	17,300	20,200	15,500	19,400	22,000	9,300	10,400	13,600
9	16,800	12,400	15,700	16,500	16,900	19,400	14,000	19,600	21,800	9,300	13,300	13,600
10	17,800	13,100	15,800	16,000	13,900	18,000	12,600	19,800	21,900	7,650	13,500	13,500
11	*17,900	*13,300	15,000	15,400	13,500	19,400	15,600	20,200	21,900	5,700	12,600	11,700
12	18,600	13,500	13,600	16,400	15,000	19,500	20,800	21,600	21,800	7,830	12,200	8,790
13	18,800	13,200	13,400	16,200	15,000	18,700	21,400	22,300	21,200	7,710	12,200	14,600
14	18,500	13,100	13,300	16,600	14,800	18,200	21,500	22,000	20,300	*7,330	10,500	15,700
15	18,800	13,300	14,800	16,800	13,400	19,100	21,300	21,800	18,800	7,970	7,530	16,600
16	18,900	13,000	14,200	16,000	15,800	18,500	21,300	21,700	19,100	7,530	10,600	16,200
17	18,900	14,500	12,900	16,300	17,500	17,800	21,100	21,700	20,100	6,530	12,000	15,400
18	18,900	14,300	13,200	16,000	17,100	17,800	21,000	*21,700	20,500	6,870	12,300	12,300
19	19,000	14,900	13,000	17,800	18,500	17,400	21,200	21,500	16,800	7,170	11,200	11,000
20	18,900	13,700	11,800	18,000	19,000	16,000	21,300	21,500	14,800	7,230	10,800	14,600
21	18,900	12,900	11,500	17,900	19,000	14,800	21,300	21,700	16,600	7,410	8,400	15,600
22	18,800	11,400	14,000	18,400	18,600	16,600	20,000	21,600	16,300	9,720	6,270	15,600
23	19,000	11,100	14,800	18,300	17,000	16,600	17,000	21,600	16,500	9,780	9,530	15,000
24	19,000	12,300	14,800	18,600	17,800	16,500	14,700	21,500	16,800	8,090	11,800	14,400
25	19,100	12,300	12,900	17,200	18,600	16,700	13,300	21,500	18,400	7,610	12,800	12,000
26	19,100	13,700	10,800	17,800	18,900	18,200	13,400	21,500	15,800	11,200	13,100	9,300
27	17,600	15,200	12,500	17,100	19,500	18,600	13,800	21,600	13,100	10,600	13,900	13,600
28	17,800	16,300	12,200	16,900	18,800	17,500	12,900	21,800	15,500	10,900	13,100	*14,000
29	18,900	17,600	15,600	15,900	17,400	20,800	13,100	21,600	15,800	10,300	9,510	15,200
30	14,500	17,800	16,400	16,400	-------	22,100	12,900	21,000	15,500	9,170	14,500	14,100
31	12,300	-------	16,100	16,600	-------	22,800	-------	20,600	-------	8,050	15,900	-------
Total	538,700	416,000	450,300	519,000	495,400	574,700	545,200	606,700	566,800	289,700	370,260	394,720
Mean	17,380	13,870	14,530	16,740	17,080	18,540	18,170	19,570	18,890	9,345	11,940	13,160
Ac-ft	‡1,068	825,100	893,200	‡1,029	982,600	‡1,140	‡1,081	‡1,203	‡1,124	574,600	734,400	782,900

Calendar year 1959: Max 21,500 Min 5,910 Mean 14,640 Ac-ft 10,590,000
Water year 1959-60: Max 22,800 Min 5,700 Mean 15,760 Ac-ft 11,440,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--Stage-discharge relation affected by backwater from Imnaha River Mar. 21 to Apr. 1, Apr. 4-15, 23, 24, Apr. 29 to June 22, June 25.

2920. Imnaha River at Imnaha, Oreg.

Location.--Lat 45°34', long 116°50', in SW¼ sec.16, T.1 N., R.48 E., on left bank at Imnaha, 0.4 mile (revised) downstream from Big Sheep Creek.

Drainage area.--640 sq mi, approximately.

Records available.--June 1928 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,941.14 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Aug. 6, 1934, staff gage at site a quarter of a mile upstream at different datum.

Average discharge.--32 years, 494 cfs (357,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,280 cfs May 13 (gage height, 4.67 ft); minimum, 56 cfs Feb. 28.
1928-60: Maximum discharge, 6,650 cfs May 19, 1957 (gage height, 6.80 ft); minimum observed, 16 cfs Nov. 22, 1931.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Diversions for irrigation of 4,000 acres above station. Since 1934, one diversion of less than 10 cfs above station for irrigation below. Water is diverted from Big Sheep Creek and tributaries above station for irrigation of 6,500 acres in Wallowa River basin.

Revisions (water years).--WSP 883: 1938. WSP 1217: Drainage area. WSP 1397: 1929, 1932(M), 1949.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 13				May 14 to Sept. 30			
1.4	59	3.5	970	1.7	105	3.0	580
1.8	139	4.0	1,430	2.0	172	3.5	930
2.3	285	5.0	2,810	2.5	338	4.5	2,030
3.0	620						

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	285	282	218	b110	*169	b120	792	1,000	1,340	542	270	*129
2	282	274	221	b100	177	b160	694	1,120	1,520	500	281	123
3	282	274	215	b120	164	182	674	1,130	1,710	460	212	119
4	282	282	198	b150	169	187	813	1,180	1,740	445	192	149
5	278	b220	146	b170	169	185	1,120	1,140	1,580	450	183	180
6	278	b240	b160	b190	169	193	1,390	1,180	1,580	435	178	138
7	285	257	b170	198	182	212	1,450	1,440	1,580	416	170	132
8	271	247	b150	196	187	244	1,510	1,780	1,320	394	164	129
9	269	247	b170	b150	198	221	1,530	1,770	1,210	376	162	129
10	289	244	b180	b140	190	*b180	1,380	1,860	1,140	355	160	125
11	309	237	b200	182	185	b190	1,220	2,070	1,200	334	154	123
12	396	237	212	177	180	b200	1,070	2,180	1,300	315	150	117
13	345	b170	204	b120	182	b200	*954	1,990	1,200	299	147	121
14	329	b190	169	b140	169	198	914	1,590	1,150	288	147	123
15	325	b200	207	b160	182	198	841	1,410	1,330	281	157	117
16	321	b180	201	190	172	196	750	1,440	1,230	270	167	115
17	305	b200	198	172	b150	210	694	1,270	*1,290	267	157	127
18	297	244	193	b140	b160	268	674	*1,140	994	250	147	125
19	289	231	187	b130	b150	357	694	1,010	934	237	143	119
20	285	218	180	b140	b140	505	708	1,030	882	230	138	113
21	278	228	172	b160	177	708	778	1,060	717	218	134	113
22	*289	221	162	b190	156	914	771	994	696	209	143	115
23	378	240	190	201	b150	1,000	757	1,000	668	206	152	119
24	365	*297	207	190	137	994	750	994	710	200	162	125
25	349	254	212	185	b150	1,000	729	978	752	194	162	134
26	337	215	187	180	154	1,100	701	986	668	194	150	134
27	321	196	114	174	116	1,090	680	1,230	598	194	147	127
28	309	231	b140	169	b80	1,300	806	1,180	604	215	143	125
29	305	231	b130	177	b75	1,050	914	1,160	592	*192	138	121
30	289	228	*b130	177	-------	1,010	946	1,180	552	178	136	121
31	282	-------	b140	169	-------	914	-------	1,290	-------	207	134	-------
Total	9,524	7,015	5,563	5,047	4,639	15,486	27,704	40,782	32,807	9,351	5,080	3,787
Mean	307	234	179	163	160	500	923	1,316	1,094	302	164	126
Ac-ft	18,890	13,910	11,030	10,010	9,200	30,720	54,950	80,890	65,070	18,550	10,080	7,510

Calendar year 1959 : Max 2,560 Min 114 Mean 548 Ac-ft 397,000
Water year 1959-60 : Max 2,180 Min 75 Mean 456 Ac-ft 330,800

Peak discharge (base, 1,600 cfs).--Apr. 9 (4 a.m.) 1,630 cfs (4.18 ft); May 13 (12:30 a.m.) 2,280 cfs (4.67 ft); June 4 (4 a.m.) 1,970 cfs (4.46 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2950. Valley Creek at Stanley, Idaho

Location.--Lat 44°13', long 114°56', in SW¼ sec.3, T.10 N., R.13 E., on left bank a quarter of a mile upstream from mouth, three-eighths of a mile downstream from upper Stanley, and three-quarters of a mile upstream from lower Stanley.

Drainage area.--147 sq mi. Mean altitude, 7,400 ft.

Records available.--December 1910 to April 1911 (gage heights only), May 1911 to October 1913, May 1921 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 6,221.81 ft above mean sea level, datum of 1929. Prior to May 28, 1911, staff gage at site a quarter of a mile upstream and May 28, 1911, to Oct. 31, 1913, at site three-quarters of a mile upstream, at different datums. May 2, 1921, to Apr. 30, 1949, staff gage at present site and datum.

Average discharge.--41 years (1911-13, 1921-60), 198 cfs (143,300 acre-ft per year).

Extremes.--Maximum discharge during year, 773 cfs June 5 (gage height, 2.49 ft); minimum determined, 65 cfs Aug. 21 (gage height, 0.83 ft).
1910-13, 1921-60: Maximum discharge, 2,000 cfs May 24, 1956 (gage height, 3.92 ft); minimum, 40 cfs (estimated) Nov. 17-30, 1929, Dec. 8-13, 1932.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 590 acres (1948 determination) above station.

Revisions (water years).--WSP 362: 1911-12. WSP 1567: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	58	1.5	228
.9	81	2.0	457
1.2	138	2.5	780

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*134	129	100	80	80	*74	105	270	479	262	141	76
2	129	125	100	72	80	75	99	279	555	243	138	77
3	127	*127	105	78	84	77	108	283	666	236	120	83
4	125	122	97	78	87	77	120	275	730	232	106	106
5	125	94	85	78	80	77	161	288	744	243	97	105
6	131	125	84	80	86	78	214	300	730	221	92	91
7	148	125	84	80	84	78	262	337	*737	208	87	89
8	136	122	84	80	80	78	332	384	744	201	86	87
9	204	120	70	80	81	78	404	375	687	*194	83	83
10	173	115	73	80	84	76	420	409	625	191	81	84
11	170	112	*77	80	84	78	350	502	625	182	76	87
12	208	110	81	80	86	80	288	586	612	167	77	84
13	170	90	81	70	84	78	288	645	592	159	*77	97
14	154	100	78	66	82	78	292	543	606	156	77	91
15	148	110	81	80	83	78	218	485	715	148	76	89
16	143	100	82	80	83	81	185	496	687	138	76	86
17	138	110	83	80	80	80	176	452	652	136	74	91
18	136	115	84	70	77	81	*182	389	561	129	72	86
19	134	110	80	66	78	83	275	341	502	120	71	*84
20	131	105	80	*78	80	84	243	*327	468	118	68	83
21	127	108	80	78	80	86	236	436	409	114	67	83
22	143	118	78	78	78	89	197	341	365	112	73	83
23	170	118	80	78	77	92	167	314	346	112	91	84
24	154	118	80	78	74	94	159	305	341	106	97	84
25	146	112	86	78	76	99	151	292	346	105	101	84
26	141	98	83	78	74	114	173	279	327	103	91	87
27	138	94	80	78	74	120	185	300	305	101	84	84
28	136	100	80	78	74	125	197	288	292	101	84	83
29	136	104	80	78	74	120	225	300	283	97	81	83
30	127	100	80	78	------	114	262	323	270	101	77	83
31	127	------	80	78	------	105	------	399	------	114	76	------
Total	4,509	3,336	2,576	2,394	2,324	2,727	6,674	11,543	16,001	4,850	2,697	2,597
Mean	145	111	83.1	77.2	80.1	88.0	222	372	533	156	87.0	86.6
Cfsm	0.986	0.755	0.565	0.525	0.545	0.599	1.51	2.53	3.63	1.06	0.592	0.589
In.	1.14	0.84	0.65	0.61	0.59	0.69	1.69	2.92	4.05	1.23	0.68	0.66
Ac-ft	8,940	6,620	5,110	4,750	4,610	5,410	13,240	22,900	31,740	9,620	5,350	5,150

Calendar year 1959: Max 871 Min 70 Mean 194 Cfsm 1.32 In. 17.86 Ac-ft 140,700
Water year 1959-60: Max 744 Min 66 Mean 170 Cfsm 1.16 In. 15.75 Ac-ft 123,400

Peak discharge (base, 600 cfs).--May 13 (4 a.m.) 722 cfs (2.41 ft); June 5 (9:30 a.m.) 773 cfs (2.49 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 11, 14, 16, Dec. 20 to Jan. 27, Feb. 1, 14, 16-20, Feb. 23 to Mar. 3, Mar. 10, 11. No gage-height record Nov. 4 to Dec. 10; discharge estimated on basis of weather records and records for nearby stations.

2955. Salmon River below Valley Creek, at Stanley Idaho

Location.--Lat 44°14', long 114°55', in SE¼SE¼ sec.34, T.11 N., R.13 E., on left bank three-quarters of a mile downstream from Valley Creek and 1¼ miles northeast of upper Stanley.
Drainage area.--501 sq mi. Mean altitude, 7,800 ft.
Records available.--July 1925 to October 1960 (discontinued).
Gage.--Water-stage recorder. Datum of gage is 6,190.32 ft above mean sea level, datum of 1929. Prior to Oct. 13, 1925, staff gage at same site and datum.
Average discharge.--35 years, 664 cfs (480,700 acre-ft per year).
Extremes.--1959-60: Maximum discharge during water year, 2,410 cfs June 5 (gage height, 3.03 ft); minimum, 264 cfs Aug. 20 (gage height, 0.92 ft).
1960: Maximum daily discharge during October, 360 cfs Oct. 29, 31; minimum, 288 cfs Oct. 2 (gage height, 0.91 ft).
1925-60: Maximum discharge, 5,070 cfs May 27, 1956 (gage height, 4.62 ft); minimum, 100 cfs (estimated) Nov. 20-30, 1929.
Remarks.--Records excellent except those for periods of no gage-height record, which are good. Diversions above station for irrigation of about 6,000 acres (1948 determination).
Revisions.--WSP 1567: Drainage area.

Rating table, Oct. 1, 1959, to Oct. 31, 1960 (gage height, in feet, and discharge, in cubic feet per second)

0.8	240	2.0	1,170
1.0	320	2.5	1,770
1.2	430	3.0	2,450
1.5	660		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*532	588	376	345	320	*310	390	750	1,510	880	394	284
2	516	572	370	340	350	315	380	770	1,800	830	400	286
3	508	*572	370	330	340	320	390	820	2,110	810	370	292
4	500	564	340	360	340	330	470	790	2,280	790	345	345
5	500	479	316	390	340	330	620	800	2,350	780	330	355
6	508	500	340	360	330	330	750	830	2,310	732	316	335
7	532	524	360	350	360	340	820	940	*2,300	687	304	325
8	524	493	325	360	360	340	940	1,040	2,320	669	308	308
9	660	500	320	350	360	340	1,170	994	2,210	*644	304	304
10	620	493	345	360	370	310	1,250	1,150	2,000	620	300	300
11	612	465	*340	370	360	300	1,080	1,390	1,960	596	292	300
12	669	486	340	370	350	350	930	1,700	1,950	564	288	296
13	628	418	355	330	360	340	920	1,930	1,930	532	*288	316
14	604	424	320	300	330	330	920	1,740	1,960	508	288	300
15	596	444	350	355	360	325	780	1,580	2,130	486	288	300
16	588	418	340	350	350	320	687	1,540	2,170	465	288	304
17	580	412	335	350	335	330	644	1,420	2,130	444	284	308
18	580	418	360	340	335	330	*644	1,270	1,910	424	276	*308
19	572	418	340	*320	335	340	790	1,160	1,730	406	276	308
20	564	412	310	350	330	350	770	*1,090	1,590	388	268	300
21	548	430	320	350	350	360	741	1,220	1,440	370	272	300
22	580	406	320	360	340	370	696	1,050	1,270	355	296	308
23	652	437	320	350	315	390	620	900	1,180	355	335	308
24	652	437	350	350	315	410	580	850	1,140	350	330	304
25	644	430	360	345	340	430	540	810	1,120	345	340	304
26	636	370	340	345	330	480	564	760	1,090	335	335	308
27	628	370	315	345	320	500	596	780	1,060	325	325	304
28	620	376	335	340	315	500	620	790	1,020	325	320	296
29	612	382	340	340	310	460	636	830	994	325	304	296
30	588	376	350	340	------	440	705	940	940	330	296	292
31	588	------	355	340	------	400	------	1,200	------	345	288	------
Total	18,141	13,614	10,557	10,785	9,850	11,320	21,643	33,834	51,904	16,015	9,648	9,196
Mean	585	454	341	348	340	365	721	1,090	1,730	517	311	307
Cfsm	1.17	0.906	0.681	0.695	0.679	0.729	1.44	2.18	3.45	1.03	0.621	0.613
In.	1.35	1.01	0.78	0.80	0.73	0.84	1.61	2.51	3.85	1.19	0.72	0.68
Ac-ft	35,980	27,000	20,940	21,390	19,540	22,450	42,930	67,110	103,000	31,770	19,140	18,240

Calendar year 1959: Max 2,750 Min 310 Mean 676 Cfsm 1.35 In. 18.30 Ac-ft 489,100
Water year 1959-60: Max 2,350 Min 268 Mean 592 Cfsm 1.18 In. 16.07 Ac-ft 429,500

Peak discharge (base, 1,700 cfs).--May 13 (6 a.m.) 2,000 cfs (2.70 ft); June 5 (9:30 a.m.) 2,410 cfs (3.03 ft).

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 11 to Apr. 5; discharge estimated on basis of 3 discharge measurements, weather records, and records for Salmon River below Yankee Fork.

Discharge, in cubic feet per second, 1960

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
Oct. 1	292	Oct. 9	320	Oct. 17	350	Oct. 25	345
2	292	10	335	18	345	26	345
3	300	11	340	19	345	27	345
4	300	12	350	20	345	28	*350
5	300	13	350	21	345	29	360
6	300	14	350	22	350	30	a350
7	312	15	350	23	355	31	a360
8	316	16	355	24	350		

Total	10,402
Mean	336
Cubic feet per second per square mile	0.671
Runoff in inches	0.77
Runoff in acre-feet	20,630

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Salmon River below Yankee Fork.

2965. Salmon River below Yankee Fork, near Clayton, Idaho

Location.--Lat 44°16', long 114°44', in sec.20, T.11 N., R.15 E., on left bank a quarter of a mile downstream from Yankee Fork and 18 miles upstream from Clayton.

Drainage area.--802 sq mi. Mean altitude, 7,790 ft.

Records available.--October 1921 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 5,900 ft (by barometer). Prior to Oct. 3, 1926, staff gage at site 200 ft downstream at datum approximately 1.5 ft higher. Oct. 3, 1926, to Sept. 2, 1927, staff gage and Sept. 3, 1927, to Nov. 5, 1934, water-stage recorder, at site 200 ft downstream at approximately present datum.

Average discharge.--39 years, 986 cfs (713,800 acre-ft per year).

Extremes.--Maximum discharge during year, 4,020 cfs June 4 (gage height, 7.07 ft); minimum, 313 cfs Jan. 21 (gage height, 1.84 ft).
1921-60: Maximum discharge, 10,300 cfs May 24, 1956 (gage height, 11.60 ft); minimum, 160 cfs (estimated) Nov. 25-30, 1929.

Remarks.--Records excellent except those for periods of ice effect, which are good. Diversions above station for irrigation of about 6,000 acres (1948 determination).

Revisions (water years).--WSP 1347: 1931. WSP 1567: Drainage area.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 12-14, June 2-17)

Oct. 1 to June 30				July 1 to Sept. 30	
1.9	337	5.0	2,090	1.9	373
2.0	378	6.0	2,910	2.0	399
2.5	590	7.0	3,830	2.5	590
3.0	820	8.0	4,880	3.0	820
4.0	1,380			4.0	1,380

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	635	738	504	433	399	b360	573	1,080	2,710	1,270	630	408
2	*635	716	495	424	433	*b370	551	1,120	3,200	1,210	622	408
3	635	*712	508	b420	416	b400	568	1,190	3,690	1,160	573	414
4	630	694	449	458	412	407	680	1,150	3,950	1,150	530	485
5	626	568	403	496	424	412	905	1,210	3,970	1,150	509	509
6	648	630	424	458	407	416	1,160	1,280	3,830	1,090	493	465
7	684	680	454	445	449	424	1,330	1,460	3,810	1,040	477	443
8	662	630	441	454	454	428	1,490	1,670	*3,720	1,010	473	426
9	810	630	433	445	454	428	1,760	1,670	3,470	*960	473	420
10	785	622	433	454	462	b380	1,850	2,010	3,240	925	461	414
11	766	594	*454	462	458	b370	1,630	2,640	3,240	885	451	414
12	885	622	449	458	433	433	1,320	3,310	3,170	855	443	399
13	825	504	466	416	454	428	1,290	3,570	3,120	820	*436	436
14	790	517	416	b370	407	420	1,320	3,000	3,130	790	440	417
15	770	577	462	445	454	412	1,100	2,650	3,310	756	429	414
16	761	521	433	433	437	407	982	2,550	3,320	720	429	408
17	738	508	428	433	420	420	925	2,310	3,220	698	429	414
18	725	547	462	416	420	420	*925	2,070	2,870	671	420	*414
19	720	564	445	b400	420	433	1,080	1,840	2,600	644	414	405
20	698	547	403	*b420	412	445	1,060	*1,740	2,400	622	405	402
21	676	577	407	441	433	462	1,040	1,880	2,150	584	399	396
22	720	538	403	454	420	487	994	1,650	1,910	564	423	402
23	830	594	407	437	391	526	895	1,460	1,760	560	493	399
24	820	604	445	433	382	560	850	1,390	1,680	547	485	396
25	815	590	466	428	420	617	800	1,310	1,650	534	505	402
26	795	475	437	428	420	702	805	1,250	1,600	526	485	414
27	790	470	399	428	399	734	840	1,310	1,530	513	465	402
28	770	508	428	420	b370	743	870	1,340	1,450	509	454	394
29	766	521	433	420	b360	666	895	1,480	1,400	509	440	394
30	738	508	449	424	------	640	1,000	1,740	1,330	518	426	386
31	725	------	458	424	------	590	------	2,230	------	560	417	------
Total	22,873	17,506	13,695	13,477	12,220	14,940	31,488	56,560	82,430	24,370	14,529	12,500
Mean	738	584	442	435	421	482	1,050	1,825	2,748	786	469	417
Cfsm	0.920	0.728	0.551	0.542	0.525	0.601	1.31	2.28	3.43	0.980	0.585	0.520
In.	1.06	0.81	0.64	0.62	0.57	0.69	1.46	2.62	3.82	1.13	0.67	0.58
Ac-ft	45,370	34,720	27,160	26,730	24,240	29,630	62,460	112,200	163,500	48,340	28,820	24,790

Calendar year 1959: Max 4,680 Min 399 Mean 985 Cfsm 1.23 In. 16.65 Ac-ft 713,200
Water year 1959-60: Max 3,970 Min 360 Mean 865 Cfsm 1.08 In. 14.67 Ac-ft 628,000

Peak discharge (base, 2,350 cfs).--May 13 (6 a.m.) 3,710 cfs (6.77 ft); June 4 (10 p.m.) 4,020 cfs (7.07 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2985. Salmon River near Challis, Idaho

Location.--Lat 44°23', long 114°15', in sec.7, T.12 N., R.19 E., on left bank 250 ft downstream from Bayhorse Creek and 9 miles south of Challis.

Drainage area.--1,800 sq mi, approximately. Mean altitude, 7,820 ft.

Records available.--October 1928 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,163.99 ft above mean sea level, datum of 1929.

Average discharge.--32 years, 1,450 cfs (1,050,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,880 cfs June 5 (gage height, 6.66 ft); minimum, 229 cfs Dec. 28 (gage height, 1.14 ft).
1928-60: Maximum discharge, 15,400 cfs May 25, 1956 (gage height, 10.95 ft); minimum, 160 cfs Dec. 14, 1940.

Remarks.--Records excellent except those for periods of ice effect, which are good. No regulation. Diversions for irrigation of about 10,000 acres (1948 determination) above station.

Revisions.--WSP 1043: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.6	380	4.0	2,150
2.0	560	5.0	3,390
2.5	840	6.0	4,850
3.0	1,190	7.0	6,480

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,010	1,050	726	b500	575	b480	822	1,350	3,960	1,900	886	585
2	984	1,020	709	b455	670	*488	774	1,420	4,610	1,830	970	590
3	984	*991	738	447	720	580	810	1,490	5,340	1,750	879	600
4	964	998	638	506	638	632	905	1,480	5,590	1,680	816	643
5	957	822	540	585	682	616	1,190	1,570	5,610	1,710	774	780
6	964	860	590	732	682	626	1,560	1,610	5,460	1,600	750	720
7	1,030	957	643	670	660	626	1,890	1,860	5,430	1,520	704	670
8	991	905	605	670	682	632	1,980	2,120	*5,380	1,480	709	643
9	1,060	912	575	632	665	632	2,300	2,140	4,800	*1,430	682	632
10	1,150	905	600	643	660	565	2,490	2,510	4,480	1,380	670	616
11	1,060	860	*643	676	670	515	2,260	3,490	4,520	1,330	654	605
12	1,210	886	626	665	616	616	1,900	4,480	4,460	1,290	643	590
13	1,170	774	682	570	626	621	1,740	4,980	4,420	1,240	*632	616
14	1,120	654	560	388	580	626	1,800	4,080	4,500	1,200	638	638
15	1,090	816	665	488	626	595	1,570	3,590	4,580	1,160	621	616
16	*1,070	768	610	b520	626	570	1,360	3,390	4,620	1,100	626	610
17	1,040	698	600	b520	595	610	*1,290	3,120	4,580	1,070	632	616
18	1,020	768	648	b480	535	648	1,260	2,800	4,060	1,030	610	*616
19	1,000	798	616	b450	580	660	1,340	*2,540	3,730	984	590	600
20	991	786	515	b510	565	709	1,400	2,340	3,500	944	575	595
21	964	804	540	*b600	638	756	1,350	2,490	3,150	905	565	585
22	977	786	525	b630	605	816	1,340	2,320	2,810	853	570	590
23	1,130	816	535	b670	530	822	1,230	2,070	2,590	840	692	595
24	1,150	853	595	687	478	853	1,170	1,950	2,480	834	698	585
25	1,130	840	698	670	525	938	1,090	1,830	2,470	810	732	590
26	1,130	726	b610	665	b515	1,080	1,070	1,740	2,390	804	704	621
27	1,110	621	b450	665	b490	1,110	1,100	1,790	2,280	810	676	600
28	1,080	692	b460	632	b460	1,120	1,130	1,890	2,160	780	670	585
29	1,070	750	b480	632	b450	1,000	1,130	2,110	2,050	780	648	580
30	1,040	732	b500	648	------	938	1,240	2,470	1,970	786	621	580
31	1,010	------	b520	638	------	879	------	3,240	------	840	600	------
Total	32,656	24,848	18,442	18,244	17,344	22,339	42,491	76,260	117,980	36,670	21,237	18,492
Mean	1,053	828	595	589	598	721	1,416	2,460	3,933	1,183	685	616
Cfsm	0.585	0.460	0.331	0.327	0.332	0.401	0.787	1.37	2.18	0.657	0.381	0.342
In.	0.67	0.51	0.38	0.38	0.36	0.46	0.88	1.58	2.44	0.76	0.44	0.38
Ac-ft	64,770	49,290	36,580	36,190	34,400	44,310	84,280	151,300	234,000	72,730	42,120	36,680

Calendar year 1959: Max 6,990 Min 326 Mean 1,387 Cfsm 0.771 In. 10.44 Ac-ft 1,000,000
Water year 1959-60: Max 5,610 Min 388 Mean 1,221 Cfsm 0.678 In. 9.24 Ac-ft 886,600

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

2990. Challis Creek near Challis, Idaho

Location.--Lat 44°34', long 114°19', in sec.2, T.14 N., R.18 E., on left bank 0.1 mile downstream from Eddy Creek, 6 miles northwest of Challis, and 6¾ miles upstream from mouth.

Drainage area.--85 sq mi, approximately. Mean altitude, 7,830 ft.

Records available.--October 1943 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 5,369.3 ft (levels by Topographic Division). Prior to Sept. 27, 1944, staff gage and Sept. 27, 1944, to Nov. 10, 1948, water-stage recorder, at site 350 ft downstream at datum 0.64 ft lower. Nov. 11, 1948, to Aug. 11, 1956, water-stage recorder at present site at datum 0.64 ft lower.

Average discharge.--17 years, 45.2 cfs (32,720 acre-ft per year).

Extremes.--Maximum discharge during year, 131 cfs June 5 (gage height, 3.67 ft); maximum gage height, 4.00 ft Feb. 23 (ice jam); minimum discharge, 4.7 cfs Mar. 11 (gage height, 2.34 ft).
1943-60: Maximum discharge, 508 cfs June 1, 1956; maximum gage height, 6.30 ft May 24, 1956 (datum then in use); minimum discharge, that of Mar. 11, 1960.

Remarks.--Records good except those for periods of ice effect, which are poor. Diversions above station for irrigation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 3-12)

2.4	6.1	3.2	75
2.5	10	3.6	140
2.8	30		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	23	b13	b10	9.5	b8.0	17	26	82	54	48	22
2	27	22	b13	b9.5	9.5	b8.5	17	28	96	52	42	22
3	27	22	b13	b10	9.5	*b9.5	21	28	108	50	39	22
4	27	*22	b12	b10	9.5	b9.5	25	29	122	49	38	24
5	27	b18	b11	b11	9.5	b10	32	30	126	49	38	22
6	27	b21	b11	b12	9.5	10	38	31	124	49	38	21
7	*28	23	b11	11	b9.5	b9.0	41	36	122	50	36	21
8	28	22	b11	10	b9.5	8.2	42	38	*119	*50	38	21
9	29	21	b11	9.5	9.5	8.2	45	44	110	50	38	20
10	28	21	b11	9.5	9.5	b8.0	47	51	103	51	36	20
11	27	21	b12	9.5	9.5	b8.0	44	67	97	48	36	19
12	27	21	*b13	9.5	9.5	9.1	40	88	93	47	*35	19
13	26	b18	b12	b9.0	9.5	9.1	38	100	87	49	35	21
14	26	b19	b12	b8.5	b9.5	8.7	36	99	90	50	34	20
15	26	22	b11	b9.0	9.5	8.7	33	91	91	50	34	20
16	26	b19	b11	b9.2	b9.5	b9.0	30	85	90	49	34	20
17	26	b19	b11	b8.8	b9.5	9.1	*31	78	87	48	31	20
18	25	b19	10	b8.4	b9.0	9.5	29	*72	84	47	29	*19
19	25	20	b10	b8.0	b9.0	9.5	29	68	81	49	28	19
20	24	b20	11	b8.5	b9.5	10	29	65	76	50	25	17
21	22	20	b10	*b9.5	9.5	12	28	65	71	48	25	16
22	25	19	b10	b10	b9.5	14	29	61	66	47	27	16
23	26	21	b10	10	b9.0	17	29	60	63	47	29	16
24	26	19	b10	10	b9.0	19	28	56	63	47	29	16
25	26	19	b12	9.1	b9.5	21	26	52	61	46	29	17
26	26	b15	b10	9.5	b9.0	22	26	51	58	44	27	17
27	25	b11	b10	9.5	b8.5	22	24	51	57	45	26	17
28	24	b12	b10	9.5	b8.5	22	24	50	57	45	25	17
29	23	b12	b10	9.5	b8.0	19	25	51	56	44	22	16
30	21	b13	b10	9.5	------	18	25	56	55	44	21	16
31	22	------	b10	9.5	------	17	------	67	------	45	22	------
Total	799	574	342	296.5	269.5	382.6	928	1,774	2,595	1,493	994	573
Mean	25.8	19.1	11.0	9.56	9.29	12.3	30.9	57.2	86.5	48.2	32.1	19.1
Ac-ft	1,580	1,140	678	588	535	759	1,840	3,520	5,150	2,960	1,970	1,140

Calendar year 1959: Max 201 Min 10 Mean 38.4 Ac-ft 27,790
Water year 1959-60: Max 126 Min 8.0 Mean 30.1 Ac-ft 21,860

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3025. Salmon River at Salmon, Idaho

Location.--Lat 45°11'00", long 113°53'40", in NE¼ sec.6, T.21 N., R.22 E., on left bank 1,000 ft downstream from island, 0.4 mile upstream from Lemhi River, and 0.5 mile downstream from highway bridge at Salmon.

Drainage area.--3,760 sq mi, approximately. Mean altitude, 7,380 ft.

Records available.--April 1912 to September 1916, July 1919 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 3,911.14 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Oct. 21, 1929, staff gage at site 700 ft upstream at different datum.

Average discharge.--45 years, 1,918 cfs (1,389,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,840 cfs June 5 (gage height, 5.24 ft); minimum, 694 cfs Aug. 21 (gage height, 1.82 ft).
1912-16, 1919-60: Maximum discharge, 16,500 cfs May 25, 1956 (gage height, 8.25 ft); maximum gage height, 9.62 ft Jan. 8, 1942 (ice jam); minimum discharge, 242 cfs Jan. 8, 1937 (gage height, 1.50 ft).

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good. Diversions above station for irrigation.

Revisions (water years).--WSP 1043: Drainage area. WSP 1317: 1916.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 16 to May 13, June 3-23)

1.8	680	3.5	2,190
2.0	820	4.0	3,000
2.5	1,180	5.0	5,520
3.0	1,620	6.0	8,900

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,590	1,580	1,330	1,010	1,080	934	1,310	1,590	3,710	2,160	1,070	890
2	1,570	1,600	1,320	b910	1,030	876	1,260	1,670	4,520	2,110	1,120	904
3	1,570	1,590	1,310	897	1,040	925	1,230	1,740	5,520	2,010	1,160	911
4	1,560	1,570	1,310	890	1,060	*1,060	1,270	1,810	6,420	1,920	1,100	960
5	1,530	1,550	1,180	1,010	1,040	1,150	1,380	1,790	6,580	1,910	1,050	1,010
6	1,540	1,410	1,110	1,140	1,080	1,120	a1,740	1,830	6,420	1,900	1,020	1,090
7	1,580	1,550	1,130	1,270	1,090	1,110	a2,110	1,870	6,320	1,810	995	1,040
8	1,620	1,600	1,190	1,250	1,120	1,110	a2,510	2,110	6,230	*1,750	925	1,030
9	*1,620	1,580	1,120	1,200	1,160	1,120	a2,690	2,290	5,730	1,700	883	981
10	1,690	1,570	1,100	1,160	1,130	1,090	a3,200	2,360	*5,220	1,640	855	925
11	1,800	1,550	1,170	1,190	1,140	1,020	a3,400	2,850	4,960	1,570	*848	911
12	1,660	1,510	1,200	1,220	1,120	1,010	a3,140	4,020	5,080	1,490	827	911
13	1,760	1,500	*1,200	b1,150	1,100	1,100	a2,620	5,280	4,930	1,440	799	876
14	1,740	1,380	1,200	b980	1,100	1,110	a2,320	4,960	4,850	1,430	792	883
15	1,720	1,340	1,130	855	1,080	1,090	*a2,320	4,120	4,930	1,380	771	897
16	1,700	1,460	1,220	925	1,100	1,060	2,040	3,750	5,100	1,320	757	883
17	1,620	1,380	1,150	1,040	1,100	1,070	1,900	3,520	4,990	1,290	771	*890
18	1,600	1,330	1,160	932	1,070	1,120	1,760	*3,180	4,760	1,270	771	897
19	1,580	1,400	1,200	a880	1,040	1,160	1,730	2,930	4,300	1,230	750	862
20	1,580	1,420	1,120	a840	1,090	1,220	1,810	2,640	4,040	1,170	736	834
21	1,550	1,420	1,040	*a950	1,060	1,250	1,800	2,530	3,680	1,120	715	834
22	1,570	1,440	1,020	1,100	1,120	1,310	1,800	2,590	3,330	1,090	736	834
23	1,610	1,400	1,030	1,160	1,090	1,370	1,800	2,420	3,020	1,060	862	855
24	1,720	1,450	1,090	1,240	1,020	1,400	1,680	2,270	2,850	1,040	925	862
25	1,720	1,460	1,230	1,200	988	1,470	1,620	2,140	2,740	1,030	981	876
26	1,710	1,430	1,230	1,180	960	1,540	1,550	2,050	2,710	995	988	876
27	1,690	1,290	1,060	1,150	960	a1,700	1,480	1,960	2,560	988	974	876
28	1,680	1,230	911	1,140	925	a1,700	1,480	1,990	2,450	967	960	869
29	1,640	1,290	939	1,110	883	1,600	1,490	2,070	2,330	967	946	855
30	1,620	1,330	1,000	1,080	------	1,470	1,480	2,330	2,260	960	911	862
31	1,600	------	1,030	1,090	------	1,390	------	2,870	------	967	876	------
Total	50,740	43,610	35,430	33,149	30,776	37,555	57,920	81,530	132,540	43,684	27,874	27,184
Mean	1,637	1,454	1,143	1,069	1,061	1,211	1,931	2,630	4,418	1,409	899	906
Ac-ft	100,600	86,500	70,270	65,750	61,040	74,490	114,900	161,700	262,900	86,650	55,290	53,920

Calendar year 1959: Max 8,200 Min 700 Mean 1,848 Ac-ft 1,337,000
Water year 1959-60: Max 6,580 Min 715 Mean 1,645 Ac-ft 1,194,000

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for other Salmon River stations.
b Stage-discharge relation affected by ice.

3030. Texas Creek near Leadore, Idaho

Location.--Lat 44°35', long 113°20', in NW¼SW¼ sec.35, T.15 N., R.26 E., on right bank 50 ft downstream from Nez Perce Creek, half a mile upstream from courty road bridge, and 6½ miles south of Leadore.

Drainage area.--73 sq mi, approximately.

Records available.--June 1955 to September 1960. Records for November 1938 to July 1939 at site half a mile downstream not equivalent owing to diversions.

Gage.--Water-stage recorder. Altitude of gage is 6,280 ft (by barometer).

Average discharge.--5 years, 23.6 cfs (17,090 acre-ft per year).

Extremes.--Maximum daily discharge during year, 58 cfs Mar. 25; maximum gage height recorded, 4.40 ft Jan. 2 (ice jam); minimum discharge, 7.0 cfs June 21, 22, 23, 24, 25; minimum gage height, 2.85 ft June 24, 25.
1938-39, 1955-60: Maximum discharge, 116 cfs Mar. 25, 1956 (gage height, 3.94 ft), from rating curve extended above 50 cfs by logarithmic plotting; maximum gage height, that of Jan. 2, 1960; minimum discharge, 4.3 cfs Aug. 31, 1955 (gage height, 2.72 ft).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation above station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.8	6.0	3.2	32
2.9	10	3.5	63
3.0	16		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	34	24	24	26	21	35	27	11	11	16	12
2	28	34	24	23	27	22	35	27	13	9.6	14	11
3	29	34	25	20	27	25	38	29	12	9.6	14	10
4	30	*32	24	23	26	*25	37	26	10	11	14	12
5	30	31	19	26	26	23	38	24	11	9.6	14	12
6	29	26	18	28	26	25	39	22	10	*9.6	14	13
7	31	32	21	29	26	25	40	22	10	9.1	11	11
8	*30	32	21	30	26	24	42	22	11	11	11	12
9	31	32	22	29	26	23	43	19	*11	10	13	15
10	30	32	22	27	28	22	35	19	11	10	13	14
11	29	30	24	28	28	21	30	18	11	10	*13	14
12	30	30	*25	28	27	24	30	16	11	11	13	14
13	30	28	26	23	27	26	27	13	8.6	12	14	14
14	30	25	25	21	28	28	23	12	7.8	12	13	13
15	30	28	25	24	28	29	22	11	8.2	12	14	12
16	31	28	26	25	27	29	*20	11	7.8	10	16	13
17	29	27	27	24	26	29	19	12	7.8	11	16	*14
18	29	29	28	22	27	29	19	*11	7.8	11	15	14
19	29	32	28	20	29	30	18	11	8.2	11	13	14
20	29	30	28	22	28	30	19	13	7.8	12	12	14
21	29	29	28	26	29	36	20	18	8.2	12	12	14
22	31	28	28	*27	29	48	20	21	8.2	13	12	14
23	32	31	29	27	27	50	23	22	8.2	14	13	14
24	31	31	29	27	27	54	28	17	7.8	13	13	14
25	31	30	30	27	26	58	30	14	7.8	12	12	13
26	29	27	29	26	22	56	30	13	10	13	9.6	13
27	30	25	27	26	20	54	28	14	14	14	9.6	12
28	31	21	25	25	19	52	28	12	15	14	11	12
29	32	22	25	25	19	43	27	12	12	12	12	12
30	32	23	25	26	-------	41	26	12	11	13	12	11
31	32	-------	25	26	-------	40	-------	11	-------	18	12	-------
Total	932	871	782	784	757	1,042	869	531	298.2	360.5	401.2	387
Mean	30.1	29.0	25.2	25.3	28.1	33.6	29.0	17.1	9.94	11.6	12.9	12.9
Ac-ft	1,850	1,730	1,550	1,560	1,500	2,070	1,720	1,050	591	715	796	768

Calendar year 1959: Max 44 Min 5.8 Mean 22.3 Ac-ft 16,190
Water year 1959-60: Max 58 Min 7.8 Mean 21.9 Ac-ft 15,900

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice, Nov. 5, 6, 12-14, 16, 17, Nov. 26 to Dec. 22, Dec. 27 to Jan. 4. No gage-height record Jan. 5-22, Feb. 1 to Apr. 28 (stage-discharge relation affected by ice most of periods); discharge estimated on basis of 3 discharge measurements, weather records, and records for Lemhi River near Lemhi.

3042. Big Springs Creek near Leadore, Idaho

Location.--Lat 44°42'20", long 113°24'00", in NE¼ sec.19, T.16 N., R.26 E., on left bank just below culvert crossing on State highway 28, 2.7 miles northwest of Leadore.
Records available.--July 1959 to September 1960.
Gage.--Water-stage recorder. Altitude of gage is 5,830 ft (by barometer).
Extremes.--1959: Maximum discharge during period July to September, 58 cfs Sept. 20 (gage height, 2.37 ft); minimum, 31 cfs July 19 (gage height, 1.67 ft).
1959-60: Maximum discharge during water year, 40 cfs sometime during period Sept. 8-15 (from recorded range in stage); maximum gage height, 1.99 ft Oct. 1 and sometime during period Oct. 4-8 (from recorded range in stage); minimum discharge, 23 cfs July 2, 19 (gage height, 1.45 ft).
Remarks.--Records good except those for periods of no gage-height record, which are fair. One small ranch diversion bypasses station. Discharge measurements or estimates of flow of diversion are given in table below. Records of water temperatures for the water year 1960 are given in WSP 1724.

Discharge, in cubic feet per second, July 1959 to September 1960

July 16, 1959	0.35	Jan. 22, 1960	0.25	July 6, 1960	0.7
Aug. 20	1.40	Mar. 3	.04	Aug. 11	.74
Oct. 9	1.85	Apr. 16	.64	Sept.16	1.17
Nov. 4	1.5	May 18	.80		
Dec. 12	.45	June 9	1.0		

Discharge, in cubic feet per second, 1959

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1		35	35	9		35	37	17	38	35	43	25	39	35	39
2		36	35	10		35	36	18	38	35	43	26	38	35	39
3		37	35	11		36	36	19	35	35	42	27	35	34	38
4		37	34	12		38	36	20	34	*37	46	28	34	35	38
5	a37	37	35	13	a37	38	36	21	36	35	44	29	35	35	38
6		37	35	14		37	43	22	38	35	42	30	35	35	37
7		36	38	15		36	44	23	38	35	41	31	35	35	-
8		35	38	16	(*)	34	43	24	39	35	40				
Total													1,137	1,105	1,166
Mean													36.7	35.6	38.9
Runoff in acre-feet													2,260	2,190	2,310

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Texas Creek near Leadore.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	33	29	28	28	29	31	30	35	27	32	32
2	35	33	29	28	28	29	31	32	36	25	30	31
3	35	34	30	27	28	*29	31	32	36	25	29	31
4	a35	*33	30	27	28	30	31	31	37	26	29	31
5	a35	31	30	28	28	30	31	30	37	26	28	30
6	a34	30	30	28	29	30	32	30	36	*25	27	31
7	a34	32	29	28	29	30	31	30	36	25	28	31
8	a34	32	29	28	29	30	31	30	36	25	31	a32
9	*34	32	29	27	29	30	31	30	*38	26	31	a33
10	33	31	29	27	29	30	31	30	36	27	33	a36
11	34	30	29	27	29	30	31	30	36	28	*33	a35
12	34	31	*29	28	30	30	30	31	36	29	30	a35
13	34	31	28	28	30	31	30	32	34	31	30	a35
14	33	30	28	27	30	30	30	36	34	30	29	a35
15	34	30	29	26	30	30	30	36	34	27	29	a35
16	33	29	29	26	30	30	*30	36	34	27	31	*35
17	32	28	29	26	30	31	30	35	33	26	28	36
18	33	30	29	25	30	32	30	*36	33	25	27	35
19	33	30	29	25	30	32	30	35	33	24	26	35
20	33	29	28	25	30	32	30	34	30	24	26	35
21	34	30	28	25	30	32	30	35	29	25	26	35
22	35	29	28	*27	30	33	31	36	30	25	33	35
23	35	31	28	27	30	33	31	38	30	26	34	35
24	35	31	28	27	30	32	31	38	29	24	32	34
25	35	30	29	28	30	32	31	35	30	24	31	36
26	35	29	28	28	29	32	30	34	29	25	30	36
27	34	29	28	28	29	32	30	36	27	25	30	36
28	33	29	28	28	29	34	30	35	28	28	29	36
29	34	29	28	28	29	32	30	35	30	30	28	36
30	33	29	28	28	-------	31	30	34	30	30	28	36
31	33	-------	28	28	-------	31	-------	35	-------	32	30	-------
Total	1,054	915	890	841	850	959	916	1,037	992	822	918	1,024
Mean	34.0	30.5	28.7	27.1	29.3	30.9	30.5	33.5	33.1	26.5	29.6	34.1
Ac-ft	2,090	1,810	1,770	1,670	1,690	1,900	1,820	2,060	1,970	1,630	1,820	2,030

Calendar year 1959: Max - Min - Mean - Ac-ft -
Water year 1959-60: Max 38 Min 24 Mean 30.7 Ac-ft 22,260

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for Texas Creek near Leadore.

3050. Lemhi River near Lemhi, Idaho

Location.--Lat 44°55', long 113°37', in sec.4, T.18 N., R.24 E., near center of span on downstream side of private bridge on Langfitt Ranch, 3½ miles downstream from Hayden Creek and 4½ miles north of Lemhi.

Drainage area.--890 sq mi, approximately.

Records available.--November 1938 to August 1939, April 1955 to September 1960.

Gage.--Staff gage read once daily; crest-stage gage since Apr. 29, 1955. Datum of gage is 4,971.7 ft above mean sea level, adjustment of 1929 (levels by Corps of Engineers).

Average discharge.--5 years, 277 cfs (200,500 acre-ft per year).

Extremes.--Maximum discharge observed, 475 cfs June 4 (gage height, 2.46 ft); minimum observed, 69 cfs Aug. 18 (gage height, 1.20 ft).
1938-39, 1955-60: Maximum discharge, 1,840 cfs June 7, 1957 (gage height, 4.48 ft); minimum observed, that of Aug. 18, 1960.
Revisions.--The maximum discharge for the water year 1959 has been revised to 706 cfs June 26, 1959 (gage height, 2.77 ft), superseding figure published in WSP 1637.

Remarks.--Records good except those for periods of ice effect, which are fair. Many diversions for irrigation above station.

Revisions (water years).--WSP 1397: 1939.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 3 to July 25)

1.2	63	1.7	186
1.3	78	2.0	306
1.5	121	2.5	555

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	289	302	240	b190	209	b150	285	232	232	197	165	145
2	281	310	240	b170	216	b170	277	240	306	159	168	148
3	272	310	248	b190	216	b200	310	256	390	159	179	151
4	264	306	194	b210	209	*224	302	248	475	151	168	168
5	272	*236	b190	b220	209	209	302	240	470	179	139	179
6	289	256	b200	b220	209	224	310	240	375	182	121	162
7	298	289	b210	216	209	240	328	232	410	169	108	151
8	*281	281	b205	216	209	248	337	248	415	*173	101	148
9	298	289	b210	224	216	236	346	248	*332	163	98	148
10	293	298	b205	232	224	197	328	264	315	159	92	151
11	293	289	216	224	224	190	289	298	332	148	*83	151
12	302	289	*216	224	216	213	298	332	346	145	80	151
13	310	b230	b224	216	216	220	281	370	346	139	75	148
14	302	b200	b205	b190	224	220	264	380	395	94	72	148
15	298	256	210	b200	224	228	256	360	445	89	75	148
16	298	256	216	b220	216	236	*248	332	380	87	83	151
17	306	289	224	b200	209	236	232	324	350	85	91	*148
18	306	248	232	b180	216	236	232	*315	341	94	69	148
19	298	298	224	b160	232	244	224	281	298	87	72	151
20	285	306	b215	b170	224	281	232	256	293	85	83	148
21	277	272	b210	b200	232	298	240	248	260	83	87	124
22	285	272	b205	*b210	232	380	240	240	220	75	104	118
23	293	272	b210	b210	216	410	248	232	182	87	133	124
24	302	281	224	209	216	430	256	216	179	73	148	133
25	289	281	240	201	209	470	256	186	186	93	151	139
26	289	240	232	209	b180	450	248	165	186	103	151	139
27	298	b220	b200	209	b160	440	240	168	179	103	158	151
28	298	b220	b200	209	b150	410	240	165	176	118	162	162
29	315	240	b200	201	b140	341	232	176	168	116	158	168
30	302	232	b200	209	------	324	209	186	182	124	151	179
31	293	------	b200	209	------	319	------	213	------	154	148	------
Total	9,076	8,068	6,645	6,348	6,062	8,674	8,090	7,891	9,164	3,883	3,673	4,480
Mean	293	269	214	205	209	280	270	255	305	125	118	149
Ac-ft	18,000	16,000	13,180	12,590	12,020	17,200	16,050	15,650	18,180	7,710	7,290	8,890

Calendar year 1959: Max 652 Min 92 Mean 245 Ac-ft 177,500
Water year 1959-60: Max 475 Min 69 Mean 224 Ac-ft 162,800

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3065. Panther Creek near Shoup, Idaho

Location.--Lat 45°19', long 114°23', in sec.19, T.23 N., R 18 E., on right bank 100 ft downstream from bridge on private road, 1 mile upstream from mouth, and 7 miles southwest of Shoup. Prior to Nov. 6, 1959, at site 75 ft upstream.

Drainage area.--529 sq mi. Mean altitude, 7,030 ft.

Records available.--October 1944 to September 1960.

Gage.--Water-stage recorder. Elevation of gage is 3,265.9 ft, unadjusted, by stadia levels. Prior to Nov. 6, 1959, staff gage 75 ft upstream at datum 0.94 ft higher.

Average discharge.--16 years, 255 cfs (184,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,710 cfs June 4 (gage height, 4.19 ft); maximum gage height, 4.41 ft Dec. 11 (backwater from ice); minimum daily discharge, 55 cfs Jan. 19.

1944-60: Maximum discharge observed, 2,740 cfs May 25, 1956 (gage height, 5.24 ft, present datum); maximum gage height observed, 5.34 ft Jan. 6, 1947, present datum (backwater from ice); minimum discharge observed, 22 cfs Nov. 17, 1958 (gage height, 0.57 ft, present datum).

Remarks.--Records good except those for periods of ice effect or doubtful or no gage-height record, which are poor. Diversions for irrigation of about 1,000 acres (1950 determination) above station.

Revisions (water years).--WSP 1063: 1945.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 11 to May 11, May 15 to June 1)

Oct. 1 to Nov. 5		Nov. 6 to Sept. 30			
0.2	70	0.9	70	2.5	520
.4	106	1.2	112	3.0	790
.8	198	1.5	172	3.5	1,130
1.2	326	2.0	320	4.0	1,540

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110	135	b116	100	134	b80	172	229	1,060	302	161	110
2	106	130	b110	95	140	b85	163	247	1,210	285	157	112
3	106	135	b130	100	132	b90	159	275	1,460	272	136	121
4	110	130	b126	105	123	94	161	302	1,590	259	128	123
5	106	80	b120	110	126	*96	186	310	1,530	263	125	125
6	110	121	b120	115	121	b110	235	320	1,410	247	123	114
7	148	*146	b120	120	121	b120	296	355	1,390	238	119	110
8	126	119	b120	110	121	b130	316	410	1,280	*226	116	109
9	130	121	b110	100	130	b110	348	448	1,130	215	114	107
10	*126	121	b120	95	126	b90	362	580	*1,080	212	110	107
11	139	114	b130	100	125	b80	320	862	1,030	207	109	107
12	167	123	b140	85	112	b80	300	1,180	983	194	*106	104
13	148	86	*b160	75	b112	b82	280	1,380	920	191	104	107
14	139	70	b150	70	b112	83	260	1,100	907	186	104	109
15	144	b110	160	75	b110	82	240	955	969	177	107	110
16	153	b100	156	80	b105	82	220	900	888	168	110	107
17	148	b100	154	75	89	83	*210	836	829	163	110	*107
18	130	b100	165	65	89	89	223	754	708	157	107	109
19	126	b100	160	55	b95	96	204	*686	626	152	102	104
20	126	b102	155	60	b95	102	204	631	585	148	101	99
21	122	b106	140	70	89	117	210	664	520	142	99	101
22	122	114	130	80	85	132	210	590	470	140	101	101
23	226	130	140	90	86	157	210	560	434	138	136	99
24	220	134	160	*100	b80	163	204	535	410	134	132	99
25	198	121	190	b120	b90	184	196	502	406	130	134	106
26	172	96	140	b130	b86	235	196	480	380	126	123	104
27	162	b98	110	b145	b82	247	190	516	362	125	117	101
28	153	b100	110	b150	b80	235	207	535	344	126	117	98
29	148	b110	110	157	b80	210	201	585	327	123	116	98
30	144	b120	110	154	------	196	207	692	320	121	110	96
31	139	------	105	144	------	184	------	858	------	148	109	------
Total	4,404	3,372	4,167	3,130	3,076	3,924	6,890	19,287	25,558	5,715	3,643	3,204
Mean	142	112	134	101	106	127	230	622	852	184	118	107
Cfsm	0.268	0.212	0.253	0.191	0.200	0.240	0.435	1.18	1.61	0.348	0.223	0.202
In.	0.31	0.24	0.29	0.22	0.22	0.28	0.48	1.36	1.80	0.40	0.26	0.23
Ac-ft	8,740	6,690	8,270	6,210	6,100	7,780	13,670	38,260	50,690	11,340	7,230	6,360

Calendar year 1959: Max 1,880 Min 35 Mean 233 Cfsm 0.440 In. 6.00 Ac-ft 169,000
Water year 1959-60: Max 1,590 Min 55 Mean 236 Cfsm 0.446 In. 6.09 Ac-ft 171,300

Peak discharge (base, 1,200 cfs).--May 13 (2:30 a.m.) 1,480 cfs (3.93 ft); June 4 (3:30 a.m.) 1,710 cfs (4.19 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--Doubtful or no gage-height record Dec. 15 to Jan. 24, Mar. 4, 5, Apr. 11-17, 22-27; discharge estimated on basis of 4 discharge measurements, weather records, and records for Challis Creek near Challis.

3070. Salmon River near Shoup, Idaho

Location.--Lat 45°19'30", long 114°26'00", in NE¼SW¼ sec.14, T.23 N., R.17 E., on right bank 0.6 mile upstream from Owl Creek, 2.3 miles downstream from Panther Creek, and 9 miles southwest of Shoup.

Drainage area.--6,270 sq mi, approximately. Mean altitude, 7,140 ft.

Records available.--October 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,160 ft(from river-profile map). Prior to May 4, 1947, wire-weight gage at site 1.3 miles upstream at datum 3,168.69 ft above mean sea level, unadjusted. May 4, 1947, to Sept. 17, 1951, staff gage at site 200 ft downstream from wire-weight gage at datum 1.28 ft higher than datum of wire-weight gage.

Average discharge.--16 years, 3,032 cfs (2,195,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,400 cfs June 5 (gage height, 7.31 ft); minimum, 950 cfs Aug. 22.
1944-60: Maximum discharge, 24,900 cfs May 26, 1956 (gage height, 13.00 ft); minimum daily, 800 cfs Jan. 31, Feb. 1, 1951.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Diversions for irrigation of about 88,000 acres (1948 determination) above station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.8	900	4.0	3,670
2.0	1,100	5.0	5,520
2.5	1,640	6.0	7,580
3.0	2,230	7.2	10,200

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,320	2,420	2,010	1,600	1,800	1,260	2,360	2,440	5,800	3,040	1,500	1,270
2	2,310	2,440	2,030	1,500	1,750	1,400	2,210	2,590	7,010	2,890	1,700	1,280
3	2,280	2,440	2,050	1,450	1,750	1,700	2,160	2,760	8,440	2,790	1,650	1,340
4	2,270	2,440	1,980	1,400	1,750	1,900	2,230	2,900	9,790	2,660	1,620	1,390
5	2,230	2,330	1,810	1,600	1,750	2,000	2,460	2,940	10,100	2,610	1,530	1,510
6	2,260	*2,260	1,670	1,800	1,700	1,900	2,890	2,990	9,870	2,580	1,450	1,530
7	2,390	2,270	1,700	2,050	1,750	1,900	3,410	3,120	9,630	2,460	1,390	1,550
8	2,400	2,400	1,700	2,200	1,800	1,900	3,840	3,410	9,320	*2,410	1,310	1,480
9	2,440	2,410	1,800	2,150	1,850	1,900	4,100	3,700	8,970	2,350	1,220	1,440
10	*2,420	2,400	1,700	2,040	1,900	1,850	4,500	3,990	*8,320	2,280	1,190	1,380
11	2,580	2,370	1,700	1,880	1,850	1,850	4,530	4,820	7,830	2,230	1,160	1,310
12	2,620	2,370	1,800	2,090	1,850	1,750	4,210	6,680	7,750	2,150	*1,130	1,290
13	2,620	2,190	*1,900	1,900	1,800	1,750	3,720	8,520	7,540	2,070	1,100	1,290
14	2,620	2,040	1,820	1,700	1,750	1,750	3,460	8,500	7,410	2,010	1,080	1,270
15	2,570	2,090	1,850	1,600	1,750	1,800	3,350	7,100	7,730	1,990	1,070	1,270
16	2,570	2,070	1,870	1,500	1,750	1,900	3,140	6,360	7,750	1,890	1,070	1,260
17	2,500	2,070	1,990	1,600	1,700	1,910	*2,870	5,880	7,580	1,820	1,080	*1,260
18	2,440	2,060	1,880	1,450	1,700	1,990	2,760	5,420	7,160	1,760	1,100	1,280
19	2,410	2,230	1,880	1,350	1,670	2,000	2,680	*4,890	6,420	1,720	1,060	1,260
20	2,370	2,230	1,830	1,300	1,750	2,050	2,660	4,410	5,920	1,630	1,030	1,180
21	2,330	2,220	1,520	1,350	1,920	2,220	2,730	4,260	5,420	1,540	1,000	1,150
22	2,360	2,210	1,480	1,400	1,940	2,350	2,690	4,100	4,850	1,510	990	1,150
23	2,560	2,260	1,600	*1,500	1,750	2,460	2,730	3,920	4,530	1,490	1,200	1,150
24	2,620	2,270	1,830	1,600	1,550	2,630	2,660	3,770	4,010	1,420	1,280	1,170
25	2,680	2,280	2,040	1,900	1,550	2,870	2,610	3,590	3,840	1,390	1,420	1,200
26	2,630	2,190	2,040	1,950	1,450	3,230	2,440	3,350	3,760	1,380	1,430	1,230
27	2,590	2,030	1,750	1,900	1,390	3,570	2,360	3,290	3,590	1,340	1,410	1,220
28	2,570	1,870	1,450	1,900	1,340	3,610	2,390	3,300	3,430	1,340	1,390	1,210
29	2,530	1,980	1,450	1,900	1,300	3,080	2,390	3,410	3,400	1,300	1,360	1,200
30	2,500	2,050	1,550	1,850	------	2,730	2,370	3,770	3,170	1,310	1,340	1,200
31	2,460	------	1,650	1,800	------	2,570	------	4,440	------	1,390	1,290	------
Total	76,450	66,890	55,330	53,210	49,560	67,780	88,910	134,620	200,340	60 750	39,550	38,720
Mean	2,466	2,230	1,785	1,716	1,709	2,186	2,964	4,343	6,678	1,960	1,276	1,291
Ac-ft	151,600	132,700	109,700	105,500	98,300	134,400	176,400	267,000	397,400	120 500	78,450	76,800

Calendar year 1959: Max 11,700 Min 900 Mean 2,685 Ac-ft 1,944,000
Water year 1959-60: Max 10,100 Min 990 Mean 2,547 Ac-ft 1,849,000

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8-13, Dec. 29 to Jan. 6, Jan. 8, Jan. 13 to Feb. 18, Feb. 20, 23, 24, Feb. 28 to Mar. 16.

3085. Middle Fork Salmon River near Cape Horn, Idaho

Location.--Lat 44°25', long 115°11', in sec.34, T.13 N., R.11 E., on left bank 1,100 ft downstream from Little Beaver Creek, half a mile downstream from confluence of Marsh and Beaver Creeks, and 2 miles northwest of Cape Horn.

Drainage area.--138 sq mi. Mean altitude, 7,370 ft.

Records available.--September 1928 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 6,435 ft (by barometer).

Average discharge.--32 years, 236 cfs (170,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,420 cfs June 4 or 5 (gage height, 5.42 ft, from recorded range in stage); minimum, 42 cfs Nov. 5 (gage height, 2.23 ft).
1928-60: Maximum discharge, 2,980 cfs May 24, 1956 (gage height, 6.96 ft); minimum recorded, 31 cfs Apr. 14, 1945 (gage height, 2.12 ft).

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

Revisions.--WSP 738: Drainage area.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.3	48	4.0	560
2.5	80	5.0	1,140
3.0	190	6.0	1,940
3.5	350		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	125	90	68	64	54	72	260	880	294	150	94
2	112	*122	90	60	64	55	73	280	930	277	140	116
3	112	127	89	67	66	55	74	310	1,040	264	127	104
4	110	116	89	67	68	56	78	310	1,150	270	120	127
5	108	87	75	67	66	56	98	350	1,200	277	118	118
6	116	118	74	68	70	56	125	390	1,170	248	116	104
7	127	118	74	68	68	56	150	480	*1,170	233	112	100
8	118	118	74	68	64	55	185	560	1,160	221	112	98
9	164	114	*55	68	65	55	240	600	1,060	*215	108	96
10	140	110	62	68	67	55	290	730	994	207	106	94
11	159	108	66	68	68	55	280	920	1,010	198	104	94
12	190	104	70	68	68	55	260	1,000	952	187	102	93
13	154	87	70	57	68	55	250	1,050	922	185	100	102
14	145	95	68	53	66	55	250	760	904	182	*98	96
15	142	104	70	67	66	55	210	720	1,000	172	98	94
16	140	90	71	67	66	56	180	750	880	167	96	93
17	136	100	72	67	62	57	170	600	808	162	98	96
18	131	105	72	57	60	57	160	510	705	159	96	93
19	129	96	70	53	60	58	170	450	635	154	94	*91
20	125	96	70	64	61	58	175	500	585	150	93	91
21	120	100	69	64	61	60	170	600	520	145	91	89
22	152	110	68	64	61	62	165	460	474	140	102	89
23	185	110	69	64	58	64	155	420	442	136	118	87
24	154	110	70	64	56	67	150	390	426	133	120	87
25	147	102	74	64	56	70	140	370	406	131	116	89
26	140	87	71	64	54	86	140	430	386	129	110	91
27	138	84	70	64	54	90	145	560	358	127	106	87
28	133	90	70	64	54	94	160	560	336	127	102	87
29	131	96	70	64	54	90	190	640	325	125	100	85
30	127	92	70	64	------	81	240	700	314	125	98	85
31	122	------	70	64	------	72	------	820	------	140	96	------
Total	4,221	3,121	2,242	1,994	1,815	1,950	5,145	17,480	23,142	5,680	3,347	2,870
Mean	136	104	72.3	64.3	62.6	62.9	172	564	771	183	108	95.7
Cfsm	0.986	0.754	0.524	0.466	0.454	0.456	1.25	4.09	5.59	1.33	0.783	0.693
In.	1.14	0.84	0.60	0.54	0.49	0.53	1.39	4.71	6.24	1.53	0.90	0.77
Ac-ft	8,370	6,190	4,450	3,960	3,600	3,870	10,200	34,670	45,900	11,270	6,640	5,690

Calendar year 1959: Max 1,420 Min 50 Mean 222 Cfsm 1.61 In. 21.81 Ac-ft 160,500
Water year 1959-60: Max 1,200 Min 53 Mean 199 Cfsm 1.44 In. 19.68 Ac-ft 144,800

Peak discharge (base, 930 cfs).--About May 13 (gage height and discharge unknown); June 4 or 5, 1,420 cfs (5.42 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 14, 16-19, Nov. 27 to about Mar. 15. No gage-height record Jan. 14 to June 7; discharge estimated on basis of weather records and records for Valley Creek at Stanley and other nearby streams.

3090. Bear Valley Creek near Cape Horn, Idaho

Location.--Lat 44°26', long 115°17', in sec.29, T.13 N., R.10 E., on right bank 250 ft downstream from Fir Creek, 3 miles upstream from mouth, and 7 miles northwest of Cape Horn.
Drainage area.--180 sq mi, approximately. Mean altitude, 7,040 ft.
Records available.--September 1921 to September 1928 (fragmentary), October 1938 to October 1960 (discontinued). Monthly discharge only for some periods, published in WSP 1317.
Gage.--Water-stage recorder. Altitude of gage is 6,340 ft (by barometer).
Average discharge.--32 years (1928-60), 290 cfs (210,000 acre-ft per year).
Extremes.--1959-60: Maximum discharge during water year, 1,830 cfs May 13 (gage height, 4.12 ft); minimum, 76 cfs Nov. 5 (gage height, 1.14 ft).
1960: Maximum discharge during October, 125 cfs Oct. 12 (gage height, 1.37 ft); minimum daily, 90 cfs Oct. 5 (gage height, 1.20 ft).
1921-60: Maximum discharge, 3,860 cfs May 27, 1956 (gage height, 5.87 ft), from rating curve extended above 2,300 cfs by logarithmic plotting; minimum recorded, 28 cfs Nov. 11, 1931
Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. No regulation or diversion above station.
Revisions.--WSP 573: Drainage area.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	168	152	125	97	98	95	125	361	1,020	287	152	100
2	160	*142	120	90	100	96	128	374	1,090	272	168	108
3	157	152	125	97	102	97	128	415	1,220	261	137	112
4	154	142	115	98	104	98	137	415	1,280	257	125	134
5	150	114	100	98	100	98	163	465	1,280	272	121	144
6	152	150	100	100	105	98	194	550	1,220	243	119	121
7	177	150	100	100	102	98	240	679	1,190	233	114	114
8	174	134	100	100	100	98	287	798	1,150	223	112	110
9	230	140	86	100	100	98	340	854	1,060	213	110	106
10	268	137	*96	100	105	98	402	1,050	987	*200	108	106
11	236	128	100	100	105	98	402	1,330	973	194	106	104
12	311	137	100	100	105	98	366	1,460	931	188	104	102
13	236	100	100	90	105	98	348	1,590	875	185	102	104
14	204	134	98	86	105	98	348	1,080	861	185	*102	104
15	194	142	100	100	105	98	295	1,020	*987	179	100	104
16	188	114	100	100	105	100	254	1,070	868	171	102	104
17	177	134	102	100	100	100	236	861	764	165	102	104
18	171	140	104	90	98	102	230	712	672	160	98	102
19	165	137	100	86	98	105	240	640	616	154	98	*100
20	163	134	98	98	100	105	247	692	568	152	94	98
21	157	123	98	98	100	107	243	847	514	147	94	98
22	182	137	98	98	100	110	233	646	482	142	98	98
23	276	140	100	98	98	112	216	592	455	140	125	98
24	216	157	100	98	95	114	210	538	430	134	130	98
25	185	147	105	98	95	120	200	520	406	132	142	98
26	171	121	102	98	95	135	197	556	384	130	123	100
27	165	115	100	98	95	140	204	718	357	130	114	98
28	160	120	100	98	95	144	223	705	327	125	112	96
29	152	125	100	98	95	140	261	770	311	123	110	94
30	150	120	100	98	-------	*135	319	819	299	121	106	
31	150	-------	100	98	-------	125	-------	959	-------	132	102	-------
Total	5,799	4,018	3,172	3,008	2,910	3,358	7,416	24,086	23,577	5,650	3,530	3,153
Mean	187	134	102	97.0	100	108	247	777	786	182	114	105
Cfsm	1.04	0.744	0.567	0.539	0.556	0.600	1.37	4.32	4.37	1.01	0.633	0.583
In.	1.20	0.83	0.66	0.62	0.60	0.69	1.53	4.98	4.87	1.17	0.73	0.65
Ac-ft	11,500	7,970	6,290	5,970	5,770	6,660	14,710	47,770	46,760	11,210	7,000	6,250

Calendar year 1959: Max 1,490 Min 75 Mean 271 Cfsm 1.51 In. 20.49 Ac-ft 196,500
Water year 1959-60: Max 1,590 Min 86 Mean 245 Cfsm 1.36 In. 18.53 Ac-ft 177,900

Peak discharge (base, 1,200 cfs).--May 13 (7 a.m.) 1,830 cfs (4.12 ft); June 4 (2 p.m.) 1,360 cfs (3.59 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice most of time Nov. 27 to Mar. 11. No gage-height record Dec. 16-26, Jan. 13 to Mar. 30; discharge estimated on basis of 1 discharge measurement, weather records, and records for Johnson Creek at Yellow Pine.

Discharge, in cubic feet per second, 1960

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
Oct. 1.....	94	Oct. 9.....	106	Oct. 17.....	114	Oct. 25.....	100
2.....	92	10.....	104	18.....	112	26.....	100
3.....	92	11.....	114	19.....	110	27.....	100
4.....	92	12.....	123	20.....	106	28.....	104
5.....	90	13.....	112	21.....	106	29.....	*112
6.....	92	14.....	104	22.....	106	30.....	a110
7.....	100	15.....	106	23.....	104	31.....	a108
8.....	108	16.....	112	24.....	102		

Total	3,235
Mean	104
Cubic feet per second per square mile	0.578
Runoff in inches	0.67
Runoff in acre-feet	6,420

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Johnson Creek at Yellow Pine.

3105. South Fork Salmon River near Knox, Idaho

Location.--Lat 44°39', long 115°42', in NW¼ sec.11, T.15 N., R.6 E., on left bank 800 ft downstream from Curtis Creek, 1 mile upstream from Warm Lake Creek, 1½ miles southwest of Knox, and 21 miles northeast of Cascade.
Drainage area.--92 sq mi, approximately. Mean altitude, 6,630 ft.
Records available.--September 1928 to October 1960 (discontinued).
Gage.--Water-stage recorder. Datum of gage is 5,090.31 ft above mean sea level, unadjusted. Prior to Oct. 22, 1942, staff gage at site 800 ft downstream at datum 2.09 ft lower.
Average discharge.--32 years, 145 cfs (105,000 acre-ft per year).
Extremes.--Maximum discharge during period October 1959 to October 1960, 915 cfs June 4 (gage height, 5.15 ft); minimum, 16 cfs Oct. 30 (gage height, 2.26 ft), but may have been less during period of ice effect.
1928-60: Maximum discharge, 1,620 cfs May 27, 1956 (gage height, 6.33 ft); minimum recorded, 14 cfs Nov. 3, 1952 (gage height, 2.23 ft), but may have been less during period of ice effect.
Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No diversion above station.
Revisions (water years).--WSP 1043: 1943.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	72	51	36	41	38	93	190	636	170	88	44
2	67	70	52	34	42	40	88	210	712	159	79	42
3	65	76	52	38	42	43	92	217	810	151	69	44
4	65	72	45	38	41	46	110	222	850	144	64	62
5	65	60	36	41	42	45	153	224	830	138	61	49
6	*67	76	40	42	41	47	210	240	795	134	59	44
7	76	69	43	42	45	47	240	328	790	128	58	40
8	70	*65	*39	43	43	46	257	367	735	122	56	39
9	140	64	41	42	45	46	291	*367	668	116	55	38
10	108	64	44	42	44	43	294	454	614	110	54	37
11	112	63	48	43	43	47	254	604	622	105	52	37
12	122	62	47	42	41	46	*232	735	596	101	51	36
13	105	43	45	34	44	46	214	744	578	97	49	37
14	97	50	40	32	40	48	217	614	*560	93	49	37
15	95	57	48	38	44	49	193	555	640	90	48	36
16	92	45	48	42	41	50	177	560	519	86	49	35
17	88	50	48	42	40	51	166	478	478	*84	49	34
18	84	58	47	38	40	55	166	418	414	81	48	33
19	81	61	45	34	40	56	195	379	390	76	*47	33
20	79	58	39	36	45	58	184	363	352	76	46	32
21	76	59	40	43	43	62	184	422	304	72	46	33
22	116	56	38	43	40	72	175	352	281	69	48	33
23	124	70	43	43	37	84	164	320	263	67	58	34
24	97	77	44	43	40	95	157	300	251	67	70	34
25	90	67	46	43	*40	105	151	287	243	64	64	*34
26	86	45	40	43	40	124	149	314	224	64	55	33
27	83	47	35	43	37	126	151	352	207	62	51	32
28	79	54	40	42	37	146	164	338	197	62	49	32
29	77	56	38	42	37	128	168	371	188	59	48	32
30	76	54	40	42	------	116	177	450	179	59	45	32
31	74	------	40	42	------	105	------	555	------	77	44	------
Total	2,725	1,820	1,342	1,248	1,199	2,110	5,466	12,330	14,926	2,983	1,709	1,118
Mean	87.9	60.7	43.3	40.3	41.3	68.1	182	398	498	96.2	55.1	37.3
Cfsm	0.955	0.660	0.471	0.438	0.449	0.740	1.98	4.33	5.41	1.05	0.599	0.405
In.	1.10	0.74	0.54	0.50	0.48	0.85	2.21	4.98	6.03	1.21	0.69	0.45
Ac-ft	5,400	3,610	2,660	2,480	2,380	4,190	10,840	24,460	29,610	5,920	3,390	2,220

Calendar year 1959: Max 780 Min 31 Mean 142 Cfsm 1.54 In. 20.88 Ac-ft 102,400
Water year 1959-60: Max 850 Min 32 Mean 134 Cfsm 1.46 In. 19.78 Ac-ft 97,160

Peak discharge (base, 600 cfs).--May 12 (11 p.m.) 840 cfs (4.95 ft); June 4 (1:30 a.m.) 915 cfs (5.15 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice most of periods Nov. 5-18, Nov. 26 to Mar. 16 (no gage-height record Jan. 3 to Feb. 25, Feb. 29 to Mar. 9, Mar. 11-15; discharge estimated on basis of 1 discharge measurement, weather records, and records for Johnson Creek near Yellow Pine).

Discharge, in cubic feet per second, 1960

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
Oct. 1	32	Oct. 9	37	Oct. 17	40	Oct. 25	37
2	32	10	38	18	39	26	37
3	32	11	44	19	40	27	38
4	32	12	46	20	40	28	39
5	32	13	40	21	40	29	41
6	32	14	38	22	40	30	34
7	37	15	38	23	39	31	41
8	40	16	39	24	38		

Total	1,172
Mean	37.8
Cubic feet per second per square mile	0.411
Runoff in inches	0.47
Runoff in acre-feet	2,320

3130. Johnson Creek at Yellow Pine, Idaho

Location.--Lat 44°58', long 115°30', in NE¼ sec.29, T.19 N., R.8 E., on right bank 700 ft upstream from mouth and a quarter of a mile southwest of Yellow Pine.

Drainage area.--213 sq mi. Mean altitude, 7,170 ft.

Records available.--August 1928 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 4,657.70 ft above mean sea level, datum of 1929 (preliminary).

Average discharge.--32 years, 340 cfs (246,100 acre-ft per year).

Extremes.--Maximum discharge during year, 2,560 cfs June 3 (gage height, 5.34 ft); minimum, 42 cfs Feb. 24 (gage height, 0.94 ft).
1928-60: Maximum discharge, 5,440 cfs May 27, 1956 (gage height, 7.64 ft); minimum, 21 cfs Nov. 30, 1954 (gage height, 0.66 ft).

Remarks.--Records good. Small diversion from Johnson Creek basin to Deadwood River basin (see Remarks for Deadwood Reservoir near Lowman).

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

1.0	47	2.5	475
1.2	74	3.0	735
1.5	134	4.0	1,380
1.8	212	5.0	2,220
2.1	309		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	141	156	100	68	73	65	146	381	1,690	444	146	88
2	136	153	104	65	76	65	146	403	1,940	412	156	85
3	136	153	104	73	73	68	146	426	2,150	385	132	85
4	139	144	88	73	71	71	168	426	2,190	361	121	100
5	*139	92	71	79	73	71	209	448	2,070	345	119	116
6	144	134	79	81	71	73	285	530	1,990	341	114	94
7	168	*141	96	81	78	73	353	647	2,000	320	110	88
8	153	123	74	83	74	71	430	801	1,800	299	108	85
9	179	127	*81	81	78	70	535	867	1,780	282	106	83
10	190	125	83	79	76	58	590	*1,190	1,620	265	102	79
11	204	119	94	83	74	68	545	1,650	1,590	252	100	78
12	292	130	92	81	73	68	480	2,000	1,530	236	96	78
13	242	81	90	65	74	68	452	2,000	1,500	230	92	76
14	215	102	79	60	67	67	466	1,410	*1,440	221	90	78
15	212	114	94	73	76	67	403	1,320	1,600	212	90	76
16	209	88	92	79	71	67	361	1,360	1,360	*201	90	74
17	192	96	88	78	68	68	338	1,140	1,270	192	92	73
18	181	114	88	71	68	70	338	982	1,090	184	90	71
19	174	116	83	63	68	74	338	891	1,000	176	*85	70
20	168	112	74	68	71	79	323	885	939	171	83	68
21	163	112	76	79	71	88	316	1,040	819	163	83	68
22	181	108	71	79	68	94	313	855	759	158	85	70
23	282	114	81	79	60	110	295	795	724	151	106	70
24	239	130	83	78	68	119	282	730	708	146	121	*70
25	212	130	87	78	71	132	268	691	680	141	127	76
26	192	88	76	78	*67	151	242	708	625	139	121	74
27	181	88	62	78	61	158	262	885	570	136	112	73
28	174	108	76	76	60	171	275	921	535	134	106	71
29	166	110	73	76	61	*158	282	1,030	500	132	100	71
30	156	106	79	76	------	166	327	1,240	470	127	96	71
31	156	------	78	76	------	153	------	1,530	------	139	90	------
Total	5,716	3,514	2,596	2,337	2,040	2,881	9,914	30,182	38,939	7,095	3,269	2,359
Mean	184	117	83.7	75.4	70.3	92.9	330	974	1,298	229	105	78.6
Cfsm	0.864	0.549	0.393	0.354	0.330	0.436	1.55	4.57	6.09	1.08	0.493	0.369
In.	1.00	0.61	0.45	0.41	0.36	0.50	1.73	5.27	6.80	1.24	0.57	0.41
Ac-ft	11,340	6,970	5,150	4,640	4,050	5,710	19,660	59,870	77,230	14,070	6,480	4,680

Calendar year 1959: Max 2,740 Min 60 Mean 349 Cfsm 1.64 In. 22.27 Ac-ft 252,800
Water year 1959-60: Max 2,190 Min 58 Mean 303 Cfsm 1.42 In. 19.35 Ac-ft 219,800

Peak discharge (base, 1,800 cfs).--May 13 (12:15 a.m.) 2,530 cfs (5.31 ft); June 3 (11 p.m.) 2,560 cfs (5.34 ft).

* Discharge measurement made on this day.

3138. Tailholt Creek near Yellow Pine, Idaho

Location.--Lat 45°02'30", long 115°40'30", in SW¼ sec.25, T.20 N., R.6 E., on right bank 100 ft upstream from mouth, 6 miles northeast of Krassel ranger station, and 19½ miles northwest of Yellow Pine.

Drainage area.--2.6 sq mi, approximately.

Records available.--August 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 3,590 ft (from topographic map).

Extremes.--1959: Maximum discharge during period August to September, 3.2 cfs Sept. 14 (gage height, 1.00 ft); minimum, 1.1 cfs Sept. 11 (gage height, 0.88 ft).
1959-60: Maximum discharge during water year, 6.4 cfs Apr. 6 (gage height, 1.14 ft); minimum, 0.4 cfs Jan. 2 (gage height, 0.79 ft).

Remarks.--Records fair except those for periods of ice effect or doubtful or no gage-height record, which are poor.

Rating tables, Aug. 1, 1959, to Sept. 30, 1960, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Aug. 1, 1959, to June 22, 1960				June 23 to Sept. 30, 1960	
0.85	0.6	1.1	5.2	0.85	1.0
.9	1.2	1.15	6.7	.9	1.8
1.0	3.0			1.0	4.0

Discharge, in cubic feet per second, 1959

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	1.9	1.7	7	1.7	1.4	13	1.5	1.5	19	2.1	1.9	25	*1.9	1.5
2	1.9	1.7	8	1.6	1.2	14	1.5	1.9	20	2.1	1.9	26	1.9	1.7
3	1.9	1.7	9	1.6	1.2	15	*1.5	1.7	21	1.9	1.7	27	1.9	1.7
4	1.8	1.7	10	1.6	1.2	16	1.5	1.5	22	1.9	1.5	28	1.9	1.4
5	1.7	1.7	11	1.6	1.1	17	1.4	1.4	23	2.1	1.5	29	1.9	1.4
6	1.7	1.5	12	1.5	1.4	18	1.7	1.5	24	2.1	1.5	30	1.7	1.4
												31	1.7	-
Total													54.7	46.1
Mean													1.76	1.54
Runoff in acre-feet													108	91

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.4	1.2	0.8	a0.8	b0.7	3.6	3.0	3.4	a3.0	a2.0	1.6
2	1.2	1.4	1.2	.6	a.8	b.7	3.4	3.4	3.4	a3.0	a1.9	1.8
3	1.2	1.4	1.2	.7	a.7	b.8	3.2	3.4	3.2	3.0	a1.8	1.6
4	1.2	1.4	1.2	.8	a.8	.9	3.6	3.6	3.2	3.0	1.6	1.6
5	*1.2	1.2	b1.1	.9	a.8	.8	4.8	3.6	3.2	2.8	1.6	1.6
6	1.4	*1.2	b1.2	.9	a.8	.8	6.1	3.6	3.0	2.8	1.6	1.6
7	1.2	1.2	1.2	.9	a.9	1.2	5.8	3.8	3.0	2.6	1.6	1.2
8	1.2	1.2	b.9	.9	a.9	1.2	5.5	3.8	3.0	2.6	1.6	1.0
9	1.4	1.2	*1.2	.9	a1.1	.9	5.8	3.6	3.0	2.6	1.6	1.2
10	1.2	1.2	1.1	.8	a1.1	.8	5.2	*3.8	3.0	2.4	1.6	1.2
11	1.4	1.2	1.2	.9	a1.1	.8	4.8	3.8	3.0	a2.2	1.6	1.2
12	1.4	1.2	1.2	.9	a.9	.8	4.5	3.8	2.8	2.2	1.3	1.0
13	1.4	b1.1	1.1	.8	a.9	.8	4.2	3.8	*2.8	2.2	1.3	1.3
14	1.4	b.9	1.1	a.7	a.9	.7	4.2	3.8	3.0	2.2	1.2	1.2
15	1.4	1.1	1.1	a.6	a.9	.7	4.2	3.8	3.4	2.2	1.2	1.2
16	1.4	b1.1	1.1	a.6	a.8	.7	3.8	3.8	3.0	*2.4	1.5	1.0
17	1.2	b1.1	1.1	a.7	a.8	.9	3.8	3.6	3.0	2.4	1.5	1.0
18	1.2	1.1	1.1	a.7	a.8	1.4	3.8	3.6	2.8	2.4	*1.5	1.0
19	1.2	1.1	1.1	a.6	.7	1.7	3.8	3.4	2.8	2.2	1.5	1.0
20	1.2	1.1	b1.0	a.8	.7	2.3	4.0	3.6	2.8	2.2	1.5	1.0
21	1.2	1.2	b1.0	a.8	.8	3.2	4.0	3.6	2.8	2.2	1.5	1.2
22	1.4	1.2	b.9	a.9	.7	3.6	4.0	3.6	a2.8	2.2	1.6	1.2
23	1.4	1.5	.9	1.1	.7	4.0	3.8	3.6	*2.8	2.0	1.6	1.2
24	1.4	1.4	1.2	.9	.8	4.2	3.8	3.6	3.0	2.0	1.8	*1.2
25	1.2	1.4	1.4	.9	.7	4.2	3.6	3.6	a3.0	2.2	1.6	1.2
26	1.2	b1.1	1.1	.9	.7	4.0	3.4	3.8	a3.0	2.2	1.6	1.0
27	1.2	b1.2	.9	.8	.7	4.0	3.4	3.8	a3.0	2.2	1.6	1.0
28	1.2	b1.2	b.9	.8	b.6	4.2	3.2	3.6	a3.0	2.0	1.5	1.0
29	1.4	1.2	b1.1	.8	b.6	*3.4	3.0	3.6	a3.0	2.0	1.5	1.2
30	1.4	1.2	b1.1	.8	-------	4.0	3.0	3.4	a3.0	a1.9	*1.5	1.2
31	1.4	-------	b.9	.8	-------	4.0	-------	3.4	-------	a2.0	1.5	-------
Total	40.0	36.4	34.0	25.0	23.5	62.4	123.3	112.2	90.2	73.3	48.3	36.7
Mean	1.29	1.21	1.10	0.81	0.81	2.01	4.11	3.62	3.01	2.36	1.56	1.22
Ac-ft	79	72	67	50	47	124	245	223	179	145	96	73

Calendar year 1959: Max - Min - Mean - Ac-ft -
Water year 1959-60: Max 6.1 Min 0.6 Mean 1.93 Ac-ft 1,400

* Discharge measurement made on this day.
a Doubtful or no gage-height record; discharge estimated on basis of weather records, records for adjacent periods, and records for Johnson Creek at Yellow Pine.
b Stage-discharge relation affected by ice.

3165. Little Salmon River at Riggins, Idaho

Location.--Lat 45°24'50", long 116°19'30", in SE¼SW¼ sec.15, T.24 N., R.1 E., on right bank 250 ft upstream from highway bridge, half a mile upstream from mouth, and three-quarters of a mile southwest of Riggins.

Drainage area.--576 sq mi. Mean altitude, 5,430 ft.

Records available.--February 1951 to February 1955, September 1956 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,760 ft (from topographic map).

Average discharge.--7 years (1951-54, 1956-60), 842 cfs (609,600 acre-ft per year).

Extremes.--Maximum discharge during year, 4,540 cfs June 3 (gage height, 5.46 ft); minimum observed, 155 cfs Feb. 29 (gage height, 0.38 ft).
1951-55, 1959-60: Maximum discharge, 6,720 cfs May 20, 1958; maximum gage height, 7.39 ft June 13, 1953; minimum discharge, 116 cfs Feb. 20, 1955; minimum gage height observed, that of Feb. 29, 1960.
Flood about June 1, 1948, reached an undetermined stage (discharge, 9,200 cfs by slope-area measurement).

Remarks.--Records good except those for periods of once-daily staff-gage readings, which are fair. Diversions for irrigation of about 13,600 acres (1948 determination) above station.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 12-22)

Oct. 1 to Nov. 12, Mar. 21 to July 19				Nov. 13 to Mar. 20, July 20 to Sept. 30	
0.6	310	2.5	1,420	0.3	125
1.0	500	3.0	1,850	.6	235
1.5	765	4.0	2,900	1.1	500
2.0	1,060	5.0	4,020		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	391	485	316	207	227	162	1,630	1,210	3,010	910	302	203
2	373	470	316	180	*244	158	1,360	1,340	3,400	850	462	188
3	386	465	316	215	235	165	1,330	1,620	3,710	792	374	180
4	396	475	297	191	227	188	1,570	1,590	3,750	754	342	184
5	382	396	235	223	227	203	2,010	1,500	3,530	*716	302	248
6	400	425	261	239	223	219	2,580	1,480	3,430	672	292	223
7	480	430	269	239	261	235	2,930	1,860	*3,380	622	274	215
8	445	405	261	239	261	316	2,780	2,200	2,990	585	256	199
9	525	396	252	231	288	321	2,610	2,110	2,870	565	248	191
10	595	391	252	227	288	*261	2,460	*2,490	2,780	545	239	191
11	606	378	269	227	274	261	*2,230	3,100	2,860	515	223	184
12	782	378	261	231	256	269	1,990	3,580	2,820	485	215	184
13	622	363	252	223	256	252	1,730	3,360	2,700	460	207	191
14	*555	358	252	199	231	252	1,660	2,550	2,520	440	231	199
15	530	326	261	199	231	252	1,610	2,250	2,930	420	223	191
16	525	307	261	207	223	244	1,380	2,480	2,610	410	*219	180
17	480	316	256	199	231	244	1,230	2,210	2,360	391	215	173
18	450	*326	*256	191	223	269	1,260	1,950	2,040	373	207	173
19	430	347	256	199	219	297	1,390	1,720	1,940	350	203	165
20	415	326	248	231	223	326	1,360	1,630	1,720	321	191	165
21	415	337	244	231	223	440	1,420	1,870	1,400	321	184	158
22	574	337	227	227	219	535	1,260	1,720	1,340	312	184	158
23	1,180	d350	235	227	215	655	1,190	1,550	1,370	292	188	158
24	850	d390	252	227	199	760	1,130	1,470	1,360	283	261	158
25	732	d380	278	227	199	886	1,030	1,460	1,330	283	288	173
26	644	d340	265	227	191	1,070	1,010	1,450	1,190	274	288	173
27	595	d310	211	227	191	1,230	994	2,020	1,100	274	261	176
28	565	d330	235	227	162	1,710	1,060	2,060	1,020	269	252	176
29	540	d340	219	231	155	1,970	1,100	2,020	976	265	227	173
30	510	326	239	231	------	2,230	1,120	2,330	952	256	223	169
31	485	------	239	231	------	2,330	------	2,790	------	269	219	------
Total	18,858	11,203	7,991	6,810	6,602	18,710	48,414	62,970	69,388	14,274	7,800	5,499
Mean	544	373	258	220	228	604	1,614	2,031	2,313	460	252	183
Ac-ft	33,440	22,220	15,850	13,510	13,090	37,110	96,030	124,900	137,600	28,310	15,470	10,910

Calendar year 1959: Max 4,000 Min 169 Mean 763 Ac-ft 552,300
Water year 1959-60: Max 3,750 Min 155 Mean 756 Ac-ft 548,400

Peak discharge (base, 2,000 cfs).--Mar. 31 (6 to 7 a.m.) 2,530 cfs (3.62 ft); Apr. 7 (8:30 a.m.) 3,130 cfs (4.16 ft); May 12 (9:30 p.m.) 4,060 cfs (5.06 ft); June 3 (10:30 p.m.) 4,540 cfs (5.46 ft).

* Discharge measurement made on this day.
d Doubtful gage-height record; discharge estimated on basis of weather records, fragmentary recorder record, and records for Johnson Creek at Yellow Pine.
Note.--Discharge computed from once-daily staff-gage readings Nov. 13 to Mar. 20, July 20 to Sept. 30.

3168. North Fork Skookumchuck Creek near White Bird, Idaho

Location.--Lat 45°43', long 116°13', in SW¼ sec.33, T.28 N., R.2 E., on left bank 10 ft downstream from bridge, 2 miles upstream from South Fork Skookumchuck Creek, and 4¾ miles southeast of White Bird.
Drainage area.--15.6 sq mi.
Records available.--August 1959 to September 1960.
Gage.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map).
Extremes.--1959: Maximum discharge during period August to September, 8.9 cfs Sept. 29 (gage height, 2.06 ft); minimum, 0.2 cfs Aug. 20 (gage height, 1.23 ft).
1959-60: Maximum discharge during water year, 104 cfs May 12 (gage height, 3.57 ft); minimum, 0.2 cfs for several days in July and August; minimum gage height, 1.20 ft July 30.
Remarks.--Records good except those for periods of no gage-height record, which are poor. Ditch bypassing station diverts from left bank a quarter of a mile above station. Results of discharge measurements, in cubic feet per second, of ditch bypassing station, made August 1959 to August 1960, are given below. Records of water temperatures for the water year 1960 are given in WSP 1724.

Aug. 14, 1959	1.76	Dec. 17, 1959	0.63	May 10, 1960	2.53
24	.88	Feb. 1, 1960	.73	June 7	1.82
Oct. 13	1.50	Mar. 10	.20	July 6	1.51
Nov. 17	.69	29	2.18	Aug. 16	2.30

Discharge, in cubic feet per second, 1959

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	0.4	7	-	a0.4	13	-	a0.4	19	-	1.7	25	1.5	2.6
2	-	a.4	8	-	a.4	14	†0.2	a.4	20	0.3	1.7	26	1.3	3.1
3	-	a.4	9	-	a.4	15	-	a1.5	21	.3	2.1	27	1.1	5.4
4	-	a.4	10	-	a.4	16	-	a3.7	22	.5	3.3	28	1.0	7.8
5	-	a.4	11	-	a.4	17	-	2.9	23	1.6	3.8	29	1.0	8.9
6	-	a.4	12	-	a.4	18	-	2.1	24	*1.7	3.3	30	.9	8.4
												31	.4	-
Total													-	67.9
Mean													-	2.26
Runoff in acre-feet													-	135

* Discharge measurement made on this day.
† Result of discharge measurement.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Little Salmon River at Riggins.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	15	12	4.0	*4.9	2.6	33	35	66	6.8	2.9	0.7
2	7.0	14	11	3.7	5.2	2.6	29	38	64	6.5	2.8	1.5
3	6.1	14	11	4.2	5.4	2.6	28	47	64	5.9	2.6	2.0
4	5.4	13	10	3.7	5.4	2.6	33	52	62	5.5	2.2	2.2
5	4.7	12	9.5	4.4	5.1	2.7	47	55	56	5.4	1.2	2.9
6	4.4	11	8.6	4.7	4.9	2.8	66	56	49	*5.2	1.5	4.0
7	4.7	11	8.2	4.7	5.1	3.1	68	74	*46	5.1	1.2	3.4
8	5.7	10	8.0	4.7	5.2	3.4	68	101	39	4.9	1.1	3.1
9	6.3	10	7.6	4.6	5.7	4.1	68	92	34	5.4	.9	2.8
10	6.5	10	7.2	4.4	6.3	*4.6	63	*88	30	5.7	.9	2.7
11	7.0	9.3	7.0	4.4	6.8	4.7	58	94	27	5.5	.4	2.7
12	9.3	9.1	6.8	4.5	6.8	4.9	52	96	25	4.6	.2	2.7
13	*15	8.9	6.6	4.4	6.5	4.9	49	88	22	2.2	.2	2.2
14	17	7.8	6.5	3.9	6.1	4.9	47	72	22	.6	.2	1.3
15	15	7.8	6.3	3.9	5.5	5.4	44	62	27	4.7	.3	2.1
16	15	7.6	6.1	4.0	5.1	5.4	39	64	22	3.3	*.3	1.9
17	13	*7.0	*5.9	3.9	4.7	5.4	36	61	21	1.9	.2	1.8
18	12	7.0	5.7	3.7	4.4	5.9	36	58	18	1.8	.3	1.6
19	11	7.2	5.5	3.8	4.3	8.9	39	54	16	.7	.3	1.3
20	11	7.2	5.4	4.7	4.0	13	43	52	15	.4	.3	1.1
21	11	7.0	5.1	5.0	3.7	21	48	54	14	.3	.3	.9
22	12	7.2	4.9	5.0	3.6	34	45	54	13	.3	.4	.7
23	36	7.6	4.8	4.8	3.4	43	40	54	11	.2	.4	.6
24	34	9.7	4.6	4.8	3.4	49	37	53	11	.2	.5	.5
25	29	15	4.9	4.8	3.3	52	34	50	10	.2	.5	.6
26	25	17	4.9	4.8	3.2	57	33	49	9.3	.2	.5	.7
27	21	16	4.2	4.8	3.1	65	32	56	8.9	.2	.5	.7
28	19	15	4.5	4.8	2.8	72	33	56	8.2	.2	.5	.6
29	18	14	4.3	4.8	2.7	*82	32	57	7.8	.2	.7	.5
30	15	13	4.6	4.8	------	48	33	58	7.4	.2	1.1	.4
31	15	------	4.5	4.9	------	39	------	64	------	.3	.9	------
Total	418.9	320.4	206.0	137.6	136.6	636.5	1,313	1,944	825.6	84.6	26.3	50.2
Mean	13.5	10.7	6.65	4.44	4.71	20.5	43.8	62.7	27.5	2.73	0.85	1.67
Ac-ft	831	636	409	273	271	1,260	2,600	3,860	1,640	168	52	100

Calendar year 1959: Max - Min - Mean - Ac-ft -
Water year 1959-60: Max 101 Min 0.2 Mean 1.67 Ac-ft 12,100

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 27 to Jan. 31, Sept. 23-30; discharge estimated on basis of recorded range in stage, weather records, and records for Little Salmon River at Riggins.

3170. Salmon River at White Bird, Idaho

Location.--Lat 45°45', long 116°20', in sec.22, T.28 N., R.1 E., on left bank just upstream from White Bird Creek, half a mile downstream from Canfield-Joseph highway bridge, and 1 mile southwest of White Bird. Records include flow of White Bird Creek.

Drainage area.--13,550 sq mi, approximately, includes that of White Bird Creek. Mean altitude, 6,720 ft.

Records available.--August 1910 to September 1917, October 1919 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,412.65 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Aug. 18, 1910, to Sept. 30, 1917, and Oct. 1, 1919, to Sept. 13, 1920, staff gages at site 600 ft downstream at different datum. Sept. 14, 1920, to Jan. 2, 1931, chain gage on highway bridge 200 ft upstream at datum 10 ft higher.

Average discharge.--48 years, 10,900 cfs (7,891,000 acre-ft per year).

Extremes.--Maximum discharge during year, 55,500 cfs June 5 (gage height, 26.12 ft); minimum, 2,990 cfs Feb. 29 (gage height, 11.79 ft).
1910-17, 1919-60: Maximum discharge, 106,000 cfs May 24, 1956 (gage height, 33.05 ft); minimum, 1,580 cfs Dec. 11, 1932 (gage height, 10.23 ft), from rating curve extended below 2,200 cfs.
Maximum stage known, about 37.5 ft in June 1894, present datum (discharge, 120,000 cfs).

Remarks.--Records excellent. Amount of water diverted above station for irrigation is a negligible percentage of total flow.

Revisions (water years).--WSP 753: 1932. WSP 1043: Drainage area.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 9 to May 1, May 10 to June 20, July 4-26)

11.9	3,140	17.0	14,300
12.0	3,280	21.0	29,500
14.0	6,760	26.0	56,600

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,550	8,320	5,990	4,000	*4,450	3,210	10,900	12,000	34,400	15,200	6,030	4,230
2	6,310	8,160	5,780	3,840	4,360	3,280	9,790	12,900	40,000	14,500	6,510	4,150
3	6,250	8,050	5,650	3,690	4,340	3,410	9,330	14,300	47,200	13,600	6,350	4,040
4	6,250	8,070	5,760	3,480	4,310	3,570	9,530	15,200	53,600	12,900	5,890	4,160
5	6,290	7,650	5,480	3,760	4,230	3,800	11,000	15,900	54,400	12,400	5,570	4,440
6	6,330	7,120	4,970	4,260	4,310	4,230	14,100	16,100	52,500	*12,000	5,340	4,640
7	7,010	7,080	4,640	4,420	4,340	4,370	18,200	17,700	*51,200	11,700	5,250	4,530
8	7,330	7,200	4,640	4,860	4,450	4,580	20,600	21,200	49,100	11,200	5,020	4,390
9	7,160	7,120	4,720	4,910	4,570	4,550	22,300	22,400	45,400	10,700	4,880	4,240
10	7,830	7,050	4,670	4,880	4,550	*4,500	23,500	*24,400	43,500	10,200	4,740	4,160
11	7,960	6,930	4,640	4,650	4,580	4,450	*23,200	30,600	42,100	9,790	4,570	4,050
12	9,570	6,820	4,910	4,530	4,500	4,200	21,500	40,200	42,100	9,360	4,440	3,960
13	10,300	6,630	5,380	4,570	4,440	4,160	19,200	48,700	40,700	8,980	4,360	3,940
14	9,450	6,010	5,380	4,150	4,390	4,210	17,900	45,700	39,700	8,660	4,230	3,980
15	8,980	5,800	5,150	3,750	4,290	4,390	17,100	38,400	41,100	8,380	4,200	4,020
16	8,940	6,050	4,950	3,480	4,260	4,400	15,600	35,400	40,400	8,090	*4,230	3,940
17	8,730	*5,840	*5,110	3,750	4,260	4,360	14,200	32,600	38,400	7,810	4,260	3,880
18	8,180	5,780	5,180	3,700	4,210	4,500	13,400	29,000	35,100	7,430	4,260	3,870
19	7,850	5,930	5,060	3,350	4,050	4,890	13,400	26,100	31,900	7,160	4,210	3,870
20	7,700	6,230	5,000	3,290	3,940	5,420	13,300	24,100	29,200	6,950	4,080	3,740
21	7,630	6,390	4,760	3,350	4,000	6,190	13,400	24,300	26,400	6,700	3,960	3,690
22	7,830	6,410	4,340	3,750	4,150	7,140	13,200	23,600	24,100	6,450	3,900	3,580
23	11,900	6,590	4,000	4,040	4,160	8,270	12,700	22,000	22,300	6,270	3,960	3,580
24	13,100	7,180	4,130	4,180	4,050	9,310	12,300	20,400	21,300	6,090	4,440	3,580
25	11,800	7,410	4,620	4,440	3,860	10,200	11,800	19,400	20,900	5,890	4,980	3,720
26	11,100	7,120	4,980	4,600	3,660	11,300	11,300	18,500	19,800	5,720	5,180	3,810
27	10,200	6,450	4,910	4,700	3,560	12,700	11,000	20,000	18,700	5,630	4,970	3,820
28	9,650	5,860	4,500	4,670	3,280	14,000	11,000	21,400	17,500	5,490	4,770	3,750
29	9,310	5,680	3,760	4,580	3,180	13,900	11,400	21,600	16,600	5,490	4,600	3,690
30	8,980	5,970	3,680	4,480	------	12,800	11,400	23,800	15,800	5,310	4,520	3,630
31	8,480	------	3,930	4,470	------	12,300	------	28,200	------	5,240	4,390	------
Total	264,950	202,900	150,670	128,580	120,730	202,590	437,550	766,100	‡1,055.4	271,290	148,090	119,080
Mean	8,547	6,763	4,860	4,148	4,163	6,535	14,580	24,710	35,180	8,751	4,777	3,969
Cfsm	0.631	0.499	0.359	0.306	0.307	0.482	1.08	1.82	2.60	0.646	0.353	0.293
In.	0.73	0.56	0.41	0.35	0.33	0.56	1.20	2.10	2.90	0.74	0.41	0.33
Ac-ft	525,500	402,400	298,800	255,000	239,500	401,800	867,900	‡1,520	‡2,093	539,100	293,700	236,200

Calendar year 1959: Max 62,600 Min 2,290 Mean 11,550 Cfsm 0.852 In. 11.57 Ac-ft 8,362,000
Water year 1959-60: Max 54,400 Min 3,180 Mean 10,570 Cfsm 0.780 In. 10.62 Ac-ft 7,672,000

* Discharge measurement made on this day.
‡ Expressed in thousands.

3190. Grande Ronde River at La Grande, Oreg.

Location.--Lat 45°21', long 118°08', near center sec.36, T.2 S., R.37 E., on left bank 2 miles northwest of La Grande and 5 miles downstream from Fivepoint Creek.

Drainage area.--678 sq mi.

Records available.--October 1903 to September 1915, February 1918 to September 1923, October 1925 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Published as "at Hilgard" 1903-15.

Gage.--Water-stage recorder. Datum of gage is 2,830.86 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Nov. 6, 1903, to Sept. 30, 1915, staff gage at site 5 miles upstream, 1,000 ft downstream from Fivepoint Creek, at various datums. Feb. 16, 1918, to June 28, 1923, and Oct. 1, 1925, to Nov. 24, 1931, staff gage at site 1 mile downstream at various datums.

Average discharge.--52 years, 387 cfs (280,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,960 cfs Mar. 23 (gage height, 6.46 ft); minimum, 17 cfs Sept. 19.
1903-15, 1918-23, 1925-60: Maximum discharge, 8,880 cfs Mar. 18, 1932 (gage height, 8.90 ft), from rating curve extended above 4,300 cfs; minimum 3.9 cfs Aug. 26, 1940.

Remarks.--Records good except those for periods of ice effect, which are fair. Since 1915, slight regulation by city of La Grande reservoir on Beaver Creek (capacity, about 900 acre-ft). Diversions for irrigation of about 400 acres above station. Since 1909, city of La Grande has diverted about 3 cfs from Beaver Creek above station for domestic water supply.

Revisions (water years).--WSP 768: 1933. WSP 1397: 1904-11, 1913, 1915, 1919-20, 1922-23, 1926, 1929-31, 1936-37, 1939, 1942.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 25 to June 5)

1.2	15	2.2	275
1.3	25	3.0	710
1.5	55	4.0	1,400
1.8	125	6.0	3,390

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	125	186	42	50	75	1,300	830	*1,170	134	57	25
2	67	117	172	30	50	75	1,290	*878	1,060	114	69	25
3	61	120	166	32	44	110	1,500	866	981	109	50	24
4	59	143	137	42	50	150	*1,640	995	890	98	40	33
5	57	103	89	44	60	160	1,830	974	806	96	35	41
6	55	93	82	50	55	180	1,940	946	740	89	32	35
7	57	90	130	46	90	200	1,850	1,260	674	82	30	30
8	59	106	110	50	100	360	1,770	1,530	614	77	28	28
9	63	112	128	40	100	340	1,650	1,420	557	73	28	28
10	82	112	103	34	100	305	1,440	1,400	513	71	23	26
11	98	103	125	34	110	280	1,220	1,420	474	69	22	25
12	*131	110	112	42	95	270	1,080	1,390	442	65	20	23
13	112	75	98	32	90	275	946	1,260	*410	63	19	24
14	93	55	77	40	85	262	974	1,080	395	61	20	25
15	84	65	93	44	95	280	878	932	469	55	22	26
16	77	55	96	48	100	290	794	1,100	405	53	*30	24
17	73	60	89	44	65	410	758	1,090	365	50	35	23
18	69	*70	84	40	70	674	782	*1,160	325	*46	29	23
19	65	100	63	36	90	946	960	1,060	300	43	25	22
20	63	96	57	44	90	1,470	1,000	1,400	270	41	22	22
21	63	114	*55	48	100	*2,150	1,180	1,860	257	40	21	22
22	117	146	50	50	90	*2,610	1,110	1,750	239	38	23	22
23	395	518	55	50	80	2,880	1,040	1,580	222	37	28	24
24	355	614	60	50	90	2,930	974	1,480	198	35	34	25
25	266	480	70	*48	100	2,780	904	1,450	180	34	52	26
26	222	370	55	50	75	2,610	904	1,410	169	34	46	*28
27	190	262	42	42	55	2,300	860	1,680	155	34	40	26
28	162	252	44	46	60	2,010	890	1,550	143	34	37	24
29	158	275	42	55	*65	1,620	860	1,430	134	33	33	22
30	146	230	55	50	-------	1,630	830	1,340	128	32	30	22
31	131	-------	48	42	-------	1,450	-------	1,260	-------	37	26	-------
Total	3,701	5,171	2,773	1,345	2,304	32,082	35,154	39,781	13,685	1,877	1,006	773
Mean	119	172	89.5	43.4	79.4	1,035	1,172	1,283	456	60.5	32.5	25.8
Ac-ft	7,340	10,260	5,500	2,670	4,570	63,630	69,730	78,900	27,140	3,720	2,000	1,530

Calendar year 1959: Max 1,880 Min 20 Mean 342 Ac-ft 247,200
Water year 1959-60: Max 2,930 Min 19 Mean 382 Ac-ft 277,000

Peak discharge (base, 2,100 cfs).--Mar. 23 (10:30 p.m.) 3,960 cfs (6.46 ft); May 20 (10 p.m.) 2,230 cfs (4.82 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 7, 12-19, Dec. 7, 8, Dec. 21 to Mar. 9.

3200. Catherine Creek near Union, Oreg.

Location.--Lat 45°09'20", long 117°46'40", in SE¼ sec.2, T.5 S., R.40 E., on right bank 3 miles downstream from Little Catherine Creek and 6 miles southeast of Union.

Drainage area.--105 sq mi.

Records available.--May 1906 to May 1907 (gage heights only), August 1911 to December 1912, March to September 1915, February 1918 to September 1919, October 1925 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 3,081.76 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (State Highway Department bench mark). Prior to Nov. 28, 1938, staff gages at several sites within 1¾ miles of present site at various datums. Nov. 28, 1938, to May 16, 1939, water-stage recorder at site 400 ft downstream at datum 4.29 ft lower.

Average discharge.--37 years (1911-12, 1918-19, 1925-60), 121 cfs (87,600 acre-ft per year).

Extremes.--Maximum discharge during year, 670 cfs Apr. 8 (gage height, 2.98 ft); maximum gage height, 3.15 ft Jan. 8 (ice jam); minimum discharge, 20 cfs Feb. 27. 1911-12, 1915, 1918-19, 1925-60: Maximum discharge, 1,740 cfs May 27, 1948 (gage height, 4.57 ft); minimum, 6.5 cfs Feb. 4, 1955, result of freezeup.

Remarks.--Records excellent except those for periods of ice effect, which are fair. No regulation. Several small diversions for irrigation of about 130 acres above station. Since 1937, diversion to Big Creek in Powder River basin provides a small part of the water used for irrigation of 3,300 acres in that basin.

Revisions (water years).--WSP 1397: 1912-13, 1919, 1926, 1928-33, 1937, 1939, 1940(M), 1941-43, 1950.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 23-25)

Oct. 1 to Mar. 25				Mar. 26 to Sept. 30			
0.7	30	1.9	233	0.7	25	2.0	285
.9	50	2.5	420	1.0	56	3.0	680
1.3	105			1.4	124		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	119	105	b55	55	b46	219	213	399	124	81	30
2	72	112	102	b46	50	b44	201	231	452	120	56	30
3	70	112	97	b46	b46	b50	222	237	492	110	48	29
4	67	107	*89	b50	48	b60	303	246	492	104	45	82
5	61	b85	b70	b55	48	b90	*428	234	464	99	43	43
6	61	b95	b70	b60	49	b100	520	246	444	93	41	37
7	67	97	b85	b60	61	b110	540	309	413	88	40	34
8	63	94	b75	b60	75	91	585	332	371	83	39	33
9	109	92	b90	b46	74	*86	590	360	340	81	38	31
10	97	92	b80	b44	71	79	528	436	315	76	37	30
11	218	89	88	b42	65	74	*464	520	318	73	36	30
12	236	89	75	b42	60	70	392	*548	312	70	35	29
13	194	b60	72	b42	58	68	343	476	*297	69	34	28
14	162	b70	b70	b44	56	63	318	402	291	66	34	28
15	144	b80	75	b46	55	62	288	360	350	64	36	28
16	127	b70	68	b48	52	61	261	378	303	60	*37	28
17	112	b75	67	b48	b46	63	240	340	282	59	35	28
18	105	*b75	66	b46	b46	75	228	315	252	56	33	27
19	*97	81	63	b42	49	102	222	297	237	*55	31	27
20	95	74	62	b40	51	154	222	306	216	54	30	26
21	91	76	b55	b36	47	230	225	297	190	55	30	27
22	228	78	*b48	b38	48	308	219	285	180	54	31	27
23	326	138	b60	b38	b46	357	207	282	170	51	34	27
24	263	152	b65	b38	b48	374	198	273	170	50	48	27
25	226	158	68	*b38	b50	392	188	264	168	49	42	30
26	191	148	b60	b40	b44	416	180	264	158	48	37	*28
27	166	138	b60	b42	b38	399	178	285	146	46	36	27
28	154	127	b60	b46	b40	388	190	279	142	49	34	26
29	142	119	b55	b48	b44	326	192	291	135	45	33	26
30	129	112	b65	b50	-------	288	201	315	131	45	31	25
31	123	-------	58	b46	-------	249	-------	357	-------	49	30	-------
Total	4,274	3,014	2,223	1,422	1,520	5,275	9,092	9,978	8,630	2,145	1,195	928
Mean	138	100	71.7	45.9	52.4	170	303	322	288	69.2	38.5	30.9
Ac-ft	8,480	5,980	4,410	2,820	3,010	10,460	18,030	19,790	17,120	4,250	2,370	1,840

Calendar year 1959: Max 670 Min 26 Mean 145 Ac-ft 105,000
Water year 1959-60: Max 590 Min 25 Mean 136 Ac-ft 98,560

Peak discharge (base, 500 cfs).--Apr. 8 (10:30 p.m.) 670 cfs (2.98 ft); May 11 (11 p.m.) 590 cfs (2.82 ft); June 3 (9 p.m.) 552 cfs (2.73 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3235. Grande Ronde River near Elgin, Oreg.

Location.--Lat 45°31', long 117°56', in NW¼ sec.3, T.1 S., R.39 E., on right bank 700 ft upstream from bridge on State Highway 82, 1½ miles downstream from Willow Creek, and 3¾ miles south of Elgin.

Drainage area.--1,250 sq mi, approximately.

Records available.--August 1955 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,660.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--5 years, 846 cfs (612,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,860 cfs Mar. 26 (gage height, 9.90 ft); minimum, 28 cfs Aug. 21.

1955-60: Maximum discharge, 5,220 cfs May 12, 1956 (gage height, 11.78 ft); minimum, 18 cfs Aug. 17, 1959.

Flood in May 1948 reached a stage of 2,672.9 ft on Corps of Engineers' gage at bridge 700 ft downstream (discharge, 5,690 cfs, discharge measurement).

Floods in 1894 and 1917 were much higher, based on Corps of Engineers' flood profiles.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions for irrigation in valley above station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.9	29	3.0	430
1.1	52	5.0	1,130
1.5	108	10.0	3,920
2.0	193		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	236	360	466	190	296	b220	2,740	1,330	2,130	230	51	58
2	221	340	415	170	325	247	2,540	1,330	2,040	219	66	48
3	205	330	395	150	320	224	2,410	1,380	1,960	195	85	46
4	193	338	378	150	299	260	*2,400	1,460	1,890	178	99	50
5	184	345	340	170	292	315	2,480	1,610	1,820	167	90	53
6	176	308	269	190	308	442	2,650	1,620	1,730	153	83	83
7	169	303	b220	200	406	601	2,830	1,660	1,620	136	79	94
8	169	315	b260	190	514	874	2,920	1,960	1,500	118	72	82
9	178	299	b240	200	568	*934	2,940	2,160	1,380	104	64	73
10	193	296	271	170	622	870	2,910	2,220	1,240	96	60	66
11	232	292	294	150	618	790	2,760	*2,280	1,120	89	51	65
12	*276	285	301	150	535	713	2,560	2,330	1,010	85	46	64
13	335	285	269	170	481	682	2,340	2,370	* 912	82	44	60
14	385	228	243	150	445	682	2,150	2,320	839	78	40	56
15	375	b190	254	150	406	664	2,020	2,190	846	73	39	53
16	340	b200	278	170	403	716	1,840	2,090	878	68	*39	50
17	311	b190	267	190	390	686	1,640	2,110	836	62	40	48
18	285	*b220	265	170	358	842	1,500	2,110	776	*60	40	47
19	263	249	245	160	358	1,100	1,560	2,080	710	56	38	46
20	247	267	226	150	345	1,480	1,620	2,010	648	50	36	42
21	238	267	*211	150	338	1,940	1,760	2,310	587	45	32	44
22	241	320	189	160	338	2,470	1,840	2,550	532	41	32	45
23	347	438	199	160	313	2,950	1,820	2,590	487	38	33	45
24	840	828	217	150	287	3,380	1,750	2,530	442	37	41	47
25	682	906	228	*b150	294	3,690	1,640	2,470	398	37	47	48
26	632	808	228	b170	292	3,810	1,560	2,400	370	34	52	*50
27	562	654	197	b170	b220	3,790	1,480	2,420	340	32	69	51
28	496	544	182	191	b210	3,610	1,420	2,490	311	32	76	52
29	442	517	190	209	b200	3,390	1,420	2,440	274	31	71	50
30	418	517	170	269	-------	3,100	1,370	2,350	230	31	61	48
31	395	-------	200	296	-------	2,960	-------	2,240	-------	36	58	-------
Total	10,064	11,439	8,107	5,465	10,781	48,432	62,870	65,410	29,854	2,693	1,734	1,664
Mean	325	381	262	176	372	1,562	2,096	2,110	995	86.9	55.9	55.5
Ac-ft	19,960	22,690	16,080	10,840	21,380	96,060	124,700	129,700	59,210	5,340	3,440	3,300

Calendar year 1959: Max 2,440 Min 21 Mean 681 Ac-ft 493,000
Water year 1959-60: Max 3,810 Min 31 Mean 706 Ac-ft 512,700

Peak discharge (base, 3,000 cfs).--Mar. 26 (7 p.m.) 3,860 cfs (9.90 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 29 to Jan. 24 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of recorded range in stage, weather records, and records for station at La Grande.

3250. East Fork Wallowa River near Joseph, Oreg.

Location.--Lat 45°16'20", long 117°12'35", in NE¼ sec.29, T.3 S., R.45 E., on left bank 0.2 mile upstream from confluence with West Fork, 1 mile upstream from Wallowa Lake, and 5½ miles south of Joseph.

Drainage area.--10 sq mi, approximately.

Records available.--July 1924 to September 1960. Prior to October 1952, records published separately as East Fork Wallowa River near Joseph and Wallowa Falls powerplant tailrace near Joseph.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,517.69 ft above mean sea level, datum of 1929 (Pacific Power & Light Co. bench mark). Prior to Apr. 8, 1950, staff gage at same site and datum.

Average discharge.--36 years, 21.3 cfs (15,420 acre-ft per year).

Extremes.--Maximum discharge during year, 97 cfs June 16; minimum daily, 12 cfs Feb. 28, Sept. 16-30.
1924-60: Maximum discharge, 450 cfs July 25, 1937 (no flow in powerplant tailrace), from rating curve extended above 80 cfs by logarithmic plotting; minimum daily, 6.6 cfs Feb. 13, 1927.

Remarks.--Records good. All records presented herein include flow in Wallowa Falls powerplant tailrace of Pacific Power & Light Co. Most of low flow is diverted at dam 1 mile upstream into a conduit 1 mile above Wallowa Falls powerhouse and discharged into West Fork a quarter of a mile below powerhouse.

Revisions (water years).--WSP 1217: Drainage area. WSP 1247: 1931, 1937(M), 1948-49, records for river station; 1948, records for tailrace station.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	19	18	16	*15	13	15	14	48	45	24	*14
2	19	19	18	15	14	13	14	15	54	44	21	14
3	20	19	18	16	14	13	15	15	58	42	20	14
4	20	18	16	18	14	14	15	14	61	41	19	16
5	20	18	15	17	14	14	17	16	64	40	19	15
6	20	19	16	17	14	13	18	17	68	38	18	15
7	19	19	16	17	16	14	18	21	65	37	17	14
8	20	19	15	17	15	13	19	20	63	35	17	14
9	22	18	16	16	14	13	19	22	61	34	17	14
10	20	18	16	17	14	13	17	33	61	33	17	14
11	32	18	18	17	14	*13	17	42	65	32	16	13
12	26	18	18	18	14	13	*16	44	67	31	16	13
13	23	14	19	17	14	13	15	33	74	30	16	14
14	22	17	17	17	14	13	15	31	74	30	16	13
15	21	18	18	17	14	13	15	31	81	29	17	13
16	21	16	18	17	14	13	14	31	84	28	16	12
17	20	15	18	16	13	13	14	28	78	27	16	12
18	20	16	18	15	14	13	14	27	*67	26	16	12
19	19	18	18	15	13	14	14	25	62	25	15	12
20	19	17	18	16	13	14	14	*27	55	24	15	12
21	19	17	17	16	14	14	14	25	50	23	15	12
22	22	20	16	16	13	14	13	24	48	23	16	12
23	*23	24	17	16	13	15	13	22	48	22	16	12
24	21	*19	17	16	13	15	13	22	53	21	17	12
25	21	18	18	16	14	15	13	22	56	21	16	12
26	20	16	18	16	14	16	13	24	50	20	15	12
27	19	17	17	16	13	16	13	26	48	20	15	12
28	20	18	19	14	12	16	14	25	45	*20	15	12
29	20	17	18	15	13	16	15	29	44	19	14	12
30	19	18	*18	16	------	16	14	35	43	19	14	12
31	19	------	17	15	------	15	------	40	------	20	14	------
Total	645	537	536	503	400	433	450	800	1,795	899	515	390
Mean	20.8	17.9	17.3	16.2	13.8	14.0	15.0	25.8	59.8	29.0	16.6	13.0
Cfsm	2.08	1.79	1.73	1.62	1.38	1.40	1.50	2.58	5.98	2.90	1.66	1.30
In.	2.40	2.00	1.99	1.87	1.49	1.61	1.67	2.98	6.68	3.34	1.92	1.45
Ac-ft	1,280	1,070	1,060	998	793	859	893	1,590	3,560	1,780	1,020	774

Calendar year 1959: Max 105 Min 12 Mean 24.8 Cfsm 2.48 In. 33.62 Ac-ft 17,920
Water year 1959-60: Max 84 Min 12 Mean 21.6 Cfsm 2.16 In. 29.40 Ac-ft 15,680

* Discharge measurement made on this day.

3260. Wallowa Lake near Joseph, Oreg.

Location.--Lat 45°20'10", long 117°13'15", in NW¼ sec.5, T.3 S., R.45 E., on trashrack structure near west end of Wallowa Lake Dam, three-quarters of a mile southeast of Joseph.

Drainage area.--52 sq mi, approximately.

Records available.--November 1903 to July 1906 (gage heights only), January 1912 to March 1914, May to September 1915 (gage heights and change in contents only), October 1925 to June 1926, December 1926 to September 1960. Month-end contents only for some periods, published in WSP 1317. November 1903 to March 1905 published as Wallowa River at Joseph. Change in contents for January 1912 to March 1914 and May to September 1915 published with records for Wallowa River at Joseph.

Gage.--Staff gage read once daily. Datum of gage is 4,355.66 ft above mean sea level, datum of 1929. Nov. 12, 1903, to July 28, 1906, Jan. 13, 1912, to Mar. 31, 1914, May 21 to Sept. 25, 1915, staff gages at several sites within half a mile of present site at different datums.

Extremes.--Maximum contents observed during year, 44,990 acre-ft May 13, 14 (gage height, 28.15 ft); minimum observed, 13,820 acre-ft Aug. 31, Sept. 2 (gage height, 8.90 ft).
1925-60: Maximum contents observed, 47,830 acre-ft June 5-7, 1957 (gage height, 29.85 ft); minimum observed, 4,790 acre-ft Oct. 10, 1929 (gage height, 3.10 ft).

Remarks.--Reservoir is formed by concrete dam. Capacity, 42,750 acre-ft between gage heights 0.0 (sill of outlet gates) and 26.8 ft (spillway crest). About 5,300 acre-ft dead storage above outlet gates, since channel is about 3.4 ft above outlet gates. Dead storage below outlet gates not known. Records are based on capacities above outlet gates.

Month-end gage height and contents, water year October 1959 to September 1960

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents acre-feet)
Sept.30	14.25	22,280	-
Oct. 31	18.45	29,030	+6,750
Nov. 30	20.40	32,200	+3,170
Dec. 31	20.30	32,040	-160
Calendar year 1959	-	-	+410
Jan. 31	21.25	33,590	+1,550
Feb. 29	21.85	34,580	+990
Mar. 31	22.85	36,220	+1,640
Apr. 30	25.80	41,090	+4,870
May 31	27.95	44,660	+3,570
June 30	23.15	36,710	-7,950
July 31	11.85	18,460	-18,250
Aug. 31	8.90	13,820	-4,640
Sept.30	9.55	14,840	+1,020
Water year 1959-60	-	-	-7,440

† Gage height at 7 a.m.

3275. Wallowa River at Joseph, Oreg.

Location.--Lat 45°20'15", long 117°13'35", in NW¼ sec.5, T.3 S., R.45 E., on left bank 1,000 ft downstream from Wallowa Lake Dam and 0.8 mile south of Joseph.
Drainage area.--52 sq mi, approximately.
Records available.--November 1903 to August 1907, June 1908 to March 1914, May to September 1915, December 1926 to September 1960. Monthly discharge only for some periods, published in WSP 1317. Published as "near Joseph" 1911.
Gage.--Water-stage recorder. Datum of gage is 4,326.86 ft above mean sea level, datum of 1929. Nov. 12, 1903, to Sept. 25, 1915, staff gages at several sites at lake outlet or near present site at different datums.
Average discharge.--33 years (1927-60), 127 cfs (91,940 acre-ft per year), adjusted for storage and diversion.
Extremes.--Maximum discharge during year, 640 cfs June 29 (gage height, 3.60 ft); minimum, 5.6 cfs Sept. 5.
1903-15, 1926-60: Maximum discharge, 1,200 cfs June 5, 1957 (gage height, 4.75 ft); no flow at times in some years.
Remarks.--Records good. Monthly discharge adjusted for storage in Wallowa Lake (see preceding page) and diversion from Wallowa Lake by Silver Lake Canal. Silver Lake Canal diverts at Wallowa Lake Dam for irrigation of 4,900 acres northeast of Joseph. City of Joseph diverts less than 1 cfs from Wallowa Lake for municipal use.
Revisions (water years).--WSP 1397: 1906.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 29		Mar. 30 to Sept. 30			
1.1	16	1.2	17	2.5	195
1.2	25	1.4	29	3.0	355
1.5	61	1.7	57	4.0	840
1.7	94	2.0	99		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	27	63	31	*20	26	26	33	301	575	188	*33
2	33	27	66	31	20	26	26	38	383	490	141	35
3	33	28	71	29	20	26	24	34	460	455	119	35
4	33	28	79	25	20	26	23	35	490	426	112	35
5	32	28	79	25	20	26	23	35	515	404	110	31
6	32	28	79	25	20	26	23	35	575	408	98	30
7	31	28	72	20	20	26	23	35	595	404	77	30
8	29	28	71	18	20	26	23	35	605	383	74	30
9	29	28	71	18	20	26	23	35	610	351	83	31
10	29	28	71	20	20	26	23	36	615	323	88	31
11	29	29	71	20	22	*27	23	39	605	301	99	31
12	29	29	71	20	22	27	*23	49	595	294	102	31
13	29	29	71	20	22	27	23	191	575	331	105	31
14	29	29	71	20	22	27	20	379	550	375	107	31
15	29	29	71	20	22	27	20	347	540	404	107	31
16	28	29	71	20	22	27	19	312	520	400	105	31
17	28	29	71	20	22	26	19	304	*475	422	104	31
18	28	29	71	20	22	26	19	*249	450	470	104	31
19	28	30	53	20	22	26	19	200	400	510	102	31
20	27	30	31	20	22	25	19	205	400	525	102	31
21	*27	30	31	20	22	25	20	205	413	535	110	31
22	27	30	31	20	22	25	20	208	426	535	120	31
23	27	26	31	20	22	25	20	205	460	530	124	31
24	27	*23	31	20	24	25	20	202	505	510	124	31
25	27	25	31	20	24	25	18	202	515	475	115	31
26	27	25	31	20	24	26	17	131	520	455	94	31
27	27	25	31	20	24	26	18	96	550	426	88	33
28	27	24	31	20	24	26	18	129	570	*387	78	33
29	27	26	31	20	24	26	18	165	615	331	69	33
30	27	43	31	20	-------	25	18	226	615	274	67	33
31	27	-------	31	20	-------	26	-------	259	-------	241	41	-------
Total	895	847	1,715	662	630	805	628	4,654	15,448	12,950	3,157	949
Mean	28.9	28.2	55.3	21.4	21.7	26.0	20.9	150	515	418	102	31.6
Ac-ft	1,780	1,680	3,400	1,310	1,250	1,600	1,250	9,230	30,640	25,690	6,260	1,880

Adjusted for change in contents in Wallowa Lake and diversion by Silver Lake Canal

Mean	145	86.5	62.1	55.1	47.5	61.3	110	212	468	226	70.3	56.3
Cfsm	2.79	1.66	1.19	1.06	0.913	1.18	2.12	4.08	9.00	4.35	1.35	1.08
In.	3.22	1.86	1.38	1.22	0.98	1.36	2.35	4.71	10.03	5.02	1.56	1.21
Ac-ft	8,920	5,150	3,820	3,390	2,730	3,770	6,530	13,060	27,820	13,930	4,320	3,350

Observed

Calendar year 1959: Max 596 Min 18 Mean 121 Ac-ft 87,870
Water year 1959-60: Max 615 Min 17 Mean 118 Ac-ft 85,970

Adjusted

Calendar year 1959: Mean 150 Cfsm 2.88 In. 39.21 Ac-ft 108,700
Water year 1959-60: Mean 133 Cfsm 2.56 In. 34.90 Ac-ft 96,770

* Discharge measurement made on this day.
Note.--No gage-height record Feb. 11 to Mar. 10; discharge estimated on basis of records for Wallowa Lake near Joseph.

3295. Hurricane Creek near Joseph, Oreg.

Location.--Lat 45°20'15", long 117°17'30", in NE¼ sec.3, T.3 S., R.44 E., on left bank 350 ft upstream from intake of Moonshine ditch and 3½ miles southwest of Joseph.

Drainage area.--31 sq mi, approximately.

Records available.--April to September 1915, April 1924 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 4,500 ft (by barometer). Apr. 27 to Sept. 3, 1915, staff gage at site 250 ft downstream at different datum. Apr. 23, 1924, to June 13, 1933, water-stage recorder at site 150 ft downstream at different datum.

Average discharge.--36 years (1924-60), 73.1 cfs (52,920 acre-ft per year).

Extremes.--Maximum discharge during year, 465 cfs June 3 (gage height, 3.73 ft); minimum, 20 cfs Mar. 11.
1915, 1924-60: Maximum discharge, 1,110 cfs June 9, 1948 (gage height, 3.55 ft); maximum gage height, 4.69 ft June 13, 1955 (backwater from debris); minimum discharge, 2.8 cfs Mar. 2, 1955, result of ice jam upstream.

Remarks.--Records good except those for periods of doubtful gage-height record, which are fair. No regulation or diversion above station.

Revisions (water years).--WSP 1397: 1915, 1925-28.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 23				Nov. 24 to Sept. 30			
2.2	28	3.0	175	1.9	17	3.0	185
2.5	67	3.5	355	2.1	30	3.5	355
2.8	125			2.4	62	4.0	600
				2.7	113		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	67	57	29	27	24	40	61	234	200	76	*34
2	55	64	56	28	*26	24	40	62	315	180	117	34
3	56	62	55	27	26	24	41	62	365	175	84	34
4	61	56	52	26	26	24	49	63	351	175	79	48
5	61	54	50	26	26	22	63	62	331	178	76	40
6	61	54	48	25	26	21	75	69	339	178	73	35
7	58	51	48	25	31	23	83	93	315	178	72	34
8	58	49	48	25	28	22	95	88	275	160	72	33
9	66	48	46	25	27	21	97	109	264	155	70	30
10	62	47	46	25	26	*21	86	177	283	142	70	29
11	160	46	46	25	26	21	79	231	323	135	70	29
12	140	43	46	25	26	21	*72	250	299	124	70	29
13	110	37	44	26	26	21	68	185	295	128	70	29
14	99	40	42	26	26	21	65	140	295	126	69	29
15	99	40	44	26	26	21	63	135	355	122	69	28
16	92	37	42	27	26	21	60	138	364	113	65	27
17	82	38	42	28	24	22	58	*113	●*291	109	62	27
18	76	39	42	29	26	22	58	103	240	107	62	29
19	74	37	42	29	26	24	57	99	244	109	62	26
20	72	37	40	30	26	27	57	103	208	109	62	26
21	70	38	38	31	26	31	57	95	180	105	62	26
22	*202	46	36	32	26	34	56	88	178	103	61	26
23	247	*112	38	32	26	38	55	86	195	95	57	26
24	170	88	40	33	25	40	54	83	225	85	55	26
25	155	73	38	34	25	46	52	78	225	80	50	26
26	118	65	36	34	25	50	52	83	200	75	48	26
27	103	63	34	33	25	50	54	90	198	*68	46	24
28	92	62	34	32	25	48	58	91	198	70	44	25
29	81	60	*33	29	24	46	56	107	195	68	42	24
30	74	58	32	29	------	44	58	150	200	65	40	24
31	70	------	30	28	------	41	------	200	------	65	36	------
Total	2,982	1,611	1,325	879	754	915	1,858	3,494	7,980	3,782	1,991	883
Mean	96.2	53.7	42.7	28.4	26.0	29.5	61.9	113	266	122	64.2	29.4
Cfsm	3.10	1.73	1.38	0.916	0.839	0.952	2.00	3.65	8.58	3.94	2.07	0.948
In.	3.58	1.93	1.59	1.05	0.90	1.10	2.23	4.19	9.57	4.54	2.39	1.06
Ac-ft	5,910	3,200	2,630	1,740	1,500	1,810	3,690	6,930	15,830	7,500	3,950	1,750

Calendar year 1959: Max 540 Min 15 Mean 92.2 Cfsm 2.97 In. 40.36 Ac-ft 66,750
Water year 1959-60: Max 365 Min 21 Mean 77.7 Cfsm 2.51 In. 34.13 Ac-ft 56,440

Peak discharge (base, 400 cfs).--June 3 (8 p.m.) 465 cfs (3.73 ft).

* Discharge measurement made on this day.
Note.--Doubtful gage-height record Dec. 5-28, July 23-26, Aug. 24-31; discharge computed on basis of appearance of recorder chart, weather records, and records for Lostine River near Lostine.

3300. Lostine River near Lostine, Oreg.

Location.--Lat 45°26'20", long 117°25'35", in NW¼ sec.34, T.1 S., R.43 E., on left bank 3½ miles south of Lostine and 9 miles upstream from mouth.

Drainage area.--70 sq mi, approximately.

Records available.--August 1912 to March 1914, April to September 1915, July 1925 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 3,650 ft (by barometer). Aug. 27, 1912, to Sept. 25, 1915, staff gage at site 500 ft upstream at different datum. July 21, 1925, to Sept. 30, 1929, water-stage recorder at site 100 ft upstream at datum about 1.5 ft higher. Oct. 1, 1929, to Dec. 15, 1953, water-stage recorder at site 85 ft downstream at datum 1.00 ft higher.

Average discharge.--36 years (1912-13, 1925-60), 194 cfs (140,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,410 cfs June 15 (gage height, 5.38 ft); minimum, 24 cfs Feb. 17.
1912-15, 1925-60: Maximum discharge observed, 2,540 cfs May 27, 1913 (gage height, 6.60 ft, site and datum then in use); minimum recorded, 10 cfs Nov. 28-30, 1936.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good. Diversions for irrigation of about 130 acres, of which about 20 acres is below station.

Revisions (water years).--WSP 1397: 1913, 1942.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-11		Oct. 12 to Sept. 30			
1.4	129	0.6	30	3.0	490
2.0	237	1.0	74	4.0	800
3.0	490	1.5	138	6.0	1,720
4.0	800	2.0	230		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	194	127	b50	43	b32	112	144	697	640	204	48
2	129	180	121	b40	43	b34	106	152	870	577	146	45
3	134	176	116	b46	*b38	36	111	148	1,030	532	119	44
4	143	158	107	52	42	36	137	158	1,050	538	110	97
5	150	152	b100	b55	41	36	198	153	978	532	102	79
6	150	148	108	58	44	37	268	168	978	529	94	64
7	147	140	101	56	b50	41	298	248	946	514	90	60
8	142	132	b90	55	55	41	338	272	821	478	85	55
9	200	128	94	b50	51	*37	355	308	768	430	82	53
10	169	123	90	b46	49	b30	312	469	782	395	78	50
11	518	118	88	56	46	b32	*282	679	906	358	75	49
12	526	115	86	56	46	34	250	786	958	330	72	48
13	372	b90	84	b40	45	36	230	688	934	318	68	49
14	318	b100	b80	b44	45	34	216	535	894	315	66	46
15	322	106	84	51	45	34	198	466	1,240	302	67	45
16	288	b90	80	49	44	34	178	481	*1,140	275	67	44
17	250	97	78	b46	b38	36	167	*398	1,030	242	63	42
18	226	96	75	b42	b40	38	165	348	824	226	60	41
19	210	92	73	b40	b38	43	158	310	800	212	58	39
20	202	91	72	b44	b36	52	162	318	703	206	56	38
21	*186	94	70	50	40	67	158	300	565	188	54	38
22	495	102	68	49	39	87	147	268	550	168	58	38
23	772	*283	67	48	b36	108	138	246	601	150	59	37
24	589	275	a75	48	b38	123	131	230	709	137	72	38
25	544	206	a75	48	39	144	125	216	751	125	67	45
26	406	168	a70	48	37	168	121	220	661	121	64	40
27	332	162	a55	46	b34	170	121	258	634	125	60	37
28	290	150	a50	b44	b32	158	135	248	634	125	59	36
29	252	141	*b44	46	b30	141	132	295	640	116	54	34
30	222	134	b50	45	------	132	137	406	643	111	53	33
31	208	-------	b55	43	-------	121	-------	580	-------	115	*50	-------
Total	9,026	4,241	2,533	1,491	1,204	2,152	5,588	10,496	24,737	9,430	2,412	1,412
Mean	291	141	81.7	48.1	41.5	69.4	186	339	825	304	77.8	47.1
Ac-ft	17,900	8,410	5,020	2,960	2,390	4,270	11,080	20,820	49,070	18,700	4,780	2,800

Calendar year 1959: Max 1,510 Min 43 Mean 233 Ac-ft 168,400
Water year 1959-60: Max 1,240 Min 30 Mean 204 Ac-ft 148,200

Peak discharge (base 1,100 cfs).--June 3 (11 p.m.) 1,280 cfs (5.11 ft); June 15 (7:30 a.m.) 1,410 cfs (5.38 ft).

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for Bear Creek near Wallowa.
b Stage-discharge relation affected by ice.

3305. Bear Creek near Wallowa, Oreg.

Location.--Lat 45°32', long 117°33', in NE¼ sec.34, T.1 N., R.42 E., on right bank 30 ft downstream from road bridge, 3 miles southwest of Wallowa, and 4½ miles upstream from mouth.

Drainage area.--68 sq mi, approximately.

Records available.--April to September 1915, April 1924 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 3,250 ft (by barometer). Apr. 13 to Sept. 16, 1915, staff gage at site 1 mile upstream at different datum. Apr. 22, 1924, to Nov. 2, 1931, water-stage recorder at site 1½ miles upstream at different datum.

Average discharge.--36 years (1924-60), 113 cfs (81,810 acre-ft per year).

Extremes.--Maximum discharge during year, 632 cfs June 3 (gage height, 2.74 ft); minimum, 11 cfs Sept. 23, 24, 28-30.
1915, 1924-60: Maximum discharge, 1,620 cfs Apr. 22, 1936 (gage height, 3.82 ft, from floodmark), from rating curve extended above 930 cfs; minimum daily, 3 cfs Jan. 20, Feb. 1, 1937.

Remarks.--Records good except those for periods of ice effect, which are fair. No regulation. Diversions for irrigation of about 43 acres above station. Water for irrigation of about 440 acres in Lostine River basin diverted from Little Bear Creek, a tributary above station, in sec.32, T.1 S., R.43 E.

Revisions (water years).--WSP 1397: 1915, 1927, 1929-30, 1932, 1936-40, 1945, 1949.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-22		Oct. 23 to Sept. 30			
1.5	63	0.9	10	1.9	165
1.8	146	1.1	25	2.3	330
2.2	310	1.3	45	2.7	560
		1.6	90		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	98	82	28	21	20	128	138	472	182	48	14
2	80	94	76	24	23	24	118	153	525	159	33	13
3	90	98	73	28	*22	28	122	156	560	150	26	12
4	101	94	64	32	22	32	153	162	553	150	23	32
5	104	85	61	30	22	34	228	165	511	147	21	30
6	104	85	65	32	22	34	294	190	497	135	20	23
7	98	82	70	36	45	32	298	285	448	125	19	21
8	95	76	55	34	44	33	326	330	395	112	18	19
9	170	75	60	30	44	*27	340	340	360	100	17	19
10	143	72	65	26	43	28	290	430	355	90	16	17
11	261	67	55	34	41	28	*254	553	390	80	15	16
12	305	66	46	34	37	27	212	560	400	72	14	16
13	227	48	44	24	36	28	179	472	385	66	14	16
14	195	70	42	26	34	27	165	360	375	61	*14	16
15	191	61	43	30	33	28	144	316	490	58	14	15
16	173	46	40	28	31	27	125	326	*442	53	14	14
17	146	66	38	26	30	30	118	*285	385	48	14	14
18	127	55	37	23	30	36	118	258	330	43	13	13
19	112	49	37	22	29	50	112	232	321	40	12	13
20	109	48	38	24	28	68	130	244	272	37	12	13
21	*98	52	36	28	28	102	156	232	196	34	12	12
22	257	52	32	32	27	141	150	208	182	30	14	12
23	316	*124	34	32	26	172	138	193	196	29	14	11
24	254	165	36	32	28	193	125	179	228	27	20	13
25	240	150	36	30	27	216	115	165	249	26	16	15
26	182	125	30	26	27	249	106	172	212	24	16	13
27	153	112	28	24	22	254	104	200	200	*24	16	13
28	138	104	30	23	20	228	120	193	200	29	16	12
29	122	94	*32	23	18	190	122	228	204	24	15	11
30	108	88	34	22	-------	165	132	308	204	23	14	11
31	102	-------	32	21	-------	144	-------	430	-------	29	14	-------
Total	4,883	2,501	1,451	864	860	2,695	5,122	8,463	10,537	2,207	544	469
Mean	158	83.4	46.8	27.9	29.7	86.9	171	273	351	71.2	17.5	15.6
Ac-ft	9,690	4,960	2,880	1,710	1,710	5,350	10,160	16,790	20,900	4,380	1,080	930

Calendar year 1959: Max 740 Min 12 Mean 138 Ac-ft 100,000
Water year 1959-60: Max [illegible] Min 11 Mean 111 Ac-ft 80,540

Peak discharge (base, 600 cfs).--May 12 (5 a.m.) 616 cfs (2.72 ft); June 3 (9 p.m.) 632 cfs (2.74 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 8-11, 14, 20-25, Dec. 27 to Jan. 17, Jan. 19-26, Feb. 23, 24, Feb. 27 to Mar. 4, Mar. 7 (no gage-height record Jan. 8-10, 12-14, 17).

3325. Grande Ronde River at Rondowa, Oreg.

Location.--Lat 45°44', long 117°47', in NW¼ sec.23, T.3 N., R.40 E., on right bank at Rondowa, 500 ft downstream from Wallowa River, 13 miles northeast of Elgin, and at mile 81.4 (river-profile survey).

Drainage area.--2,555 sq mi.

Records available.--October 1926 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 2,281.87 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--34 years, 2,124 cfs (1,538,000 acre-ft per year).

Extremes.--Maximum discharge during year, about 9,500 cfs Mar. 25; minimum, 460 cfs Sept. 20, 21.
1926-60: Maximum discharge, 19,900 cfs May 28, 1948 (gage height, 9.76 ft); minimum, 225 cfs Dec. 19, 1935.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good. Flow slightly regulated by Wallowa Lake (see p. 219) and small reservoirs. Diversions for irrigation of about 95,000 acres above station, chiefly in vicinity of La Grande, Enterprise, and Wallowa; one transbasin diversion from Sheep Creek in Imnaha River basin for irrigation of about 6,500 acres in Wallowa Valley. Records of chemical analyses and water temperatures for the water year 1960 are given in WSP 1724.

Revisions (water years).--WSP 1093: 1928-29, 1932-33, 1936, 1938, 1939(M), 1943. WSP 1397: 1927. WSP 1447: 1927.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-21		Oct. 22 to Sept. 30			
1.9	1,050	1.1	440	3.0	2,500
2.6	1,900	1.5	725	4.0	4,360
3.4	3,180	2.0	1,180	7.0	11,300

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,380	1,760	1,720	b700	980	822	6,500	3,590	*6,310	2,420	1,090	635
2	1,260	1,680	1,630	b650	1,080	797	6,000	3,650	6,840	2,250	1,220	*612
3	1,200	1,680	1,570	b650	1,030	814	6,500	3,670	7,360	2,080	935	582
4	1,180	1,740	1,500	b700	*971	856	7,000	4,010	7,460	1,970	882	718
5	1,170	1,600	1,320	725	1,040	971	7,500	4,090	6,950	1,940	839	830
6	1,160	1,600	1,290	814	1,080	1,410	7,500	4,150	6,720	1,850	797	695
7	1,180	1,520	1,270	*822	2,400	2,580	8,000	4,800	6,440	1,780	733	688
8	1,140	1,480	1,190	822	2,400	2,810	8,000	5,660	5,660	1,680	702	665
9	1,500	1,440	1,240	b700	2,190	2,440	8,000	5,660	5,130	1,570	672	635
10	1,510	1,410	1,200	b650	2,060	2,100	7,500	6,260	4,800	1,450	642	628
11	2,260	1,370	1,250	b700	1,840	1,850	6,500	7,320	4,820	1,320	620	612
12	3,090	1,360	1,220	b750	1,640	1,730	6,000	7,890	4,980	1,220	590	605
13	2,560	1,190	1,170	702	1,500	1,700	5,500	7,390	4,780	1,130	575	612
14	2,310	1,160	1,070	b650	1,410	1,650	5,500	6,580	4,510	1,090	547	605
15	2,200	1,240	1,130	b750	1,340	1,690	5,000	6,060	5,660	1,040	561	575
16	2,070	1,040	1,130	b750	1,300	1,730	4,600	6,310	5,260	971	605	561
17	1,870	1,100	1,100	b700	1,210	2,070	4,400	5,900	5,110	917	605	526
18	1,710	1,170	1,080	b650	1,160	*2,780	4,400	5,620	4,230	890	605	519
19	1,620	1,170	1,040	b600	1,120	3,550	4,800	5,240	3,910	839	590	505
20	1,560	1,180	990	b650	1,080	4,610	5,500	5,310	3,650	797	568	486
21	1,500	1,360	953	b700	1,080	5,680	6,000	5,590	3,050	781	554	466
22	2,090	1,530	882	b750	1,030	6,500	5,500	5,570	2,810	741	582	479
23	3,770	2,810	926	b750	980	7,500	5,000	5,440	2,710	710	635	498
24	3,360	*3,530	980	b750	944	8,000	4,800	5,260	*2,830	688	765	512
25	3,230	3,160	1,010	725	980	8,500	4,400	5,070	3,040	665	805	547
26	2,800	2,610	944	733	953	9,000	4,200	5,020	2,740	650	765	540
27	*2,480	2,260	773	725	822	8,500	4,000	5,350	2,580	620	749	526
28	2,280	2,040	b750	725	710	8,000	3,800	5,200	2,500	*642	725	512
29	2,120	2,030	725	864	805	7,500	*3,650	5,240	2,470	628	702	505
30	1,930	1,820	765	1,050	-------	8,000	3,610	5,530	2,400	650	680	498
31	1,840	-------	839	1,040	-------	7,000	-------	5,970	-------	725	650	-------
Total	61,310	51,040	34,657	22,947	37,135	123,140	169,660	168,400	137,710	36,684	21,990	17,377
Mean	1,978	1,701	1,118	740	1,281	3,972	5,655	5,432	4,590	1,183	709	579
Ac-ft	121,600	101,200	68,740	45,510	73,660	244,200	336,500	334,000	273,100	72,760	43,620	34,470

Calendar year 1959: Max 7,940 Min 519 Mean 2,452 Ac-ft 1,775,000
Water year 1959-60: Max 9,000 Min 466 Mean 2,410 Ac-ft 1,749,000

Peak discharge (base, 6,200 cfs).--Mar. 25 (about 10 p.m.) about 9,500 cfs; May 18 (4:30 a.m.) 8,080 cfs (5.66 ft); June 4 (4 a.m.) 8,010 cfs (5.63 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Mar. 22 to Apr. 28; discharge estimated on basis of weather records and records for station at Troy.

3330. Grande Ronde River at Troy, Oreg.

Location.--Lat 45°57', long 117°27', in NW¼ sec.4, T.5 N., R.43 E., on downstream side of left end of bridge at Troy, 100 ft downstream from Wenaha River and at mile 45.4 (river-profile survey).

Drainage area.--3,275 sq mi.

Records available.--August 1944 to September 1960. Monthly discharge only for August 1944, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 1,587.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1949, wire-weight gage at same site at datum 12.00 ft lower.

Average discharge.--16 years, 3,322 cfs (2,405,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,100 cfs Mar. 26 (gage height, 7.63 ft); minimum, 671 cfs Sept. 30.
1944-60: Maximum discharge observed, 30,000 cfs Dec. 15, 1946 (gage height, 11.20 ft, present datum); minimum, 434 cfs Nov. 29, 1952, result of freezeup.

Remarks.--Records good. Flow slightly regulated by Wallowa Lake (see p. 219) and small reservoirs. Diversions for irrigation of about 95,000 acres above station, chiefly in vicinity of La Grande, Enterprise, and Wallowa; one transbasin diversion from Big Sheep Creek and tributaries in Imnaha River basin for irrigation of about 6,500 acres in Wallowa Valley.

Revisions (water years).--WSP 1397: 1946(M), 1948-50.

Rating tables, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-11		Oct. 12 to Sept. 30			
3.0	1,430	2.1	655	6.0	7,220
4.0	2,700	3.0	1,490	8.0	13,600
		4.0	2,840		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,760	g2,270	2,400	1,130	1,360	1,160	7,920	4,900	6,990	2,810	1,170	*832
2	1,640	g2,160	2,270	950	*1,420	1,160	7,320	4,900	7,350	2,650	1,680	815
3	1,560	g2,310	2,170	900	1,460	1,180	7,450	4,950	7,900	2,460	1,290	783
4	1,530	g2,470	2,090	950	1,380	1,200	7,870	5,100	8,050	2,350	1,180	824
5	1,520	g2,210	1,880	1,100	1,390	1,290	8,680	5,330	7,660	2,300	1,140	1,090
6	1,500	g2,200	1,820	1,170	1,540	1,590	g9,550	5,310	7,380	2,230	1,080	945
7	1,520	2,130	1,770	1,190	2,990	2,650	g9,520	5,750	7,090	2,140	1,010	883
8	1,490	2,020	1,710	1,200	3,460	4,120	g9,640	6,670	6,410	2,040	954	874
9	1,850	1,970	1,670	1,110	3,400	3,580	g9,730	6,670	5,860	1,900	918	840
10	2,110	1,920	1,710	950	3,080	3,080	g8,960	6,960	5,520	1,780	883	815
11	2,600	1,850	1,700	1,100	2,740	2,680	g8,230	8,050	5,420	*1,650	840	799
12	4,310	1,820	1,710	1,160	2,420	2,500	g7,480	8,650	5,610	1,580	799	791
13	3,680	1,700	1,680	1,010	2,200	2,380	*6,840	8,480	5,470	1,470	775	783
14	3,170	1,530	1,520	900	2,090	2,340	6,410	7,510	5,200	1,380	759	775
15	2,870	1,650	1,580	1,040	1,970	2,310	6,020	g7,140	6,000	1,350	743	751
16	2,740	1,470	1,600	1,080	1,890	*2,350	5,590	7,220	6,000	1,270	783	735
17	2,470	1,390	1,570	1,030	1,790	2,420	5,220	6,860	5,930	1,190	815	719
18	2,270	1,560	1,530	927	1,740	3,580	5,100	6,600	*4,790	1,160	815	695
19	2,110	1,520	1,490	800	1,670	4,600	5,680	*6,240	4,570	1,100	799	687
20	2,040	1,560	1,470	900	1,590	5,700	6,020	6,170	4,420	1,070	767	687
21	2,000	1,780	1,400	1,020	1,590	7,170	6,910	6,530	3,700	1,030	759	687
22	2,370	2,140	1,320	1,090	1,500	8,570	6,530	6,530	3,380	990	767	679
23	*4,530	3,620	1,300	1,080	1,440	9,430	g6,340	6,430	3,210	945	815	679
24	4,290	4,970	1,580	1,110	1,390	10,200	g5,950	6,240	3,280	909	927	687
25	4,100	*4,530	1,450	1,040	1,380	10,600	5,450	6,000	3,500	892	1,090	711
26	3,600	3,840	1,390	1,050	1,380	11,200	5,150	5,860	3,150	*883	1,030	727
27	3,190	3,270	1,260	1,040	1,230	11,000	5,000	6,290	3,030	832	999	703
28	2,890	2,910	1,160	1,010	1,090	10,300	5,000	6,190	2,890	832	972	687
29	2,680	2,680	1,100	1,110	1,040	g9,190	5,000	6,140	2,870	840	927	679
30	g2,530	2,520	1,100	1,310	-------	9,730	g4,990	6,340	2,820	849	900	671
31	g2,400	-------	*1,200	1,420	-------	8,990	-------	6,670	-------	909	866	-------
Total	79,320	69,970	49,400	32,877	53,620	158,250	205,550	198,680	155,450	45,791	29,252	23,033
Mean	2,559	2,332	1,594	1,061	1,849	5,105	6,852	6,409	5,182	1,477	944	768
Ac-ft	157,300	138,800	97,980	65,210	106,400	313,900	407,700	394,100	308,300	90,830	58,020	45,690

Calendar year 1959: Max 9,830 Min 774 Mean 3,300 Ac-ft 2,389,000
Water year 1959-60: Max 11,200 Min 671 Mean 3,009 Ac-ft 2,184,000

Peak discharge (base, 9,000 cfs).--Mar. 26 (2:30 a.m.) 12,100 cfs (7.63 ft).

* Discharge measurement made on this day.
g Computed from once-daily staff-gage readings.

3343. Snake River near Anatone, Wash.

Location.--Lat 46°05'55", long 116°58'30", in SE¼NE¼ sec.12, T.7 N., R.46 E., Willamette Base Line and Meridian, on left bank 1½ miles downstream from Grande Ronde River, 7.8 miles east of Anatone, 22 miles south of Clarkston, and at mile 28.4 from Lewiston.

Drainage area.--92,960 sq mi, approximately.

Records available.--July 1958 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 806.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum discharge during year, 89,300 cfs June 5 (gage height, 14.11 ft); minimum, 11,000 cfs Aug. 23 (gage height, 2.80 ft).
1958-60: Maximum discharge, 91,300 cfs June 7, 1959 (gage height, 14.21 ft); minimum, 6,010 cfs Sept. 2, 1958 (gage height, 1.29 ft).

Remarks.--Records excellent. Flow regulated by many powerplants and diversions upstream. Diversions for irrigation of about 2,837,000 acres (1948 determination) above station. Records of water temperatures for the water year 1960 are given in WSP 1724.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 4 to June 10)

3.0	11,800	8.0	38,600
4.0	15,800	10.0	55,200
6.0	25,200	14.0	89,400

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24,700	25,400	26,900	22,800	22,400	*22,500	45,500	30,400	61,800	34,200	16,300	21,600
2	23,800	26,200	26,800	21,000	24,000	23,800	42,200	29,900	66,200	33,100	20,800	19,400
3	23,300	25,800	26,500	20,900	24,000	24,000	41,100	32,400	75,800	30,700	22,500	17,700
4	23,400	26,200	25,000	20,300	23,200	24,200	41,100	32,500	85,700	27,000	23,000	14,400
5	23,200	26,200	24,300	22,300	23,800	24,200	44,000	33,700	88,200	24,800	22,000	12,500
6	*23,400	*23,800	23,400	23,200	24,600	24,800	45,000	37,500	85,800	27,100	20,000	15,800
7	23,600	22,600	23,000	23,500	25,400	26,500	45,800	40,900	84,400	25,400	19,600	18,400
8	24,800	21,800	*23,000	23,500	25,900	29,500	*48,700	48,600	81,100	23,200	17,300	19,200
9	25,800	22,200	22,800	23,300	25,900	28,600	49,200	51,900	77,100	22,400	19,100	19,100
10	27,700	22,800	22,900	22,800	23,000	26,700	47,900	53,700	73,900	*20,600	19,400	19,100
11	28,800	22,600	22,500	22,000	21,600	26,600	49,300	59,800	72,300	18,300	18,600	17,800
12	31,500	23,000	21,400	22,800	22,600	27,100	53,100	70,600	72,200	19,400	18,000	14,500
13	33,600	22,400	20,900	22,600	22,600	26,100	50,600	80,800	70,600	18,800	17,800	18,700
14	32,200	22,200	21,000	22,600	22,400	25,300	48,300	81,500	68,200	18,100	16,500	20,400
15	31,600	21,600	22,300	22,600	20,500	25,900	46,500	73,400	67,600	18,200	14,000	21,400
16	31,400	21,000	22,000	21,600	22,200	25,900	44,600	68,200	*69,600	17,800	15,700	21,200
17	31,100	23,000	20,800	21,800	23,600	25,200	42,300	68,300	68,300	16,600	17,400	20,600
18	30,500	22,400	20,800	21,200	23,600	26,100	40,700	62,000	65,700	16,400	17,800	18,000
19	30,000	22,800	20,900	*22,600	24,500	27,200	40,900	*58,100	58,300	16,400	17,000	15,900
20	29,600	22,400	19,600	22,700	25,000	28,000	41,600	55,000	51,600	16,300	16,400	18,300
21	29,400	22,000	18,800	22,900	24,800	29,600	43,800	55,000	50,300	16,100	14,400	20,000
22	29,300	21,000	20,600	23,500	24,800	34,900	42,300	55,100	48,300	17,500	12,100	20,100
23	33,400	21,300	20,800	24,100	23,300	38,200	38,400	53,200	43,900	17,700	*14,600	19,700
24	38,600	25,000	21,200	24,600	23,400	40,600	35,100	51,500	42,800	16,000	17,000	19,700
25	36,800	25,400	20,100	23,200	24,400	42,000	32,000	50,300	43,800	14,900	18,600	17,600
26	35,400	25,600	18,200	24,000	24,200	45,900	30,900	48,800	40,900	18,200	19,600	14,900
27	32,700	26,200	19,700	23,800	24,600	47,500	30,600	49,900	35,600	17,900	20,200	18,300
28	31,000	26,100	19,000	23,200	25,800	46,900	29,900	52,400	37,000	18,200	19,600	18,900
29	31,900	27,100	21,200	22,400	22,200	48,500	29,600	52,300	35,900	17,600	16,200	19,700
30	28,300	27,200	22,000	22,800	-------	50,100	29,900	52,200	34,700	16,100	19,600	19,200
31	23,600	-------	21,800	23,400	-------	49,300	-------	56,600	-------	15,100	21,000	-------
Total	904,400	713,300	680,200	704,000	686,500	991,700	‡1,251.1	‡1,644.5	‡1,855.6	630,100	562,100	552,100
Mean	29,170	23,780	21,940	22,710	23,670	31,990	41,700	53,050	61,850	20,330	18,130	18,400
Ac-ft	‡1,794	‡1,415	‡1,349	‡1,398	‡1,362	‡1,967	‡2,482	‡3,262	‡3,681	‡1,250	‡1,115	‡1,095

Calendar year 1959: Max 89,800 Min 15,400 Mean 30,890 Ac-ft 22,360,000
Water year 1959-60: Max 88,200 Min 12,100 Mean 30,530 Ac-ft 22,170,000

* Discharge measurement made on this day.
‡ Expressed in thousands.

3347. Asotin Creek below Kearney Gulch, near Asotin, Wash.

Location.--Lat 46°19'30", long 117°08'55", in SW¼SE¼ sec.22, T.10 N., R.45 E., on left bank 0.3 mile downstream from Kearney Gulch and 5 miles west of Asotin.

Drainage area.--170 sq mi.

Records available.--October 1959 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 1,090 ft (from topographic map).

Extremes.--Maximum discharge during year, 315 cfs Mar. 7 (gage height, 3.24 ft); minimum, 14 cfs Nov. 16 (gage height, 1.38 ft), result of freezeup.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No regulation. Several diversions for irrigation and domestic use. Prior to Nov. 20, 1959, the city of Asotin diverted about 30 cfs for municipal use. Natural low flows nearly equivalent to those of former station 2½ miles upstream.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	13	2.1	77
1.5	24	2.5	143
1.8	46	3.0	253

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	29	60	40	49	35	171	123	130	53	54	37
2	25	29	*60	30	50	35	151	125	134	51	51	36
3	25	31	60	35	50	35	*143	125	136	49	43	35
4	24	36	57	40	49	40	147	130	130	49	42	49
5	23	30	54	47	50	46	167	125	123	48	42	43
6	24	33	55	*48	49	56	186	125	116	47	40	39
7	24	35	55	47	76	90	188	134	108	46	38	38
8	22	33	53	48	83	68	191	136	98	45	38	38
9	38	33	53	46	80	61	213	130	92	45	38	38
10	35	33	52	40	*73	58	197	141	88	45	38	38
11	50	32	53	40	67	57	178	167	83	44	38	38
12	50	32	53	40	63	57	157	186	78	43	38	38
13	46	26	52	35	61	59	141	171	76	43	37	38
14	42	27	50	30	59	58	136	149	77	43	38	37
15	38	30	51	35	58	*58	127	138	84	42	39	37
16	35	18	51	40	56	59	118	141	77	40	38	37
17	32	16	50	40	53	64	111	132	73	39	38	37
18	29	16	49	30	53	70	110	125	68	39	37	37
19	29	22	49	25	52	80	108	116	67	39	36	36
20	29	35	49	30	51	95	116	123	64	38	35	36
21	29	53	49	35	52	115	141	122	64	39	36	37
22	34	55	49	40	49	141	143	115	61	38	37	37
23	35	72	49	45	48	161	145	110	59	38	38	37
24	32	80	50	45	49	167	138	*106	58	38	38	38
25	36	83	52	46	49	167	136	103	57	38	39	38
26	32	74	49	46	40	171	132	103	57	*38	38	38
27	32	70	46	45	35	169	*129	110	55	38	38	37
28	*33	67	48	45	35	167	132	106	*54	38	38	37
29	52	64	46	82	35	157	127	111	53	38	38	37
30	31	63	48	53	-------	215	123	120	54	39	*38	37
31	30	-------	48	49	-------	199	-------	127	-------	40	37	-------
Total	1,003	1,259	1,600	1,297	1,574	3,010	4,402	3,975	2,474	1,310	1,213	1,135
Mean	32.4	42.0	51.6	41.8	54.3	97.1	147	128	82.5	42.3	39.1	37.8
Ac-ft	1,990	2,500	3,170	2,570	3,120	5,970	8,730	7,880	4,910	2,600	2,410	2,250

Calendar year 1959: Max - Min - Mean - Ac-ft -
Water year 1959-60: Max 215 Min 16 Mean 66.3 Ac-ft 48,100

Peak discharge (base, 200 cfs).--Mar. 7 (5:30 p.m.) 315 cfs (3.24 ft); Mar. 30 (10 a.m.) 224 cfs (2.88 ft); Apr. 9 (2 p.m.) 220 cfs (2.86 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-20; discharge estimated on basis of weather records and records for station 2½ miles upstream. Stage-discharge relation affected by ice Nov. 16-18, Jan. 1-4, 10-22, Feb. 26 to Mar. 4.

3365. Selway River near Lowell, Idaho

Location.--Lat 46°05', long 115°31', in NE¼ sec.25, T.32 N., R.7 E., on right bank a quarter of a mile upstream from O'Hara Creek and 7 miles upstream from Lowell.

Drainage area.--1,910 sq mi, approximately. Mean altitude, 5,640 ft.

Records available.--April 1911 to September 1912 (gage heights or fragmentary discharge records only), October 1929 to September 1960. Monthly discharge only for October 1929, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 1,540 ft (from river-profile map). Apr. 11 to Sept. 2, 1911, staff gage at site 2 miles downstream at different datum. Feb. 7 to Sept. 22, 1912, and Oct. 14, 1929, to Nov. 19, 1930, staff or chain gages at nearby sites at different datum.

Average discharge.--31 years (1929-60), 3,691 cfs (2,672,000 acre-ft per year).

Extremes.--Maximum discharge during year, 27,300 cfs June 4 (gage height, 11.28 ft); minimum, 490 cfs Sept. 21 (gage height, 2.73 ft).
1929-60: Maximum discharge, 48,900 cfs May 29, 1948 (gage height, 16.04 ft); minimum, probably less than 100 cfs Jan. 8, 1937, during period of ice effect.

Remarks.--Records excellent except those for periods of ice effect, which are good. Small diversions from headwaters.

Revisions.--WSP 1043: Drainage area.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 3				Apr. 4 to Sept. 30			
3.0	711	5.0	3,360	2.7	490	6.0	5,580
3.5	1,200	6.0	5,540	3.0	725	8.0	12,500
4.0	1,830	8.0	11,900	3.5	1,220	10.0	21,100
				4.0	1,830	12.0	30,900
				5.0	3,360		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,890	3,910	3,540	1,520	1,250	1,040	5,340	5,880	18,700	5,480	1,370	700
2	1,750	3,770	3,360	1,310	1,310	1,120	4,860	6,160	20,200	5,000	1,600	682
3	1,720	3,640	3,290	1,440	1,350	1,110	4,760	6,540	23,800	4,430	1,260	657
4	1,790	3,890	3,100	1,600	1,310	1,120	5,370	7,130	25,000	4,140	1,120	734
5	1,910	3,310	2,750	1,690	1,320	1,120	7,000	7,550	22,200	3,810	1,060	844
6	2,040	3,310	2,700	1,660	1,330	1,170	9,960	8,090	20,200	3,710	1,020	752
7	2,800	3,190	2,810	1,650	1,550	1,250	12,300	9,330	20,000	3,520	980	674
8	2,440	2,990	2,700	1,600	1,720	1,390	13,000	10,600	17,500	*3,230	940	640
9	3,040	2,920	2,430	1,510	1,650	*1,330	*13,800	10,400	*15,900	3,090	910	624
10	3,050	2,860	2,430	1,330	1,660	1,260	13,400	12,500	15,600	2,890	882	608
11	4,720	2,750	2,480	1,360	1,690	1,210	11,700	17,200	16,300	2,700	844	584
12	*10,800	3,220	2,480	1,500	1,610	1,230	10,300	*21,500	16,200	2,650	806	568
13	7,890	2,670	2,380	1,370	1,570	1,250	8,970	22,900	15,300	2,400	761	560
14	6,080	2,430	2,240	1,080	1,510	1,290	8,440	17,600	14,900	2,310	734	560
15	6,610	*2,860	*2,240	1,150	1,480	1,300	7,450	14,800	17,500	2,170	725	592
16	7,330	2,370	2,250	1,430	1,460	1,290	6,750	14,100	16,100	2,050	770	592
17	5,690	2,360	2,170	1,330	1,390	1,310	6,130	12,600	16,600	1,940	779	576
18	4,980	2,660	2,080	1,080	1,310	1,430	6,050	11,200	12,600	1,830	770	546
19	4,510	2,520	2,030	b1,020	1,300	1,750	6,190	9,920	11,500	1,710	716	525
20	4,290	2,540	1,890	b1,150	1,320	2,250	6,160	9,330	11,100	1,650	666	504
21	4,270	2,800	1,700	b1,530	1,310	2,970	6,510	9,370	8,830	1,560	640	490
22	5,290	2,990	1,830	1,560	1,280	3,710	6,160	8,440	7,750	1,470	624	497
23	10,700	5,590	1,750	b1,540	1,220	4,490	5,930	8,020	7,290	1,410	761	*518
24	7,940	7,750	1,860	1,390	1,130	5,120	5,630	7,750	7,610	1,350	872	560
25	8,250	6,910	2,070	1,320	1,150	5,820	5,400	7,350	7,880	1,300	1,040	691
26	6,740	5,790	1,900	1,350	1,000	6,630	5,200	7,350	7,350	1,240	930	666
27	5,760	4,930	1,550	1,320	908	7,330	5,070	9,330	6,450	1,210	950	600
28	5,320	4,510	1,430	1,240	871	7,480	5,350	9,440	6,050	1,180	960	560
29	4,930	4,230	1,510	*1,250	899	6,770	5,350	9,960	5,800	1,120	*862	539
30	4,450	3,870	1,510	1,300	------	6,470	5,450	11,800	5,530	1,070	788	525
31	4,120	------	1,730	1,290	------	5,950	------	11,800	------	1,100	734	------
Total	152,900	109,540	70,190	42,870	38,858	88,960	223,980	335,940	417,740	74,820	27,874	18,168
Mean	4,932	3,651	2,264	1,383	1,340	2,870	7,466	10,840	13,920	2,414	899	606
Cfsm	2.58	1.91	1.19	0.724	0.702	1.50	3.91	5.68	7.29	1.26	0.471	0.317
In.	2.98	2.13	1.37	0.83	0.76	1.73	4.36	6.54	8.13	1.46	0.54	0.35
Ac-ft	303,300	217,300	139,200	85,030	77,070	176,400	444,300	666,300	828,600	148,400	55,290	36,040

Calendar year 1959: Max 27,800 Min 711 Mean 5,067 Cfsm 2.65 In. 36.02 Ac-ft 3,668,000
Water year 1959-60: Max 25,000 Min 490 Mean 4,377 Cfsm 2.29 In. 31.18 Ac-ft 3,177,000

Peak discharge (base, 18,000 cfs).--May 13 (2 a.m.) 25,800 cfs (10.98 ft); June 4 (4 a.m.) 27,300 cfs (11.28 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3369. Fish Creek near Lochsa ranger station, Idaho

Location.--Lat 46°20', long 115°21', in sec.33, T.35 N., R.9 E. (projected), on left bank 640 ft upstream from mouth, 1.3 miles southwest of Lochsa ranger station, and 18 miles northeast of Lowell.

Drainage area.--89.2 sq mi.

Records available.--September 1957 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,996.94 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 1,490 cfs May 12 (gage height, 4.85 ft); minimum, 27 cfs Sept. 19, 20, 21; minimum gage height, 1.08 ft Sept. 20.
1957-60: Maximum discharge, 1,720 cfs Apr. 20, 1958 (gage height, 5.07 ft); minimum, 17 cfs Nov. 9, 1957 (gage height, 0.98 ft).

Remarks.--Records excellent except those for periods of ice effect, which are poor. Records of water temperatures for the water year 1960 are given in WSP 1724.

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-11)

1.0	25	2.0	107	4.0	700
1.2	34	2.5	190	4.5	1,070
1.4	45	3.0	303	5.0	1,630
1.6	62	3.5	459		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	242	293	105	95	80	483	660	885	153	79	34
2	89	236	278	100	104	82	448	706	908	145	96	34
3	82	294	268	105	100	86	475	760	932	135	59	32
4	75	298	247	115	95	90	572	799	892	129	53	46
5	71	254	208	120	97	93	736	812	799	121	51	49
6	69	249	212	125	98	104	972	840	736	115	47	38
7	103	236	233	121	171	123	1,120	989	672	108	46	36
8	88	225	186	114	158	*134	1,150	1,080	612	*103	44	34
9	*179	216	200	103	145	108	*1,180	1,050	*572	98	43	34
10	134	204	195	94	147	97	1,100	1,160	530	92	41	32
11	352	212	204	105	137	92	972	1,280	508	87	40	32
12	491	256	190	110	124	94	878	*1,380	471	83	38	31
13	350	166	177	95	121	95	780	1,310	441	96	38	30
14	286	*195	166	90	114	94	736	1,190	420	98	37	30
15	278	190	*182	100	113	94	643	1,040	553	81	38	30
16	266	135	184	105	107	90	591	1,040	459	75	41	30
17	225	190	169	100	102	94	543	916	403	71	42	29
18	202	200	158	90	92	114	557	825	362	67	39	28
19	184	188	151	90	104	140	591	754	336	66	36	27
20	210	202	115	90	95	180	638	742	319	63	34	27
21	240	240	145	100	95	242	649	730	296	59	34	27
22	442	238	130	105	89	308	601	660	276	58	34	28
23	503	577	157	105	81	374	557	643	254	57	39	*30
24	413	577	157	100	78	437	530	633	238	54	44	32
25	384	539	169	100	80	521	499	612	220	53	46	40
26	330	459	137	100	78	567	483	672	204	51	41	34
27	303	406	90	97	75	596	503	799	192	50	57	31
28	316	374	102	89	72	677	553	766	180	48	51	30
29	296	344	102	*107	76	607	577	766	171	46	*41	30
30	271	316	106	106	------	607	617	799	162	44	38	29
31	254	------	110	98	------	543	------	885	------	47	36	------
Total	7,589	8,458	5,421	3,184	3,043	7,563	20,734	27,298	14,003	2,553	1,403	974
Mean	245	282	175	103	105	244	691	881	467	82.4	45.3	32.5
Cfsm	2.75	3.16	1.96	1.15	1.18	2.74	7.75	9.88	5.24	0.924	0.508	0.364
In.	3.16	3.53	2.26	1.33	1.27	3.15	8.64	11.38	5.84	1.06	0.58	0.41
Ac-ft	15,050	16,780	10,750	6,320	6,040	15,000	41,130	54,140	27,770	5,060	2,780	1,930

Calendar year 1959: Max 1,470 Min 34 Mean 319 Cfsm 3.58 In. 48.57 Ac-ft 231,100
Water year 1959-60: Max 1,380 Min 27 Mean 279 Cfsm 3.13 In. 42.61 Ac-ft 202,800

Peak discharge (base, 800 cfs).--Apr. 8 (9 p.m.) 1,260 cfs (4.67 ft); May 12 (6 p.m.) 1,490 cfs (4.85 ft); June 3 (5:30 p.m.) 1,020 cfs (4.43 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 14-17, Dec. 9, 10, 20-22, Dec. 27 to Jan. 6, Jan. 11-26, Feb. 23 to Mar. 4.

3370. Lochsa River near Lowell, Idaho

Location.--Lat 46°09', long 115°35', in SW¼SE¼ sec.33, T.33 N., R.7 E., on right bank 0.7 mile upstream from Lowell, 0.9 mile upstream from mouth, 1.2 miles downstream from Pete King Creek, and 19 miles east of Kooskia.

Drainage area.--1,180 sq mi, approximately. Mean altitude, 5,250 ft.

Records available.--October 1910 to September 1912, October 1929 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 1,452.98 ft above mean sea level, unadjusted. Prior to Nov. 21, 1930, staff gages at site 1 mile upstream at different datums.

Average discharge.--33 years, 2,803 cfs (2,029,000 acre-ft per year).

Extremes.--Maximum discharge during year, 18,600 cfs June 4 (gage height, 9.63 ft); minimum, 374 cfs Sept. 22, 23, 30 (gage height, 1.77 ft).
1910-12, 1929-60: Maximum discharge, 34,800 cfs June 10, 1933 (gage height, 13.44 ft), from rating curve extended above 25,000 cfs; minimum, probably less than 100 cfs Jan. 8, 1937, during period of ice effect.

Remarks.--Records excellent except those for period of ice effect, which are good.

Rating table, water year 1959-60, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	320	4.0	2,960
2.0	515	6.0	7,170
2.5	940	8.0	12,900
3.0	1,500	10.0	20,000

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,630	2,890	2,860	1,170	1,000	818	4,390	4,870	13,800	3,750	950	501
2	1,490	2,820	2,690	1,040	1,060	782	3,930	5,250	14,500	3,510	1,200	480
3	1,400	2,930	2,650	1,080	1,110	827	3,870	5,690	16,900	3,180	950	466
4	1,400	3,240	2,470	1,110	1,060	836	4,450	6,100	17,300	2,930	818	568
5	1,440	2,710	2,180	1,180	1,050	845	5,690	6,430	15,400	2,740	764	712
6	1,510	2,660	2,140	1,230	1,070	1,000	7,540	6,860	14,100	2,600	730	614
7	1,960	2,550	2,180	1,230	1,370	1,100	8,810	7,820	13,700	2,440	696	530
8	1,770	2,400	2,030	1,200	1,490	*1,220	9,440	8,570	11,800	*2,340	662	494
9	2,350	2,340	1,900	1,140	1,430	1,080	*10,000	8,230	*10,600	2,170	646	473
10	2,420	2,240	1,950	1,010	1,490	1,010	9,490	9,550	10,300	2,040	622	452
11	3,950	2,180	1,970	1,080	1,510	980	8,390	12,700	10,500	1,900	598	445
12	*7,840	2,600	1,960	1,120	1,390	980	7,670	*15,300	10,200	1,790	575	432
13	5,900	1,750	1,880	1,010	1,320	1,010	6,830	16,400	9,720	1,680	545	419
14	4,550	1,840	1,750	854	1,250	1,010	6,500	12,800	9,550	1,680	538	419
15	4,700	*2,160	*1,800	960	1,230	1,010	5,900	10,800	11,700	1,550	530	459
16	5,170	1,750	1,890	1,100	1,180	1,000	5,360	10,400	11,000	1,450	545	445
17	4,050	1,790	1,770	1,020	1,130	1,000	4,930	9,270	10,800	1,370	545	438
18	3,490	2,020	1,680	b800	1,020	1,100	5,020	8,360	8,150	1,280	538	426
19	3,130	1,950	1,620	b780	1,010	1,260	5,120	7,540	7,400	1,220	545	406
20	3,110	2,040	1,480	b900	1,050	1,330	5,300	7,300	6,910	1,150	480	386
21	3,260	2,350	1,390	b1,030	1,050	1,920	5,630	7,500	6,060	1,080	459	380
22	3,810	2,410	1,380	1,100	1,000	2,440	5,250	6,810	5,410	1,030	459	374
23	6,080	2,650	1,330	1,070	970	3,010	4,930	6,520	5,060	990	515	*386
24	4,680	5,500	1,440	1,070	892	3,510	4,620	6,340	5,080	940	606	412
25	4,870	5,410	1,640	1,050	902	4,110	4,330	6,130	5,210	902	654	487
26	4,450	4,640	1,500	1,070	782	4,740	4,110	6,310	4,930	874	630	466
27	3,810	3,930	1,180	1,050	782	5,190	4,030	8,570	4,430	836	704	432
28	3,720	3,620	1,200	980	755	5,720	4,270	8,360	4,170	818	712	406
29	3,550	3,400	1,230	*1,030	782	5,300	4,310	8,440	3,990	782	*630	386
30	3,240	3,110	1,220	1,100	------	5,410	4,450	9,550	3,830	746	560	380
31	3,030	------	1,320	1,040	------	4,890	------	12,200	------	746	522	------
Total	107,760	83,880	55,680	32,604	32,135	66,638	174,560	266,970	282,500	52,534	19,928	13,674
Mean	3,476	2,796	1,796	1,052	1,108	2,150	5,819	8,612	9,417	1,695	643	456
Cfsm	2.95	2.37	1.52	0.892	0.939	1.82	4.93	7.30	7.98	1.44	0.545	0.386
In.	3.40	2.64	1.75	1.03	1.01	2.10	5.50	8.41	8.90	1.66	0.63	0.43
Ac-ft	213,700	166,400	110,400	64,670	63,740	132,200	346,200	529,500	560,300	104,200	39,530	27,120

Calendar year 1959: Max 19,700 Min 530 Mean 3,937 Cfsm 3.34 In. 45.27 Ac-ft 2,850,000
Water year 1959-60: Max 17,300 Min 374 Mean 3,248 Cfsm 2.75 In. 37.46 Ac-ft 2,358,000

Peak discharge (base, 12,000 cfs).--May 13 (2 to 3 a.m.) 17,900 cfs (9.44 ft); June 4 (3:30 a.m.) 18,600 cfs (9.63 ft); June 15 (1 p.m.) 12,800 cfs (7.98 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3375. South Fork Clearwater River near Elk City, Idaho

Location.--Lat 45°49', long 115°32', in NE¼ sec.25, T.29 N., R.7 E., on right bank just upstream from bridge on road to Orogrande, 0.2 mile upstream from Crooked River and 4½ miles west of Elk City.

Drainage area.--261 sq mi. Mean altitude, 5,150 ft.

Records available.--September 1944 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 3,816.27 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to June 23, 1949, wire-weight gage at site 24 ft downstream at datum 6.14 ft lower.

Average discharge.--16 years, 262 cfs (189,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,660 cfs Apr. 9 (gage height, 5.22 ft); maximum gage height, 6.88 ft Mar. 27 (ice jam); minimum discharge, 21 cfs Aug. 12 (gage height, 1.33 ft).

1944-60: Maximum discharge observed, 3,700 cfs May 29, 1948 (gage height, 13.06 ft, site and datum then in use); minimum daily, 10 cfs Nov. 28, 29, 1952.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No regulation or diversion above station except for mining operations.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	19	3.5	590
1.6	44	4.0	830
2.0	102	5.0	1,480
2.5	215	6.0	2,320
3.0	375		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	136	230	254	120	87	56	491	690	765	168	96	42
2	116	221	260	90	86	60	464	735	755	152	134	40
3	108	218	266	94	84	62	508	780	750	140	79	40
4	102	245	224	100	80	63	630	890	725	134	65	53
5	102	168	152	120	80	64	830	868	676	128	62	66
6	104	218	165	125	80	65	1,170	868	635	122	62	49
7	202	202	185	130	90	65	1,400	1,050	590	*118	56	44
8	155	180	175	125	93	63	1,500	1,270	*568	111	50	40
9	188	182	160	120	97	*64	1,520	1,180	518	108	49	38
10	182	180	160	100	100	65	*1,440	1,270	478	102	47	38
11	275	168	175	110	94	66	1,270	*1,410	447	97	44	36
12	536	210	189	115	86	66	1,140	1,480	411	94	42	34
13	*379	150	180	104	84	66	1,020	1,520	387	88	40	36
14	272	145	160	90	78	68	1,030	1,300	364	90	38	38
15	245	160	170	100	80	70	880	1,120	486	85	40	38
16	257	*145	*175	100	77	68	780	1,140	395	82	54	38
17	205	155	170	90	74	70	715	1,030	407	78	*56	36
18	182	160	160	70	68	73	705	940	330	73	47	34
19	168	165	145	70	70	80	768	841	296	70	44	33
20	172	168	130	80	72	100	740	790	281	70	40	32
21	208	185	125	93	73	150	780	868	269	65	38	31
22	379	188	125	96	70	200	710	775	248	63	38	*31
23	858	372	130	100	66	300	685	750	233	61	59	33
24	486	522	140	92	60	400	653	750	215	58	69	40
25	423	427	150	90	62	500	630	705	205	56	101	58
26	350	322	140	92	60	650	604	685	195	55	70	49
27	305	299	110	88	56	750	599	800	188	55	62	40
28	287	322	120	84	52	800	653	745	178	59	62	36
29	281	336	110	88	54	890	630	725	170	53	53	34
30	254	296	120	94	------	622	648	735	165	49	48	33
31	236	------	130	*92	------	554	------	780	------	52	44	------
Total	8,153	6,939	5,055	3,062	2,213	6,970	25,594	29,490	12,330	2,736	1,789	1,190
Mean	263	231	163	98.8	76.3	225	853	951	411	88.3	57.7	39.7
Cfsm	1.01	0.885	0.625	0.379	0.292	0.862	3.27	3.64	1.57	0.338	0.221	0.152
In.	1.16	0.99	0.72	0.44	0.32	0.99	3.65	4.20	1.76	0.39	0.25	0.17
Ac-ft	16,170	13,760	10,030	6,070	4,390	13,820	50,760	58,490	24,460	5,430	3,550	2,360

Calendar year 1959: Max 1,660 Min 37 Mean 337 Cfsm 1.29 In. 17.52 Ac-ft 244,100
Water year 1959-60: Max 1,520 Min 31 Mean 288 Cfsm 1.10 In. 15.04 Ac-ft 209,300

Peak discharge (base, 1,300 cfs).--Apr. 9 (1:30 a.m.) 1,660 cfs (5.22 ft); May 13 (3 a.m.) 1,620 cfs (5.18 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 15-19, Dec. 6 to Mar. 28 (no gage-height record Jan. 9-30; discharge estimated on basis of weather records and records for station near Grangeville).

3380. South Fork Clearwater River near Grangeville, Idaho

Location.--Lat 45°55', long 116°01', in SE¼NW¼ sec.30, T.30 N., R.4 E., on right bank just downstream from powerhouse of Washington Water Power Co., 6 miles east of Grangeville.

Drainage area.--865 sq mi. Mean altitude, 5,160 ft.

Records available.--November 1910 to January 1911, March 1911 to July 1911, October 1911 to September 1916, April 1923 to September 1960. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 1,830 ft (from river-profile map). Nov. 14, 1910, to July 31, 1911, staff gage at datum 2.2 ft higher than present datum. Nov. 2, 1911, to Sept. 30, 1916, staff gage at datum 1.0 ft higher than present datum. Apr. 1, 1923, to Oct. 15, 1944, chain or staff gages at present datum.

Average discharge.--42 years (1911-16, 1923-60), 875 cfs (633,500 acre-ft per year).

Extremes.--Maximum discharge during year, 5,010 cfs May 11 (gage height, 8.01 ft); minimum, 74 cfs Sept. 27 (gage height, 2.44 ft); minimum daily, 129 cfs Sept. 22.
1910-16, 1923-60: Maximum discharge observed, 12,600 cfs May 29, 1948 (gage height, 12.50 ft); no flow part of Aug. 27, 1947, Aug. 15, 1956; minimum daily, 29 cfs Nov. 23, 27, 29, 1952.
Flood of May 30, 1917, reached a stage of 13.6 ft (present datum), from stage record by powerplant operator (discharge, 15,000 cfs).

Remarks.--Records good except those for periods of ice effect, which are fair. Diurnal fluctuation at low stages caused by powerplant just above station. No diversion for irrigation.

Cooperation.--Water-stage recorder inspected by employees of Washington Water Power Co. in connection with a Federal Power Commission project.

Revisions.--WSP 633: Drainage area.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 22				Jan. 23 to Sept. 30			
3.0	219	5.0	1,350	2.7	124	5.0	1,320
3.5	430	6.0	2,240	3.0	207	6.0	2,260
4.0	685	7.0	3,370	3.5	405	7.0	3,510
				4.0	655	8.0	4,990

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	550	920	941	394	377	b270	1,770	2,170	3,060	808	446	180
2	470	890	896	b310	377	b300	1,630	2,340	3,110	749	547	174
3	430	872	908	b320	364	b310	1,650	2,500	3,280	698	333	171
4	416	955	848	b360	355	342	1,900	2,790	3,280	666	284	198
5	426	729	605	b450	359	333	2,420	2,800	3,110	634	262	262
6	435	806	663	485	359	338	3,180	2,800	2,970	*588	244	220
7	794	770	746	460	405	342	3,690	3,300	2,830	567	240	192
8	646	696	663	440	424	373	3,970	4,060	*2,560	527	230	177
9	658	685	605	421	434	*377	4,130	3,790	2,410	502	220	171
10	712	702	595	367	458	364	*3,990	3,960	2,300	478	207	166
11	914	652	658	408	434	342	3,620	*4,370	2,240	453	204	160
12	*1,680	770	663	426	400	346	3,330	4,550	2,170	429	192	157
13	1,480	565	668	367	391	350	3,040	4,670	2,070	415	186	155
14	1,100	545	570	331	368	355	3,160	4,060	1,970	405	180	163
15	969	685	630	394	373	355	2,730	3,650	2,480	382	186	157
16	1,020	*525	648	398	364	346	2,430	3,760	2,130	364	217	160
17	854	545	*610	380	359	359	2,230	3,510	2,070	346	*227	155
18	758	636	575	b270	329	424	2,190	3,200	1,720	333	207	149
19	696	668	545	b260	342	502	2,380	2,970	1,570	320	189	142
20	702	646	440	b290	350	608	2,340	2,860	1,470	308	177	136
21	824	712	435	b430	359	760	2,560	3,030	1,370	300	171	132
22	1,400	758	440	b450	342	996	2,360	2,830	1,250	288	169	*129
23	3,200	1,530	450	463	338	1,300	2,250	2,720	1,190	276	210	136
24	2,110	1,880	500	415	288	1,580	2,160	2,620	1,150	269	247	149
25	1,760	1,640	575	387	316	1,840	2,040	2,500	1,120	262	382	189
26	1,480	1,330	510	429	292	2,220	1,980	2,470	1,040	254	280	192
27	1,280	1,200	358	410	280	2,610	1,930	2,880	969	251	258	166
28	1,160	1,170	408	368	b240	2,720	2,040	2,720	909	254	244	157
29	1,140	1,160	390	373	b250	2,380	2,040	2,670	858	247	217	149
30	1,000	1,090	421	*405	------	2,240	2,030	2,740	820	230	198	144
31	948	------	450	396	------	1,990	------	3,020	------	233	186	------
Total	31,992	26,732	18,412	12,057	10,327	27,972	77,170	98,310	59,476	12,836	7,540	4,988
Mean	1,032	891	594	389	356	902	2,572	3,171	1,983	414	243	166
Cfsm	1.19	1.03	0.687	0.450	0.412	1.04	2.97	3.67	2.29	0.479	0.281	0.192
In.	1.38	1.15	0.79	0.52	0.44	1.20	3.32	4.23	2.56	0.55	0.32	0.21
Ac-ft	63,460	53,020	36,520	23,910	20,480	55,480	153,100	195,000	118,000	25,460	14,960	9,890

Calendar year 1959: Max 5,820 Min 154 Mean 1,196 Cfsm 1.38 In. 18.78 Ac-ft 866,300
Water year 1959-60: Max 4,670 Min 129 Mean 1,060 Cfsm 1.23 In. 16.67 Ac-ft 769,300

Peak discharge (base, 3,200 cfs).--Oct. 23 (6 a.m.) 3,630 cfs (7.22 ft); Apr. 9 (5:30 a.m.) 4,260 cfs (7.53 ft); May 11 (11 a.m.) 5,010 cfs (8.01 ft); June 4 (2 a.m.) 3,510 cfs (7.00 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3390. Clearwater River at Kamiah, Idaho

Location.--Lat 46°14', long 116°01', in sec.1, T.33 N., R.3 E., on left bank a quarter of a mile downstream from highway bridge at Kamiah, three-quarters of a mile downstream from Lawyer Creek, and 6 miles downstream from South Fork.

Drainage area.--4,850 sq mi, approximately. Mean altitude, 5,010 ft.

Records available.--August 1910 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 1,162.52 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 2, 1934, staff or chain gages at site 300 ft downstream at same datum.

Average discharge.--50 years, 8,180 cfs (5,922,000 acre-ft per year).

Extremes.--Maximum discharge during year, 49,600 cfs May 13 (gage height, 13.37 ft); minimum, 1,140 cfs Sept. 21-23 (gage height, 3.17 ft).
1910-60: Maximum discharge, 99,000 cfs May 29, 1948 (gage height, 19.22 ft); minimum, 179 cfs about Dec. 1, 1952 (gage height, 1.98 ft).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Some diurnal regulation at low stages caused by powerplant on South Fork.

Rating table, water year 1959-60, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-31, Dec. 6 to Jan. 29, Apr. 3-9)

3.1	1,070	7.0	9,890
3.5	1,530	9.0	18,900
4.0	2,250	11.0	30,900
5.0	4,240	14.0	54,500

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,290	8,100	7,910	3,340	3,340	2,350	13,800	13,400	35,800	10,500	2,470	1,580
2	3,840	7,820	7,380	2,660	3,380	2,510	12,300	14,400	36,800	9,780	3,740	1,520
3	3,610	7,640	7,230	2,560	3,510	2,560	11,600	15,400	43,200	8,810	2,900	1,490
4	3,570	8,450	6,850	2,750	3,380	2,640	12,500	16,800	45,600	8,160	2,390	1,560
5	3,650	7,320	6,110	3,160	3,340	2,680	*15,600	17,600	41,600	7,700	2,190	1,960
6	3,820	6,960	5,680	3,460	3,380	2,870	20,900	18,400	37,300	7,490	2,080	1,840
7	5,380	6,850	5,920	3,550	4,020	3,440	25,500	20,900	36,800	a7,000	2,000	1,620
8	5,200	6,420	5,850	3,460	4,640	*4,200	27,200	25,300	32,400	a6,700	1,930	1,490
9	*5,500	6,180	*5,150	3,280	4,520	4,000	29,200	23,700	29,400	a6,300	1,870	1,440
10	6,630	6,050	5,200	2,770	5,050	3,590	28,300	26,000	*28,300	a5,900	1,800	1,390
11	7,740	5,780	5,300	2,850	4,760	3,400	25,400	34,000	29,000	a5,500	1,760	1,350
12	20,800	6,580	5,400	3,180	4,330	3,340	23,100	41,300	28,800	a5,200	1,670	1,330
13	17,600	5,680	5,250	2,900	4,110	3,510	20,300	*46,300	27,600	a4,900	1,600	1,290
14	12,800	*4,830	4,850	2,350	3,870	3,550	19,500	36,300	26,900	a4,600	1,540	1,290
15	12,000	5,850	4,810	2,420	3,780	3,460	17,600	30,600	30,800	a4,300	1,530	1,290
16	15,000	5,100	5,020	2,870	3,670	3,460	16,000	29,400	29,400	a4,000	1,560	1,360
17	11,500	4,640	4,880	2,870	3,510	3,610	14,500	26,800	30,900	a3,800	1,630	1,340
18	9,750	5,520	4,590	2,340	3,300	4,020	14,500	24,100	23,400	a3,600	1,630	1,290
19	8,710	5,420	4,400	a2,200	3,140	4,420	15,400	21,700	20,800	*3,380	1,580	1,220
20	8,290	5,420	4,110	a2,700	3,200	5,320	15,300	20,700	20,000	3,240	1,490	1,180
21	8,610	6,110	3,700	a2,800	3,200	6,550	16,800	21,900	17,200	3,080	1,430	1,150
22	9,570	6,900	3,760	2,900	3,100	8,390	15,700	20,000	15,100	2,920	1,390	1,140
23	21,000	11,100	3,590	3,060	2,940	10,100	14,900	18,800	14,000	2,810	1,480	1,160
24	17,000	17,200	3,800	3,060	2,770	11,600	13,900	18,200	14,100	2,680	1,700	1,240
25	15,700	15,700	4,490	2,920	2,750	13,000	13,200	17,400	14,600	2,530	2,040	1,430
26	14,400	13,200	4,360	3,020	2,530	15,400	12,600	17,000	14,000	2,440	2,030	*1,520
27	11,800	11,200	3,570	3,100	2,300	17,100	12,000	21,200	12,400	2,370	1,930	1,400
28	10,800	10,000	3,120	*2,940	2,150	18,200	12,400	21,500	11,700	*2,300	2,090	1,290
29	10,300	9,460	3,340	3,040	2,120	16,900	12,500	21,600	11,100	2,230	1,970	1,240
30	9,280	8,640	3,140	b3,200	------	16,600	12,600	23,900	10,600	2,110	1,770	1,190
31	8,480	------	3,590	b3,300	------	15,800	------	29,600	------	2,080	1,660	------
Total	306,620	236,120	152,350	91,010	100,090	218,570	515,100	734,200	769,600	148,410	58,830	41,590
Mean	9,891	7,871	4,915	2,936	3,451	7,051	17,170	23,680	25,650	4,787	1,898	1,386
Cfsm	2.04	1.62	1.01	0.605	0.712	1.45	3.54	4.88	5.29	0.987	0.391	0.286
In.	2.35	1.81	1.17	0.70	0.77	1.68	3.95	5.63	5.90	1.14	0.45	0.32
Ac-ft	608,200	468,300	302,200	180,500	198,500	433,500	‡1,022	‡1,456	‡1,526	294,400	116,700	82,490

Calendar year 1959: Max 51,600 Min 1,610 Mean 10,740 Cfsm 2.21 In. 30.05 Ac-ft 7,773,000
Water year 1959-60: Max 46,300 Min 1,140 Mean 9,214 Cfsm 1.90 In. 25.87 Ac-ft 6,689,000

Peak discharge (base, 28,200 cfs).--Apr. 9 (9:30 a.m.) 30,100 cfs (10.78 ft); May 13 (6 a.m.) 49,600 cfs (13.37 ft); June 4 (6:30 a.m.) 49,100 cfs (13.30 ft).

* Discharge measurement made on this day.
‡ Expressed in thousands.
a No gage-height record; discharge estimated on basis of records for other stations in Clearwater River basin.
b Stage-discharge relation affected by ice.

3405. North Fork Clearwater River at Bungalow ranger station, Idaho

Location.--Lat 46°38', long 115°30', in sec.18, T.38 N., R.8 E., on left bank at Bungalow ranger station, 300 ft downstream from mouth of Orogrande Creek, 1,000 ft downstream from highway bridge, and 17 miles northeast of Pierce.

Drainage area.--996 sq mi. Mean altitude, 4,980 ft.

Records available.--September 1944 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,240 ft (from river-profile map).

Average discharge.--16 years, 2,923 cfs (2,116,000 acre-ft per year).

Extremes.--Maximum discharge during year, 14,100 cfs May 12 (gage height, 7.60 ft); minimum, 570 cfs Sept. 30 (gage height, 2.61 ft).
1944-60: Maximum discharge, 27,400 cfs May 29, 1948 (gage height, 11.18 ft); minimum daily, 180 cfs Nov. 29, 1952.

Remarks.--Records excellent except those for periods of ice effect, which are good. No regulation or diversion above station.

Cooperation.--Water-stage recorder inspected by U. S. Forest Service ranger at Bungalow ranger station.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.6	570	5.0	4,910
3.0	960	6.0	7,940
3.5	1,620	8.0	15,500
4.0	2,500		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,800	2,390	2,830	b1,200	1,300	b800	4,270	4,860	10,700	3,040	1,230	732
2	1,650	2,330	2,700	b1,200	1,410	b850	3,820	5,270	11,400	2,830	1,620	714
3	1,580	2,760	2,600	b1,200	1,360	b900	3,900	5,850	12,700	2,660	1,140	705
4	1,530	3,150	2,420	b1,300	1,190	b950	4,860	6,200	12,700	2,500	1,070	830
5	*1,430	2,640	2,180	b1,450	1,140	b1,050	6,140	6,710	11,500	2,390	1,030	984
6	1,410	2,540	2,040	b1,600	1,130	b1,100	7,840	6,930	10,800	2,270	996	790
7	1,840	2,400	2,240	1,580	1,650	*b1,200	8,710	7,740	10,300	2,180	972	732
8	1,480	2,290	1,950	1,500	1,590	b1,400	9,060	8,440	9,260	2,080	960	714
9	2,870	2,200	*1,860	1,400	1,410	1,320	9,540	8,040	8,580	*2,000	916	696
10	2,390	2,130	1,970	b1,200	1,390	1,210	8,920	8,920	*8,170	1,900	894	678
11	3,460	2,060	2,110	b1,400	1,330	1,140	7,840	10,800	7,970	1,810	872	669
12	5,500	2,350	2,020	1,580	1,250	1,150	7,220	12,400	7,740	1,730	850	651
13	4,480	*b1,600	1,990	1,430	1,240	1,140	6,500	13,100	7,510	1,670	820	642
14	3,780	b1,900	1,780	b1,350	1,210	1,120	6,230	10,800	7,280	1,670	810	633
15	3,480	2,310	1,970	b1,350	1,210	1,080	5,590	9,510	8,510	1,560	810	624
16	3,340	1,750	2,040	b1,400	1,160	1,030	5,050	9,120	8,200	1,480	830	624
17	2,870	b1,850	1,860	b1,400	1,150	1,020	4,690	8,270	7,440	1,430	840	615
18	2,620	b2,200	1,780	b1,350	1,010	1,080	4,690	7,680	6,320	1,370	820	606
19	2,420	2,040	1,700	b1,200	1,130	1,240	4,940	7,090	5,760	1,330	780	597
20	2,440	2,090	1,500	b1,100	1,140	1,500	4,990	6,960	5,500	1,290	760	588
21	2,640	2,580	1,520	b1,150	1,130	1,920	5,110	7,060	4,940	1,240	741	588
22	3,180	2,400	1,410	b1,300	1,080	2,480	4,750	6,470	4,500	1,210	723	588
23	3,600	4,860	1,500	b1,400	1,020	3,090	4,500	6,320	4,240	1,190	830	615
24	3,130	5,640	1,700	b1,400	996	3,620	4,210	6,170	4,140	1,140	883	*651
25	3,500	5,900	1,860	b1,400	b940	4,320	4,030	6,020	4,080	1,120	883	705
26	3,060	4,860	1,650	b1,300	b800	4,860	*3,820	6,290	3,820	1,100	850	660
27	2,870	4,110	1,210	*b1,250	b970	4,830	3,820	7,540	3,580	1,080	*1,010	615
28	2,910	3,700	1,430	b1,350	b750	5,590	3,950	7,480	3,380	1,060	938	597
29	2,800	3,380	1,250	1,540	b770	5,190	4,190	7,640	3,240	1,020	810	588
30	2,580	3,110	1,390	1,540	------	5,640	4,450	8,340	3,110	996	780	579
31	2,440	------	1,500	1,560	------	4,910	------	9,970	------	1,010	750	------
Total	84,880	85,520	57,960	42,380	33,856	68,730	167,630	243,990	217,370	51,356	28,218	20,010
Mean	2,738	2,851	1,870	1,367	1,167	2,217	5,588	7,871	7,246	1,657	910	667
Cfsm	2.75	2.86	1.88	1.37	1.17	2.23	5.61	7.90	7.28	1.66	0.914	0.670
In.	3.17	3.19	2.16	1.58	1.26	2.57	6.26	9.11	8.12	1.92	1.05	0.75
Ac-ft	168,400	169,600	115,000	84,060	67,150	136,300	332,500	483,900	431,100	101,900	55,970	39,690

Calendar year 1959: Max 13,300 Min 770 Mean 3,489 Cfsm 3.50 In. 47.53 Ac-ft 2,526,000
Water year 1959-60: Max 13,100 Min 579 Mean 3,011 Cfsm 3.02 In. 41.14 Ac-ft 2,186,000

Peak discharge (base, 9,000 cfs).--Apr. 9 (2 a.m.) 13,900 cfs (7.56 ft); May 12 (9:30 p.m.) 14,100 cfs (7.60 ft); June 3 (12 p.m.) 13,900 cfs (7.57 ft); June 15 (9 p.m.) 9,540 cfs (6.43 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3410. North Fork Clearwater River near Ahsahka, Idaho

Location.--Lat 46°31', long 116°18', in SE¼ sec.26, T.37 N., R.1 E., on right bank at Bruce's Eddy, 1½ miles northeast of Ahsahka and 2 miles upstream from mouth.

Drainage area.--2,440 sq mi, approximately. Mean altitude, 4,220 ft.

Records available.--August 1926 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 969.82 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 29, 1930, staff gage at site 300 ft upstream at different datum.

Average discharge.--34 years, 5,719 cfs (4,140,000 acre-ft per year).

Extremes.--Maximum discharge during year, 26,500 cfs May 13 (gage height, 17.08 ft); minimum, 1,070 cfs Sept. 22 (gage height, 2.76 ft).
1926-60: Maximum discharge, 100,000 cfs Dec. 23, 1933 (gage height, 35.5 ft, from floodmarks), from rating curve extended above 24,000 cfs by logarithmic plotting; minimum, probably less than 250 cfs Jan. 8, 1937, during period of ice effect.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Records of chemical analyses and water temperatures for the water year 1960 are given in WSP 1724.

Revisions (water years).--WSP 1637: 1932.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.7	1,030	8.0	7,110
3.0	1,260	11.0	12,000
4.0	2,160	14.0	18,400
6.0	4,360	17.0	26,300

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,890	4,870	6,840	3,240	2,870	2,000	14,000	10,000	18,300	5,980	2,120	1,440
2	3,470	4,730	8,340	2,790	3,030	2,100	12,300	10,700	18,800	5,660	3,670	1,400
3	3,220	5,250	6,080	2,780	3,390	2,200	11,600	11,600	20,800	5,270	2,650	1,360
4	3,070	9,260	5,740	2,800	3,170	2,350	13,300	12,200	21,800	5,040	2,180	1,500
5	*2,980	6,880	5,250	2,990	3,100	*2,580	*16,000	13,300	20,200	4,780	2,030	2,050
6	2,900	6,160	4,870	3,210	3,450	2,910	19,500	13,700	18,600	4,580	1,920	1,820
7	3,170	5,740	4,830	3,320	5,310	3,540	21,400	14,900	18,100	4,360	1,850	1,490
8	3,300	5,310	*4,820	3,300	6,570	4,170	22,100	17,400	16,200	4,160	1,800	1,480
9	5,620	5,050	4,280	3,120	5,430	4,100	23,500	16,100	14,800	3,990	1,760	1,340
10	6,570	4,800	4,340	2,750	5,100	3,590	21,800	16,700	14,000	*3,810	1,700	1,320
11	6,860	4,600	4,400	2,630	4,880	3,360	18,800	20,300	*13,800	3,620	1,650	1,290
12	11,800	*5,140	4,570	2,990	4,460	3,200	17,000	22,800	13,400	3,450	1,600	1,260
13	9,910	4,170	4,370	2,840	4,220	3,240	14,900	25,400	12,900	3,330	1,540	1,250
14	8,250	3,680	4,040	2,460	4,050	3,260	14,500	*21,800	12,500	3,280	1,500	1,240
15	7,240	4,320	4,110	2,440	3,760	3,300	13,100	18,400	14,100	3,180	1,490	1,220
16	6,880	3,850	4,710	2,500	3,850	3,230	11,800	17,500	14,500	3,000	1,530	1,190
17	5,990	3,550	4,540	2,500	3,640	3,130	10,800	17,200	14,700	2,860	1,560	1,160
18	5,400	4,120	4,180	2,500	3,390	3,290	10,500	15,700	11,700	2,760	1,570	1,150
19	4,990	4,230	4,000	2,300	3,240	3,770	11,200	14,200	10,600	2,670	1,520	1,130
20	4,860	4,440	3,860	2,100	3,250	4,620	11,300	13,600	10,000	2,560	1,440	1,100
21	5,810	6,720	3,610	2,200	3,230	6,080	12,200	14,500	9,400	2,470	1,390	1,080
22	6,360	7,220	3,600	2,500	3,090	8,130	11,200	13,400	8,460	2,380	1,370	1,070
23	9,060	11,400	3,420	2,800	2,870	10,400	10,500	12,500	7,940	2,330	1,400	1,110
24	7,260	15,800	3,640	2,800	2,800	12,200	9,990	12,300	7,770	2,260	1,710	*1,200
25	6,870	15,400	4,490	2,800	2,770	13,600	9,400	12,000	7,830	2,190	1,920	1,330
26	6,540	12,600	4,340	2,600	2,410	15,300	9,080	11,700	7,380	2,160	1,850	1,360
27	5,940	10,300	3,580	2,500	2,000	15,500	8,740	13,300	6,960	2,110	1,900	1,250
28	5,840	9,050	3,320	*2,700	1,900	17,300	9,110	13,700	6,630	2,060	*2,000	1,170
29	6,120	8,240	3,310	2,940	1,950	16,100	9,260	13,600	6,380	1,960	1,780	1,120
30	5,500	7,530	3,190	3,160	------	18,500	9,400	14,400	6,160	1,890	1,600	1,100
31	5,130	------	3,470	3,080	------	16,700	------	16,000	------	1,900	1,510	------
Total	180,800	204,410	136,140	85,640	103,180	213,750	408,080	470,900	384,710	102,050	55,510	38,980
Mean	5,832	6,814	4,392	2,763	3,558	6,895	13,600	15,190	12,820	3,292	1,791	1,299
Cfsm	2.39	2.79	1.80	1.13	1.46	2.83	5.57	6.23	5.25	1.35	0.734	0.532
In.	2.76	3.12	2.08	1.31	1.57	3.26	6.22	7.18	5.86	1.56	0.85	0.59
Ac-ft	358,600	405,400	270,000	169,900	204,700	424,000	809,400	934,000	763,100	202,400	110,100	77,320

Calendar year 1959: Max 25,500 Min 1,520 Mean 7,641 Cfsm 3.13 In. 42.50 Ac-ft 5,532,000
Water year 1959-60: Max 25,400 Min 1,070 Mean 6,514 Cfsm 2.67 In. 36.36 Ac-ft 4,729,000

Peak discharge (base, 18,000 cfs).--Mar. 30 (1:30 p.m.) 19,400 cfs (14.41 ft); Apr. ((10:15 a.m.) 24,200 cfs (16.25 ft); May 13 (8:45 a.m.) 26,500 cfs (17.08 ft) June 4 (9:30 a.m.) 23,000 cfs (15.83 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Jan. 16-28, Feb. 27 to Mar. 4.

3412. East Fork Potlatch River below Mallory Creek, near Bovill, Idaho

Location.--Lat 46°51'30", long 116°17'20", in NW¼ sec.36, T.41 N., R.1 E., on right bank 2 miles downstream from Mallory Creek and 5 miles east of Bovill.

Drainage area.--18.2 sq mi.

Records available.--August 1959 to October 1960 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 3,000 ft (from topographic map).

Extremes.--1959: Maximum discharge during period August to September, 84 cfs Sept. 28 (gage height, 2.71 ft); minimum, 8.4 cfs Sept. 11, 12 (gage height, 1.60 ft).
1959-60: Maximum discharge during water year, 196 cfs Mar. 27 (gage height, 3.96 ft); minimum, 5.0 cfs Sept. 29, 30 (gage height, 1.45 ft).
1960: Maximum discharge during October, 26 cfs Oct. 12 (gage height, 1.91 ft); minimum, 5.0 cfs Oct. 1-3, 4, 5, 6 (gage height, 1.45 ft).

Remarks.--Records good except those for periods of ice effect, which are fair. No regulation or diversion above station. Records of water temperatures for the water year 1960 are given in WSP 1724.

Rating table, Aug. 27, 1959, to Oct. 31, 1960, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	4.0	2.0	33
1.5	6.4	4.0	200
1.7	14		

Discharge, in cubic feet per second, August to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											-	11
2											-	9.4
3											-	9.1
4											-	10
5											-	24
6											-	25
7											-	14
8											-	15
9											-	11
10											-	11
11											-	9.1
12											-	8.8
13											-	8.6
14											-	11
15											-	18
16											-	11
17											-	10
18											-	9.7
19											-	10
20											-	16
21											-	16
22											-	18
23											-	13
24											-	11
25											-	12
26											-	22
27											11	45
28											*9.7	40
29											9.4	23
30					------						9.1	21
31		------			------		------		------		12	------
Total											-	472.9
Mean											-	15.8
Cfsm											-	0.868
In.											-	0.97
Ac-ft											-	938

Calendar year	: Max	Min	Mean	Cfsm	In.	Ac-ft
Water year	: Max	Min	Mean	Cfsm	In.	Ac-ft

* Discharge measurement made on this day.

3412. East Fork Potlatch River below Mallory Creek, near Bovill, Idaho--Continued

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	21	41	b23	17	b15	130	64	32	15	14	6.2
2	15	20	39	b22	19	b14	115	64	30	14	13	6.0
3	*14	55	37	b21	17	b15	126	61	29	14	11	5.7
4	13	48	35	b21	17	*b16	149	65	28	14	11	9.7
5	13	39	32	b22	21	b25	174	60	26	13	9.7	8.4
6	13	35	29	23	24	53	183	57	25	13	9.7	7.1
7	15	*30	28	22	52	42	179	73	24	13	9.4	7.1
8	16	30	26	22	42	35	176	61	23	12	9.1	6.8
9	42	27	26	20	39	24	161	56	23	12	8.8	6.8
10	21	24	25	b20	38	23	153	53	22	12	8.8	6.4
11	55	23	25	21	34	21	129	50	21	*12	8.4	6.4
12	37	22	24	19	32	20	110	52	19	12	7.8	6.8
13	28	b21	23	b18	30	20	98	53	*19	13	7.4	6.8
14	23	b23	*22	b18	29	19	97	46	22	12	7.8	6.4
15	21	22	25	b18	27	20	84	42	29	12	8.1	6.2
16	18	b20	30	19	25	19	75	*53	30	12	8.4	6.2
17	18	b21	25	17	24	19	71	51	22	11	8.1	5.7
18	17	22	24	b16	24	21	76	53	20	11	*7.4	5.7
19	16	21	23	b15	24	24	81	48	19	11	6.4	5.5
20	30	30	23	b14	23	32	90	53	20	10	6.2	5.5
21	23	40	23	b14	23	49	88	57	19	10	6.2	5.5
22	43	41	22	b14	21	81	82	53	18	10	6.4	5.7
23	37	91	22	*b15	b20	119	81	52	18	9.7	7.1	6.0
24	31	94	30	b15	b20	152	73	49	17	9.4	10	6.2
25	27	98	37	b15	b18	168	71	47	17	9.1	9.1	6.4
26	24	80	27	b16	b16	177	66	46	17	9.1	8.4	6.2
27	23	66	b25	17	b14	185	65	45	16	9.1	8.4	*5.7
28	27	57	26	17	b13	185	65	41	16	8.8	7.4	5.2
29	24	52	b25	20	b14	170	63	39	15	8.8	6.8	5.2
30	23	45	b25	18	------	*180	64	37	14	8.8	6.8	5.2
31	21	------	24	18	------	156	------	35	------	8.8	6.4	------
Total	745	1,218	848	570	717	2,099	3,195	1,616	650	349.8	263.5	188.7
Mean	24.0	40.6	27.4	18.4	24.7	67.7	106	52.1	21.7	11.3	8.50	6.29
Cfsm	1.32	2.23	1.51	1.01	1.36	3.72	5.82	2.86	1.19	0.621	0.467	0.346
In.	1.52	2.49	1.73	1.16	1.47	4.29	6.53	3.30	1.33	0.71	0.54	0.39
Ac-ft	1,480	2,420	1,680	1,130	1,420	4,160	6,340	3,210	1,290	693	523	374

Calendar year 1959: Max - Min - Mean - Cfsm - In. - Ac-ft -
Water year 1959-60: Max 185 Min 5.2 Mean 34.0 Cfsm 1.87 In. 25.46 Ac-ft 24,720

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, 1960

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
Oct. 1.....	5.0	Oct. 9.....	8.1	Oct. 17.....	7.8	Oct. 25.....	7.8
2.....	5.0	10.....	7.4	18.....	7.8	26.....	9.4
3.....	5.0	11.....	7.8	19.....	7.4	27.....	9.7
4.....	5.2	12.....	16	20.....	7.4	28.....	11
5.....	5.2	13.....	9.7	21.....	7.8	29.....	10
6.....	5.5	14.....	8.1	22.....	8.4	30.....	8.8
7.....	9.4	15.....	8.4	23.....	7.8	31.....	11
8.....	13	16.....	8.1	24.....	8.8		

Total	257.8
Mean	8.32
Cubic feet per second per square mile	0.457
Runoff in inches	0.53
Runoff in acre-feet	511

Note.--Result of discharge measurement, 9.6 cfs Nov. 1.

3413. Bloom Creek near Bovill, Idaho

Location.--Lat 46°51'30", long 116°17'30", in NE¼ sec.35, T.41 N., R.1 E., on right bank 200 ft upstream from mouth and 4.8 miles east of Bovill.
Drainage area.--3.66 sq mi.
Records available.--August 1959 to September 1960.
Gage.--Water-stage recorder. Altitude of gage is 2,950 ft (from topographic map).
Extremes.--1959: Maximum discharge during period August to September, 14 cfs Sept. 27 (gage height, 2.17 ft); minimum, 1.0 cfs Aug. 29-31 (gage height, 1.72 ft).
1959-60: Maximum discharge during water year, 49 cfs Mar. 30; maximum gage height, 2.85 ft Jan. 2 (ice jam); minimum discharge, 0.8 cfs Sept. 8-22, 27-30 (gage height, 1.71 ft).
Remarks.--Records good except those for periods of ice effect, which are fair. Records of water temperatures for the water year 1960 are given in WSP 1724.

Rating table, Aug. 28, 1959, to Sept. 30, 1960, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 11, 12, 20, 21)

1.7	0.8	2.1	10
1.8	1.9	2.2	16
1.9	3.7	2.3	23
2.0	6.4	2.5	43

Discharge, in cubic feet per second, 1959

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	1.6	7	-	1.8	13	-	1.5	19	-	1.8	25	-	2.8
2	-	1.5	8	-	2.5	14	-	1.8	20	-	2.6	26	-	4.8
3	-	1.4	9	-	1.9	15	-	3.2	21	-	4.0	27	-	9.9
4	-	1.7	10	-	1.7	16	-	2.1	22	-	5.9	28	*1.2	8.0
5	-	3.5	11	-	1.5	17	-	1.8	23	-	3.0	29	1.0	4.0
6	-	4.2	12	-	1.5	18	-	1.7	24	-	2.3	30	1.0	4.0
												31	1.6	-
Total													-	90.0
Mean													-	3.00
Cubic feet per second per square mile													-	0.820
Runoff in inches													-	0.91
Runoff in acre-feet													-	179

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	3.0	5.9	b3.4	3.0	b2.7	26	7.6	4.8	2.6	3.5	1.0
2	2.8	3.0	5.6	b3.1	3.5	b2.5	22	7.6	4.5	2.3	1.9	.9
3	*2.5	7.6	5.3	b3.0	3.2	b2.5	23	7.2	4.2	2.1	1.4	.9
4	2.1	8.7	4.8	b3.0	3.2	*b2.8	26	8.7	4.0	2.1	1.4	2.3
5	1.9	5.9	4.5	b3.2	4.0	b4.0	31	8.4	4.0	1.9	1.3	1.4
6	2.1	5.1	4.2	3.0	5.1	b8.0	29	7.2	3.7	1.9	1.2	1.2
7	2.8	4.5	4.0	3.0	10	b9.0	26	9.1	3.5	1.9	1.2	.9
8	2.5	4.0	3.7	3.0	9.9	7.6	22	7.6	3.4	1.9	1.0	.8
9	8.0	3.7	3.5	2.8	9.5	3.5	24	7.2	3.4	1.9	1.0	.8
10	3.7	3.5	3.5	b2.5	8.4	3.4	17	6.8	3.2	1.8	.9	.8
11	12	3.5	3.7	2.8	7.2	3.2	15	6.4	3.0	*1.7	.9	.8
12	7.6	3.5	3.5	2.6	6.4	3.2	14	6.8	*3.0	1.6	.9	.8
13	5.1	b2.7	3.4	b2.6	5.9	3.2	12	7.6	2.8	1.5	.9	.8
14	4.0	b2.9	*3.2	b2.5	5.6	3.2	12	6.4	3.2	1.5	.9	.8
15	3.5	b2.8	3.4	2.8	5.1	3.2	11	5.9	5.3	1.6	1.0	.8
16	3.2	b2.8	4.0	2.6	4.8	3.2	9.9	*8.4	4.8	1.7	1.2	.8
17	3.0	3.0	3.4	b2.6	4.5	3.2	9.9	8.4	3.5	1.7	1.0	.8
18	2.8	2.8	3.2	b2.5	b4.2	3.4	11	8.7	3.2	1.7	*1.0	.8
19	2.6	3.0	3.2	b2.5	4.0	4.0	12	8.0	3.0	1.6	.9	.8
20	5.1	5.3	3.0	b2.5	4.0	5.9	14	9.5	3.2	1.7	.9	.8
21	3.7	8.7	3.0	b2.5	3.7	10	14	9.9	3.0	1.7	.9	.8
22	8.0	8.7	2.8	2.5	b3.5	21	13	9.1	2.6	1.7	.9	.8
23	6.8	23	2.8	*2.6	b3.4	29	12	8.7	2.6	1.6	1.2	.9
24	5.3	26	4.8	2.5	b3.3	31	11	8.4	2.6	1.6	1.8	1.0
25	4.5	23	6.8	2.5	b3.3	33	11	7.6	2.5	1.5	1.6	1.0
26	3.7	15	5.1	2.8	b2.8	36	9.9	7.6	2.5	1.5	1.3	.9
27	3.5	11	b4.2	2.6	b2.5	34	9.5	7.6	2.6	1.5	1.4	*.8
28	4.2	9.1	b4.0	2.8	b2.5	33	9.1	6.4	2.5	1.5	1.3	.8
29	3.5	8.0	b3.6	3.5	b2.5	31	8.7	6.1	2.5	1.4	1.2	.8
30	3.4	6.8	3.7	3.2	------	*41	8.0	5.6	2.5	1.5	1.2	.8
31	3.2	------	3.7	3.0	------	35	------	5.6	------	1.6	1.0	------
Total	130.3	220.6	123.5	86.5	139.0	415.7	473.0	236.1	99.6	53.8	38.2	27.6
Mean	4.20	7.35	3.98	2.79	4.79	13.4	15.8	7.62	3.32	1.74	1.23	0.92
Cfsm	1.15	2.01	1.09	0.762	1.31	3.66	4.32	2.08	0.907	0.475	0.336	0.251
In.	1.32	2.24	1.25	0.88	1.41	4.22	4.81	2.40	1.01	0.55	0.39	0.28
Ac-ft	258	438	245	172	276	825	938	468	198	107	76	55

Calendar year 1959: Max - Min - Mean - Cfsm - In. - Ac-ft -
Water year 1959-60: Max 41 Min 0.8 Mean 5.58 Cfsm 1.52 In. 20.76 Ac-ft 4,060

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

3414. East Fork Potlatch River near Bovill, Idaho

Location.--Lat 46°50'06", long 116°23'30", in SW¼ sec.6, T.40 N., R.1 E., on left bank 60 ft upstream from highway bridge and 1½ miles south of Bovill.
Drainage area.--42.5 sq mi.
Records available.--September 1959 to September 1960.
Gage.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map).
Extremes.--Maximum discharge during period, 666 cfs Mar. 30; maximum gage height, 4.91 ft Feb. 7 (ice jam); minimum discharge, 7.2 cfs Aug. 22 (gage height 1.60 ft).
Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are poor. No regulation or diversion above station. Records of water temperatures for the water year 1960 are given in WSP 1724.

Rating table, Sept. 1, 1959, to Sept. 30, 1960, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	7.4	2.5	71
1.7	10	3.0	144
1.8	14	3.5	258
2.0	24	4.0	408
2.2	40	4.5	581

Discharge, in cubic feet per second, 1959

Day	Discharge	Day	Discharge	Day	Discharge	Day	Discharge
Sept. 1....	a14	Sept. 9....	14	Sept. 17....	14	Sept. 25....	18
2....	a13	10....	12	18....	12	26....	28
3....	a11	11....	11	19....	13	27....	82
4....	a20	12....	11	20....	21	28....	90
5....	a35	13....	10	21....	25	29....	41
6....	a45	14....	12	22....	38	30....	41
7....	a25	15....	26	23....	23		
8....	18	16....	18	24....	17		

Total	758
Mean	24.5
Cubic feet per second per square mile	0.576
Runoff in inches	0.66
Runoff in acre-feet	1,500

a No gage-height record; discharge estimated on basis of records for upstream stations.
Note.--Result of discharge measurement, 10 cfs Aug. 28.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	34	72	48	32	27	324	102	56	19	16	8.8
2	24	32	66	47	34	26	278	102	53	17	22	8.5
3	*22	76	65	45	32	30	264	97	49	17	13	8.2
4	20	130	57	45	32	*35	292	113	46	16	12	13
5	18	73	53	46	50	60	333	110	43	16	10	15
6	18	64	52	48	70	170	354	95	40	15	9.8	10
7	24	*56	50	47	170	150	327	118	38	15	9.0	9.6
8	21	50	46	46	130	140	303	*107	35	14	9.0	9.0
9	80	46	45	45	116	124	333	93	34	14	9.0	8.5
10	43	42	44	45	109	110	275	87	32	14	8.8	8.5
11	97	40	43	47	88	100	220	83	31	*13	8.8	8.2
12	82	42	43	45	77	93	199	83	*29	12	8.2	8.2
13	55	44	40	43	70	79	166	90	28	12	8.2	9.0
14	44	40	*37	42	63	71	179	80	29	12	8.2	8.5
15	37	41	41	40	59	66	160	70	55	12	8.8	8.2
16	32	39	62	40	52	62	139	86	49	11	9.8	7.9
17	29	38	49	37	48	58	128	93	39	10	9.3	7.9
18	27	40	44	35	46	79	146	99	32	9.8	*9.0	7.7
19	25	37	41	31	45	92	164	87	29	9.6	8.2	7.7
20	45	55	40	28	40	130	190	95	30	9.3	7.7	7.4
21	48	80	40	26	38	187	192	126	29	9.3	7.4	7.4
22	77	112	39	27	37	266	168	103	27	9.0	7.4	7.7
23	87	324	41	*27	35	345	170	96	24	9.0	8.5	7.9
24	60	253	58	28	35	392	150	95	23	9.0	12	8.5
25	51	237	107	28	31	405	144	87	22	9.0	16	9.6
26	44	164	60	30	29	418	135	83	21	9.0	12	8.8
27	39	126	64	32	26	444	123	83	20	9.3	11	*8.5
28	45	106	60	34	24	458	120	77	19	9.0	10	7.9
29	46	92	54	37	25	386	110	70	18	8.8	9.8	7.7
30	39	80	52	34	------	*577	104	65	18	8.8	9.8	7.7
31	35	------	50	33	------	421	------	60	------	9.0	9.3	------
Total	1,343	2,593	1,615	1,186	1,643	6,001	6,190	2,835	998	366.9	318.0	261.5
Mean	43.3	86.4	52.1	38.3	56.7	194	206	91.5	33.3	11.8	10.3	8.72
Cfsm	1.02	2.03	1.23	0.901	1.33	4.56	4.85	2.15	0.784	0.278	0.242	0.205
In.	1.18	2.27	1.41	1.04	1.44	5.25	5.42	2.48	0.87	0.32	0.28	0.23
Ac-ft	2,660	5,140	3,200	2,350	3,260	11,900	12,280	5,620	1,980	728	631	519

Calendar year 1959: Max - Min - Mean - Cfsm - In. - Ac-ft -
Water year 1959-60: Max 577 Min 7.4 Mean 69.3 Cfsm 1.63 In. 22.19 Ac-ft 50,270

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 14-21, Dec. 6-11, 20-23, Dec. 27 to Feb. 8, Feb. 18, 19, Feb. 23 to Mar. 8 (no gage-height record Jan. 3-22, Feb. 28 to Mar. 4; discharge estimated on basis of 2 discharge measurements, weather records, and records for upstream stations).

3415. Potlatch River at Kendrick, Idaho

Location.--Lat 46°37', long 116°39', in NW¼ sec.25, T.38 N., R.3 W., near center of main span on upstream side of Mill Street Bridge in Kendrick, 0.9 mile downstream from Bear Creek and 3.2 miles upstream from Middle Potlatch Creek.

Drainage area.--425 sq mi. Mean altitude, 2,980 ft.

Records available.--October 1945 to September 1960 (discontinued).

Gage.--Wire-weight gage read once daily. Datum of gage is 1,178.20 ft above mean sea level, Pacific Northwest supplementary adjustment of 1947, and a supplementary adjustment of 1960. Aug. 17, 1957, to Jan. 31, 1960, wire-weight gage and crest-stage gage.

Average discharge.--15 years, 427 cfs (309,100 acre-ft per year).

Extremes.--Maximum discharge during year, 5,750 cfs Mar. 30 (gage height, 9.50 ft); minimum observed, 10 cfs Sept. 21, 22; minimum gage height observed, 4.04 ft July 24, 25, 30, 31.

1945-60: Maximum discharge, 13,000 cfs Feb. 26, 1948 (gage height, 12.6 ft, from floodmarks), result of slope-area measurement of peak flow; minimum observed, 4.3 cfs Aug. 25, 1946; minimum gage height observed, 3.28 ft Oct. 12-16, 1945.

Remarks.--Records fair except those for periods of ice effect, which are poor. No regulation or diversion.

Revisions (water years).--WSP 1093: 1946(M). WSP 1567: Drainage area.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	87	96	243	160	500	110	2,770	464	185	38	14	17
2	69	87	215	140	700	100	2,250	440	157	38	39	17
3	*51	145	218	135	1,160	110	1,880	412	139	36	44	17
4	40	554	192	140	1,140	130	1,760	434	125	41	23	24
5	39	317	134	150	846	*150	1,720	482	112	40	20	22
6	34	*232	205	170	1,900	180	1,610	402	101	44	18	33
7	36	195	173	160	3,660	236	1,520	429	87	27	16	26
8	58	145	*136	150	2,310	1,120	1,290	518	87	27	14	20
9	236	136	198	136	1,860	823	1,210	375	87	27	12	16
10	243	117	208	120	1,840	590	1,110	330	67	25	12	16
11	290	112	151	140	1,480	506	990	290	67	24	12	14
12	458	119	136	120	1,120	317	894	266	62	*21	12	14
13	229	80	139	100	942	464	760	282	55	19	11	14
14	145	85	117	90	838	407	990	274	*38	20	12	14
15	112	90	160	100	683	407	894	240	128	20	12	14
16	89	85	176	105	608	614	767	262	163	20	13	12
17	78	95	243	85	494	683	641	*355	148	19	12	13
18	67	110	215	75	326	1,100	725	330	117	16	*14	12
19	58	125	173	75	360	1,320	870	317	92	16	13	12
20	58	151	160	80	278	1,730	1,090	312	85	14	13	12
21	101	655	142	92	240	2,030	1,690	690	74	14	12	10
22	176	950	94	*102	198	2,550	1,320	530	72	14	11	10
23	360	2,740	139	105	157	2,480	1,220	385	62	14	11	11
24	236	2,100	128	110	165	2,480	1,030	446	62	12	14	12
25	185	1,390	512	115	150	2,430	950	380	55	12	25	14
26	148	902	345	130	110	2,430	1,110	326	50	12	28	14
27	122	512	232	150	90	2,220	854	326	42	12	24	14
28	114	402	226	170	90	2,510	718	304	45	12	20	14
29	128	355	212	200	95	2,350	584	258	39	12	20	14
30	139	290	195	240	------	*5,210	494	226	37	12	18	*13
31	114	------	173	320	------	3,800	------	205	------	11	17	------
Total	4,300	13,372	5,990	4,165	24,340	41,587	35,711	11,290	2,640	669	536	465
Mean	139	512	193	134	839	1,342	1,190	364	88.0	21.6	17.3	15.5
Cfsm	0.327	1.20	0.454	0.315	1.97	3.16	2.80	0.856	0.207	0.051	0.041	0.036
In.	0.38	1.35	0.52	0.36	2.13	3.64	3.12	0.99	0.23	0.06	0.05	0.04
Ac-ft	8,530	30,490	11,880	8,260	48,280	82,490	70,830	22,390	5,240	1,330	1,060	922

Calendar year 1959: Max 7,470 Min 8.4 Mean 487 Cfsm 1.15 In. 15.57 Ac-ft 352,600
Water year 1959-60: Max 5,210 Min 10 Mean 402 Cfsm 0.946 In. 12.87 Ac-ft 291,700

Peak discharge (base, 3,600 cfs).--Feb. 7 (2 p.m.) 4,610 cfs (9.00 ft); Mar. 30 (6 p.m.) 5,750 cfs (9.50 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13-19, Jan. 2-8, Jan. 10 to Feb. 2, Feb. 24 to Mar. 6.

3422. Twenty One Ranch Spring near Waha, Idaho

Location.--Lat 46°14', long 116°51', in sec.4, T.33 N., R.4 W., in spring shelter 1 mile north of Waha and 15 miles southeast of Lewiston.

Records available.--January 1958 to September 1960 (discontinued).

Gage.--Water-stage recorder and concrete broad-crested weir. Altitude of gage is 2,780 ft (from topographic map).

Extremes.--Maximum daily discharge during year, 11 cfs July 23; maximum gage height, 3.94 ft Oct. 1; minimum daily discharge, 2.6 cfs Feb. 26 to Mar 6 (gage height, 3.32 ft). 1958-60: Maximum daily discharge, 12 cfs May 12-27, 1959; maximum gage height, 4.26 ft Sept. 19, 20, 1959; minimum daily discharge, that of Feb. 26 to Mar. 6, 1960.

Remarks.--Records good. Station is bypassed by flow through a 3-inch pipe which at times actuates a hydraulic ram. Records of water temperatures for the water year 1960 are given in WSP 1724.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.4	3.2	2.9	2.8	2.9	2.6	3.0	5.8	8.4	8.7	10	9.6
2	8.2	3.2	2.9	2.8	2.8	2.6	3.0	6.1	8.4	8.7	9	9.6
3	7.8	*3.3	2.9	2.8	2.8	2.6	3.0	6.1	8.4	8.7	9.6	9.6
4	*7.6	3.3	2.9	2.8	2.8	2.6	*3.0	6.1	8.4	9.0	9.6	9.6
5	7.6	3.2	2.9	2.8	2.8	2.6	3.0	6.3	8.1	9.0	9.6	9.6
6	7.4	3.2	2.9	2.8	2.8	*2.6	3.0	6.6	8.1	9.3	9.6	9.6
7	7.3	3.2	*2.9	2.8	2.8	2.7	3.0	6.9	8.1	9.9	9.3	9.3
8	7.2	3.2	2.8	2.8	2.8	2.7	3.0	7.2	8.1	9.9	9.3	9.0
9	7.0	3.1	2.8	2.8	2.8	2.7	3.0	7.5	8.1	9.9	9.3	9.0
10	6.7	3.1	2.8	2.8	2.8	2.8	3.1	7.5	8.1	10	9.3	8.7
11	6.2	3.1	2.8	2.8	2.8	2.8	3.1	7.5	8.1	*10	9.3	8.7
12	5.8	3.1	2.8	2.8	2.9	2.8	3.2	7.5	8.1	10	9.3	8.7
13	5.3	3.0	2.8	2.8	2.9	2.8	3.2	7.8	7.8	10	9.3	8.7
14	5.1	3.0	2.8	2.8	2.9	2.8	3.3	8.1	7.8	10	9.3	8.7
15	4.8	3.0	2.8	2.8	2.9	2.8	3.5	*8.1	8.1	10	9.3	8.7
16	4.6	3.0	2.8	2.8	2.8	2.8	3.7	7.8	8.1	10	9.3	8.7
17	4.3	3.0	2.8	2.8	2.8	2.8	3.7	8.1	*8.1	10	9.3	8.4
18	4.1	3.0	2.8	2.8	2.8	2.8	3.7	8.1	8.1	10	9.3	8.7
19	4.3	3.0	2.8	2.8	2.8	2.8	3.9	8.4	8.1	10	9.3	8.7
20	4.1	3.0	2.8	2.8	2.8	2.8	4.1	8.1	8.1	10	9.0	8.7
21	4.1	3.0	2.8	*2.8	2.8	2.8	4.1	8.4	8.7	10	9.0	8.7
22	3.9	3.0	2.8	2.8	2.8	2.8	4.3	8.4	8.7	10	9.0	8.7
23	3.9	3.0	2.8	2.8	2.8	2.8	4.6	8.7	8.7	11	*9.0	8.7
24	3.7	3.0	2.8	2.8	2.7	2.8	4.8	8.7	8.7	10	9.3	8.7
25	3.7	3.0	2.8	2.8	2.7	2.8	4.8	8.7	8.7	10	9.3	8.7
26	3.7	3.0	2.8	2.8	2.6	2.8	4.8	8.7	8.7	10	9.3	8.7
27	3.3	3.0	2.8	2.8	2.6	2.8	4.8	8.7	8.7	10	9.3	8.4
28	3.3	3.0	2.8	2.8	2.6	2.9	5.1	8.7	8.7	10	9.0	8.4
29	3.2	3.0	2.8	2.8	2.6	2.9	5.3	8.7	8.7	10	9.0	8.4
30	3.2	2.9	2.8	2.9	-------	2.9	5.6	8.7	8.7	10	9.3	8.1
31	3.2	-------	2.8	2.9	-------	2.9	-------	8.4	-------	10	9.6	-------
Total	163.0	92.1	87.5	87.0	80.7	85.7	113.7	240.4	249.6	304.1	289.0	265.8
Mean	5.26	3.07	2.82	2.81	2.78	2.76	3.79	7.75	8.32	9.81	9.32	8.86
Ac-ft	323	183	174	173	160	170	226	477	495	603	573	527

Calendar year 1959 : Max 12 Min 2.8 Mean 6.61 Ac-ft 4,780
Water year 1959-60 : Max 11 Min 2.6 Mean 5.62 Ac-ft 4,080

* Discharge measurement made on this day.

3425. Clearwater River at Spalding, Idaho

Location.--Lat 46°27'05", long 116°49'25", in lot 22, sec.22, T.36 N., R.4 W., on right bank a quarter of a mile downstream from Lapwai Creek, three-eighths of a mile northwest of Spalding Post Office, and 2,300 ft downstream from bridge on U. S. Highway 95.

Drainage area.--9,570 sq mi, approximately. Mean altitude, 4,360 ft.

Records available.--August 1910 to October 1913, October to December 1924, May 1925 to September 1960. Prior to October 1926, published as "near Lewiston."

Gage.--Water-stage recorder. Altitude of gage is 770.5 ft (estimated from datum of gage 2,300 ft upstream). Aug. 23, 1910, to Oct. 31, 1913, staff gage at datum about 731.5 ft and Oct. 2, 1924, to Sept. 30, 1926, water-stage recorder at datum 730.23 ft, at sites 7 miles downstream. Oct. 1, 1926, to Sept. 21, 1928, staff gage at highway bridge 2,300 ft upstream from present gage at datum 772.49 ft above mean sea level (datum of 1929, supplementary adjustment of 1947). Staff or wire-weight gage at bridge site and datum 2,300 ft upstream used as supplementary gage since 1928.

Average discharge.--38 years (1910-13, 1925-60), 15,260 cfs (11,050,000 acre-ft per year).

Extremes.--Maximum discharge during year, 79,000 cfs May 13 (gage height, 15.60 ft); minimum, 2,180 cfs Sept. 22, 23 (gage height, 2.72 ft).
1910-13, 1924-60: Maximum discharge, 177,000 cfs May 29, 1948 (gage height, 23.76 ft); maximum gage height, 25.6 ft Jan. 5, 1928 (present site and datum), from floodmark (ice jam); minimum daily discharge, 500 cfs Jan. 9, 1937, Dec. 1, 1952.
Flood in June 1894 reached a stage of 20.8 ft, site and datum in use 1924-26 (discharge, 136,000 cfs).

Remarks.--Records excellent. Small diversions from tributaries; slight diurnal fluctuation at times caused by powerplant on South Fork. Records of chemical analyses and water temperatures for the water year 1960 are given in WSP 1724.

Rating table, water year 1959-60, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.7	2,150	8.0	21,300
3.0	2,690	12.0	48,200
4.0	4,980	16.0	83,000
6.0	11,800		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,600	14,700	17,000	7,590	b8,000	*5,420	36,300	25,400	55,600	17,000	4,340	3,140
2	8,380	*14,200	15,600	6,460	b8,600	5,810	31,400	27,200	56,800	16,300	6,860	3,060
3	7,630	14,000	15,400	5,810	b9,200	5,700	28,900	28,700	64,600	15,200	6,760	2,930
4	7,270	19,800	14,400	6,040	b9,600	5,780	*30,400	30,800	70,200	13,900	5,140	2,930
5	7,140	17,200	13,200	6,670	9,790	6,100	35,500	33,100	66,100	13,300	4,540	3,570
6	*7,200	14,800	11,800	7,360	10,700	6,700	43,800	34,200	59,200	12,600	4,240	3,960
7	8,140	14,300	11,800	7,660	16,800	9,380	51,900	36,300	57,800	12,000	4,050	3,400
8	9,940	13,400	12,200	7,630	18,400	12,200	54,400	45,500	52,500	11,400	3,910	3,000
9	10,300	12,600	10,800	7,230	16,400	12,500	57,500	42,900	46,800	10,800	3,750	2,790
10	15,100	12,200	10,500	6,430	16,100	10,800	56,300	43,800	44,000	10,100	3,620	2,730
11	13,500	11,700	10,500	5,980	15,300	9,790	50,600	53,600	*43,900	9,530	3,510	2,630
12	29,900	12,200	10,900	b6,400	13,700	9,020	45,200	64,300	43,900	*9,990	3,400	2,580
13	32,300	12,300	10,800	b6,200	12,500	9,170	39,900	74,700	41,800	8,490	3,250	2,520
14	24,100	9,350	*10,100	b5,600	11,500	9,130	37,800	*85,000	40,600	8,100	3,120	2,450
15	20,600	10,600	9,530	b5,200	11,100	9,350	35,000	53,800	43,200	7,900	3,100	2,430
16	23,100	10,600	10,400	b5,800	10,700	9,380	31,500	49,400	47,200	7,330	3,120	2,450
17	20,400	8,700	10,800	b6,000	9,870	9,530	28,400	49,400	47,800	6,950	3,200	2,460
18	17,200	10,300	9,940	b5,600	9,100	11,200	27,700	44,000	38,300	6,640	3,270	2,410
19	15,500	11,000	9,460	b5,200	8,520	12,900	29,800	39,800	33,400	6,310	3,250	2,370
20	14,400	10,700	8,990	b5,400	8,350	15,300	27,600	37,000	30,900	6,010	3,060	2,270
21	15,800	13,900	8,280	b5,800	8,350	18,600	34,600	39,800	28,600	5,780	2,870	2,240
22	16,200	17,200	8,000	b6,600	7,930	23,200	31,800	38,400	25,100	5,530	2,770	2,200
23	30,100	24,400	7,690	b6,800	7,300	27,600	29,900	34,900	23,100	5,330	2,790	2,220
24	28,200	38,300	8,000	b7,000	7,010	31,400	28,200	33,800	22,500	5,140	3,200	2,270
25	26,600	35,700	9,750	b7,200	6,760	34,300	26,400	32,200	22,900	4,930	3,860	2,540
26	23,700	30,700	10,600	b7,200	6,370	37,700	25,800	31,000	22,300	4,770	*4,170	2,850
27	20,000	25,200	8,880	b7,000	5,590	39,400	24,300	35,400	20,600	4,640	4,050	2,790
28	18,400	22,000	7,330	b7,000	5,200	43,000	24,300	38,300	19,200	4,470	4,200	2,560
29	18,700	20,300	7,330	b7,200	5,250	41,200	24,700	37,200	18,200	4,340	4,100	2,390
30	17,100	18,600	7,140	b7,600	------	44,200	24,400	39,000	17,500	4,200	3,620	2,320
31	15,600	------	7,460	b8,000	------	42,600	------	44,800	------	4,080	3,350	------
Total	532,100	500,950	324,580	203,660	293,990	568,360	‡1,054.3	‡1,283.7	‡1,204.6	‡82,060	118,470	80,460
Mean	17,160	16,700	10,470	6,570	10,140	18,330	35,140	41,410	40,150	8,454	3,822	2,682
Cfsm	1.79	1.75	1.09	0.687	1.06	1.92	3.67	4.33	4.20	0.883	0.399	0.280
In.	2.07	1.95	1.26	0.79	1.14	2.21	4.10	4.99	4.68	1.02	0.46	0.31
Ac-ft	‡1,055	993,600	643,800	404,000	583,100	‡1,127	‡2,091	‡2,546	‡2,389	519,800	235,000	159,600

Calendar year 1959: Max 76,900 Min 3,180 Mean 20,580 Cfsm 2.15 In. 29.19 Ac-ft 14,900,000
Water year 1959-60: Max 74,700 Min 2,200 Mean 17,560 Cfsm 1.83 In. 24.98 Ac-ft 12,750,000

Peak discharge (base, 50,000 cfs).--Apr. 9 (4 p.m.) 59,400 cfs (13.40 ft); May 13 (12:30 p.m.) 79,000 cfs (15.60 ft); June 4 (1 p.m.) 74,800 cfs (15.13 ft).

* Discharge measurement made on this day.
‡ Expressed in thousands.
b Stage-discharge relation affected by ice.

3435. Snake River near Clarkston, Wash.

Location.--Lat 46°25'30", long 117°10'30", in lot 1, sec.16, T.11 N., R.45 E., on right bank 2 miles upstream from Alpowa Creek, 7 miles downstream from Clarkston, and 134 miles upstream from mouth.

Drainage area.--103,200 sq mi, approximately.

Records available.--October 1915 to September 1960 in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1317. October 1909 to September 1953 (monthly discharge only) in State Water-Supply Bulletin 6. Prior to October 1935, published as "at Riparia." Gage-height records collected at Riparia 1900-16 (fragmentary), 1935-48, are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 670 ft above mean sea level (Corps of Engineers bench mark). Prior to Sept. 12, 1917, staff gage and Sept. 12, 1917, to Sept. 30, 1922, Aug. 6, 1928, to Sept. 30, 1935, chain gage, at Riparia 66 miles downstream at different datum.

Extremes.--Maximum discharge during year, 163,500 cfs June 4 (gage height, 27.80 ft); minimum, 11,900 cfs Aug. 23 (gage height, 8.55 ft); minimum daily, 15,900 cfs Aug. 22.
1909-60: Maximum discharge, 369,000 cfs May 29, 1948 (gage height, 40.36 ft, from high-water mark in well); minimum, 6,660 cfs Sept. 2, 1958 (gage height, 6.79 ft).
Maximum stage known, 24.7 ft June 5, 1894, Riparia site and datum, determined from floodmarks by U. S. Weather Bureau (discharge, 409,000 cfs).

Remarks.--Records excellent except those for period of no gage-height record, which are fair. Over 2,840,000 acres are irrigated above station from numerous large irrigation projects. Regulation from many storage reservoirs above station and fluctuations during low-water periods from powerplants on Clearwater River at Lewiston, Idaho, and Snake River at Brownlee Dam.

Revisions (water years).--WSP 463: 1916. WSP 933: 1937. WSP 1447: 1931(M), 1934(M).

Corrections.--The figure of discharge, in cubic feet per second, for the water year 1948, superseding that published erroneously in WSP 1123, is given herewith:

June 20, 1948..... 126,900

Rating table, water year 1959-60 (gage height, in feet, and discharge, in cubic feet per second)

9.0	13,400	18.0	61,400
11.0	20,800	23.0	106,600
14.0	35,600	29.0	180,200

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35,900	40,700	*44,500	30,600	29,000	28,100	83,200	56,900	116,300	52,300	20,200	25,600
2	33,800	41,200	42,800	28,200	31,000	30,400	75,000	58,800	121,800	50,800	26,000	23,800
3	32,200	40,600	42,000	26,600	32,000	30,700	70,800	62,000	137,800	47,200	30,200	21,700
4	31,900	45,700	40,400	26,100	32,000	31,100	71,500	64,600	156,100	43,000	29,000	18,600
5	31,800	44,600	38,300	28,400	34,000	31,500	78,400	68,100	157,400	39,500	28,000	16,800
6	31,800	40,200	35,700	*30,300	36,000	31,900	88,700	71,200	148,000	39,900	25,200	19,000
7	32,400	37,700	35,200	31,500	38,000	36,100	96,000	77,000	144,100	38,800	24,300	22,000
8	35,600	35,900	35,500	31,400	38,500	41,900	102,000	91,700	136,600	35,900	22,300	22,200
9	36,300	35,300	34,400	30,900	39,000	42,700	105,300	94,700	126,400	34,300	22,800	22,700
10	43,300	35,500	33,600	29,600	*40,000	39,400	104,200	96,200	119,300	32,300	23,700	22,400
11	42,700	34,900	33,800	28,100	37,500	37,200	98,900	109,100	116,500	29,000	23,100	21,400
12	58,800	35,400	32,800	29,000	36,600	37,600	96,500	130,900	116,300	28,800	22,000	18,300
13	67,300	35,800	31,900	29,600	36,100	36,800	91,500	154,000	113,100	28,100	21,800	20,200
14	58,000	32,200	31,600	28,400	34,900	35,800	86,700	149,800	108,800	27,100	20,400	23,300
15	52,900	32,100	31,700	27,600	32,700	36,200	82,600	129,600	108,900	26,500	18,400	24,400
16	54,300	32,000	33,000	27,500	33,000	*36,500	77,100	117,800	117,000	26,000	18,300	24,700
17	52,500	31,200	31,900	28,000	34,400	35,800	72,000	116,300	115,200	24,200	20,500	24,200
18	48,700	32,400	30,900	27,000	34,100	37,900	68,400	106,500	104,300	23,300	21,400	21,800
19	46,100	34,100	30,700	28,000	33,800	40,300	71,200	99,000	91,600	23,100	21,100	19,000
20	44,800	34,100	29,000	28,000	34,400	43,800	72,700	92,400	82,600	22,500	20,000	20,900
21	45,700	35,700	27,200	28,000	34,400	48,500	78,500	94,200	78,400	22,100	18,500	22,800
22	45,800	38,600	28,500	28,500	34,100	57,100	75,800	94,000	71,600	23,000	15,900	22,800
23	60,800	43,400	28,700	29,000	32,400	64,800	70,100	89,700	67,000	23,500	17,270	22,700
24	67,200	62,000	29,200	30,000	31,100	71,600	65,500	*86,400	65,200	21,600	19,100	22,600
25	61,000	61,600	30,000	29,000	32,100	75,400	60,300	83,700	65,900	20,100	22,200	21,000
26	59,900	57,000	29,000	30,000	31,800	82,400	*58,400	80,900	64,000	22,600	24,100	18,800
27	*54,400	52,000	28,200	29,000	31,200	86,400	57,100	84,400	60,000	23,300	24,670	20,400
28	49,600	48,200	26,700	28,500	30,300	89,600	56,200	90,800	*56,300	*23,000	24,300	21,900
29	51,300	47,500	27,800	28,000	28,400	89,200	55,700	89,500	55,000	22,400	22,000	22,400
30	47,800	46,100	29,400	29,000	-------	93,100	56,400	91,600	52,800	21,000	*22,670	22,500
31	40,300	-------	29,200	30,000	-------	92,900	-------	99,600	-------	20,200	24,770	-------
Total	‡1,454.9	‡1,223.7	‡1,013.6	893,800	982,800	‡1,572.7	‡2,328.7	‡2,931.4	‡3,074.3	915,400	693,900	650,900
Mean	46,930	40,790	32,700	28,830	33,890	50,730	77,620	94,560	102,500	29,530	22,390	21,700
Ac-ft	‡2,886	‡2,427	‡2,010	‡1,773	‡1,949	‡3,119	‡4,619	‡5,814	‡6,098	‡1,816	‡1,376	‡1,291

Calendar year 1959: Max 167,600 Min 19,800 Mean 52,230 Ac-ft 37,810,000
Water year 1959-60: Max 157,400 Min 15,900 Mean 48,460 Ac-ft 35,180,000

* Discharge measurement made on this day.
‡ Expressed in thousands.
Note.--No gage-height record Jan. 19 to Feb. 10; discharge estimated on basis of recorded range in stage, hydrograph of 4-times-daily telemark readings, and records for station near Anatone.

3445. Tucannon River near Starbuck, Wash.

Location.--Lat 46°30'20", long 118°03'55", in NE¼SW¼ sec.21, T.12 N., R.38 E., on right bank 180 ft downstream from county road bridge, 3 miles east of Starbuck, and 3½ miles downstream from Pataha Creek.

Drainage area.--431 sq mi.

Records available.--October 1914 to September 1917, August 1928 to September 1931, October 1958 to September 1960. Monthly discharge only for October and November 1914, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 730 ft (from topographic map). Nov. 8, 1914, to Sept. 30, 1917, staff gage at site 2¾ miles upstream at different datum. Aug. 9, 1928, to Sept. 30, 1931, staff gages at site 2½ miles upstream at various datums.

Average discharge.--8 years, 167 cfs (120,900 acre-ft per year).

Extremes.--Maximum discharge during year, 516 cfs Mar. 7 (gage height, 3.01 ft); maximum gage height, 3.08 ft Jan. 29 (backwater from ice); minimum discharge, 42 cfs Jan. 19 (gage height, 1.71 ft), result of freezeup.
1914-17, 1928-31, 1958-60: Maximum discharge, 6,000 cfs Feb. 2, 1930 (gage height, 8.08 ft, from floodmarks), from rating curve extended above 350 cfs on basis of slope-area measurement of peak flow; minimum, 15 cfs July 11, 12, 1930 (gage height, 1.12 ft).

Remarks.--Records good except those for periods of ice effect, which are fair. No regulation. Many small diversions for irrigation above station.

Revisions (water years)--WSP 1347: 1930.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 6		Mar. 7 to Sept. 30			
2.0	82	1.7	40	2.5	270
2.4	185	1.9	78	2.8	410
2.8	330	2.2	155		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	114	119	156	100	168	90	333	242	242	93	80	64
2	109	119	*148	70	179	100	292	238	242	91	98	64
3	106	126	153	80	176	110	270	238	246	89	82	66
4	104	148	145	90	170	110	*284	242	248	87	80	78
5	102	134	132	100	170	134	315	234	238	85	74	85
6	102	129	129	110	170	188	351	226	222	82	70	78
7	106	129	140	*126	185	302	360	242	218	82	68	74
8	104	126	134	124	220	218	370	246	202	78	68	72
9	129	122	132	119	238	172	385	242	186	80	64	72
10	145	122	126	90	245	162	370	246	176	80	64	70
11	165	122	129	95	*248	166	333	284	166	74	60	70
12	173	119	134	95	238	162	302	306	158	74	58	68
13	159	109	132	85	228	169	279	306	149	70	58	68
14	148	106	126	70	217	169	292	279	149	70	60	68
15	140	116	126	100	217	169	282	258	183	70	64	66
16	134	80	132	119	204	*176	238	279	169	70	64	66
17	126	90	134	114	195	180	222	274	158	68	62	66
18	124	114	134	80	195	183	226	258	140	68	62	66
19	116	116	132	50	188	198	238	246	131	68	60	64
20	116	122	132	60	185	226	250	250	131	68	58	62
21	116	140	129	70	182	266	284	262	128	66	62	62
22	129	159	129	90	176	320	292	242	120	62	64	66
23	134	176	126	100	165	370	302	238	115	62	66	66
24	126	198	129	100	162	390	284	*238	110	64	70	68
25	122	201	137	100	168	375	279	238	105	66	70	74
26	119	191	129	119	140	375	266	230	105	62	66	74
27	119	179	119	124	100	375	*258	234	98	60	66	72
28	*126	173	122	126	90	370	262	226	96	*56	68	70
29	129	168	119	238	90	342	258	222	*91	56	68	70
30	119	162	122	204	-------	400	246	226	91	60	64	70
31	119	-------	122	170	-------	380	-------	238	-------	62	*64	-------
Total	3,880	4,115	4,089	3,318	5,309	7,347	8,703	7,730	4,811	2,223	2,080	2,079
Mean	125	137	132	107	183	237	290	249	160	71.7	67.1	69.3
Ac-ft	7,700	8,160	8,110	6,580	10,530	14,570	17,260	15,330	9,540	4,410	4,130	4,120

Calendar year 1959: Max 521 Min 60 Mean 186 Ac-ft 134,500
Water year 1959-60: Max 400 Min 50 Mean 152 Ac-ft 110,400

Peak discharge (base, 700 cfs).--No peak above base.

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 16, 17, Jan. 1-6, 10-15, 18-25, Feb. 26 to Mar. 4.

3460. Palouse River near Colfax, Wash.

Location.--Lat 46°55'30", long 117°19'10", in NW¼SW¼ sec.31, T.17 N., R.44 E., on right bank 3½ miles northeast of Colfax and 4 miles upstream from mouth of South Fork.

Drainage area.--491 sq mi.

Records available.--September 1955 to September 1960.

Gage.--Water-stage recorder. Altitude of gage is 2,010 ft (from topographic map).

Average discharge.--5 years, 357 cfs (258,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,990 cfs Apr. 1 (gage height, 6.25 ft); maximum gage height, 6.56 ft Jan. 30 (backwater from ice); minimum discharge, 3.2 cfs July 22 (gage height, 1.32 ft).
1955-60: Maximum discharge, 6,310 cfs Jan. 25, 1959 (gage height, 8.18 ft); minimum, 2.7 cfs Aug. 23, 1958 (gage height, 1.30 ft).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Small diversions for irrigation and domestic use above station. Slight regulation by millponds above station.

Rating tables, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 30

1.7	22	4.0	765
2.0	53	5.0	1,520
2.5	135	6.0	2,650
3.0	280	7.0	4,130
3.5	475		

Mar. 31 to Sept. 30

1.35	4.1
1.5	10
1.7	22

Note.--Same as preceding table above 1.7 ft.

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	72	63	161	55	466	75	2,230	329	193	20	10.5	9.3
2	48	48	146	55	688	75	1,600	304	109	13	14.5	7.5
3	46	56	131	57	772	75	*1,300	304	151	21	11	7.5
4	41	87	123	*60	586	80	1,120	294	140	22	13.5	12
5	40	270	121	65	569	100	1,050	308	130	15.5	8.0	13.5
6	31	151	94	70	1,530	200	1,060	301	120	20	8.0	15.5
7	26	111	78	80	1,710	598	1,030	287	110	18.5	10	10.5
8	36	95	110	80	*2,320	525	921	374	100	18	9.8	8.8
9	41	80	53	78	*1,700	398	907	318	90	12.5	10	8.8
10	38	68	97	76	1,410	213	991	287	86	13.5	9.8	11.5
11	81	66	99	73	1,200	239	732	235	83	20	9.3	9.8
12	95	63	102	70	844	239	676	242	74	13	8.8	16.5
13	184	58	111	66	670	294	598	245	74	11	5.8	16
14	113	51	99	63	574	*276	592	232	63	9.8	6.2	9.3
15	75	45	78	60	713	382	622	213	74	12.5	8.8	7.5
16	66	40	91	57	604	448	552	198	86	12	11.5	4.7
17	55	45	99	55	475	466	485	223	111	13	11	9.8
18	45	55	108	50	398	580	485	256	101	8.0	6.2	8.4
19	40	75	95	45	350	706	530	242	84	15.5	6.6	10.5
20	45	100	81	50	301	830	610	245	70	11.5	5.8	9.3
21	50	200	74	55	340	*1,000	817	354	56	5.8	5.0	6.6
22	55	300	78	60	256	1,250	778	466	62	7.0	7.0	4.7
23	70	500	69	70	196	1,520	758	*354	65	6.2	9.8	5.4
24	90	800	86	80	184	1,730	713	343	58	9.3	12	6.6
25	200	500	129	100	201	1,730	*586	346	53	*7.5	6.6	7.0
26	100	300	171	150	100	1,600	569	390	57	9.3	4.7	12.5
27	*69	250	121	200	80	1,560	515	332	*46	7.5	4.7	11.5
28	63	200	86	250	70	1,550	444	359	43	8.4	7.0	8.4
29	56	180	70	300	75	1,470	398	242	37	8.0	*12	5.8
30	62	*170	65	804	-------	2,140	362	219	27	8.4	11.5	7.5
31	65	-------	60	586	-------	2,890	-------	216	-------	7.5	9.3	-------
Total	2,098	5,027	3,086	3,920	19,382	25,239	24,031	9,058	2,553	385.2	274.7	282.7
Mean	67.7	168	99.5	126	668	814	801	292	85.1	12.4	8.86	9.42
Ac-ft	4,160	9,970	6,120	7,780	38,440	50,060	47,660	17,970	5,060	764	545	561

Calendar year 1959: Max 5,890 Min 5.3 Mean 385 Ac-ft 278,400
Water year 1959-60: Max 2,890 Min 4.7 Mean 260 Ac-ft 189,100

Peak discharge (base, 2,000 cfs).--Feb. 8 (3:30 p.m.) 2,470 cfs (5.86 ft); Apr. 1 (12:30 a.m.) 2,990 cfs (6.25 ft).

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 17-26, Nov. 15-30, June 4-9; discharge estimated on basis of recorded range in stage, weather records, and records for nearby stations. Stage-discharge relation affected by ice Dec. 29 to Jan. 29, Feb. 26 to Mar. 6.

3480. South Fork Palouse River at Pullman, Wash.

Location.--Lat 46°43'50", long 117°11'00", in NE¼ sec.6, T.14 N., R.45 E., on right bank at State Street crossing in Pullman, 600 ft upstream from Missouri Flat Creek.

Drainage area.--132 sq mi.

Records available.--February 1934 to September 1942, December 1959 to September 1960.

Gage.--Water-stage recorder. Concrete control since December 1959. Altitude of gage is 2,350 ft (from topographic map). Prior to Mar. 19, 1934, staff gage at site 30 ft upstream.

Average discharge.--8 years (1934-42), 28.4 cfs (20,560 acre-ft per year).

Extremes.--Maximum discharge during period December 1959 to September 1960, 511 cfs Feb. 7 (gage height, 3.84 ft); from rating curve extended above 220 cfs on basis of slope-area measurement of peak flow of Jan. 24, 1959, at 6.5 ft; minimum, 0.8 cfs Aug. 16 (gage height, 0.60 ft).
1934-42, 1959-60: Maximum discharge, 968 cfs Mar. 21, 1939 (gage height, 4.01 ft); minimum, 0.1 cfs Sept. 23, 1942 (gage height, 0.50 ft).
Maximum stage known since 1910, 9.5 ft Feb. 26, 1949 (discharge, 5,000 cfs). Flood of Jan. 24, 1959, reached a stage of 6.5 ft from floodmarks (discharge, 1,860 cfs). Flood of Dec. 22, 1933, reached a stage of 6.0 ft from gage readings furnished by Washington State University (discharge, 1,800 cfs).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Minor diversions for domestic use above station. Slight regulation caused by pondage at Robinson Park Dam on headwaters and by Moscow sewage disposal plant on Paradise Creek.

Rating table, Dec. 24, 1959, to Sept. 30, 1960, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.6	0.8	1.8	41
.7	2.0	2.1	71
.9	5.2	2.5	129
1.2	11	3.0	235
1.5	20	3.5	380

Discharge, in cubic feet per second, December 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	5.0	90	10	143	26	10.5	2.9	6.3	1.5
2			-	5.0	*187	10	91	27	9.7	2.6	8.4	1.4
3			-	5.5	119	10.5	76	28	9.3	2.7	4.5	1.4
4			-	6.0	79	11	64	24	8.5	2.6	3.0	3.7
5			-	*7.2	138	16.5	59	23	7.4	2.6	2.6	3.7
6			-	9.7	136	134	53	20	7.0	2.5	2.3	2.0
7			-	11	362	260	47	23	6.5	2.4	2.0	2.0
8			-	10.5	252	140	43	25	6.0	2.3	1.8	1.6
9			-	9.3	219	83	59	19	5.6	2.2	1.8	1.6
10			-	8.5	182	76	56	16.5	5.3	2.2	1.8	1.6
11			-	8.0	112	77	42	15.5	5.0	2.1	1.8	1.5
12			-	7.6	86	63	39	16	4.7	2.0	1.6	1.5
13			-	7.3	72	82	35	17.5	4.5	1.9	1.4	1.6
14			-	7.0	91	77	48	16	6.0	1.8	1.4	1.6
15			-	6.7	165	*150	35	14	16	1.7	1.4	1.8
16			-	6.4	103	134	30	18.5	13.5	1.6	1.5	1.6
17			-	6.0	79	140	27	18.5	9.3	1.5	1.3	1.6
18			-	5.5	63	155	35	15.5	7.2	1.4	1.2	1.5
19			-	5.0	58	131	38	13.5	6.5	1.4	1.2	1.4
20			-	6.0	52	104	73	17.5	5.8	1.3	1.2	1.6
21			-	7.0	59	90	60	39	5.3	1.3	1.0	1.6
22			-	*8.0	40	83	49	20	*4.8	1.3	1.2	1.8
23			†16	8.5	30	79	70	*16.5	4.4	1.3	1.6	1.9
24			12	9.5	32	73	58	15.5	4.1	1.2	1.9	2.2
25			30	12	29	64	62	20	3.8	1.2	1.9	2.3
26			21	*18	20	60	*63	22	3.6	1.2	1.8	2.2
27			12	23	15	63	46	19.5	3.4	1.2	1.6	2.2
28			9.7	26	11	62	40	19.5	3.2	1.2	1.8	2.0
29			8.5	92	10	71	35	16	3.1	1.2	*1.5	2.0
30			6.0	151		174	29	13	3.0	1.3	1.8	2.0
31			5.5	117		131		11.5		1.5	1.5	
Total			-	615.2	2,891	2,814.0	1,605	606.5	193.0	55.8	66.1	56.4
Mean			-	19.8	99.7	90.8	53.5	19.6	6.43	1.80	2.13	1.88
Cfsm			-	0.150	0.755	0.688	0.405	0.148	0.049	0.014	0.016	0.014
In.			-	0.17	0.81	0.79	0.45	0.17	0.05	0.02	0.02	0.02
Ac-ft			-	1,220	5,730	5,580	3,180	1,200	383	111	131	112

Calendar year	: Max	Min	Mean	Cfsm	In.	Ac-ft
Water year	: Max	Min	Mean	Cfsm	In.	Ac-ft

Peak discharge (base, 500 cfs).--Feb. 7 (9 a.m.) 511 cfs (3.84 ft).

* Discharge measurement made on this day.
† Result of discharge measurement.
Note.--Stage-discharge relation affected by ice Dec. 30 to Jan. 4, Jan. 11-21, Feb. 26 to Mar. 4. No gage-height record June 6-14, June 19 to July 25; discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby stations.

3485. Missouri Flat Creek at Pullman, Wash.

Location.--Lat 46°43'50", long 117°11'00", in NE¼ sec.6, T.14 N., R.45 E., on left bank at State Street crossing in Pullman, 600 ft upstream from mouth.

Drainage area.--27.1 sq mi.

Records available.--February 1934 to September 1940, January to September 1960.

Gage.--Water-stage recorder and concrete control with 2-foot Parshall flume. Altitude of gage is 2,350 ft (from topographic map). Prior to Mar. 15, 1934, staff gage at site 20 ft upstream.

Average discharge.--6 years (1935-40), 6.00 cfs (4,340 acre-ft per year).

Extremes.--Maximum discharge during period January to September, 265 cfs Feb. 7 (gage height, 2.38 ft, from rating curve extended above 60 cfs); minimum daily, 0.1 cfs for many days in July, August, and September.
1934-40, 1960: Maximum discharge, 432 cfs Mar. 19, 1939 (gage height, 3.25 ft); practically no flow for long periods in each year.
Flood of Feb. 26, 1948, reached a stage of 6.3 ft (discharge, 1,500 cfs by a slope area measurement, 0.9 mile upstream). Flood of Jan. 24, 1959, reached a stage of 4.57 ft, from floodmarks (discharge, 870 cfs by slope-area measurement, 0.25 mile upstream from gage).

Remarks.--Records good except those below 2 cfs or those for periods of ice effect, which are fair. No regulation or diversion.

Revisions.--WSP 1317: Drainage area.

Rating table, Jan. 5 to Sept. 30, 1960, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.05	0.1	1.1	9.2
.1	.2	1.2	16.5
.3	1.4	1.3	27
.6	3.5	1.6	78
1.0	6.3	2.0	171

Discharge, in cubic feet per second, January to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0.8	21	1.5	50	2.7	0.9	0.3	2.8	0.1
2				.8	93	1.5	15	2.7	.8	1.1	.4	.1
3				.9	24	1.5	13.5	2.7	.7	2.9	.2	.1
4				1.0	14	1.6	12.5	2.7	.6	2.4	.2	1.5
5				*1.1	58	2.0	11	2.6	.6	1.0	.2	.1
6				1.8	34	20	10.5	2.4	.6	.2	.2	.1
7				1.5	152	89	8.6	2.8	.6	.2	.2	.1
8				1.4	98	43	6.8	3.1	.6	.2	.2	.1
9				1.3	72	20	6.2	2.7	.6	.2	.2	.1
10				1.2	48	17.5	6.1	2.2	.5	.1	.2	.1
11				1.3	18.5	14	5.7	1.9	.5	.7	.3	.1
12				1.4	14	12	5.1	2.0	.4	.1	.2	.1
13				1.2	12.5	20	4.6	2.0	.4	.2	.2	.1
14				1.2	15.5	18.5	5.6	2.0	1.4	.2	.1	.1
15				1.2	56	*60	5.1	2.2	1.6	.3	.2	.1
16				1.2	20	30	4.3	2.7	1.2	.3	.1	.1
17				1.2	15	30	3.7	2.5	.3	.1	.1	.1
18				1.0	13.5	25	4.7	2.9	.7	.4	.1	.1
19				.9	11	18.5	5.2	2.7	.4	.3	.1	.1
20				1.0	9.2	14	7.5	4.0	.4	.3	.1	.1
21				1.1	9.2	12.5	8.6	6.0	.6	.3	.1	.1
22				*1.4	5.9	11	6.2	3.6	.4	.3	.1	.1
23			†0.9	1.5	4.5	10.5	7.5	*2.2	.4	.3	.2	.2
24				1.8	4.0	8.0	7.5	1.9	.3	.2	.2	.4
25				2.1	3.5	6.0	6.6	1.9	.2	.4	.1	.1
26				*3.6	3.0	5.2	*6.5	1.9	.2	*.2	.1	* .1
27				3.6	2.5	5.5	5.3	1.6	.3	.2	.1	.1
28				4.0	2.0	6.4	4.1	1.5	*.3	.2	.1	.1
29				19.5	1.5	6.8	3.4	1.3	.3	.2	*.1	.1
30				38	------	48	3.0	1.2	.3	.2	.1	.1
31		------		28	------	27	------	1.0	------	.2	.1	------
Total				128.0	835.3	586.5	250.4	75.6	17.1	14.2	7.6	4.8
Mean				4.13	28.8	18.9	8.35	2.44	0.57	0.46	0.25	0.16
Cfsm				0.152	1.06	0.697	0.308	0.090	0.021	0.017	0.0092	0.0059
In.				0.18	1.15	0.80	0.34	0.10	0.02	0.02	0.01	0.007
Ac-ft				254	1,660	1,160	497	150	34	28	15	9.5

Calendar year / Water year	: Max	Min	Mean	Cfsm	In.	Ac-ft
	: Max	Min	Mean	Cfsm	In.	Ac-ft

Peak discharge (base, 250 cfs).--Feb. 7 (3:30 a.m.) 265 cfs (2.38 ft).

* Discharge measurement made on this day.
† Result of discharge measurement.
Note.--Stage-discharge relation affected by ice Jan. 1-5, 18-21, Feb. 23 to Mar. 6 (no gage-height record Jan. 1-4, 18-21, Feb. 29 to Mar. 6; discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations).

3505. Union Flat Creek near Colfax, Wash.

Location.--Lat 46°49'00", long 117°26'05", in SW¼SW¼ sec.5, T.15 N., R.43 E., on right bank upstream from county highway bridge, 5½ miles southwest of Colfax.

Drainage area.--189 sq mi.

Records available.--July 1953 to September 1960.

Gage.--Water-stage recorder. Artificial channel since Nov. 12, 1957, and concrete control since Aug. 20, 1958. Altitude of gage is 1,865 ft (from topographic map).

Average discharge.--7 years, 41.3 cfs (29,900 acre-ft per year).

Extremes.--Maximum discharge during year, 564 cfs Feb. 7 (gage height, 6.11 ft); maximum gage height, 6.37 ft Mar. 6 (backwater from ice); minimum discharge, 0.4 cfs July 25 (gage height, 3.12 ft).
1953-60: Maximum discharge, 2,080 cfs Feb. 13, 1958 (gage height, 5.52 ft, see Gage); maximum gage height, 8.04 ft Jan. 27, 1959; no flow Aug. 15 to Sept. 13, 1955.

Remarks.--Records good except those below 10 cfs or those for periods of ice effect, which are fair. No known regulation. Small diversions above station for irrigation.

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

3.1	0.2	4.0	56
3.2	2.0	4.5	116
3.3	5.4	5.0	215
3.4	9.9	5.5	350
3.6	22	6.0	520

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	7.9	*13.5	5.5	78	15	109	25	11	2.8	1.4	1.2
2	5.4	7.9	12	6.0	129	17	82	25	10.5	2.8	2.8	1.2
3	5.0	12.5	11	8.0	127	20	68	26	8.4	2.8	2.2	1.2
4	4.6	15	10	10	92	25	59	26	8.4	2.8	2.0	2.0
5	4.6	14	9.0	*12	106	30	53	28	7.9	2.6	1.7	2.2
6	4.6	13.5	8.5	13	178	80	49	24	7.4	2.6	1.4	2.2
7	5.4	11	8.0	14	401	398	45	30	7.0	2.2	1.2	2.0
8	5.4	9.4	7.6	13	*285	311	41	28	6.6	2.0	.9	2.0
9	6.2	8.9	7.3	12	*238	132	40	24	6.2	2.0	.8	2.0
10	6.2	8.9	7.0	11	180	98	62	19.5	6.2	2.0	.8	2.0
11	9.9	8.9	7.5	10	118	103	47	17	5.8	1.7	.6	2.0
12	9.4	8.9	8.0	9.0	88	87	42	17	5.4	1.7	.5	2.0
13	8.4	4.0	9.0	8.5	77	102	42	19.5	5.0	1.4	.5	1.7
14	8.4	3.5	9.0	8.0	92	*103	51	18	5.4	1.4	.5	1.7
15	7.4	3.0	9.0	7.5	118	127	48	17	9.9	1.4	.6	1.7
16	6.6	2.5	9.0	7.0	109	184	37	19	8.4	1.2	.8	1.7
17	6.2	2.5	8.8	6.5	79	132	33	21	7.9	1.2	.8	2.0
18	5.8	4.0	8.5	6.0	69	127	36	20	7.0	1.2	.8	2.0
19	5.4	12.5	8.0	5.0	62	103	42	17.5	6.2	1.2	.8	1.7
20	5.8	14	7.0	5.5	56	85	58	30	5.4	.9	.8	1.7
21	6.2	32	6.5	6.0	58	74	70	43	5.4	.8	.8	1.7
22	8.4	44	6.0	6.5	52	64	46	39	5.4	.8	.8	2.0
23	8.4	54	6.0	7.0	47	59	55	*25	5.0	.6	.8	2.6
24	7.9	47	6.5	8.0	42	53	61	21	4.6	.6	.9	2.6
25	9.4	30	7.0	10	39	49	*56	22	4.2	*.5	1.4	2.8
26	*9.9	22	8.0	15	25	45	64	21	3.9	.6	1.4	2.8
27	9.9	15	9.0	20	15	47	50	22	*3.9	.6	1.4	2.8
28	8.9	12	8.0	27	10	53	38	20	3.6	.5	1.4	2.8
29	8.9	12	7.0	72	13	62	32	17	3.2	.5	*1.4	2.8
30	8.4	13	6.5	110	------	188	28	14.5	3.2	.5	1.4	2.8
31	7.9	------	6.0	94	------	186	------	12.5	------	.6	1.4	------
Total	220.7	453.8	254.2	553.0	2,983	3,159	1,544	708.5	188.4	44.5	35.0	61.9
Mean	7.12	15.1	8.20	17.8	103	102	51.5	22.9	6.28	1.44	1.13	2.06
Cfsm	0.038	0.080	0.043	0.094	0.545	0.540	0.272	0.121	0.033	0.0076	0.0060	0.011
In.	0.04	0.09	0.05	0.11	0.59	0.62	0.30	0.14	0.04	0.009	0.007	0.01
Ac-ft	438	900	504	1,100	5,920	6,270	3,060	1,410	374	88	69	123

Calendar year 1959: Max 892 Min 1.2 Mean 52.4 Cfsm 0.277 In. 3.74 Ac-ft 37,920
Water year 1959-60: Max 401 Min 0.5 Mean 27.9 Cfsm 0.148 In. 2.01 Ac-ft 20,260

Peak discharge (base, 400 cfs).--Feb. 7 (6 p.m.) 564 cfs (6.11 ft); Mar. 8 (2 a.m.) 560 cfs (6.10 ft).

Note.--Stage-discharge relation affected by ice Nov. 13-18, Nov. 27 to Jan. 27, Feb. 26 to Mar. 6.

3510. Palouse River at Hooper, Wash

Location.--Lat 46°45'30", long 118°08'50", in SE¼ sec.27, T.15 N., R.37 E., on left bank 150 ft downstream from bridge on State Highway 11B at Hooper and 0.4 mile upstream from Cow Creek.

Drainage area.--2,540 sq mi, approximately.

Records available.--April to August 1897 (gage heights only), September 1897 to December 1899, April 1900 to April 1907, June 1908 to July 1912, March 1913 to March 1916, February 1951 to September 1960. Prior to 1904, sometimes published as "near Hooper."

Gage.--Water-stage recorder. Altitude of gage is 1040 ft (from topographic map). Apr. 1 to Aug. 31, 1897, staff gage at site 2½ miles upstream at different datum. Sept. 9, 1897, to March 1916, various staff gages at site 1½ miles upstream from present site at at different datums. Feb. 8 to Mar. 28, 1951, staff gage at present site and datum.

Average discharge.--22 years (1897-99, 1900-1906, 1908-11, 1913-15, 1951-60), 625 cfs (452,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,990 cfs Feb. 9 (gage height, 9.62 ft); minimum, 7.1 cfs Aug. 16, 17 (gage height, 3.20 ft).
1897-1916, 1951-60: Maximum discharge, 29,800 cfs Mar. 2, 1910 (gage height, 22.00 ft, from graph based on gage readings, site and datum then in use); no flow for part of June 25, 1910.

Remarks.--Records good except those for periods of ice effect, which are fair, and those below 25 cfs, which are poor. No regulation. Diversions above station for irrigation and domestic and municipal use. Records of chemical analyses for the water year 1960 are given in WSP 1744.

Revisions (water years).--WSP 1217: Drainage area. WSP 1287: 1897-1904, 1910(M), 1915-16(M). WSP 1447: 1906(M), 1910. WSP 1567: 1908-9(M).

Rating table, water year 1959-60, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

3.1	6.4	4.5	160	8.0	2,040
3.3	14	5.0	270	9.0	3,150
3.5	26	5.5	425	11.0	6,360
3.7	44	6.0	640		
4.0	80	7.0	1,240		

Discharge, in cubic feet per second, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	164	156	345	150	1,270	200	3,440	610	360	72	12.5	18.5
2	156	*160	320	120	1,270	200	2,570	563	323	72	16	*20
3	142	162	294	120	1,770	210	2,000	532	294	67	19	23
4	123	160	273	130	1,430	220	1,700	522	236	63	21	35
5	119	194	238	140	1,150	250	1,530	504	258	56	22	37
6	109	319	*243	150	1,480	404	1,460	514	245	53	33	39
7	112	297	248	190	2,040	1,120	1,440	532	231	59	27	37
8	109	240	227	185	3,530	2,250	1,370	514	215	47	25	43
9	106	211	218	180	3,530	1,470	1,240	586	202	46	20	46
10	112	194	231	175	2,690	962	1,270	527	194	44	16.5	43
11	125	181	202	*170	2,260	836	1,300	472	181	44	13	36
12	137	170	240	160	1,810	806	1,040	414	175	42	11.5	34
13	177	110	245	150	1,440	723	1,020	408	160	38	10.5	34
14	227	100	273	150	*1,250	848	956	411	155	39	9.0	34
15	224	90	285	140	1,370	866	1,010	411	164	42	8.0	34
16	187	80	252	130	1,550	1,210	968	383	166	37	7.7	40
17	162	90	238	125	1,250	1,120	878	383	168	32	7.4	40
18	151	100	243	120	1,030	1,160	794	383	187	28	9.0	34
19	144	120	258	110	914	1,260	818	425	192	25	9.0	33
20	137	150	245	115	842	*1,300	938	425	177	26	9.0	31
21	137	207	238	120	778	1,380	1,090	456	158	25	11.5	29
22	140	377	229	130	800	1,480	1,210	635	142	17	15	30
23	134	706	218	140	690	1,740	1,120	685	125	12.5	14	42
24	149	1,080	229	150	590	1,980	1,160	545	122	13.5	13.5	31
25	168	1,120	229	160	576	2,080	1,080	518	120	15.5	15	33
26	243	824	289	170	400	1,980	968	509	115	12.5	15.5	33
27	177	675	332	180	300	1,910	962	*568	108	10.5	15.5	34
28	147	496	281	200	200	1,900	836	504	106	10	19.5	36
29	164	428	243	500	200	1,900	728	522	97	9.7	21	35
30	158	367	222	2,030	-------	2,340	*675	425	*84	*11	19.5	41
31	153	-------	180	1,670	-------	3,370	-------	370	-------	11	19	-------
Total	4,693	9,564	7,788	8,360	38,410	39,475	37,571	15,256	5,460	1,080.2	485.1	1,035.5
Mean	151	319	251	270	1,324	1,273	1,252	492	182	34.8	15.6	34.5
Ac-ft	9,310	18,970	15,450	16,580	76,190	78,300	74,520	30,260	10,830	2,140	962	2,050

Calendar year 1959: Max 10,900 Min 15 Mean 795 Ac-ft 575,500
Water year 1959-60: Max 3,530 Min 7.4 Mean 462 Ac-ft 335,600

Peak discharge (base, 3,700 cfs).--Feb. 9 (5 a.m.) 3,990 cfs (9.62 ft).

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 13-20, Dec. 31 to Jan. 29, Feb. 26 to Mar. 5.

3513. Silver Lake at Medical Lake, Wash.

Location.--Lat 47°34'20", long 117°39'20", in SE¼ sec.17, T.24 N., R.41 E., on west shore at Silver Lake Resort, 1 mile east of Medical Lake.

Drainage area.--10.6 sq mi.

Records available.--September 1958 to September 1960.

Gage.--Staff gage read once daily. Datum of gage is 2,296.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Gage readings have been reduced to elevations above mean sea level.

Extremes.--Maximum elevation observed during year, 2,343.50 ft May 22, 23; minimum observed, 2,341.59 ft Sept. 29, 30.

1958-60: Maximum elevation observed, 2,343.83 ft May 18, 19, 1959; minimum observed, 2,341.45 ft Oct. 18, 19, Oct. 28 to Nov. 3, 1958.

Remarks.--No known regulation. Small diversions for domestic use.

Elevation, in feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42.18	42.18	42.33	-	42.63	42.95	43.29	43.40	43.46	43.62	42.35	41.83
2	42.18	42.18	42.33	-	42.67	42.96	43.29	43.40	43.46	43.61	42.34	41.81
3	42.18	42.19	42.33	-	-	42.96	43.29	43.40	43.46	42.99	42.35	41.80
4	42.18	42.19	42.33	-	-	42.97	43.30	43.40	43.45	42.97	42.33	41.85
5	42.18	42.18	42.33	-	-	42.97	43.30	43.40	43.45	42.95	42.31	41.83
6	42.18	42.18	42.35	-	-	42.98	43.31	43.40	43.44	42.93	42.29	41.81
7	42.18	42.17	42.35	-	42.79	43.03	43.31	43.42	43.44	42.91	42.27	41.79
8	42.18	42.17	42.36	-	42.80	43.07	43.31	43.43	43.44	42.89	42.25	41.79
9	42.18	42.16	42.36	-	42.80	43.07	43.31	43.43	43.43	42.87	42.23	41.78
10	42.18	42.16	42.36	-	42.81	43.07	43.31	43.43	43.43	42.85	42.22	41.77
11	42.18	42.15	42.38	-	42.82	43.07	43.31	43.42	43.39	42.83	42.20	41.76
12	42.18	42.15	42.39	-	42.84	43.07	43.31	43.42	43.37	42.80	42.18	41.75
13	42.18	42.14	42.39	-	42.85	43.07	43.31	43.42	43.35	42.77	42.16	41.75
14	42.18	42.14	42.39	-	42.86	43.09	43.31	43.41	43.33	42.75	42.13	41.74
15	42.18	42.13	42.38	-	42.87	-	43.32	43.41	43.31	42.73	42.11	41.73
16	42.18	42.12	42.38	-	42.88	-	43.33	43.43	43.29	42.71	42.08	41.72
17	42.18	42.11	42.38	-	42.89	-	43.34	43.43	43.27	42.69	42.06	41.71
18	42.18	42.13	42.37	-	42.90	-	43.35	43.43	43.25	42.67	42.04	41.70
19	42.18	42.18	-	-	42.91	43.13	43.35	43.43	43.22	42.65	42.02	41.69
20	42.21	42.23	-	-	42.91	43.13	43.36	43.44	43.20	42.63	41.99	41.68
21	42.21	42.30	-	-	42.92	43.13	43.36	43.49	43.17	42.61	41.97	41.67
22	42.21	42.30	-	-	42.92	43.13	43.37	43.50	43.15	42.59	41.96	41.66
23	42.20	42.31	-	-	42.93	43.13	43.38	43.50	43.13	-	41.94	41.65
24	42.20	42.31	-	-	42.93	43.13	43.39	43.49	43.12	42.53	41.92	41.64
25	42.20	42.32	-	42.53	42.94	43.13	43.39	43.49	43.11	42.50	41.92	41.62
26	42.19	42.32	-	42.53	42.94	43.14	43.40	43.49	43.10	42.47	41.91	41.61
27	42.19	42.32	-	42.54	42.94	43.15	43.40	43.48	43.09	42.45	41.89	41.60
28	42.19	42.32	-	42.54	42.95	43.20	43.40	43.48	43.08	42.43	41.87	41.60
29	42.18	42.33	-	42.59	42.95	43.25	43.40	43.47	43.06	42.41	41.86	41.59
30	42.18	42.33	-	42.61	-------	43.26	43.40	43.47	43.04	42.39	41.84	41.59
31	42.18	-------	-	42.61	-------	43.28	-------	43.47	-------	42.37	41.83	-------

Note.--Add 2,300 ft to obtain elevation above mean sea level.

3515. Williams Lake near Amber, Wash.

Location.--Lat 47°19'25", long 117°41'55", in NE¼SE¼ sec.12, T.21 N., R.40 E., on west shore at Bunker's Resort, 2 miles southeast of Amber.

Drainage area.--200 sq mi.

Records available.--September 1955 to September 1960.

Gage.--Staff gage read once daily at various times. Altitude of gage is 2,050 ft (from topographic map).

Extremes.--Maximum gage height observed during year, 2.83 ft May 21-25; minimum observed, 1.29 ft Sept. 29.
1955-60: Maximum gage height observed, 4.89 ft Apr. 5-7, 1956; minimum observed, 0.81 ft Oct. 4, 7, 1955.

Remarks.--Small diversions for irrigation. Minor regulation by fish screens at outlet.

Gage height, in feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.08	2.12	-	-	-	-	-	2.77	-	2.39	-	1.49
2	-	-	2.16	-	2.46	2.58	2.72	-	2.75	2.37	1.89	1.48
3	2.08	2.10	-	-	2.46	-	2.72	2.77	-	2.37	-	-
4	-	-	2.16	-	2.46	2.59	2.72	2.77	2.73	2.35	1.91	1.52
5	2.08	2.10	2.17	2.28	2.48	2.60	-	2.79	-	-	-	-
6	2.08	2.10	2.17	-	2.48	2.60	2.73	-	2.71	2.33	1.89	1.49
7	2.07	2.10	2.17	2.30	2.52	2.63	2.73	2.81	2.69	2.31	1.87	-
8	-	-	-	-	2.96	2.65	-	2.81	-	-	1.85	1.47
9	2.08	2.08	2.18	2.30	2.58	-	2.73	-	2.67	2.27	1.83	-
10	2.08	-	2.18	-	-	2.67	2.73	2.81	-	-	1.81	1.45
11	2.10	2.08	2.20	2.30	2.58	-	-	-	2.65	2.25	-	-
12	2.10	2.06	2.19	-	2.58	2.65	2.72	2.79	-	2.23	1.77	1.43
13	2.10	-	2.19	2.30	-	2.64	2.72	2.79	2.63	-	1.75	-
14	-	2.06	2.19	-	2.59	-	-	2.77	-	2.19	1.73	1.43
15	2.10	2.06	-	2.30	-	2.63	2.77	2.77	2.63	-	1.71	-
16	2.09	-	-	-	2.62	2.63	2.75	-	-	2.17	-	-
17	-	-	-	2.30	-	2.62	2.75	2.77	2.57	2.15	1.67	1.41
18	-	2.04	-	-	2.62	-	-	-	-	-	-	1.40
19	2.09	-	-	2.30	-	2.62	-	2.77	-	2.11	1.65	-
20	2.09	2.10	-	-	2.62	2.62	2.77	-	2.53	2.07	1.63	1.39
21	2.08	2.14	-	2.30	2.62	-	2.77	2.83	2.51	-	1.63	1.37
22	2.10	2.18	-	-	2.62	2.62	2.77	2.83	-	2.03	-	1.35
23	2.11	-	-	2.32	2.62	2.62	-	2.83	-	2.01	1.61	-
24	2.11	2.18	-	2.32	-	2.62	-	2.83	2.49	-	-	-
25	-	-	-	-	2.62	-	2.79	2.83	2.47	1.97	1.57	-
26	2.10	-	-	2.34	-	2.63	-	-	-	-	-	-
27	-	-	-	-	2.60	-	2.77	2.81	2.45	1.93	1.53	-
28	2.10	2.16	-	-	2.60	2.65	2.77	-	2.45	-	-	-
29	2.12	2.16	-	-	2.59	2.67	2.77	2.79	2.43	1.91	1.51	1.29
30	-	2.18	-	-	-------	-	2.77	-	-	1.90	-	-
31	2.12	-------	-	-	-------	2.71	-------	2.77	-------	1.89	1.51	-------

3518. Colville (Sprague) Lake near Sprague, Wash.

Location.--Lat 47°06'20", long 118°04'30", in NW¼ sec.6, T.20 N., R.38 E., on northwest shore at Griffith's Resort, 6 miles southwest of Sprague.

Drainage area.--120 sq mi, approximately.

Records available.--September 1958 to September 1960.

Gage.--Staff gage read once daily. Datum of gage is 1,865.53 ft above mean sea level, datum of 1929. Gage readings have been reduced to elevations above mean sea level.

Extremes.--Maximum elevation observed during year, 1,878.37 ft May 10; minimum observed, 1,876.33 ft Sept. 29, 30.
1958-60: Maximum elevation observed, 1,879.93 ft Mar. 18, 1959; minimum observed, that of Sept. 29, 30, 1960.

Remarks.--Some regulation by small dam at outlet. No diversion.

Elevation, in feet, water year October 1959 to September 1960

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76.92	77.07	77.32	-	77.75	-	78.16	78.34	-	77.61	76.87	76.45
2	76.92	77.09	77.32	-	77.81	-	78.13	78.34	78.18	77.61	76.87	76.45
3	76.91	77.08	77.33	-	77.85	-	78.17	78.34	78.18	77.59	76.86	76.45
4	76.90	77.09	77.33	-	77.85	-	78.17	78.34	78.17	77.55	76.85	76.44
5	76.92	77.09	77.33	-	77.88	-	78.18	78.33	78.15	77.53	76.85	76.46
6	76.92	77.09	77.34	-	77.89	-	78.18	78.33	78.14	77.51	76.83	76.46
7	76.92	77.10	-	-	77.96	-	78.19	78.34	78.11	77.51	76.81	76.47
8	76.92	77.11	77.34	-	78.00	-	78.20	78.36	78.09	77.46	76.80	76.46
9	76.94	77.11	77.35	-	78.01	-	78.20	78.36	78.08	77.43	76.78	76.44
10	76.95	77.11	77.36	-	78.01	-	78.16	78.37	78.08	77.39	76.77	76.43
11	76.95	77.11	77.39	-	78.01	-	78.14	78.36	78.05	77.34	76.73	76.43
12	76.97	77.11	77.39	-	78.01	-	78.18	78.36	78.03	77.35	76.71	76.41
13	-	-	-	-	78.01	-	-	78.36	77.96	77.33	76.69	76.43
14	76.98	-	-	-	78.01	78.04	-	78.34	77.98	77.31	76.67	76.42
15	76.99	-	77.41	-	78.01	-	78.20	78.34	77.98	77.29	76.63	76.41
16	77.00	-	77.41	-	78.01	78.04	78.20	78.34	77.91	77.25	76.63	76.41
17	77.01	-	77.41	-	78.01	78.07	78.20	78.34	77.92	77.23	76.61	76.41
18	76.98	-	-	-	78.01	78.07	78.22	78.34	77.91	77.21	76.61	76.39
19	77.01	-	77.43	-	78.01	78.07	78.16	78.34	77.89	77.17	76.61	76.39
20	77.03	-	77.42	-	77.99	78.08	78.18	78.35	77.85	77.16	76.59	76.38
21	77.03	-	77.42	-	77.99	78.09	78.18	78.36	77.81	77.13	76.56	76.37
22	-	-	77.42	-	-	78.09	78.26	78.36	77.81	77.11	76.55	76.37
23	77.04	77.28	77.43	-	77.96	78.09	78.31	78.36	77.79	77.07	-	76.37
24	77.05	-	77.43	-	77.96	78.09	78.31	-	77.78	77.01	-	76.37
25	77.05	77.30	77.45	-	77.98	78.10	78.33	-	77.75	76.99	-	76.36
26	77.05	77.30	77.47	-	-	78.11	78.34	-	77.73	76.98	-	76.35
27	77.07	77.32	77.47	-	-	78.10	78.34	78.31	77.72	76.96	-	76.35
28	77.07	77.31	77.47	-	-	78.11	78.34	-	77.71	76.94	-	76.34
29	77.07	77.31	77.47	-	-	78.11	78.35	-	77.69	76.92	-	76.33
30	77.08	77.32	-	77.69	-------	78.12	78.35	-	77.66	76.92	-	76.33
31	77.07	-------	-	77.73	-------	78.13	-------	-	-------	76.89	76.47	-------

Note.--Add 1,800 ft to obtain elevation above mean sea level.

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. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are generally presented in two tables. However, no records at low-flow partial-record stations are available for the 1960 water year. A table of annual maximum discharge at crest-stage stations is given first, followed by a table of measurements made at miscellaneous sites for both low flow and high flow.

Crest-stage partial-record stations

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

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Burnt River basin							
2750	Burnt River at Huntington, Oreg.	NE¼ sec.13, T.14 S., R.44 E., on right bank 0.5 mile northwest of Huntington and 3.5 miles above mouth.	1,093	1929-32‡, 1957-59‡, 1960	3- 7-60	3.35	745
Grande Ronde River basin							
3192	Mill Creek at La Grande, Oreg.	Center sec.8, T.3 S., R.38 E., at culvert at intersection of 14th and H Streets in La Grande.	a5.0	1958-60	3-29-60	16.57	(†)
3204	Little Creek near Union, Oreg.	SE¼ sec.14, T.4 S., R.40 E., at bridge on county road, 4 miles east of Union.	15.1	1952-53, 1957-60	5-22-60	10.33	121
3213	Ladd Canyon near Hot Lake, Oreg.	W½ sec.24, T.4 S., R.38 E., at culvert on U. S. Highway 30, 4 miles southwest of Hot Lake.	a14	1958-60	3-21-60	20.26	151
Tucannon River basin							
3444	Smith Gulch tributary near Pataha, Wash.	SE¼ sec.29, T.12 N., R.43 E., at Eureka Road about 4.5 miles northeast of Pataha.	1.85	1955-60	3- 7-60	b5.51	30
Palouse River basin							
3484	Missouri Flat Creek tributary near Pullman, Wash.	NE¼ sec.29, T.15 N., R.45 E., at county road 2 miles north of Pullman.	1.14	1955-60	2- 7-60	b9.18	23
3493	Palouse River tributary at Colfax, Wash.	SE¼SW¼ sec.10, T.16 N., R.43 E., at State Highway 295 about 1 mile west of Colfax.	2.10	1955-60	2- 7-60	b16.86	15.5
3493.5	Hardman Draw tributary at Plaza, Wash.	SW¼ sec.16, T.21 N., R.43 E., at U. S. Highway 195, 0.7 mile south of Plaza.	1.64	1955-60	2- 7-60	b5.94	16
3522	Cow Creek tributary near Ritzville, Wash.	SE¼ sec.32, T.20 N., R.21 E., at county road crossing 9.5 miles northeast of Ritzville.	1.51	1951, 1955-60	2- 7-60	b6.30	13
3525.5	Stuart Canyon tributary near Riparia, Wash.	SE¼ sec.2, T.13 N., R.37 E., at county road 4½ miles northwest of Riparia and 8 miles south of Hooper.	1.27	1958-60	1960	b8.38	10
Smith Canyon basin							
3529.5	Smith Canyon tributary near Connell, Wash.	SE¼NW¼ sec.9, T.12 N., R.32 E., at county road about 8½ miles south of Connell.	1.71	1955-60	1960	(b,c)	0.5

† Discharge not determined. ‡ Operated as a continuous-record gaging station.
a Approximately. b To correct gage-heights published in WSP 1567 and 1637 to datum used in this report, add figures shown in this table to previously published gage heights. Figures listed in this table are equal to elevation of the upstream invert of culvert through which discharge is computed.

Station No.	Water year	Datum change (feet)	Station No.	Water year	Datum change (feet)
3444	1955-59	3.40	3522	1951, 1955-59	4.98
3484	1955-59	8.95			
3493	1955-59	15.29	3525	1959	6.97
3493.5	1955-59	6.85	3529.5	1956-57	6.87

c Stage did not reach control at gage, discharge estimated.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*); measurements of peak flow by a dagger (†).

Discharge measurements made at miscellaneous sites during water year 1960

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Pilgrim Creek basin						
Pilgrim Creek.	Snake River...	Lat 43°55'43", long 110°33'42", 4.9 miles north of Moran, Wyo., and 5 miles above mouth.	28.4		6-17-60	121
Unnamed tributary.	Pilgrim Creek.	Lat 43°55'47", long 110°33'08", 0.5 mile above mouth and 5.1 miles north of Moran, Wyo.	19.0		6-17-60	81.4
Pilgrim Creek.	Snake River...	Lat 43°54'57", long 110°34'19", 4 miles above mouth and 4.0 miles north of Moran, Wyo.	49.2		6-17-60	197
Do.....	....do.....	Lat 43°53'45", long 110°35'24", 300 ft below bridge on U. S. Highways 89 and 287, 2 miles above mouth, and 2.5 miles north of Moran, Wyo.	53.6		6-17-60	177
Henrys Fork basin						
Squirrel Meadow Creek.	Squirrel Creek	SE¼ sec.4, T.47 N., R.118 W., at bridge 500 ft below Squirrel Meadow guard station and 6¼ miles south of Bechler River ranger station, Wyo.	-	a1957-59	6-23-60 7- 8-60 7-21-60 8- 4-60 8-18-60 9- 1-60 9-15-60	20.3 19.3 8.3 7.5 7.4 7.8 5.8
Teton River...	Henrys Fork...	On line between secs.19 and 30, T.3 N., R.46 E., 100 ft below Moose Creek, 200 ft above String Canal, and 3½ miles southeast of Victor, Idaho.	47.6	1946-52‡, 1953-59	6-23-60 7-14-60 8-18-60	141 87.8 55.8
Teton Creek...	Teton River...	1½ miles above Mill Creek, 1.6 miles west of Boy Scout Camp, 4.2 miles east of Wyoming-Idaho State line, and 7½ miles northeast of Driggs, Idaho.	33.8	1946-52‡, 1953-59	7-20-60	96.9
Horseshoe Creek.	....do.....	Sec.27, T.5 N., R.44 E., 90 ft above bridge on old railroad grade, 4 miles above mouth, and 7½ miles west of Driggs, Idaho.	11.7	1946-52‡, 1954-59	6-21-60	9.4
Big Springs...	Henrys Fork...	Sec.32, T.14 N., R.44 E., at site of former gaging station, ¼ mile below road bridge and ½ mile southeast of Big Springs railroad station, Idaho.	-	1924-25‡, 1946-50, 1959	10-19-59 6-21-60	186 176
Portneuf River basin						
Jenkins Canyon.	Portneuf River	Sec.27, T.9 S., R.37 E., 1 mile southwest of Topaz and 5 miles west of Lava Hot Springs, Idaho.	5.50		8- 1-60	†2,350
Rock Creek basin						
East Fork Rock Creek.	Rock Creek....	SW¼SW¼ sec.12, T.10 S., R.31 E., 0.3 mile above Bench Ditch diversion and 4½ miles east of Rockland, Idaho.	13.7		5- 8-60 6-12-60 7-13-60 8-16-60	13.0 12.1 12.8 12.8
Do.....	....do.....	SE¼ sec.4, T.10 S., R.31 E., 2¼ miles east of Rockland, Idaho, and 3¼ miles above mouth.	21.2	1955-59	10-14-59 11- 8-59 12-16-59 1-17-60 2-29-60 3-23-60 5- 8-60 6-12-60 7-14-60 8-18-60	9.78 15.9 15.6 15.8 12.8 17.0 6.25 8.71 9.48 9.63
Mud Lake-Lost River basins						
Summit Creek..	Little Lost River.	NE¼NW¼ sec.8, T.11 N., R.25 E., 100 ft below Summit Lake and dam and 9 miles southeast of Goldburg, Idaho.	9.04	1959	8- 1-60 9-14-60	0.95 .19
Main Fork Sawmill Creek.	Sawmill Creek.	SW¼NE¼ sec.6, T.12 N., R.26 E., 100 ft below road culvert, ½ mile above confluence with Timber Creek, and 12 miles east of Goldburg, Idaho.	15.6		8- 1-60 9-14-60	10.2 6.12

† Peak flow.
‡ Operated as a continuous-record gaging station.
a Summer measurements 1957-60 in reports of Water District No. 36 designated North Squirrel Creek at Ranger Station.

Discharge measurements made at miscellaneous sites during water year 1960--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Mud Lake-Lost River basins--Continued						
Warm Creek....	Sawmill Creek.	NW¼NW¼ sec.12, T.11 N., R.26 E., in canyon mouth 1/8 mile above gully on left bank and 12 miles north of Clyde, Idaho.	3.67	1959	8- 1-60 9-14-60	6.73 6.91
Do.....	....do.....	Near southeast corner of sec.3, T.11 N., R.26 E., 100 ft above mouth and 12½ miles north of Clyde, Idaho.	4.76	1923, 1935, 1959	8- 1-60	4.53
Bell Mountain Creek.	Little Lost River.	NW¼ sec.4, T.10 N., R.27 E., just above Telford pipeline intake at canyon mouth, 6 miles north of Clyde, Idaho.	5.39	1959	8- 2-60 9-14-60	1.32 .82
Dry Creek.....	....do.....	Near center of west side of sec.31, T.10 N., R.25 E., at old road crossing ¼ mile below old damsite and 15 miles west of Clyde, Idaho.	42.2	1911-12, 1914, 1921, 1925, 1926, 1928-29, 1931-32, 1935-36, 1938, 1959	8- 3-60 9-14-60	14.7 11.4
Wet Creek.....	....do.....	SW¼ sec.2, T.8 N., R.25 E., 50 ft above Pass Creek road crossing and 12 miles southwest of Clyde, Idaho.	11.2	1959	8- 3-60 9-14-60	3.11 2.96
Deer Creek....	....do.....	NW¼ sec.12, T.8 N., R.26 E., near canyon mouth at road crossing, 7½ miles southwest of Clyde, Idaho.	7.21		8- 2-60 9-15-60	2.05 2.02
Badger Creek..	....do.....	SW¼ sec.20, T.9 N., R.28 E., at canyon mouth 5 miles above mouth and 6 miles southeast of Clyde, Idaho.	15.2	1911, 1959	8- 2-60 9-15-60	6.40 8.63
Uncle Ike Creek.	....do.....	SW¼ sec.24, T.8 N., R.28 E., at mouth of canyon, 200 ft above diversion and 13 miles southeast of Clyde, Idaho.	7.44	1959	8- 3-60 9-15-60	*1.94 2.60
North Creek...	....do.....	SE¼SE¼ sec.31, T.8 N., R.29 E., at canyon mouth above diversion, 14 miles north of Howe, Idaho.	3.95	1959	7-31-60 9-15-60	.98 *.67
South Creek...	....do.....	NE¼ sec.30, T.7 N., R.29 E., at canyon mouth above diversion, 9 miles north of Howe, Idaho.	9.70	1959	7-31-60 9-15-60	.46 .44
Big Wood River basin						
High Five Creek.	Little Wood River.	SW¼ sec.22, T.2 N., R.20 E., ¼ mile above mouth and 14 miles northwest of Carey, Idaho.	-		7- 8-60	*b0.2
Little Wood River.	Big Wood River	SW¼NW¼ sec.35, T.2 N., R.20 E., at Campbell Ranch above flow line of Little Wood Reservoir, 1½ miles below High Five Creek and 12 miles northwest of Carey, Idaho.	267	1920-26‡, 1941-42‡, 1944-58‡,	7- 8-60	61.4
Clover Creek basin						
Dry Creek.....	Clover Creek..	SW¼ sec.32, T.5 S., R.12 E., 1.3 miles above mouth and 7 miles northwest of Bliss, Idaho.	-	1958, 1959	11- 7-59 12- 7-59 1-18-60 2- 8-60 2-23-60 2-29-60 3- 8-60 4-19-60 5-22-60 6-12-60 7-21-60 8-21-60 9-29-60	0 0 0 72.3 0 b1.25 202 15.2 b1.5 0 0 0 0
Owyhee River basin						
South Fork Owyhee River	Owyhee River..	Near Crutchers Crossing, Idaho, above East Fork Owyhee River, 1 mile above mouth.	-	1956, 1958, 1959	6-10-60	*c158
East Fork Owyhee River	South Fork Owyhee River	At Crutchers Crossing, Idaho, about 2 miles above mouth.	-	1958-59	6-10-60	*c50.3

* Base flow.
‡ Operated as a continuous-record gaging station.
b Estimated.
c Measurement furnished by U. S. Soil Conservation Service.

Discharge measurements made at miscellaneous sites during water year 1960--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Owyhee River basin--Continued						
South Fork Owyhee River	Owyhee River..	At Three Forks, Oreg., 500 ft above North Fork Owyhee River.	-	1956, 1958-59	6-10-60	*c158
North Fork Owyhee River	....do.....	At Three Forks, Oreg., 200 ft below bridge above Middle Fork Owyhee River.	-	1956, 1958, 1959	6- 9-60	*c18.7
Middle Fork Owyhee River	North Fork Owyhee River	At Three Forks, Oreg., 500 ft above mouth.	-	1956, 1958, 1959	6- 9-60	*c1.41
Owyhee River..	Snake River...	Sec.34, T.34 S., R.45 E., below Three Forks, Oreg., 600 ft below North Fork Owyhee River.	-	1956, 1958	6- 9-60	*c265
Crooked River.	Owyhee River..	Sec.6, T.32 S., R.41 E., 6 miles southwest of Rome, Oreg.	d1,700	1946, 1950-52‡, 1953-59	2-18-60 7- 8-60	*26.5 *24.7
Boise River basin						
Picket Pin Creek.	Cottonwood Creek.	NE¼NE¼ sec.7, T.3 N., R.3 E., at Oberbillig Ranch 0.5 mile above mouth and 3.5 miles east of Boise, Idaho.	2.50		8-20-59	†e7,720
Cottonwood Creek.	Boise River...	NE¼NW¼ sec.12, T.3 N., R.2 E., at Aldape Ranch 1 mile above Curlew Gulch and 1.9 miles east of Boise, Idaho.	12.0		8-20-59 9-26-59	†e1,580 †e463
Malheur River basin						
Warm Springs Creek.	North Fork Malheur River.	Near line between secs.1 and 2, T.19 S., R.37 E., 2.5 miles northeast of Beulah, Oreg.	d90	1936, 1938, 1941, 1944, 1946-59	9-13-60	*1.64
Payette River basin						
Black Canyon Canal.	Payette River.	SE¼ sec.22, T.7 N., R.1 W., ¼ mile below Black Canyon Dam and 5 miles northeast of Emmett, Idaho.	-	1955, 1957-59	10- 9-59 4-14-60 5-19-60 6- 8-60 7-19-60 8-24-60	60.9 373 1,260 1,270 1,250 1,260
Burnt River basin						
North Fork Burnt River.	Burnt River...	SW¼ sec.3, T.11 S., R.36 E., 0.1 mile below Trout Creek and 1 mile southeast of Whitney, Oreg.	102	1952-55, 1957, 1959	8-12-60	*0.42
Burnt River...	Snake River...	NE¼ sec.13, T.14 S., R.44 E., 0.5 mile northwest of Huntington, Oreg.	1,093	1929-32‡, 1957-59‡	7-22-60	57.9
Powder River basin						
Powder River..	Snake River...	SW¼ sec.21, T.7 S., R.39 E., 1 mile below Rock Creek and 1.7 miles north of Haines, Oreg.	572	1947-53‡, 1954-59	7-21-60	*5.67
Wolf Creek....	Powder River..	SE¼ sec.11, T.6 S., R.38 E., 5 miles northwest of North Powder, Oreg.	32.9	1946-53‡, 1954-59	7-21-60	*2.93
Salmon River basin						
Left channel Big Springs Creek.	Big Springs Creek.	Sec.19, T.16 N., R.26 E., above culvert crossing on State Highway 28, 2.7 miles northwest of Leadore, Idaho.	-		7-16-59 8-20-59 10- 9-59 11- 4-59 12-12-59 1-22-60 3- 3-60 4-16-60 5-19-60 6- 9-60 7- 6-60 8-11-60 9-16-60	*13.6 *16.8 *11.6 *12.8 *10.6 *9.41 *8.99 *9.46 *10.5 *14.3 *10.8 *10.1 *11.6

* Base flow.
† Peak flow.
‡ Operated as a continuous-record gaging station.
c Measurement furnished by U. S. Soil Conservation Service.
d Approximately.
e Revised; supersedes figure published in WSP 1637.

Discharge measurements made at miscellaneous sites during water year 1960--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Salmon River basin--Continued						
Salmon River..	Snake River...	Sec.8, T.24 N., R.4 E., 100 ft below Fall Creek, 2½ miles northeast of French Creek Post Office, and 16 miles east of Riggins, Idaho.	12,270	1944-56‡, 1957-59	10-14-59	8,020
					11-18-59	*5,110
					12-18-59	4,590
					2- 2-60	*3,780
					3-11-60	3,750
					4-12-60	17,900
					5- 9-60	18,200
					6- 6-60	45,300
					7-19-60	*6,350
					8-15-60	3,550
Grande Ronde River basin						
Grande Ronde River.	Snake River...	Sec.36, T.3 S., R.35 E., above Meadow Creek 2 miles northeast of Starkey, Oreg.	208	1952-55, 1957-59	7-18-60	*27.2
Do.....	....do.....	Near center of sec.11, T.3 S., R.36 E., 3 miles southwest of Hilgard, Oreg.	489	1938-56‡, 1957-59	7-18-60	*38.2
Lookingglass Creek.	Grande Ronde River.	Sec.29, T.3 N., R.40 E., at mouth at Palmer Junction, Oreg.	d95	1953-57, 1959	7-28-60	*70.8
Minam River...	Wallowa River.	SW¼ sec.29, T.2 N., R.41 E., at Minam, Oreg.	d240	1912-14‡, 1953-54, 1957-59	7-27-60	*172
Wenaha River..	Grande Ronde River.	NW¼ sec.4, T.5 N., R.43 E., 400 ft above mouth at Troy, Oreg.	-	1928, 1930	7-26-60	*207
Smith Canyon basin						
Smith Canyon tributary.	Smith Canyon..	SE¼NE¼ sec.21, T.12 N., R.32 E., at county road crossing, 11 miles southeast of Connell.	d7.7	-	8- 3-60	†310

* Base flow.
† Peak flow.
‡ Operated as a continuous-record gaging station.
d Approximately.

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