

# Surface Water Supply of the United States 1956

## Part 13. Snake River Basin

*Prepared under the direction of J. V. B. WELLS, Chief, Surface Water Branch*

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GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1447

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



**UNITED STATES DEPARTMENT OF THE INTERIOR**

**FRED A. SEATON, *Secretary***

**GEOLOGICAL SURVEY**

**Thomas B. Nolan, *Director***

## 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, C. G. Paulsen, chief, succeeded by L. B. Leopold, under the general direction of J. V. B. Wells, chief, Surface Water Branch, and B. J. Peterson, chief, Basic Records Section, succeeded by F. J. Flynn.

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

F. M. Bell (succeeded by J. M. Terry)	-----	Denver, Colo.
Lynn Crandall	-----	Idaho Falls, Idaho
T. R. Newell	-----	Boise, Idaho
K. N. Phillips	-----	Portland, Oreg.
F. M. Veatch	-----	Tacoma, Wash.
M. T. Wilson	-----	Salt Lake City, Utah

# CALENDAR FOR WATER YEAR 1956

## OCTOBER 1955

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## JUNE 1956

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## JULY 1956

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## AUGUST 1956

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## SEPTEMBER 1956

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## SURFACE WATER SUPPLY OF SNAKE RIVER BASIN, 1956

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### SCOPE OF WORK

This volume is one of a series of 18 reports presenting measurements of stage, discharge, and content of streams, lakes, and reservoirs in the United States during the water year ending September 30, 1956. Since 1888, when the United States Geological Survey first studied streamflow in relation to problems of irrigation, similar measurements have been made at more than 13,500 gaging stations in the 48 States and at many others in the Territories of Alaska and Hawaii. On September 30, 1956, the Geological Survey and cooperating organizations were maintaining 6,910 gaging stations, including those in Alaska and Hawaii. Discharge measurements only were made at many other points in the 1956 water year. The name of each stream measured at points other than gaging stations is not listed in the index of this report. Only the major river basins in which measurements were made are listed under the item "Discharge measurements" in the index.

### 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, M. R. Kulp, State reclamation engineer; Idaho State Fish and Game Commission, Ross Leonard, director; and Crane Creek Administration Board, E. W. Horner, secretary.

Nevada: Office of the State Engineer, H. A. Shamberger.

Oregon: Office of the State Engineer, L. A. Stanley, and State Highway Commission, B. R. Chandler, chairman.

Utah: Office of the State Engineer, J. M. Tracy.

Washington: State Department of Conservation and Development, W. A. Galbraith, director, and Division of Water Resources, M. G. Walker, supervisor.

Wyoming: Office of the State Engineer, L. C. Bishop.

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 20 gaging stations, of which 12 were in Idaho, 3 in Oregon, 1 in Washington, and 4 in Wyoming.

Assistance was also furnished by the Soil Conservation 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; Pacific Power & Light

Co., and Warm Springs Irrigation District.

Washington: Washington Water Power Co.

#### 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.

<u>State</u>	<u>District office</u>	<u>Address</u>
Idaho a/.....	Boise.....	914 Jefferson Street.
Idaho b/.....	Idaho Falls.....	204 Federal Building.
Nevada c/.....	Salt Lake City, Utah.....	300 Federal Building.
Oregon d/.....	Portland.....	1001 NE. Lloyd Boulevard.
Utah e/.....	Salt Lake City.....	300 Federal Building.
Washington.....	Tacoma.....	207 Federal Building.
Wyoming f/.....	Denver, Colo.....	Denver Federal Center.

a/ Except stations on Snake River between Irwin and Milner, stations on tributaries of Snake River above American Falls Reservoir, diversions from Snake River at and above Milner, and Clear Creek near Naf, but including Salmon Falls Creek above upper Vineyard ditch, near Contact, Nev., Salmon Falls Creek near San Jacinto, Nev., Snake River at Oxbow, Oreg., and Pacific Creek near Moran, Wyo., Buffalo Fork near Moran, Wyo., Gros Ventre River at Kelly, Wyo., and Hoback River near Jackson, Wyo.

b/ Stations on Snake River between Irwin and Milner, stations on tributaries of Snake River above American Falls Reservoir, diversions from Snake River at and above Milner, and Grassy Lake, Greys River above reservoir, near Alpine, Wyo., Jackson Lake at Moran, Wyo., Salt River above reservoir, near Etna, Wyo., and Snake River at Moran and above reservoir near Alpine, Wyo.

c/ Except for Salmon Falls Creek above upper Vineyard ditch, near Contact and near San Jacinto.

d/ Except for Snake River at Oxbow.

e/ Clear Creek near Naf, Idaho.

f/ Except for Pacific Creek near Moran, Buffalo Fork near Moran, Gros Ventre River at Kelly, Hoback River near Jackson, Grassy Lake, Greys River above reservoir, near Alpine, Wyo., Jackson Lake at Moran, Wyo., Salt River above reservoir, near Etna, Wyo., and Snake River at Moran and above reservoir near Alpine.

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 usually 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:

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 is the depth to which an area would be covered if all the water draining from it in a given period were uniformly distributed on its surface. The term is used for comparing runoff with rainfall, which is also usually expressed in inches.

Acre-foot is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. The term is commonly used in relation to storage for irrigation.

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 OF LISTING GAGING STATIONS

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 indention 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.

#### 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. Typical structures in use at gaging stations are shown in figure 1.

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 determinations of peak discharge (such as slope-area or contracted-opening determinations, computation of flow over dams or weirs, and by other methods), velocity-area studies, and



**A, SNAKE RIVER AT KING HILL, IDAHO**



**B. NORTH FORK PAYETTE RIVER NEAR BANKS, IDAHO**



**C, SNAKE RIVER NEAR CLARKSTON, WASH.**

**FIGURE 1.—GAGING-STATION STRUCTURES**

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 and runoff 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 1956 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. 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 indicator, 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 the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are concerned in the 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 and 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. Runoff 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 (whether the daily figures are figures of stage or contents) but is not published for reservoirs for which only monthly data are given.

Discharge measurements and determinations of peak flows made at sites other than gaging stations are listed at the end of each report.

#### 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.

Runoff 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 runoff in inches are not published unless storage or diversion records are included to indicate the extent of the regulation of diversion, or unless satisfactory adjustments can be made 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

To facilitate publication of the annual series of reports, the area of the United States is divided into 14 parts whose boundaries coincide with certain natural drainage lines. Formerly, the results of streamflow measurements were published in 14 volumes, one for each of the 14 parts. Beginning with the reports for 1951, the records are 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 2.

- 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 on the water resources of the United States may be purchased or consulted as follows:

1. Copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington 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 3.





Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. The area covered by this report is shaded.

Early records of the flow of streams in the United States are published in the reports listed below. In many of these reports records for years earlier than those indicated have been included for some streams.

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	Monthly discharge and descriptive information.....	1884-92.
14th A, pt. 2	Monthly discharge.....	1888-95.
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.
16th 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, 1899-1956

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	863	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		
1909	272	1922	553	1934	768	1946	1063		
1910	292	1923	573	1935	793	1947	1093		
1911	312	1924	593	1936	813	1948	1123		

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

The records at most of the stations discussed in these reports extend over many years. Discharge measurements at many points other than regular gaging stations have been made each year and are published at the end of each report. The streams and points of measurement are listed in the same order as the streams and gaging stations in the body of the report. An index of the records obtained before 1904 has been published in Water-Supply Paper 119.

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.

Records of discharge have been published also in State reports. Most of these records are also compiled in Water-Supply Paper 1317; however some of them are not contained in

the publications of the Geological Survey. The following table contains a list of these reports for the area covered by this report.

State reports containing compilations of records of discharge			
State	Period	Report	Issued by
Oregon.....	1878-1914	Bull. 4, Water resources of the State of Oregon..	Office of the State Engineer.
Do.....	1914-24	Bull. 7, Water resources of the State of Oregon..	Do.
Do.....	1924-30	Bull. 8, Water resources of the State of Oregon..	Do.
Do.....	1930-36	Bull. 9, Water resources of the State of Oregon..	Do.
Do.....	1936-41	Bull. 10, Water resources of the State of Oregon..	Do.
Utah.....	1889-1905	5th biennial report.....	Do.
Do.....	1906-10	7th biennial report.....	Do.
Do.....	1911-16	10th biennial report.....	Do.
Washington...	1878-1953	Bull. 6, Monthly and yearly summaries of hydro-metric data.	Department of Conservation and Development.

Note.--In addition to the records contained in the reports listed above, the States of Idaho, Nevada, Oregon, Washington, and Wyoming have issued annual or biennial reports in which are contained records of discharge.

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

#### 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.

#### 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 1954 to September 1956 by agencies other than the Geological Survey. The records of these stations are not contained in publications of the Geological Survey, nor have they been published elsewhere.

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, 1930-56	Idaho Water District 36.
Burnt River, South Fork..	SE $\frac{1}{4}$ sec. 14, T. 13 S., R. 36 E., above Whitet Reservoir, $\frac{3}{4}$ miles west of Unity, Oreg.	1951-56	Oregon State engineer.
Malheur River.....	SW $\frac{1}{4}$ sec. 32, T. 20 S., R. 41 E., near Namorf, Oreg.	1931-56†	Do.
SNAKE River tributaries..	Near Irwin, Idaho.....	1940-56†	Idaho Water District 36.
Teton basin tributaries..	Near Driggs, Idaho.....	1934-56†	Do.
Wolf Creek.....	SE $\frac{1}{4}$ sec. 11, T. 6 S., R. 38 E., $\frac{1}{2}$ miles northwest of North Powder, Oreg. and $\frac{1}{2}$ miles upstream from mouth.	1955-56†	Soil Conservation Service.

† 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 (including some to December 1936) are published in Bulletin 9 of the State engineer and those for 1937-41 in Bulletin 10; those for 1942-54 have not been published. Records for the stations operated by Idaho Water District 36 are published in the annual reports of that organization. Records for some gages, not listed above, have been collected by the Oregon State engineer and the Bureau of Reclamation in connection with the water supply for irrigation and other projects.

#### HYDROLOGIC CONDITIONS

The water year 1956 was characterized by excessive runoff over most of the area covered by this report. In Idaho an extremely heavy snow pack accumulated which resulted in a fairly high, steady runoff from the time of the snowmelt period until late summer. During December heavy precipitation fell on snow, during a period of unseasonal high temperatures, which caused floods of short duration reaching maximum flow Dec. 22, 23. The Payette, Weiser, and Boise River basins were hardest hit. Runoff at many of the stations exceeded any previous runoff for December and several stations reached maximum flows of record. Tributaries to the Salmon and Clearwater Rivers were in flood during December but with less marked maximums. Runoff of Snake River near Halse, Idaho, was second highest of

record for December. During the December flood, Little Wood River at Campbell Ranch, near Carey, Weiser River at Tamarack, and Weiser River near Weiser and other tributaries were highest of record. Boise River near Twin Springs equalled the previous maximum, and Payette River stations near Horseshoe Bend, near Emmett, and at Payette nearly equalled previous maxima even though storage in Cascade Reservoir reduced flow very materially. During January the Bruneau, Owyhee and Snake Rivers rose to high levels and the Snake River near Heise was second highest of record for January. These floods will be described in a water-supply paper entitled, "Floods of December 1955 - January 1956 in far western States," now in preparation. During March flooding occurred in the lower Big Lost River basin and in the Carey area as a result of melting snow on frozen ground. Peak discharge of record occurred in Big Lost River near Arco, Idaho, Mar. 23. The highest discharge of record occurred along the main stem of Salmon River and on many Salmon River tributaries during period May 24-27. Flooding occurred also in May from snowmelt along the Snake River between Heise and Roberts, Idaho. Swollen small creeks caused temporary flooding of Lewiston, Idaho, streets the night of Aug. 25. For two key gaging stations in the area covered by this report, a comparison of the monthly and annual mean discharge during the 1956 water year with the median discharge for the 25-year period 1921-45 is shown in figure 3 on the following page.

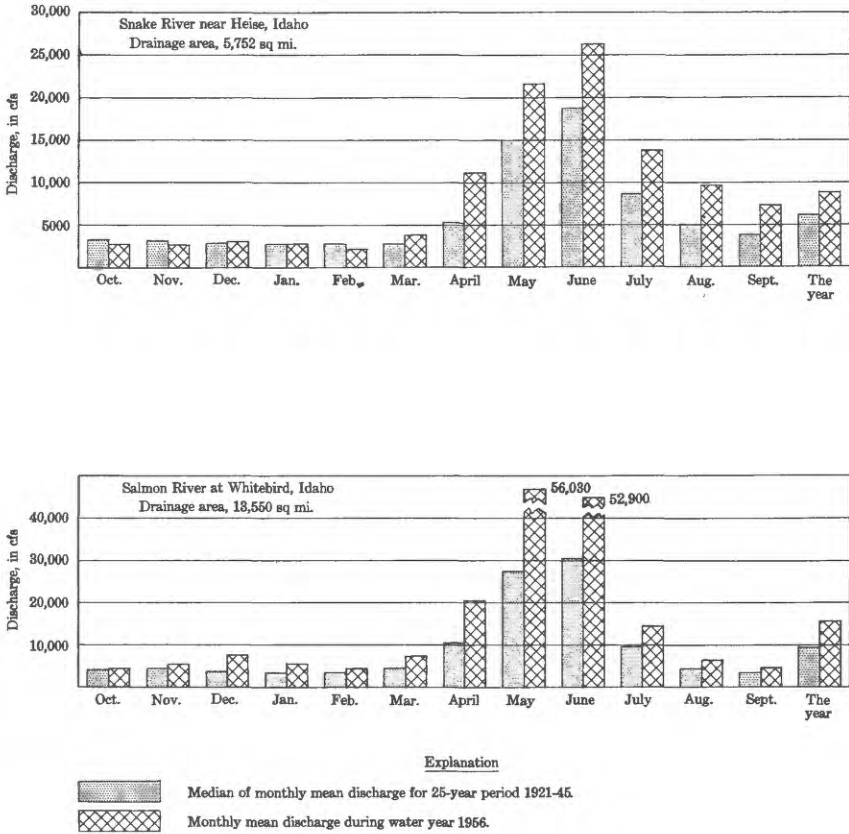


Figure 3. Comparison of discharge at two key gaging stations during 1956 water year with median discharge for 25-year period.

## SNAKE RIVER MAIN STEM

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 1956 (1908-10 fragmentary).

Gage.--Electric tape gage read once daily. Datum of gage is 2.19 ft above mean sea level, unadjusted. Prior to June 1, 1941, staff gage at site 300 ft upstream at same datum.

Extremes.--Maximum contents during year, 849,790 acre-ft July 3, 4, 8 (elevation, 6,769.11 ft); minimum, 193,620 acre-ft Oct. 1 (elevation, 6,740.56 ft).  
1908-56: Maximum contents, 857,220 acre-ft June 23, 1937 (elevation, 6,769.40 ft); no usable contents on 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. Increase in 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 ft (top of baffles to sluices) and 6,769 ft (top of spillway gates). Water is used for irrigation in Snake River Valley, Idaho. Contents as given herein are for 8 a.m.; all available for release.

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

Revisions.--WSP 1217: Drainage area.

Contents, in acre-feet, at 8 a.m., water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	193,620	223,660	257,100	307,590	351,010	381,380	320,040	259,990	525,840	649,020	736,400	519,800
2	194,410	224,470	258,130	308,090	351,670	382,930	315,530	260,400	552,020	649,260	729,720	512,590
3	195,400	225,090	259,780	311,020	352,110	383,820	309,740	261,020	574,630	649,790	724,030	503,760
4	196,180	225,700	261,020	312,530	352,770	386,030	303,960	261,650	594,780	649,750	717,880	495,700
5	196,780	226,920	261,850	313,610	353,640	387,580	298,020	263,710	612,650	649,530	711,740	487,390
6	197,970	227,940	263,090	315,530	354,300	388,470	292,720	266,860	628,680	649,260	706,090	478,430
7	198,570	228,760	264,550	316,820	354,960	389,130	287,000	269,370	640,470	649,260	701,420	469,260
8	199,360	229,370	265,600	318,110	355,840	390,240	280,890	273,350	647,680	649,790	693,830	460,550
9	200,350	229,980	266,360	318,970	356,500	391,350	275,230	277,120	656,150	649,260	687,250	452,600
10	200,940	231,000	267,900	319,820	357,370	392,460	269,370	278,380	664,870	648,510	680,670	444,640
11	201,740	232,430	268,950	320,680	358,690	393,120	263,920	278,390	680,420	647,230	673,350	437,360
12	202,530	233,450	270,210	321,540	360,660	393,120	257,920	276,810	698,970	646,210	666,320	431,050
13	203,340	234,260	271,880	322,610	362,420	392,240	252,340	272,300	714,440	644,170	660,510	424,730
14	204,140	235,900	272,720	324,760	363,730	391,570	246,550	266,230	728,980	641,880	653,730	418,640
15	204,940	236,510	273,350	326,690	364,610	389,360	240,990	260,620	743,320	639,340	647,440	414,360
16	205,750	236,920	274,400	330,810	365,270	387,140	235,680	255,650	758,740	636,030	640,950	410,120
17	206,550	237,530	276,490	331,690	366,140	383,820	230,800	252,130	770,440	631,700	634,700	407,210
18	207,360	238,340	277,330	332,760	366,600	381,600	225,900	251,310	778,710	626,870	628,660	404,080
19	208,360	240,180	279,210	334,060	367,460	380,270	221,430	255,650	790,000	621,520	622,200	400,730
20	209,570	242,220	280,680	335,370	368,340	377,640	220,630	266,440	800,560	615,210	615,620	395,580
21	210,570	244,690	282,770	336,230	370,530	375,620	223,050	282,360	810,410	608,390	609,310	390,680
22	212,380	246,140	284,450	337,320	372,080	373,850	226,510	299,500	817,890	601,570	601,660	384,040
23	213,790	247,170	288,900	338,490	373,410	371,640	230,580	323,470	822,800	794,760	590,960	379,170
24	214,590	248,000	292,930	341,010	374,290	366,800	234,670	346,650	827,630	786,490	584,340	374,520
25	215,600	248,830	295,480	342,090	375,620	361,100	236,950	369,000	838,830	782,470	575,570	371,190
26	216,400	250,270	298,450	343,180	376,510	355,620	243,450	392,240	846,210	776,200	566,380	367,900
27	217,610	252,130	300,990	346,650	377,620	349,920	247,790	417,520	848,760	769,940	556,960	366,580
28	218,620	253,580	302,050	347,740	378,720	344,460	252,340	439,410	849,280	763,220	548,980	367,240
29	220,020	254,820	302,900	348,590	379,830	337,760	256,060	461,930	848,280	756,240	541,720	366,560
30	221,030	255,860	304,180	349,480	-----	331,680	258,540	483,470	849,280	750,270	534,470	369,650
31	222,430	-----	305,660	350,360	-----	325,190	-----	503,550	-----	743,320	527,230	-----
(†)	6,742.00	6,743.63	6,746.00	6,748.07	6,749.41	6,746.91	6,743.76	6,754.87	6,769.09	6,764.88	6,755.89	6,748.95
(*)	+29,610	+33,430	+49,800	+44,700	+29,470	-54,640	66,650	+345,010	+345,730	-105,960	-216,090	-157,580

Calendar year 1955..... † -85,020

Water year 1954-55..... \* †176,830

† Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

## 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.

Records available.--September 1903 to September 1956. 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  $1\frac{1}{2}$  miles downstream.

Average discharge.--53 years, 1,440 cfs (1,043,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,250 cfs Aug. 26 (gage height, 7.93 ft); minimum daily, 16 cfs Oct. 27 to Mar. 9.

1903-56: 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.

Flood during 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: 1906-10.

Rating table, water year 1955-56, (gage height, in feet, and discharge, in cubic feet per second)

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

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	16	16	16	16	16	3,550	1,350	90	4,670	4,900	5,000
2	24	16	16	16	16	16	3,520	1,770	971	3,130	4,680	5,080
3	23	16	16	16	16	16	3,500	1,770	1,620	4,670	4,560	5,080
4	23	16	16	16	16	16	3,480	1,780	2,140	3,430	4,370	5,190
5	22	16	16	16	16	16	3,510	1,780	2,560	3,390	4,360	5,540
6	22	16	16	16	16	16	3,470	1,790	2,900	*3,290	4,320	5,740
7	21	16	16	16	16	16	3,480	1,800	4,200	2,880	*4,370	5,510
8	21	16	16	16	16	16	3,550	2,070	5,040	3,290	4,580	5,220
9	20	*16	16	16	16	16	3,520	3,030	5,040	3,540	4,730	5,170
10	20	16	16	16	16	232	3,500	5,040	3,650	3,520	4,680	4,850
11	20	16	16	16	16	571	3,480	5,010	1,490	3,560	4,670	4,600
12	20	16	16	16	16	1,000	3,500	5,350	2,160	3,750	4,660	4,490
13	19	16	16	16	16	1,400	3,470	5,570	2,510	3,740	4,640	4,120
14	19	16	16	16	16	1,620	3,460	6,130	2,220	3,740	4,800	3,350
15	19	16	16	16	16	1,620	3,540	6,080	1,080	3,960	4,550	2,840
16	18	16	16	16	16	1,600	3,510	6,180	1,080	4,540	4,540	2,640
17	18	16	16	16	16	1,570	3,510	6,110	1,080	4,550	4,320	2,240
18	18	16	16	16	16	1,560	3,480	5,160	1,080	4,740	4,300	2,290
19	18	16	16	16	16	1,550	2,720	3,200	1,260	5,190	4,380	3,080
20	17	16	16	16	16	1,550	518	1,700	2,150	5,810	4,420	3,650
21	17	16	16	16	16	1,590	68	92	2,160	5,770	4,660	3,590
22	17	16	16	16	16	1,630	68	86	2,380	5,570	5,280	3,320
23	17	16	16	16	16	*2,400	70	84	1,520	5,280	5,770	3,200
24	17	16	16	16	16	3,480	74	84	1,000	5,270	5,770	2,610
25	17	16	16	16	16	3,500	76	82	1,340	5,240	5,910	1,940
26	17	16	16	16	16	3,510	76	82	3,010	5,200	6,220	1,780
27	16	16	16	16	16	3,480	76	86	4,680	5,190	5,810	1,070
28	16	16	16	16	16	3,500	82	88	5,490	5,360	5,110	33
29	16	16	16	16	16	3,640	638	90	4,900	5,440	4,880	32
30	16	16	16	16	-----	3,600	979	90	4,880	5,160	*4,620	30
31	16	-----	16	16	-----	3,580	-----	90	5,030	5,200	4,700	-----
Total	589	480	496	496	464	48,307	68,476	73,624	75,681	137,900	149,160	103,285
Mean	19.0	16.0	16.0	16.0	16.0	1,558	2,283	2,375	2,523	4,448	4,812	3,443
Ac-ft	1,170	952	984	984	920	95,820	135,800	146,000	150,100	273,500	295,900	204,900
Calendar year 1955: Max	7,580											
Water year 1955-56: Max	6,220											
Calendar year 1955: Min	7											
Water year 1955-56: Min	16											
Calendar year 1955: Mean	1,412											
Water year 1955-56: Mean	1,800											

\* Discharge measurement made on this day.

Note.--Discharge computed from staff-gage readings Oct. 1 to Mar. 9.

## Pacific Creek near Moran, Wyo.

Location.--Lat 43°51'00", long 110°31'20", in sec. 23, T. 45 N., R. 114 W., on left bank 50 ft downstream from bridge on U. S. Highway 287, half a mile upstream from mouth, and 3 miles southeast of Moran.

Drainage area.--160 sq mi.

Records available.--July to November 1906 (gage heights only), July 1917 to September 1918 (no winter records), September 1944 to September 1956.

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.

Average discharge.--12 years (1944-56), 281 cfs (203,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,410 cfs May 22; maximum gage height, 4.72 ft in gage well, about 5.3 ft from outside gage, May 22, 23; minimum daily discharge, 31 cfs Mar. 12.  
1917-18, 1944-56: 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, 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.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	39	52	65	38	37	*72	423	2,220	650	134	75
2	58	35	53	75	32	35	70	454	2,300	900	130	70
3	57	*31	*50	60	35	37	69	538	2,080	786	130	69
4	57	39	46	85	38	39	69	637	1,950	692	118	65
5	60	41	45	66	40	37	70	833	1,760	652	120	64
6	58	38	50	70	42	35	68	910	1,520	622	112	64
7	55	39	50	70	40	33	65	994	1,400	592	108	63
8	54	40	45	56	38	37	66	1,150	1,680	544	108	63
9	54	40	48	60	36	37	64	1,160	1,860	492	106	63
10	53	43	50	54	38	36	64	1,290	2,080	461	102	63
11	55	43	48	54	40	33	66	1,110	2,480	438	100	64
12	55	41	47	64	40	31	66	910	2,640	416	94	74
13	53	37	45	66	41	33	66	780	2,640	384	89	72
14	54	40	42	60	37	34	72	682	2,450	353	87	66
15	53	38	40	64	37	34	85	740	2,320	320	85	61
16	52	35	47	68	33	35	105	982	2,150	294	82	60
17	52	36	52	57	35	36	119	1,380	1,590	273	82	60
18	51	38	54	*62	36	33	129	1,760	1,530	258	78	58
19	51	42	54	64	37	34	149	2,120	*1,590	242	77	57
20	54	47	56	60	37	36	183	2,370	1,620	228	75	56
21	55	53	60	56	37	37	232	2,750	1,550	217	69	56
22	58	52	60	58	37	38	307	3,130	1,170	*211	66	57
23	56	50	85	58	39	41	340	3,030	1,050	191	66	58
24	51	49	160	54	37	45	417	*2,860	1,120	182	66	57
25	49	49	150	50	36	50	488	2,800	1,110	176	*67	57
26	49	52	130	50	*35	56	474	2,610	1,060	164	66	56
27	49	50	115	50	35	57	*488	2,320	1,070	151	70	*58
28	50	51	90	50	38	50	495	2,250	1,050	136	82	66
29	47	49	80	49	40	52	448	1,990	1,040	139	78	69
30	50	52	65	48	-	55	423	1,970	983	139	82	66
31	46	---	75	44	---	64	---	2,200	---	132	84	---
Total	1,655	1,292	2,044	1,847	1,084	1,247	5,829	49,113	51,063	11,635	2,813	1,888
Mean	53.4	43.1	65.9	59.6	37.4	40.2	194	1,584	1,702	375	90.7	62.9
Cfsm	0.334	0.269	0.412	0.372	0.234	0.251	1.21	9.90	10.64	2.34	0.567	0.393
In.	0.38	0.30	0.48	0.43	0.25	0.29	1.35	11.42	11.87	2.70	0.65	0.44
Ac-ft	3,280	2,560	4,050	3,660	2,150	2,470	11,560	97,410	101,300	23,080	5,580	3,740
Calendar year 1955: Max	1,940			Min 24		Mean 217	Cfsm 1.36	In. 18.39	Ac-ft 157,000			
Water year 1955-56: Max	3,130			Min 31		Mean 359	Cfsm 2.24	In. 30.56	Ac-ft 260,800			

Peak discharge (base, 1,300 cfs).--May 10 (7 p.m.) 1,330 cfs (3.50 ft); May 22 (11 p.m.) 3,410 cfs (4.72 ft); June 13 (3 a.m.) 3,070 cfs (4.57 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 2, 13, 15-20, 23-25, 27, 29, Dec. 3 to about Mar. 25. No gage-height record Dec. 16-27, Dec. 31 to Jan. 16, Feb. 1-25, Mar. 13-31; discharge estimated on basis of weather records, 3 discharge measurements, and records for nearby Snake River tributaries.



## Buffalo Fork near Moran, Wyo.

Location.--Lat 43°50'10", long 110°30'30" (revised), in sec. 26, T. 45 N., R. 114 W., on right bank 30 ft below bridge on county road, half a mile upstream from mouth, 2½ miles downstream from Lava Creek, and 4 miles southeast of Moran.

Drainage area.--378 sq mi.

Records available.--July to November 1906 (gage heights only), July 1917 to September 1918 (no winter records), September 1944 to September 1956.

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.

Average discharge.--12 years (1944-56), 617 cfs (446,700 acre-ft per year).

Extremes.--Maximum discharge during year, 4,870 cfs June 2 (gage height, 6.20 ft); minimum daily, 90 cfs Mar. 12; minimum gage height, 1.60 ft Nov. 13. 1917-18, 1944-56: 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 fair. No diversion or regulation.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	174	140	150	150	100	115	170	452	4,540	2,440	860	332
2	171	140	155	150	95	115	180	470	4,710	2,270	788	306
3	171	*170	*150	145	105	115	170	528	4,550	2,150	742	296
4	171	175	135	150	110	115	185	561	4,440	1,940	691	296
5	174	174	125	160	120	110	165	726	4,440	1,920	616	266
6	171	168	135	155	130	105	160	749	4,280	1,910	575	276
7	171	161	135	150	130	100	155	780	3,400	2,040	548	271
8	184	158	130	130	120	110	150	954	3,460	2,000	535	266
9	184	165	135	130	120	110	145	1,010	3,750	1,980	515	266
10	177	174	140	140	125	105	160	1,070	3,740	1,980	502	266
11	184	174	140	145	130	100	175	1,010	4,070	1,820	495	276
12	184	143	140	150	130	90	190	886	4,330	1,940	483	296
13	174	108	140	150	130	100	200	765	4,490	1,860	464	281
14	174	125	130	150	115	100	214	688	4,440	1,730	464	262
15	174	120	120	150	105	100	226	703	4,600	1,640	452	253
16	171	105	130	150	100	110	281	844	4,600	1,560	452	248
17	168	110	130	150	100	105	337	1,190	3,560	1,460	433	248
18	165	120	130	150	110	105	332	1,610	3,020	1,380	416	240
19	165	130	135	*145	110	110	364	1,960	*3,140	1,320	410	235
20	184	145	140	140	115	120	421	2,390	3,430	1,240	421	244
21	191	160	145	140	115	120	508	2,740	3,260	1,220	398	248
22	195	170	155	140	115	130	602	3,130	2,610	*1,210	387	244
23	195	165	170	140	115	130	637	3,600	2,280	1,150	353	240
24	161	160	200	130	115	130	674	*3,690	2,390	1,130	348	240
25	158	155	240	125	115	140	630	3,660	2,570	1,040	*332	235
26	161	150	250	130	*115	160	575	3,620	2,510	1,020	321	235
27	174	150	230	135	115	170	*575	3,320	2,650	990	343	*235
28	161	150	190	130	115	160	554	3,430	2,790	999	381	271
29	161	150	170	125	115	155	521	3,600	2,880	954	370	276
30	171	150	150	125	-----	160	470	3,520	2,850	911	364	258
31	165	-----	150	110	-----	165	-----	3,830	-----	836	353	-----
Total	5,384	4,465	4,775	4,370	3,335	3,760	10,106	57,486	107,780	48,040	14,802	7,926
Mean	174	149	154	141	115	121	337	1,854	3,593	1,550	477	264
Cfs/m	0.460	0.394	0.407	0.373	0.304	0.320	0.892	4.90	9.51	4.10	1.26	0.698
In.	0.53	0.44	0.47	0.43	0.33	0.37	0.99	5.66	10.60	4.73	1.46	0.78
Ac-ft	10,680	8,860	9,470	8,670	6,610	7,460	20,040	114,000	213,800	95,290	29,360	15,720

Calendar year 1955: Max 3,580 Min 105 Mean 509 Cfs/m 1.35 In. 18.27 Ac-ft 368,100  
 Water year 1955-56: Max 4,710 Min 90 Mean 744 Cfs/m 1.97 In. 26.79 Ac-ft 540,000

Peak discharge (base, 3,100 cfs).--June 2 (11 a.m.) 4,870 cfs (6.20 ft); June 16 (12 m.) 4,760 cfs (6.13 ft); June 29 (8:30 to 10 a.m.) 3,130 cfs (5.09 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 1, 3, 4, 9, Nov. 14 to Apr. 13 (no gage-height record Nov. 17, 18, Dec. 16-18, Feb. 5-25, Mar. 5-20; discharge estimated on basis of weather records and records for Hoback River near Jackson and Gros Ventre River at Kelly).

## Gros Ventre River at Kelly, Wyo.

Location.--Lat 43°37'20", long 110°37'30", in NW $\frac{1}{4}$  sec. 11, T. 42 N., R. 115 W., on pier at former bridge site on private road, 0.3 mile south of Kelly Post Office and 3 miles downstream from Turpin Creek.

Drainage area.--622 sq mi.

Records available.--June to September 1918, October 1944 to September 1956.

Gage.--Staff gage read once daily. Altitude of gage is 6,750 ft (from topographic map). June 16 to Sept. 30, 1918, staff gage at site 1 mile upstream at different datum.  
Oct. 1, 1944, to Aug. 8, 1949, wire-weight gage on bridge 25 ft downstream at present datum.  
Aug. 9, 1949, to June 25, 1953, staff gage 10 ft upstream at present datum.  
May 15 to July 23, 1954, May 22 to June 28, 1955, supplementary staff gage 300 ft downstream at datum 1.09 ft higher, and May 20 to Sept. 30, 1956, supplementary staff gage at site 300 ft downstream at datum 0.61 ft lower.

Average discharge.--12 years (1944-56), 483 cfs (349,700 acre-ft per year).

Extremes.--Maximum discharge observed during year, 5,000 cfs June 2 (gage height, 5.75 ft, supplementary staff gage); minimum observed, 101 cfs Mar. 12 (gage height, 0.27 ft).  
1918, 1944-56: Maximum discharge observed, 6,220 cfs June 16, 1918 (gage height, 9.95 ft, site and datum then in use); minimum observed, that of Mar. 12, 1956.  
Flood of May 18, 1927, was considerably higher than flood of June 16, 1918 (land-slide about 2 miles upstream washed out and released about 60,000 acre-ft of impounded water); discharge not determined.

Remarks.--Records good. Diversions above and below station for irrigation.

Revisions.--WSP 1043: Drainage area.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 19					May 20 to Sept. 30				
0.2	93	1.5	585		0.6	193	2.0	860	
.4	119	2.0	588		.8	249	3.0	1,660	
.6	153	3.0	1,110		1.0	314	4.0	2,730	
1.0	239	4.0	1,860		1.5	545	5.8	5,070	

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	192	169	157	151	119	135	*198	441	4,620	1,640	623	237	
2	194	157	161	157	105	139	205	441	5,000	1,480	617	234	
3	186	*146	*157	144	113	139	190	472	4,650	1,440	575	226	
4	166	149	146	155	119	140	184	534	4,040	1,340	528	220	
5	179	155	132	163	130	130	186	635	3,980	1,230	480	217	
6	184	159	133	163	139	119	181	783	3,920	1,190	455	217	
7	181	157	135	155	139	111	173	835	3,350	1,180	426	212	
8	179	153	129	140	133	132	165	888	2,610	1,200	426	212	
9	179	149	133	133	122	129	163	1,020	3,090	1,150	403	217	
10	177	155	137	142	133	125	173	1,110	3,090	1,130	390	215	
11	177	165	142	149	144	116	184	1,050	3,330	1,140	381	217	
12	177	167	140	151	144	101	201	914	3,460	1,110	369	217	
13	177	153	144	153	144	118	209	758	3,400	1,180	341	220	
14	175	148	133	155	139	116	216	659	3,270	1,150	333	220	
15	173	142	118	155	137	113	237	612	3,270	1,070	333	215	
16	173	137	132	157	112	124	263	659	3,090	1,000	325	209	
17	171	130	135	153	125	122	281	888	2,610	937	325	215	
18	169	127	135	151	125	119	340	1,310	*2,000	902	318	212	
19	167	135	142	*151	140	124	374	1,770	1,950	874	277	215	
20	171	146	146	149	137	135	422	2,380	2,160	847	274	209	
21	173	151	151	138	140	135	480	2,850	2,220	*828	274	206	
22	177	177	157	144	133	144	570	3,270	2,050	788	268	206	
23	184	173	179	146	146	146	635	*3,660	1,700	762	261	201	
24	184	169	230	140	135	155	664	3,980	1,550	756	255	204	
25	177	165	258	129	139	167	659	4,110	1,700	743	*249	201	
26	171	161	251	144	140	184	616	4,180	1,750	724	246	198	
27	167	161	239	146	*142	196	588	4,180	1,700	698	243	*201	
28	169	159	218	140	137	181	*552	3,880	1,700	665	252	204	
29	169	157	194	129	132	175	522	3,850	1,750	653	249	212	
30	167	155	159	135	-----	184	460	3,850	1,720	647	243	215	
31	169	-----	163	129	-----	188	-----	3,850	-----	617	240	-----	
Total	5,474	4,627	4,986	4,547	3,843	4,342	10,291	59,819	84,710	31,071	10,979	6,404	
Mean	177	154	161	147	133	140	343	1,930	2,824	1,002	354	213	
Cfs/m	0.285	0.248	0.259	0.236	0.214	0.225	0.551	3.10	4.54	1.61	0.569	0.342	
In.	0.33	0.28	0.30	0.27	0.23	0.26	0.62	3.58	5.06	1.86	0.66	0.38	
Ac-ft	10,860	9,180	9,890	9,020	7,620	8,610	20,410	118,600	168,000	61,630	21,780	12,700	
Calendar year 1955: Max	2,160			Min	116	Mean	350	Cfs/m	0.563	In.	7.65	Ac-ft	253,200
Water year 1955-56: Max	5,000			Min	101	Mean	631	Cfs/m	1.01	In.	13.83	Ac-ft	458,300

\* Discharge measurement made on this day.

Hoback River near Jackson, Wyo.

Location.--Lat 43°17'55", long 110°40'10", in sec. 32, T. 39 N., R. 115 W., on right bank at Camp Creek Camp, a quarter of a mile downstream from Willow Creek, 4 miles upstream from mouth, and 13½ miles southeast of Jackson.

Drainage area.--564 sq mi.

Records available.--July 1917 to September 1918 (published as "near Cheney"), October 1944 to September 1956. Monthly discharge only for some periods, published in WSP 1817.

Gage.--Staff gage read once daily. Altitude of gage is 6,040 ft (from topographic map). July 9, 1917, to Sept. 30, 1918, at site 3½ miles downstream at different datum. Nov. 6, 1944, to May 29, 1956, at site 300 ft upstream at datum 0.92 ft higher.

Average discharge.--12 years (1944-56), 717 cfs (519,100 acre-ft per year).

Extremes.--Maximum daily discharge during year, 5,800 cfs June 2; maximum gage height, 7.4 ft probably June 6 (from floodmark); minimum daily discharge, 145 cfs Dec. 15, 1917-18, 1944-56; Maximum discharge observed, 6,160 cfs June 16, 1918 (gage height, 13.46 ft, site and datum then in use); minimum observed, 90 cfs Dec. 18, 1946 (gage height, 1.70 ft).

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

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 29

June 18 to Sept. 30

2.2	134	4.0	1,480	0.8	277	2.0	1,110
2.4	196	5.0	2,550	1.0	361	2.5	1,640
2.7	352	6.0	3,980	1.3	525	3.0	2,220
3.0	575	7.0	5,800	1.6	740	3.4	2,700
3.5	990						

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	250	214	214	231	b170	196	*352	2,050	5,400	1,980	977	371	
2	250	222	205	261	b150	182	346	2,050	*5,800	2,000	884	371	
3	250	205	*189	214	b180	189	310	2,220	5,300	1,910	812	352	
4	261	*205	168	b240	b170	205	287	2,330	4,700	1,770	724	343	
5	271	231	b165	240	189	196	346	2,830	4,600	1,680	676	343	
6	261	214	189	261	196	b180	245	2,500	4,500	1,660	660	334	
7	250	196	182	250	205	b170	276	2,530	3,500	1,640	646	334	
8	250	196	161	205	205	192	334	2,720	3,200	1,640	618	334	
9	256	222	175	222	b190	192	334	2,650	3,400	1,640	632	334	
10	256	222	182	196	189	182	413	2,800	3,600	1,620	604	334	
11	256	282	175	196	205	b170	559	2,500	3,700	1,620	590	325	
12	250	222	b170	231	205	b150	607	2,270	3,800	1,600	564	325	
13	240	182	b160	240	214	168	671	2,240	3,700	1,510	551	325	
14	236	209	150	214	189	b170	812	1,800	3,600	1,490	551	316	
15	231	200	b145	231	196	b170	930	1,780	3,600	1,380	538	325	
16	231	b170	175	245	b170	186	1,280	2,000	3,500	1,310	513	352	
17	231	189	205	182	186	1,440	2,410	3,000	1,230	501	343		
18	227	b190	196	222	172	1,590	2,890	*2,110	1,210	489	334		
19	227	209	196	231	189	172	1,730	3,540	2,340	1,190	477		
20	240	245	205	*218	b190	192	2,000	4,000	2,680	*1,140	469	316	
21	240	256	214	205	189	196	2,290	4,600	2,650	1,110	465	308	
22	250	245	222	222	b190	196	2,840	5,110	2,340	1,090	454	308	
23	250	218	304	222	205	214	2,840	*5,470	2,000	1,110	432	316	
24	240	214	591	214	196	240	3,140	5,330	2,200	1,090	421	316	
25	214	196	559	189	189	261	3,090	5,560	2,340	1,030	421	*308	
26	214	214	465	189	189	304	2,550	5,720	2,360	1,030	*410	308	
27	222	222	420	196	*189	298	2,480	5,140	2,390	977	410	316	
28	222	214	328	189	196	266	*2,240	4,290	2,360	920	400	316	
29	214	189	b240	b190	205	266	2,160	4,250	2,360	920	390	308	
30	222	214	231	189	---	276	1,910	4,700	2,340	902	381	308	
31	231	---	271	b180	---	322	---	5,000	---	996	381	---	
Total	7,443	6,398	7,436	6,738	5,494	6,459	40,402	105,280	99,370	42,385	17,061	9,831	
Mean	240	213	240	217	189	208	1,347	3,396	3,312	1,367	550	328	
Cfs/m	0.426	0.378	0.426	0.385	0.335	0.369	2.39	6.02	5.87	2.42	0.975	0.582	
In.	0.49	0.42	0.49	0.44	0.36	0.43	2.66	6.94	6.55	2.79	1.12	0.65	
Ac-ft	14,760	12,690	14,750	13,360	10,900	12,810	80,140	208,800	197,100	84,070	33,840	19,500	
Calendar year 1955: Max			2,450	Min	137	Mean	500	Cfs/m	0.887	In.	12.03	Ac-ft	362,300
Water year 1955-56: Max			5,800	Min	145	Mean	968	Cfs/m	1.72	In.	23.34	Ac-ft	702,700

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record May 30 to June 17; discharge estimated on basis of slope-area determination, weather records, and records for nearby stations.

## SNAKE RIVER MAIN STEM

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 1956.

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  $6\frac{1}{2}$  miles downstream at different datum.

Extremes.--Maximum discharge during year, 25,200 cfs June 3 (gage height, 10.79 ft in gage well, 11.4 ft from outside water surface); minimum, 740 cfs Nov. 16 (gage height, 2.19 ft).

1937-39, 1953-56: Maximum discharge, 26,800 cfs June 28, 1954 (gage height, 11.68 ft); minimum, that of Nov. 16, 1955.

Remarks.--Records excellent except those for periods of ice effect, which are good. Flow partly regulated by Jackson Lake (see p. 14). Some diversions from tributaries above station.

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

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,600	1,340	1,310	1,780	1,000	1,300	5,320	6,250	21,700	14,500	9,140	6,770
2	1,560	1,270	1,320	1,730	950	1,300	5,170	6,790	23,300	13,400	8,810	6,900
3	1,540	1,290	1,280	1,610	1,100	1,300	5,080	7,440	24,500	13,000	8,600	6,900
4	1,540	1,300	1,180	1,700	1,180	1,310	5,060	8,070	24,100	12,700	8,180	6,870
5	1,570	1,340	1,170	1,630	1,230	1,320	5,210	9,200	23,900	11,700	7,870	7,060
6	1,630	1,320	1,200	*1,580	1,240	1,310	*5,100	9,260	23,000	11,500	7,710	7,330
7	1,600	1,280	1,290	1,450	1,250	1,300	5,060	9,110	21,100	11,100	7,490	7,440
8	1,580	1,240	1,270	1,450	1,250	1,300	5,230	9,590	21,400	10,700	7,490	7,140
9	1,560	*1,250	1,360	1,430	1,250	1,300	5,280	10,300	22,200	11,000	7,620	7,000
10	1,540	1,310	1,340	1,400	1,250	1,300	5,490	12,100	22,500	10,900	7,600	6,950
11	1,560	1,480	1,270	1,400	1,250	1,300	5,780	13,300	21,700	10,600	7,520	6,580
12	1,540	1,340	*1,290	1,400	1,250	1,350	5,970	12,500	21,200	*10,700	7,440	6,480
13	1,510	1,170	1,230	1,400	1,250	1,700	6,170	12,200	21,700	10,900	7,330	6,200
14	1,490	1,240	1,100	1,400	1,200	2,000	6,390	11,600	21,500	10,600	7,270	5,800
15	1,470	1,140	1,150	1,400	1,150	2,500	6,820	11,700	*20,600	10,300	7,270	5,060
16	1,460	978	1,250	1,400	1,100	2,550	7,490	12,400	19,700	10,300	7,140	4,620
17	1,450	1,140	1,290	1,400	1,100	2,570	7,730	13,900	17,500	10,400	7,000	4,400
18	1,440	1,280	1,320	1,380	1,140	2,550	8,100	15,600	15,000	10,300	6,850	4,070
19	1,450	1,330	1,340	1,380	1,160	*2,540	8,400	16,300	14,300	10,500	6,740	4,140
20	1,460	1,450	1,350	1,360	1,200	2,570	7,570	16,700	15,100	10,600	6,850	4,840
21	*1,500	1,610	1,280	1,340	1,230	2,670	6,430	*17,200	15,900	10,800	*6,770	5,170
22	1,530	1,620	1,470	1,340	1,250	2,780	6,850	18,100	14,800	10,700	7,080	5,060
23	1,530	1,440	2,520	1,360	1,270	2,880	7,190	19,200	13,600	10,300	7,600	4,820
24	1,480	1,370	3,390	1,320	1,300	4,120	7,900	19,700	12,000	*10,100	7,870	4,760
25	1,410	1,320	2,670	1,240	1,300	4,990	7,980	20,300	12,300	9,950	7,840	*4,120
26	1,400	1,330	2,280	1,350	1,300	5,190	*7,250	20,300	12,500	9,740	7,980	3,650
27	1,390	1,360	2,220	1,350	1,300	5,030	7,250	20,300	14,000	9,590	8,150	3,480
28	1,400	1,310	1,990	1,290	1,300	4,910	6,770	19,900	15,400	9,820	7,710	3,070
29	1,390	1,280	1,790	1,250	1,300	4,970	6,170	*20,200	15,500	9,650	7,220	2,290
30	1,390	1,290	1,940	1,200	-----	5,060	6,020	19,700	15,200	9,590	6,900	2,040
31	1,410	-----	2,000	1,100	-----	5,210	-----	19,900	-----	9,350	6,740	-----
Total	46,380	39,418	48,840	43,800	35,050	82,480	192,220	439,110	557,200	334,890	233,780	160,990
Mean	1,498	1,314	1,575	1,413	1,209	2,661	6,407	14,160	18,570	10,800	7,541	5,366
Ac-ft	91,990	78,180	96,870	86,880	69,520	163,600	381,300	871,000	1,105,000	684,200	463,700	319,300
Calendar year 1955: Max 14,700 Min 978 Mean 3,912 Ac-ft 2,832,000												
Water year 1955-56: Max 24,500 Min 950 Mean 6,050 Ac-ft 4,392,000												

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 16-19, Jan. 9-13, 15, 16, Jan. 29 to Mar. 17.

Greys River above reservoir, near Alpine, Wyo.

Location.--Lat 43°08'50", long 110°09'20", in SW $\frac{1}{4}$  sec. 33, T. 37 N., R. 118 W., on left bank  $2\frac{1}{2}$  miles upstream from mouth and  $3\frac{1}{2}$  miles southeast of Alpine.

Drainage area.--451 sq mi.

Records available.--July to September 1917, June to September 1918, March 1937 to March 1939, October 1953 to September 1956. 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.

Extremes.--Maximum discharge during year, 5,010 cfs May 25 (gage height, 7.58 ft); minimum, 118 cfs Dec. 15 (gage height, 2.62 ft).  
1917-18, 1937-39, 1953-56: Maximum discharge observed, 5,200 cfs June 14, 1918 (gage height, 4.85 ft, former site and datum); minimum, that of Dec. 15, 1955.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Less than 500 acres irrigated by diversions from Greys River and tributaries above station.

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

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 5-19, June 5-25)

2.7	125	4.5	1,010
3.0	190	5.0	1,500
3.5	350	6.0	2,890
4.0	625		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	255	221	243	410	212	230	573	1,530	4,180	1,520	653	405
2	255	224	238	390	200	240	512	1,590	4,280	1,480	625	400
3	252	235	224	354	190	245	485	1,680	4,170	1,390	*618	400
4	249	238	204	358	180	240	470	1,960	4,000	1,300	599	395
5	260	243	172	346	180	235	*490	2,520	3,870	1,270	586	395
6	255	226	201	*330	190	240	455	2,390	3,650	1,240	566	390
7	255	229	201	300	195	240	455	2,280	3,090	1,220	560	390
8	*255	218	180	300	200	245	495	2,430	3,080	1,160	548	395
9	252	235	190	275	210	255	490	2,510	3,160	1,100	542	400
10	246	263	172	296	210	260	592	2,520	3,160	1,080	536	390
11	258	292	163	292	220	250	718	2,290	3,340	1,060	530	405
12	249	238	180	300	220	240	755	1,860	3,280	*1,040	524	395
13	246	190	160	300	220	240	858	1,700	3,240	1,020	518	385
14	240	200	150	282	220	240	978	1,560	*3,130	970	512	380
15	240	175	145	296	220	240	1,180	1,520	3,050	938	506	380
16	240	147	155	300	220	245	1,400	*1,680	2,940	906	500	375
17	238	165	165	282	220	258	1,400	2,040	2,500	882	506	370
18	238	178	175	275	220	270	1,400	2,640	2,240	850	490	365
19	235	232	224	275	220	286	1,600	3,050	2,260	818	485	370
20	240	245	249	272	220	289	1,790	3,520	2,390	794	480	365
21	249	260	240	263	220	289	2,070	*3,820	2,340	778	470	*360
22	263	*278	275	269	230	310	2,330	4,040	2,000	770	460	355
23	255	260	646	278	240	314	2,290	4,290	1,860	762	445	355
24	240	238	1,190	263	240	390	2,430	4,340	1,870	740	445	355
25	232	218	868	243	235	495	2,250	4,850	1,860	725	440	350
26	238	249	710	255	230	573	*2,230	4,580	1,820	702	435	346
27	240	260	618	266	230	518	2,190	4,180	1,780	695	435	346
28	240	246	524	238	225	465	1,870	*3,800	1,740	702	430	370
29	238	232	405	232	*223	435	1,640	*3,650	1,660	688	420	365
30	243	240	385	246	-----	445	1,500	3,520	1,610	674	*415	355
31	243	-----	430	226	-----	530	-----	3,800	-----	660	415	-----
Total	7,639	6,875	10,080	8,972	6,240	9,752	37,896	88,140	83,550	29,934	15,694	11,327
Mean	246	229	325	289	215	315	1,263	2,843	2,765	966	506	378
Cfsm	0.545	0.508	0.721	0.841	0.477	0.698	2.80	6.30	6.18	2.14	1.12	0.858
In.	0.63	0.57	0.83	0.74	0.51	0.80	3.12	7.26	6.90	2.47	1.29	0.94
Ac-ft	15,150	13,640	19,990	17,800	12,380	19,340	75,170	174,800	165,700	59,370	31,130	22,470

Calendar year 1955: Max 1,930 Min - Mean 465 Cfsm 1.03 In. 14.01 Ac-ft 337,000  
Water year 1955-56: Max 4,850 Min 145 Mean 864 Cfsm 1.92 In. 26.06 Ac-ft 626,900

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 14, 15, Dec. 12-14, Feb. 2 to Mar. 5, Mar. 8-11, 13-16, 18.

## SALT RIVER BASIN

Salt River near Smoot, Wyo.

Location.--Lat 42°36'20", long 110°55'10", in sec. 7, T. 30 N., R. 118 W., on left bank  $\frac{1}{4}$  miles south of Smoot,  $\frac{1}{2}$  miles upstream from Willow Creek, and 4 miles upstream from Cottonwood Creek.

Drainage area.--47.8 sq mi.

Records available.--June 1932 to September 1956. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 6,600 ft (from topographic map). Prior to Apr. 11, 1934, chain gage, and Apr. 11 to Oct. 1, 1934, water-stage recorder, at same site at datum 1.00 ft higher.

Average discharge.--24 years, 35.5 cfs (25,720 acre-ft per year).

Extremes.--Maximum discharge during year, 394 cfs May 24 (gage height, 3.40 ft); minimum daily, 3.5 cfs Feb. 1.

1932-56: Maximum discharge, 430 cfs May 15, 1936 (gage height, 3.15 ft), from rating curve extended above 200 cfs; maximum gage height, 3.76 ft June 9, 1944 (back-water from tree); no flow Jan. 25-28, 1949.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation of about 4,000 acres (for details on adjudication of diversions, see Remarks for this station in WSP 1217).

Revisions.--WSP 1123: Drainage area.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 6-19)

1.3	3.2	1.6	18	2.5	180
1.4	6.3	1.8	41	3.0	296
1.5	11	2.0	76	3.4	394

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	12	9.0	6.0	3.5	5.0	20	104	*313	86	26	17
2	11	12	8.0	6.0	4.0	5.0	20	110	332	80	25	17
3	10	12	8.0	6.0	4.0	5.0	20	116	325	74	25	17
4	9.6	12	7.0	6.0	4.0	5.0	20	136	298	68	24	16
5	10	12	6.0	7.0	4.0	5.0	20	167	284	66	23	16
6	10	12	6.0	7.0	*4.0	5.0	20	191	265	63	22	15
7	10	12	6.0	7.0	4.0	5.0	23	184	238	61	22	15
8	10	13	6.0	7.0	4.0	5.0	25	217	243	59	22	15
9	10	14	7.0	7.0	4.0	5.0	*27	215	236	57	21	15
10	10	14	7.0	6.0	4.0	5.0	29	209	224	55	21	15
11	10	14	8.0	7.0	5.0	5.0	40	*191	234	54	21	15
12	10	14	8.0	7.0	6.0	5.0	46	162	222	52	21	15
13	10	11	8.0	7.0	6.0	5.0	65	147	215	50	20	15
14	10	9.0	7.0	7.0	6.0	5.0	84	138	213	*48	20	16
15	10	7.0	6.0	7.0	5.0	5.0	96	136	211	46	19	15
16	11	6.0	*6.0	7.0	5.0	6.0	114	143	195	44	20	15
17	12	6.0	6.0	*7.0	4.5	6.0	134	154	162	43	19	15
18	13	*6.0	7.0	7.0	4.5	6.0	143	180	145	41	19	*14
19	13	7.0	7.0	7.0	5.0	6.0	156	202	140	40	20	14
20	*13	7.5	7.0	7.0	5.0	6.0	176	315	134	37	20	14
21	12	8.0	8.0	7.0	5.0	6.0	169	349	130	36	19	14
22	13	8.0	9.0	7.0	5.0	7.0	180	346	112	33	19	14
23	12	7.0	11	7.0	5.0	8.0	182	359	110	31	19	14
24	11	7.0	10	7.0	5.0	9.0	173	346	110	29	18	13
25	12	7.0	10	7.0	5.0	10	143	376	110	29	18	13
26	12	9.0	9.0	7.0	5.0	12	147	374	*106	29	18	13
27	12	9.0	8.0	7.0	5.0	10	160	339	106	28	18	13
28	12	9.0	7.0	6.0	5.0	10	126	308	104	27	18	13
29	12	9.0	6.0	5.0	5.0	12	106	291	96	27	17	13
30	12	9.0	6.0	5.0	5.0	14	100	272	92	27	15	13
31	12	-----	6.0	4.0	-----	15	-----	274	-----	26	*15	-----
Total	345.6	294.5	230.0	204.0	136.5	218.0	2,764	7,051	5,699	1,446	624	439
Mean	11.1	9.82	7.42	6.58	4.71	7.03	92.1	227	190	46.8	20.1	14.6
Ac-ft	685	584	456	405	271	432	5,460	13,990	11,300	2,870	1,240	871
Calendar year 1955: Max	190				Min 3.8		Mean 27.0		Ac-ft 19,510			
Water year 1955-56: Max	376				Min 3.5		Mean 53.1		Ac-ft 36,580			

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 1-3, 6-9, Nov. 12 to Jan. 31. No gage-height record Oct. 6-20, Feb. 1 to Apr. 9, July 12-14, Sept. 22-30; discharge estimated on basis of 4 discharge measurements, recorded range in stage, and records for Cottonwood Creek near Smoot.

## Cottonwood Creek near Smoot, Wyo.

Location.--Lat 42°36'40", long 110°53'30", in sec. 4, T. 30 N., R. 118 W., on right bank 0.3 mile upstream from headgate of highest diversion, 1½ miles downstream from Porcupine Creek, 1½ miles southeast of Smoot, and 4½ miles upstream from mouth.

Drainage area.--26.3 sq mi.

Records available.--October 1932 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 6,750 ft (from topographic map). Prior to Apr. 8, 1934, staff gage at site a quarter of a mile downstream at different datum.

Average discharge.--24 years, 44.0 cfs (31,880 acre-ft per year).

Extremes.--Maximum discharge during year, 438 cfs June 2 (gage height, 3.31 ft); minimum daily, 10 cfs Feb. 1.

1932-56: Maximum discharge, that of June 2, 1956; minimum, 6.4 cfs Mar. 11, 1948; minimum gage height, 0.95 ft Jan. 19, 1950.

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

Revisions (water years).--WSP 933: Drainage area. WSP 1153: 1933.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.2	12	2.0	96
1.3	17	2.5	210
1.5	33	3.0	345
1.7	54		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	16	15	14	10	12	17	38	*342	107	61	37
2	23	16	16	14	11	12	17	37	360	100	59	37
3	23	16	15	14	12	12	16	37	351	94	58	36
4	23	16	16	14	12	12	16	38	324	90	56	36
5	23	16	14	13	*12	12	16	42	315	88	56	36
6	23	16	14	13	12	12	16	44	291	88	54	35
7	23	16	14	13	12	12	16	46	265	88	54	34
8	23	16	14	13	12	*12	16	51	232	88	54	34
9	22	16	14	13	12	12	*16	56	230	88	54	33
10	22	17	14	13	12	12	17	62	260	88	53	33
11	21	18	14	13	13	11	18	*67	252	86	52	33
12	21	17	14	13	14	12	20	64	262	86	51	33
13	20	16	14	13	14	12	21	60	208	86	50	33
14	20	17	15	13	13	12	23	56	220	83	50	30
15	20	17	*14	13	13	12	26	54	188	*82	48	32
16	20	16	14	13	13	12	28	54	162	82	48	32
17	19	16	14	*13	13	12	28	61	158	80	47	31
18	19	*16	14	13	13	12	29	85	150	77	47	*31
19	19	16	14	13	12	12	33	123	146	74	46	31
20	*19	16	14	12	12	12	38	153	148	73	46	30
21	18	16	14	12	12	12	42	178	143	70	45	30
22	18	16	14	12	12	13	46	180	141	70	43	30
23	17	16	20	12	12	14	46	190	126	69	42	29
24	16	16	23	12	12	16	46	190	130	70	41	29
25	16	16	19	12	12	17	44	235	128	69	41	28
26	15	15	18	12	12	18	43	235	*130	67	41	28
27	16	16	17	12	12	17	44	222	132	67	40	28
28	16	15	16	12	12	16	43	218	132	65	40	28
29	16	15	16	12	12	16	41	250	128	65	39	28
30	16	15	14	12	-----	16	40	252	117	64	39	28
31	16	-----	14	12	-----	17	-----	268	-----	64	*39	-----
Total	806	482	472	395	355	411	862	3,646	6,171	2,468	1,494	953
Mean	19.5	16.1	15.2	12.7	12.2	13.3	28.7	118	206	79.6	48.2	31.8
Ac-ft	1,200	956	936	783	704	815	1,710	7,230	12,240	4,900	2,960	1,890
Calendar year 1955: Max	168				Min 7.3		Mean 34.5	Ac-ft 24,950				
Water year 1955-56: Max	360				Min 10		Mean 50.0	Ac-ft 36,330				

Peak discharge (base, 140 cfs).--June 2 (9 a.m.) 438 cfs (3.31 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 16, Dec. 5, 15, 16, Jan. 27 to Feb. 1, Mar. 11-13. No gage-height record Feb. 2 to Mar. 8; discharge estimated on basis of 2 discharge measurements and weather records.

## SALT RIVER BASIN

Swift Creek near Afton, Wyo.

Location.--Lat 42°43'30", long 110°54'00", in SE $\frac{1}{4}$  sec. 29, T. 32 N., R. 118 W., on right bank 1 mile upstream from mouth of canyon,  $\frac{1}{2}$  miles east of Afton, and  $4\frac{1}{2}$  miles up-stream from mouth.

Drainage area.--27.4 sq mi.

Records available.--October 1942 to September 1956. 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.--14 years, 89.1 cfs (64,550 acre-ft per year).

Extremes.--Maximum discharge during year, 565 cfs June 3 (gage height, 3.37 ft); minimum daily, 27 cfs Feb. 1.

1942-56: Maximum discharge, that of June 3, 1956; maximum gage height, 3.41 ft May 28, 1951; minimum daily discharge, that of Feb. 1, 1956.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Diversions above station for powerplant above station and municipal use below (for details on adjudication of diversions, see Remarks for this station in WSP 1217).

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

1.7	26	2.5	174
1.9	41	3.0	380
2.1	73	3.3	530

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47	40	39	36	27	30	39	66	*470	268	103	69
2	47	40	36	38	28	35	37	66	455	268	103	69
3	47	42	39	37	31	35	35	69	505	258	96	68
4	45	40	41	36	33	35	35	73	470	245	93	64
5	44	42	36	35	*33	35	35	75	490	245	91	64
6	45	38	37	34	37	30	34	77	490	245	91	64
7	45	40	37	34	35	30	37	81	405	245	91	64
8	45	39	35	34	35	35	38	85	430	233	89	62
9	45	38	36	34	35	*35	*39	93	430	225	89	60
10	45	44	36	32	35	30	40	96	410	209	85	66
11	45	44	34	32	36	30	40	96	430	202	81	66
12	44	41	35	32	38	32	40	89	440	205	79	62
13	44	41	34	33	35	32	40	*85	430	202	85	60
14	44	42	34	34	35	32	40	83	376	193	81	59
15	44	42	*34	34	35	32	41	81	395	*194	85	60
16	44	41	36	36	35	35	45	85	308	163	81	57
17	44	41	36	*36	32	35	48	93	263	154	77	60
18	44	*40	36	35	32	37	49	127	237	152	77	*60
19	44	40	36	35	32	37	51	177	250	146	75	59
20	*47	41	36	35	32	37	57	217	272	141	77	59
21	46	41	36	36	35	37	64	233	268	132	75	59
22	48	41	37	35	35	37	68	237	258	132	71	57
23	44	40	44	34	35	37	73	268	258	132	71	55
24	44	40	51	34	35	37	73	276	276	130	71	57
25	42	41	41	32	35	37	68	380	281	127	71	55
26	44	41	41	34	35	35	71	371	*281	127	68	55
27	42	39	41	34	35	35	71	335	281	122	71	54
28	41	39	41	32	35	35	73	308	261	116	68	57
29	41	41	41	32	35	35	73	290	261	114	68	54
30	40	40	40	31	-----	37	68	304	286	111	66	52
31	42	-----	39	29	-----	39	-----	380	-----	106	*86	-----
Total	1,375	1,219	1,175	1,055	988	1,070	1,522	5,296	10,707	5,542	2,495	1,807
Mean	44.4	40.6	37.9	34.0	34.1	34.5	50.7	171	357	179	80.5	60.2
Ac-ft	2,730	2,420	2,330	2,090	1,960	2,120	3,020	10,500	21,240	10,990	4,950	3,580
Calendar year 1955: Max	301				Min 34	Mean 70.6	Ac-ft 51,100					
Water year 1955-56: Max	505				Min 27	Mean 93.6	Ac-ft 67,930					

Peak discharge (base, 390 cfs).--June 3 (12:30 p.m.) 565 cfs (3.37 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 15-17, Feb. 1 to Apr. 14; discharge estimated on basis of 4 discharge measurements, weather records, and records for nearby stations.



Salt River above reservoir, near Etna, Wyo.

Location.--Lat 43°04'50", long 111°02'15", in NE $\frac{1}{4}$  sec. 28, T. 36 N., R. 119 W., on right bank  $3\frac{1}{2}$  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 1956. 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.

Extremes.--Maximum discharge during year, 2,420 cfs Apr. 24 (gage height, 4.68 ft); minimum, 281 cfs Feb. 4 (gage height, 1.81 ft).  
1917-18, 1953-56: Maximum discharge, that of Apr. 24, 1956; minimum, that of Feb. 4, 1956.

Remarks.--Records excellent except those for periods of no gage-height record or 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 10 discharge measurements furnished by Bureau of Reclamation.

Rating tables, water year 1955-56, 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	
1.9	290	2.5	610
2.1	366	3.0	995
2.5	560	4.0	1,820
3.0	950	4.8	2,530
3.3	1,200		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	536	548	560	530	b360	465	833	1,970	2,020	915	760	692
2	530	542	567	530	b320	475	785	1,940	1,990	939	752	685
3	530	542	554	598	b300	465	753	1,940	1,910	923	745	700
4	530	542	542	581	294	450	*738	2,010	1,830	923	745	700
5	530	548	506	609	297	446	768	2,230	1,740	907	738	700
6	530	548	524	595	342	437	745	2,240	1,650	875	745	*700
7	536	548	518	567	374	437	768	2,240	1,560	875	722	692
8	530	554	512	554	342	450	828	2,200	1,410	867	722	692
9	530	554	524	*524	378	432	859	2,210	1,320	925	715	700
10	*530	574	512	530	370	428	971	2,240	1,270	931	708	692
11	530	574	512	536	402	428	1,110	2,280	1,240	875	700	692
12	530	567	512	536	424	424	1,160	2,230	1,190	843	685	692
13	530	542	518	542	437	428	1,340	2,100	1,150	828	700	692
14	536	560	495	542	432	441	1,500	1,950	*1,130	812	700	685
15	536	518	b480	554	*428	419	1,630	1,820	1,110	790	692	678
16	536	512	b485	609	398	419	1,790	1,770	1,250	782	*692	678
17	536	a320	b495	598	382	410	1,770	1,840	1,270	782	708	670
18	530	a530	495	567	424	410	1,870	1,950	1,210	*768	715	662
19	530	548	490	554	441	415	1,940	2,080	1,130	745	708	662
20	530	548	490	554	450	424	2,010	2,200	1,090	730	715	670
21	542	595	495	548	432	424	2,110	*2,280	1,210	730	708	670
22	548	609	567	548	394	437	2,230	2,320	1,150	730	692	670
23	542	*574	849	548	410	465	2,300	2,300	1,100	738	870	670
24	530	554	1,190	530	441	500	*2,380	2,330	1,050	*760	662	670
25	524	536	1,010	524	446	581	2,300	2,340	1,040	738	662	662
26	524	536	942	524	455	675	2,260	2,330	995	760	670	*655
27	524	574	882	536	465	668	2,370	2,310	955	745	678	655
28	530	588	785	506	470	645	2,330	2,250	947	738	685	662
29	542	598	675	495	470	630	2,210	2,190	939	752	692	662
30	554	567	638	512	-----	675	2,060	2,140	-----	768	700	662
31	554	-----	652	465	-----	753	-----	2,050	-----	760	700	-----
Total	16,550	16,640	18,976	17,126	11,618	15,176	46,718	66,280	38,779	25,252	21,886	20,372
Mean	534	555	612	552	401	490	1,557	2,138	1,293	815	706	679
Ac-Ft	32,830	33,000	37,640	33,970	23,040	30,100	92,660	131,500	76,320	50,090	43,410	40,410

Calendar year 1955: Max 1,210 Min 358 Mean 561 Ac-ft 405,900  
Water year 1955-56: Max 2,360 Min 294 Mean 862 Ac-ft 625,600

- \* Discharge measurement made on this day.  
a No gage-height record; discharge interpolated.  
b Stage-discharge relation affected by ice.

## McCoy Creek above reservoir, near Alpine, Idaho

Location.--Lat 43°10'50", long 111°06'55", in SW<sup>1</sup>/<sub>4</sub> sec. 6, T. 3 S., R. 46 E., on left bank 1½ miles upstream from mouth and 3½ miles west of Alpine.

Drainage area.--108 sq mi.

Records available.--July to September 1917, June to September 1918, May to July 1934, September 1953 to September 1956. Monthly discharge only for some periods, published in WSP 1317. Published as McCoy Creek near Alpine, Idaho, 1917-18 and as McCoy 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 1 mile downstream at different datum.

Extremes.--Maximum discharge during year, 1,130 cfs Apr. 21 (gage height, 5.72 ft); minimum, 9 cfs Nov. 8.

1917-18, 1934, 1953-56: Maximum discharge, that of Apr. 21, 1956; minimum, 1 cfs on many days during 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 12 discharge measurements furnished by Bureau of Reclamation.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 22, 23)

Oct. 1 to Apr. 1				Apr. 2 to Sept. 30			
1.2	8	2.0	35	3.5	305	5.0	833
1.4	11	2.5	90	4.0	467	5.3	950
1.6	15	3.0	175	Note.--Same as preceding table below 3.5 ft.			
1.8	21	3.5	305				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	15	18	44	b22	*21	157	572	371	89	*34	19
2	15	b14	16	43	b22	20	*157	572	355	90	32	18
3	15	b14	b15	b40	22	20	123	583	356	84	30	18
4	15	15	b15	*39	23	20	120	683	314	80	30	18
5	15	16	b15	40	23	b20	123	746	293	77	29	17
6	*16	16	b15	35	23	b20	115	698	265	72	29	18
7	15	b15	b15	b34	23	b20	118	668	245	69	29	17
8	15	*b15	b15	b33	23	b21	132	653	226	67	29	17
9	15	16	b16	b33	23	22	141	642	219	64	27	18
10	15	17	b16	32	23	22	195	620	211	62	26	17
11	17	19	b16	30	23	b21	270	590	204	61	26	19
12	17	16	b15	29	23	b21	279	515	199	*58	26	18
13	16	b15	b14	28	23	b21	381	447	190	56	25	*17
14	15	b14	b13	26	23	b21	474	390	*188	53	25	17
15	15	b15	b13	b26	22	b21	657	378	190	51	25	16
16	15	b15	b14	b26	22	b21	724	413	184	50	25	16
17	15	b14	b15	b26	22	22	709	487	169	48	25	16
18	15	b16	b15	b26	22	b23	806	558	157	46	25	16
19	15	18	b16	b26	22	b25	*829	635	147	44	25	15
20	15	21	16	26	22	27	849	657	143	43	26	15
21	15	26	16	26	22	32	927	646	141	45	*24	15
22	18	21	20	26	22	40	923	642	128	44	19	15
23	16	19	145	25	22	55	919	620	123	41	20	15
24	16	17	229	25	21	82	*927	602	115	40	20	15
25	15	b16	125	b25	21	133	806	*587	110	39	20	15
26	15	18	100	b25	21	167	*818	550	108	37	20	15
27	16	22	94	25	21	143	833	498	103	38	21	15
28	16	21	72	b25	21	120	768	460	99	40	22	16
29	16	19	48	b25	21	106	676	426	95	37	22	16
30	16	18	57	b24	-----	110	587	390	91	38	20	15
31	16	-----	53	b23	-----	139	-----	374	-----	35	20	-----
Total	481	509	1,262	916	843	1,556	15,521	17,302	5,719	1,698	776	494
Mean	15.5	17.0	40.7	29.5	22.2	50.2	517	558	191	54.8	25.0	16.5
Cfs/m	0.144	0.157	0.377	0.273	0.206	0.455	4.79	5.17	1.77	0.507	0.231	0.153
In.	0.17	0.18	0.43	0.31	0.22	0.54	5.34	5.96	1.98	0.58	0.27	0.17
Ac-ft	954	1,010	2,500	1,820	1,280	3,090	30,790	34,320	11,340	3,370	1,540	980

Calendar year 1955: Max 568 Min 11 Mean 63.5 Cfs/m 0.588 In. 8.01 Ac-ft 45,940  
Water year 1955-56: Max 927 Min 13 Mean 128 Cfs/m 1.19 In. 16.15 Ac-ft 92,990

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Feb. 3-29; discharge estimated on basis of records for nearby stations.

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 1956. 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.

Extremes.--Maximum discharge during year, 297 cfs June 13; maximum gage height, 3.89 ft June 1; no flow for many days.  
1917-18, 1953-56: Maximum discharge observed, 350 cfs June 14, 1918; no flow for many days.

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

Cooperation.--Water-stage recorder chart and two discharge measurements furnished by Bureau of Reclamation.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 3-27, Aug. 5 to Sept. 24)

1.0	0	2.0	28
1.2	1	2.5	65
1.3	2	3.0	122
1.5	6	3.5	195
1.7	13	4.0	277

Discharge, in cubic feet per second, water year October 1955 to September 1956

Da.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0						0	7	208	80	2	4
2	0						0	7	196	78	2	3
3	0						0	7	202	72	1	3
4	0						0	9	211	65	1	3
5	0						0	11	213	60	1	3
6	0						0	12	195	59	1	3
7	0						0	14	200	54	1	3
8	0						0	16	208	51	1	3
9	0						0	18	229	49	1	2
10	0						0	22	219	46	1	2
11	0						0	19	213	40	1	2
12	0						0	14	211	38	1	2
13	0						0	12	268	*36	1	2
14	0						0	8	257	32	1	2
15	0						0	7	*224	29	*1	2
16	0						0	14	182	26	1	2
17	0						0	20	121	24	1	2
18	0						0	38	101	22	0	2
19	0						a1	52	108	20	2	0
20	0						a3	65	118	18	2	0
21	0						a5	90	116	14	5	0
22	0						a7	*121	91	12	4	0
23	0						*11	154	92	10	5	0
24	0						12	149	107	*8	4	0
25	0						12	147	107	7	4	0
26	0						12	133	102	6	4	0
27	0						11	126	98	5	5	0
28	0						11	121	*99	4	4	0
29	0						9	*156	99	4	4	0
30	0				-----		8	152	93	3	*4	0
31	0	-----			-----		-----	177	-----	2	4	-----
Total	1	0	0	0	0	0	102	1,898	4,888	974	73	45
Mean	0.03	0	0	0	0	0	3.4	61.2	163	31.4	2.4	1.5
Ac-ft	2	0	0	0	0	0	202	3,760	9,700	1,930	145	89

Calendar year 1955: Max 96 Min 0 Mean 7.0 Ac-ft 5,030  
Water year 1955-56: Max 268 Min 0 Mean 21.8 Ac-ft 15,830

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby stations.

## 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, August 1953 to September 1956. 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.

Extremes.--Maximum discharge during year, 628 cfs May 22 (gage height, 4.93 ft); minimum recorded, 10 cfs Mar. 5.  
1917-18, 1934, 1953-56: Maximum discharge observed, 870 cfs June 15, 1918; minimum, 5 cfs Dec. 15, 1953.

Remarks.--Records excellent except those for periods of ice effect, which are fair.

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

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	27	27	43	19	15	29	94	552	204	*86	60
2	36	26	27	41	18	12	28	99	543	193	86	60
3	*36	26	26	*40	18	13	27	107	533	179	83	58
4	36	27	26	38	18	13	27	*131	506	172	81	58
5	37	28	26	35	18	*12	27	154	476	167	78	57
6	36	28	26	28	18	11	28	165	417	162	77	*57
7	36	*28	26	28	18	11	26	172	370	159	76	57
8	35	28	26	28	18	12	27	185	379	154	72	57
9	35	28	26	28	17	12	*27	197	400	146	71	57
10	35	31	26	27	17	12	30	201	443	143	70	56
11	36	30	26	27	17	11	35	176	451	141	71	58
12	34	29	26	27	17	11	35	154	454	158	70	58
13	34	28	25	27	17	11	40	139	427	*134	69	57
14	33	27	24	27	16	11	42	131	406	129	68	*57
15	33	26	23	26	15	11	53	139	406	124	*68	58
16	32	25	23	25	14	12	65	170	356	119	67	59
17	32	25	24	25	13	13	66	223	300	116	66	57
18	32	28	25	25	13	14	75	272	290	110	68	57
19	31	30	26	25	13	15	87	387	302	103	70	56
20	32	32	28	25	13	16	103	510	304	101	68	55
21	32	35	30	25	13	18	118	527	*286	100	68	53
22	32	32	33	25	13	20	132	*538	256	96	66	53
23	32	31	40	25	12	23	134	568	244	92	65	50
24	31	30	54	24	12	27	148	550	248	91	65	48
25	30	29	45	23	12	30	146	568	254	89	65	46
26	30	29	40	23	11	35	132	568	242	89	64	*45
27	30	29	38	23	12	34	129	561	236	92	65	47
28	30	28	35	23	12	33	124	529	236	91	65	49
29	30	28	30	22	14	33	107	*529	230	90	63	47
30	30	27	36	21	-----	34	99	522	221	88	62	46
31	29	-----	41	20	-----	32	-----	559	-----	87	60	-----
Total	1,023	856	934	849	438	568	2,146	9,825	10,768	3,899	2,173	1,635
Mean	33.0	28.5	30.1	27.4	15.1	18.3	71.5	317	359	126	70.1	54.5
Cfsm	0.557	0.481	0.508	0.463	0.255	0.309	1.21	5.35	6.06	2.15	1.18	0.921
In.	0.84	0.54	0.59	0.53	0.28	0.36	1.35	6.17	6.76	2.46	1.36	1.03
Ac-ft	2,030	1,700	1,850	1,660	869	1,130	4,260	19,490	21,360	7,730	4,310	3,240
Calendar year 1955: Max	227			Min 20		Mean 54.3		Cfsm 0.917	In. 12.44	Ac-ft 39,280		
Water year 1955-56: Max	568			Min 11		Mean 95.9		Cfsm 1.62	In. 22.07	Ac-ft 69,650		

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 1-5, 11-13, 15-21, Dec. 2-12, 14-23, Dec. 30 to Jan. 5, Jan. 7-12, 15, 16, Jan. 24 to Feb. 25, Mar. 5-25 (no gage-height record Feb. 3-25; discharge estimated on basis of records for nearby station).

## Bear Creek above reservoir, near Irwin, Idaho

Location.--Lat 43°16'45", long 111°13'15", in SE $\frac{1}{4}$  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.

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 1956. 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.

Extremes.--Maximum discharge during year, 736 cfs May 19 (gage height, 4.81 ft); minimum, 16 cfs Dec. 11 (gage height, 2.17 ft).  
1917-18, 1934-36, 1953-56: 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 excellent except those for periods of ice effect or no gage-height record, which are fair. No diversions above station.

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

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge in cubic feet per second)

Oct. 1 to Apr. 26

Apr. 27 to Sept. 30

2.2	19	3.2	130	2.7	27	3.8	260
2.5	37	3.6	227	3.0	66	4.2	420
2.8	66	4.1	430	3.4	144	4.7	678

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	22	b22	47	b30	28	94	368	351	99	52	37
2	24	b21	b21	44	b29	27	88	368	327	101	52	35
3	24	22	b21	42	b29	28	*82	389	300	95	51	35
4	*24	22	22	40	b30	28	77	490	282	92	49	35
5	25	22	b22	*41	b30	27	79	525	260	90	48	34
6	24	22	22	40	b30	b27	76	490	236	88	47	34
7	24	22	22	38	b30	b27	76	490	210	82	47	34
8	24	22	b22	b38	b30	b27	79	500	190	80	46	34
9	24	22	22	b37	b30	27	77	510	179	79	46	35
10	24	22	22	37	b30	b27	95	505	173	79	*44	32
11	26	23	23	36	b30	b26	116	461	173	77	43	32
12	25	22	22	35	b30	b26	130	407	168	77	42	32
13	24	b22	22	36	*b30	b26	172	360	166	74	42	*31
14	24	b22	b20	35	b30	b26	212	327	158	71	42	29
15	24	b22	b20	b35	29	b26	230	316	*182	68	46	29
16	24	b21	b20	b34	b28	b26	309	355	173	66	46	29
17	24	b22	b22	b34	b28	26	360	*420	161	66	46	29
18	25	*b23	24	34	b28	29	404	476	158	*65	46	29
19	23	b24	25	34	b28	29	a440	567	151	65	47	29
20	23	24	24	34	28	33	a470	638	146	63	47	29
21	24	26	24	33	28	35	a500	599	142	63	*46	29
22	24	25	35	33	28	38	a540	605	131	62	44	29
23	24	24	132	34	28	47	a560	583	126	60	43	29
24	25	23	124	32	27	65	a550	578	124	59	42	29
25	22	22	86	b35	27	98	a540	546	118	58	42	28
26	23	22	70	34	27	114	a530	495	114	56	42	28
27	23	23	70	34	27	100	*505	443	109	56	42	28
28	23	23	60	b34	27	86	481	407	105	56	42	29
29	23	23	51	b33	27	79	429	394	103	56	40	29
30	23	22	49	b32	-----	77	385	368	99	55	39	28
31	23	-----	51	b31	-----	88	-----	360	-----	52	39	-----
Total	736	677	1,192	1,114	833	1,373	8,686	14,340	5,315	2,210	1,390	927
Mean	23.7	22.6	38.5	35.9	28.7	44.3	280	463	177	71.3	44.8	30.9
Cfsm	0.307	0.293	0.499	0.466	0.372	0.575	3.76	6.01	2.30	0.925	0.581	0.401
In.	0.35	0.33	0.58	0.54	0.40	0.66	4.20	6.93	2.57	1.07	0.67	0.45
Ac-ft	1,460	1,340	2,360	2,210	1,650	2,720	17,230	28,440	10,540	4,380	2,760	1,840

Calendar year 1955: Max 300 Min 17 Mean 52.4 Cfsm 0.680 In. 9.27 Ac-ft 37,920  
Water year 1955-56: Max 638 Min 20 Mean 106 Cfsm 1.37 In. 18.75 Ac-ft 76,930

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of records for nearby stations.

b Stage-discharge relation affected by ice.

## Palisades Reservoir near Irwin, Idaho

Location.--Lat 43°20', long 111°12', in NE $\frac{1}{4}$  sec. 17, T. 1 S., R. 45 E., on Snake River  $3\frac{1}{2}$  miles upstream from Palisades Creek and 6 miles southeast of Irwin.

Drainage area.--5,208 sq mi.

Records available.--October 1955 to September 1956.

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) which is 0.51 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum contents during year, 79,570 acre-ft June 6 (elevation, 5,466.47 ft); minimum observed, 565 acre-ft Jan. 31 (elevation, 5,388.75 ft).

Remarks.--Reservoir is formed by earth-fill, rock-faced dam. No controlled storage during year. Temporary storage occurred until head was sufficient to balance outflow through power and outlet tunnels with inflow to reservoir. 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 tunnels. 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.

Contents, in acre-feet, at 8 a.m., water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	3,520	59,160	-	3,400	2,330
2							-	3,680	64,680	9,260	3,310	-
3							-	4,040	71,340	8,880	3,150	-
4							-	4,500	76,900	-	2,980	2,370
5							-	5,720	78,780	5,610	-	2,370
6							-	-	79,570	5,140	2,820	2,500
7							-	5,840	77,780	4,840	2,720	2,580
8							-	5,880	71,640	-	2,700	2,530
9							-	8,850	68,060	4,640	2,700	-
10							-	7,100	66,880	4,760	2,730	2,450
11							2,170	10,020	66,700	4,700	-	2,440
12							2,480	10,860	62,900	4,450	-	2,310
13							2,680	-	60,740	4,670	2,620	2,330
14							2,820	7,280	59,920	4,450	2,590	2,170
15							-	6,480	58,220	-	2,620	2,060
16							3,820	6,460	54,270	3,930	2,540	-
17							3,900	8,120	-	4,250	2,510	1,740
18							4,290	11,610	39,130	3,980	2,470	1,640
19							4,750	17,140	28,070	3,910	-	1,590
20							5,160	-	20,860	3,980	2,450	1,790
21							4,420	27,220	16,590	4,220	2,440	1,920
22							-	31,650	14,940	-	2,400	1,920
23							5,020	37,540	10,980	4,150	2,530	-
24							5,400	45,200	-	3,820	2,700	-
25							5,720	48,850	5,960	3,770	2,700	1,770
26							4,800	59,480	6,070	3,600	-	1,460
27							5,160	62,470	6,690	3,580	2,800	-
28							4,670	61,960	8,690	3,580	2,860	1,390
29					754		-	60,480	10,900	-	2,560	1,140
30							3,450	-	11,050	3,620	2,500	1,390
31	855	846	899	565		a2,060	57,880	-	-	3,440	2,400	-
(†)	5,392.5	5,392.4	5,393.0	5,388.8	5,391.3	-	5,411.4	5,458.4	5,430.4	5,411.3	5,405.1	5,397.7
(*)	-63	-9	+53	-334	+189	+1,306	+1,390	+54,430	-46,830	-7,610	-1,040	-1,010

Calendar year 1955..... \* -  
 Water year 1955-56..... \* +472

† Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

a No gage-height record; contents interpolated.

## Snake River near Irwin, Idaho

Location.--Lat 43°21', long 111°13', in NE<sup>1</sup> 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 1956. Published as "at Calamity Point, near Irwin" 1934 and 1939-41.

Average discharge.--7 years (1949-56) 7,078 cfs (5,124,000 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, 31,800 cfs June 4-6; maximum gage height, 13.31 ft June 4; minimum, 1,560 cfs Dec. 15 (gage height, 4.78 ft).  
1934-36, 1939-41, 1949-56: Maximum discharge, that of June 4-6, 1956; minimum, 1,210 cfs Jan. 7, 1955 (gage height, 4.51 ft).

Flood during early June 1894 was probably much higher than that of June 4-6, 1956.

Remarks.--Records excellent except those for periods of ice effect, which are good. Flow partly regulated by Jackson Lake (see p. 14). About 93,000 acres in Wyoming and Idaho irrigated by diversions from tributaries above station.

Cooperation.--Gage-height record and 6 discharge measurements furnished by Bureau of Reclamation.

Revisions.--WSP 1217: Drainage area.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,660	2,320	2,380	3,100	1,660	2,200	7,100	11,200	29,200	19,000	11,100	8,150
2	2,840	2,220	2,370	3,050	1,850	2,200	6,920	11,600	30,000	18,300	10,800	8,310
3	2,590	*2,230	2,320	2,800	1,700	2,250	6,680	12,300	30,800	17,000	*10,500	8,310
4	2,570	2,280	2,230	2,750	1,800	2,250	6,540	13,200	31,600	16,600	10,100	8,310
5	2,590	2,310	2,080	2,900	1,900	2,200	6,710	15,200	*31,800	15,100	9,680	8,340
6	2,640	2,310	2,040	2,810	1,980	2,120	6,600	15,700	31,700	14,300	9,490	8,630
7	2,630	2,310	*2,100	2,630	2,050	2,080	6,510	15,600	31,400	13,900	9,300	8,820
8	2,610	2,240	2,050	2,520	2,020	2,230	6,710	15,800	30,500	13,500	9,170	8,660
9	2,570	2,280	2,100	2,450	2,000	2,280	6,660	*16,500	30,000	13,600	9,270	8,470
10	2,560	2,320	2,140	*2,350	2,000	2,220	7,190	17,200	29,900	13,700	9,300	8,340
11	2,570	2,560	2,180	2,400	2,020	2,170	7,660	18,900	29,800	13,500	9,170	8,150
12	2,570	2,450	2,240	2,450	2,050	2,170	8,240	19,200	29,200	13,200	9,080	7,860
13	2,560	2,180	2,230	2,500	2,000	2,250	8,760	18,300	29,000	*13,500	8,980	7,800
14	2,540	2,170	2,170	2,520	1,950	2,900	9,300	17,200	*28,900	13,100	8,920	7,400
15	2,540	1,930	<u>1,740</u>	2,500	1,900	3,300	10,300	16,500	28,700	12,700	8,950	6,740
16	2,500	1,840	1,970	2,500	1,880	3,450	11,700	16,600	28,000	12,400	8,790	6,170
17	2,490	2,170	2,140	2,500	1,880	3,600	*11,900	17,900	27,100	12,600	8,660	5,900
18	2,470	2,110	2,200	2,490	1,930	3,550	12,400	19,600	25,500	12,300	8,500	5,540
19	*2,450	2,540	2,290	*2,470	2,000	3,460	13,100	21,400	23,800	12,200	8,370	5,410
20	2,450	2,570	2,370	2,450	2,050	3,500	13,400	22,900	22,000	12,400	8,400	5,950
21	2,490	2,630	2,290	2,420	*2,120	3,590	12,600	23,800	21,300	12,700	8,370	6,510
22	2,560	2,660	2,490	2,400	2,150	*3,700	13,200	*24,600	20,700	12,800	8,400	6,480
23	2,540	2,610	4,000	2,440	2,170	3,890	13,600	25,700	19,500	12,500	8,620	6,290
24	2,470	2,490	6,640	2,390	2,190	4,610	14,300	26,600	17,000	12,100	9,240	6,150
25	2,400	2,390	5,460	2,240	2,200	6,340	<u>14,700</u>	27,900	<u>15,900</u>	12,000	9,240	*5,730
26	2,340	2,370	4,660	2,230	2,170	6,830	13,700	29,200	15,900	11,600	9,300	4,990
27	2,320	2,470	4,380	2,320	2,200	6,750	14,000	29,800	16,800	11,500	*9,520	4,820
28	2,320	2,420	3,910	2,200	2,200	6,420	13,300	29,600	*18,100	11,500	9,400	4,560
29	2,340	2,390	3,310	1,940	2,200	6,340	12,300	*29,200	19,500	11,500	8,690	3,740
30	2,340	2,340	3,000	2,050	-----	6,420	11,200	28,900	19,400	11,600	8,440	<u>3,360</u>
31	2,370	-----	3,050	<u>1,900</u>	-----	6,690	-----	28,700	-----	<u>11,200</u>	<u>8,180</u>	-----
Total	77,690	70,510	86,530	76,670	58,020	114,160	307,680	636,800	762,600	413,900	284,130	203,890
Mean	2,506	2,250	2,791	2,473	2,001	3,683	10,260	20,540	25,420	13,350	9,165	6,796
Ac-ft	154,100	139,900	171,600	152,100	115,100	226,400	610,300	1,263,000	1,513,000	821,000	563,600	404,400
Calendar year 1955: Max	18,000				Min 1,480	Mean 5,319		Ac-ft 3,850,000				
Water year 1955-56: Max	31,800				Min 1,650	Mean 8,450		Ac-ft 6,134,000				

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 7-10, Dec. 30 to Jan. 5, Jan. 9-13, 15-17, Jan. 30, 31, Feb. 2 to Mar. 6, Mar. 13-18.

## SNAKE RIVER MAIN STEM

Snake River near Heise, Idaho

Location.--Lat 43°36'45", long 111°39'05", in SW $\frac{1}{4}$  sec. 5, T. 3 N., R. 41 E., on left bank about 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.

Records available.--September 1910 to September 1956. 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 5,015.3 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 present site at datum 2.65 ft higher. Sept. 30, 1922, to Oct. 5, 1933, water-stage recorder at present site at datum 2.0 ft higher than present datum.

Average discharge.--46 years, 6,888 cfs (4,987,000 acre-ft per year).

Extremes.--Maximum discharge during year, 33,300 cfs June 4 (gage height, 9.22 ft); minimum daily, 1,900 cfs Feb. 2.

1910-56: 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, 1,210 cfs Jan. 22, 1935 (gage height, 1.15 ft).

Flood during early June 1894 was probably as great as flood of May 19, 1927.

Remarks.--Records excellent except those for periods of ice effect, which are good. Flow partly regulated by Jackson Lake (see p. 14). Station is above all irrigation diversions from main river except Riley ditch (5,660 acre-ft diverted during year) which diverts  $1\frac{1}{2}$  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 1956 are given in WSP 1453.

Revisions.--WSP 1217: Drainage area. WSP 1347: 1912.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,950	2,760	2,660	3,370	b2,100	2,360	7,430	12,300	30,000	19,500	11,700	8,680
2	2,880	2,700	2,680	3,320	b1,900	2,390	7,490	12,500	31,000	18,900	11,500	8,800
3	2,840	2,640	2,640	3,100	b1,950	2,420	7,170	13,200	32,000	17,700	11,100	8,800
4	2,820	2,660	2,550	2,950	b2,050	2,420	7,000	14,000	33,100	17,200	10,800	8,830
5	2,820	2,680	2,420	3,120	b2,120	2,400	7,030	16,100	*33,100	15,800	10,300	8,830
6	2,880	2,700	2,390	3,170	b2,200	2,300	7,120	16,900	33,100	14,900	10,000	9,040
7	2,900	2,700	2,400	2,970	b2,300	2,250	6,940	16,900	32,700	14,500	9,800	9,310
8	2,860	2,660	2,440	2,780	b2,250	2,300	7,060	17,000	31,900	14,100	9,660	9,250
9	2,840	2,630	2,390	2,700	*b2,200	2,370	7,230	17,600	31,100	14,000	9,700	9,010
10	2,840	2,660	2,450	2,570	b2,200	2,300	7,460	18,300	31,100	14,300	9,770	8,950
11	2,860	2,800	2,470	2,660	b2,250	2,260	8,130	19,700	30,800	14,200	9,660	*8,830
12	2,860	2,880	2,480	2,760	b2,250	2,240	8,650	20,200	30,600	13,800	9,600	8,510
13	2,840	2,640	b2,500	2,820	b2,200	2,360	9,070	19,400	29,900	*14,000	9,500	8,450
14	2,820	2,500	b2,450	2,820	b2,150	3,030	9,700	18,300	29,900	13,800	*9,410	8,070
15	2,800	2,500	b2,400	2,800	b2,100	3,390	10,800	17,500	29,800	13,400	9,370	7,640
16	2,780	2,280	b2,250	b2,800	b2,050	3,530	12,200	17,400	29,200	13,000	9,280	6,910
17	2,760	2,550	b2,400	b2,800	b2,050	3,710	12,800	18,600	28,300	13,200	9,160	6,610
18	2,760	2,520	2,450	2,780	b2,100	3,690	13,400	20,500	26,800	13,000	9,010	6,300
19	2,760	2,570	2,480	2,740	b2,150	3,660	14,200	22,500	24,900	12,800	8,890	5,960
20	2,760	2,880	2,590	2,700	b2,200	3,690	14,900	24,200	22,900	12,800	8,860	6,300
21	2,780	3,060	*2,550	2,680	b2,270	3,780	14,200	25,400	21,900	13,200	8,890	6,970
22	2,880	3,320	2,610	2,680	b2,300	3,970	14,600	26,300	*21,300	13,300	8,830	7,030
23	2,900	3,100	3,600	2,700	2,310	4,160	15,100	27,300	20,000	13,100	9,130	6,890
24	2,860	2,880	6,770	2,680	2,340	4,770	15,700	28,300	18,100	12,700	9,660	6,660
25	2,800	2,760	6,580	2,570	2,360	6,750	*16,500	*29,300	16,400	12,500	9,660	*5,520
26	*2,740	2,640	5,470	2,540	2,320	7,380	15,500	30,600	16,300	12,300	9,660	5,660
27	2,760	2,700	4,990	2,630	2,320	7,350	15,500	31,000	16,800	12,100	9,300	5,470
28	2,740	2,760	4,670	2,500	*2,360	7,000	15,000	31,000	18,200	12,000	10,000	5,280
29	2,780	*2,760	3,950	2,370	*2,340	*6,770	13,600	30,700	19,400	12,100	9,280	4,610
30	2,760	2,600	3,300	b2,350	-----	6,830	12,500	30,400	19,700	12,100	9,040	4,040
31	2,760	-----	3,190	b2,250	-----	7,030	-----	30,000	-----	11,900	8,740	-----
Total	87,370	81,490	97,170	85,680	63,690	120,860	334,180	673,400	790,300	432,200	239,860	222,210
Mean	2,818	2,716	3,135	2,763	2,196	3,899	11,140	21,720	26,340	13,940	9,673	7,407
Ac-ft	173,300	161,600	192,700	169,900	126,300	259,700	662,800	1,336,000	1,568,000	857,300	594,800	440,700
Calendar year 1955: Max	18,500				1,800	Mean	5,687	Ac-ft	4,117,000			
Water year 1955-56: Max	33,100				1,900	Mean	8,985	Ac-ft	6,525,000			

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.



## Henry's Fork near Lake, Idaho

Location.--Lat 44°36', long 111°21', in SW $\frac{1}{4}$  sec. 26, T. 15 N., R. 43 E., on left bank a quarter of a mile downstream from Henry's 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 1956 (prior to October 1930 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 benchmark). Prior to September 1922, staff gage at site 3 miles downstream and below mouth of Dry Creek.

Average discharge.--27 years, revised (1929-56), 45.0 cfs (32,580 acre-ft per year).

Extremes.--Maximum discharge during year, 294 cfs July 25, 26 (gage height, 3.42 ft); minimum observed, 9 cfs on many days, but may have been less during period of no gage-height record.

1920-56: Maximum discharge, 907 cfs June 13, 1926 (gage height, 5.40 ft); no flow part of Sept. 17, 18, 1952.

Outflow from Henry's 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 Henry's Lake (see p. 44). Since 1923, floodwaters of Dry (Tyghee) Creek have been diverted at times into Henry's Lake (small diversion in 1956).

Revisions.--WSP 1217: Drainage area.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	9				-	15	15	15	30	126	102
2	14	9				-	15	15	15	28	126	100
3	14	9				-	15	15	16	32	126	99
4	14	9				-	15	15	17	36	126	*99
5	14	9				-	15	15	17	*35	126	98
6	14	9				-	15	15	18	35	124	98
7	14	9				-	15	15	17	34	123	98
8	14	9				-	15	15	15	34	123	98
9	14	9				-	15	15	15	33	122	96
10	*14	9				-	15	15	16	33	122	95
11	14	9				-	15	15	16	35	120	58
12	14	*9				-	15	15	16	38	120	17
13	14	-				-	15	15	17	36	116	17
14	14	-				-	15	14	17	35	115	17
15	14	-				-	15	14	17	35	115	17
16	14	-				-	15	14	19	34	115	17
17	14	-				-	15	14	22	32	*113	17
18	14	-				-	15	14	22	31	112	17
19	12	-				-	15	14	23	29	112	17
20	9	-				-	15	15	23	28	112	17
21	9	-				-	15	15	25	27	112	17
22	9	-				-	15	15	26	26	111	*17
23	9	-				-	15	15	26	25	110	17
24	9	-				-	15	15	26	24	108	17
25	9	-				-	15	15	28	*135	106	17
26	9	-	†9.5			-	15	15	28	*203	104	17
27	9	-				*15	15	*15	28	123	103	17
28	9	-			†14.2	15	15	14	29	123	104	17
29	9	-				15	15	14	30	124	103	17
30	9	-				15	15	14	31	124	102	17
31	9	-				15	---	14	---	*126	102	---
Total	372	270	288	341	377	450	450	455	630	1,723	3,559	1,364
Mean	12.0	9.0	e9.3	e11	e13	e14.5	15.0	14.7	21.0	55.6	115	45.5
Ac-ft	738	536	e571	e676	748	e893	893	902	1,250	3,420	7,060	2,710

Calendar year 1955: Max 412 Min 9 Mean 64.1 Cfsm In. Ac-ft 46,410  
 Water year 1955-56: Max 203 Min 9 Mean 28.1 Cfsm In. Ac-ft 20,400

\* Discharge measurement made on this day.

† Result of discharge measurement.

e Estimated.

Note.--No gage-height record Nov. 13 to Mar. 26; discharge estimated on basis of 2 discharge measurements.

## HENRYS FORK BASIN

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 1956.

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, 137,475 acre-ft May 30 (elevation, 6,303.28 ft), minimum, 27,055 acre-ft Oct. 6-8 (elevation, 6,280.62 ft).  
1938-56: Maximum contents, 138,540 acre-ft May 12, 1955 (elevation 6,303.41 ft); minimum after first filling of reservoir in May 1939, 16,855 acre-ft Sept. 27, 1940 (elevation, 6,274.22 ft).

Remarks.--Reservoir is formed by earth-fill, rock-faced dam. Storage began Nov. 15, 1938. Capacity, 127,265 acre-ft between elevations 6,239 ft (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 prevents 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 Asnton and Rexburg.

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

Revisions.--WSP 1217: Drainage area.

Total contents, in acre-feet, at 8 a.m., water year October 1955 to September 1956												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27,115	32,375	58,080	72,070	99,210	108,800	110,370	133,590	137,070	133,030	97,875	85,510
2	27,115	32,910	59,005	72,235	99,815	108,800	110,440	133,910	136,745	132,950	98,815	85,510
3	27,095	33,510	59,890	72,255	100,420	108,875	110,515	134,255	136,770	133,110	98,875	85,450
4	27,095	34,605	60,810	73,250	101,300	108,875	110,585	134,475	136,340	133,110	95,105	83,450
5	27,075	35,500	61,640	74,355	102,185	108,875	110,655	135,045	136,340	133,110	94,390	83,270
6	27,055	36,450	62,430	75,410	102,940	108,945	110,655	135,530	135,770	133,030	93,610	82,850
7	27,055	37,195	63,375	76,360	103,580	108,945	110,730	135,770	135,690	133,030	92,900	82,200
8	27,055	38,015	64,190	77,260	104,160	108,945	110,800	135,770	135,530	132,950	92,695	81,430
9	27,075	38,850	65,065	78,230	104,800	109,015	110,870	135,690	135,045	132,950	91,490	80,780
10	27,075	39,675	65,895	79,150	105,565	109,085	111,015	135,690	134,960	131,990	90,795	80,195
11	27,095	40,615	66,740	79,845	106,475	109,085	111,160	136,175	134,555	130,640	90,100	79,865
12	27,095	41,420	67,595	80,780	106,615	109,085	111,305	136,260	134,555	129,615	89,405	79,025
13	27,095	42,270	68,460	81,605	106,825	109,155	111,735	136,260	134,155	128,360	88,655	79,905
14	27,115	43,040	69,285	82,675	107,175	109,230	112,025	136,015	134,155	127,655	87,670	79,845
15	27,380	43,930	69,910	83,810	107,175	109,300	112,310	135,855	134,155	126,465	87,410	79,730
16	28,975	44,800	69,700	84,960	107,315	109,370	113,040	135,770	134,155	125,320	86,790	79,615
17	29,810	45,315	69,700	85,870	107,385	109,370	113,620	135,450	134,155	123,935	86,605	79,615
18	30,700	46,215	69,545	86,730	107,455	109,440	114,280	135,450	134,075	121,650	86,420	79,615
19	31,560	47,095	69,440	87,720	107,525	109,440	114,865	135,365	133,910	119,865	86,250	79,615
20	32,515	48,180	69,595	88,590	107,670	109,515	115,965	135,770	133,750	118,410	86,055	79,615
21	32,495	49,135	69,595	89,470	107,680	109,585	117,220	135,855	133,910	115,985	85,810	79,675
22	32,565	49,965	69,700	90,350	107,680	109,585	118,485	135,855	133,910	112,170	85,565	79,675
23	32,565	51,115	69,700	91,300	107,950	109,655	119,835	136,175	133,750	110,440	85,325	79,845
24	32,565	52,050	70,745	92,195	108,090	109,725	121,500	136,500	133,910	108,590	84,960	79,845
25	32,495	53,045	71,275	93,160	108,165	109,800	123,250	136,905	133,750	107,175	85,325	79,790
26	32,470	53,815	71,540	94,065	108,305	109,870	125,010	137,150	133,670	105,705	85,080	79,790
27	32,570	55,675	71,750	95,040	108,445	109,940	127,185	137,230	133,590	104,455	84,840	79,730
28	32,470	55,510	71,750	95,895	108,520	110,015	130,090	137,230	133,430	102,145	84,415	79,675
29	32,445	56,350	71,750	96,750	108,660	110,155	131,670	137,230	133,350	101,575	83,950	79,905
30	32,445	57,165	71,750	97,545	-----	110,230	132,670	137,475	133,350	100,355	83,950	80,020
31	32,375	-----	71,750	98,405	-----	110,230	-----	137,230	-----	99,145	83,570	-----
(*)	6,283.02	6,290.56	6,293.58	6,298.01	6,299.50	6,299.72	6,302.71	6,303.25	6,302.77	6,298.12	6,295.67	6,295.07
(*)	+5,260	+24,790	+14,585	+26,655	+10,255	+1,570	+22,640	+4,360	-3,880	-34,205	-15,575	-3,550
Calendar year 1955..... * \$9,500												
Water year 1955-56..... * +62,905												

## 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.

Records available.--January 1933 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 6,225 ft (from river-profile map). Prior to May 15, 1935, staff gage at site 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.--23 years, 541 cfs (391,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,860 cfs July 17 (gage height, 5.11 ft); minimum daily, 10 cfs Jan. 4 to Feb. 10, 1933-36; 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. 44) 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 and 2 discharge measurements furnished by Bureau of Reclamation.

Revisions.--WSP 1217: Drainage area.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	509	349	20	450	10	351	351	562	1,100	509	1,140	543
2	486	42	20	450	10	351	351	610	1,050	500	1,080	543
3	486	42	20	157	10	351	351	655	997	533	1,020	543
4	486	42	20	10	10	351	351	728	976	528	956	*543
5	486	42	20	10	10	351	351	782	940	*519	956	640
6	486	42	20	10	10	351	351	856	895	504	956	841
7	481	42	20	10	10	351	351	890	851	500	956	841
8	468	42	20	10	10	351	351	930	826	495	956	836
9	468	42	20	10	10	351	351	930	787	804	956	836
10	468	42	20	*10	10	351	351	945	772	1,200	956	772
11	*463	42	20	10	175	351	351	981	743	870	956	674
12	463	*20	20	10	303	351	351	976	725	890	956	620
13	463	20	20	10	329	351	351	950	694	865	940	538
14	250	20	20	10	351	351	351	920	674	940	885	538
15	23	20	20	10	351	351	351	885	660	1,030	841	533
16	23	20	312	10	351	351	355	865	674	1,080	792	500
17	23	20	458	10	351	351	360	851	669	1,360	718	490
18	*23	20	458	10	346	351	360	851	680	1,750	718	490
19	23	20	458	10	346	351	360	860	645	1,750	718	490
20	316	20	458	10	346	351	364	895	640	1,730	718	490
21	463	20	458	10	346	351	364	920	635	1,460	718	490
22	463	20	458	10	346	351	364	950	640	1,340	704	*320
23	463	20	458	10	346	351	364	986	620	1,340	655	488
24	463	20	458	10	346	351	364	1,030	610	1,260	620	486
25	463	20	458	10	346	351	364	1,090	591	1,180	625	481
26	463	20	*450	10	346	351	368	1,130	581	1,220	640	476
27	463	20	450	10	346	*351	152	*1,160	567	1,310	723	*476
28	463	20	450	10	*351	351	*155	1,160	557	1,290	846	458
29	463	20	450	10	351	351	338	1,180	557	1,290	704	445
30	463	20	450	10	-----	351	472	1,170	524	1,250	635	445
31	463	-----	450	10	-----	351	-----	1,130	-----	1,180	635	-----
Total	11,987	1,149	7,434	1,337	6,473	10,881	10,369	28,828	21,858	32,477	25,659	16,864
Mean	387	38.3	240	43.1	223	351	346	930	729	1,048	828	562
Ac-ft	23,780	2,280	14,750	2,650	12,840	21,580	20,570	57,180	43,850	64,420	50,990	33,450

Calendar year 1955: Max 2,500 Min 9 Mean 591 Ac-ft 427,700  
 Water year 1955-56: Max 1,750 Min 10 Mean 479 Ac-ft 347,700

\* Discharge measurement made on this day.

Note.--Discharge computed from once-daily staff-gage readings Oct. 15-19, Nov. 2 to Apr. 26.

## HENRYS FORK BASIN

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 power plant and 3 miles west of Ashton.

Drainage area.--1,040 sq mi.

Records available.--April 1890 to June 1891, August 1902 to June 1909, April 1920 to September 1956 (irrigation seasons 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  $1\frac{1}{2}$  miles downstream from present site at different datum.

Average discharge.--36 years (1902-8, 1926-56), 1,351 cfs (978,100 acre-ft per year).

Extremes.--Maximum discharge during year, 3,240 cfs May 8, 9; maximum gage height, 7.62 ft July 28; minimum discharge, 73 cfs July 12 (gage height, 4.95 ft); minimum daily, 510 cfs Feb. 1.

1890-91, 1902-9, 1920-56: Maximum discharge, 6,220 cfs May 7, 1925 (gage height, 3.11 ft, site and datum then in use); minimum, 65 cfs Oct. 16, 1935 (gage height, 4.59 ft); minimum daily, 440 cfs Dec. 5, 1931.

Remarks.--Records good. Diurnal fluctuation caused by powerplant above station. Flow regulated by Henrys Lake (see p. 44) and Island Park Reservoir (see p. 34). 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,080	1,080	718	1,170	510	1,090	1,080	2,300	2,360	1,340	1,960	1,260
2	1,090	692	718	1,160	598	1,100	1,080	2,340	2,340	1,360	1,900	1,170
3	1,030	718	707	1,120	562	1,160	1,080	2,360	2,260	1,400	1,840	1,130
4	1,090	686	627	*781	589	1,090	1,100	2,550	2,240	1,380	1,770	1,130
5	1,130	676	686	707	686	1,080	1,160	2,740	2,140	1,380	1,720	1,160
6	1,120	686	676	718	760	1,010	1,050	2,600	2,100	1,340	1,700	1,420
7	1,100	707	646	686	686	988	1,170	2,820	2,000	1,320	1,700	1,530
8	1,120	665	686	696	646	1,140	1,200	2,950	1,840	1,300	*1,720	1,610
9	1,090	676	686	598	646	1,120	1,200	*2,950	1,880	*1,280	1,700	1,610
10	*1,090	676	665	718	656	1,050	1,280	2,970	1,810	2,060	1,720	1,630
11	1,130	686	696	760	707	952	1,340	2,990	1,730	2,000	1,700	1,480
12	1,170	656	686	738	916	1,010	1,360	2,970	1,720	1,680	1,660	1,450
13	1,050	437	676	728	1,040	1,050	1,390	2,740	1,680	1,750	1,660	1,280
14	1,130	847	528	696	1,060	1,050	1,440	2,570	1,630	1,750	1,660	1,280
15	825	528	589	728	1,060	1,040	1,500	2,550	1,630	1,600	1,550	1,210
16	544	519	1,100	738	952	1,050	1,680	2,570	1,700	1,840	1,470	1,230
17	618	707	1,190	738	1,060	1,040	*1,660	2,630	1,680	2,040	1,420	1,200
18	618	718	1,140	707	1,050	1,050	1,810	2,610	1,550	2,510	1,360	1,170
19	686	770	1,190	696	1,090	*1,030	1,980	2,700	*1,480	2,680	1,340	*1,230
20	686	792	1,200	707	*1,100	1,050	2,200	2,720	1,480	2,630	1,400	1,200
21	1,130	952	1,190	696	1,100	1,030	2,340	2,740	1,550	2,570	1,320	1,200
22	1,240	728	1,280	686	1,120	1,080	2,490	2,720	1,600	2,240	1,380	1,140
23	1,210	707	1,720	749	1,120	1,040	2,440	*2,720	1,450	2,240	1,330	1,030
24	1,170	686	1,450	686	1,060	1,090	2,610	2,630	1,470	2,200	1,240	1,210
25	1,120	*686	1,230	636	1,090	1,130	2,400	2,610	1,440	*2,000	1,240	1,230
26	1,160	696	1,200	656	1,130	1,140	2,220	2,630	1,400	1,960	1,260	1,230
27	1,170	676	1,210	686	1,080	1,120	2,400	2,660	1,360	2,140	1,300	1,170
28	1,120	686	1,160	665	1,090	1,060	2,020	2,660	1,380	2,120	*1,520	1,260
29	1,130	696	1,060	646	1,120	1,090	2,200	2,570	1,390	2,180	1,470	1,200
30	1,140	718	1,060	646	-----	1,080	2,200	2,530	1,360	2,180	1,320	1,170
31	1,130	-----	1,320	636	-----	1,100	-----	2,490	-----	2,040	1,240	-----
Total	32,117	21,353	29,690	22,957	26,284	33,100	51,020	82,790	51,650	58,490	47,590	38,150
Mean	1,036	712	958	741	906	1,068	1,701	2,671	1,722	1,887	1,535	1,272
Ac-ft	63,700	42,350	58,890	45,530	52,130	65,650	101,200	164,200	102,400	116,000	94,390	75,670
Calendar year 1955:	Max	3,190		Min	519		Mean	1,356		Ac-ft	981,900	
Water year 1955-56:	Max	2,990		Min	510		Mean	1,353		Ac-ft	982,100	

\* Discharge measurement made on this day.

## HENRY'S FORK BASIN

37

## Diversions from Fall River above gaging station near Squirrel, Idaho

Above Squirrel gaging station two canals divert water from Fall River for irrigation. Records available for part of each irrigation season from 1919 to 1956. 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, 1956											
Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	0	66	256	276	147	16	0	248	258	198	82
2	0	66	256	275	148	17	0	221	265	186	82
3	0	66	244	265	104	18	0	232	279	188	83
4	0	72	212	264	105	19	0	259	279	189	83
5	0	121	203	264	105	20	0	259	278	160	83
6	0	137	213	263	109	21	0	248	270	183	83
7	0	185	224	259	110	22	0	242	285	184	83
8	0	215	231	258	110	23	0	233	284	184	83
9	0	258	239	252	107	24	0	235	285	184	83
10	0	264	239	251	108	25	0	235	290	200	83
11	0	269	249	234	108	26	0	203	291	187	48
12	0	275	241	219	109	27	96	245	292	186	65
13	0	275	260	218	86	28	64	256	293	153	65
14	0	275	265	197	86	29	59	256	274	146	66
15	0	278	262	197	82	30	59	256	297	146	65
						31	54	-	284	146	-
Total							332	6,450	8,098	6,512	2,761
Mean							10.7	215	261	210	92.0
Runoff in acre-feet							659	12,790	16,060	12,920	5,480
The season: Max	-	Min	-	Mean	-	Ac-ft	47,910				

## Fall River near Squirrel, Idaho

Location.--Lat 44°04'15", long 111°14'25", in NE $\frac{1}{4}$  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 head-gates of Marysville Canal, 4 miles northeast of Squirrel, and 10 miles upstream from Conant Creek.

Drainage area.--351 sq mi.

Records available.--August, 1902 to June 1909 (gage heights only prior to October 1904), May 1918 to September 1956. Monthly discharge only for some periods, published in WSP 1317. Published as "at Wilson's Mill, near Marysville" 1902, as "near Marysville" 1903, and as "at Fremont" 1904-9.

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 200 ft upstream from present site at different datum. Nov. 7, 1937, to Oct. 7, 1948, staff gage 100 ft downstream from present site at datum 0.29 ft lower than present datum.

Average discharge.--42 years (1904-8, 1918-56), 754 cfs (545,900 acre-ft per year).

Extremes.--Maximum discharge during year, 3,890 cfs June 2 (gage height, 4.76 ft); minimum, 221 cfs Mar. 6 (gage height, 0.62 ft).

1904-9, 1918-56: Maximum discharge observed, 6,440 cfs June 27, 1927; minimum observed, 72 cfs Feb. 9, 1930.

Remarks.--Records good. Flow since October 1939 partly regulated by Grassy Lake (see p. 44). About 16,000 acres irrigated from two diversions above station.

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

## Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	415	425	511	506	380	390	445	1,230	3,440	1,480	633	678
2	415	445	511	511	380	390	435	1,260	3,720	1,490	640	678
3	415	465	495	490	385	395	435	1,390	3,650	1,530	640	699
4	410	465	480	*495	390	395	430	1,620	3,430	1,260	626	*699
5	415	470	485	506	395	390	435	1,960	3,290	1,180	633	685
6	410	450	490	490	400	380	435	2,020	*3,030	1,110	626	678
7	405	445	480	485	400	375	430	2,090	2,580	1,100	614	678
8	405	440	490	485	400	375	440	2,310	2,520	1,070	*807	678
9	400	445	490	475	395	380	445	*2,310	2,780	*1,030	600	672
10	*400	460	475	480	390	380	475	2,470	2,720	1,000	600	692
11	440	475	475	475	390	385	522	2,300	2,780	952	607	706
12	415	445	475	475	390	385	555	1,940	2,890	938	607	713
13	405	420	460	475	395	385	581	1,680	2,970	945	614	692
14	400	410	425	470	395	385	640	1,580	2,800	900	620	692
15	400	400	430	465	390	385	744	1,690	2,800	848	620	672
16	396	430	480	465	390	387	828	1,940	2,760	804	626	640
17	391	500	490	465	385	390	*820	2,230	2,330	769	633	652
18	391	516	495	465	385	395	880	2,500	1,890	748	620	626
19	391	522	495	460	385	*400	965	2,740	1,900	727	626	620
20	485	594	490	450	*388	405	1,100	2,930	2,130	715	633	620
21	445	718	480	445	390	400	1,250	3,160	2,390	706	607	614
22	475	598	533	445	395	405	1,410	3,350	2,080	699	600	*614
23	445	558	666	445	395	420	1,480	*3,440	1,700	685	594	607
24	415	528	737	430	395	435	1,650	3,480	1,780	678	581	626
25	410	*516	828	425	390	450	1,570	3,410	2,050	666	588	633
26	415	516	581	425	390	465	1,490	3,490	1,880	666	594	620
27	425	511	581	425	390	450	1,630	3,390	1,800	652	633	*614
28	415	506	550	420	390	440	1,610	3,290	1,800	646	678	666
29	410	511	511	410	390	430	1,480	3,260	1,700	646	659	685
30	420	511	506	400	---	---	1,280	3,080	1,690	633	659	659
31	420	---	533	390	---	---	430	---	---	626	646	---
Total	12,899	14,665	15,926	14,248	11,333	12,502	26,918	76,680	75,280	27,897	19,264	19,808
Mean	416	489	514	460	381	403	897	2,474	2,509	900	621	614
Ac-ft	25,580	29,090	31,590	28,260	22,480	24,800	53,390	152,100	149,300	55,330	38,210	39,290
Calendar year 1955: Max	2,980				Min 350		Mean 707	Ac-ft 511,800				
Water year 1955-56: Max	3,720				Min 375		Mean 695	Ac-ft 649,400				

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13-16, Dec. 14-20, Jan. 13-16, Jan. 18 to Mar. 18.

## HENRYS FORK BASIN

Diversions from Fall River between Squirrel and Chester gaging stations, Idaho

Between Squirrel and Chester gaging stations, nine canals divert water from Fall River for irrigation. Records available for part of each irrigation season from 1919 to 1956. 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, 1956											
Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	195	789	800	803	391	16	305	840	874	504	328
2	168	790	778	598	392	17	339	702	842	483	368
3	201	750	560	584	371	18	185	713	854	454	339
4	201	837	499	583	347	19	285	785	801	439	334
5	188	821	502	573	359	20	465	847	580	438	334
6	174	826	531	537	358	21	499	856	585	425	333
7	201	851	490	558	357	22	573	773	580	408	332
8	188	863	534	525	359	23	775	755	558	404	329
9	197	888	539	558	380	24	758	780	568	393	329
10	220	897	573	542	358	25	629	775	564	396	292
11	216	917	517	472	385	26	624	789	580	408	288
12	234	925	530	472	385	27	776	590	623	403	304
13	232	943	541	440	372	28	773	585	612	388	299
14	259	956	667	478	366	29	665	768	618	392	303
15	276	964	666	463	369	30	696	805	594	395	297
						31	742		800	374	
Total.....							12,239	24,320	18,358	14,690	10,335
Mean.....							395	811	592	474	344
Runoff in acre-feet.....							24,280	48,240	36,410	29,140	20,500
The season: Max - Min - Mean - Ac-ft 158,800											

## Fall River near Chester, Idaho

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 1½ miles north of Chester.

Drainage area.--520 sq mi, approximately.

Records available.--April 1920 to September 1956 (irrigation seasons only).

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 200 ft downstream at same datum. Aug. 9, 1920, to Apr. 28, 1921, staff gage at present site and datum.

Extremes.--Maximum discharge during season, 3,490 cfs June 2 (gage height, 5.00 ft); minimum, 122 cfs July 28, 30 (gage height, 1.57 ft).

1920-56: 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 except those for Sept. 28-30 which are good. Flow since October 1939 partly regulated by Grassy Lake (see p. 44). About 42,000 acres of land irrigated by diversions above station. Station is below all diversions from Fall River.

Revisions.--WSP 1217: Drainage area.

Rating table, Apr. 30 to Sept. 30, 1956 (gage-height, in feet, and discharge, in cubic feet per second)

1.6	127	3.0	900
2.0	265	4.0	1,990
2.5	515	5.0	3,560

Discharge, in cubic feet per second, 1956													
Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		1,410	2,930	909	141	365	16		2,030	2,060	296	249	365
2		1,410	3,320	900	149	385	17		2,330	1,840	249	249	370
3		1,540	3,290	1,140	162	410	18		2,680	1,380	225	257	370
4		1,780	3,020	953	182	418	19		2,850	*1,250	233	265	360
5		2,230	2,800	891	188	405	20		2,910	1,370	241	270	360
6		2,310	2,520	786	195	395	21		3,100	1,630	241	257	360
7		2,300	2,050	963	172	395	22		3,290	1,550	233	257	350
8		2,620	1,850	837	168	405	23		*3,240	1,170	229	*249	365
9		*2,530	2,050	666	158	405	24		3,250	1,150	218	245	390
10		2,740	2,020	615	162	400	25		3,250	1,390	*206	237	405
11		2,620	2,090	574	225	416	26		3,250	1,470	192	245	390
12		2,300	2,140	567	261	427	27		3,170	1,360	138	270	*375
13		1,960	2,260	522	270	416	28		3,020	1,260	130	350	g438
14		1,760	2,100	410	261	400	29		3,070	1,120	138	337	a480
15		1,820	1,990	342	261	405	30	†1,470	2,900	*1,040	141	356	a460
							31		2,780		141	350	
Total.....									78,410	57,470	14,336	7,368	11,853
Mean.....									2,529	1,916	462	238	395
Runoff in acre-feet.....									155,500	114,000	28,440	14,610	23,510
The season: Max - Min - Mean - Ac-ft 336,100													

\* Discharge measurement made on this day.

† Result of discharge measurement.

a No gage-height record; discharge estimated on basis of records for station near Squirrel and canal diversions between stations.

g Computed from staff-gage reading.

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 1956. 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, 1956

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	883	1,220	915	1,300	746	16	1,130	1,020	1,350	942	608
2	885	1,280	783	1,250	740	17	1,170	1,010	1,390	945	575
3	735	1,320	798	1,150	724	18	1,350	1,010	1,540	925	562
4	738	1,350	788	1,140	740	19	1,350	989	1,560	890	558
5	737	1,300	775	1,130	804	20	1,410	954	1,390	913	553
6	797	1,300	845	1,140	789	21	1,420	1,060	1,390	953	602
7	835	1,320	1,050	1,130	878	22	1,440	1,000	1,340	916	623
8	903	1,250	1,060	1,160	853	23	1,400	1,060	1,340	945	617
9	942	1,370	1,170	1,110	821	24	1,440	994	1,280	930	596
10	893	1,340	1,310	1,160	838	25	1,430	987	1,220	928	626
11	889	1,260	1,390	1,150	808	26	1,380	935	1,310	927	617
12	920	1,220	1,260	1,080	756	27	1,320	1,030	1,350	923	620
13	895	1,190	1,300	1,080	747	28	1,240	1,050	1,390	950	610
14	993	1,160	1,300	1,090	844	29	1,170	1,060	1,340	915	615
15	1,050	1,110	1,250	984	622	30	1,140	1,070	1,340	878	607
						31	1,180	-	1,350	874	-
Total.....							33,765	34,219	37,850	31,808	20,499
Mean.....							1,089	1,141	1,221	1,026	683
Runoff in acre-feet.....							66,970	67,870	75,070	63,090	40,660
The season: Max -							Min -	Mean -	Ac-ft	313,700	

## Henrys Fork at St. Anthony, Idaho

Location.--Lat 43°58'00", long 111°40'20", in NW<sup>1</sup>/<sub>4</sub> 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 Fall River.

Drainage area.--1,770 sq mi, approximately.

Records available.--March 1919 to September 1956 (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 during season 5,520 cfs May 8 (gage height, 5.60 ft); minimum, 88 cfs July 15 (gage height, 1.94 ft).

1919-56: 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 except those for periods of no gage-height record, which are good. Diversions above station for irrigation. Flow regulated by powerplant 17 miles above station and by Henrys Lake (see p. 44); Island Park Reservoir (see p. 34), and Grassy Lake (see p. 44).

Revisions.--WSP 1217: Drainage area.

Rating table, Apr. 30 to Sept. 30, 1956 (gage height, in feet, and discharge, in cubic feet per second)

3.2	740	5.0	3,870
3.5	1,040	6.0	6,790
4.0	1,760		

Discharge, in cubic feet per second, 1956

Day	Apr.	May	June	July	Aug.	Sept.	Day	Apr.	May	June	July	Aug.	Sept.
1		3,010	4,220	1,350	941	1,110	16		3,530	2,960	941	910	1,160
2		3,010	4,430	1,440	963	1,050	17		3,750	2,880	952	910	1,160
3		3,140	4,410	1,930	963	1,060	18		3,940	2,230	1,220	870	1,120
4		3,490	4,100	1,740	941	1,030	19		4,100	*1,950	1,400	880	1,140
5		4,170	3,870	1,600	910	1,010	20		4,200	2,040	1,500	930	1,090
6		4,430	3,560	1,420	950	1,120	21		4,330	2,420	1,490	840	1,090
7		4,430	3,030	1,380	900	1,260	22		4,570	2,500	1,260	860	1,040
8		5,180	2,580	1,170	880	1,320	23		4,490	1,910	1,220	840	900
9		a5,080	2,730	941	900	1,340	24		*4,430	1,830	1,280	758	1,090
10		a4,980	2,750	1,290	880	1,350	25		4,520	2,020	*1,120	758	1,110
11		4,840	2,770	1,400	910	1,300	26		4,600	2,110	1,020	785	*1,100
12		4,460	2,880	1,040	941	1,290	27		4,600	1,960	1,020	840	1,050
13		3,820	2,940	1,120	974	1,240	28		4,570	1,730	1,020	*1,100	1,140
14		3,320	2,770	890	996	1,180	29		4,600	1,550	1,040	1,140	1,160
15		3,320	2,670	900	974	1,170	30	*3,080	4,460	*1,440	1,060	1,040	1,160
							31		4,250	-	974	1,040	-
Total.....									129,820	81,140	38,128	28,504	34,320
Mean.....									4,181	2,705	1,230	919	1,144
Runoff in acre-feet.....									257,100	160,900	75,630	56,540	68,070
The season: Max -									Min -	Mean -	Ac-ft	618,200	

\* Discharge measurement made on this day.

† Result of discharge measurement.

a No gage-height record; discharge estimated on basis of records for upstream stations.

## HENRYS FORK BASIN

Teton River near Tetonia, Idaho

Location--Lat 43°51', long 111°15', in sec. 15, T. 6 N., R. 44 E., on right bank  $1\frac{3}{4}$  miles downstream from highway bridge, 4 miles downstream from Packsaddle Creek, and 6 miles northwest of Tetonia.

Drainage area--471 sq mi.

Records available--October 1929 to December 1932, May to September 1934, July to September 1935, July to September 1936, July to September 1937, May to September 1940, and June 1941 to September 1956. Monthly discharge only for some periods, published in WSP 1317.

Gage--Water-stage recorder. Datum of gage is 5,910.3 ft above mean sea level, unadjusted. Since November 1941, supplemental staff gage at site  $1\frac{1}{4}$  miles upstream.

Average discharge--18 years (1929-32, 1941-56), 388 cfs (280,900 acre-ft per year).

Extremes--Maximum discharge during year, 1,590 cfs June 3 (gage height, 2.65 ft); minimum, 149 cfs Nov. 13 (gage height, 0.48 ft).

1929-32, 1934-35, 1940-56: Maximum discharge observed, 1,900 cfs June 28, 1945 (gage height, 2.97 ft); minimum observed, 62 cfs Jan. 16, 17, 1943.

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

Revisions--WSP 1217: Drainage area.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 29 to Dec. 4)

0.4	144	1.5	668
.5	168	2.0	1,030
.7	230	2.7	1,640
1.0	364		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	270	258	246	320	160	180	472	466	1,410	837	545	413		
2	270	288	235	300	165	180	380	443	1,510	858	539	402		
3	266	305	225	280	175	180	359	437	1,570	954	533	392		
4	262	279	204	260	180	180	354	454	1,480	866	515	386		
5	266	310	220	250	185	180	386	466	1,340	808	515	380		
6	*283	292	235	240	185	180	354	490	1,240	787	515	380		
7	292	270	*243	238	185	180	339	490	1,020	752	502	380		
8	*283	*262	245	230	185	180	397	490	822	751	490	380		
9	274	262	245	230	185	180	425	502	808	717	490	380		
10	266	279	245	250	190	180	472	521	851	703	484	380		
11	279	296	250	*279	200	180	490	558	*924	703	484	402		
12	292	254	250	265	205	180	454	564	984	703	478	413		
13	274	191	240	260	210	180	443	552	1,010	703	466	402		
14	270	170	220	240	*216	180	425	466	1,020	875	460	397		
15	270	165	195	230	200	180	443	484	1,010	648	460	380		
16	266	160	190	230	190	180	437	472	1,060	642	454	375		
17	262	210	200	230	185	190	443	*472	1,020	*622	460	364		
18	262	280	220	230	190	195	*431	484	917	609	448	359		
19	262	329	240	230	195	200	425	515	837	602	443	364		
20	296	408	260	230	200	212	431	583	822	583	443	359		
21	310	577	280	225	205	*230	448	773	977	583	437	349		
22	324	583	340	225	210	265	472	947	1,090	596	425	349		
23	314	354	600	225	205	420	502	1,090	939	577	*419	349		
24	292	274	700	220	180	600	564	1,170	873	564	413	349		
25	283	262	600	220	180	759	552	1,290	895	564	408	344		
26	274	234	540	220	180	801	539	1,380	895	552	408	*344		
27	283	238	470	220	180	661	545	1,400	880	545	413	344		
28	296	250	410	210	180	466	589	1,420	880	539	431	344		
29	288	250	375	205	180	443	577	1,440	873	539	425	349		
30	288	246	360	200	-----	408	502	1,490	858	552	419	349		
31	292	-----	340	180	-----	545	-----	1,400	-----	545	413	-----		
Total	8,709	8,536	9,623	7,372	5,486	9,275	13,650	23,709	30,815	20,659	14,335	11,158		
Mean	281	285	310	238	189	299	455	765	1,027	666	462	372		
Ac-Ft	17,270	16,930	19,090	14,620	10,880	18,400	27,070	47,030	61,120	40,980	28,430	22,130		
Calendar year 1955: Max	700			Min	150			Mean	299			Ac-ft	216,600	
Water year 1955-56: Max	1,570			Min	160			Mean	446			Ac-ft	324,000	

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 8 to Mar. 20 (stage-discharge relation affected by ice Nov. 14-18, Dec. 2, 3, Dec. 5 to Mar. 24); discharge estimated on basis of 4 discharge measurements, weekly readings on supplementary staff gage, weather records, and records for station near St. Anthony.



## Teton River near St. Anthony, Idaho

Location.--Lat 43°55'40", long 111°36'55", in SW $\frac{1}{4}$  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 1956 (irrigation seasons only, 1920-21, 1923-33). Monthly discharge 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 from present site 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 from present site at different datum.

Average discharge.--23 years (1933-56), 755 cfs (546,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,790 cfs June 2 (gage height, 6.54 ft); minimum, 214 cfs Dec. 15 (gage height, 1.62 ft).

1890-93, 1903-9, 1920-56: Maximum discharge observed, 5,830 cfs June 13, 1893 (gage height, 6.90 ft, site and datum then in use); minimum, that of Dec. 15, 1955.

Remarks.--Records excellent except those for periods of ice effect and 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 (12,700 acre-ft diverted into river during 1956 irrigation season).

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

Rating table, water year 1955-56, except for periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 19 to June 16)

1.7	264	4.0	1,750
2.0	380	5.0	2,610
2.5	635	6.2	3,710
3.0	965		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	472	487	b440	b460	264	b300	799	1,020	3,490	1,500	986	708		
2	463	416	b430	b440	a300	*b298	629	944	3,680	1,520	958	689		
3	458	518	b420	425	a320	b310	567	937	3,670	1,690	916	665		
4	458	498	402	467	a330	b310	534	1,020	3,470	1,500	888	659		
5	448	528	398	444	a335	b310	629	1,260	3,200	1,360	867	671		
6	*467	528	b410	439	a340	b300	545	1,390	*2,880	1,310	860	665		
7	482	492	*b415	412	a340	b280	492	1,370	2,340	1,280	846	653		
8	477	*458	b420	407	a335	b280	589	1,520	1,990	1,250	839	641		
9	472	453	b420	371	a330	b285	653	1,610	2,030	*1,230	818	635		
10	463	472	b405	439	a320	289	708	1,690	2,160	1,200	825	641		
11	458	492	394	*434	a320	b285	832	1,720	2,340	1,260	825	665		
12	487	463	420	416	a320	b280	766	1,580	2,400	1,290	825	*695		
13	482	402	394	425	a320	b280	760	1,400	2,400	1,240	*812	689		
14	458	b340	b380	398	*b325	b290	721	1,260	2,300	1,190	792	665		
15	458	b290	b370	b395	b320	b300	812	1,140	2,220	1,140	773	665		
16	453	282	b360	b395	b310	b310	860	1,180	2,270	1,090	747	659		
17	448	b440	b360	b395	b300	b320	853	*1,560	2,030	1,080	740	665		
18	453	b480	b380	b390	b300	b335	*867	1,970	1,760	1,140	728	659		
19	448	528	b400	b390	b300	358	874	2,290	1,700	1,150	721	641		
20	472	629	b420	b390	b310	371	937	2,640	1,710	1,100	702	653		
21	528	721	453	b385	b320	*402	1,010	2,870	1,900	1,100	721	629		
22	528	812	482	b385	b325	472	1,120	3,180	2,010	1,110	773	624		
23	540	578	1,360	b385	b325	846	1,170	3,450	1,740	1,090	773	629		
24	528	487	2,580	b380	b320	1,100	1,240	*3,510	1,610	1,070	766	671		
25	503	430	1,160	b370	b310	1,280	1,340	3,540	1,730	1,070	760	665		
26	498	434	786	b375	b300	1,260	1,260	3,690	1,670	1,060	747	665		
27	503	434	b640	b380	b300	839	1,240	3,620	1,620	1,030	747	665		
28	513	444	b560	358	b300	659	1,280	3,540	1,640	1,020	780	671		
29	508	458	b500	b340	b300	572	1,250	3,570	1,660	1,020	780	683		
30	503	448	467	b325	-----	612	1,100	3,490	1,600	1,030	780	689		
31	523	-----	b480	318	-----	799	-----	3,420	-----	1,010	754	-----		
Total	14,952	14,442	17,506	12,333	9,139	14,932	26,437	67,381	67,220	37,130	24,849	19,874		
Mean	482	461	565	398	315	482	881	2,174	2,241	1,198	802	662		
Ac-ft	29,660	28,650	34,720	24,460	18,130	29,620	52,440	133,600	133,300	73,650	49,290	39,420		
Calendar year 1955: Max	2,580			Min	257			Mean	632			Ac-ft	457,400	
Water year 1955-56: Max	3,690			Min	264			Mean	891			Ac-ft	646,900	

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Fall River near Squirrel.

b Stage-discharge relation affected by ice.



## Henrys Fork near Rexburg, Idaho

Location.--Lat 43°49'34", long 111°54'15", in NE<sup>1</sup> sec. 30, T. 6 N., R. 39 E., on right bank 200 ft downstream from highway bridge and 6 miles (revised) west of Rexburg.

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

Records available.--April 1909 to September 1956. 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 4,807.7 ft above mean sea level, datum of 1929. 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 same datum.

Average discharge.--47 years, 1,910 cfs (1,383,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,930 cfs May 30 (gage height, 8.88 ft); minimum, 625 cfs Nov. 16 (gage height, 2.85 ft).  
1909-56: 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 periods 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. 34), and Grassy Lake (see following page). Diversions for irrigation of about 172,000 acres above station. Part of return flow escapes westward beneath the Snake River plains above gaging station.

Revisions.--WSP 1217: Drainage area.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge in cubic feet per second)  
(Shifting-control method used Mar. 13 to Apr. 26,  
May 11 to June 26, July 12-27)

3.0	720	7.0	3,850
4.0	1,340	8.0	5,000
5.0	2,080	9.0	6,520
6.0	2,920		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,500	2,080	*1,580	2,480	932	1,700	2,220	3,550	5,570	2,020	1,330	1,290
2	1,480	2,030	1,800	2,350	1,000	*1,700	*2,160	3,420	5,490	2,000	1,350	1,310
3	1,460	1,800	1,550	2,210	1,150	1,700	1,980	*3,330	5,620	*2,680	1,260	1,160
4	1,400	1,690	1,480	*2,140	1,250	1,700	1,890	3,440	5,670	2,960	1,140	1,110
5	1,420	1,540	1,370	1,840	1,350	1,680	1,850	3,780	5,530	2,780	1,040	1,040
6	*1,470	1,470	1,430	1,720	1,450	1,660	1,840	4,280	5,210	2,350	1,030	1,040
7	1,490	*1,420	1,460	1,670	*1,500	1,630	1,860	4,740	1,930	988	1,210	
8	1,500	1,400	1,440	1,620	1,400	1,700	1,700	4,780	3,840	1,680	926	1,330
9	1,520	1,370	1,530	1,510	1,580	1,700	1,700	5,010	3,090	1,270	914	1,360
10	1,490	1,370	1,470	1,490	1,380	1,660	1,750	5,040	3,130	1,020	968	1,380
11	1,480	1,400	1,440	1,630	1,420	1,600	1,900	5,150	3,190	1,330	968	1,420
12	1,550	1,410	1,440	1,610	1,550	1,650	2,050	5,220	3,340	1,190	1,060	1,440
13	1,560	1,400	1,400	1,610	1,750	1,680	1,990	4,880	3,560	1,110	1,140	1,530
14	1,490	1,330	914	1,590	1,750	1,680	2,020	4,190	3,690	1,040	1,120	1,510
15	1,490	1,100	896	1,570	1,750	1,750	2,100	3,500	3,530	914	1,170	1,510
16	1,210	742	1,080	1,580	1,700	1,780	2,330	3,250	3,810	878	1,180	1,530
17	998	1,020	1,800	1,550	1,670	1,890	2,550	3,240	4,240	797	1,160	1,600
18	998	1,580	2,250	1,500	1,700	1,870	2,590	3,480	4,120	819	1,130	1,470
19	974	1,990	2,220	1,480	1,720	1,860	2,750	3,610	3,420	1,080	1,100	1,430
20	1,020	1,990	2,380	1,450	1,730	1,840	2,980	4,130	3,030	*1,270	1,090	1,420
21	1,160	2,020	2,440	1,430	1,740	1,860	3,280	4,370	3,190	1,370	1,110	1,340
22	1,580	2,260	2,590	1,400	1,750	1,940	3,530	4,640	3,590	1,440	1,060	1,300
23	1,800	1,960	2,760	1,420	1,750	2,340	3,860	4,810	3,500	1,330	1,030	1,250
24	1,860	1,770	3,780	1,430	1,730	2,770	3,970	*5,110	3,970	1,350	958	1,280
25	1,900	1,640	4,120	1,500	1,720	2,970	4,220	5,310	2,850	1,310	902	1,430
26	1,910	1,610	3,460	1,320	1,710	2,970	4,090	5,490	3,020	1,140	896	*1,470
27	1,980	1,610	2,980	1,340	1,700	2,790	3,830	5,630	2,880	1,070	950	1,480
28	1,980	1,560	2,920	1,300	1,700	2,400	4,010	5,800	2,550	1,110	*1,090	1,460
29	1,980	1,560	2,680	1,250	1,700	2,140	3,970	5,680	2,320	1,110	1,440	1,560
30	1,990	1,560	2,260	1,150	1,500	2,060	3,900	5,210	2,110	1,300	1,400	1,580
31	2,070	-----	2,280	962	-----	2,100	-----	5,800	-----	1,330	1,290	-----
Total	47,720	47,682	63,000	48,902	45,032	60,700	80,670	140,970	112,800	44,978	34,168	41,160
Mean	1,539	1,589	2,032	1,577	1,553	1,960	2,689	4,547	3,760	1,451	1,102	1,372
Ac-ft	94,650	94,580	125,000	97,000	89,320	120,500	160,000	279,600	223,700	89,210	67,770	81,640
Calendar year 1955: Max	4,120			Min 610		Mean 1,727		Ac-ft 1,250,000				
Water year 1955-56: Max	5,910			Min 742		Mean 2,098		Ac-ft 1,523,000				

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Jan. 16-30, Feb. 2 to Mar. 12.

## Smaller Reservoirs in Henrys Fork Basin

Henrys Lake.--Lat 44°36', long 111°21', in NW<sup>1</sup>/<sub>4</sub> 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 1956 (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, 80,100 acre-ft July 5 (gage height, 15.11 ft); minimum observed, 50,300 acre-ft Oct. 10 (gage height, 10.22 ft). Maximum contents observed during period 1923-56, 84,500 acre-ft June 24, 1953 (gage height, 15.80 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 ft (low-water level of Henrys Lake prior to construction of dam) and 15.0 ft (top of 5-ft flashboards on spillway). Floodwaters of Dry Creek are diverted into Henrys Lake at times (small diversion during water year 1956). 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.

Grassy Lake.--Lat 44°08', long 110°49', approximately in sec. 7, T. 48 N., R. 116 W. (unsurveyed), in gatehouse at dam on Grassy Creek half a mile upstream from mouth and 24 miles northwest of Moran, Wyo. Drainage area 12 sq mi, approximately, including basin of Cascade Creek, from which water is diverted into Grassy Lake. Records available, October 1939 to September 1956. Mercury pressure gage. Datum of gage is mean sea level (levels by Bureau of Reclamation). Maximum contents observed during year, 15,300 acre-ft, June 1, 13, 20; maximum elevation, 7,210.40 ft June 1; minimum contents observed, 11,300 acre-ft Oct. 3, 13; minimum elevation observed, 7,196.70 ft Oct. 13. Maximum contents observed during period 1939-56, 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 ft (sill of trash rack) 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 elevations or gage heights and usable contents, water year October 1955 to September 1956

Date	Henrys Lake			Grassy Lake		
	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	-	a50,400	-	-	a11,200	-
Oct. 31.....	-	a51,400	+1,000	-	a11,400	+200
Nov. 30.....	-	a54,700	+3,300	-	a11,600	+200
Dec. 31.....	-	a59,100	+4,400	-	a12,000	+400
Calendar year 1955..	-	-	-12,900	-	-	+200
Jan. 31.....	-	a61,000	+1,900	-	a12,400	+400
Feb. 29.....	-	a63,200	+2,200	-	a12,500	+100
Mar. 31.....	-	a64,600	+1,400	7,201.65	12,700	+200
Apr. 30.....	-	a68,400	+3,800	7,202.80	13,000	+300
May 31.....	-	a73,400	+5,000	-	a15,300	+2,300
June 30.....	-	a80,000	+6,600	-	a15,200	-100
July 31.....	14.67	77,300	-2,700	-	a15,200	0
Aug. 31.....	-	a70,700	-6,600	7,209.70	15,100	-100
Sept. 30.....	-	a68,900	-1,800	7,203.30	13,100	-2,000
Water year 1955-56..	-	-	+18,500	-	-	+1,900

a No gage-height record; contents interpolated.

# 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 1956. One of the canals is equipped with a water-stage recorder, the others with staff gages, which are read once daily. Discharge combined to show total diverted flow. Records include Riley ditch which diverts  $1\frac{1}{2}$  miles above Heise gaging station. Records good.

Discharge, in cubic feet per second, 1956											
Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	1,460	8,090	9,240	9,110	7,230	16	6,520	8,950	9,680	7,730	6,220
2	1,580	8,520	9,440	8,480	7,340	17	6,730	8,180	10,100	7,190	6,500
3	1,840	8,570	9,250	8,340	7,350	18	7,260	8,110	10,200	6,970	6,030
4	2,590	8,720	8,680	8,180	7,460	19	7,480	8,380	10,300	6,800	6,060
5	3,150	8,860	8,970	7,970	7,680	20	7,420	8,520	10,300	7,350	6,280
6	3,420	9,150	9,540	8,010	7,500	21	7,970	8,210	10,200	7,580	6,370
7	3,680	9,370	9,410	7,930	7,620	22	8,080	7,770	9,780	7,720	6,200
8	4,350	9,690	9,360	7,710	7,480	23	8,480	7,800	10,000	7,910	5,880
9	4,940	9,700	9,530	7,720	7,280	24	8,050	8,880	9,860	8,030	5,760
10	5,250	9,540	9,910	7,730	7,330	25	8,220	8,080	9,860	7,930	5,560
11	5,210	9,820	10,000	7,630	7,360	26	8,120	8,510	9,680	7,810	5,210
12	5,240	10,000	10,000	7,620	7,240	27	7,770	8,630	9,470	7,690	5,090
13	5,040	10,200	9,400	7,720	7,010	28	7,530	9,110	9,530	7,520	4,910
14	5,190	10,100	9,050	7,770	6,920	29	6,900	9,550	9,190	7,260	4,400
15	5,660	9,820	8,830	7,780	6,730	30	6,920	9,580	9,220	7,410	4,020
						31	7,370	9,210	7,280		
Total							16,820	267,310	297,450	239,880	193,660
Mean							5,768	8,910	9,598	7,738	6,455
Runoff in acre-feet							354,700	530,200	590,100	475,800	384,100
The season:	Max		Min		Mean		Ac-Ft	2,335,000			

Snake River near Shelley, Idaho

Location.--Lat 43°24'50", long 112°08'05", in SW $\frac{1}{4}$  sec. 17, T. 1 N., R. 37 E., on right bank a quarter of a mile southeast of Woodville and 2 $\frac{1}{2}$  miles north of Shelley.

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

Records available.--March 1915 to September 1956 (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--25 years (1931-56), 5,272 cfs (3,817,000 acre-ft per year).  
Extremes--Maximum discharge during year, 30,100 cfs May 29 (gauge height, 12.90 ft); minimum daily, 1,400 cfs Feb. 3; minimum gage height, 4.65 ft Nov. 13.

Maximum discharge known, 72,000 cfs (estimated) June 6, 1894, at former station at Eagle Rock (now Idaho Falls); 7 miles upstream from present site.

Remarks.—Records excellent except those for periods of ice effect, which are fair. Some regulation by Jackson Lake (see p. 14), Palisades Reservoir (see p. 30), Island Park Reservoir (see p. 34), Henrys Lake and Grassy Lake (see preceding page). Many diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,010	3,470	3,590	5,570	2,000	3,600	8,870	15,200	29,000	13,700	5,470	3,960
2	2,090	3,560	*3,610	5,540	1,800	3,700	9,220	14,500	28,200	17,700	5,860	3,960
3	2,210	3,500	3,660	5,700	1,400	3,680	9,010	14,600	28,200	13,400	5,830	4,080
4	2,030	3,280	3,560	5,060	1,500	3,790	8,620	14,800	28,900	13,100	5,570	3,790
5	1,980	3,190	3,540	*4,850	1,700	3,600	8,310	15,300	29,600	12,800	5,250	3,590
6	2,060	3,070	3,110	4,710	2,000	3,400	8,380	17,400	29,400	10,500	4,760	3,470
7	2,210	2,990	3,260	4,550	2,400	3,400	8,420	18,200	29,200	9,010	4,420	3,680
8	2,230	2,970	2,950	4,290	2,400	3,400	8,450	17,200	24,700	8,160	4,060	4,160
9	2,340	2,890	3,390	4,680	2,900	3,900	8,360	17,800	26,900	7,260	4,150	4,680
10	2,310	2,890	3,410	3,960	2,900	3,650	8,480	17,900	25,400	6,310	4,340	4,210
11	2,340	2,820	3,680	3,910	2,700	3,750	8,900	18,500	24,900	6,210	4,470	4,240
12	2,420	3,050	3,500	4,080	2,700	3,600	9,790	19,700	*24,300	6,310	4,550	4,360
13	2,520	2,540	3,250	4,140	2,900	3,200	10,500	20,400	24,000	6,470	4,680	4,360
14	2,490	3,070	3,000	4,140	3,000	3,150	10,800	19,800	23,800	6,670	4,440	4,420
15	2,440	2,310	2,100	4,160	3,100	3,400	11,500	17,500	24,100	6,630	4,440	4,240
16	2,350	2,140	1,950	4,180	3,100	4,000	12,500	15,500	24,900	5,760	4,470	3,990
17	2,100	2,270	2,000	4,340	3,000	4,700	14,200	14,900	25,800	4,790	4,880	3,610
18	1,820	1,700	3,000	4,260	2,900	5,100	14,700	15,500	25,600	4,740	4,820	3,240
19	1,790	3,090	3,630	4,140	2,600	5,200	*15,300	17,100	23,600	*4,470	4,760	2,850
20	1,810	4,260	4,010	4,080	2,800	5,220	16,300	19,200	21,100	4,520	4,210	2,440
21	1,920	4,880	4,310	4,010	3,200	5,280	16,800	20,800	19,300	5,030	3,820	2,580
22	2,030	5,150	4,660	3,960	3,400	*5,280	16,500	21,800	19,200	5,950	3,720	3,150
23	2,470	5,150	5,220	3,940	*3,660	5,670	17,300	22,800	18,800	6,150	3,560	3,540
24	2,800	4,550	6,470	3,880	3,600	6,110	17,900	24,200	17,300	5,630	*3,660	3,630
25	*2,820	4,600	10,000	3,790	3,600	7,290	18,800	25,100	14,800	5,440	3,940	3,680
26	2,850	3,820	9,260	3,170	3,660	8,870	19,500	26,200	13,100	5,350	4,140	3,700
27	2,850	3,750	8,070	2,850	3,560	9,320	18,400	27,900	12,700	5,150	4,420	3,390
28	2,830	3,770	7,390	3,150	3,540	9,080	18,400	29,100	12,700	4,820	4,850	*3,450
29	2,910	3,680	6,930	3,500	3,600	8,450	17,900	29,700	13,000	5,220	5,060	3,500
30	2,950	3,630	5,860	3,200	-----	8,110	16,600	29,700	13,500	5,510	4,880	3,340
31	3,130	-----	5,150	2,600	-----	8,350	-----	29,600	-----	5,570	4,440	-----
Total	73,110	102,400	137,520	127,770	81,660	159,020	388,020	628,300	879,700	224,310	142,130	110,960
Man	358	3,401	4,430	4,122	2,816	4,130	12,950	20,270	22,660	7,236	585	3,699
Ac-ft	145,000	202,400	272,400	253,400	162,000	315,400	769,600	1,246,000	1,348,000	444,900	281,900	220,100

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 13-18, Jan. 24, Jan. 27 to Feb. 22, Feb. 24 to Mar. 1, Mar. 5-7, 9-19.

## BLACKFOOT RIVER BASIN

## 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 1956 (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 (from 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.--25 years (1931-56), 153 cfs (110,800 acre-ft per year).

Extremes.--Maximum discharge during year, 612 cfs Apr. 30; maximum gage height, 6.33 ft Nov. 2; minimum daily discharge, 1 cfs July 28.  
1913-56: Maximum discharge, 868 cfs May 21, 1921; no flow for many days.

Remarks.--Records good except 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 Office of Indian Affairs.

Revisions.--WSP 1217: Drainage area.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	424	258	199	75	*b118	240	*554	189	10	*29	12
2	38	455	*261	207	70	b120	233	408	143	36	50	39
3	37	418	251	205	80	b125	205	248	91	65	60	*37
4	46	*424	244	200	90	b125	*186	249	89	80	84	14
5	*42	416	245	*223	95	b120	171	127	50	80	118	12
6	58	415	251	245	*b98	b115	188	44	12	27	124	9
7	81	407	241	213	b100	112	178	51	12	26	71	12
8	85	404	177	206	b100	108	181	26	10	2	*67	35
9	80	369	181	178	100	124	188	22	5	5	35	78
10	70	348	191	174	100	124	202	21	8	22	32	81
11	53	353	226	177	100	120	220	44	30	15	37	126
12	68	344	207	160	100	115	263	103	6	14	45	130
13	79	324	227	160	100	115	293	94	*10	*14	59	116
14	106	295	192	142	100	120	311	75	51	25	51	117
15	102	293	152	138	90	120	359	42	124	29	34	125
16	100	293	142	254	90	130	404	19	199	26	23	117
17	75	285	158	259	90	170	462	12	217	4	30	109
18	71	276	220	185	95	212	505	6	203	3	*29	*29
19	84	331	185	192	100	217	498	7	121	11	36	13
20	85	362	202	174	100	*262	517	31	107	13	24	38
21	76	338	186	172	105	299	533	27	89	11	6	25
22	65	306	186	164	105	353	536	12	95	27	4	36
23	70	302	202	171	110	367	541	8	91	51	2	52
24	74	275	297	159	115	308	561	21	76	15	15	137
25	64	248	351	125	115	262	578	16	80	22	19	141
26	102	262	358	118	115	330	590	64	20	18	32	152
27	124	262	345	b125	115	345	596	155	38	8	31	147
28	181	259	336	b130	115	245	601	205	*49	1	39	113
29	250	251	285	b120	120	272	607	200	11	9	46	111
30	350	252	231	b110	-----	216	606	217	8	25	18	111
31	418	-----	228	90	-----	210	-----	178	-----	11	11	-----
Total	3,222	9,991	7,222	5,373	2,888	6,026	11,553	3,286	2,234	685	1,261	2,274
Mean	104	333	233	173	99.6	194	385	106	74.5	22.1	40.7	75.8
Ac-ft	6,390	19,820	14,320	10,660	5,730	11,950	22,910	6,520	4,430	1,360	2,500	4,510
Calendar year 1955: Max	455			Min 1		Mean 110		Ac-ft 79,990				
Water year 1955-56: Max	607			Min 1		Mean 153		Ac-ft 111,100				

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 8-10, Feb. 1-5, 9-23, Mar. 10-17; discharge estimated on basis of records for Snake River near Blackfoot.

## 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 1956. 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, 1956

Day	May	June	July	Aug.	Sept.	Day	May	June	July	Aug.	Sept.
1	1,830	3,240	4,070	3,830	3,040	16	3,820	3,830	4,140	3,330	2,390
2	1,830	3,150	4,090	3,840	3,070	17	3,780	3,530	4,050	3,390	2,370
3	1,890	3,340	4,040	3,860	3,100	18	3,820	3,260	4,100	3,360	2,460
4	1,770	3,530	4,080	3,510	3,060	19	3,910	3,160	3,930	3,350	2,380
5	2,110	3,700	4,040	3,460	3,050	20	3,980	3,320	4,000	3,360	2,290
6	2,300	3,860	4,210	3,140	2,980	21	4,020	3,200	4,120	3,280	2,350
7	2,440	4,050	4,170	3,100	3,000	22	4,030	3,280	4,190	3,170	2,540
8	2,820	4,100	4,100	3,230	3,110	23	3,840	3,560	4,140	3,190	2,600
9	2,890	4,060	4,050	3,230	3,150	24	4,010	3,380	4,120	3,260	2,500
10	3,240	4,060	3,920	3,230	3,090	25	3,780	3,430	4,110	3,500	2,570
11	3,330	4,160	4,050	3,250	2,970	26	3,570	3,530	4,080	3,280	2,500
12	3,420	4,140	4,280	3,220	2,830	27	3,480	3,710	4,080	3,280	2,420
13	3,300	4,210	4,210	3,350	2,680	28	3,080	3,870	4,020	3,180	2,420
14	3,200	4,140	4,210	3,310	2,570	29	2,680	4,010	3,980	3,260	2,250
15	3,410	3,440	4,170	3,380	2,430	30	2,790	4,060	3,870	3,240	2,100
						31	2,860	-	3,830	3,170	-
Total							95,640	109,710	126,430	103,190	80,270
Mean							3,085	3,557	4,078	3,329	2,676
Runoff in acre-feet							189,700	217,600	250,800	204,700	159,200
The season: Max	-		Min	-	Mean	-	Ac-ft	1,022,000			

## Snake River near Blackfoot, Idaho

Location.--Lat 43°07', long 112°31', in SE<sup>1</sup> sec. 30, T. 3 S., R. 34 E., on right bank 1,000 ft downstream from highway bridge, a quarter of 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.--1910-1956. From 1910 to September 1956. 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.--30 years (1926-56), 4,048 cfs (2,931,000 acre-ft per year).

Extremes.--Maximum discharge during year, 27,300 cfs May 30 (gage height, 11.03 ft); minimum, 458 cfs Aug. 24 (gage height, 0.69 ft).

1910-56: 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. On 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. Some regulation by Jackson Lake (see p. 14), Henrys Lake (see p. 44), Island Park Reservoir (see p. 34), Grassy Lake (see p. 44), and Blackfoot Marsh Reservoir, having a combined capacity of 1,483,000 acre-ft. About 694,000 acres of land irrigated by diversions above station.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,110	3,210	3,770	4,900	1,950	*3,320	8,510	*15,100	26,200	9,420	*1,820	1,150
2	1,120	3,550	*3,790	5,540	1,540	3,540	8,980	13,900	24,900	9,690	2,040	1,040
3	1,130	3,570	3,620	5,260	1,230	3,610	8,920	13,200	24,200	8,830	2,460	*1,130
4	1,100	*3,480	3,750	5,240	1,320	3,700	*8,590	11,200	24,500	9,360	2,530	1,040
5	*844	3,290	3,540	*5,010	1,560	3,700	8,170	13,100	24,800	9,280	2,400	836
6	964	3,210	3,350	4,900	*1,950	3,520	8,140	14,200	24,900	7,620	2,340	652
7	1,110	3,150	3,020	4,710	2,380	3,480	8,270	15,700	24,500	5,430	1,830	532
8	1,410	3,080	3,160	4,540	2,600	3,210	7,980	15,000	23,800	4,580	*1,540	900
9	1,490	3,030	3,270	4,220	2,960	3,270	7,960	14,800	22,700	3,820	1,320	1,440
10	1,530	2,940	3,370	4,000	2,620	3,500	8,140	14,300	21,300	2,840	1,420	1,600
11	1,490	3,030	3,480	4,000	2,610	3,540	8,300	15,000	20,600	2,240	1,540	1,670
12	1,560	2,970	3,710	4,060	2,670	3,400	8,940	16,000	19,900	2,240	1,670	1,900
13	1,630	2,760	3,570	4,200	2,750	3,020	9,690	17,100	*19,600	*2,050	1,770	2,140
14	1,670	3,150	3,300	4,150	2,920	2,940	10,200	17,300	19,300	2,370	1,580	2,230
15	1,680	2,140	2,280	4,250	3,030	3,210	10,800	15,200	19,700	2,470	1,440	2,140
16	1,950	2,130	1,920	4,350	2,970	3,970	11,700	12,700	20,700	2,480	1,270	2,180
17	1,830	2,290	2,510	4,460	2,900	4,200	12,500	14,500	*22,000	1,350	1,330	1,940
18	1,640	1,750	2,570	4,380	2,780	4,970	14,400	11,200	*22,700	878	*1,680	*1,380
19	1,390	2,370	3,540	4,270	2,460	5,300	15,000	12,500	21,600	796	1,640	1,000
20	1,400	3,750	3,980	4,150	2,600	5,260	15,900	14,400	19,100	639	1,510	702
21	1,440	4,690	4,370	4,060	2,980	5,300	16,800	16,200	17,000	688	852	486
22	1,500	4,690	4,690	4,000	3,120	5,340	16,900	17,400	16,100	1,340	710	600
23	1,760	4,760	5,030	4,020	3,240	5,430	16,900	16,300	15,800	2,040	564	1,150
24	2,110	4,760	5,560	3,970	3,200	5,840	17,700	19,300	14,800	1,740	*469	1,750
25	2,300	4,350	8,350	3,890	3,260	6,290	18,000	20,300	12,900	1,490	552	1,640
26	2,360	4,150	9,630	3,500	3,370	8,060	18,900	21,600	10,400	1,370	788	1,720
27	2,440	3,330	8,460	2,880	3,160	9,030	18,500	23,300	9,300	1,290	1,100	1,760
28	2,490	3,890	7,590	3,210	3,320	9,080	17,800	25,100	*8,700	1,080	1,450	1,580
29	2,670	3,880	6,960	3,550	3,300	8,820	17,700	26,300	8,700	1,130	1,780	1,800
30	2,760	3,800	6,090	3,270	-----	8,060	16,900	27,000	9,000	1,640	1,800	1,890
31	2,660	-----	5,510	2,640	-----	7,980	-----	26,800	-----	1,860	1,550	-----
Total	52,778	101,790	137,540	129,570	76,920	154,010	377,670	556,500	569,700	104,729	48,745	42,038
Mean	1,703	3,333	4,437	4,180	2,652	4,968	12,590	16,980	18,990	3,378	1,508	1,401
Ac-ft	104,700	201,900	272,800	257,000	152,600	305,500	749,100	1,044,000	1,130,000	207,700	92,720	83,380
Calendar year 1955: Max	10,400		Min	348		Mean	3,160		Ac-ft	2,288,000		
Water year 1955-56: Max	27,000		Min	469		Mean	6,339		Ac-ft	4,601,000		

\* Discharge measurement made on this day.

## 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, 1½ miles upstream from diversion dam of Portneuf-Marsh Valley Canal Co., and 4 miles west of Lava Hot Springs.

Drainage area.--420 sq mi, approximately (includes that of Bob Smith Creek).

Records available.--January 1913 to September 1915, July 1919 to September 1956. 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.--39 years (1913-15, 1919-56), 196 cfs (141,900 acre-ft per year).

Extremes.--Maximum discharge during year, 438 cfs Mar. 31 (gage height, 3.72 ft); minimum, 89 cfs Sept. 19, 1913-15, 1919-56: Maximum discharge observed, 902 cfs Apr. 3, 1913 (gage height, 6.1 ft, site and datum then in use); minimum observed, 65 cfs Oct. 9, 1934 (gage height, 0.81 ft, site and datum then in use).

Remarks.--Records excellent. Flow regulated by Portneuf-Marsh Valley Reservoir (capacity, 16,410 acre-ft) and Chesterfield Reservoir on Twentyfourmile 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).

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 6 to May 18)

2.1	89
2.3	127
2.6	186
3.0	268
4.0	482

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	110	140	146	130	131	375	258	232	214	196	146
2	100	108	138	150	125	135	323	255	222	212	172	142
3	100	110	135	142	130	138	281	251	214	206	154	138
4	106	114	131	144	133	138	258	253	212	204	184	136
5	114	116	129	144	136	140	251	258	206	220	180	136
6	114	116	133	142	136	135	243	258	200	224	178	135
7	*108	118	129	138	136	136	236	255	194	210	174	140
8	104	*118	129	142	135	135	241	253	190	196	170	140
9	100	119	133	138	133	140	*230	247	184	196	172	136
10	100	121	129	138	133	140	230	245	188	204	174	136
11	102	123	127	138	136	135	239	255	204	196	174	135
12	102	123	129	138	138	135	232	251	204	188	176	116
13	104	119	129	144	135	142	241	234	204	184	178	104
14	102	129	125	*144	133	140	243	224	210	174	178	100
15	104	125	*123	154	135	136	241	206	220	182	174	100
16	104	116	129	190	131	140	251	192	228	184	172	102
17	104	133	129	184	135	144	255	188	*230	190	174	98
18	106	131	127	156	135	146	284	194	228	190	174	97
19	106	133	125	160	135	152	272	206	226	*188	172	91
20	110	136	125	156	136	164	281	220	224	192	172	98
21	110	138	131	154	136	170	291	224	230	198	170	97
22	114	135	164	154	136	176	302	*222	212	200	170	97
23	112	135	200	158	136	192	304	220	200	200	168	98
24	108	133	222	150	136	245	302	228	198	198	166	98
25	108	129	190	148	136	329	293	251	198	200	162	98
26	110	131	182	148	*136	373	295	245	196	202	*158	97
27	110	136	188	154	135	304	*304	247	194	198	148	98
28	110	136	178	140	133	333	297	247	208	198	125	98
29	112	136	158	142	131	342	283	268	224	198	142	98
30	112	138	156	144	-----	369	270	253	222	198	142	100
31	112	-----	154	138	-----	414	-----	241	-----	202	140	-----
Total	3,308	3,765	4,517	4,598	3,891	6,049	8,128	7,349	6,302	6,146	5,189	3,405
Mean	107	126	146	148	134	195	271	237	210	198	167	114
Ac-ft	6,560	7,470	8,960	9,120	7,720	12,000	16,120	14,580	12,500	12,190	10,290	6,750
Calendar year 1955: Max			262		Min 91		Mean 137			Ac-ft 99,280		
Water year 1955-56: Max			414		Min 91		Mean 171			Ac-ft 124,300		

\* Discharge measurement made on this day.



## Marsh Creek near McCammon, Idaho

Location.--Lat 42°37'50", long 112°13'30", in NE $\frac{1}{4}$  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.

Records available.--September 1954 to September 1956.

Gage.--Wire-weight gage read once or twice daily.

Extremes.--Maximum discharge observed during year, 280 cfs Mar. 21 (gage height, 6.00 ft); minimum observed, 30 cfs June 15, July 17, 18, 20, 21, 24-27; minimum gage height observed, 2.27 ft June 15.

Remarks.--Records good except those for Oct. 1 to Nov. 7, July 1 to Sept. 30, and periods of doubtful gage-height record, ice effect, or backwater from debris, which are fair. Diversions above station for irrigation. Part of Birch Creek flow (tributary to Marsh Creek) diverted into Devil Creek in Bear River basin.

Rating table, water year 1955-56, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 8, Feb. 27 to Apr. 11, July 7 to Sept. 30)

2.2	26	4.0	144
2.5	41	4.5	188
3.0	70	5.3	260
3.5	105		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	56	68	d78	44	66	94	66	54	35	35	41
2	57	57	69	d74	41	77	97	64	52	35	35	40
3	57	58	69	d72	40	98	97	62	51	34	35	40
4	57	59	63	d70	41	170	94	59	45	34	36	41
5	d65	63	68	d68	52	d150	90	57	40	34	37	40
6	d68	63	68	66	57	d110	90	57	39	35	36	41
7	*69	63	65	66	57	d100	88	57	35	33	37	42
8	d65	*66	63	65	b56	d100	88	52	35	33	42	43
9	62	63	63	63	b54	d120	*80	51	34	32	42	47
10	62	62	62	63	49	152	82	45	34	32	36	48
11	62	61	51	62	49	d110	74	40	34	32	36	48
12	62	61	51	66	64	93	69	70	34	36	38	56
13	62	60	46	79	63	d85	68	66	32	34	41	56
14	61	49	45	*83	61	78	68	58	32	34	42	56
15	61	44	*51	88	61	77	69	53	30	31	42	55
16	60	56	49	233	58	83	69	50	33	31	41	57
17	60	56	44	215	54	84	70	48	*43	30	42	58
18	66	59	49	188	54	c160	71	46	43	30	45	61
19	69	62	51	d150	54	c180	68	44	42	*34	46	62
20	69	69	65	d120	66	c200	68	41	41	30	40	63
21	66	75	63	d100	66	c250	68	41	40	30	40	63
22	68	68	91	91	68	205	66	*47	40	31	38	65
23	67	66	112	90	65	158	67	41	40	31	38	62
24	67	62	116	88	63	143	67	41	38	30	46	63
25	66	60	114	80	66	119	66	42	37	30	46	63
26	64	61	116	78	*71	117	67	43	35	30	*48	66
27	63	68	118	77	69	103	*70	44	34	30	39	68
28	63	68	93	77	68	99	74	49	34	32	38	66
29	61	69	79	71	68	96	70	63	32	34	38	68
30	58	67	79	70	-----	96	68	62	40	34	38	70
31	59	-----	85	45	-----	94	-----	60	-----	34	40	-----
Total	1,953	1,851	2,226	2,836	1,679	3,773	2,277	1,619	1,154	1,005	1,233	1,649
Mean	63.0	61.7	71.8	91.5	57.9	122	75.9	52.2	38.5	32.4	39.8	55.0
Ac-ft	3,870	3,670	4,420	5,630	3,330	7,480	4,520	3,210	2,290	1,990	2,450	3,270
Calendar year 1955: Max	140				Min 29		Mean 60.0		Ac-ft 43,420			
Water year 1955-56: Max	250				Min 30		Mean 63.5		Ac-ft 46,130			

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

c Backwater from debris.

d Doubtful gage-height record; discharge estimated on basis of weather records and records for nearby streams.

## Portneuf River at Pocatello, Idaho

Location.--Lat 42°51'40", long 112°27'25", in NE<sup>1</sup>NE<sup>1</sup> 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.--1,000 sq mi, approximately.

Records available.--May to September 1897, March 1898 to October 1899, August 1911 to September 1956.

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.--43 years (1912-16, 1917-56), 255 cfs (184,600 acre-ft per year).

Extremes.--Maximum discharge during year, 660 cfs Apr. 2 (gage height, 6.11 ft); minimum, 8 cfs July 8 (gage height, 3.36 ft).  
1897-99, 1911-56: Maximum discharge, more than 2,000 cfs sometime during period May 13 to June 14, 1917; minimum, 5 cfs July 31, 1942, from rating curve extended below 40 cfs.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Flow regulated by Portneuf-Marsh Valley Reservoir (capacity, 16,410 acre-ft) and Chesterfield Reservoir (capacity, 685 acre-ft). Diversions above station for irrigation of about 33,000 acres.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

3.6	17	4.6	155
3.7	22	5.0	256
3.9	40	5.5	426
4.2	78	6.1	656

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	80	212	248	289	b160	285	612	493	178	48	44	52
2	74	218	250	280	b180	274	640	463	155	46	38	47
3	78	223	250	268	b190	280	600	452	157	44	42	48
4	77	231	234	268	b210	306	549	459	129	42	42	52
5	*81	236	220	274	b230	344	508	441	114	40	41	54
6	81	234	223	268	b230	333	485	456	101	24	41	51
7	83	228	234	271	b270	296	487	470	94	34	44	55
8	*81	225	220	271	b260	280	463	470	75	18	46	55
9	83	*223	223	265	b270	277	*467	452	70	24	47	56
10	83	228	225	262	293	289	470	372	63	22	49	56
11	86	231	220	262	293	319	493	372	59	23	49	56
12	88	228	220	265	299	286	485	386	47	20	43	60
13	88	225	220	280	286	271	474	368	20	20	43	61
14	86	228	210	309	277	274	478	319	32	26	44	56
15	84	b200	*170	*316	277	262	478	268	39	24	50	78
16	84	b150	234	426	265	259	485	202	51	23	51	80
17	84	b200	236	452	195	288	508	178	*58	18	54	75
18	88	265	228	430	293	299	513	169	55	*18	52	59
19	91	271	220	365	286	340	527	131	64	20	54	68
20	89	265	223	344	289	376	549	140	67	20	60	72
21	94	271	231	333	289	412	568	146	64	20	60	75
22	98	256	256	330	293	441	576	*153	64	22	56	78
23	98	245	365	358	289	478	592	148	68	24	50	72
24	98	239	419	368	277	500	600	142	65	22	56	70
25	116	236	415	347	274	538	592	151	64	24	59	71
26	108	228	383	326	*274	620	572	162	63	24	51	64
27	105	225	390	326	271	620	*568	173	56	24	*52	63
28	120	234	394	319	274	580	576	185	44	31	60	65
29	173	242	354	b280	268	553	557	228	41	38	58	64
30	197	248	309	b220	-----	565	523	234	40	42	49	64
31	220	-----	296	b190	-----	576	-----	215	-----	41	51	-----
Total	3,096	6,945	8,320	9,562	7,562	11,781	15,977	8,998	2,177	866	1,536	1,877
Mean	99.9	232	268	308	261	380	533	290	72.6	27.9	49.5	62.6
Ac-ft	6,140	13,780	16,500	18,970	15,000	23,370	31,690	17,850	4,320	1,720	3,050	3,720
Calendar year 1955: Max	419			Min	15	Mean	171	Ac-ft	123,900			
Water year 1955-56: Max	640			Min	18	Mean	215	Ac-ft	156,100			

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## Bannock Creek near Pocatello, Idaho

Location.--Lat 42°41'40", long 112°35'40", in NE 1/4 sec. 28, T. 8 S., R. 33 E., in Fort Hall Indian Reservation, on right bank 0.3 mile upstream from Rattlesnake Creek, 9 1/2 miles north of Pauline, and 14 miles southwest of Pocatello.

Drainage area.--230 sq mi.

Records available.--May 1955 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 4,710 ft (from topographic map).

Extremes.--Maximum discharge during year, 574 cfs Mar. 20 (gage height, 6.65 ft); minimum, 5.2 cfs July 15 (gage height, 1.99 ft).  
1955-56: Maximum discharge, that of Mar. 20, 1956; minimum, that of July 15, 1956.

Remarks.--Records good. Diversions for irrigation above station. Discharge measurements of Rattlesnake Creek made about once a month to supplement this record (see p. 253).

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 20

Mar. 21 to Sept. 30

2.1	12	3.0	64	1.9	4.0	3.0	58
2.3	20	3.5	102	2.1	7.8	3.5	99
2.6	38	4.0	149	2.3	14	4.0	147
				2.6	31	5.0	267

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	16	20	23	20	20	36	22	19	7.2	7.0	7.0
2	13	16	20	23	20	23	37	21	16	7.6	7.0	7.0
3	13	16	19	22	20	48	37	21	15	7.4	6.8	7.2
4	12	16	16	22	20	46	35	21	14	7.4	6.8	7.4
5	13	16	16	22	20	31	33	20	14	7.8	6.8	7.4
6	13	16	16	22	20	23	31	21	13	7.8	7.0	7.4
7	13	16	16	21	21	22	30	21	11	7.4	7.2	7.0
8	*12	15	16	21	21	22	29	21	10	8.1	7.2	7.0
9	12	*16	16	20	20	42	*28	21	10	7.4	7.0	7.0
10	13	15	17	20	20	31	27	21	9.4	6.8	7.0	7.0
11	14	16	17	20	20	22	27	23	8.5	7.2	7.6	10
12	13	16	17	21	20	20	26	23	8.1	6.8	6.8	10
13	14	15	16	24	20	19	25	23	8.1	5.9	6.8	11
14	14	15	15	27	20	18	26	23	8.6	5.9	8.6	11
15	14	15	15	*43	20	18	26	21	10	5.5	8.1	10
16	14	14	*18	96	18	27	26	21	12	6.1	7.8	10
17	14	15	18	46	19	57	26	20	10	6.1	8.1	10
18	14	15	18	34	20	61	25	19	*9.4	*6.8	7.8	11
19	14	17	18	31	19	73	24	19	8.9	6.8	8.1	11
20	16	18	18	28	20	146	23	18	8.9	5.7	8.3	10
21	15	20	18	27	20	236	23	18	9.4	5.7	8.3	11
22	14	18	27	26	20	250	22	18	8.6	6.1	8.3	11
23	14	17	38	34	20	238	22	*18	8.6	5.9	8.1	11
24	14	16	41	27	20	222	22	18	7.8	5.5	7.8	12
25	15	16	41	24	20	199	22	15	7.8	5.7	7.0	9.4
26	15	16	38	24	*20	115	21	16	8.1	5.9	7.6	8.6
27	15	18	39	22	20	72	22	16	7.8	6.1	*7.4	8.6
28	15	19	33	22	20	52	*23	20	7.6	5.9	8.6	9.4
29	16	20	26	20	20	45	23	24	7.4	6.8	9.2	9.4
30	16	20	24	23	-----	40	23	23	7.2	7.0	8.3	9.7
31	16	-----	24	17	-----	39	-----	21	-----	6.5	6.3	-----
Total	433	494	691	852	578	2,276	800	627	304.0	204.8	232.7	275.5
Mean	14.0	16.5	22.3	27.5	19.9	73.4	26.7	20.2	10.1	6.61	7.51	9.18
Ac-ft	859	980	1,370	1,690	1,150	4,510	1,590	1,240	603	406	462	546

Calendar year 1955: Max - Min - Mean - Ac-ft -  
Water year 1955-56: Max 250 Min 5.5 Mean 21.2 Ac-ft 15,410

\* Discharge measurement made on this day.

## American Falls Reservoir at American Falls, Idaho

Location.--Lat 42°46', long 112°53', 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 1956.

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

Extremes.--Maximum contents during year, 1,725,000 acre-ft June 19 (elevation, 4,354.95 ft); minimum, 264,000 acre-ft Oct. 1 (elevation, 4,316.61 ft).  
1926-56: Maximum contents, 1,729,000 acre-ft June 26, 1951 (elevation, 4,355.02 ft); minimum since full capacity was attained on July 13, 1927, 17,200 acre-ft Oct. 22, 1931 (elevation, 4,299.72 ft).

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 gate) 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; all available for release.

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

Contents, in thousands of acre-feet, water year October 1955 to September 1956												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	412	728	1,123	1,343	1,390	1,453	1,608	1,718	1,692	1,290	851
2	268	425	737	1,136	1,343	1,392	1,454	1,601	1,717	1,689	1,274	832
3	274	437	749	1,147	1,340	1,396	1,451	1,599	1,717	1,685	1,262	821
4	274	446	763	1,154	1,339	1,400	1,452	1,589	1,707	1,684	1,250	807
5	274	456	775	1,163	1,338	1,406	1,451	1,583	1,704	1,682	1,237	795
6	279	469	783	1,171	1,341	1,410	1,458	1,578	1,701	1,675	1,224	781
7	274	482	793	1,181	1,340	1,411	1,459	1,574	1,701	1,671	1,211	768
8	274	492	807	1,190	1,341	1,413	1,461	1,575	1,697	1,664	1,199	755
9	278	501	814	1,205	1,344	1,413	1,465	1,579	1,693	1,655	1,187	744
10	284	505	824	1,210	1,346	1,415	1,470	1,578	1,692	1,644	1,174	733
11	285	514	836	1,216	1,349	1,420	1,475	1,581	1,690	1,630	1,160	726
12	290	525	847	1,222	1,355	1,425	1,479	1,584	1,695	1,617	1,146	717
13	293	538	857	1,229	1,363	1,427	1,487	1,591	1,692	1,600	1,133	710
14	297	545	868	1,239	1,366	1,428	1,493	1,598	1,691	1,585	1,119	704
15	300	554	877	1,251	1,368	1,430	1,500	1,605	1,687	1,567	1,103	698
16	306	564	885	1,262	1,371	1,431	1,509	1,607	1,690	1,552	1,087	693
17	314	572	893	1,269	1,373	1,433	1,522	1,606	1,704	1,537	1,072	688
18	318	576	903	1,278	1,373	1,435	1,538	1,601	1,717	1,521	1,057	682
19	323	582	914	1,283	1,376	1,440	1,553	1,597	1,723	1,500	1,043	676
20	331	594	924	1,292	1,382	1,443	1,568	1,601	1,716	1,466	1,029	667
21	337	606	935	1,296	1,382	1,449	1,579	1,611	1,708	1,467	1,014	654
22	341	618	946	1,301	1,382	1,454	1,588	1,624	1,702	1,450	1,000	651
23	350	632	953	1,308	1,383	1,455	1,595	1,638	1,701	1,434	984	645
24	358	643	973	1,314	1,383	1,456	1,596	1,652	1,701	1,416	969	638
25	362	656	994	1,322	1,384	1,457	1,602	1,669	1,704	1,400	953	634
26	365	666	1,017	1,324	1,384	1,452	1,605	1,689	1,706	1,383	935	631
27	371	681	1,039	1,324	1,386	1,457	1,607	1,697	1,705	1,366	918	627
28	376	696	1,060	1,328	1,388	1,463	1,606	1,709	1,701	1,350	905	623
29	388	707	1,082	1,332	1,389	1,464	1,607	1,716	1,695	1,335	889	623
30	397	717	1,097	1,340	-----	1,480	1,610	1,718	1,692	1,319	877	623
31	407	-----	1,107	1,343	-----	1,456	-----	1,719	-----	1,304	865	-----
(+)	4,322.63	4,333.04	4,342.82	4,347.75	4,348.67	4,349.99	4,352.88	4,354.84	4,354.36	4,346.97	4,337.08	4,330.20
(*)	+143	+310	+390	+236	+46	+67	+154	+109	-27	-388	-439	-242

Calendar year 1955..... \* -57

Water year 1955-56..... \* +559

† Elevation, in feet, at end of month.

\* Change in contents, in thousands of acre-feet.

## Snake River at Neeley, Idaho

Location.--Lat 42°46'20", long 112°52'45", in SW 1/4 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 2 1/2 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 1956. Monthly discharge 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 2 1/2 miles downstream at different datum. June 7, 1930, to Mar. 19, 1945, water-stage recorder at site 0.4 mile upstream from present site and at datum 0.4 ft higher than present datum.

Average discharge.--30 years (1926-56), 6,774 cfs (4,904,000 acre-ft per year).

Extremes.--Maximum discharge during year, 28,300 cfs June 3 (gage height, 9.48 ft); minimum, 71 cfs Oct. 31 (gage height, 0.88 ft).

1906-56: 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 usable capacity of 3,200,000 acre-ft. About 740,000 acres of land irrigated by water diverted from river and tributaries upstream from station.

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

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 19 to Aug. 1)

0.9	73	2.6	600	6.0	9,080
1.3	117	3.0	900	7.0	14,100
1.7	179	3.5	1,390	8.0	19,400
2.0	270	4.0	2,160	9.0	25,300
2.3	420	5.0	5,050	9.5	28,300

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*3,860	2,260	1,160	152	4,860	5,100	12,600	19,300	27,900	12,800	11,100	10,800
2	147	1,100	1,160	*3,500	4,850	5,130	12,600	19,200	27,900	13,000	11,300	10,700
3	2,720	1,150	154	3,510	4,750	4,980	11,300	19,200	28,100	13,400	11,500	*10,600
4	3,090	1,140	149	3,560	4,850	2,790	10,600	19,200	28,000	13,100	11,400	10,600
5	3,150	144	1,040	3,570	1,610	5,840	9,980	19,100	27,900	12,700	11,100	10,400
6	4,360	141	1,010	3,540	5,110	5,120	9,550	19,100	27,900	12,600	11,000	10,100
7	5,730	1,170	152	242	4,500	5,160	9,600	16,900	27,700	12,100	10,800	9,790
8	3,250	1,150	*2,180	285	4,340	5,140	9,600	15,600	27,600	11,200	*10,500	*9,460
9	168	1,160	1,010	3,340	4,340	5,170	8,900	15,700	25,400	11,200	10,500	9,030
10	3,210	1,170	154	3,350	4,310	4,880	*8,530	15,700	22,500	11,800	10,800	8,760
11	3,130	2,050	150	3,380	1,860	2,550	8,580	15,700	21,700	12,000	10,900	8,760
12	3,170	141	1,000	3,390	528	5,790	8,580	15,700	21,700	12,000	10,800	8,400
13	3,190	130	1,260	3,420	4,350	5,190	8,670	15,700	*21,800	12,300	11,100	7,860
14	2,960	1,630	1,210	1,090	4,350	5,170	8,670	15,800	21,800	12,600	11,500	7,600
15	2,920	1,550	1,220	600	4,350	5,160	8,710	15,800	20,400	12,700	11,800	7,440
16	160	1,560	1,220	4,090	4,710	5,480	8,710	15,900	18,200	12,300	11,800	7,520
17	2,500	1,570	164	3,890	4,710	*5,860	8,760	15,900	17,400	12,100	11,800	7,390
18	2,510	1,570	157	3,830	4,870	5,160	8,760	15,900	19,200	12,100	*11,500	7,390
19	*976	117	1,210	3,850	1,680	6,880	8,760	*13,400	23,000	12,100	11,400	7,390
20	977	76	1,210	4,330	5,450	5,840	11,200	12,000	25,300	12,200	11,000	*7,350
21	2,700	1,540	1,230	4,920	5,270	5,830	14,400	12,400	23,400	12,200	10,600	7,350
22	137	1,600	1,220	691	5,260	6,420	15,100	12,500	20,000	12,100	11,000	7,350
23	124	1,610	1,220	4,950	5,240	8,440	16,600	12,500	16,800	12,400	11,000	7,480
24	2,940	1,610	154	4,950	5,400	8,480	17,800	12,400	14,600	12,400	11,100	6,790
25	2,960	*1,380	149	4,960	*5,750	8,900	18,600	13,100	15,700	12,300	11,100	6,220
26	2,520	157	1,220	5,010	4,700	9,600	19,200	16,900	13,500	12,400	11,100	6,030
27	2,480	143	1,210	5,000	6,610	9,890	19,300	19,200	13,500	12,400	11,000	5,990
28	117	1,130	1,220	*5,020	5,420	11,400	*19,300	22,600	*12,500	*12,200	11,100	5,410
29	73	1,140	1,230	740	5,100	12,600	19,300	26,600	12,000	11,900	11,200	5,020
30	75	1,140	1,220	4,970	-----	12,600	19,300	27,900	12,500	11,500	11,100	5,020
31	2,220	-----	*150	5,020	-----	12,600	-----	28,000	-----	11,300	-----	-----
Total	68,524	32,429	27,193	103,160	129,128	209,150	371,560	534,700	633,900	379,400	345,300	240,000
Mean	2,210	1,081	877	3,328	4,453	6,747	12,390	17,250	21,130	12,240	11,140	8,000
Ac-ft	135,900	64,320	53,940	204,600	256,100	414,800	737,000	*1,061	*1,257	752,500	684,900	476,000

Calendar year 1955: Max 13,700 Min 73 Mean 5,975 Ac-ft 4,326,000  
Water year 1955-56: Max 28,100 Min 73 Mean 8,400 Ac-ft 6,098,000

\* Discharge measurement made on this day.

\* Expressed in thousands.

## Rock Creek near Rockland, Idaho

Location.--Lat 42°31'40", long 112°51'40", NE $\frac{1}{4}$ NW $\frac{1}{4}$  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  $\frac{3}{4}$  miles upstream from East Fork.

Drainage area.--182 sq mi.

Records available.--May 1955 to September 1956.

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

Extremes.--Maximum discharge during year, 140 cfs Mar. 17 (gage height, 5.70 ft), but may have been greater during period of no gage-height record; no flow for long periods. 1955-56: Maximum discharge, that of Mar. 17, 1956; no flow for long periods each year.

Remarks.--Records fair except those for periods of ice effect, no gage-height record, shifting control, or indefinite stage-discharge relation, which are poor. Practically entire flow diverted for irrigation above station during growing season. Measurements of East Fork made about once a month to supplement this record (see p. 253).

Rating tables, water year 1955-56, except periods of ice effect, shifting control, and indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 25

July 26 to Sept. 30

1.0	0	2.5	14	1.0	0
1.1	0.1	3.0	25	1.1	.2
1.2	.5	3.5	39	1.2	.7
1.4	1.6	4.0	56		
1.7	4.1	5.0	93		
2.0	7.1				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	5.6	7.5	b8.0	7.6	14	7.4	a2		0	0
2	0	0	5.7	7.4	b8.0	8.9	14	4.9	0		0	0
3	0	0	5.8	7.3	b8.0	20	14	4.5	0		0	0
4	0	0	5.8	7.1	b8.0	19	14	2.1	0		0	0
5	0	0	5.8	7.9	b8.0	13	13	0	0		0	0
6	0	0	6.0	6.4	b8.0	10	12	0	0		0	0
7	0	0	5.9	6.1	b8.0	9.5	12	0	0		0	0
8	0	0	6.1	7.3	8.4	10	11	0	0		0	0
9	0	0	6.1	7.6	8.3	23	11	0	0		0	0
10	0	0	6.3	7.5	8.0	21	*11	0	0		0	0
11	0	0	6.4	7.4	7.9	11	11	0	0		0	0
12	0	0	6.6	7.4	8.1	9.9	11	0	0		0	0
13	0	.4	6.7	7.6	7.8	9.7	10	0	0		0	0
14	0	b.6	6.8	7.5	7.6	b10	10	0	0		0	0
15	0	b2	6.9	*9.5	7.4	11	9.8	0	0		0	0
16	.1	b3	*7.3	13	7.0	16	9.6	0	0	(*)	0	0
17	.1	b4	7.3	9.9	7.5	51	9.7	0	0		0	0
18	*0	b4.5	7.4	9.4	8.0	77	9.5	0	*0		0	0
19	*0	4.6	7.5	9.3	8.0	93	9.4	0	0		0	0
20	.1	4.9	7.6	9.3	8.0	70	9.3	0	0		.1	0
21	.2	4.9	7.5	9.3	8.0	80	8.6	0	0		0	0
22	0	5.0	12	9.2	8.0	80	8.2	0	0		0	0
23	0	5.1	16	9.8	8.0	70	8.2	*0	0		0	0
24	0	5.5	8.8	9.4	8.0	50	8.2	0	0		0	0
25	0	5.5	8.3	9.0	8.0	35	8.2	0	0		0	0
26	0	5.5	8.4	8.9	8.0	30	8.4	20	0		0	0
27	0	5.5	8.6	8.9	*8.3	25	9.0	e13	0		*0	0
28	0	5.6	8.2	8.8	7.8	20	*9.2	e16	0		0	0
29	0	5.5	7.9	b8.5	7.9	17	8.8	e20	0		0	0
30	0	5.5	7.6	b8.0	-----	16	8.8	312	0		0	0
31	0	-----	7.6	b7.5	-----	15	-----	a6	-----		0	-----
Total	0.5	77.6	230.5	264.3	230.0	938.6	311.1	105.9	2	0	0.2	0.6
Mean	0.02	2.59	7.44	8.53	7.93	30.3	10.4	3.42	0.07	0	0.006	0.02
Ac-ft	1	154	457	524	456	1,960	617	210	4	0	0.4	1.2

Calendar year 1955: Max -

Min -

Mean -

Ac-ft -

Water year 1955-56: Max 93

Min 0

Mean 5.91

Ac-ft 4,280

\* Discharge measurement or observation of no flow made on this day.

b Stage-discharge relation affected by ice.

c Stage-discharge relation indefinite; discharge estimated as for periods of no gage-height record.  
 Note.--No gage-height record Feb. 17-26, Mar. 20 to Apr. 9, May 31 to June 18; discharge estimated on basis of weather records and records for Bannock Creek near Pocatello. Shifting-control method used Mar. 18, 19, Apr. 10-19.

## 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 1956.

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

Average discharge.--8 years (1946-53, 1955-56), 22.2 cfs (16,070 acre-ft per year).

Extremes.--Maximum discharge during year, 112 cfs May 28 (gage height, 2.37 ft); minimum, 1.9 cfs Feb. 9 (gage height, 0.95 ft).  
1946-53, 1955-56: 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 determination of peak flow; minimum, 1.2 cfs Jan. 13, 1950 (gage height, 0.90 ft), caused by ice jam upstream.

Remarks.--Records good. Diversions above station for irrigation.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

1.1	3.6	1.6	28
1.2	5.8	1.8	44
1.3	8.9	2.0	65
1.4	14	2.2	90

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	7.0	13	9.4	10	13	34	28	31	8.0	6.7	5.8
2	7.7	7.7	12	9.9	8.5	24	33	28	27	8.0	6.4	5.8
3	8.3	7.7	10	9.4	9.3	22	28	28	27	8.0	5.8	5.8
4	8.0	8.0	8.3	9.9	9.5	23	24	28	25	8.0	5.8	6.1
5	7.7	8.3	8.9	11	9.9	19	25	25	21	7.4	5.8	6.1
6	*7.7	8.6	9.4	12	9.4	16	26	24	20	7.0	6.1	6.1
7	7.7	*8.6	9.4	11	9.9	14	22	28	19	6.4	6.4	6.1
8	7.7	8.6	8.6	12	9.4	16	*21	26	20	7.0	5.4	6.1
9	7.7	8.6	8.9	12	8.9	18	22	22	16	7.0	6.4	6.1
10	7.7	8.9	8.9	12	9.4	19	26	20	14	7.0	6.1	6.4
11	7.7	8.9	8.9	14	9.9	17	28	22	13	6.4	5.8	7.7
12	7.7	8.6	8.9	14	9.9	15	28	25	13	6.7	6.1	7.0
13	7.7	8.3	9.4	*14	12	16	28	20	13	7.0	5.6	6.7
14	8.0	8.6	*8.6	13	12	15	28	20	11	7.4	5.6	6.4
15	8.0	7.7	8.0	16	12	15	29	20	11	6.1	6.4	6.1
16	8.3	7.7	8.3	24	9.9	16	29	17	*13	6.4	6.7	6.1
17	8.0	7.7	8.3	21	11	25	30	15	12	6.1	8.3	6.1
18	8.0	8.0	8.3	19	10	32	31	16	12	6.1	6.7	6.1
19	7.7	8.9	8.9	18	9.4	46	30	15	11	6.1	6.1	6.1
20	7.0	9.9	9.4	18	11	48	28	*19	11	*6.1	6.7	6.4
21	7.0	11	9.9	18	11	41	28	19	11	6.7	6.1	6.7
22	7.4	9.9	9.9	18	12	43	28	16	11	7.0	6.1	6.7
23	7.0	8.9	11	18	13	43	29	20	9.4	7.0	5.8	6.7
24	7.7	8.9	12	16	*12	41	30	26	8.9	6.7	5.6	6.7
25	8.3	8.9	13	13	11	53	*27	40	8.9	7.7	*5.6	6.7
26	8.0	9.9	13	12	12	53	26	32	8.6	6.4	5.8	7.0
27	7.4	12	13	14	11	41	26	51	8.6	6.7	6.1	7.0
28	7.7	12	13	12	11	33	27	84	8.6	6.1	6.4	7.4
29	7.7	11	10	12	13	31	31	56	8.6	5.6	6.1	7.4
30	7.0	12	9.9	12	-----	29	30	56	8.0	5.8	5.8	7.4
31	8.0	-----	9.4	10	-----	29	-----	40	-----	5.6	5.8	-----
Total	238.9	270.8	308.5	434.6	307.3	866	832	884	431.6	209.5	190.1	194.8
Mean	7.71	9.03	9.95	14.0	10.6	27.9	27.7	28.5	14.4	6.76	6.13	6.49
Ac-ft	474	537	612	862	610	1,720	1,650	1,750	856	416	377	386

Calendar year 1955: Max - Min - Mean - Ac-ft -  
Water year 1955-56: Max 84 Min 5.4 Mean 14.1 Ac-ft 10,250

\* Discharge measurement made on this day.

## Clear Creek near Naf, Idaho

Location.--Lat 41°58'15", long 113°17'15", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> 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 (fragmentary), June to December 1912 (gage heights only), October 1944 to September 1956. Monthly discharge only for some periods, 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.--12 years (1944-56), 9.39 cfs (6,800 acre-ft per year).

Extremes.--Maximum discharge during year, 124 cfs May 25 (gage height, 1.92 ft); minimum, 0.1 cfs Aug. 4, 5 (gage height, 1.00 ft).

1910-11, 1944-56: Maximum discharge observed, 180 cfs May 13, 1910; minimum, 0.1 cfs several times during summers 1952-54, 1956.

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 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 23-26)

1.0	0.2	1.5	23
1.1	.8	1.6	36
1.2	2.6	1.8	71
1.3	7.2	2.0	114
1.4	14		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	0.8	1.4	b1.7			2.9	7.8	*92	14	*3.6	1.0
2	.8	.8		*1.6			2.6	7.8	88	14	3.6	1.0
3	.7	*.9		1.6			2.1	9.0	82	14	2.9	1.0
4	.8	1.0		1.8	b1.7		2.6	11	79	13	1.2	1.0
5	.9	1.0		1.6		(*)	2.9	12	73	12	1.6	*1.0
6	*1.0	.9	(*)	1.6			2.1	13	65	*11	2.3	1.0
7	1.3	.9		1.4			2.6	13	52	11	2.3	.9
8	1.1	.9		1.1			2.3	13	49	7.2	2.3	.8
9	1.0	1.1		1.4			2.3	14	49	4.4	2.3	.8
10	.9	1.4	b1.5	1.6			2.6	15	50	6.6	2.1	.9
11	1.0	1.6		1.6		a1.5	2.9	16	52	8.4	1.8	1.1
12	1.1	.8		1.6			2.9	12	49	7.8	1.8	1.0
13	1.1			1.6			2.9	11	46	7.2	1.6	.9
14	1.0			1.6			2.9	10	42	6.6	1.6	.8
15	1.0			2.1			2.9	9.6	*41	7.2	1.6	.8
16	1.0	b1.0		3.6			3.2	7.8	36	6.6	3.3	.7
17	1.0			1.8			4.0	12	29	5.4	4.0	.6
18	1.0		1.8	1.4	a1.7		4.4	18	25	4.9	2.3	.6
19	1.3		1.8	1.6			4.4	41	24	3.1	2.3	.5
20	2.1	1.6	1.8	1.8			4.9	67	27	4.1	1.2	.8
21	1.6	1.6	b2.0	1.6		1.6	6.6	73	23	4.9	1.2	.9
22	1.6	1.1	b2.3	1.6		2.1	7.8	77	21	4.9	1.6	1.0
23	1.3	1.1	b5.0	1.3		*2.3	6.6	88	20	4.0	1.4	1.0
24	1.1	1.6	6.0	.9		2.9	6.0	89	20	4.4	1.3	1.0
25	1.1	1.6	4.0	b1.5		3.2	*6.0	*112	20	4.4	1.4	.9
26	1.1	1.8	3.2			2.9	6.6	114	18	4.0	1.6	.8
27	1.1	1.8	4.0			2.3	7.2	105	17	2.4	1.8	.8
28	1.0	1.6	2.1			1.8	9.0	90	16	3.3	1.4	1.0
29	1.0	1.6	1.8	b1.8		2.1	9.0	79	16	4.9	1.0	1.0
30	1.0	1.6	b1.7	(*)		2.3	8.4	77	15	4.4	1.3	1.0
31	.9	-----	b1.7		-----	2.6	-----	82	-----	3.6	1.3	-----
Total	33.8	36.1	62.6	51.8	49.3	55.1	133.6	1,316.0	1,234	213.7	61.0	26.6
Mean	1.09	1.20	2.02	1.67	1.7	1.81	4.45	42.5	41.1	6.89	1.97	0.89
Ac-ft	67	72	124	103	98	111	265	2,610	2,450	424	121	53

Calendar year 1955: Max 69 Min - Mean 6.03 Ac-ft 4,360  
Water year 1955-56: Max 114 Min 0.5 Mean 8.95 Ac-ft 6,500

Peak discharge (base, 70 cfs).--May 25 (11 p.m.) 124 cfs (1.92 ft).

\* Discharge measurement made on this day.

a No gage-height record (stage-discharge relation affected by ice most of period); discharge estimated on basis of 1 discharge measurement and weather records.

b Stage-discharge relation affected by ice.



## 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 1956.

Gage.--Staff gage and glass tubes connected to lake through pipes; gage 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, 98,920 acre-ft June 17 (gage height, 45.31 ft); minimum, 59,130 acre-ft Feb. 13 (gage height, 41.80 ft).  
1909-56: 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 ft (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 of twice daily readings.

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

Contents, in acre-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94,490	86,450	94,250	67,650	70,290	72,260	95,430	94,950	96,390	93,900	95,790	95,790
2	91,690	90,290	93,790	64,580	71,280	21,940	95,910	94,370	96,150	93,790	94,020	95,430
3	85,750	90,760	94,490	68,770	72,160	72,160	95,550	95,430	96,870	94,370	94,720	96,150
4	82,190	90,640	93,440	68,970	72,720	72,490	95,430	94,600	96,150	95,670	94,950	95,670
5	78,800	90,640	91,920	71,280	72,050	69,630	94,490	95,180	95,790	96,390	96,150	96,390
6	80,720	89,830	92,040	72,720	68,090	70,510	96,510	94,950	95,430	96,270	96,870	96,270
7	87,500	88,780	92,160	72,260	70,070	70,730	93,790	94,720	95,670	96,990	97,470	95,910
8	89,710	89,360	91,460	66,330	70,180	71,280	96,030	94,370	95,790	97,110	97,720	96,630
9	90,410	89,600	93,670	64,580	70,510	71,610	96,390	95,070	95,790	96,630	96,150	96,510
10	86,680	88,660	94,020	66,330	70,730	71,170	96,150	94,950	95,430	95,180	94,840	95,670
11	88,200	89,600	92,860	67,870	69,850	71,500	95,910	94,950	94,950	94,490	93,790	95,550
12	90,060	92,740	91,460	68,090	65,120	68,310	94,600	94,950	95,310	94,600	93,090	94,720
13	91,920	91,690	91,570	69,850	59,670	70,730	96,150	95,550	95,070	93,790	92,160	95,180
14	94,250	88,900	91,920	70,510	60,630	72,600	95,430	95,910	94,720	94,490	92,270	95,430
15	95,670	89,830	92,160	67,650	61,500	73,620	95,910	95,790	94,490	94,490	93,200	95,670
16	96,390	92,390	92,620	63,920	61,500	74,520	95,430	95,670	95,910	95,670	93,550	95,910
17	93,790	92,860	92,620	66,990	63,700	75,420	95,430	94,950	96,560	96,390	94,250	96,150
18	94,600	93,790	90,290	68,640	65,010	77,450	95,180	95,430	97,350	96,630	95,070	96,150
19	94,950	95,180	87,960	69,410	65,340	76,770	94,490	94,950	97,230	96,870	95,070	95,180
20	94,950	93,320	86,800	70,730	61,720	76,320	94,720	94,250	97,470	96,990	95,070	93,790
21	94,950	90,640	86,220	71,610	64,140	76,770	94,490	94,250	96,630	96,390	95,070	91,690
22	96,270	91,690	85,750	71,500	65,670	76,100	93,900	95,180	96,990	96,390	94,950	93,790
23	93,900	93,320	82,860	65,340	67,320	79,370	94,250	94,950	96,390	96,270	95,070	94,840
24	91,690	94,250	85,400	67,870	68,970	79,710	93,790	94,250	96,150	95,910	94,490	96,030
25	94,600	95,310	83,200	70,400	70,070	79,480	94,950	94,950	94,950	95,430	93,550	96,630
26	95,180	96,150	80,610	71,280	72,380	79,140	94,950	96,390	94,720	95,430	91,690	95,790
27	96,150	94,140	79,370	72,160	72,050	83,090	95,180	95,790	94,950	95,180	91,230	95,550
28	94,950	93,440	79,050	73,170	73,050	87,500	93,900	95,550	94,720	95,550	90,990	95,180
29	92,510	93,900	77,790	71,940	72,580	94,250	94,950	96,750	95,320	95,790	91,230	95,180
30	87,730	93,790	75,200	66,770	-----	96,150	95,180	97,350	92,860	95,670	92,160	94,490
31	86,330	-----	70,850	68,530	-----	95,910	-----	97,350	-----	95,430	94,250	-----
(+)	44.24	44.88	42.88	42.66	43.01	45.06	45.00	45.18	44.80	45.02	44.92	44.94
(*)	-7.220	+7.460	-22.840	-2.420	+3.850	+23.030	-230	+2,170	-4,490	+2,570	-1,180	+240

Calendar year 1955..... \* -990  
Water year 1955-56..... \* +940

† Gage height, in feet, at end of month.

\* Change in contents, in acre-feet.

## North Side Minidoka Canal near Minidoka, Idaho

Location.--Lat 42°40', long 113°20', 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 1956. 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 benchmark). April to November 1910 at datum 0.08 ft higher.

Average discharge.--15 years (1941-56), 613 cfs (443,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,780 cfs July 2-5 (gage height, 10.11 ft); no flow Oct. 20 to Apr. 9, May 30.  
1908-56: Maximum discharge, 1,810 cfs July 9, 1953 (gage height, 10.19 ft); no flow during most winters.

Remarks.--Records excellent. Flow controlled by headgates. Canal diverts water from Snake River 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.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	620						0	1,460	795	1,770	1,260	1,190
2	612						0	1,520	889	1,770	1,250	1,190
3	654						0	1,560	983	*1,770	1,280	1,180
4	708						0	1,560	1,150	1,780	1,300	1,140
5	722						0	1,500	*1,350	1,780	1,270	1,140
6	726						0	1,460	1,460	1,770	1,260	1,120
7	694						0	1,490	1,560	1,770	1,260	1,010
8	640						0	1,480	1,600	1,770	1,310	935
9	640						0	1,340	1,630	1,770	*1,400	919
10	670						*111	1,300	1,620	1,780	1,480	926
11	*654						190	1,240	1,540	1,770	1,510	862
12	608						263	1,140	*1,430	*1,770	1,470	686
13	578						435	1,080	1,360	1,780	1,480	542
14	517						512	1,060	1,290	1,750	1,580	504
15	493						512	1,180	1,190	1,710	1,600	*502
16	493						628	1,390	972	1,710	1,590	502
17	459						714	1,560	896	1,700	*1,590	576
18	434						764	1,630	*951	1,700	1,560	714
19	263						859	1,650	1,150	1,690	1,540	760
20	0						1,040	1,640	1,260	1,680	1,540	712
21	0						*1,200	1,680	1,240	1,680	1,540	590
22	0						1,270	1,690	1,240	1,680	1,530	556
23	0						1,380	1,690	1,290	*1,670	1,520	556
24	0						1,400	1,690	1,400	1,670	1,500	622
25	0						1,440	1,550	*1,570	1,660	1,460	656
26	0						1,460	*1,420	1,640	1,630	1,400	652
27	0						1,460	1,170	1,700	1,590	1,350	684
28	0						1,460	946	1,760	1,520	1,320	702
29	0						1,480	358	1,770	1,500	1,270	*644
30	0						1,460	0	1,770	1,410	*1,190	568
31	0	-----			-----		-----	261	-----	*1,300	1,190	-----
Total	11,185	0	0	0	0	0	20,018	40,685	40,436	52,260	43,800	23,320
Mean	361	0	0	0	0	0	667	1,312	1,348	1,688	1,413	777
Ac-ft	22,180	0	0	0	0	0	39,700	80,700	80,200	103,700	86,880	46,250

Calendar year 1955: Max 1,770 Min 0 Mean 589 Ac-ft 426,300  
Water year 1955-56: Max 1,780 Min 0 Mean 633 Ac-ft 459,600

\* Discharge measurement made on this day.

## 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 1956. 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 benchmark). Prior to 1910 at site 600 ft upstream at same datum.

Average discharge.--15 years (1941-56), 482 cfs (349,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,360 cfs July 18; maximum gage height, 6.03 ft July 15; no flow Oct. 20 to Apr. 9.  
1909-56: Maximum discharge, 1,410 cfs July 12, 1953, July 19, 1955; maximum gage height, 6.10 ft, July 24, 1954, July 19, 1956 (backwater from aquatic growth); no flow for long periods during nonirrigation seasons.

Remarks.--Records good. Flow controlled by headgates. Canal diverts water from Snake River 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	487						0	1,140	816	1,290	1,210	1,160
2	535						0	1,150	883	1,280	1,170	1,130
3	609						0	1,180	964	1,280	1,110	1,150
4	592						0	1,200	1,120	*1,290	1,090	1,130
5	681						0	1,220	*1,200	1,280	1,060	*1,100
6	653						0	1,200	1,240	1,290	1,040	1,070
7	642						0	1,120	1,250	1,290	1,060	1,050
8	599						0	1,090	1,260	1,290	1,080	958
9	602						0	1,080	1,260	1,280	*1,090	895
10	594						*100	1,090	1,250	1,280	1,090	880
11	*594						223	1,040	1,250	1,270	1,120	871
12	619						307	892	*1,230	*1,270	1,120	774
13	616						294	742	1,150	1,270	1,160	637
14	624						292	718	1,150	1,270	1,260	552
15	673						311	871	1,140	1,270	1,270	499
16	673						423	1,030	1,090	1,260	1,270	490
17	645						476	1,180	1,030	1,170	*1,220	535
18	428						515	1,240	*958	1,340	1,160	*589
19	185						579	1,240	955	1,320	1,140	614
20	0						712	1,240	1,020	1,320	1,150	612
21	0						*839	1,240	1,020	1,320	1,220	616
22	0						970	1,280	1,030	1,320	1,260	564
23	0						1,120	1,300	1,150	*1,320	1,260	549
24	0						1,150	1,300	1,180	1,330	1,230	537
25	0						1,140	1,300	*1,220	1,330	1,210	559
26	0						1,150	*1,300	1,250	1,320	1,200	647
27	0						1,160	1,270	1,250	1,310	1,190	642
28	0						1,130	1,070	1,270	1,310	1,200	616
29	0						1,110	898	1,280	1,280	1,180	*576
30	0						1,130	848	1,290	1,200	1,190	544
31	0	-----					-----	796	-----	*1,210	1,170	-----
Total	11,151	0	0	0	0	0	15,131	34,265	34,156	39,860	36,180	22,566
Mean	360	0	0	0	0	0	504	1,105	1,139	1,286	1,167	752
Ac-ft	22,120	0	0	0	0	0	30,010	67,980	67,750	79,060	71,760	44,760

Calendar year 1955: Max 1,390 Min 0 Mean 492 Ac-ft 356,200  
Water year 1955-56: Max 1,340 Min 0 Mean 528 Ac-ft 383,400

\* Discharge measurement made on this day.

## 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 1956. Monthly discharge only for some periods, published in WSP 1317. Prior to January 1902, published as "at Montgomery Ferry," as "at Montgomery Ferry near Minidoka" in 1902, and as "below Minidoka dam, at Howell's Ferry" in 1911.

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.--30 years (1926-56), 5,742 cfs (4,157,000 acre-ft per year).

Extremes.--Maximum discharge during year, 27,100 cfs May 31 (gage height, 12.50 ft); minimum, 85 cfs Dec. 12 (gage height, 1.65 ft).  
1895-1956: 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. 52), Lake Walcott (see p. 57), and other reservoirs, having a combined usable capacity of about 3,300,000 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*3,140	1,390	1,060	2,590	b4,250	5,410	12,900	16,400	26,700	9,140	8,460	7,820
2	2,750	*1,080	1,120	2,610	b4,300	5,480	12,700	16,200	26,500	9,320	8,990	8,150
3	2,840	937	1,070	2,610	b4,400	5,410	11,900	16,300	26,700	*9,700	*8,780	8,210
4	2,880	925	1,040	2,760	b4,460	5,240	11,000	16,300	26,100	9,670	8,520	8,290
5	2,870	933	980	2,850	b4,480	5,000	10,200	16,300	*26,400	9,320	8,320	*8,120
6	2,000	912	992	3,190	4,490	5,000	10,200	16,300	25,900	9,200	8,240	7,900
7	1,540	920	990	*3,150	4,440	5,100	9,800	15,000	25,700	9,080	8,240	7,730
8	1,370	901	964	2,680	*4,420	5,220	9,890	12,900	25,500	8,610	8,150	7,580
9	1,340	916	977	2,590	4,420	5,260	9,390	13,100	23,700	8,550	8,410	7,480
10	1,400	1,130	949	2,570	4,470	5,310	*8,700	13,300	20,200	8,990	8,640	7,450
11	1,330	1,160	962	2,580	4,490	5,120	8,670	13,500	18,700	9,110	8,670	7,450
12	1,180	1,120	998	2,690	4,400	4,420	8,240	13,600	*18,700	*9,020	8,580	7,340
13	1,000	1,090	1,110	3,250	4,290	4,290	7,820	14,100	18,900	9,050	8,490	8,800
14	954	1,130	b1,100	3,060	4,310	4,580	7,730	14,000	18,800	9,390	8,480	*6,510
15	925	b1,120	b1,100	2,800	b4,250	4,980	7,900	13,700	18,000	9,420	8,460	6,430
16	919	b1,080	b1,200	2,950	b4,200	5,440	7,900	*13,300	15,100	9,170	8,580	6,280
17	910	b1,090	*1,740	3,200	b4,250	5,740	7,900	12,900	15,600	9,050	*8,700	6,160
18	921	b1,090	1,670	3,320	4,310	6,260	7,870	12,700	16,800	9,110	8,730	6,350
19	963	1,160	1,700	3,420	4,290	6,260	7,480	11,200	19,500	8,990	8,760	6,400
20	941	1,130	1,710	3,710	4,290	6,450	8,410	9,170	22,800	8,990	8,490	6,320
21	1,400	1,150	1,710	4,440	4,510	6,450	11,800	8,930	22,300	9,200	8,240	6,620
22	1,710	1,100	1,780	4,420	4,790	6,210	12,600	9,320	18,600	9,230	8,280	6,030
23	1,660	1,070	2,010	4,380	4,900	7,930	13,400	9,230	15,100	*9,390	8,410	5,560
24	1,650	1,060	1,780	4,240	4,950	8,730	14,600	9,230	12,500	9,510	8,610	5,140
25	1,610	1,020	1,770	4,380	4,980	8,730	15,300	9,390	*11,300	9,510	8,550	4,880
26	2,100	*1,030	1,760	4,490	5,240	8,460	16,100	13,300	10,800	9,290	8,870	4,900
27	2,180	1,090	1,790	4,700	5,310	8,670	16,400	17,000	10,400	9,290	8,990	4,980
28	2,180	1,010	2,160	5,070	5,480	8,410	16,200	19,800	9,830	9,170	8,760	3,980
29	1,910	1,080	2,580	4,700	5,460	9,990	16,500	*24,400	9,080	8,960	8,440	3,850
30	1,650	1,020	2,560	b4,270	-----	*12,500	16,500	26,800	9,110	8,900	8,210	3,850
31	1,370	-----	2,590	b4,280	-----	12,900	-----	27,000	-----	8,290	7,670	-----
Total	51,823	31,824	45,922	108,130	132,810	204,950	336,000	454,670	565,320	283,620	263,880	194,140
Mean	1,672	1,061	1,481	3,488	4,580	6,611	11,200	14,670	18,840	9,149	8,512	6,471
Ac-ft	102,800	63,120	91,080	214,500	263,400	406,500	666,400	901,800	1,121,000	562,600	523,400	385,100
Calendar year 1955: Max			9,800		Min 901	Mean 4,938		Ac-ft 3,575,000				
Water year 1955-56: Max			27,000		Min 901	Mean 7,304		Ac-ft 5,302,000				

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

## 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 flowline of Oakley Reservoir, 5 miles upstream from Trapper Creek, 6 miles upstream from Oakley Dam, and 9 miles southwest of Oakley.

Drainage area.--600 sq mi, approximately.

Records available.--April 1911 to September 1916, March 1919 to September 1956. 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.--42 years (1911-16, 1919-56), 45.3 cfs (32,800 acre-ft per year).

Extremes.--Maximum discharge during year, 349 cfs Mar. 19 (gage height, 4.06 ft); maximum gage height, 4.61 ft Mar. 4 (backwater from ice); minimum discharge, 2.2 cfs Sept. 6, 7, 10 (gage height, 1.22 ft).  
1911-16, 1919-56: Maximum discharge, 1,670 cfs Jan. 23 to 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, which are fair. Diversions for irrigation above station. Flow of artesian well, completed in 1935, enters below station. Practically entire flow passing station is stored in Oakley Reservoir (see p. 63).

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 18

Mar. 19 to Sept. 30

1.5	8.4	2.6	91	1.2	1.9	2.3	60
1.7	16	3.0	149	1.3	3.2	2.6	93
2.0	32	3.5	237	1.4	5.0	3.0	149
2.3	55			1.5	7.6	3.5	237
				1.7	16	4.0	356
				2.0	34		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	17	30	34	26	30	83	172	77	7.1	10	3.0
2	11	18	31	32	22	35	83	160	83	6.3	9.4	2.8
3	11	18	25	31	21	85	78	154	51	5.5	8.3	2.5
4	11	19	21	34	24	120	74	155	48	5.3	7.6	2.4
5	*11	19	15	34	28	200	72	167	43	4.8	7.3	2.4
6	11	19	16	36	26	130	70	177	40	4.1	7.6	2.3
7	11	*20	19	31	27	55	*68	174	44	3.9	7.3	2.3
8	11	19	17	32	26	50	88	162	40	4.3	7.1	2.5
9	11	19	20	29	24	120	88	152	37	4.8	6.3	2.4
10	11	20	25	34	25	170	71	157	35	4.6	5.5	2.3
11	11	21	27	34	25	100	78	167	30	4.1	4.8	3.3
12	12	21	30	34	26	54	92	165	24	3.3	4.6	4.8
13	12	17	29	*34	27	51	101	148	22	3.2	4.4	5.0
14	13	19	*28	33	27	46	106	128	23	2.9	3.9	5.3
15	13	10	28	36	27	40	112	116	23	2.5	4.1	5.0
16	14	11	27	91	26	46	116	102	*26	2.8	4.1	4.8
17	14	12	27	98	23	159	120	96	28	2.9	4.4	4.6
18	14	17	27	78	21	226	127	92	28	3.7	4.8	3.7
19	14	21	28	64	23	303	128	93	27	5.8	5.3	3.0
20	15	24	28	64	25	280	130	*93	29	6.6	5.3	3.0
21	15	29	29	57	28	162	140	97	30	*6.6	5.0	3.2
22	15	26	32	53	30	114	159	98	32	11	4.6	2.9
23	16	24	42	54	30	97	180	98	28	13	4.1	3.2
24	16	23	59	52	*29	92	196	110	22	13	3.7	4.1
25	16	22	60	41	28	97	*202	136	19	12	*3.5	4.4
26	16	23	58	39	28	101	198	128	16	12	3.2	5.8
27	17	26	58	48	28	101	191	121	13	12	3.2	5.8
28	17	28	52	38	28	92	200	123	12	12	3.3	7.1
29	18	31	38	32	28	86	202	116	8.3	25	3.5	7.3
30	19	32	35	33	-----	85	187	102	7.6	10	3.7	9.4
31	19	-----	36	30	-----	81	-----	91	-----	9.4	3.3	-----
Total	426	625	997	1,370	756	3,368	3,700	4,050	925.9	224.5	163.2	120.6
Mean	13.7	20.8	32.2	44.2	26.1	109	123	131	30.9	7.24	5.26	4.02
Ac-ft	845	1,240	1,980	2,720	1,500	6,680	7,340	8,030	1,840	445	324	239

Calendar year 1955: Max 82 Min 2.1 Mean 24.6 Ac-ft 17,840  
Water year 1955-56: Max 303 Min 2.3 Mean 45.7 Ac-ft 33,180

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13-16, 23-25, Dec. 5, 6, 8-21, Jan. 2, 3, Jan. 29 to Mar. 11.

## 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.--32 sq mi, approximately.

Records available.--May 1911 to September 1956, March 1919 to September 1956. 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.--42 years (1911-16, 1919-56), 14.8 cfs (10,710 acre-ft per year).

Extremes.--Maximum discharge during year, 34 cfs Mar. 18 (gage height, 5.15 ft); minimum, 3.0 cfs Nov. 15, Jan. 31; minimum gage height, 4.63 ft Jan. 31.

1911-16, 1919-56: 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.

Remarks.--Records excellent. 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.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

4.7	4.8	5.0	20
4.8	8.3	5.2	38
4.9	14		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.9	9.9	11	11	6.9	11	16	27	28	11	9.3	8.3
2	9.3	9.9	9.9	11	8.3	11	16	27	28	11	9.3	8.3
3	9.3	9.9	10	11	9.9	14	15	27	28	11	9.3	8.3
4	9.3	9.9	9.9	10	12	14	15	28	27	12	9.3	8.8
5	*9.9	10	8.3	10	14	12	16	30	26	12	9.3	8.8
6	9.9	9.9	11	11	12	12	15	30	26	12	9.3	8.8
7	9.3	*9.9	10	10	13	11	*15	30	25	12	9.3	8.3
8	9.3	9.3	8.8	9.9	12	13	15	28	24	12	9.3	8.8
9	9.3	9.3	10	10	11	14	15	30	22	11	8.8	8.8
10	8.8	9.9	10	10	12	12	16	30	22	11	8.8	9.3
11	9.9	10	10	11	12	12	18	30	21	10	8.8	10
12	10	9.9	10	11	12	11	18	28	20	9.9	8.3	10
13	11	8.8	10	*11	12	11	19	27	20	9.9	8.3	9.9
14	10	9.9	*9.3	11	12	11	20	26	20	9.9	8.8	8.8
15	10	5.5	11	15	11	11	19	25	*20	10	9.3	8.3
16	9.9	6.2	10	19	7.6	16	19	24	20	10	9.3	8.3
17	9.3	11	10	16	11	16	19	24	19	10	9.9	8.3
18	9.3	12	10	14	13	18	19	25	18	10	9.3	8.0
19	10	11	10	14	11	18	20	27	16	10	9.3	8.0
20	10	10	10	14	11	16	21	*28	18	9.9	8.8	8.3
21	10	10	10	14	11	16	24	30	18	*9.9	8.8	8.3
22	10	9.9	12	13	10	17	26	30	16	9.9	8.3	8.8
23	10	9.9	13	15	10	17	28	30	16	9.9	8.3	8.3
24	9.9	9.9	13	12	*11	17	30	30	16	9.9	8.3	8.3
25	9.9	9.9	13	13	11	17	*28	30	14	9.9	*8.8	8.3
26	9.9	10	12	13	10	17	28	30	12	9.3	9.3	8.3
27	9.9	10	12	13	11	18	30	30	11	9.9	9.9	8.8
28	9.9	10	11	9.9	11	18	30	30	11	9.9	9.9	9.3
29	9.9	10	11	11	11	18	28	30	11	11	9.3	9.3
30	9.9	10	11	11	-----	16	28	30	10	11	8.8	9.3
31	9.9	-----	11	6.2	-----	16	-----	30	-----	9.9	8.3	-----
Total	302.9	291.8	328.2	371.0	319.7	449	626	881	583	325.1	280.1	261.4
Mean	9.77	9.73	10.6	12.0	11.0	14.5	20.9	28.4	19.4	10.5	9.04	8.71
Ac-ft	601	579	651	736	634	891	1,240	1,750	1,160	645	556	518
Calendar year 1955: Max	21				Min 5.5	Mean 11.7	Ac-ft 8,500					
Water year 1955-56: Max	30				Min 5.5	Mean 13.7	Ac-ft 9,960					

\* Discharge measurement made on this day.

## 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.--670 sq mi, approximately.

Records available.--October 1912 to September 1956.

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). Staff gage only prior to Apr. 15, 1954.

Extremes.--Maximum contents observed during year, 26,000 acre-ft June 1 (gage height, 81.2 ft); minimum observed, 976 acre-ft Oct. 5 (gage height, 16.10 ft).  
1912-56: 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, 1926, 1933, 1949-50.

Remarks.--Reservoir is formed by earth dam constructed in 1911-13; storage began in 1911. Capacity, 74,350 acre-ft between gage height 0.0 ft (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.

Capacity table, water year 1955-56 (gage height, in feet, and contents, in acre-feet)

16.0	965	50.0	9,900
20.0	1,430	60.0	14,100
25.0	2,320	70.0	19,300
30.0	3,450	80.0	25,200
40.0	6,320	90.0	32,100

Usable contents, in acre-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	2,220	4,020	6,580	-	11,900	19,500	-	26,000	20,200	10,400	6,030
2	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	5,360
4	-	-	-	-	-	-	-	-	25,900	-	-	-
5	976	-	-	-	-	-	-	25,200	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-
7	-	2,590	-	-	-	-	20,300	25,400	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	13,800	-	-	-	19,100	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	24,300	-	9,410	-
12	-	-	-	-	-	-	-	-	-	-	-	4,110
13	-	-	-	7,530	-	-	-	-	-	-	-	-
14	-	-	4,900	10,700	-	-	21,400	25,900	-	-	9,450	-
15	1,320	3,060	4,960	7,850	-	15,000	-	-	23,100	-	-	4,140
16	-	-	-	-	-	-	-	-	-	15,400	-	-
17	-	-	-	-	-	-	22,100	-	-	-	-	-
18	-	-	-	-	-	-	-	-	22,500	-	-	-
19	-	-	-	-	-	-	-	25,900	-	-	8,480	-
20	-	-	-	-	-	-	-	-	-	-	-	3,200
21	-	-	-	-	-	-	22,900	25,800	-	13,300	-	-
22	-	-	-	-	-	17,400	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	12,800	-	-
24	-	-	-	-	11,400	-	23,900	-	-	-	-	-
25	1,810	-	-	-	-	-	24,100	-	21,800	-	7,330	-
26	-	-	-	9,450	-	-	-	-	-	-	-	-
27	-	-	-	-	-	18,600	-	25,600	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	11,800	-	-	-	-	-	-	-
30	-	a3,960	-	-	-	-	25,000	-	a20,500	10,900	-	1,430
31	a2,160	-	a6,480	9,750	-	a19,300	-	a25,900	-	a10,600	a6,220	-
(†)	-	-	-	49.6	-	-	79.6	-	-	-	-	20.0
(‡)	+1,395	+1,800	+2,520	+3,270	+2,050	+7,500	+5,700	+900	-5,400	-9,900	-4,380	-4,790

Calendar year 1955..... ‡ +100

Water year 1955-56..... ‡ +665

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

a No gage-height record; contents interpolated.

## 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 1956. 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.--8 years (1948-56), 26.3 cfs (19,040 acre-ft per year).

Extremes.--Maximum discharge during year, 75 cfs July 7, 8, July 16 to Aug. 4, Aug. 6-14, 16-22 (maximum gage height, 1.51 ft July 22-24); no flow Oct. 1 to Apr. 24, Sept. 26-30.  
1915-56: Maximum discharge, 75 cfs several days during 1953 and 1956; no flow for many days.

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 furnished by North Side Canal Co.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

0.7	12	1.0	28
.8	16	1.2	44
.9	22	1.5	75

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	60	71	65	75	59
2							0	58	71	71	75	59
3							0	58	71	74	75	59
4							0	58	71	71	75	59
5							0	62	71	72	74	59
6							0	62	71	72	75	59
7							0	62	71	75	75	59
8							0	62	71	75	75	59
9							0	62	67	74	75	59
10							0	62	67	74	75	*59
11							0	62	*67	*72	75	59
12							0	62	67	72	75	59
13							0	62	67	72	*75	59
14							0	62	71	72	75	59
15							0	62	71	73	73	59
16							0	62	71	75	75	59
17							0	62	66	75	75	58
18							0	68	68	75	75	*55
19							0	66	66	75	75	55
20							0	66	*66	75	75	55
21							0	68	65	75	75	40
22							0	70	62	75	75	53
23							0	71	63	75	73	44
24							0	71	63	75	73	44
25							6	71	63	75	73	42
26							15	71	63	75	73	0
27							28	71	*63	75	*73	0
28							31	71	64	75	73	0
29							39	*71	65	75	58	0
30							55	71	65	75	58	0
31							---	71	---	75	58	---
Total	0	0	0	0	0	0	174	2,017	2,018	2,284	2,259	1,390
Mean	0	0	0	0	0	0	5.80	65.1	67.3	73.7	72.9	46.3
Ac-ft	0	0	0	0	0	0	345	4,000	4,000	4,530	4,480	2,760
Calendar year 1955: Max	73				Min 0	Mean 25.9	Ac-ft 18,740					
Water year 1955-56: Max	75				Min 0	Mean 27.7	Ac-ft 20,120					

\* Discharge measurement made on this day.



## 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 1956. 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.--12 years (1944-56), 76.2 cfs (55,170 acre-ft per year).

Extremes.--1919-56: Maximum daily discharge, 256 cfs July 25-31, 1954; no flow for many days.

Remarks.--Records excellent. Flow controlled by pumping plant which lifts water from Snake River above Milner Dam for irrigation of 12,170 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	203	173	207	228	203
2							0	203	173	207	228	206
3							0	203	173	207	228	206
4							0	203	173	207	228	206
5							0	206	173	207	228	206
6							0	218	173	203	*225	206
7							0	218	173	205	225	200
8							0	218	173	214	225	194
9							0	218	173	*214	225	194
10							0	218	185	214	225	194
11							0	218	*208	224	225	*174
12							0	218	208	234	225	170
13							0	211	208	234	225	170
14							0	203	208	234	225	170
15							0	203	208	234	225	170
16							0	203	190	234	225	170
17							0	203	180	*234	225	170
18							31	203	180	234	216	154
19							50	218	*180	234	216	147
20							65	218	180	234	216	141
21							82	218	180	234	216	136
22							82	218	184	234	216	*131
23							99	218	202	234	216	131
24							132	228	202	234	216	131
25							156	236	202	234	216	131
26							163	236	*202	234	216	131
27							*172	236	202	234	216	131
28							172	173	202	234	*216	110
29							194	173	203	234	216	104
30							203	173	207	234	216	89
31							-----	*173	-----	228	203	-----
Total	0	0	0	0	0	0	0	1,601	6,488	5,678	6,993	6,851
Mean	0	0	0	0	0	0	0	53.4	209	189	225	221
Ac-ft	0	0	0	0	0	0	0	3,180	12,870	11,260	13,850	13,590

Calendar year 1955: Max 237 Min 0 Mean 79.9 Ac-ft 57,850  
 Water year 1955-56: Max 236 Min 0 Mean 88.7 Ac-ft 64,420

\* Discharge measurement made on this day.

## 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 1956. 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  $1\frac{1}{2}$  miles downstream from headgates and differential recorder on control gates of diversion 3 miles downstream from headgates.

Average discharge.--21 years (1935-56), total 986 cfs (713,800 acre-ft per year); Milner-Gooding project, 566 cfs; North Side Canal Co. project, 420 cfs.

Extremes.--Maximum daily discharge during year, 2,620 cfs July 16, 18; no flow for many days.

1930-56: Maximum daily discharge, 2,740 cfs Aug. 2, 1953; no flow for many days.

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 diversion point and adding 35 cfs to that sum for loss between headgates and diversion point.

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

Discharge, in second-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	650	560					0	1,710	2,280	2,500	2,530	2,330
2	910	570					0	1,986	2,290	2,510	2,560	2,350
3	1,060	570					0	2,150	2,290	2,540	2,590	2,340
4	1,050	570					0	2,110	2,300	2,560	2,510	2,350
5	1,050	560					0	2,170	2,200	2,540	2,490	2,360
6	880	560					0	2,220	2,200	2,530	2,460	2,360
7	700	550					0	2,240	2,230	2,560	2,400	2,350
8	260	580					0	2,220	2,270	2,570	2,400	2,330
9	0	580					0	2,260	2,340	2,550	2,400	2,330
10	0	240					0	2,290	2,360	2,540	2,410	2,310
11	0	0					0	2,310	2,350	2,560	2,380	2,320
12	0	0					0	2,310	2,370	2,590	2,370	2,310
13	0	0					0	2,350	2,370	2,570	2,340	2,300
14	0	0					0	2,330	2,370	2,570	2,300	2,220
15	0	0					0	2,350	2,340	2,610	2,320	2,170
16	0	0					0	2,350	2,200	2,620	2,350	2,140
17	0	0					430	2,370	2,280	2,610	2,360	2,070
18	0	0					930	2,420	2,370	2,620	2,360	2,060
19	0	0					1,070	2,440	2,390	2,600	2,370	2,040
20	0	0					1,150	2,420	2,410	2,570	2,400	2,040
21	480	0					1,260	2,420	2,410	2,580	2,380	2,010
22	1,000	0					1,330	2,460	2,410	2,530	2,330	2,070
23	1,160	0					1,390	2,400	2,410	2,580	2,350	2,020
24	1,150	0					1,470	2,370	2,400	2,610	2,340	1,990
25	1,140	0					1,530	2,380	2,430	2,590	2,360	1,950
26	1,010	0					1,560	2,340	2,420	2,580	2,360	1,920
27	840	0					1,610	2,310	2,420	2,570	2,390	1,920
28	640	0					1,590	2,300	2,470	2,590	2,370	1,910
29	580	0					1,620	2,290	2,460	2,580	2,380	1,350
30	580	0					1,640	2,300	2,450	2,590	2,340	0
31	580	0						2,300	2,570	2,570	2,340	0
Total	15,720	5,340	0	0	0	0	18,580	70,850	70,390	79,750	74,240	62,220
Mean	507	178	0	0	0	0	619	2,285	2,346	2,573	2,395	2,074
Ac-ft	31,180	10,590	0	0	0	0	36,850	140,500	139,600	158,200	147,300	123,410

Distribution to projects in acre-feet

(†)	0	0	0	0	0	0	22,180	83,050	85,170	98,880	89,890	72,160
(‡)	31,180	10,590	0	0	0	0	14,680	57,480	54,450	59,310	57,360	51,250
Calendar year 1955:	Max	2,680		Min	0		Mean	1,103	Ac-ft	798,800		
Water year 1955-56:	Max	2,620		Min	0		Mean	1,085	Ac-ft	787,600		

† To Milner-Gooding project, total for water year, 451,300 acre-ft.

‡ To North Side Canal Co. project, total for water year, 336,300 acre-ft.

## 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 1956. 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.--21 years (1935-56), 1,257 cfs (910,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,880 cfs July 25; maximum gage height, 8.56 ft July 29, 30; no flow for several days.

1909-56: Maximum daily discharge, 3,200 cfs for several days in 1921, 1928-29; no flow at times when headgates were closed.

Remarks.--Records excellent except those for periods of ice effect, which are good. 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 furnished by North Side Canal Co.

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

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,160	0	564	434	b440	369	0	2,220	2,490	2,780	2,760	2,510
2	381	0	554	438	b446	360	0	2,550	2,540	*2,780	2,740	2,470
3	0	0	580	431	b440	360	0	2,500	2,540	2,780	2,740	2,500
4	0	0	583	428	b410	363	0	2,430	2,510	2,800	2,740	*2,500
5	0	0	560	428	392	360	0	2,350	2,540	2,780	2,660	2,490
6	0	0	530	434	369	310	0	2,320	*2,560	2,770	*2,620	2,490
7	0	0	514	441	b569	323	0	2,320	2,560	2,800	2,610	2,480
8	0	0	508	434	380	320	0	2,310	2,570	2,800	2,600	2,430
9	0	0	469	434	b380	330	380	2,320	2,570	*2,770	2,550	2,400
10	0	402	*444	428	380	320	643	2,330	2,570	2,760	2,550	2,280
11	0	636	444	422	380	344	*766	2,320	2,550	2,780	*2,550	2,240
12	0	653	434	422	380	325	1,010	2,310	2,560	2,780	2,550	*2,250
13	0	646	419	425	386	315	1,090	2,310	2,560	2,770	2,570	2,120
14	0	635	407	431	357	310	1,080	*2,310	2,560	2,780	2,640	1,960
15	0	620	404	434	357	333	1,070	2,290	2,560	2,780	2,640	1,910
16	0	620	407	419	b352	346	1,400	2,300	2,460	2,780	2,650	1,830
17	0	616	410	422	346	346	1,690	2,410	2,530	*2,780	2,650	1,790
18	0	603	407	422	*352	330	2,060	2,450	2,550	2,790	2,640	1,780
19	0	560	407	422	349	346	2,010	2,440	*2,540	2,780	2,660	1,700
20	0	560	428	438	349	336	2,020	2,450	2,540	2,780	*2,660	1,670
21	0	560	434	453	349	346	2,090	2,460	2,540	2,780	2,660	1,800
22	0	554	428	444	346	346	2,020	2,450	2,540	2,800	2,650	1,590
23	0	560	404	425	352	352	2,210	2,440	2,550	2,820	2,660	1,550
24	0	*564	422	425	346	369	2,010	2,440	2,540	2,640	2,670	1,460
25	0	560	431	476	346	369	1,380	2,440	2,540	2,860	2,660	*1,290
26	0	560	425	485	341	357	1,150	2,440	*2,600	*2,860	2,670	1,240
27	0	554	422	*466	349	346	1,390	2,430	2,640	2,840	2,710	1,240
28	0	567	419	b469	357	357	2,070	2,420	2,670	2,840	2,680	1,080
29	0	567	422	b469	374	352	2,120	2,420	2,680	2,840	2,680	1,390
30	0	564	425	469	-----	363	*2,160	2,420	2,700	*2,840	2,640	1,740
31	0	-----	451	447	-----	106	-----	*2,420	-----	2,770	2,600	-----
Total	1,541	12,159	14,136	13,615	10,808	10,409	34,019	74,000	76,850	86,710	82,070	57,960
Mean	49.7	405	456	439	373	336	1,134	2,367	2,562	2,797	2,647	1,933
Ac-ft	3,060	24,120	28,040	27,000	21,440	20,650	67,480	146,800	152,400	172,000	162,800	115,000

Calendar year 1955: Max 2,980 Min 0 Mean 1,248 Ac-ft 903,700

Water year 1955-56: Max 2,860 Min 0 Mean 1,296 Ac-ft 940,800

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

## 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 left bank 50 ft upstream from highway bridge and 700 ft downstream from headgates at Milner Dam.

Records available.--May 1909 to September 1956. 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, at highway bridge 50 ft downstream at present datum.

Average discharge.--30 years (1926-56), 1,757 cfs (1,272,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,760 cfs July 2; maximum gage height, 10.54 ft July 13; minimum discharge, 25 cfs Mar. 31 to Apr. 5 (gage height, 0.90 ft).  
1909-56: 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, 3,810 cfs July 21, 1952, July 24, 1953, and July 27, 1955; no flow Sept. 20, 1920.

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 were 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 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 9, June 6-18, July 8-14, July 31 to Aug. 31, Sept. 21-30)

0.9	25	1.7	72	4.0	604
1.1	30	2.0	117	6.0	1,290
1.3	37	2.5	216	8.0	2,240
1.5	49	3.0	358	10.5	3,760

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,600	584	467	462	390	405	25	3,270	3,350	3,710	3,520	3,400
2	1,520	543	420	464	390	405	25	3,250	3,300	*3,750	3,500	3,400
3	1,340	*534	364	467	390	402	25	3,290	3,260	3,730	3,470	3,430
4	1,290	508	379	462	390	376	25	3,330	3,180	3,720	3,440	3,380
5	1,290	499	376	462	390	320	224	3,330	3,160	3,670	3,390	3,330
6	1,200	499	376	462	390	283	553	3,310	*3,110	3,660	*3,360	3,140
7	1,270	502	379	464	390	276	744	3,310	3,070	3,580	3,370	3,130
8	1,240	502	397	464	390	263	865	3,310	3,130	3,520	3,380	3,130
9	1,240	478	410	459	400	150	1,010	3,340	3,200	*3,510	3,420	3,140
10	1,210	444	*405	373	400	198	1,300	3,320	3,230	3,560	3,460	3,130
11	1,070	441	405	192	400	214	*1,480	3,210	3,230	3,610	*3,480	*3,060
12	*795	438	423	190	400	214	1,070	3,090	3,250	3,650	3,480	2,960
13	221	470	425	223	400	212	543	3,110	3,250	3,650	3,480	2,840
14	413	502	420	230	400	214	1,260	*3,140	3,300	3,680	3,470	2,730
15	288	498	420	244	400	216	1,700	3,210	3,300	3,670	3,460	2,640
16	81	494	434	296	400	221	1,740	3,400	3,230	3,670	3,460	2,620
17	78	492	448	502	400	225	1,780	3,500	3,290	*3,670	3,490	2,590
18	305	489	449	596	*401	232	2,050	3,440	3,310	3,680	3,490	2,550
19	629	502	449	596	401	239	2,390	3,440	*3,250	3,670	3,490	2,480
20	759	502	449	604	404	239	2,490	3,440	3,250	3,690	*3,480	2,380
21	878	499	446	*615	407	234	2,690	3,460	3,250	3,690	3,480	2,190
22	914	489	446	624	412	234	2,830	3,450	3,340	3,690	3,480	2,150
23	901	486	457	607	412	230	3,060	3,580	3,440	3,690	3,480	2,150
24	787	*491	441	560	412	234	3,160	3,650	3,500	3,690	3,480	1,920
25	824	491	449	550	414	234	3,140	3,610	3,560	3,700	3,480	*1,730
26	894	497	449	520	414	230	3,090	3,530	*3,560	*3,690	3,500	1,690
27	881	497	446	483	415	230	3,120	3,510	3,550	3,670	3,510	1,650
28	787	497	449	465	415	205	3,270	3,380	3,560	3,660	*3,500	1,640
29	728	478	446	450	412	160	3,370	3,350	3,600	3,630	3,430	1,620
30	725	464	451	450	-----	160	*3,400	3,370	3,630	*3,570	3,420	1,630
31	692	-----	462	450	-----	86	-----	*3,380	-----	3,540	3,410	-----
Total	26,950	14,810	13,257	13,966	11,639	7,521	52,429	104,310	99,640	113,270	107,240	77,840
Mean	869	494	428	451	401	243	1,748	3,365	3,321	3,654	3,459	2,595
Ac-ft	53,450	29,380	26,290	27,740	23,090	14,920	104,000	206,900	197,600	224,700	212,700	154,400

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 15, 17, Dec. 15-17, Jan. 24-26, Jan. 28 to Feb. 26.

## 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 1956. 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.--30 years (1926-56), 2,084 cfs (1,509,000 acre-ft per year).

Extremes.--Maximum discharge during year, 18,900 cfs May 30 (gage height, 18.68 ft); minimum, 5 cfs Oct. 1 (gage height, 1.34 ft).

1909-56: 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. 52), Lake Walcott (see p. 57) and other reservoirs having a combined usable capacity of about 3,300,000 acre-ft. About 1,340,000 acres of land irrigated by diversions 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 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 7 to Mar. 30)

3.0	128	6.0	1,400	12.0	7,910
3.5	223	7.0	2,320	14.0	10,600
4.0	360	8.0	3,500	16.0	13,800
5.0	726	10.0	5,580	19.0	19,700

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	132	864	264	1,800	3,650	4,950	13,000	9,890	18,200	207	198	282
2	248	870	264	1,940	3,680	4,810	13,100	9,040	18,000	*207	190	277
3	246	834	264	1,990	3,830	4,840	12,800	8,960	18,100	226	209	274
4	243	*804	271	1,990	4,060	4,880	11,400	8,770	18,200	418	216	274
5	243	764	271	1,990	4,130	5,250	9,940	8,830	17,500	340	216	279
6	271	588	266	2,170	4,130	5,270	9,990	8,990	17,700	216	207	282
7	406	264	313	2,300	4,060	5,420	9,870	8,310	17,500	240	202	293
8	253	365	2,220	4,030	5,120	8,870	5,590	17,200	246	196	285	
9	266	251	385	2,210	4,020	5,000	7,240	5,320	16,500	205	192	274
10	264	248	*385	2,210	4,000	4,820	5,390	5,440	13,600	207	190	277
11	282	253	391	2,420	3,980	4,930	*4,980	5,810	10,800	202	*256	282
12	*758	258	391	2,370	3,940	4,660	5,570	5,930	11,200	207	288	301
13	1,860	261	448	2,400	3,810	4,070	6,050	6,620	11,200	202	285	324
14	1,740	253	525	2,620	3,820	4,070	5,590	6,940	11,500	202	282	296
15	1,590	251	525	2,720	3,750	4,260	5,440	6,510	10,400	212	282	288
16	1,710	256	528	2,520	3,590	4,560	4,130	5,820	12,300	216	288	282
17	1,340	266	828	2,540	3,830	4,920	3,340	5,160	4,230	*218	285	279
18	816	271	1,130	2,560	3,810	5,360	2,800	4,760	8,690	238	296	277
19	646	271	1,120	2,580	3,810	5,810	2,030	4,000	10,800	226	304	277
20	646	274	1,110	2,660	3,790	5,860	1,460	1,300	14,900	205	333	285
21	330	290	1,110	*2,780	3,990	6,050	5,040	408	15,300	202	301	288
22	248	271	1,090	3,210	4,140	5,980	7,000	623	12,000	200	298	357
23	248	271	1,030	4,590	4,180	6,380	6,430	775	8,170	196	285	270
24	246	*266	1,140	3,740	*4,420	7,830	8,050	573	4,830	202	279	293
25	243	266	1,140	3,940	4,480	8,420	9,480	650	3,350	216	277	290
26	*243	269	1,140	3,700	4,610	7,900	11,000	2,640	2,640	230	274	282
27	248	261	1,110	3,650	4,670	7,700	11,200	8,100	2,040	236	279	282
28	666	266	1,220	3,930	4,920	8,310	9,770	*10,200	1,240	274	288	279
29	356	266	1,500	4,250	5,020	9,560	9,450	15,200	5,14	495	310	277
30	912	266	1,700	4,170	-----	10,800	9,990	18,300	230	*271	288	277
31	900	-----	1,790	3,730	-----	12,500	-----	18,700	-----	243	285	-----
Total	19,200	11,046	24,034	87,100	118,010	189,290	230,500	208,759	328,834	7,405	8,061	8,782
Mean	619	368	775	2,610	4,069	6,106	7,683	6,734	10,960	239	261	293
Ac-ft	38,080	21,910	47,670	172,800	234,100	375,500	457,200	414,100	652,200	14,690	16,030	17,420
Calendar year 1955: Max	6,440	Min	5	Mean	1,111	Ac-ft	804,000					
Water year 1955-56: Max	18,700	Min	132	Mean	5,391	Ac-ft	2,462,000					

\* Discharge measurement made on this day.

## DEVILS WASHBOWL SPRING BASIN

Devils Washbowl Spring near Kimberly, Idaho

Location.--Lat 42°35', long 114°21', in NE $\frac{1}{4}$  sec. 4, T. 10 S., R. 18 E., 400 ft downstream from Devils Washbowl Spring, half a mile upstream from mouth which is half a mile upstream from Twin Falls of Snake River, and 3 $\frac{1}{2}$  miles north of Kimberly.

Records available.--April 1950 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 3,540 ft (from river-profile map). Prior to May 16, 1953, at datum 0.83 ft lower.

Average discharge.--6 years, 22.2 cfs (16,070 acre-ft per year).

Extremes.--1950-56: Maximum daily discharge, 27.5 cfs Oct. 3, 4, 1951; minimum daily, 18.5 cfs May 15, 1950, Apr. 23-29, 1956.

Remarks.--Records excellent. No regulation or diversion above station. Discharge affected by variable surface waste from irrigation over rimrocks into springs above station and occasionally by runoff from snowmelt. Waste was reported not flowing Oct. 1, Dec. 10, and estimated on June 14 (3 cfs); July 23 (1.5 cfs); Aug. 24 (0.75 cfs). Flow at station is from principal outlet only. On Apr. 2, 1956, a discharge measurement of total spring flow of 23.1 cfs (adjusted for surface inflow) was made.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)

1.0	17
1.1	21
1.2	26

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*23.5	23	22.5	20.5	19.5	20	19.5	19	21	19.5	20.5	21.5
2	23	22.5	22.5	20.5	19.5	20	19.5	19	21.5	20	20.5	21.5
3	24	22.5	22.5	20.5	19.5	20.5	19	19	21	20.5	21	22
4	24	25	22.5	20.5	19.5	20.5	19	19	20.5	20.5	21	22
5	24	22.5	22	20.5	20	20.5	19	19	20.5	20.5	21	22
6	24	*22.5	22	20	20	20	*19	19.5	21	20.5	20.5	22
7	24.5	22.5	22	20	20	20	19	19.5	21	20	21	22
8	24.5	22.5	22	20	19.5	20	19	19	20.5	20.5	20.5	22
9	23	22	22	20	19.5	20	19	19.5	20.5	20.5	20.5	21.5
10	23	22.5	*21.5	20	20	19.5	19	19.5	20.5	20.5	21	21.5
11	22.5	22.5	21.5	20	20	19.5	19	19	20.5	20.5	21	21.5
12	22.5	22.5	21.5	*20	20.5	19.5	19	19	21	21	21.5	22
13	22	22.5	21.5	20	21	20	19	19	21.5	20.5	21.5	22
14	22	22.5	21.5	20	21	19.5	19	19	*22	20.5	21.5	22
15	22	22.5	21.5	20.5	20.5	19.5	19	19	22.5	20.5	21.5	22
16	22	22.5	21.5	20.5	20.5	19	19	19	23	20.5	21.5	22
17	22	22.5	21.5	20	20.5	19	19	19	23	20.5	21.5	22
18	22	22.5	21.5	20	20.5	19	19	19	22.5	20	21.5	22.5
19	22	22.5	21.5	19.5	20.5	19	19	19	21.5	20	21.5	23
20	22	22.5	21.5	19.5	21	19	19	19	21	20	21	24
21	22	22.5	21.5	20	21	19	19	19	21	20.5	21.5	24
22	22	22.5	21.5	20	21	19	19	19.5	21.5	20.5	21.5	24
23	22	22.5	22	19	20.5	19	18.5	20	21.5	*21	21.5	24.5
24	22	22.5	21.5	19	20.5	19	18.5	*20.5	21	20.5	*21.5	24.5
25	22	22.5	21.5	19	20.5	19	18.5	20.5	21	21	21.5	24.5
26	22	22.5	21.5	19.5	20.5	19	18.5	20.5	20.5	21	21.5	24
27	22	22.5	21	19.5	*20	19	18.5	21.5	20	21.5	21.5	24.5
28	22	22.5	21	19.5	20	19	18.5	22.5	20	21.5	21.5	24.5
29	22.5	22.5	20.5	19.5	20	19	*18.5	21.5	20	21	21.5	24.5
30	22.5	22.5	20.5	19.5	-----	19	-----	20.5	20	20.5	21.5	24.5
31	23	-----	20.5	19.5	-----	19.5	-----	20.5	-----	21	21.5	-----
Total	702.5	675.5	669.5	616.5	587.0	603.5	567.5	608.5	633.0	637.0	656.0	684.5
Mean	22.7	22.5	21.6	19.9	20.2	19.5	18.9	19.6	21.1	20.5	21.2	22.8
Ac-ft	1,390	1,340	1,330	1,220	1,160	1,200	1,130	1,210	1,260	1,260	1,310	1,360

Calendar year 1955: Max 24.5 Min 19 Mean 21.2 Ac-ft 15,320  
 Water year 1955-56: Max 24.5 Min 18.5 Mean 20.9 Ac-ft 15,170

\* Discharge measurement made on this day.

## Snake River near Kimberly, Idaho

Location.--Lat 42°36', long 114°22', in NW $\frac{1}{4}$  sec. 4, T. 10 S., R. 18 E., on left bank 1,200 ft downstream from Twin Falls powerplant, 2 $\frac{1}{4}$  miles upstream from Shoshone Falls, and 4 miles north of Kimberly.

Records available.--July 1923 to September 1956.

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.--33 years (1923-56), 2,592 cfs (1,877,000 acre-ft per year).

Extremes.--Maximum discharge during year, 19,800 cfs May 31; maximum gage height, 18.73 ft May 30; minimum discharge, 38 cfs Oct. 2 (gage height, 1.55 ft); minimum daily, 515 cfs Oct. 2.

1923-56: 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, 139 cfs July 4, 1941.

Remarks.--Records excellent. Flow regulated by Twin Falls powerplant and several reservoirs above station. 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 tables, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used May 30 to June 23)

4.5	445	9.0	2,520
5.0	580	11.0	4,500
5.5	740	13.0	7,170
6.0	925	15.0	10,700
7.0	1,550	17.0	15,000
8.0	1,840	19.0	20,100

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*539	1,390	678	2,220	4,050	5,390	12,800	10,100	19,300	631	715	764
2	515	1,350	684	2,340	4,140	5,180	13,000	9,340	*18,300	551	660	771
3	677	1,350	618	2,500	4,210	5,190	12,700	9,020	19,000	694	643	761
4	742	1,310	581	2,480	4,380	5,260	11,600	9,070	19,000	680	681	751
5	699	1,270	676	2,480	4,450	5,410	10,200	8,960	18,100	833	666	757
6	700	*1,230	651	2,570	4,480	5,740	*10,100	9,180	18,400	747	662	750
7	735	957	684	2,740	4,400	5,620	9,420	8,860	18,100	660	659	780
8	924	802	654	2,730	4,330	5,530	8,970	8,140	17,800	632	659	786
9	689	645	799	2,730	4,330	5,360	7,730	5,480	17,200	699	629	770
10	736	581	900	2,670	4,310	5,150	6,130	5,630	14,200	651	675	778
11	754	663	610	2,850	4,300	5,300	5,020	5,910	11,400	564	656	764
12	869	690	828	*2,820	4,270	5,110	5,590	6,150	11,700	676	668	796
13	1,630	663	*828	2,820	4,180	4,570	6,800	6,550	11,600	621	754	809
14	2,500	708	913	2,970	4,190	4,450	5,850	7,450	11,800	561	717	843
15	1,690	666	862	3,160	4,190	4,580	5,630	6,840	*11,200	639	745	809
16	2,120	661	949	3,030	4,020	4,850	4,670	6,200	12,200	*636	736	804
17	1,990	687	1,000	2,940	4,040	5,180	3,670	5,490	5,700	645	738	815
18	1,520	705	1,600	3,000	4,190	5,530	3,270	4,980	8,800	643	753	759
19	1,170	690	1,600	2,990	4,210	6,100	2,720	4,660	10,600	681	762	793
20	1,100	703	1,600	3,060	4,210	6,050	2,060	2,370	14,400	673	760	798
21	1,090	661	1,600	3,140	4,340	6,360	3,840	1,290	15,500	661	796	803
22	824	725	1,600	3,470	4,560	6,270	7,260	832	12,900	651	776	788
23	664	709	1,560	3,860	4,570	6,450	6,540	1,170	9,210	641	761	1,100
24	712	681	1,560	4,050	4,750	8,040	7,930	*1,170	5,680	639	*738	1,070
25	710	684	1,620	4,210	4,860	8,780	9,300	997	3,640	638	717	822
26	714	695	1,610	4,080	4,920	8,310	10,900	1,500	3,290	660	751	770
27	714	670	1,600	4,150	*5,050	8,040	*11,300	7,680	2,650	668	733	767
28	677	667	1,800	4,240	5,270	8,700	10,000	10,100	2,320	700	772	792
29	1,080	667	1,840	4,400	5,410	8,670	9,760	15,300	1,300	601	762	800
30	1,410	692	1,990	4,520	-----	10,800	10,100	19,100	981	977	780	*759
31	1,400	-----	2,180	4,150	-----	12,300	-----	19,700	-----	716	762	-----
Total	32,894	24,732	36,655	99,460	128,620	198,470	234,760	217,199	347,081	20,909	22,286	24,139
Mean	1,061	824	1,162	3,208	4,435	6,402	7,825	7,006	11,570	674	719	805
Ac-ft	65,240	49,060	72,700	197,300	255,100	393,700	465,600	430,800	689,400	41,470	44,210	47,880

Calendar year 1955: Max 8,650 Min 402 Mean 1,502 Ac-ft 1,088,000  
Water year 1955-56: Max 19,700 Min 515 Mean 3,790 Ac-ft 2,751,000

\* Discharge measurement made on this day.

## BLUE LAKES SPRING BASIN

## Blue Lakes Spring near Twin Falls, Idaho

Location.--Lat 42°37', long 114°28', in N $\frac{1}{2}$ SE $\frac{1}{4}$  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  $3\frac{1}{2}$  miles north of Twin Falls.

Records available.--April 1950 to September 1956.

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

Average discharge.--6 years, 231 cfs (167,200 acre-ft per year).

Extremes.--1950-56: Maximum daily discharge, 256 cfs Nov. 10, 11, 1951, Oct. 24 to Nov. 13, 1952, Sept. 29, 30, 1953; minimum daily, 208 cfs June 5, 8-23, 25-28, 1950, May 16 to June 7, 1955, May 17, 18, 1956.

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

Rating table, water year 1955-56 (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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	244	244	228	224	216	220	220	212	212	220	232	232
2	244	244	228	220	220	220	220	212	212	220	232	232
3	248	244	228	220	220	220	220	212	212	220	228	232
4	248	*244	228	220	220	220	220	212	216	220	228	232
5	248	244	228	220	220	220	220	212	216	220	228	236
6	248	244	228	220	220	220	*220	212	216	220	228	236
7	248	244	228	220	220	220	220	212	216	224	228	236
8	248	244	*228	220	220	220	220	212	216	224	232	236
9	248	244	228	220	216	220	220	212	216	224	232	236
10	248	244	228	220	216	216	220	212	216	224	232	236
11	248	244	228	220	216	216	220	212	216	224	232	236
12	248	244	228	*220	216	216	220	212	216	224	232	236
13	248	244	228	220	216	216	220	212	216	224	228	236
14	248	244	228	220	216	216	220	212	*216	228	228	236
15	248	240	228	220	220	216	220	212	216	228	228	236
16	248	244	228	220	220	220	220	212	216	228	232	236
17	248	244	228	220	220	220	220	208	216	228	232	236
18	248	244	228	220	220	220	212	208	216	228	232	236
19	248	244	228	216	220	220	212	212	216	228	232	236
20	248	240	228	216	220	220	212	212	216	228	232	236
21	248	236	224	216	220	220	212	212	216	228	232	236
22	248	232	224	216	*220	220	212	212	216	228	232	236
23	248	232	224	216	220	220	212	212	216	*228	232	236
24	248	232	224	216	220	220	212	*212	216	228	*232	236
25	248	232	224	216	220	220	212	212	216	228	232	240
26	248	232	224	216	220	220	212	212	216	228	232	240
27	248	228	224	216	220	220	212	212	216	228	232	240
28	248	228	224	216	220	220	212	212	216	232	232	240
29	248	228	224	216	220	220	*212	212	220	232	232	*240
30	248	228	224	216	220	220	212	212	220	232	232	240
31	248	---	224	216	---	220	---	212	---	232	232	---
Total	7,680	7,180	7,024	6,772	6,352	6,796	6,496	6,564	6,476	7,008	7,160	7,088
Mean	248	239	227	218	219	219	217	212	216	226	231	236
Ac-ft	15,230	14,240	13,930	13,430	12,600	13,480	12,880	13,020	12,840	13,900	14,200	14,060
Calendar year 1955:	Max 248				Min 208		Mean 226		Ac-ft 163,500			
Water year 1955-56:	Max 248				Min 208		Mean 226		Ac-ft 163,800			

\* Discharge measurement made on this day.



## 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 downstream from West Fork Rock Creek, 5 miles south of Rock Creek settlement, and 12 miles south of Hansen.

Drainage area.--80 sq mi, approximately.

Records available.--November 1909 to August 1913, November 1938 to July 1939, November 1943 to September 1956.

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.--14 years (1910-12, 1944-56), 35.3 cfs (25,560 acre-ft per year).

Extremes.--Maximum discharge during year, 152 cfs Apr. 24 (gage height, 2.10 ft); minimum, 4.7 cfs probably Nov. 15 (gage height, 0.53 ft).  
1909-13, 1938-39, 1943-56: 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 or no gage-height record, which are fair. Small ranch diversions above station.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 21-30, May 3-10)

0.5	4.5	1.3	58
.6	8.3	1.6	97
.8	20	2.0	165
1.0	33		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.3	8.0	12	16	16	13	50	108	67	19	7.8	6.5
2	7.3	8.0	12	17	b15	14	48	108	65	19	7.8	6.1
3	6.9	8.5	11	16	b14	14	45	111	62	19	7.8	6.5
4	*6.9	8.6	11	16	20	14	44	120	58	18	7.8	7.3
5	6.9	*8.8	10	16	20	14	44	120	55	17	7.8	7.8
6	7.3	8.8	11	15	20	12	*42	120	52	16	7.8	7.3
7	7.3	8.8	11	15	18	13	41	118	49	16	7.8	6.9
8	6.9	8.8	10	14	17	14	41	111	47	15	7.8	6.9
9	6.9	8.8	11	14	16	14	43	111	44	14	7.3	6.9
10	6.9	9.0	*11	14	16	14	47	111	42	13	7.3	7.8
11	7.8	9.2	11	*14	16	12	56	111	40	13	6.9	10
12	8.3	8.8	11	14	19	12	60	102	38	12	6.9	8.8
13	7.8	8.5	11	15	18	15	66	94	37	12	6.5	7.8
14	7.8	8.6	8.8	16	16	13	69	86	35	11	6.5	7.3
15	7.3	6.0	8.8	32	15	12	68	79	*37	11	7.8	7.3
16	7.3	6.5	b10	59	b12	14	73	77	38	11	7.8	7.3
17	7.3	7.0	b10	48	15	15	76	77	34	11	8.8	6.9
18	7.3	8.5	10	41	17	16	78	81	32	11	8.3	6.9
19	7.8	9.5	11	38	15	22	84	*86	30	10	7.8	6.9
20	8.2	10	11	36	15	27	99	92	30	9.9	7.3	7.3
21	8.5	10	11	33	15	32	116	94	30	10	7.3	7.3
22	8.2	9.5	13	31	15	36	132	96	27	10	6.9	7.3
23	8.0	9.0	20	34	*15	42	145	97	26	*8.8	6.5	7.8
24	8.0	9.0	25	32	14	51	*147	99	25	8.3	6.1	7.8
25	8.2	9.0	23	31	14	67	138	94	23	8.3	*6.5	7.8
26	8.4	10	22	30	14	73	135	91	23	7.8	6.9	7.8
27	8.4	10	23	28	14	67	138	97	22	7.8	7.8	7.8
28	8.0	11	19	23	14	61	135	92	21	8.8	8.3	8.8
29	8.4	11	17	23	14	56	123	84	20	10	7.3	8.8
30	8.2	11	17	23	-----	53	113	77	20	9.3	6.9	8.3
31	8.2	-----	19	16	-----	52	-----	70	-----	8.3	6.9	-----
Total	238.0	268.2	421.6	770	459	884	2,496	3,014	1,129	375.3	229.0	226.0
Mean	7.68	8.94	13.6	24.8	15.8	28.5	83.2	97.2	37.6	12.1	7.39	7.53
Ac-Ft	472	532	836	1,530	910	1,750	4,950	5,980	2,240	744	454	448

Calendar year 1955: Max 152 Min 4.7 Mean 21.7 Ac-ft 15,690  
Water year 1955-56: Max 147 Min 6.0 Mean 28.7 Ac-ft 20,850

Peak discharge (base, 130 cfs).--Apr. 24 (4 a.m.) 152 cfs (2.10 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 20 to Nov. 4, Nov. 7 to Dec. 9, June 6; discharge estimated on basis of recorded range in stage, weather records, and records for Salmon Falls Creek and other nearby streams.

## Cedar Draw near Filer, Idaho

Location.--Lat 42°37'25", long 114°39'05", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 24, T. 9 S., R. 15 E., on left bank just upstream from county road bridge,  $2\frac{1}{4}$  miles upstream from mouth and  $4\frac{1}{2}$  miles northwest of Filer.

Records available.--July 1955 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 3,525 ft (from topographic map).

Extremes.--Maximum discharge during year, 216 cfs June 17, 18 (gage height, 2.34 ft); minimum, 20 cfs Apr. 8 (gage height, 0.40 ft).

1955-56: Maximum discharge, that of June 17, 18, 1956; minimum, that of Apr. 8, 1956.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow is principally waste and return flow from irrigation and stock water delivered to adjacent lands by Twin Falls Canal Co., and is affected by operation of laterals and canals upstream.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

0.4	20	1.3	90
.6	31	1.6	124
.8	45	2.0	172
1.0	62	2.4	224

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	48	41	30	28	27	65	173	90	44	54	64
2	70	47	39	30	27	27	65	130	90	47	54	62
3	72	47	38	30	27	27	52	116	92	61	54	64
4	70	*47	36	32	27	27	*28	118	93	75	54	65
5	69	46	35	32	27	27	23	125	75	61	57	67
6	68	45	38	32	27	26	21	161	59	46	57	68
7	70	43	47	32	27	24	21	142	56	47	56	69
8	67	42	*36	30	27	26	21	111	56	46	58	67
9	66	42	36	28	27	26	25	52	55	48	56	66
10	66	46	35	28	27	25	27	54	62	45	54	70
11	61	44	35	*29	27	24	75	59	66	47	54	71
12	60	44	36	30	26	24	138	74	*64	49	54	71
13	63	44	35	30	29	26	105	51	64	46	53	73
14	61	44	33	31	28	24	70	51	67	47	47	75
15	55	41	33	35	29	24	104	44	113	47	47	75
16	53	41	34	33	a26	25	121	38	149	47	51	76
17	51	41	38	31		24	184	41	210	41	52	75
18	49	42	42	30		24	110	37	208	39	53	75
19	46	44	36	32		25	116	36	175	40	56	74
20	45	46	34	32		24	132	36	158	a41	56	73
21	45	49	34	32	29	24	131	38	156	a42	54	70
22	51	40	35	34	*28	24	117	34	149	a43	*54	74
23	52	40	38	34	28	24	100	35	155	a44	55	130
24	56	38	37	31	28	24	109	56	155	a45	54	130
25	57	38	36	30	28	24	79	98	149	a46	56	99
26	54	41	36	31	27	24	41	*72	96	*51	56	70
27	51	42	35	31	27	23	39	80	77	47	59	68
28	51	38	34	29	27	23	55	137	52	56	59	*70
29	48	38	32	28	27	24	156	150	45	90	60	*71
30	50	40	30	29	-----	42	*159	127	44	57	60	70
31	50	-----	32	28	-----	64	-----	63	-----	56	62	-----
Total	1,797	1,290	1,116	954	797	826	2,491	2,540	3,080	1,533	1,706	2,262
Mean	58.0	43.0	36.0	30.8	27.5	26.6	83.0	81.9	103	49.5	55.0	75.1
Ac-ft	3,560	2,560	2,210	1,890	1,590	1,640	4,940	5,040	6,110	3,040	3,380	4,470

Calendar year 1955: Max - Min - Mean - Ac-ft -  
 Water year 1955-56: Max 210 Min 21 Mean 55.7 Ac-ft 40,420

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, records for adjacent periods, and records for nearby streams.

## Snake River near Buhl, Idaho

Location.--Lat 42°40', long 114°43', in NW $\frac{1}{4}$  sec. 9, T. 9 S., R. 15 E., on left bank 2 miles downstream from Niagara Springs,  $3\frac{1}{2}$  miles upstream from outlet of Clear Lakes, and 6 miles northeast of Buhl.

Records available.--December 1946 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 2,952.9 ft above mean sea level, by stadia levels. Prior to Jan. 17, 1947, staff gage at same site and datum.

Average discharge.--9 years (1947-56), 5,137 cfs (3,719,000 acre-ft per year).

Extremes.--Maximum discharge during year, 20,900 cfs May 30 (gage height, 9.63 ft); minimum, 3,300 cfs July 2 (gage height, 0.88 ft).  
1946-56: Maximum discharge, 23,100 cfs June 13, 1947 (gage height, 10.34 ft); minimum observed, 1,900 cfs May 5, 1947 (gage height, 0.38 ft).

Remarks.--Records excellent. 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 practically entire flow is diverted during irrigation season.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)

0.9	2,320	4.0	6,450
1.2	2,560	6.0	10,900
2.0	3,450	8.0	16,100
3.0	4,750	10.0	22,000

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,680	3,300	2,500	3,880	5,520	6,750	14,100	*11,800	20,600	2,700	2,740	2,850
2	2,670	3,270	2,480	3,910	5,600	6,820	14,400	11,500	*20,000	2,440	2,730	2,880
3	2,690	*3,270	2,450	4,120	5,690	6,820	*14,100	10,700	20,100	2,400	2,730	2,880
4	2,820	3,240	2,440	4,140	5,830	6,660	13,200	11,000	20,400	2,440	2,700	2,860
5	2,940	3,190	2,390	4,160	5,950	6,600	11,600	10,600	19,400	2,500	2,710	2,850
6	2,790	3,130	2,440	4,170	5,930	7,210	11,400	11,000	19,600	2,550	2,720	2,890
7	2,760	3,060	*2,440	4,340	5,940	6,830	11,000	10,900	19,400	2,500	2,680	2,900
8	2,920	2,770	2,380	4,340	5,850	7,070	10,200	8,720	19,000	2,420	2,680	2,980
9	2,940	2,650	2,420	4,300	5,810	6,700	9,650	7,070	18,600	2,440	2,640	2,980
10	2,750	2,580	2,510	*4,290	5,770	6,530	7,910	7,440	16,200	2,450	2,620	2,960
11	2,820	2,560	2,460	4,410	5,790	6,510	6,300	7,540	13,200	2,440	2,630	3,060
12	2,790	2,550	2,520	4,460	5,880	6,450	6,930	7,980	*12,900	2,430	2,630	3,080
13	3,160	2,540	2,520	4,430	5,740	6,060	8,250	8,070	13,100	2,460	2,660	3,060
14	4,380	2,550	2,510	4,520	5,650	5,650	7,480	9,330	13,300	2,410	2,680	3,080
15	4,070	2,500	2,510	4,660	5,620	5,770	7,250	8,620	13,000	2,400	2,630	3,070
16	4,020	2,500	2,580	4,770	5,500	6,040	6,830	8,050	13,100	2,430	2,690	3,070
17	4,020	2,480	2,690	4,560	5,420	6,340	5,450	7,250	9,490	2,410	2,680	3,070
18	3,570	2,520	3,020	4,600	5,580	6,720	5,090	6,740	9,470	2,440	2,630	3,030
19	3,180	2,550	3,300	4,600	5,650	7,210	4,470	6,590	11,900	2,400	2,660	3,020
20	2,960	2,560	3,280	4,640	5,650	7,310	4,000	4,750	15,100	2,450	2,700	2,980
21	2,930	2,560	3,270	4,720	5,690	7,630	4,210	3,450	17,100	2,460	*2,750	2,940
22	2,930	2,510	3,350	4,960	5,950	7,590	8,660	2,800	15,500	2,480	2,700	2,980
23	2,750	2,510	3,330	5,440	6,010	7,570	8,460	2,580	11,900	2,470	2,680	3,180
24	2,650	2,510	3,260	5,640	6,060	9,010	6,940	3,000	8,410	2,470	2,680	3,410
25	2,710	2,490	3,320	5,690	6,260	10,000	10,700	3,020	6,120	*2,510	2,690	3,140
26	2,690	2,480	3,300	5,760	6,280	9,820	11,900	2,850	5,180	2,540	2,700	3,000
27	2,690	2,510	3,280	5,620	*6,450	9,400	12,900	7,120	4,600	2,590	2,760	*2,960
28	2,730	2,470	3,240	5,790	6,560	9,930	11,900	*11,800	4,260	2,620	2,790	2,980
29	2,800	2,470	3,430	5,900	6,730	10,100	11,600	16,000	3,520	2,730	2,810	3,020
30	3,180	2,490	3,530	6,120	-----	11,500	11,900	20,000	2,940	2,860	2,820	3,010
31	3,340	-----	3,620	5,810	-----	13,500	-----	20,800	-----	2,850	2,840	-----
Total	94,530	80,770	88,970	148,930	170,500	237,700	280,890	268,960	397,390	77,700	83,800	90,090
Mean	3,043	2,692	2,870	4,804	5,879	7,668	9,363	8,676	13,250	2,506	2,703	3,003
Ac-ft	187,100	160,200	176,500	295,400	338,200	471,500	557,100	533,500	788,200	154,100	166,200	178,700

Calendar year 1955: Max 8,160 Min 2,340 Mean 3,270 Ac-ft 2,367,000  
Water year 1955-56: Max 20,800 Min 2,380 Mean 5,519 Ac-ft 4,007,000

\* Discharge measurement made on this day.

## Deep Creek near Buhl, Idaho

Location.--Lat 42°37'05", long 114°50'40", in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec. 29, T. 9 S., R. 14 E., on right bank 0.2 mile downstream from Twin Falls Canal Co. diversion dam, a quarter of a mile upstream from U.S. Highway 30,  $4\frac{1}{2}$  miles northwest of Buhl, and 5 miles upstream from mouth.

Records available.--July 1955 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (by barometer).

Extremes.--Maximum discharge during year, 363 cfs Nov. 27 (gage height, 2.90 ft); minimum daily, 1.3 cfs Apr. 4-6.

1955-56: Maximum discharge, that of Nov. 27, 1955; minimum daily, that of Apr. 4-6, 1956.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow is waste from irrigation and stock water delivered to adjacent lands by Twin Falls Canal Co. and is completely controlled by gates 0.2 mile upstream.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 5-11)

Oct. 1 to Feb. 20

Feb. 21 to Sept. 30

0.1	1.5	1.0	66	-0.3	0.8	0.6	41
.2	4.0	1.4	120	-.2	2.5	1.0	81
.4	12	1.8	179	-.1	5.1	1.5	150
.7	33	2.6	311	0	8.5	2.3	288
				.3	22		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	176	255	277	b200	269	46	56	111	46	58	55
2	130	205	241	b290	b190	286	43	27	99	46	64	49
3	105	*214	235	250	b220	286	a6.2	29	86	43	67	61
4	62	198	277	277	b260	248	*a1.3	31	85	43	69	71
5	60	189	224	270	282	239	a1.3	32	65	44	70	69
6	96	198	160	265	280	232	a1.3	25	67	36	67	67
7	127	198	b230	260	275	146	a9.3	29	57	32	49	69
8	103	203	*216	255	267	164	16	24	55	16	48	81
9	92	201	189	*255	262	167	20	51	50	16	35	77
10	86	187	272	274	257	146	81	81	59	12	31	89
11	82	116	268	280	268	110	212	113	79	14	35	108
12	83	124	274	268	a295	93	168	94	*88	20	31	106
13	102	134	270	275	a300	118	77	74	90	21	32	100
14	95	158	219	275	a280	95	7.0	66	90	19	20	107
15	27	120	144	291	a250	94	37	40	110	29	23	127
16	3.8	83	158	272	a200	94	256	22	159	31	24	124
17	2.0	149	294	250	a180	88	141	45	147	28	26	138
18	1.5	235	304	235	a200	86	40	51	127	26	29	153
19	1.5	272	292	237	a230	86	79	35	98	25	27	176
20	2.2	306	286	262	a260	76	123	29	108	26	32	189
21	2.5	299	277	284	*273	70	43	26	131	26	34	165
22	100	287	291	302	278	68	23	18	107	36	*28	160
23	237	b250	268	311	271	64	74	17	95	27	24	165
24	277	258	265	292	269	54	36	77	75	21	22	187
25	267	279	268	258	280	49	27	58	68	21	24	194
26	174	301	260	201	248	61	48	*61	53	*26	25	153
27	182	299	258	201	273	82	30	93	60	33	35	*135
28	200	257	248	b230	275	79	44	135	56	33	48	144
29	166	245	246	b230	269	110	56	129	41	47	47	160
30	155	252	224	b220	-----	99	*68	95	37	50	38	167
31	170	-----	252	b210	-----	47	-----	128	-----	48	38	-----
Total	3,337.5	6,391	7,661	8,057	7,392	3,906	1,814.4	1,791	2,553	941	1,200	3,646
Mean	108	213	247	260	255	126	60.5	57.8	85.1	30.4	36.7	122
Ac-ft	6,620	12,680	15,200	15,980	14,660	7,750	3,600	3,550	5,060	1,870	2,380	7,230

Calendar year 1955: Max - Min - Mean - Ac-ft -  
Water year 1955-56: Max 311 Min 1.3 Mean 133 Ac-ft 96,580

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of one discharge measurement, recorded range in stage, and records for nearby streams.

b Stage-discharge relation affected by ice.

## 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 1956.

Gage.--Water-stage recorder. Altitude of gage is 2,950 ft (from topographic map).

Average discharge.--6 years, 421 cfs (304,800 acre-ft per year).

Extremes.--1950-56: Maximum daily discharge, 480 cfs Sept. 29, 1950; minimum daily 372 cfs Apr. 12, 1951, Mar. 23-27, 1956.

Remarks.--Records excellent. No regulation or surface diversion above station. Discharge affected by variable surface waste from irrigation canals over rimrocks into springs above station. This waste was reported not flowing Jan. 11, Feb. 21, Apr. 3, and estimated on May 1 (2 cfs), May 27 (1 cfs), June 18 (1.5 cfs), July 26 (2 cfs), Aug. 22 (1 cfs), Sept. 26 (3 cfs).

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)

1.4	352
1.5	377
1.7	427
1.9	480

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	453	443	424	407	394	390	380	*380	414	437	445	440
2	453	440	424	407	394	390	380	382	414	437	448	440
3	453	*440	422	404	394	387	*380	382	417	437	448	440
4	453	443	420	407	394	387	380	384	420	440	445	440
5	453	440	420	404	394	384	377	384	420	437	445	440
6	453	440	*420	404	394	382	374	384	420	437	445	440
7	453	437	417	404	394	382	374	390	422	437	443	443
8	453	435	417	404	392	382	374	390	422	437	443	443
9	453	437	414	402	392	382	374	390	422	437	440	443
10	456	440	412	402	394	382	377	392	424	437	437	445
11	453	440	412	*402	394	382	377	394	422	437	440	445
12	450	437	412	402	394	382	374	397	422	440	440	448
13	450	443	412	402	394	384	374	394	424	440	437	448
14	450	453	410	402	392	384	374	397	427	440	437	450
15	450	443	410	402	392	384	374	397	430	440	437	450
16	448	435	410	402	392	382	374	397	430	440	435	450
17	448	435	410	402	394	382	377	397	430	437	435	450
18	448	435	410	400	392	380	377	400	*432	440	435	450
19	448	432	407	400	394	380	374	402	432	440	432	453
20	448	432	404	400	394	380	374	402	432	440	432	456
21	448	432	404	400	*394	377	377	402	432	443	435	453
22	445	430	407	400	394	374	377	404	432	443	*435	453
23	443	430	410	400	394	372	377	404	435	443	435	453
24	443	430	410	400	394	372	380	404	437	443	435	456
25	443	430	410	400	394	372	380	404	437	443	437	456
26	445	427	410	400	394	372	382	404	437	*445	440	*458
27	445	427	410	400	392	372	382	*410	435	445	440	458
28	443	424	410	397	390	374	382	412	437	445	440	458
29	443	424	407	397	390	377	382	412	437	445	440	458
30	445	424	407	397	-----	377	382	412	435	445	440	458
31	445	-----	407	394	-----	-----	380	-----	412	448	440	-----
Total	13,914	13,058	12,779	12,444	11,404	11,787	11,320	12,315	12,830	13,655	13,616	13,475
Mean	449	435	412	401	393	380	377	397	428	440	439	449
Ac-ft	27,600	25,900	25,350	24,680	22,620	23,380	22,450	24,430	25,450	27,080	27,010	26,750

Calendar year 1955: Max 456 Min 384 Mean 416 Ac-ft 300,900  
 Water year 1955-56: Max 458 Min 372 Mean 417 Ac-ft 302,700

\* Discharge measurement made on this day.

## SALMON FALLS CREEK BASIN

Salmon Falls Creek above upper Vineyard ditch, near Contact, Nev.

Location.--Lat 41°44', long 114°53', near northwest corner 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, 1½ miles upstream from present diversion dam, and 6 miles southwest of Contact.

Drainage area.--439 sq mi, approximately.

Records available.--May 1914 to July 1915, October 1948 to September 1956.

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.--8 years (1948-56), 93.1 cfs (67,400 acre-ft per year).

Extremes.--Maximum discharge during year, 872 cfs May 25 (gage height, 4.32 ft); minimum, 16 cfs Sept. 3 (gage height, 1.17 ft), but may have been less during period of ice effect.  
1914-15, 1948-56: 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 below about 20 cfs, which are good, and those for periods of ice effect, which are fair. Many diversions above and below station for irrigation.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	13	2.5	192
1.2	18	3.0	325
1.4	31	3.5	500
1.7	58	4.3	860
2.1	109		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	25	32	38	b52	36	149	355	439	56	26	18
2	*21	24	31	39	b50	41	127	337	428	54	23	17
3	21	24	29	37	b52	68	122	346	408	54	22	17
4	21	26	29	38	b54	91	127	372	390	52	22	17
5	21	*26	b25	40	b55	79	*129	414	355	49	21	17
6	21	26	29	41	b55	*50	122	432	331	45	21	17
7	21	26	29	36	b56	42	127	439	284	45	21	17
8	21	26	b26	36	55	45	127	390	249	43	22	18
9	21	26	29	32	33	59	137	390	238	41	24	17
10	21	27	29	*34	35	82	158	400	231	37	23	18
11	21	28	29	36	37	53	202	358	224	32	22	21
12	21	28	29	38	38	43	221	322	206	32	20	20
13	21	28	30	40	39	44	214	298	*190	29	19	19
14	22	b27	29	40	40	43	211	267	180	29	19	18
15	22	b18	29	55	38	43	206	241	211	29	22	18
16	22	b20	29	75	b52	48	214	238	224	29	21	18
17	22	b22	30	77	b53	132	241	262	176	27	21	18
18	22	b26	30	64	34	211	238	304	149	26	19	18
19	22	29	*30	68	32	203	251	*372	122	25	19	18
20	23	31	30	66	34	165	307	442	122	24	20	19
21	25	31	30	62	36	141	380	520	151	24	19	19
22	26	29	36	58	38	127	446	564	120	24	19	19
23	25	26	66	58	38	141	504	572	103	22	*18	20
24	24	26	82	49	37	185	*544	724	97	*22	18	21
25	24	26	80	46	35	231	520	840	90	24	17	20
26	25	27	64	48	35	228	488	715	81	24	18	21
27	28	29	68	51	35	192	468	661	75	25	19	21
28	26	30	48	44	35	160	468	594	70	26	20	21
29	25	30	44	40	36	158	422	508	66	37	19	21
30	26	30	39	b58	-----	149	386	436	59	30	19	21
31	25	-----	41	b55	-----	154	-----	422	-----	27	18	-----
Total	705	795	1,181	1,459	1,019	3,444	8,256	13,535	6,069	1,043	631	564
Mean	22.7	28.5	38.1	47.1	35.1	111	275	437	202	33.6	20.4	18.8
Ac-ft	1,400	1,580	2,340	2,890	2,020	6,830	18,380	26,850	12,040	2,070	1,250	1,120
Calendar year 1955: Max 302 Min 16 Mean 49.6 Ac-ft 35,890												
Water year 1955-56: Max 840 Min 17 Mean 106 Ac-ft 76,770												

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## 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 highway 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.

Records available.--September 1909 to September 1916, October 1918 to September 1956. 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.--44 years (1910-16, 1918-56), 133 cfs (96,290 acre-ft per year).

Extremes.--Maximum discharge during year, 859 cfs May 26 (gage height, 7.32 ft); minimum, 4.7 cfs Aug. 24; minimum gage height, 3.86 ft Dec. 5.  
1909-16, 1918-56: 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. Many diversions above station for irrigation. Salmon Dam of Salmon River Canal Co., 15 miles below station, forms a reservoir having a capacity of 182,650 acre-ft (see following page).

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 29 to Sept. 30)

3.1	5.5	4.5	212
3.3	22	5.0	322
3.6	52	6.0	573
4.0	113	7.0	837

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	41	55	87	69	75	339	537	503	58	35	8.7
2	35	41	56	85	60	75	310	472	503	53	31	7.1
3	*35	41	51	76	71	89	281	450	460	55	30	7.9
4	37	41	49	82	76	126	269	445	450	57	28	6.3
5	36	*43	27	82	79	144	*267	468	425	58	26	11
6	36	44	42	81	81	109	272	513	398	53	23	20
7	36	43	49	79	81	78	254	544	360	49	19	22
8	37	43	35	73	82	84	261	526	308	45	18	23
9	35	43	*51	65	71	95	263	492	272	44	16	23
10	35	44	50	*71	73	126	272	495	258	41	16	24
11	35	45	55	71	89	111	308	495	244	41	16	31
12	35	43	61	73	90	84	368	468	229	38	14	34
13	36	39	58	78	92	84	392	438	*218	37	13	31
14	36	41	57	81	90	75	402	408	212	35	12	29
15	37	24	56	92	78	76	410	370	208	35	11	28
16	36	26	55	168	61	76	395	341	254	34	12	27
17	36	35	57	212	68	138	402	315	235	35	13	27
18	36	46	57	222	76	237	415	*329	198	35	14	27
19	37	57	57	204	68	332	402	363	166	34	11	27
20	38	62	56	184	84	288	425	402	148	32	9.5	27
21	40	58	58	166	82	252	475	478	158	31	9.5	29
22	40	52	62	154	84	254	529	550	158	32	9.5	29
23	41	49	85	150	*84	276	*807	583	138	30	*7.1	31
24	40	48	121	128	82	344	669	604	128	*29	5.5	31
25	40	46	146	117	79	442	708	745	115	29	5.5	32
26	40	49	150	121	76	503	687	*837	106	30	6.3	32
27	42	50	148	119	75	493	674	775	95	30	7.9	32
28	42	53	124	95	75	415	685	756	84	30	9.5	33
29	41	52	104	89	75	368	661	700	76	33	8.7	34
30	40	52	92	79	-----	356	604	617	68	39	7.9	34
31	41	-----	93	69	-----	351	-----	529	-----	37	7.9	-----
Total	1,166	1,351	2,217	3,453	2,251	6,561	13,006	16,045	7,195	1,219	452.8	758.0
Mean	37.6	45.0	71.6	111	77.6	212	434	518	240	39.3	14.6	25.3
Ac-ft	2,310	2,680	4,400	6,850	4,460	13,010	25,800	31,820	14,270	2,420	898	1,500
Calendar year 1955: Max	356				Min 11		Mean 78.1	Ac-ft 56,560				
Water year 1955-56: Max	837				Min 5.5		Mean 152	Ac-ft 110,400				

\* Discharge measurement made on this day.

## SALMON FALLS CREEK BASIN

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 1956.

Gage.--Wire-weight gage read once daily. Datum of gage is 4,945.8 ft (revised) 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, 62,300 acre-ft June 5, 6, 7 (gage height, 36.55 ft); minimum observed, 3,720 acre-ft Oct. 7 (gage height, 2.90 ft). 1922-56: 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 1955-56 (gage height, in feet, and contents, in acre-feet)

2.0	2,500	25.0	39,100
5.0	6,550	30.0	48,800
10.0	13,800	35.0	58,950
15.0	21,500	40.0	69,850
20.0	30,000		

Usable contents, in acre-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,430	4,770	6,650	10,430	16,680	20,140	31,790	54,600	61,600	48,100	23,500	6,480
2	4,460	4,820	6,720	10,620	16,770	20,280	32,350	55,500	61,800	48,100	22,900	6,420
3	4,480	4,880	6,800	10,790	16,840	20,380	33,000	56,200	62,000	48,100	22,400	6,350
4	4,390	4,920	6,870	10,940	16,920	20,480	33,490	57,000	62,200	48,100	21,800	6,350
5	4,050	4,960	6,950	11,080	17,010	20,700	34,010	57,800	62,300	47,500	21,300	6,280
6	3,780	5,010	7,040	11,200	17,100	20,890	34,480	58,600	62,300	46,500	20,700	6,280
7	3,720	5,060	7,140	11,340	17,280	21,150	34,940	59,100	62,300	45,600	20,100	6,210
8	3,780	5,120	7,210	11,490	17,400	21,340	35,400	59,500	62,100	44,700	19,400	6,210
9	3,780	5,170	7,280	11,610	17,520	21,530	35,960	59,600	61,600	43,700	18,900	6,280
10	3,780	5,740	7,360	11,720	17,640	21,700	36,420	59,800	61,200	42,200	18,200	6,280
11	3,810	5,290	7,400	11,840	17,730	21,870	36,880	60,000	60,500	41,500	17,800	6,350
12	3,850	5,360	7,460	11,950	17,850	22,030	37,470	60,100	59,800	40,700	17,200	6,420
13	3,890	5,440	7,530	12,070	18,000	22,210	38,080	60,200	59,200	39,500	16,600	6,420
14	3,930	5,480	7,600	12,220	18,180	22,420	38,770	60,100	58,500	38,400	16,000	6,480
15	3,970	5,540	7,680	12,380	18,330	22,590	39,500	60,100	57,700	37,300	15,300	6,480
16	4,010	5,540	7,750	12,570	18,460	22,740	40,200	60,000	56,900	36,300	14,700	6,480
17	4,070	5,550	7,860	12,760	18,590	22,840	40,900	59,800	56,400	35,300	14,000	6,480
18	4,120	5,560	8,010	13,050	18,670	23,030	41,600	59,500	55,900	34,300	13,400	6,480
19	4,170	5,600	8,130	13,360	18,750	23,460	42,300	59,500	55,600	33,400	12,600	6,480
20	4,230	5,670	8,230	13,600	18,830	24,050	43,000	59,000	55,100	32,400	11,900	6,550
21	4,270	5,740	8,330	14,250	18,910	24,610	43,800	58,800	54,700	31,500	11,100	6,550
22	4,320	5,810	8,440	14,580	19,000	25,070	44,600	58,700	54,200	30,800	10,500	6,550
23	4,360	5,940	8,560	14,920	19,180	25,530	45,600	58,600	53,700	29,800	9,780	6,550
24	4,400	6,010	8,680	15,220	19,420	26,000	46,600	58,600	53,200	29,200	9,750	6,550
25	4,440	6,080	8,810	15,450	19,580	26,460	47,800	58,600	52,600	28,400	9,750	6,550
26	4,500	6,140	9,100	15,700	19,680	27,280	48,900	58,800	52,000	27,600	9,680	6,550
27	4,520	6,250	9,320	15,900	19,770	27,930	50,200	59,500	51,200	26,900	9,600	6,520
28	4,560	6,350	9,600	16,120	19,900	29,080	51,400	59,900	50,400	26,100	9,530	6,520
29	4,630	6,460	9,850	16,350	20,000	29,830	52,500	60,600	49,400	25,400	8,880	6,520
30	4,670	6,550	10,070	16,470	-----	30,510	53,600	61,100	48,500	24,700	8,080	6,620
31	4,710	-----	10,260	16,580	-----	31,190	-----	61,400	-----	24,000	7,280	-----
(+)	3.64	5.00	7.55	11.85	14.06	20.70	32.40	36.15	29.85	18.50	5.50	5.05
(#)	+310	+1,840	+3,710	+6,320	+3,420	+11,190	+22,410	+7,800	-12,900	-24,500	-16,720	-660
Calendar year 1955..... * +3,980												
Water year 1955-56..... * +2,220												

† Gage height, in feet, at end of month.

\* Change in contents, in acre-feet.



## 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 1956.

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--1937-56: Maximum daily discharge, 660 cfs July 21-24, 1944; no flow during 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0							0	332	0	265	160
2	0							0	301	0	269	0
3	*0	/						0	308	0	277	0
4	*155							0	306	154	280	0
5	130	(*)					(*)	0	321	502	293	0
6	29							190	375	492	295	0
7	0							314	411	482	301	0
8	0							324	451	507	298	0
9	0		(*)					357	465	518	285	0
10	0			(*)				341	506	543	280	0
11	0							359	518	531	286	0
12	0							383	529	530	290	0
13	0							376	519	530	304	0
14	0							372	*511	515	306	0
15	0							366	502	507	323	0
16	0							370	476	498	318	0
17	0							370	445	488	320	0
18	0							*390	400	471	337	0
19	0							407	388	464	391	0
20	0							424	369	440	405	0
21	0							456	361	438	420	0
22	0				(*)			485	363	404	331	0
23	0						(*)	504	381	404	*0	0
24	0							509	383	*399	0	0
25	0							511	400	399	0	0
26	0							491	449	387	0	0
27	0							445	470	387	7.7	0
28	0							427	506	384	225	0
29	0							404	505	369	400	0
30	0							398	357	325	379	0
31	0	-----			-----		-----	359	-----	298	342	-----
Total	314	0	0	0	0	0	0	10,332	12,608	12,356	8,227.7	160
Mean	10.1	0	0	0	0	0	0	333	420	399	265	5.33
Ac-ft	623	0	0	0	0	0	0	20,490	25,010	24,510	16,320	317

Calendar year 1955: Max 473 Min 0 Mean 51.8 Ac-ft 37,520  
 Water year 1955-56: Max 543 Min 0 Mean 120 Ac-ft 87,270

\* Discharge measurement or observation of no flow made on this day.

## SALMON FALLS CREEK BASIN

Salmon Falls Creek near Buhl, Idaho

Location.--Lat 42°36', long 114°53', in SW $\frac{1}{4}$  sec. 36, T. 9 S., R. 13 E., 5 miles northeast of Balanced Rock and Castleford Crossing, 6 miles west of Buhl, and 9 miles upstream from mouth.

Records available.--July 1955 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 3,230 ft (by barometer).

Extremes.--Maximum discharge during year, 193 cfs May 14 (gage height, 2.33 ft); minimum, 56 cfs Mar. 7 (gage height, 1.48 ft).  
1955-56: Maximum, that of May 14, 1956; minimum, that of Mar. 7, 1956.

Remarks.--Records good. Only leakage passes Salmon River Canal Co. Dam, where flow is diverted for irrigation. Flow at station is derived from seepage past dam, underground flow from adjacent irrigated land, and surface waste over rim of canyon.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 24 to Nov. 15,  
Dec. 31 to Feb. 26, Sept. 15-50)

1.5	65
1.7	87
2.0	131
2.3	185

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	141	117	118	92	82	88	97	128	140	83	103	102
2	158	114	112	99	81	92	100	129	128	88	97	97
3	129	117	108	95	82	108	99	133	133	85	103	95
4	123	*117	108	97	86	106	*95	140	131	85	109	99
5	128	114	97	103	87	96	87	134	156	85	104	103
6	151	114	99	103	87	90	83	131	140	82	112	112
7	156	112	*95	103	88	82	85	131	138	81	117	112
8	131	110	96	100	90	85	85	140	120	79	104	108
9	128	110	102	92	87	92	85	145	114	79	108	102
10	125	112	100	96	86	88	109	152	115	80	103	99
11	120	112	102	*104	86	86	129	155	126	75	92	91
12	118	112	106	99	90	86	128	162	133	73	82	90
13	121	103	106	100	94	87	125	161	*140	80	88	91
14	123	102	99	103	90	88	114	159	141	85	85	92
15	114	91	97	110	87	88	92	140	143	82	85	87
16	108	90	97	104	85	90	108	134	146	75	88	87
17	102	88	95	102	85	91	121	134	136	81	94	95
18	96	90	109	100	83	91	128	129	126	79	96	90
19	95	92	108	100	81	91	134	110	125	80	91	91
20	95	104	108	102	83	99	134	114	134	77	88	91
21	96	104	109	103	*94	131	118	102	113	80	82	94
22	95	100	112	103	90	145	118	99	128	82	*82	114
23	97	97	109	104	92	141	120	99	123	86	88	114
24	128	95	110	99	87	134	123	117	117	75	91	106
25	123	96	108	91	85	128	123	120	110	*80	94	106
26	121	104	106	94	86	118	123	133	97	77	90	117
27	118	112	106	91	86	114	126	*143	88	83	90	121
28	121	106	103	87	85	106	136	166	75	82	97	*128
29	120	112	97	85	91	99	138	166	77	99	97	128
30	121	118	95	83	-----	97	*140	159	80	108	100	128
31	121	-----	94	80	-----	95	-----	157	-----	106	103	-----
Total	3,683	3,165	3,209	3,024	2,516	3,132	3,401	4,222	3,673	2,572	2,961	3,081
Mean	118	106	104	97.5	86.8	101	113	136	122	83.0	95.5	103
Ac-ft	7,270	6,280	6,360	6,000	4,990	6,210	6,750	8,370	7,290	5,100	5,870	6,110

Calendar year 1955: Max - Min - Mean - Ac-ft -  
Water year 1955-56: Max 166 Min 73 Mean 166 Ac-ft 76,600

\* Discharge measurement made on this day.

## Camas Creek at Camas, Idaho

Location.--Lat 44°00', long 112°13', in E $\frac{1}{2}$ SE $\frac{1}{4}$  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.--320 sq mi, approximately.

Records available.--April 1925 to September 1956.

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.--30 years (1926-56), 27.7 cfs (20,050 acre-ft per year).

Extremes.--Maximum discharge during year, 534 cfs Apr. 19 (gage height, 4.99 ft), but may have been higher during period of ice effect; maximum gage height observed, 5.26 ft Dec. 24 (ice jam); no flow for long period.  
1925-56: 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 during periods in many years.

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 and stock water.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 66.

Revisions (water years).--WSP 813: 1935. WSP 1123: 1947.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	0.3	1.9	8.7	3.5	171
1.5	.9	2.1	17	4.0	270
1.6	1.8	2.3	29	4.5	395
1.7	3.3	2.5	46	5.0	540
1.8	5.6	3.0	102		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	11		29			36	156	106	9.8	3.8	
2	4.9	10		28			26	120	88	11	4.7	
3	5.2	9		26			30	96	71	9.8	5.6	
4	3.8	11	(*)	25			29	86	65	11	5.4	
5	3.0	10		24			33	80	55	15	4.4	
6	3.0	9		23			28	80	45	17	3.8	
7	3.0	8		22			30	86	42	15	4.4	
8	3.0	7.5		21		13	32	86	28	13	4.2	
9	4.0	7		20			33	84	22	11	3.2	
10	3.8	6	5.5	20			39	88	19	9.1	2.8	
11	4.2	6.2		19	11		62	95	17	9.1	2.2	
12	4.2	5.5		19			80	103	13	7.8	3.3	
13	4.7	5.5		*19			100	119	12	6.8	3.5	
14	6.2	5		18			215	107	8.1	6.8	4.0	
15	7.8	5		18			315	84	6.2	6.5	3.8	(*)
16	6.8	5		18		15	437	63	6.2	5.1	3.2	
17	7.8			17		20	380	49	*8.2	4.4	.4	
18	7.5			17		30	358	44	8.4	3.5	0	
19	8.4			17		60	412	54	18	3.0	0	
20	7.8			16		75	352	62	9.8	2.8	0	
21	8.7		6.5	16		90	349	77	9.1	2.0	0	
22	8.7			16		110	340	*98	6.5	1.7	0	
23	11			15		160	272	108	5.6	2.1	*0	
24	11	5.5		15		180	225	106	6.5	1.6	0	
25	12			15		236	*198	112	10	*1.7	0	
26	11			14	13	199	165	153	10	2.6	0	
27	*10			13		72	148	150	11	2.6	0	
28	11			12		46	165	146	11	2.6	0	
29	10			11	(*)	*32	174	142	9.5	2.2	0	(*)
30	13			11		30	156	132	11	2.4	0	
31	12			11		34	123	123		3.0	0	
Total	222.3	197.7	1,110.0	565	337	1,584	5,199	3,089	736.1	201.9	62.7	0
Mean	7.17	6.59	35.8	18.2	11.6	51.1	173	99.6	24.5	6.51	2.02	0
Ac-ft	441	392	2,200	1,120	668	3,140	10,310	6,130	1,460	400	124	0
Calendar year 1955: Max	400			Min	0		Mean	30.1	Ac-ft	21,820		
Water year 1955-56: Max	437			Min	0		Mean	36.4	Ac-ft	26,380		

\* Discharge measurement or observation of no flow made on this day.

Note.--Stage-discharge relation affected by ice Nov. 1-10, Nov. 12 to Mar. 24. No gage-height record Nov. 16 to Dec. 3, Dec. 5-23, Dec. 25, 27, 29, 30, Jan. 1-12, 14, 15, Jan. 17 to Mar. 22, Apr. 12, 13; discharge estimated on basis of weather records, 4 discharge measurements, and records for Beaver Creek at Dubois, and other nearby streams.

## MUD LAKE-LOST RIVER BASINS

## Beaver Creek at Dubois, Idaho

Location.--Lat 44°11', long 112°14', NW¼ sec. 21, T. 10 N., R. 36 E., on left bank half a mile north of Dubois.

Drainage area.--220 sq mi, approximately.

Records available.--April 1921 to September 1956 (no winter records 1925-28, 1930).

Gage.--Water-stage recorder. Altitude of gage is 5,150 ft (by barometer). Prior to May 8, 1927, staff gage at site 175 ft downstream at datum 2.08 ft lower.

Average discharge.--29 years (1921-24, 1928-29, 1931-56), 16.8 cfs (12,160 acre-ft per year).

Extremes.--Maximum discharge during year, 789 cfs Dec. 23 or 24 (gage height, 4.38 ft, from floodmark); no flow most of year.

1921-56: Maximum discharge, 858 cfs Apr. 7, 1930 (gage height, 4.77 ft); no flow for long periods.

Remarks.--Records good except those for periods of fragmentary gage-height record and those computed from once- or twice-daily staff-gage readings, which are fair, and those for periods of no gage-height record, which are poor.

Cooperation.--Water-stage recorder inspected and six discharge measurements furnished by employees of Water District No. 66.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			0	57	23	5.8			
2			0			0	*36	18	f2.1			
3			0			0	25	15	f1.0			
4			*0			0	24	13	.7			
5			0			a2	32	14	*1.2			
6			0			a1	16	13	2.0			
7			0			a1	20	13	1.4			
8			0			a2	21	11	.3			
9			0			a2	29	11	0			
10			0			a2	49	14	0			
11			0			a1	108	15	0			
12			0			a1	127	21	0			
13			0			a1	125	17	0			
14			0			a1	156	12	0			
15			0			a1	160	7.7	0			
16			0			a4	142	4.6	*0			
17			0			a10	112	2.6	0			
18			0			f30	81	.8	0			
19			0			f51	61	.7	0			
20			0			92	51	2.0	0			
21			0			83	46	3.7	0			
22			a5			105	45	*f11	0			
23			a130			116	45	f10	0			
24			g394			107	38	*6.7	0			
25			g83			135	*32	f7.0	0			
26			g46			153	27	*f11	0			
27			g40			g85	44	*14	0			
28			g16			g61	48	12	0			
29			*bg10			*bf81	34	13	0			
30			a5			88	30	*17	0			
31			a1			81	-----	12	-----			
Total	0	0	730	0	0	1,297	1,821	345.8	14.5	0	0	0
Mean	0	0	23.5	0	0	41.8	60.7	11.2	0.48	0	0	0
Ac-ft	0	0	1,450	0	0	2,570	3,610	686	29	0	0	0
Calendar year 1955: Max 394 Min 0 Mean 9.13 Ac-ft 6,610												
Water year 1955-56: Max 394 Min 0 Mean 11.5 Ac-ft 8,340												

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby streams.

b Stage-discharge relation affected by ice.

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

g Discharge computed from once- or twice-daily staff-gage readings.

## Beaver Creek at Camas, Idaho

Location.--Lat 44°01', long 112°14', in NE $\frac{1}{4}$  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.

Records available.--April 1921 to September 1956.

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.--35 years, 3.90 cfs (2,820 acre-ft per year).

Extremes.--Maximum discharge during year, 173 cfs Mar. 27 (gage height, 3.62 ft); no flow for most of year.

1921-56: Maximum discharge recorded, 186 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 diversions for irrigation above Dubois, 14 miles above station, and by heavy channel losses below Dubois.

Cooperation.--One discharge measurement and occasional inspections of recorder furnished by employees of Water District No. 66.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 24)

1.4	0	2.1	16
1.5	0.7	2.3	29
1.6	2.3	2.6	55
1.7	4.3	3.0	97
1.9	9.2	3.5	157

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			0	45	(*)				
2			0			0	*18					
3			0			0	13					
4			*0			0	10					
5			0			0	13					
6			0			0	9.2					
7			0			0	5.9					
8			0			0	5.0					
9			0			0	5.9					
10			0			0	9.8					
11						0	34					
12			0	(*)		0	58					
13			0			0	67					
14			0			0	75					
15			0			0	82					(*)
16			0			0	74					
17			0			0	58		(*)			
18			0			0	45					
19			0			0	26					
20			0			13	16					
21			0			42	12					
22			0			34	9.2	(*)				
23			0			59	9.2				(*)	
24			53			73	7.9					
25			43			94	*5.0			(*)		
26			11			124	3.1					
27	(*)		6.9			86	4.4					
28			*3.0		(*)	40	3.7					
29			0			*49	3.5					(*)
30			0		-----	56	1					
31			0		-----	53	-----			-----		-----
Total	0	0	116.9	0	0	7 723	723.7	0	0	0	0	0
Mean	0	0	3.77	0	0	23.3	24.1	0	0	0	0	0
Ac-ft	0	0	232	0	0	1,430	1,440	0	0	0	0	0
Calendar year 1955: Max			53	Min	0	Mean	0.72	Ac-ft	523			
Water year 1955-56: Max			124	Min	0	Mean	4.27	Ac-ft	3,100			

\* Discharge measurement or observation of no flow made on this day.

## MUD LAKE-LOST RIVER BASINS

Mud Lake near Terreton, Idaho

Location.--Lat 43°54', long 112°21', in NE $\frac{1}{4}$ SE $\frac{1}{4}$  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 5 $\frac{1}{2}$  miles northeast of Terreton.

Drainage area.--1,050 sq mi, approximately, not including Medicine Lodge Creek.

Records available.--April 1921 to September 1956.

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, 30,500 acre-ft May 4; maximum gage height, 7.00 ft May 4 (affected by wind); minimum contents, 3,390 acre-ft Aug. 11; minimum gage height, -0.05 ft Aug. 30 (affected by wind).  
1921-56: 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 1956. 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 frequently disturb the recording of lake stages.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 66 and supplemental staff-gage readings furnished by employees of Owsley Canal Co.

Revisions.--WSP 1247: Drainage area.

Capacity table, water year 1955-56 (gage height, in feet, and contents, in acre-feet)

-0.5	2,560	4.0	15,800
0	3,410	5.0	20,500
1.0	5,460	6.0	25,700
2.0	8,150	7.0	31,600
3.0	11,800		

Contents, at 12 p.m., in acre-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,480	4,250	6,510	11,200	16,300	20,600	24,800	30,100	18,900	7,200	3,500	3,610
2	5,440	4,310	6,610	11,500	16,500	20,700	25,000	30,200	18,600	6,980	3,500	3,610
3	5,370	4,390	6,740	11,500	16,700	20,800	25,200	30,300	18,500	6,770	3,500	3,630
4	5,320	4,450	6,850	11,700	16,800	20,900	25,300	30,500	18,300	6,510	3,500	3,630
5	5,250	4,520	6,980	11,900	17,000	21,000	25,400	30,400	18,100	6,250	3,480	3,680
6	5,140	4,580	7,120	12,000	17,200	21,100	25,500	30,300	17,700	6,020	3,460	3,680
7	5,010	4,640	7,260	12,100	17,300	21,300	25,600	30,300	17,500	5,750	3,450	3,700
8	4,970	4,710	7,400	12,300	17,400	21,400	25,600	30,200	16,600	5,560	3,450	3,700
9	4,880	4,770	7,550	12,500	17,500	21,400	25,700	29,900	16,200	5,370	3,430	3,720
10	4,790	4,830	7,670	12,700	17,700	21,500	25,900	29,500	15,700	5,160	3,430	3,720
11	4,710	4,880	7,780	12,800	17,900	21,600	26,000	28,900	15,000	4,940	3,390	3,760
12	4,580	4,920	7,880	13,000	18,000	21,700	26,100	28,400	14,500	4,810	3,410	3,840
13	4,480	4,990	8,000	13,100	18,100	21,900	26,200	28,100	15,900	4,640	3,450	3,880
14	4,370	5,030	8,120	13,300	18,300	22,000	26,400	27,700	15,300	4,500	3,480	3,890
15	4,290	5,080	8,240	13,500	18,500	22,100	26,700	27,300	12,700	4,330	3,480	3,910
16	4,170	5,160	8,400	13,700	17,700	22,200	26,900	26,600	12,100	4,210	3,540	3,950
17	4,070	5,230	8,560	13,900	18,900	22,300	27,000	26,000	11,600	4,070	3,520	3,970
18	4,030	5,320	8,690	14,000	19,000	22,400	27,300	25,200	11,100	3,930	3,540	3,990
19	4,010	5,390	8,820	14,200	19,100	22,500	27,500	24,400	10,700	3,860	3,520	4,010
20	3,990	5,460	8,950	14,400	19,400	22,600	27,800	23,700	10,200	3,800	3,540	4,010
21	3,970	5,560	9,080	14,500	19,500	22,700	28,100	22,800	9,790	3,780	3,540	4,010
22	3,950	5,600	9,280	14,800	19,600	22,800	28,300	22,200	9,480	3,760	3,520	4,030
23	3,950	5,700	9,480	14,900	19,600	23,000	28,700	21,600	9,120	3,720	3,500	4,030
24	3,910	5,770	9,660	15,100	19,800	23,200	28,900	20,900	8,790	3,670	3,520	4,070
25	3,910	5,870	9,760	15,200	19,900	23,500	29,000	20,500	8,560	3,630	3,540	4,030
26	3,950	5,950	9,940	15,400	20,000	23,700	29,200	20,200	8,430	3,610	3,550	4,030
27	3,970	6,020	10,100	15,600	20,200	23,900	29,300	19,900	8,280	3,550	3,500	3,990
28	3,970	6,120	10,300	15,700	20,400	24,100	29,500	19,400	8,090	3,570	3,590	3,930
29	4,010	6,250	10,500	15,900	20,500	24,400	29,800	19,100	7,780	3,590	3,590	3,890
30	4,070	6,350	10,800	16,000	-----	24,500	30,000	19,000	7,520	3,570	3,590	3,860
31	4,150	-----	11,000	16,200	-----	24,600	-----	18,300	-----	3,500	3,610	-----
(+)	0.39	1.36	2.83	4.09	4.99	5.80	6.74	4.66	1.79	0.05	0.11	0.24
(*)	-1,560	+2,200	+4,650	+5,200	+4,300	+4,100	+5,400	-11,100	-11,380	-4,020	+110	+250

Calendar year 1955..... \* -2,500

Water year 1955-56..... \* -1,650

+ Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

## 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.

Records available--October 1940 to September 1956.

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--15 years (1941-56), 42.4 cfs (30,700 acre-ft per year).

Extremes--Maximum discharge during year, 138 cfs Mar. 24 (gage height, 3.81 ft); minimum, 7.1 cfs Nov. 15; minimum gage height, 1.48 ft Mar. 11.  
1940-56: 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	31	28	32	28	22	38	29	32	54	44	36	26	
2	30	19	32	30	17	40	26	35	55	42	35	26	
3	30	24	26	33	18	41	24	45	56	43	34	25	
4	30	30	*20	34	18	40	18	47	56	42	33	26	
5	30	32	23	39	20	38	16	48	56	42	32	26	
6	30	28	22	46	22	30	16	48	56	42	33	26	
7	30	28	19	43	25	32	17	48	56	41	32	26	
8	30	27	16	41	28	41	17	49	55	40	32	26	
9	29	24	17	31	26	38	17	48	54	40	32	26	
10	29	24	17	38	28	34	17	48	54	39	32	26	
11	28	24	19	*44	30	26	19	46	54	39	31	27	
12	29	20	24	42	33	30	18	46	52	40	30	26	
13	29	16	22	42	34	38	18	46	53	40	30	26	
14	29	20	14	39	31	34	18	44	52	38	28	26	
15	30	9.7	14	42	31	34	17	44	54	38	28	26	
16	30	10	16	41	25	37	16	43	*56	38	28	25	
17	30	11	17	40	27	37	16	42	56	37	28	25	
18	30	13	18	40	28	38	16	42	53	36	28	25	
19	30	18	20	39	30	41	16	43	51	36	28	24	
20	31	23	24	39	30	48	15	43	50	36	28	24	
21	32	29	33	38	32	50	15	44	51	36	27	24	
22	32	28	47	38	33	54	15	*43	51	38	26	25	
23	32	28	73	40	34	68	15	43	49	36	*26	26	
24	32	29	54	30	34	88	15	44	48	36	26	26	
25	32	28	47	22	34	101	15	46	47	*36	26	26	
26	32	28	46	28	34	63	*16	50	46	36	26	26	
27	*32	28	48	32	34	38	15	48	46	36	26	26	
28	32	30	34	24	*36	*36	14	50	44	36	28	26	
29	32	30	23	21	37	36	17	55	44	36	27	26	
30	32	31	22	20	-----	32	28	54	44	37	27	*26	
31	32	-----	26	18	-----	32	-----	52	-----	36	26	-----	
Total	947	717.7	865	1,082	829	1,333	531	1,416	1,553	1,192	909	770	
Mean	30.5	23.9	27.9	34.9	28.6	43.0	17.7	45.7	51.8	38.5	29.3	25.7	
Ac-ft	1,880	1,420	1,720	2,150	1,640	2,640	1,050	2,810	3,080	2,360	1,800	1,530	
Calendar year 1955: Max	73			Min	9.7			Mean	34.9			Ac-ft	25,300
Water year 1955-56: Max	101			Min	9.7			Mean	33.2			Ac-ft	24,080

\* Discharge measurement made on this day.

## 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, and 35 miles west of Dubois.

Drainage area.--320 sq mi, approximately.

Records available.--September 1910 to June 1912 (published as "near Kaufman"), April 1921 to January 1923, October 1950 to September 1956.

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.--8 years (1910-11, 1921-22, 1950-56), 79.5 cfs (57,560 acre-ft per year).

Extremes.--Maximum discharge during year, 111 cfs Mar. 24 (gage height, 1.96 ft); maximum gage height, 2.16 ft Feb. 18 (backwater from ice); minimum discharge, 63 cfs Jan. 30 (gage height, 1.47 ft).

1910-12, 1921-23, 1950-56: Maximum discharge, that of Mar. 24, 1956; maximum gage height observed, 2.70 ft Feb. 20, 1911 (backwater from ice, site and datum then in use) and Jan. 31, 1951 (backwater from ice); minimum recorded, 61 cfs Jan. 29, 1951; minimum gage height, that of Jan. 30, 1956.

Revisions.--Figures of observed maximum discharge for the water years 1911 and 1912 have been revised to 110 cfs Oct. 13, 1910 (gage height, 2.0 ft, site and datum then in use) and 103 cfs Apr. 11, 12, 1912 (gage height, 1.97 ft, site and datum then in use), superseding those published in WSP 312, 332, and 1317.

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

Revisions.--Revised figures of discharge in cubic feet per second, for periods in the water years 1911 and 1912, superseding those published in WSP 312, 332-B, and 1317 are given herewith.

Discharge, in cubic feet per second, water year October 1910 to September 1911

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	88	88			91	95	*88	92	91	80	80
2	88	88	88			92	91	88	99	87	80	80
3	88	88	88			93	90	88	88	87	82	80
4	88	88	88			94	90	87	92	86	80	82
5	88	88	88			91	89	86	88	84	80	80
6	88	88	88			91	88	87	88	84	82	80
7	88	88	88			91	88	87	88	84	82	80
8	88	88	88			91	88	86	88	84	84	88
9	88	88	88			91	88	86	88	84	84	88
10	88	88	88			91	88	86	88	84	84	88
11	88	88	88			90	88	86	88	84	84	95
12	88	88	88			90	88	84	88	84	84	95
13	110	88	88			90	88	84	88	84	84	92
14	99	88	88			90	88	85	88	84	84	88
15	99	88	88			90	88	91	92	84	84	88
16	99	88	88	e93	e90	90	88	93	92	84	84	88
17	99	88	88			90	88	87	88	84	84	88
18	99	88	88			90	87	85	*88	84	84	88
19	99	88	88			90	87	85	88	84	84	*88
20	99	88	88			94	87	85	88	82	84	88
21	99	88	88			96	87	85	88	82	84	88
22	99	88	88			99	89	86	88	81	84	88
23	99	88	88			99	89	88	88	81	84	88
24	99	88	88			94	88	88	88	81	84	88
25	99	88	88			91	88	95	88	81	84	86
26	99	88	88			91	87	91	88	81	84	88
27	99	88	88			90	89	86	84	80	84	88
28	99	88	88			91	89	86	90	80	84	88
29	88	88	88			96	88	86	84	80	84	88
30	88	88	88			96	89	87	95	80	84	88
31	88	-----	88			96	-----	87	-----	80	84	-----
Total	2,913	2,640	2,728	2,883	2,520	2,859	2,655	2,699	2,668	2,580	2,582	2,602
Mean	94.0	88.0	88.0	95.0	90.0	92.2	88.5	87.1	88.9	83.2	83.3	86.7
Ac-ft	5,780	5,240	5,410	5,720	5,000	5,670	5,270	5,350	5,290	5,120	5,120	5,160
Calendar year 1910: Max	-	-	-	Min	-	Mean	-	Ac-ft	-	-	-	-
Water year 1910-11: Max	64,130			Min	110	Mean	88.6	Ac-ft	64,130			

\* Discharge measurement made on this day.

e Stage-discharge relation affected by ice most of month (no gage-height record most of month); discharge estimated on basis of records for adjacent periods.



## Birch Creek near Reno, Idaho--Continued

Discharge, in cubic feet per second, water year October 1911 to June 1912

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	88	92	97	95	a99	101	97	88			
2	101	a88	92	98	a95	b99	101	97	88			
3	101	88	92	95	95	99	99	97	88			
4	88	92	92	95	a96	99	99	101	86			
5	88	90	92	96	97	96	99	97	88			
6	88	88	92	96	97	96	99	97	84			
7	88	88	92	a96	97	a96	99	95	84			
8	88	88	92	b95	97	96	99	95	88			
9	88	88	92	b96	97	96	99	95	88			
10	99	92	92	97	97	96	99	95	88			
11	a99	92	92	97	a96	97	103	95	88			
12	99	90	92	a97	96	96	101	92	88			
13	95	88	95	97	96	96	101	95	92			
14	95	a94	95	a97	96	96	99	92	88			
15	95	99	97	97	96	96	97	95	88			
16	92	99	97	97	96	a96	97	95	88			
17	88	97	99	97	96	96	97	92	88			
18	a88	97	99	96	96	96	101	95	88			
19	88	97	99	97	96	96	101	92	88			
20	a88	a97		97	96	97	a100	92	88			
21	88	97		a96	96	97	99	92	88			
22	a88	95		95	96	97	97	92	88			
23	88	92		95	a96	a96	97	95	88			
24	88	92		a95	96	96	97	92	84			
25	a88	92		95	b97	96	97	92	82			
26	88	90		95	99	96	97	88	82			
27	88	88		95	99	96	97	88	82			
28	88	a91		a95	99	94	99	88	82			
29	88	95		95	99	94	99	88	82			
30	88	95		95	-----	95	99	88	84			
31	88	-----		95	-----	95	-----	88	-----			-----
Total	2,823	2,767	2,865	2,974	2,800	2,986	2,969	2,892	2,596			
Mean	91.1	92.2	92.4	95.9	96.6	96.3	99.0	93.3	86.5			
Ac-ft	5,600	5,490	5,680	5,900	5,550	5,920	5,890	5,740	5,150			
Calendar year 1911: Max	101				Min	-----	Mean 89.0	Ac-ft	64,470			
Water year 1911-12: Max	-				Min	-----	Mean	Ac-ft	-			

a No gage-height record, discharge interpolated.

b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	75	77	77	b76	73	76	79	81	77	79	71
2	74	75	77	77	b76	73	76	79	81	78	78	71
3	74	76	77	77	b76	72	76	79	81	78	78	71
4	74	76	*76	77	b76	72	76	79	79	77	77	73
5	75	76	76	77	76	71	76	79	79	77	77	73
6	75	76	76	77	76	b70	76	79	80	76	77	73
7	75	76	76	77	76	b70	76	79	80	77	76	73
8	75	77	b76	77	b76	70	76	80	80	77	76	73
9	74	77	76	77	b76	70	76	80	80	77	76	73
10	74	78	b75	77	76	69	76	79	79	77	76	73
11	74	77	75	*77	75	b69	77	79	80	77	75	73
12	74	76	75	77	75	b69	77	78	80	77	74	73
13	74	b76	b74	78	75	69	77	78	80	77	74	73
14	75	76	b74	77	b75	b69	77	78	80	77	73	73
15	75	b76	b73	77	b75	b69	77	78	81	77	73	73
16	75	b76	72	77	b75	b69	76	79	*83	76	74	73
17	75	b76	72	76	b76	69	76	79	81	76	72	74
18	75	76	71	76	b77	69	76	79	81	76	72	74
19	75	76	72	76	b77	69	76	79	81	76	73	75
20	76	77	72	76	b76	70	76	79	81	78	71	75
21	76	77	74	76	75	70	76	79	81	79	71	75
22	76	76	76	76	75	74	76	*79	82	79	*71	75
23	76	76	78	76	75	80	76	79	81	79	71	75
24	76	76	78	b76	75	85	*76	80	81	79	71	75
25	76	76	78	76	b75	81	77	81	81	79	71	75
26	77	76	78	b76	75	77	78	81	79	*79	71	75
27	*76	76	78	76	74	76	78	82	79	80	72	76
28	76	76	b78	b76	b74	*76	78	83	79	80	72	76
29	76	77	b78	b76	*74	76	78	83	78	80	72	76
30	76	77	b78	b76	-----	76	78	82	77	80	72	*76
31	75	-----	78	76	-----	76	-----	81	-----	80	71	-----
Total	2,328	2,287	2,344	2,373	2,188	2,248	2,296	2,466	2,406	2,412	2,286	2,214
Mean	75.1	76.2	75.6	76.5	75.4	72.5	76.5	79.6	80.2	77.8	73.7	73.8
Ac-ft	4,620	4,540	4,650	4,710	4,340	4,460	4,550	4,900	4,770	4,780	4,530	4,390
Calendar year 1955: Max	85			Min 71			Mean 76.1	Ac-ft 55,100				
Water year 1955-56: Max	85			Min 69			Mean	Ac-ft 55,240				

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## 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., 6 miles northwest of Berenice, and 7 miles northwest of Howe.

Drainage area.--685 sq mi.

Records available.--April 1921 to September 1956 (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.--16 years (1940-56), 69.0 cfs (49,950 acre-ft per year).

Extremes.--Maximum discharge during year, 291 cfs June 2 (gage height, 4.56 ft), result of dam failure in Dry Creek; maximum gage height recorded, 5.79 ft sometime during period Feb. 13-19 (ice jam); minimum daily discharge, 18 cfs Nov. 15, 16. 1921-56: Maximum discharge, about 450 cfs Aug. 11, 1936 (gage height, 3.1 ft, datum then in use, from floodmark), from rating curve extended above 100 cfs; maximum gage height observed, 6.50 ft during period Feb. 7 to Mar. 17, 1946, from floodmark (ice jam); 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.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.3	15	3.6	148
2.5	26	4.0	206
2.8	52	4.4	272
3.2	96		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	43	26	b24	b22	*36	57	107	178	111	74	55
2	51	42	b26	b25	b20	36	48	102	*243	103	73	52
3	50	b43	b22	b26	b21	36	45	98	219	114	71	52
4	48	47	b23	27	b23	34	46	101	217	109	62	53
5	47	50	*b23	30	b26	32	46	104	209	103	63	54
6	51	48	b23	29	b26	b30	44	106	203	102	61	54
7	52	47	b22	28	b25	b32	70	106	188	94	63	55
8	53	48	b22	28	b23	36	71	108	182	92	63	56
9	52	41	b23	b27	b22	34	68	112	178	86	60	54
10	49	30	b25	*29	b24	b34	68	114	190	86	58	55
11	48	31	26	30	b24	b33	70	114	175	89	60	54
12	49	b26	28	29	b24	b33	74	114	172	89	58	57
13	48	b22	b26	29	23	33	71	111	168	85	57	56
14	48	b20	b22	b28	22	b32	73	108	156	84	57	55
15	49	b18	b23	30	22	b32	74	104	155	83	62	53
16	48	b18	b24	29	22	b33	78	102	168	83	61	53
17	48	b21	b25	28	22	36	84	104	172	80	61	53
18	48	b24	b26	b28	24	49	84	113	156	74	59	52
19	48	b25	b27	b28	27	62	89	124	145	73	57	52
20	50	b25	28	29	30	69	94	133	140	72	55	53
21	54	25	28	29	34	54	103	*142	*148	73	56	54
22	53	b24	29	29	32	54	109	148	133	78	*55	54
23	52	b24	62	29	30	52	120	152	124	73	57	56
24	51	b24	32	b28	29	53	*124	158	128	71	56	55
25	51	b25	28	b27	28	61	121	161	122	73	57	53
26	*50	25	28	b28	28	125	120	*169	124	*70	58	52
27	48	25	28	b30	30	76	125	168	124	72	62	52
28	51	25	b26	b29	31	*59	118	172	120	72	65	55
29	53	25	b25	b27	33	61	112	172	121	72	60	55
30	53	25	b25	b25	-----	71	109	172	114	80	55	55
31	49	-----	b24	b24	-----	62	-----	175	-----	75	55	-----
Total	1,554	918	825	866	747	1,500	2,515	3,974	4,872	2,621	1,871	1,619
Mean	50.1	30.5	26.6	27.9	25.8	48.4	83.8	128	162	84.6	60.4	54.0
Ac-ft	3,080	1,820	1,840	1,720	1,480	2,980	4,990	7,880	9,660	5,200	3,710	3,210
Calendar year 1955:	Max	145		Min	13		Mean	51.8		Ac-ft	37,520	
Water year 1955-56:	Max	243		Min	18		Mean	65.2		Ac-ft	47,370	

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Feb. 13-29; discharge estimated on basis of weather records and records for Medicine Lodge Creek and other nearby streams.

Blaine County Investment Co.'s canal near Howe, Idaho

Location.--Lat 43°53', long 113°05', in NW $\frac{1}{4}$  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 1956 (prior to 1939, 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.--1924-56: Maximum daily discharge, 90 cfs June 8, 1956; no flow during long periods in each year.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Canal diverts water 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 employees of Water District No. 9.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.3	3.3				(*)	0	28	79	28	0	6.4
2	7.3		a0.2				0	20	77	26	0	6.4
3	7.3						0	18	77	27	0	6.4
4	7.3						0	18	78	28	0	6.4
5	7.3		*.2				2.4	19	80	25	0	6.4
6	7.3						3.4	19	84	23	0	6.4
7	7.3						11	20	88	16	0	6.4
8	7.3						17	21	90	12	0	6.4
9	7.3						20	23	88	*11	0	6.4
10	7.3			(*)			23	25	89	11	0	6.4
11	7.3		a.2				29	26	86	11	0	6.4
12	7.3						34	26	83	11	5.1	6.4
13	7.3						32	26	74	10	10	6.4
14	7.3						27	24	63	10	*10	6.4
15	7.3						24	20	58	10	11	6.4
16	7.3	a.3					19	19	58	10	11	6.4
17	7.3						24	19	65	10	11	5.8
18	7.3						27	23	60	9.0	10	5.4
19	7.3						28	29	49	7.8	9.8	5.4
20	7.3						30	36	42	7.8	9.8	5.4
21	7.3						34	*43	*42	10	9.8	5.4
22	7.3						38	49	40	14	*9.8	5.4
23	7.3						34	54	34	14	9.8	5.4
24	7.3		a0				*34	59	33	14	9.8	5.4
25	7.3						35	63	33	14	9.8	2.2
26	*7.3						36	*66	33	*13	9.8	0
27	7.3						40	72	32	13	9.8	0
28	7.3					(*)	40	74	30	8.2	8.1	0
29	7.3						37	74	28	0	6.4	0
30	7.3						35	78	28	0	6.4	0
31	7.3	-----			-----		-----	80	-----	0	6.4	-----
Total	226.3	12.0	3.0	0	0	0	718.8	1,173	1,802	405.6	183.6	148.2
Mean	7.30	0.40	0.10	0	0	0	24.0	37.8	60.1	13.1	5.92	4.94
Ac-ft	449	24	6.0	0	0	0	1,430	2,330	3,570	805	364	294

Calendar year 1955: Max 59 Min 0 Q Mean 7.10 Ac-ft 5,140  
 Water year 1955-56: Max 90 Min 0 Q Mean 12.8 Ac-ft 9,270

\* Discharge measurement or observation of no flow made on this day.  
 a No gage-height record; discharge estimated on basis of observer's notes and 1 discharge measurement.

## 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 dam site, and 16 miles southwest of Chilly.

Drainage area.--114 sq mi.

Records available.--March 1944 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 6,820 ft (from topographic map).

Average discharge.--12 years, 103 cfs (74,570 acre-ft per year).

Extremes.--Maximum discharge during year; 1,270 cfs May 24 (gage height, 6.18 ft); minimum, 9.7 cfs Mar. 6 (gage height, 1.18 ft).

1944-56: Maximum discharge, that of May 24, 1956; minimum, 7.6 cfs Mar. 16, 21, 1955; minimum gage height, 1.11 ft Mar. 23, 1951.

Remarks.--Records excellent except those for periods of ice effect, which are good.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 19, 20)

Oct. 1 to May 18

May 19 to Sept. 30

1.3 14 2.5 118  
1.6 30 3.0 207  
2.0 61 3.6 354

1.6 33 3.5 365  
2.0 63 4.0 520  
2.5 110 5.0 855  
2.8 159 6.1 1,240  
3 1 245

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	25	22	b28	b17	20	29	132	1,150	332	108	47
2	29	22	21	b28	b18	20	27	143	1,100	317	101	45
3	28	25	20	b27	b20	20	26	166	980	284	96	44
4	28	26	19	29	b21	20	31	196	886	269	89	44
5	28	25	*18	29	b21	19	31	201	827	269	88	44
6	28	24	20	28	b21	18	*28	196	654	284	84	43
7	28	25	20	26	b20	18	28	186	554	287	81	42
8	27	24	21	26	b20	20	29	186	557	281	81	42
9	26	24	22	24	b20	20	34	178	644	293	76	41
10	26	25	22	*26	b21	19	46	166	710	308	75	42
11	27	23	22	25	22	18	50	164	767	308	72	42
12	26	20	23	25	22	18	49	148	706	296	69	41
13	26	20	22	24	22	20	51	137	678	266	68	40
14	26	21	21	22	21	20	54	131	629	257	67	39
15	26	17	22	25	21	20	63	135	582	221	69	38
16	26	17	22	24	b19	20	74	174	511	200	69	37
17	25	18	22	22	b18	20	83	264	450	182	67	37
18	25	19	22	22	20	20	90	354	419	172	65	37
19	26	22	22	22	21	20	114	456	*436	167	65	36
20	27	34	22	23	21	20	142	610	475	172	61	36
21	29	32	23	22	21	20	174	727	425	177	61	36
22	29	26	29	23	21	22	209	855	389	*167	58	36
23	28	22	209	22	22	28	218	988	386	155	57	36
24	27	24	92	20	20	38	203	*1,220	395	153	55	36
25	26	24	52	b19	*20	62	186	1,090	395	151	55	36
26	*26	25	42	b18	20	59	*182	1,060	389	137	57	35
27	25	24	35	b19	20	40	164	1,000	395	136	59	34
28	26	25	b27	b20	20	34	146	897	398	133	56	35
29	26	24	27	b20	20	35	138	980	398	131	*53	36
30	28	23	29	b19	-----	36	132	953	371	126	51	35
31	26	-----	30	b18	-----	34	-----	1,030	-----	118	49	-----
Total	833	703	1,020	725	590	799	2,833	15,123	17,656	6,749	2,165	1,172
Mean	26.9	23.4	32.9	23.4	20.3	25.8	94.4	488	589	218	69.8	39.1
Cfsm	0.236	0.205	0.289	0.205	0.178	0.226	0.828	4.28	5.17	1.91	0.612	0.343
In.	0.27	0.23	0.33	0.24	0.19	0.26	0.92	4.93	5.76	2.20	0.71	0.38
Ac-ft	1,650	1,390	2,020	1,440	1,170	1,580	5,620	30,000	35,020	13,590	4,290	2,320

Calendar year 1955: Max 525 Min 14 Mean 75.4 Cfsm 0.661 In. 8.98 Ac-ft 54,620

Water year 1955-56: Max 1,220 Min 17 Mean 138 Cfsm 1.21 In. 16.42 Ac-ft 99,890

Peak discharge (base, 300 cfs).--Dec. 23 (4 p.m.) 396 cfs (3.74 ft); May 24 (4:30 a.m.) 1,270 cfs (6.18 ft); June 1 (8 a.m.) 1,200 cfs (5.98 ft); June 11 (5 a.m.) 806 cfs (4.86 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## 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, 1½ 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.

Records available--April 1904 to November 1914, May 1920 to September 1956 (no winter records prior to 1949).

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 1½ 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--9 years (1904-5, 1948-56), 301 cfs (217,900 acre-ft per year).

Extremes--Maximum discharge during year, 3,410 cfs May 24; maximum gage height recorded, 5.21 ft June 1; minimum daily discharge, 44 cfs Feb. 1.  
1904-14, 1920-56: Maximum discharge, 3,960 cfs June 26, 1954 (gage height, 6.00 ft); minimum observed, 19 cfs (discharge measurement) Dec. 12, 1939.

Remarks--Records good except those for period Nov. 1 to Apr. 5, which are poor. No regulation. Several small diversions for irrigation 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 1955-56, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 20-26, Aug. 2 to Sept. 30)

0.8	51	2.5	660
1.0	86	3.0	1,040
1.3	159	3.5	1,470
1.6	248	4.0	1,960
2.0	397	5.2	3,270

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	65	61	80	44	56	80	419	3,140	947	372	130
2	75	60	58	90	49	56	72	455	3,060	875	337	122
3	73	68	54	76	52	56	72	510	2,860	807	304	122
4	73	72	52	80	52	56	82	610	2,660	727	279	122
5	75	70	*50	80	54	53	82	629	2,540	727	262	120
6	75	68	54	76	54	50	*78	610	2,110	763	255	118
7	76	68	54	72	52	52	88	570	1,850	785	248	115
8	75	68	56	72	50	56	86	570	1,890	763	248	118
9	73	66	60	66	54	56	108	558	2,110	785	232	115
10	76	68	60	72	57	54	148	525	2,270	822	222	120
11	82	62	60	70	60	52	172	520	2,340	837	213	127
12	78	56	60	68	61	50	153	479	2,190	822	201	122
13	78	56	60	66	60	56	175	441	2,120	720	195	122
14	78	58	58	62	59	56	186	419	2,000	714	195	120
15	76	48	60	70	59	56	235	423	1,920	635	201	115
16	76	49	60	65	52	56	322	499	1,680	592	201	113
17	75	52	60	62	48	56	376	707	1,400	552	198	113
18	75	54	60	60	55	54	389	1,040	1,190	531	189	110
19	76	60	60	60	58	54	446	1,400	*1,260	520	186	108
20	82	94	60	64	58	56	494	1,830	1,470	536	186	108
21	90	90	63	62	58	56	541	2,130	1,270	541	180	108
22	95	75	85	62	58	58	635	2,450	1,090	515	175	108
23	86	62	540	58	62	75	648	*2,720	1,070	*489	166	108
24	80	260	56	56	62	100	598	*2,260	1,140	475	161	106
25	78	66	170	52	*56	170	581	3,110	1,160	460	161	106
26	78	70	130	49	56	160	*575	3,080	1,120	446	164	106
27	*76	68	100	50	56	130	515	2,880	1,150	432	164	104
28	76	66	82	52	56	92	484	2,600	1,150	437	155	106
29	73	66	76	52	56	94	465	*2,600	1,200	451	*145	108
30	78	64	80	49	56	96	457	2,660	1,110	441	140	106
31	71	-----	80	47	-----	90	-----	2,790	-----	397	132	-----
Total	2,403	1,952	2,823	1,990	1,602	2,212	9,323	43,554	53,520	19,544	6,467	3,426
Mean	77.5	65.1	91.1	64.2	55.2	71.4	311	1,405	1,784	630	209	114
Ac-ft	4,770	3,870	5,600	3,950	3,180	4,390	18,490	86,390	106,200	38,760	12,830	6,800

Calendar year 1955: Max 1,620 Min 48 Mean 217 Ac-ft 157,200  
Water year 1955-56: Max 3,260 Min 44 Mean 407 Ac-ft 295,200

Peak discharge (base, 900 cfs)--Dec. 23 (time and discharge unknown); May 24 (1 p.m.) 3,410 cfs (5.16 ft); June 11 (5 to 8 a.m.) 2,460 cfs (4.49 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 1 to Apr. 5. No gage-height record Nov. 3 to Dec. 4, Dec. 6 to Mar. 30, Apr. 1-5; discharge estimated on basis of 2 discharge measurements, weather records, and records for station at Wild Horse.

## Big Lost River (east channel) above Mackay Reservoir, near Mackay, Idaho

Location--Lat 43°58'20", long 113°43'50", in NE¼ sec. 4, T. 7 N., R. 23 E., on right bank above flow line of reservoir, 3 miles upstream from Mackay Dam and 7½ miles northwest of Mackay.

Records available--May 1919 to September 1956.

Gage--Water-stage recorder. Datum of gage is 6,061.80 ft above mean sea level, unadjusted. Prior to Sept. 22, 1934, at site 550 ft upstream at different datum (datum raised 1 ft Apr. 20, 1920). Staff gage on Mackay Reservoir is used as an auxiliary gage during periods of backwater from reservoir.

Average discharge--37 years, 71.4 cfs (51,690 acre-ft per year).

Extremes--Maximum discharge during year, 1,330 cfs June 1; maximum gage height, 5.28 ft June 3 (backwater from Mackay Reservoir); no flow for long periods.  
1919-56: Maximum discharge, 1,360 cfs June 7, 8, 1952; maximum gage height, that of June 3, 1956; no flow for long periods in many years.

Remarks--Records good except those for periods of backwater and those below 10 cfs, which are fair, and those for periods of no gage-height record, which are poor. Diversions above station for irrigation. See page 98 for combination of surface flow into Mackay Reservoir. Zollinger ditch which bypasses the station was reported not flowing Oct. 27, Jan. 26, Apr. 7, July 24, Aug. 30, and to be carrying 4.34 cfs Apr. 25, 1 cfs (estimated) June 1, 1.08 cfs June 12.

Cooperation--Water-stage recorder inspected by employees of Water District No. 27.

Revisions (water years)--WSP 1287: 1919-21.

Rating tables, water year 1955-56, except periods of backwater from Mackay Reservoir (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 8-20, July 8-24)

Oct. 1 to July 24

July 25 to Sept. 30

1.3	0	3.0	170	2.8	6	3.6	70
1.5	2	3.5	312	2.9	10	3.9	125
1.7	8	4.0	496	3.0	16	4.2	218
1.9	18	4.6	805	3.3	37		
2.1	34	5.2	1,440				
2.5	80						

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3	4	a2			0	0	105	*1,310	333	141	16
2	3	4	a2			0	0	115	1,170	332	125	14
3	3	3	a2			0	0	130	1,250	342	110	14
4	3	3	2			0	0	142	1,200	334	92	14
5	4	3	a1			0	0	152	1,100	323	80	14
6	4	3	*1			0	0	155	1,090	312	74	13
7	4	3	1			0	*0	155	1,050	305	67	13
8	3	3	a1			0	0	157	1,030	290	64	13
9	3	3	a1			0	0	150	1,000	283	60	9
10	3	3	a1			0	0	146	991	283	55	5
11	3	3	1			0	0	136	982	293	52	7
12	3	3	a1			0	0	126	*955	290	46	7
13	3	3	a1			0	0	117	939	268	42	9
14	3	3	a1			0	0	108	931	259	40	6
15	3	3	a1			0	0	99	907	244	37	8
16	3	a3	a0			0	0	97	883	224	36	9
17	3	a3	a0			0	0	107	826	208	33	9
18	4	a2	0			0	0	159	768	192	31	9
19	4	a2	a0			0	0	250	755	180	31	9
20	4	2	a0			0	0	397	774	175	30	9
21	5	a2	a0			0	35	522	763	180	30	9
22	5	a2	a0			0	90	743	714	175	28	9
23	4	a2	a3			0	112	973	667	163	27	9
24	4	a2	1			0	115	1,140	597	*157	26	9
25	4	a2	a0		(*)	0	*115	1,240	541	148	24	8
26	4	a2	a0		(*)	6	119	1,240	464	138	23	8
27	*4	2	a0			5	117	1,260	426	148	23	8
28	4	a2	a0			0	108	1,220	393	154	23	8
29	4	a2	a0			0	105	1,190	372	154	19	8
30	4	a2	a0			*0	107	1,180	359	154	18	8
31	4	-----	a0		-----	0	-----	1,250	-----	143	*17	-----
Total	112	79	23	0	0	11	1,023	14,961	25,207	7,184	1,504	291
Mean	3.6	2.6	0.7	0	0	0.4	34.1	483	840	232	48.5	9.7
Ac-ft	222	157	46	0	0	22	2,050	29,670	50,000	14,250	2,980	577
Calendar year 1955: Max			376	Min	0	Mean	26.6	Ac-ft	19,240			
Water year 1955-56: Max			1,310	Min	0	Mean	138	Ac-ft	99,950			

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record; discharge estimated on basis of weather records, records for nearby streams, and records for adjacent periods.

Note.--Stage-discharge relation affected by backwater from Mackay Reservoir May 27 to June 7, June 21 to July 7.

Big Lost River (west channel) above Mackay Reservoir, near Mackay, Idaho

Location--Lat 43°58'10", long 113°44'00", in NW $\frac{1}{4}$  sec. 4, T. 7 N., R. 23 E., on left bank above flow line of reservoir, 3 miles upstream from Mackay Dam and  $7\frac{1}{2}$  miles northwest of Mackay.

Records available--May 1919 to September 1956.

Gage--Water-stage recorder. Datum of gage is 6,062.38 ft above mean sea level, unadjusted. Prior to May 26, 1919, staff gage and May 26, 1919, to May 13, 1938, water-stage recorder, at site 200 ft upstream at different datums. Staff gage on Mackay Reservoir is used as an auxiliary gage during periods of backwater from Mackay Reservoir.

Average discharge--37 years, 58.7 cfs (42,500 acre-ft per year).

Extremes--Maximum discharge during year, 734 cfs June 2 (gage height, 5.06 ft); minimum, 3.8 cfs Mar. 9 (gage height, 1.73 ft).

1919-56: Maximum discharge, 1,200 cfs (estimated) about June 12, 1921 (gage height, 4.45 ft, from floodmark, site and datum then in use); minimum, that of Mar. 9, 1956.

Remarks--Records good. Diversions above station for irrigation. See page 98 for combination of surface flow into Mackay Reservoir.

Cooperation--Water-stage recorder inspected by employees of Water District No. 27.

Rating table, water year 1955-56 (gage height, in feet  
and discharge, in cubic feet per second)  
(Backwater from Mackay Reservoir May 26 to June 8,  
June 20 to July 10)

1.7	4.0	2.5	64
1.8	6.0	3.0	160
1.9	9.0	3.5	270
2.0	13	4.0	425
2.1	18	4.5	640
2.3	35	5.0	905

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	9.4	7.2	5.6	5.0	4.0	4.8	15	*685	167	54	14
2	9.0	9.4	6.9	5.6	4.8	4.0	4.8	16	854	156	53	14
3	9.0	9.4	6.9	5.6	4.8	4.0	4.8	19	671	152	45	14
4	9.0	9.4	6.9	5.6	4.8	4.0	4.6	23	616	138	50	14
5	9.0	8.7	6.3	5.6	4.4	4.0	4.4	24	624	115	47	14
6	9.4	9.0	*6.6	5.6	4.2	4.0	4.4	25	545	98	40	14
7	9.4	8.7	6.6	5.6	4.2	4.0	*4.8	25	454	91	35	15
8	9.4	8.7	6.6	5.6	4.2	4.0	5.0	24	400	82	32	15
9	9.4	8.7	6.6	5.6	4.2	4.0	5.0	26	425	82	27	15
10	9.4	8.7	6.6	5.6	4.2	4.0	5.0	27	465	82	24	15
11	9.4	8.7	6.3	5.6	4.2	4.0	5.2	26	493	95	20	15
12	9.4	8.4	7.2	5.6	4.2	4.0	5.2	26	489	95	20	15
13	9.4	8.4	6.9	5.6	4.2	4.0	5.4	23	*457	88	18	15
14	9.4	8.1	6.6	5.6	4.2	4.0	5.2	20	414	84	17	15
15	9.8	7.8	6.3	5.6	4.2	4.0	5.2	19	386	80	17	14
16	9.8	7.8	6.3	5.6	4.0	4.0	5.6	17	358	75	17	15
17	9.8	7.5	6.3	5.6	4.0	4.0	5.8	18	301	71	17	15
18	9.8	7.5	6.0	5.6	4.0	4.0	5.4	24	238	62	16	14
19	9.8	7.8	6.3	5.6	4.0	4.0	5.4	56	206	56	16	14
20	10	7.8	6.3	5.4	4.0	4.2	5.2	124	235	54	16	15
21	11	7.8	6.3	5.4	4.0	4.2	6.0	194	223	58	16	15
22	11	7.8	6.6	5.4	4.0	5.0	6.9	*304	185	59	16	15
23	10	7.5	9.4	5.4	4.2	5.6	8.1	394	170	56	16	15
24	10	7.5	7.8	5.2	4.2	5.8	11	564	167	*56	16	15
25	10	6.9	6.9	5.2	*4.2	5.4	*13	700	187	54	15	15
26	10	7.2	6.6	*5.2	4.2	4.6	15	713	180	50	16	15
27	*11	7.2	6.6	5.2	4.2	4.8	16	696	171	51	16	15
28	10	7.2	6.3	5.2	4.2	4.8	16	635	161	56	15	16
29	9.8	7.2	6.3	5.0	4.2	5.0	16	608	167	56	15	17
30	9.8	7.2	6.0	5.0	-----	5.0	15	602	177	59	*15	17
31	9.8	-----	5.8	5.0	-----	4.8	-----	625	-----	58	14	-----
Total	301.0	243.4	206.3	169.0	123.2	135.0	223.8	6,612	10,904	2,536	751	446
Mean	9.71	8.11	6.65	5.45	4.25	4.35	7.46	213	363	81.8	24.2	14.9
Ac-ft	597	463	409	335	244	268	444	13,110	21,630	5,030	1,490	885
Calendar year 1955: Max	375				Min 6.6	Mean 32.6		Ac-ft 23,580				
Water year 1955-56: Max	713				Min 4.0	Mean 61.9		Ac-ft 44,920				

\* Discharge measurement made on this day.

## MUD LAKE-LOST RIVER BASINS

Warm Spring Creek (east channel) near Mackay, Idaho

Location.--Lat 43°58'10", long 113°44'30", in NW $\frac{1}{4}$  sec. 4, T. 7 N., R. 23 E., on left bank 700 ft upstream from confluence with west channel and  $\frac{7}{8}$  miles northwest of Mackay.

Records available.--May 1919 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 6,064.60 ft above mean sea level, unadjusted. Prior to May 3, 1920, staff gage at site 100 ft downstream at different datum. May 3, 1920, to Dec. 2, 1938, staff gage at site 200 ft downstream at datum 0.26 ft lower.

Average discharge.--37 years, 30.4 cfs (22,010 acre-ft per year).

Extremes.--Maximum discharge during year, 222 cfs June 5 (gage height, 4.15 ft); minimum, 12 cfs Jan. 3, Feb. 16-21; minimum gage height, 1.60 ft Feb. 18, 19.  
1919-56: Maximum discharge, 250 cfs June 27, 1954 (gage height, 4.38 ft); minimum, 5.2 cfs Apr. 16, 1955 (gage height, 1.35 ft).

Remarks.--Records excellent except those below 20 cfs, which are good. Major portion of flow is return from irrigation, seepage from river channel upstream, and discharge of large spring. See page 98 for combination of surface flow into Mackay Reservoir.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 27.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)

1.5	9.3	3.0	110
1.7	18	3.5	157
2.0	34	4.1	217
2.5	70		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	20	17	13	13	13	16	25	202	96	65	41
2	14	20	17	13	13	13	16	27	216	92	64	41
3	14	20	17	13	13	13	16	31	216	88	59	41
4	14	20	16	13	13	13	16	33	209	84	61	42
5	15	20	16	13	13	13	16	33	215	80	58	42
6	14	20	*16	13	13	13	16	33	196	78	56	42
7	15	19	16	13	13	13	*16	33	159	78	53	43
8	15	19	16	13	13	13	16	32	135	77	51	44
9	14	19	15	13	13	13	17	35	138	76	49	42
10	15	20	15	13	13	13	17	34	152	76	45	43
11	15	19	15	13	13	13	17	33	167	79	44	44
12	15	19	16	13	13	13	16	33	167	80	42	44
13	16	18	16	13	13	13	17	31	154	78	40	44
14	16	19	15	13	13	13	17	29	142	75	39	44
15	17	19	15	13	13	13	17	28	137	73	39	44
16	17	18	14	13	13	13	17	27	131	71	39	45
17	17	18	14	13	12	13	17	27	117	68	39	44
18	18	18	14	13	12	13	17	32	104	64	38	43
19	18	18	14	13	12	13	17	47	98	61	38	44
20	19	18	14	13	12	15	17	69	*104	61	38	44
21	20	18	14	13	12	16	18	96	106	63	38	45
22	20	18	15	13	13	24	18	*119	95	64	37	45
23	20	18	26	13	13	28	20	158	92	62	37	46
24	19	18	16	13	13	28	22	170	101	64	38	46
25	20	17	15	13	13	23	*23	196	104	*64	38	47
26	20	17	14	*14	*13	18	25	190	101	61	38	47
27	*22	17	14	14	13	16	26	201	99	64	39	47
28	22	17	13	13	13	17	25	190	100	68	39	48
29	22	17	13	13	13	17	25	184	101	68	40	49
30	21	17	13	13	13	17	25	181	101	67	*40	49
31	20	-----	13	13	-----	17	-----	184	-----	68	41	-----
Total	539	555	474	404	372	483	558	2,519	4,159	2,248	1,382	1,330
Mean	17.4	18.5	15.3	13.0	12.8	15.6	18.6	81.3	139	72.5	44.6	44.3
Ac-ft	1,070	1,100	940	801	738	958	1,110	5,000	8,250	4,460	2,740	2,640

Calendar year 1955: Max 125 Min 5.8 Mean 21.9 Ac-ft 15,840  
Water year 1955-56: Max 216 Min 12 Mean 41.0 Ac-ft 28,810

\* Discharge measurement made on this day.



## Warm Spring Creek (west channel) near Mackay, Idaho

Location.--Lat 43°58'00", long 113°44'30", in NW¼ sec. 4, T. 7 N., R. 23 E., on right bank 500 ft upstream from confluence with east channel and 7½ miles northwest of Mackay.

Records available.--May 1919 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 6,064.46 ft above mean sea level, unadjusted. Prior to May 4, 1920, at datum 0.54 ft lower. May 4, 1920, to Dec. 2, 1938, at datum 0.46 ft higher.

Average discharge.--37 years, 95.8 cfs (69,360 acre-ft per year).

Extremes.--Maximum discharge during year, 324 cfs June 3; maximum gage height, 3.52 ft June 2; minimum discharge, 83 cfs Aug. 18 (gage height, 1.52 ft).  
1919-56: Maximum discharge, 600 cfs (estimated) Aug. 11, 1936 (gage height, 4.88 ft, present datum, from floodmark); minimum, 49 cfs Apr. 27, 1935 (gage height, 1.08 ft, present datum).

Remarks.--Records excellent except those for periods of no gage-height record or backwater from Mackay Reservoir, which are good. Major portion of flow is return from irrigation, seepage from river channel upstream, and discharge of large spring. See following page for combination of surface flow into Mackay Reservoir.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 27.

Rating table, water year 1955-56, except periods of backwater from Mackay Reservoir (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used July 11 to Sept. 30)

1.3	76	2.5	225
1.5	100	3.0	290
2.0	160	3.5	360

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107	a122	122	116	116	112	114	107	c303	c171	124	88
2	107	a121	120	114	117	112	114	108	c320	c169	118	87
3	106	a121	120	114	119	112	113	114	c323	c166	107	87
4	107	a120	119	114	118	113	114	117	c304	c156	110	88
5	108	a120	119	114	117	112	113	113	c308	c150	102	88
6	110	120	*119	114	117	112	112	114	c287	c145	99	88
7	111	119	a119	114	118	112	*113	113	c259	c143	96	92
8	110	119	a118	114	118	112	113	112	241	143	94	93
9	110	119	a116	114	118	112	114	114	241	140	93	93
10	108	120	a116	113	118	112	116	116	248	140	92	93
11	107	120	116	115	117	112	114	113	259	141	90	94
12	106	120	118	113	116	112	113	112	258	141	88	95
13	106	120	116	114	116	113	113	111	248	136	87	94
14	106	122	116	116	117	113	113	110	242	132	87	95
15	106	120	116	116	117	112	112	108	238	129	87	96
16	106	122	116	116	117	112	113	106	238	126	86	95
17	106	123	114	114	117	111	112	107	225	122	84	94
18	107	123	113	114	117	111	111	111	204	117	84	93
19	108	122	114	116	117	113	111	124	195	113	84	96
20	108	123	a114	116	118	118	111	150	*207	114	87	96
21	110	123	a114	116	117	120	112	182	213	116	87	96
22	111	122	a120	114	116	154	110	*213	c199	114	87	95
23	113	122	a160	114	116	165	108	233	c190	111	87	96
24	113	122	119	114	116	163	107	265	c180	112	87	98
25	113	122	a118	116	114	146	*105	296	c184	*112	87	98
26	117	120	a118	*116	*114	122	107	305	c181	108	87	98
27	*123	120	a117	114	114	116	110	314	c177	118	88	98
28	123	120	a117	114	114	116	107	c294	c175	131	88	98
29	122	120	a116	114	113	116	107	c284	c175	128	88	99
30	122	119	a116	116	-----	118	107	c294	c177	129	*88	99
31	a122	-----	a116	114	-----	116	-----	c286	-----	126	89	-----
Total	3,439	3,626	3,672	3,551	3,379	3,700	3,339	5,236	6,999	4,099	2,862	2,820
Mean	111	121	118	115	117	119	111	169	233	132	92.3	94.0
Ac-ft	6,820	7,190	7,280	7,040	6,700	7,340	6,620	10,390	13,880	8,130	5,680	5,590
Calendar year 1955: Max	226				Min 77	Mean 121		Ac-ft 87,320				
Water year 1955-56: Max	323				Min 84	Mean 128		Ac-ft 92,660				

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of adjacent records, weather records, and records for other stations above Mackay Reservoir.

c Backwater from Mackay Reservoir.

## Surface inflow to Mackay Reservoir, near Mackay, Idaho

Drainage area.--766 sq mi.

Records available.--May 1919 to September 1956. Prior to October 1952, published with records of Big Lost River (west channel) above Mackay Reservoir, near Mackay.

Average discharge.--37 years, 256 cfs (185,800 acre-ft per year).

Extremes.--1919-56: Maximum daily discharge, 2,760 cfs June 12, 1921; minimum daily, 75 cfs May 10-12, 1935.

Remarks.--Records good. Records are the sum of discharges obtained at gaging stations on Big Lost River (east and west channels) and Warm Spring Creek (east and west channels) above Mackay Reservoir, near Mackay. Channels are interconnected above respective gaging stations, and combined flow represents practically the entire surface flow which enters Mackay Reservoir.

Revisions (water years).--WSP 1287: 1919-21.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	155	148	135	134	129	135	252	2,500	787	384	159
2	133	154	146	133	135	129	135	266	2,360	749	360	156
3	132	153	146	132	137	129	134	294	2,460	748	321	156
4	133	152	144	133	136	130	135	315	2,330	712	313	158
5	136	152	142	133	134	129	133	322	2,250	668	287	158
6	137	152	143	133	134	129	132	327	2,120	633	269	157
7	139	150	143	133	135	129	134	326	1,920	617	251	163
8	137	150	142	133	135	129	134	325	1,810	592	241	165
9	136	150	139	133	135	129	136	323	1,800	581	229	159
10	135	152	139	132	135	129	138	323	1,860	581	216	156
11	134	151	138	132	134	129	136	308	1,900	608	206	160
12	133	150	142	132	133	129	135	297	1,870	606	196	161
13	134	149	140	133	133	130	134	282	1,800	570	187	162
14	134	152	139	135	134	130	135	267	1,730	550	183	160
15	136	150	138	135	134	129	134	254	1,670	526	180	162
16	136	151	136	135	134	129	136	247	1,610	496	178	164
17	136	152	134	133	133	128	135	259	1,470	469	173	162
18	139	150	133	133	133	128	133	326	1,310	435	169	159
19	140	150	134	135	133	130	133	477	1,250	410	169	163
20	141	151	134	134	134	137	133	740	1,320	404	171	164
21	146	151	134	134	133	140	171	994	1,300	417	171	165
22	147	150	142	132	133	183	225	1,380	1,190	412	168	164
23	147	150	198	132	133	199	248	1,740	1,120	392	167	166
24	146	150	144	132	133	197	255	2,140	1,040	389	167	168
25	147	148	140	134	131	174	256	2,430	1,020	378	164	168
26	151	146	139	135	131	151	266	2,450	926	357	164	168
27	160	146	138	133	131	142	269	2,470	873	381	166	168
28	159	146	136	132	131	138	258	2,340	829	409	165	170
29	158	146	135	132	130	138	253	2,270	815	406	162	173
30	157	145	135	134	-----	140	254	2,250	814	409	161	173
31	156	-----	135	132	-----	138	-----	2,340	-----	395	161	-----
Total	4,589	4,504	4,378	4,129	3,871	4,330	5,143	29,334	47,287	16,067	6,499	4,887
Mean	142	150	141	133	133	140	171	946	1,576	518	210	163
Ac-ft	8,710	8,930	8,680	8,190	7,680	8,590	10,200	58,180	93,750	31,870	12,890	9,690
Calendar year 1955: Max			1,100		Min 92		Mean 202		Ac-ft 146,000			
Water year 1955-56: Max			2,500		Min 128		Mean 368		Ac-ft 267,400			

## 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.

Records available.--January 1919 to September 1956.

Gage.--Staff gage read once daily. Datum of gage is 6,000 ft above mean sea level, Utah Construction Co. datum, or about 6,001.2 ft above mean sea level, unadjusted.

Extremes.--Maximum contents observed during year, 42,610 acre-ft June 2 (gage height, 65.2 ft); minimum observed, 448 acre-ft Oct. 1-5 (gage height, 9.40 ft).  
1919-56: Maximum contents observed, that of June 2, 1956; 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. Capacity is 38,400 acre-ft between gage heights 7.0 (bottom of outlet tunnel) and 62.0 ft. 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. Figures given herein represent usable contents.

Cooperation.--Gage readings and capacity table furnished by Water District No. 27.

Contents, in acre-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	448	673	8,310	14,860	19,580	22,710	26,140	30,930	41,800	42,270	25,300	11,180
2	448	1,240	8,590	15,020	19,670	22,810	26,220	31,380	42,340	42,070	24,990	10,910
3	448	1,520	8,790	15,170	19,760	22,930	26,330	31,610	42,270	41,800	24,680	10,580
4	448	1,810	9,030	15,350	19,940	23,020	26,380	32,080	42,340	41,530	24,280	10,380
5	448	2,090	9,230	15,470	20,030	23,100	26,460	32,430	42,070	41,330	23,440	10,340
6	459	2,350	9,470	15,600	20,130	23,180	26,520	32,890	41,800	41,070	22,910	10,110
7	459	2,520	9,600	15,630	20,250	23,290	26,600	33,370	41,270	40,740	22,140	9,980
8	470	2,840	9,890	15,990	20,340	23,390	26,700	33,720	40,350	40,610	21,580	9,380
9	470	3,110	10,110	16,150	20,490	23,490	26,750	34,200	38,920	40,220	20,930	9,980
10	470	3,300	10,340	16,310	20,680	23,510	26,860	34,680	38,300	39,950	20,210	10,050
11	470	3,580	10,540	16,470	20,750	23,590	26,950	35,170	37,390	39,500	19,580	10,050
12	470	3,780	10,710	16,630	20,840	23,690	26,980	35,680	37,640	39,180	18,890	10,130
13	474	3,990	10,950	16,710	20,950	23,840	27,070	35,960	36,950	38,660	18,160	10,110
14	474	4,250	11,180	16,810	21,070	23,900	27,150	35,900	36,680	38,150	17,570	10,130
15	481	4,470	11,380	17,080	21,210	23,980	27,280	35,660	37,140	37,640	16,960	10,250
16	481	4,690	11,570	17,320	21,300	24,080	27,370	35,410	37,900	37,140	16,230	10,410
17	481	4,880	11,760	17,450	21,390	24,130	27,390	34,920	38,530	36,640	15,600	10,510
18	488	5,070	11,950	17,570	21,480	24,180	27,440	34,500	38,790	35,410	15,060	10,650
19	488	5,320	12,160	17,740	21,620	24,330	27,600	34,200	39,050	34,580	14,560	10,580
20	525	5,610	12,380	17,910	21,760	24,460	27,710	34,200	39,430	33,480	14,140	10,540
21	547	5,900	12,600	18,030	21,810	24,580	27,820	34,680	40,540	32,780	13,770	10,510
22	558	6,140	12,740	18,200	21,950	24,680	28,250	35,410	40,800	32,080	13,400	10,510
23	558	6,390	13,030	18,370	22,000	24,940	28,340	36,770	41,140	31,270	13,040	10,640
24	569	6,640	13,400	18,460	22,140	25,240	28,580	37,640	41,600	30,470	12,810	10,640
25	580	6,910	13,770	18,580	22,240	25,400	28,910	38,680	41,800	29,570	12,600	10,710
26	922	7,130	13,800	18,670	22,330	25,500	29,240	39,690	42,070	28,910	12,340	10,680
27	873	7,230	13,950	18,690	22,430	25,710	29,570	40,480	42,140	28,090	12,130	10,580
28	603	7,560	14,100	19,060	22,520	25,790	30,020	41,000	42,200	27,390	11,950	10,410
29	626	7,840	14,370	19,230	22,620	25,910	30,470	41,270	42,340	26,640	11,780	10,310
30	580	8,070	14,480	19,280	-----	25,960	30,640	41,400	42,270	26,220	11,620	10,180
31	580	-----	14,690	19,410	-----	26,100	-----	41,530	-----	25,710	11,480	-----
(*)	10.22	29.14	38.76	44.46	47.94	51.40	55.66	64.53	64.95	50.73	33.95	32.17
(†)	631	8,210	14,790	19,480	22,660	26,120	30,770	41,710	42,270	25,430	11,290	10,090
(#)	+183	+7,579	+6,580	+4,690	+3,180	+3,460	+4,650	+10,940	+560	-16,840	-14,140	-1,200

Calendar year 1955..... # -2,670

Water year 1955-56..... # +9,642

\* Gage height, in feet, interpolated to midnight, at end of month.

† Contents, in acre feet, interpolated to midnight, at end of month.

# Change in contents, in acre-feet.

Note.--Contents as given are computed from once-daily staff-gage readings made between 8 a.m. and 2 p.m.

## 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 1956 (seasonal records only 1912-14, 1919-20, 1923-26, 1930, 1937).

Gage.--Water-stage recorder and sharp-crested weir. Altitude of gage is 5,980 ft (from topographic map). Prior to Oct. 1, 1936, and June 24, 1938, to Apr. 24, 1939, staff gage, and Oct. 1, 1936, to June 23, 1938, water-stage recorder, at several sites 1,300 to 1,600 ft upstream at various datums.

Extremes.--1912-14, 1919-56: Maximum daily discharge, 46 cfs May 30, 1951; no flow at times most years.

Remarks.--Records excellent except those for periods of no gage-height record, 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 121 acre-ft during year (5 in June, 104 in July, and 12 in August).

Cooperation.--Water-stage recorder inspected by employees of Water District No. 27.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.9	0.8	0.5	0.6	0.6		0.3	12	10	32	9.7	13
2	7.1	.7	.5	.6	.6		.3	13	13	32	6.4	13
3	8.2	.7	.5	.6	.6		.3	13	14	33	6.5	14
4	8.4	.7	.5	.6	.6		.3	12	20	33	14	14
5	6.2	.6	.5	.6	.7		.3	12	24	33	18	13
6	8.4	.8	*.5	.6	.7		.3	12	24	33	20	13
7	8.9	1.1	.5	.6	.7		.4	12	25	32	21	13
8	8.6	.8	.5	.6	.7		.7	12	26	31	23	13
9	7.8	.8	.5	.6	.7		.7	12	29	31	22	13
10	7.4	1.7	.5	.6	.7		.6	12	32	32	21	13
11	6.6	1.4	.5	.6	.7	0.8	.6	12	33	31	19	13
12	4.2	1.2	.5	.6	.7		.6	14	32	31	17	13
13	3.9	.9	.5	.6	.7		.8	13	32	31	17	13
14	3.9	.9	.5	.6	.7		.8	10	33	30	17	11
15	3.7	.9	.5	.6	.8		.5	13	33	30	20	13
16	3.5	.9	.5	.6	.8		.8	15	33	30	22	16
17	4.0	.9	.5	.6	.8		.8	14	33	30	22	15
18	5.0	.8	.5	.6	.8		4.7	14	33	31	21	12
19	4.8	.5	.5	.6	.8		6.8	14	34	32	21	10
20	4.6	.5	.5	.6	.8		9.2	14	31	33	20	2.9
21	3.9	.5	.5	.6	.8		11	*14	*28	32	19	1.3
22	2.5	.5	.5	.6	.8		10	14	28	30	18	2.3
23	2.3	.5	.5	.6	.8	.6	10	14	27	28	17	.5
24	4.3	.5	.5	.6	*.8		*11	15	27	*27	15	2.8
25	3.0	.5	.5	.6	.8		11	10	26	25	13	5.5
26	2.5	.5	.5	*.6	.8		12	5.5	26	26	13	7.9
27	*4.1	.5	.5	.6	.8	.3	12	8.2	31	27	14	10
28	1.7	.5	.5	.6	.8		12	9.2	34	25	13	9.2
29	1.6	.5	.5	.6	.8		12	8.4	34	24	12	6.7
30	1.2	.5	.5	.6	.8		12	7.4	33	20	*13	4.2
31	1.0	---	.5	.6	---		---	7.4	---	12	14	---
Total	152.2	22.6	15.5	18.6	21.4	20.7	142.8	368.1	838	907	518.6	301.3
Mean	4.91	0.75	0.50	0.60	0.74	0.67	4.76	11.9	27.9	29.3	16.7	10.0
Ac-ft	502	45	51	37	42	41	283	730	1,660	1,800	1,030	598

Calendar year 1955: Max 35 Min 0 Mean 7.15 Ac-ft 5,180  
 Water year 1955-56: Max 34 Min - Mean 9.05 Ac-ft 6,600

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 2-4, 11, 12, Nov. 14 to Dec. 5, Dec. 7 to Jan. 25, Jan. 27 to Feb. 23, Feb. 25 to Apr. 1; discharge interpolated or estimated on basis of probable gate changes, 3 discharge measurements, discharge for adjacent periods, and records for Big Lost River below Mackay Reservoir.

## 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 450 ft downstream from Oleson suspension bridge, 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 1956.

Gage.--Water-stage recorder. Datum of gage is 5,946.39 ft 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.--40 years (1904-5, 1912-14, 1919-56), 279 cfs (202,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,530 cfs June 3 (gage height, 5.63 ft); minimum, 33 cfs Oct. 26 (gage height, 1.42 ft).  
1903-6, 1912-15, 1919-56: Maximum discharge, 2,990 cfs June 10, 1921 (gage height, 5.79 ft); minimum, 18 cfs Nov. 1, 1934; minimum gage height, 1.23 ft Nov. 5-8, 1926.

Remarks.--Records excellent. Sharp ditch (see preceding page) is only diversion between station and reservoir; about 9,000 acres of land are irrigated by diversions from river and tributaries above reservoir. Flow regulated by Mackay Reservoir (see p. 99).

Cooperation.--Water-stage recorder inspected by employees of Water District No. 27.

Revisions (water years).--WSP 1347: 1904-6.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used June 3 to Aug. 20)

1.4	33	2.5	350
1.5	44	3.0	610
1.6	60	4.0	1,250
1.8	100	5.0	1,980
2.1	194	5.7	2,510

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	167	52	54	73	89	96	114	111	2,300	910	670	324
2	170	44	55	73	91	96	114	114	2,420	880	840	319
3	167	47	55	73	91	96	114	114	2,500	844	618	315
4	163	49	55	74	91	96	114	117	2,470	802	640	274
5	167	52	57	76	91	98	114	117	2,400	778	640	233
6	167	54	*57	76	91	98	114	120	2,350	766	658	204
7	167	55	58	76	91	98	*114	122	2,280	754	646	198
8	170	58	58	76	91	98	114	122	2,220	748	640	198
9	170	60	58	78	91	98	114	122	2,180	754	622	198
10	170	60	58	78	93	100	114	125	2,160	790	610	198
11	163	60	60	80	93	100	117	125	2,140	844	594	198
12	167	62	60	80	93	100	117	159	2,140	880	577	198
13	167	64	60	80	93	100	117	218	1,990	862	555	184
14	167	65	60	82	93	100	117	244	1,750	850	560	144
15	170	65	62	82	93	100	117	322	1,580	838	582	114
16	170	69	62	82	93	103	117	456	1,360	844	566	125
17	170	69	62	82	93	103	117	500	1,260	886	500	131
18	170	57	62	82	93	103	114	544	1,110	910	450	167
19	167	43	64	85	93	103	108	616	959	904	440	198
20	174	44	65	85	96	103	108	664	917	892	416	201
21	177	44	65	85	96	106	106	*730	*880	874	387	187
22	180	44	65	87	96	108	106	952	868	868	359	184
23	180	46	71	87	96	111	106	1,280	802	868	337	180
24	180	46	71	87	*96	114	*106	1,620	820	*856	324	157
25	100	47	71	*87	96	114	108	1,690	850	844	319	174
26	133	49	71	89	96	114	108	2,000	868	832	310	229
27	*255	49	71	89	96	111	108	2,100	874	826	306	251
28	204	50	71	89	96	111	108	*2,190	880	808	278	255
29	201	52	71	89	96	114	111	2,200	910	748	*255	259
30	198	54	71	89	---	114	111	2,220	924	706	370	259
31	145	---	73	89	---	114	---	2,240	---	688	306	---
Total	5,316	1,610	1,953	2,540	2,707	3,220	3,367	24,454	47,142	25,654	15,073	6,256
Mean	171	53.7	63.0	81.9	93.3	104	112	789	1,571	828	486	209
Ac-ft	10,540	3,190	3,870	5,040	5,370	6,390	6,680	48,500	93,500	50,880	29,900	12,410

Calendar year 1955: Max 1,120

Min 43

Mean 231

Ac-ft 167,200

Water year 1955-56: Max 2,500

Min 43

Mean 381

Ac-ft 276,300

\* Discharge measurement made on this day.

## 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 1956.

Gage.--Water-stage recorder. Prior to Oct. 14, 1952, at site 800 ft upstream at different datum.

Average discharge.--10 years, 61.1 cfs (44,230 acre-ft per year).

Extremes.--Maximum discharge during year, 1,050 cfs Mar. 23 (gage height, 6.32 ft); minimum, 4.2 cfs May 20 (gage height, 2.38 ft).  
1946-56: Maximum discharge, that of Mar. 23, 1956; minimum, 0.4 cfs June 1, 2, 1955 (gage height, 2.10 ft).

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. 99). About 42,000 acres of land irrigated by diversions from river and tributaries above station.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Dec. 1)

2.3	3.3	3.5	75
2.4	5.0	4.0	153
2.5	7.0	4.5	258
2.6	10	5.0	415
2.8	18	5.5	615
3.0	29	6.2	980
3.2	43		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.5	14	16	30	12	*10	115	*135	522	38	34	28
2	10	14	15	28	13	10	101	126	*584	38	32	26
3	10	14	14	26	13	12	89	126	656	38	33	27
4	10	14	13	25	14	12	75	126	765	34	34	27
5	8.2	14	*14	24	15	12	59	130	870	54	32	28
6	9.1	13	15	22	15	10	54	121	926	45	32	31
7	9.1	12	15	21	15	10	48	118	952	35	30	36
8	9.7	12	13	21	15	11	43	108	944	33	29	38
9	10	11	14	21	15	11	39	87	898	33	29	42
10	11	12	15	*20	15	11	36	69	850	34	30	42
11	10	10	14	20	15	10	36	49	810	37	32	50
12	9.1	10	15	20	15	10	42	32	790	34	33	59
13	9.7	10	15	19	15	11	42	15	750	34	32	58
14	10	10	12	19	15	11	47	14	700	36	31	54
15	11	8	13	19	15	11	48	11	597	37	30	51
16	11	9	14	18	14	11	52	8.5	502	36	30	48
17	10	10	15	18	13	15	62	7.9	454	35	39	44
18	10	11	15	18	12	25	84	8.2	384	36	61	42
19	9.4	12	16	17	12	50	96	8.5	307	36	42	38
20	10	14	16	17	12	150	101	6.2	242	36	42	38
21	11	16	17	17	14	170	104	*4.8	*194	34	41	38
22	11	15	22	16	14	280	108	6.6	172	36	*40	39
23	11	14	58	16	14	808	110	9.1	153	37	36	38
24	11	14	284	15	13	785	128	75	123	36	33	39
25	11	14	426	15	12	498	135	153	96	34	32	36
26	*11	15	149	14	11	373	137	207	82	*34	33	33
27	11	16	89	13	10	*266	142	258	65	42	32	26
28	12	16	62	13	10	162	145	*31.5	53	48	34	25
29	12	16	48	12	10	130	145	370	45	36	35	25
30	13	16	40	12	-----	115	142	412	41	38	31	23
31	14	-----	35	12	-----	115	-----	466	-----	36	30	-----
Total	323.8	366	1,519	578	388	3,913	2,567	3,580.8	14,537	1,150	1,062	1,129
Mean	10.4	12.9	49.0	18.6	13.4	126	85.6	116	485	37.1	34.3	37.6
Ac-ft	642	766	3,010	1,150	770	7,760	5,090	7,100	28,830	2,280	2,110	2,240
Calendar year 1955: Max	426				Min 0.5		Mean 15.3		Ac-ft 11,060			
Water year 1955-56: Max	962				Min 4.8		Mean 85.1		Ac-ft 81,750			

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 2, 11-26, Dec. 2-23, 29, 30, Jan. 1, 3, 7-10, Jan. 14, 17-20, Jan. 24 to Mar. 22 (no gage-height record Feb. 3-29, Mar. 7-16; discharge estimated on basis of weather records, records for adjacent periods, and for nearby streams).

## Brailsford ditch near Hagerman, Idaho

Location.--Lat 42°46'00", long 114°51'50", in N $\frac{1}{2}$ NW $\frac{1}{4}$  sec. 6, T. 8 S., R. 14 E., on left bank 250 ft upstream from road bridge, 0.5 mile downstream from point of diversion at Lewis Spring, and 4.2 miles southeast of Hagerman.

Records available.--June 1951 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 3,000 ft (from topographic map).

Average discharge.--5 years, 7.41 cfs (5,360 acre-ft per year).

Extremes.--1951-56: Maximum daily discharge, 16 cfs June 23-26, July 19-26, 30, Aug. 19, 20, 1951; no flow at times during March, April, September, and October 1952.

Remarks.--Records good except those below 3 cfs and those for periods of no gage-height record, which are fair. Brailsford ditch diverts from Lewis Spring for irrigation.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3	10	9.0	2.9	2.4	2.8	4.2	*12	8.9	10	14	13
2	8.5	*10	9.0	2.9	2.4	2.8	*4.3	12	10	10	13	13
3	8.5	8.8	9.0	2.8	2.5	2.9	4.6	12	10	10	13	13
4	8.5	7.5	9.0	2.8	2.5	2.9	4.6	12	9.8	10	13	13
5	8.5	7.5	7.0	2.8	2.4	2.9	4.6	12	9.4	9.6	13	13
6	8.3	7.5	*5.4	2.8	2.4	3.1	4.6	12	9.8	15	13	13
7	8.3	7.5	5.4	2.8	2.4	3.2	4.6	12	9.8	14	13	13
8	8.3	7.5	5.4	2.8	2.4	3.2	4.6	12	9.4	14	13	13
9	8.3	7.5	5.4	*2.8	2.4	4.0	3.0	12	9.4	14	13	13
10	8.3	7.5	5.4	2.8	2.4	4.8	*.9	12	9.4	14	13	13
11	8.5	7.5	5.0	2.8	2.4	4.8	.4	12	9.4	14	13	13
12	8.5	7.5	5.0	2.8	2.4	4.8	.4	12	*9.4	14	13	13
13	8.3	7.5	5.0	2.8	2.4	4.6	4.2	12	9.4	14	13	13
14	8.5	7.5	5.0	2.4	2.4	4.6	10	11	9.4	14	13	13
15	8.3	7.5	4.8	2.4	2.4	4.6	10	11	9.1	14	13	13
16	8.3	7.5	4.8	2.4	2.4	4.6	10	11	8.8	14	13	13
17	8.0	7.5	4.6	2.3	2.4	4.6	10	11	8.8	14	13	12
18	8.0	7.5	4.6	2.3	2.4	4.6	10	11	8.5	14	13	12
19	8.0	7.5	4.4	2.3	2.5	4.4	10	11	8.5	12	13	12
20	8.0	7.5	4.4	2.3	*2.5	4.6	10	11	8.5	14	13	12
21	8.0	9.0	4.4	2.3	2.4	4.6	11	11	8.5	14	*13	12
22	8.0	9.0	3.0	2.3	2.5	4.6	11	11	8.5	14	13	12
23	8.0	9.0	3.0	2.3	2.5	4.6	11	11	8.5	14	13	12
24	8.0	9.0	3.0	2.3	2.6	4.4	11	11	8.5	14	13	12
25	7.5	9.0	3.0	2.3	2.8	4.4	11	11	8.5	13	13	*12
26	7.5	9.0	3.0	2.3	2.8	4.4	11	11	8.5	*13	13	12
27	7.5	9.0	3.0	2.3	2.8	4.2	11	11	8.3	14	13	12
28	7.2	9.0	2.9	2.3	2.8	4.2	12	*11	9.4	13	13	12
29	8.3	9.0	2.9	2.3	2.8	4.2	12	11	10	13	13	12
30	9.4	9.0	2.9	2.3	-----	4.2	12	10	10	13	13	12
31	9.8	-----	2.9	2.4	-----	4.2	-----	10	-----	14	13	-----
Total	255.2	246.3	151.6	78.4	72.4	126.8	228.0	352	274.4	407.6	404	376
Mean	8.23	8.21	4.89	2.53	2.50	4.09	7.60	11.4	9.15	13.1	13.0	12.5
Ac-ft	506	489	301	156	144	252	452	698	544	808	801	746
Calendar year 1955: Max	14			Min 0.6		Mean 8.19		Ac-ft 5,930				
Water year 1955-56: Max	15			Min 0.4		Mean 8.12		Ac-ft 5,900				

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 17 to Dec. 5, Dec. 22 to Jan. 8, Apr. 12, July 24, 25; discharge estimated on basis of records for Riley Creek below Lewis Spring and other Snake River springs.

## Riley Creek below Lewis Spring, near Hagerman, Idaho

Location--Lat 42°45'50", long 114°51'30", in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec. 6, T. 8 S., R. 14 E., on left bank 560 ft downstream from confluence of Riley Creek springs and Lewis Spring, an eighth of a mile downstream from U. S. Fish Hatchery, and 4 miles southeast of Hagerman.

Records available--June 1951 to September 1956.

Gage--Water-stage recorder. Altitude of gage is 2,955 ft (from topographic map). Prior to June 17, 1955, at site 1,200 ft downstream at different datum.

Average discharge--5 years, 64.1 cfs (46,410 acre-ft per year).

Extremes--1951-56: Maximum daily discharge, 78 cfs Nov. 14, 15, 20-23, 1953; minimum daily, 50 cfs July 7, 21, 22, 29, 30, 1956.

Remarks--Records good. Flow at this station plus flow of Brailsford ditch (see preceding page) gives total flow from Riley and Lewis Springs plus small intervening inflow. Flow diverted from Lewis Spring to Brailsford ditch for irrigation. Slight regulation by ponds at fish hatchery.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used June 7-23)

1.4	46
1.5	54
1.6	61
1.7	69

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	56	57	61	61	62	61	*57	57	54	51	54
2	60	*56	57	61	61	62	*61	56	56	55	53	54
3	59	56	57	61	61	62	61	56	56	54	54	54
4	60	59	57	61	61	62	61	56	56	53	54	54
5	59	59	60	61	61	62	61	56	56	54	54	54
6	59	59	*61	61	61	62	61	56	56	51	54	54
7	60	59	61	61	61	62	62	56	54	50	53	54
8	60	58	61	61	61	62	62	56	54	52	54	54
9	60	58	61	*61	61	62	63	56	54	52	54	54
10	60	58	61	61	61	60	64	56	55	52	54	54
11	59	59	61	61	61	60	65	56	55	52	53	54
12	59	60	60	61	61	60	65	56	*56	53	54	54
13	59	60	60	61	61	60	63	56	56	51	54	53
14	59	60	61	61	61	61	56	56	56	51	54	54
15	59	60	61	61	60	61	56	56	56	52	54	54
16	59	60	61	61	60	61	56	56	56	51	54	53
17	59	60	61	61	60	61	56	56	56	51	54	53
18	59	60	61	61	60	61	56	56	56	51	54	52
19	59	59	62	61	60	62	56	56	56	53	54	52
20	58	60	61	61	*60	61	57	56	56	51	54	53
21	58	59	61	61	61	61	57	56	56	50	*54	53
22	58	58	62	62	61	61	57	56	56	50	54	53
23	58	58	63	62	61	61	57	56	56	51	54	52
24	58	58	63	62	61	61	57	56	55	51	54	52
25	58	58	63	62	61	61	57	56	56	51	54	52
26	58	58	62	61	61	61	57	56	56	*51	54	*53
27	58	57	61	61	60	61	57	56	56	51	54	53
28	58	57	61	61	61	61	57	*56	55	51	54	53
29	58	57	61	61	62	61	57	56	55	50	54	52
30	56	57	61	61	-----	61	57	56	54	50	54	51
31	56	-----	62	61	-----	61	-----	56	-----	51	54	-----
Total	1,818	1,755	1,882	1,695	1,763	1,897	1,773	1,737	1,668	1,600	1,668	1,596
Mean	58.6	58.5	60.7	61.1	60.8	61.2	59.1	56.0	55.6	51.6	53.8	53.2
Ac-ft	3,610	3,480	3,730	3,760	3,500	3,760	3,520	3,450	3,310	3,170	3,310	3,170

Calendar year 1955: Max 70 Min 51 Mean 60.3 Ac-ft 43,640  
Water year 1955-56: Max 65 Min 50 Mean 57.5 Ac-ft 41,770

\* Discharge measurement made on this day.



Snake River below Lower Salmon Falls, near Hagerman, Idaho

Location--Lat 42°51'36", long 114°54'42", 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 Malad River, and 2½ miles north of Hagerman.

Records available--October 1937 to September 1956. 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. Prior to Jan. 3, 1950, at site 340 ft upstream at same datum.

Extremes--Maximum discharge during year, 28,100 cfs Mar. 31 (gage height, 14.76 ft); minimum, 1,010 cfs Dec. 16 (gage height, 3.09 ft); minimum daily, 5,720 cfs July 13. 1937-56: 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. Flow regulated by Lower Salmon Falls powerplant and many reservoirs above station. Practically entire flow at Milner diverted during irrigation season; only minor diversions below Milner.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)

6.4	5,720	10.0	14,000
7.0	6,920	12.0	19,600
8.0	9,130	15.0	28,900

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,820	7,960	7,190	8,170	9,930	11,500	18,400	15,900	26,100	6,340	7,020	7,300
2	7,170	*8,070	7,160	8,530	10,100	11,900	18,800	*16,500	*25,400	6,930	7,240	7,370
3	7,520	7,960	7,020	8,260	10,000	11,000	18,300	15,700	25,300	5,990	7,360	7,160
4	7,340	8,190	7,040	8,660	10,500	10,900	18,000	14,200	25,800	6,110	7,160	7,460
5	7,420	8,030	6,840	8,740	10,500	11,300	16,200	15,300	24,900	6,360	7,100	7,450
6	7,560	7,780	6,940	8,720	10,300	11,700	16,200	13,700	24,800	6,740	7,190	7,740
7	7,350	7,690	7,360	8,580	10,500	11,100	15,700	15,400	24,300	6,460	7,170	7,420
8	7,680	7,200	7,020	9,100	10,300	11,400	13,800	13,600	23,900	6,700	7,030	7,410
9	7,580	7,560	6,900	8,690	10,300	11,200	15,400	11,000	24,000	6,650	7,180	7,600
10	7,540	7,360	7,000	8,750	10,400	11,100	12,400	11,300	21,600	6,540	6,830	7,620
11	7,480	7,120	7,020	8,600	10,300	10,500	11,100	12,300	*18,600	6,060	7,110	7,730
12	7,560	7,180	7,110	9,100	10,400	10,900	11,100	12,900	17,100	6,290	7,340	7,920
13	8,240	7,040	7,060	8,910	10,200	10,300	12,200	12,500	17,900	5,720	6,860	7,920
14	8,230	7,140	7,030	9,060	10,200	9,720	12,300	12,900	17,900	6,660	7,490	7,930
15	*8,670	7,340	6,960	9,600	10,100	10,100	11,000	13,600	18,200	6,540	7,380	7,960
16	8,340	6,960	6,440	9,200	10,000	10,100	10,600	13,000	17,600	6,600	7,040	7,800
17	8,180	6,650	7,120	9,620	9,860	10,700	11,200	11,100	18,200	6,620	7,300	7,940
18	8,170	7,060	7,410	8,620	9,890	10,700	8,780	10,300	13,100	6,900	7,100	8,040
19	7,530	7,400	7,670	8,980	9,780	11,000	9,060	10,900	15,300	6,300	6,980	8,010
20	7,620	7,160	7,620	8,940	10,300	*12,100	8,100	7,670	17,700	6,220	7,800	7,820
21	7,190	7,270	7,580	9,510	9,980	11,300	8,650	7,540	21,900	6,540	*7,090	7,920
22	7,950	6,950	8,080	9,460	10,200	11,700	11,300	6,870	21,000	6,910	7,270	7,900
23	6,930	7,800	8,290	9,660	10,800	12,000	12,900	6,210	16,800	6,710	*6,650	8,080
24	7,580	6,930	7,530	9,940	10,500	12,200	13,100	6,780	15,500	6,480	6,600	8,180
25	7,080	6,880	7,430	*10,400	10,700	13,800	13,200	6,700	9,640	6,930	7,160	*8,410
26	7,720	7,310	7,620	10,200	10,800	15,200	15,400	8,800	10,200	7,090	6,870	7,660
27	7,560	7,340	7,280	11,000	11,000	13,600	16,600	9,320	8,860	6,770	7,430	7,760
28	7,540	7,210	7,640	9,980	11,000	14,100	17,000	14,700	8,310	6,890	7,220	7,840
29	7,660	6,940	8,010	9,600	11,400	14,400	14,800	*20,600	7,950	6,840	7,350	8,000
30	7,740	7,120	7,720	10,500	-----	15,000	16,000	24,500	7,380	7,250	7,340	7,900
31	7,920	-----	7,940	10,700	-----	17,600	-----	26,200	-----	7,800	7,470	-----
Total	237,910	220,640	227,030	288,000	300,240	370,120	407,590	397,990	545,260	205,070	222,170	233,450
Mean	7,675	7,355	7,324	9,290	10,350	11,940	13,590	12,840	18,180	6,615	7,167	7,782
Ac-ft	471,900	437,600	450,300	571,200	595,500	734,100	808,400	789,400	1,082	406,800	440,700	463,000

Calendar year 1955: Max 12,300 Min 5,790 Mean 7,602 Ac-ft 5,504,000  
Water year 1955-56: Max 26,200 Min 5,720 Mean 9,988 Ac-ft 7,251,000

\* Discharge measurement made on this day.

\* Expressed in thousands.

## 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.

Records available.--May 1948 to September 1956.

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.--8 years, 171 cfs (123,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,620 cfs May 24 (gage height, 6.44 ft); minimum, 15 cfs Dec. 20 (gage height, 1.75 ft).

1948-56: Maximum discharge, that of May 24, 1956; 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; water returned to stream above station. About 97 acre-ft of storage in ponds on Prairie Creek; diversion point below station for irrigation.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.0	27	3.5	328
2.2	46	4.0	520
2.5	88	5.0	955
3.0	185	6.5	1,650

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	57	*57	59	b32	45	65	448	1,390	472	170	95
2	57	53	46	59	b38	45	62	492	1,300	444	163	93
3	56	68	33	54	b40	45	61	520	1,230	404	159	93
4	56	62	37	62	b45	45	62	564	1,130	382	157	91
5	61	61	39	62	b48	43	68	560	1,080	370	150	90
6	58	57	64	59	b45	33	68	548	946	370	148	88
7	59	58	65	50	b45	42	68	536	860	367	146	90
8	58	57	55	50	b42	44	66	528	847	360	144	88
9	57	58	68	46	44	44	69	492	910	360	138	86
10	58	71	61	57	47	43	88	456	968	360	134	90
11	61	68	71	59	48	b35	107	448	1,010	356	132	88
12	58	56	68	57	48	b37	105	400	964	346	129	86
13	57	54	45	*56	47	44	110	367	*928	335	127	85
14	56	68	30	46	44	44	127	367	896	318	125	83
15	56	42	38	54	45	42	155	420	852	298	129	83
16	56	45	62	56	b35	44	181	536	766	283	123	82
17	54	72	71	51	41	45	209	672	676	267	119	80
18	54	80	58	43	45	44	250	788	621	*255	116	80
19	54	80	53	46	47	48	328	910	637	250	114	80
20	58	105	38	50	47	52	408	986	681	244	112	80
21	65	95	48	52	45	54	488	1,120	613	247	112	80
22	62	74	45	53	45	59	569	1,270	569	235	*109	82
23	58	65	58	52	*47	65	574	*1,430	560	222	107	82
24	56	82	86	36	46	*68	*540	1,510	560	214	105	80
25	*56	71	85	31	46	80	496	1,470	552	207	105	78
26	61	72	95	39	45	82	504	1,350	540	204	107	*78
27	57	64	83	42	44	74	488	1,310	540	197	107	77
28	59	57	65	b38	44	66	480	1,210	548	192	107	78
29	57	59	50	b35	46	65	476	1,180	552	190	102	80
30	65	54	51	b34	-----	65	456	1,200	512	181	98	77
31	54	-----	68	b33	-----	66	-----	1,270	-----	176	96	-----
Total	1,791	1,965	1,796	1,521	1,281	1,608	7,728	25,358	24,238	9,106	3,890	2,523
Mean	57.9	65.5	57.9	49.1	44.2	51.9	258	818	808	294	125	84.1
Cfsm	0.422	0.478	0.423	0.358	0.323	0.379	1.88	5.97	5.90	2.15	0.912	0.614
In.	0.49	0.53	0.49	0.41	0.35	0.44	2.10	6.88	6.58	2.47	1.06	0.68
Ac-ft	3,550	3,900	3,560	3,020	2,540	3,190	15,330	50,300	48,080	18,060	7,720	5,000

Calendar year 1955: Max 667 Min 30 Mean 118 Cfsm 0.861 In. 11.65 Ac-ft 85,090  
 Water year 1955-56: Max 1,510 Min 30 Mean 226 Cfsm 1.65 In. 22.48 Ac-ft 164,200

Peak discharge (base, 400 cfs).--Nov. 17 (7 p.m.) 456 cfs (3.80 ft), result of release from ice or snow jam upstream; Apr. 22 (8 to 9 p.m.) 654 cfs (4.32 ft); May 24 (12 p.m.) 1,620 cfs (6.44 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## Warm Springs Creek at Guyer Hot Springs, near Ketchum, Idaho

Location.--Lat 43°41', long 114°25', in NE¼ sec. 15, T. 4 N., R. 17 E., on left bank at Guyer Hot Springs, 2.1 miles upstream from mouth and 2.2 miles west of Ketchum.

Drainage area.--96 sq mi, approximately.

Records available.--November 1940 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 5,901.7 ft above mean sea level (river profile survey). Prior to Mar. 7, 1942, staff gage at same site and datum.

Average discharge.--15 years (1941-56), 85.9 cfs (62,190 acre-ft per year).

Extremes.--Maximum discharge during year, 883 cfs May 25 (gage height, 4.02 ft); minimum, 12 cfs probably Mar. 6 (gage height, 0.66 ft).

1940-56: Maximum discharge, that of May 25, 1956; minimum, 6 cfs Feb. 29, 1944 (gage height, 0.55 ft), result of ice jam upstream; minimum daily, 17 cfs Dec. 17, 1946.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. Diversions above station for irrigation of about 200 acres. Small diversion from Guyer Hot Springs for recreational purposes bypasses station.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)

0.8	20	1.8	171
1.0	37	2.3	301
1.2	61	3.0	536
1.4	93	4.0	876

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	31	34	46	23	29	68	257	743	150	58	40
2	30	27	29	46	25	29	66	274	709	144	57	40
3	29	34	26	40	28	29	62	292	652	136	56	40
4	29	34	25	44	30	29	66	320	587	126	54	40
5	31	34	23	46	32	28	76	311	556	122	53	40
6	30	32	29	44	30	24	76	295	461	119	53	40
7	31	32	30	38	30	24	74	286	410	115	54	40
8	31	32	29	36	28	28	73	286	397	111	54	40
9	30	32	32	32	28	28	79	271	407	109	52	40
10	30	41	31	36	28	28	106	249	424	107	51	42
11	32	38	31	38	30	25	126	243	427	104	51	42
12	31	30	32	37	30	24	122	225	397	102	49	41
13	31	28	28	*36	30	28	134	205	376	98	48	40
14	30	30	20	32	28	27	150	195	353	94	48	39
15	30	25	28	36	28	26	191	215	*330	90	49	39
16	30	27	33	35	24	27	235	265	298	86	48	38
17	30	33	30	33	26	28	240	346	263	82	46	37
18	30	34	30	31	27	30	254	444	243	79	46	36
19	29	35	31	31	29	32	304	519	233	*78	48	36
20	29	58	29	34	27	35	343	587	238	76	46	34
21	35	64	32	34	29	38	383	628	220	79	46	33
22	35	46	39	34	30	43	417	662	203	78	*45	36
23	31	38	209	34	30	*49	403	730	193	73	42	36
24	30	38	186	31	28	64	366	835	189	70	41	37
25	*30	34	111	26	*29	93	*336	808	182	68	40	40
26	32	36	81	29	29	100	320	*767	175	66	42	39
27	29	36	62	30	29	84	301	757	171	66	44	*38
28	31	33	52	28	28	73	280	709	167	66	44	40
29	30	34	44	27	29	68	277	692	167	66	42	40
30	36	*33	42	25	-----	68	265	686	160	62	41	40
31	33	-----	50	24	-----	68	-----	699	-----	58	40	-----
Total	855	1,059	1,488	1,073	822	1,306	6,193	14,058	10,311	2,880	1,488	1,163
Mean	30.8	35.3	48.0	34.6	28.3	42.1	206	453	344	92.9	48.0	38.8
Ac-ft	1,890	2,100	2,950	2,130	1,630	2,590	12,280	27,880	20,450	5,710	2,950	2,310
Calendar year 1955: Max	276				Min 20	Mean 56.9		Ac-ft 41,210				
Water year 1955-56: Max	835				Min 20	Mean 117		Ac-ft 84,870				

Peak discharge (base, 300 cfs).--Dec. 23 (11:30 a.m.) 373 cfs (2.55 ft); Apr. 22 (10 p.m.) 451 cfs (2.78 ft); May 25 (1 a.m.) 883 cfs (4.02 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 6, 7, Dec. 28 to Jan. 12, Jan. 25 to Feb. 24, Feb. 27 to Mar. 22, July 14-17; discharge estimated on basis of recorded range in stage, weather records, and records for nearby streams in Malad River basin.

## 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, 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 1956.

Gage.--Water-stage recorder. Datum of gage is 5,301.17 ft above mean sea level, preliminary. Prior to Apr. 12, 1936, staff gages at or near highway bridge, at same datum.

Extremes.--Maximum discharge during year, 90 cfs May 24 (gage height, 3.36 ft); maximum gage height recorded, 3.91 ft Feb. 19 (ice jam); minimum discharge, 0.3 cfs Nov 26 (gage height, 1.50 ft).  
1915-56: 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 except those for Oct. 28 to Mar. 24, which are fair. 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.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	1.6	14	b10	b6.5	6.0	17	18	62	38	29	12
2	21	1.6	14	b10	b7.5	6.2	17	18	59	36	28	12
3	19	1.8	b12	b9	b8.0	6.2	16	18	53	35	27	12
4	19	1.8	b11	b11	b9.0	6.5	18	19	49	33	24	12
5	22	2.0	b10	b11	a9.0	6.2	18	19	46	33	23	11
6	24	2.7	12	a11	a8.5	b5.5	18	19	40	32	22	10
7	25	2.6	14	a10	a8.5	b5.0	19	19	25	30	22	10
8	26	2.6	b13	a9.5	a8.0	5.8	19	21	27	28	22	10
9	23	2.5	15	a9	a8.0	6.2	20	20	26	27	20	10
10	22	2.0	16	a9.5	a8.0	6.0	25	19	25	28	19	11
11	25	1.8	17	a9.5	a8.5	b5.5	30	18	26	28	19	11
12	24	1.8	18	a9.5	a8.5	b5.0	31	16	25	27	19	9.8
13	21	1.5	19	*9.5	a8.5	b5.5	34	20	23	26	18	9.5
14	22	1.3	b15	9.0	a8.0	5.8	34	34	*22	25	19	9.0
15	22	1.3	b15	9.0	a8.0	b5.5	35	36	22	23	21	8.7
16	22	b1.3	17	9.3	a6.0	5.6	35	37	20	21	20	8.1
17	22	1.3	19	9.0	a6.0	6.2	36	44	17	20	18	7.9
18	21	1.4	18	8.4	a6.0	6.2	37	48	24	*23	17	7.6
19	21	1.4	20	8.4	a6.0	6.7	34	42	46	42	18	7.6
20	21	1.6	18	8.7	a6.0	7.1	30	42	49	43	19	7.9
21	24	1.7	18	9.3	a6.0	7.3	25	41	47	45	*17	8.1
22	24	1.3	26	9.3	*6.0	7.9	23	42	43	44	16	9.3
23	22	1.1	44	9.5	6.0	*9.3	22	44	44	41	14	a9.2
24	*23	1.0	*26	b8.0	5.8	12	20	58	44	39	13	9.0
25	26	1.0	16	b7.5	5.8	17	*19	72	42	38	14	8.1
26	15	8.0	13	b7.5	6.0	20	23	*63	41	36	15	*8.1
27	2.1	13	13	8.0	5.8	18	23	58	41	35	16	8.4
28	1.5	13	11	b7.5	5.8	17	21	52	41	35	16	9.3
29	*1.5	12	b10	b7.0	6.0	16	20	51	41	35	14	8.7
30	1.6	*13	a10	b6.5	-----	16	20	50	40	32	13	7.9
31	1.8	-----	b11	b6.0	-----	17	-----	52	-----	30	13	-----
Total	585.5	101.0	505	276.4	205.7	276.2	737	1,110	1,110	1,008	585	283.2
Mean	18.9	3.37	16.3	8.92	7.09	8.91	24.6	35.8	37.0	32.5	18.9	9.44
Ac-ft	1,160	200	1,000	548	408	548	1,460	2,200	2,200	2,000	1,160	562
Calendar year 1955: Max	46				Min 1.0	Mean 18.4		Ac-ft 13,320				
Water year 1955-56: Max	72				Min 1.0	Mean 18.5		Ac-ft 13,450				

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

a No gage-height record; discharge estimated on basis of records for Big Wood River at Hailey.

b Stage-discharge relation affected by ice.

Note.--Stage-discharge relation indefinite Oct. 28 to Nov. 28; discharge computed on basis of recorder graph, formula for flow through culverts, and one field estimate.

## Big Wood River at Hailey, Idaho

Location.--Lat 43°31', long 114°20', in SW $\frac{1}{4}$  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 1956. 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. Prior to Nov. 16, 1934, staff gages at bridge 35 ft upstream at different datums.

Average discharge.--Average combined discharge of Big Wood River and Big Wood Slough, 41 years, 425 cfs (307,700 acre-ft per year).

Extremes.--Maximum discharge during year, 4,640 cfs May 24 (gage height, 6.62 ft); minimum, 26 cfs Feb. 20 (gage height, 0.71 ft).

1915-56 (river only): Maximum discharge, that of May 24, 1956; maximum gage height, 8.66 ft, present datum, June 12, 1921; practically no flow Sept. 15-23, Nov. 20, 22, 23, 1931, Oct. 25, 1937.

1915-56 (combined): Maximum daily discharge, 4,500 cfs June 6, 7, 1938; minimum daily, 15 cfs Dec. 27, 1921.

Remarks.--Records good. 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 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 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 22, 23)

Oct. 1 to May 23

May 24 to Sept. 30

1.2	89	4.0	1,550	0.9	195	3.0	1,340
1.5	170	5.0	2,340	1.1	243	4.0	2,080
2.0	360	6.7	4,020	1.5	405	5.0	2,930
3.0	880			2.0	685	6.3	4,280

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	117	151	145	236	b105	133	318	1,340	3,620	1,190	355	235
2	117	136	131	233	b125	133	314	1,400	3,560	1,160	337	230
3	111	161	114	208	b140	133	302	1,450	3,500	1,100	329	227
4	111	161	107	226	b150	136	314	1,540	3,180	1,070	307	225
5	117	158	89	233	161	133	339	1,540	3,020	1,070	296	222
6	119	145	122	222	b150	b110	339	1,520	2,700	1,060	296	220
7	119	151	125	204	b150	b110	352	1,470	2,340	1,030	289	220
8	114	151	109	197	b145	133	352	1,500	2,230	992	281	222
9	111	154	128	177	b140	133	378	1,450	2,360	992	274	217
10	109	161	122	197	b140	131	441	1,380	2,490	1,010	320	227
11	114	180	125	201	148	b115	540	1,330	2,660	986	324	230
12	114	158	136	197	148	b110	560	1,240	2,510	979	311	225
13	111	128	133	*201	148	131	590	1,140	2,480	934	304	220
14	111	139	890	184	139	125	645	1,070	*2,440	882	311	215
15	109	125	96	190	142	122	784	1,110	2,310	797	329	213
16	107	98	128	194	b115	125	946	1,270	2,080	739	311	210
17	107	117	142	180	b125	128	1,000	1,540	1,730	667	300	206
18	104	146	133	167	b130	131	1,060	1,960	1,560	*601	292	204
19	109	161	145	167	139	136	1,240	2,480	1,600	560	289	208
20	111	218	131	170	131	146	1,390	2,740	1,730	543	292	206
21	119	255	131	177	139	158	1,540	3,220	1,550	538	*281	206
22	125	201	180	177	142	173	1,770	3,560	1,370	516	274	208
23	119	167	596	180	*142	*201	1,850	4,020	1,370	477	274	208
24	*117	170	*690	148	133	240	1,720	*4,280	1,370	460	265	206
25	119	164	460	b120	139	310	*1,620	3,710	1,390	430	258	204
26	147	154	409	b130	139	*369	1,610	3,970	1,340	415	262	*206
27	154	145	373	142	136	339	1,570	3,600	1,370	400	268	204
28	151	142	278	b130	133	306	1,500	3,390	1,370	395	265	210
29	151	*139	226	b120	139	306	1,450	3,480	1,420	395	252	215
30	161	139	218	b115	-----	306	1,400	3,660	1,310	395	246	213
31	154	-----	259	b110	-----	314	-----	3,580	-----	380	240	-----
Total	3,759	4,677	6,271	5,541	4,013	5,578	28,234	70,940	63,960	23,163	9,032	6,460
Mean	121	156	202	178	138	180	941	2,288	2,132	747	291	215
Ac-ft	7,480	9,280	12,440	10,970	7,960	11,060	56,000	140,700	126,900	45,940	17,910	12,810
Calendar year 1955:	Max	1,740		Min	86		Mean	301	Ac-ft	217,700		
Water year 1955-56:	Max	4,280		Min	89		Mean	633	Ac-ft	459,400		

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

## MALAD RIVER BASIN

## 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	153	159	246	112	139	335	1,360	3,680	1,230	384	247
2	138	138	145	243	132	139	331	1,420	3,620	1,200	365	242
3	130	163	126	217	148	139	316	1,470	3,550	1,140	356	239
4	130	163	118	237	159	142	350	1,560	3,230	1,100	331	237
5	139	160	99	244	170	139	357	1,560	3,070	1,100	319	233
6	143	148	134	233	158	116	357	1,540	2,740	1,090	318	230
7	144	154	139	214	158	115	371	1,490	2,360	1,060	311	230
8	140	154	122	206	153	139	371	1,520	2,260	1,020	303	232
9	134	156	143	186	148	139	398	1,470	2,390	1,020	294	227
10	131	163	138	206	148	137	466	1,400	2,520	1,040	339	238
11	139	182	142	210	156	120	570	1,350	2,690	1,010	343	241
12	138	160	154	206	158	115	591	1,260	2,540	1,010	330	235
13	132	130	152	210	156	136	624	1,160	2,500	960	322	230
14	133	140	105	193	147	131	679	1,100	2,460	907	330	224
15	131	126	111	199	150	128	819	1,150	2,330	820	350	222
16	129	99	145	203	121	131	981	1,310	2,100	760	331	218
17	129	118	161	189	131	134	1,040	1,580	1,750	687	318	214
18	125	149	151	175	136	137	1,100	2,010	1,580	624	309	212
19	130	162	165	175	145	143	1,270	2,520	1,650	602	307	214
20	132	220	149	179	137	155	1,420	2,780	1,780	586	311	214
21	143	257	149	166	145	165	1,560	3,260	1,600	583	298	214
22	149	202	206	166	148	181	1,790	3,600	1,410	560	290	217
23	141	168	640	190	148	210	1,870	4,060	1,410	516	288	217
24	140	171	716	156	139	252	1,740	4,340	1,410	499	278	215
25	145	165	476	128	145	327	1,640	3,780	1,430	468	272	212
26	162	162	422	138	145	369	1,630	4,030	1,380	451	277	214
27	158	158	366	150	142	357	1,590	3,660	1,410	435	284	212
28	152	155	289	138	139	323	1,520	3,440	1,410	430	281	219
29	152	151	236	127	145	322	1,470	3,530	1,460	430	266	224
30	163	152	228	122	-----	322	1,420	3,710	1,350	427	259	221
31	156	-----	270	116	-----	331	-----	3,630	-----	410	253	-----
Total	4,344	4,779	6,776	5,808	4,217	5,853	28,958	72,050	65,070	24,177	9,617	6,744
Mean	140	158	219	187	145	189	965	2,324	2,169	780	310	225
Ac-ft	8,620	9,480	13,440	11,520	8,360	11,610	57,440	142,900	129,100	47,950	19,080	13,360
Calendar year 1955: Max			1,760		Min 99		Mean 319		Ac-ft 231,000			
Water year 1955-56: Max			4,340		Min 99		Mean 651		Ac-ft 472,900			

## Big Wood River near Bellevue, Idaho

Location.--Lat 43°19'30", long 114°19'30", in SE $\frac{1}{4}$  NW $\frac{1}{4}$  sec. 21, T. 1 S., R. 18 E., on right bank  $2\frac{1}{2}$  miles upstream from flow line of Magic Reservoir,  $3\frac{1}{2}$  miles upstream from Camas Creek, and 10 miles southwest of Bellevue.

Drainage area.--823 sq mi.

Records available.--July 1911 to September 1956 (no winter records prior to 1943 except 1916, 1922, 1940-41).

Gage.--Water-stage recorder. Altitude of gage is 4,820 ft (by barometer). Prior to July 8, 1921, water-stage recorder at site  $1\frac{1}{8}$  miles downstream at different datum, July 8, 1921, to Oct. 5, 1954, water-stage recorder at site  $\frac{1}{4}$  mile downstream at different datum.

Average discharge.--18 years (1915-16, 1921-22, 1939-41, 1942-56), 293 cfs (212,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,130 cfs May 25 (gage height, 6.00 ft); minimum, 25 cfs Mar. 10 (gage height, 1.83 ft).  
1911-56: Maximum discharge, that of May 25, 1956; minimum 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 no gage-height record or ice effect, which are poor. Diversions for irrigation of about 36,400 acres above station. Storage above station is negligible.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 7 AB.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 26 to Apr. 9)

Oct. 1 to May 18

May 19 to Sept. 30

1.7	28	3.0	438	2.2	79	4.0	1,150
1.9	52	3.5	655	2.5	152	4.5	1,710
2.1	85	4.0	910	2.8	267	5.0	2,470
2.2	110	4.5	1,220	3.1	440	5.6	3,800
2.3	149	5.1	1,790	3.5	710		
2.5	231						

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	55	76	186	b70	46	301	1,170	3,300	854	155	110
2	61	56	71	178	b70	44	292	1,170	*2,500	782	138	107
3	58	56	62	165	b65	46	284	1,200	3,300	654	132	105
4	56	56	58	165	b65	49	313	1,230	3,150	500	122	102
5	61	56	56	174	b65	42	334	1,260	2,700	507	124	98
6	61	55	58	174	b65	b36	325	1,230	2,300	528	110	98
7	61	55	56	161	64	b39	334	1,170	1,900	521	110	98
8	60	55	55	153	b60	36	342	1,190	1,700	549	107	98
9	58	55	55	145	b60	35	354	1,120	1,850	577	112	96
10	58	55	55	141	58	33	400	1,080	1,900	584	110	107
11	58	54	55	145	61	b40	476	1,040	2,000	535	107	114
12	60	51	56	145	61	b40	514	970	1,900	*488	107	110
13	60	51	55	149	58	52	544	888	1,800	464	105	105
14	58	51	52	*149	56	66	570	785	1,800	440	102	100
15	56	51	52	145	b50	64	650	705	1,750	416	102	92
16	56	56	54	157	b45	64	790	755	*1,600	380	98	92
17	51	b55	52	145	43	83	872	904	1,420	350	98	92
18	42	76	52	137	b45	90	904	1,160	1,360	338	92	94
19	47	66	55	133	b45	90	1,030	1,340	1,170	*304	90	98
20	54	71	62	130	46	92	1,190	1,850	1,170	288	92	102
21	56	92	67	126	46	100	1,380	2,180	1,160	278	*100	107
22	56	102	133	126	46	110	1,590	2,400	1,010	278	119	110
23	55	88	451	130	46	149	1,730	2,700	933	258	122	114
24	*61	80	735	122	*44	*186	1,660	3,400	906	231	110	*117
25	61	76	472	98	48	252	*1,520	*3,500	924	222	110	
26	60	74	375	100	42	317	1,510	3,600	897	195	112	110
27	60	81	350	108	46	305	1,510	3,300	879	174	112	107
28	58	83	272	b95	46	276	1,400	3,400	846	188	122	105
29	58	*78	b200	b85	46	268	1,310	3,100	888	207	112	112
30	55	76	182	b80	-----	276	1,230	3,200	888	*199	110	112
31	55	-----	186	b75	-----	292	-----	3,200	-----	178	110	-----
Total	1,772	1,966	4,570	4,222	1,562	3,618	25,659	56,197	50,901	12,467	3,452	3,129
Mean	57.2	65.5	147	136	53.9	117	855	1,813	1,697	402	111	104
Ac-ft	3,510	3,900	9,060	8,370	3,100	7,180	50,890	111,500	101,000	24,730	6,850	6,210

Calendar year 1955: Max 1,090 Min 32 Mean 147 Ac-ft 106,200  
Water year 1955-56: Max 3,600 Min 33 Mean 463 Ac-ft 336,300

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--Doubtful, fragmentary, or no gage-height record May 19 to June 15; discharge estimated on basis of recorder graph, 2 discharge measurements, weather records, and records for station at Halley, records of diversions upstream, and inflow-outflow study of Magic Reservoir.

## 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.

Records available.--May 1912 to September 1921, April 1923 to September 1956 (no winter records prior to 1945). Discharge measurements only for 1922.

Gage.--Water-stage recorder. Altitude of gage is 4,870 ft (by barometer).

Average discharge.--12 years (1944-56), 184 cfs (133,200 acre-ft per year).

Extremes.--Maximum discharge during year, 4,410 cfs Apr. 11 (gage height, 11.19 ft); minimum recorded, 2.9 cfs Aug. 24, 25, 26.

1912-56: Maximum discharge recorded, 9,780 cfs Apr. 8, 1943; maximum gage height, 15.48 ft about Apr. 18, 1938, from floodmark; minimum discharge recorded, 1.5 cfs Aug. 29, 1940.

Remarks.--Records excellent except those below 10 cfs, which are good, and those for periods of no gage-height record or ice effect, which are poor. Water diverted for irrigation of about 9,300 acres 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.--Occasional inspections of recorder furnished by employees of Water District No. 7 AB.

Revisions.--WSP 1217: Drainage area.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 25

Mar. 26 to Sept. 30

0.8	2.1	2.1	54	1.0	2.9	4.0	409
1.0	5.4	2.5	93	1.2	6.8	5.0	725
1.2	9.9	3.0	176	1.5	16	6.0	1,120
1.5	20	3.5	278	1.8	32	7.0	1,600
1.8	34	4.0	394	2.1	54	9.0	2,790
				2.5	96	11.0	4,260
				3.0	172		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	4.5	11	110	50	70	1,110	795	507	32	7.9	3.4
2	3.5	5.2	9.7	105	50	70	1,220	725	477	31	7.6	5.6
3	3.5	5.6	b7.5	100	55	70	1,440	686	454	30	7.9	3.4
4	3.5	5.6	6.0	100	65	70	1,850	676	440	29	7.1	3.4
5	4.0	5.6	5.5	95	70	60	2,500	655	406	27	6.6	3.4
6	4.0	5.6	8.0	90	70	65	2,350	644	379	28	6.1	3.6
7	4.0	5.6	9.0	90	65	70	2,870	620	340	27	5.9	3.6
8	4.0	5.6	8.0	90	70	60	2,600	624	292	24	5.9	3.6
9	4.0	6.0	8.0	85	70	60	2,960	650	235	21	5.7	3.6
10	4.0	6.7	8.0	*94	70	55	3,520	672	240	16	5.5	3.8
11	8.0	7.3	9.0	92	70	60	*4,080	630	218	15	5.3	4.1
12	7.0	7.1	10	97	75	70	4,040	585	199	12	5.0	4.1
13	6.0	6.2	9.5	106	70	60	3,720	540	174	12	4.8	4.1
14	5.0	b5.0	9.0	112	70	55	3,410	477	148	9.5	4.6	4.1
15	4.5	4.0	8.0	114	65	60	3,290	434	128	8.2	4.4	3.9
16	4.0	4.5	10	143	60	65	3,060	412	120	7.9	4.4	3.9
17	4.0	5.5	11	163	65	70	2,780	409	106	7.3	4.3	3.9
18	4.0	7.0	11	135	65	80	*2,290	434	*91	7.3	4.1	3.8
19	4.0	10	12	120	70	87	1,910	474	77	*7.6	3.9	3.8
20	4.0	16	15	120	*74	96	1,700	519	70	7.3	3.8	3.9
21	5.0	23	18	110	71	103	1,600	546	68	42	*3.8	4.1
22	5.0	15	89	105	71	113	1,540	561	63	16	3.8	3.9
23	5.0	11	318	105	72	137	1,480	596	65	7.9	3.6	3.9
24	*4.1	11	311	90	70	174	1,580	683	63	6.6	3.2	*4.1
25	4.7	9.7	232	75	65	259	1,260	683	58	9.0	3.1	4.1
26	4.5	10	b200	80	65	*356	*1,180	652	54	9.8	3.4	4.1
27	4.1	11	b180	90	65	396	1,110	*627	46	7.9	3.6	4.3
28	6.0	*11	150	80	70	465	1,090	599	41	6.8	3.4	4.3
29	5.2	11	130	65	70	610	962	602	35	8.2	3.4	4.3
30	4.9	11	125	60	-----	784	894	579	32	7.3	3.4	4.4
31	4.5	-----	120	55	-----	970	-----	537	-----	7.9	3.4	-----
Total	141.5	252.3	2,058.2	3,076	1,938	5,700	65,178	18,306	5,624	488.5	148.9	116.5
Mean	4.56	8.41	66.4	99.2	66.8	184	2,173	591	187	15.8	4.80	3.68
Ac-ft	281	500	4,080	6,100	3,840	11,310	129,300	36,310	11,160	969	295	231

Calendar year 1955: Max 504 Min 2.7 Mean 54.8 Ac-ft 39,690  
 Water year 1955-56: Max 4,080 Min 3.1 Mean 281 Ac-ft 204,400

Peak discharge (base, 500 cfs).--Apr. 11 (8 p.m.) 4,410 cfs (11.19 ft); May 24 (10 to 11 a.m.) 704 cfs (4.94 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 1-23, Nov. 15-19, Dec. 4-18, Dec. 28 to Jan. 9, Jan. 18 to Feb. 19, Feb. 24 to Mar. 18; discharge estimated on basis of weather records, inflow-outflow studies for Magic Reservoir, and records for nearby streams.



## Magic Reservoir near Richfield, Idaho

Location.--Lat 43°15', long 114°22', in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 18, T. 2 S., R. 18 E., at dam on Big Wood River and 18 miles northwest of Richfield.

Drainage area.--1,600 sq mi, approximately.

Records available.--February to April 1909 (gage height only), April 1909 to September 1956.

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 temporary staff gages at dam. Datum of gages prior to Oct. 1, 1942, was 4,800 ft lower.

Extremes.--Maximum contents observed during year, 191,500 acre-ft May 25, June 2 (gage height, 135.0 ft); minimum observed, 24,740 acre-ft Oct. 1 (gage height, 65.3 ft).  
1909-56: 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 ft (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 morning reading.

Cooperation.--Gage readings and yield table furnished by employees of Water District No. 7 AB.

Revisions.--WSP 1217: Drainage area.

Capacity table, water year 1955-56 (gage height, in feet, and contents, in acre-feet)

65.0	24,350	95.0	76,940
70.0	31,230	100.0	87,730
75.0	39,040	110	111,900
80.0	47,700	120	139,500
85.0	57,010	130	172,600
90.0	66,790	135	191,500

Contents, in acre-feet, at 6 to 11 a.m., water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24,740	29,780	-	53,030	72,820	81,590	77,980	186,800	191,100	190,700	163,700	125,500
2	25,130	29,930	-	53,970	73,020	81,800	77,780	187,200	191,500	190,300	161,000	124,400
3	25,520	30,220	-	53,910	73,430	82,240	77,780	186,800	191,100	189,900	159,600	123,800
4	25,790	30,360	-	55,860	-	82,450	78,190	187,200	190,700	189,200	158,300	123,000
5	26,050	30,510	-	56,820	73,640	82,670	80,300	187,200	190,300	188,800	156,900	121,900
6	26,190	30,650	-	57,390	74,250	82,880	82,880	186,800	190,300	188,400	155,600	120,900
7	26,460	30,800	-	57,970	74,870	83,100	85,510	187,200	190,300	187,600	154,600	119,800
8	26,720	30,940	-	58,930	75,080	83,320	88,640	187,200	190,700	187,200	153,300	119,000
9	26,720	30,940	-	60,100	75,280	83,530	91,370	186,800	190,700	186,400	152,000	117,900
10	26,860	31,090	-	60,480	75,700	83,750	95,560	187,200	190,300	186,100	150,700	116,800
11	26,860	31,230	-	60,870	75,900	83,970	103,500	186,800	190,700	185,300	149,400	116,300
12	27,000	31,380	-	61,660	-	84,190	107,800	187,200	190,700	184,500	148,100	115,800
13	27,130	31,530	-	62,050	-	84,630	114,500	187,200	190,700	183,800	146,800	115,000
14	27,270	31,680	-	62,240	-	85,070	120,900	186,800	190,700	182,600	145,600	114,200
15	27,400	31,830	34,870	62,830	77,360	85,290	126,600	186,800	191,100	181,900	144,400	113,400
16	27,400	-	35,020	63,620	77,570	85,510	133,900	186,800	190,300	180,700	143,100	112,600
17	27,540	-	35,180	64,410	77,980	85,950	141,900	187,200	190,300	179,600	141,900	111,900
18	27,820	-	35,340	64,800	78,190	86,170	149,100	187,600	190,300	178,500	140,700	111,100
19	27,860	-	35,490	65,600	78,400	86,620	154,900	188,800	190,700	-	139,500	110,100
20	28,090	-	35,800	66,190	78,820	86,170	160,600	188,800	190,700	176,300	138,300	109,600
21	28,090	-	36,280	66,790	79,030	85,730	166,900	190,300	190,700	175,200	137,100	109,000
22	28,230	-	36,920	67,580	79,460	85,070	172,600	190,300	190,300	174,400	136,000	108,300
23	28,230	-	-	68,380	79,460	84,410	178,100	190,700	190,300	173,300	134,800	107,500
24	28,370	-	-	68,780	79,880	83,320	183,800	190,700	190,300	172,200	133,200	107,000
25	28,510	-	-	69,390	80,520	82,450	186,800	191,100	190,700	171,500	133,100	106,300
26	28,790	-	-	69,990	80,730	81,590	187,600	191,100	190,700	170,400	131,900	105,800
27	28,930	-	-	70,390	80,730	80,730	188,000	191,100	190,700	169,400	130,800	105,000
28	29,070	-	-	71,000	80,940	79,670	187,600	191,100	190,700	167,600	129,400	104,300
29	29,560	32,120	-	71,400	81,160	78,820	187,600	190,700	190,700	166,200	128,500	103,500
30	29,560	32,330	-	72,010	-	78,190	187,200	191,100	191,100	164,800	127,400	103,000
31	29,640	-	52,100	72,420	-	77,980	-	191,100	-	163,700	126,300	-
(†)	68.9	70.74	82.4	92.8	97.0	95.5	133.9	134.9	134.9	127.5	115.4	106.5
(*)	+4,900	+2,690	+19,770	+20,320	+8,740	-3,180	+109,220	+3,900	0	-27,400	-37,400	-23,300

Calendar year 1955..... \* -42,280

Water year 1955-56..... \* +78,260

† Gage height, in feet, at end of month.

\* Change in contents, in acre-feet.

## 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 1956.

Gage.--Water-stage recorder. Altitude of gage is 4,665 ft (by barometer).

Average discharge.--44 years (1912-56), 427 cfs (309,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,500 cfs June 2 (gage height, 8.94 ft); minimum, 3.2 cfs Oct. 30, Nov. 10, 11, 12.  
1911-56: 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 and those computed from twice-daily staff-gage readings, which are good. Water diverted for irrigation of about 47,100 acres above station. Flow regulated by Magic Reservoir (see preceding page), Twin Lakes Reservoir on tributary of Camas Creek (capacity, 31,240 acre-ft), and minor reservoirs having combined capacity of about 680 acre-ft.

Cooperation.--Water-stage recorder inspected by employees of Water District No. 7 AB.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 25

Apr. 26 to Sept. 30

1.8	1.5	3.0	156	3.0	156	5.0	1,220
1.9	5.0	3.5	512	3.5	125	7.0	2,760
2.0	12	4.0	540	4.0	571	9.0	4,550
2.3	42	5.0	1,140				
2.6	81	7.0	2,710				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	4.0	4.6	4.6	9.9	8.5	1,720	2,060	3,820	975	852	605
2	7.1	4.0	4.3	4.6	5.7	9.2	1,810	1,980	4,250	940	846	588
3	7.1	4.0	4.3	5.0	5.7	9.2	1,810	1,920	4,170	892	826	610
4	7.1	4.0	4.3	5.0	6.4	9.9	1,810	1,940	3,770	833	807	627
5	6.4	4.0	4.6	5.0	6.4	9.9	1,840	1,950	3,260	859	807	605
6	7.1	4.0	4.6	5.0	6.4	9.9	1,850	1,920	2,970	879	807	588
7	7.8	4.0	4.3	5.7	6.4	9.9	1,860	1,900	2,500	892	807	588
8	7.8	4.0	4.6	5.0	6.4	11	1,890	1,860	2,160	906	807	593
9	7.8	4.0	4.3	5.0	6.4	9.2	1,910	1,770	2,060	892	807	593
10	7.1	4.0	4.6	5.7	6.4	9.9	1,740	1,780	2,080	886	801	577
11	6.4	3.6	4.3	5.6	6.4	11	1,670	1,660	2,130	906	801	571
12	7.1	3.6	4.3	6.4	6.4	9.9	1,590	1,610	2,180	913	795	539
13	7.1	4.0	4.6	5.7	6.4	11	1,340	1,530	2,180	920	782	522
14	7.1	3.6	7.1	*5.7	7.1	11	1,290	1,370	2,140	920	770	501
15	7.8	4.0	4.3	5.7	7.1	11	708	1,180	2,080	940	751	491
16	6.4	4.0	4.3	5.0	8.5	11	201	1,030	1,790	933	733	491
17	6.4	4.0	4.0	5.7	7.1	11	16	1,040	1,540	926	733	491
18	6.4	4.0	4.3	5.7	7.1	12	16	1,210	*1,380	920	733	470
19	6.4	4.0	4.6	5.7	7.8	242	16	1,580	1,260	*906	727	465
20	6.4	4.0	4.6	6.4	7.8	500	17	2,100	1,260	892	*727	470
21	6.4	94	4.6	6.4	7.8	560	18	2,590	1,270	892	709	496
22	5.7	g111	5.7	6.4	7.8	712	142	2,990	1,140	892	703	475
23	5.7	g235	5.7	6.4	7.8	1,000	196	3,450	996	886	697	455
24	*4.6	g158	5.0	5.7	*7.1	1,200	889	3,840	961	886	697	440
25	4.3	g258	4.6	6.4	8.5	1,410	2,130	4,310	975	886	679	*440
26	4.0	131	5.0	6.4	8.5	1,510	*2,550	4,300	961	879	673	450
27	4.0	4.0	5.0	6.4	7.8	*1,490	2,650	4,190	899	879	679	455
28	4.0	4.0	5.0	5.7	8.5	1,480	2,650	*4,250	983	879	656	475
29	4.0	*4.3	4.6	7.1	8.5	1,470	2,440	3,800	996	872	621	466
30	3.6	4.6	4.6	5.7	-----	1,480	2,220	3,700	989	872	605	175
31	4.0	-----	4.6	5.7	-----	1,560	-----	3,700	-----	866	605	-----
Total	190.9	1,582.7	145.3	176.6	210.1	14,798.5	40,977	74,490	59,176	27,819	23,043	15,332
Mean	6.16	46.1	4.69	5.70	7.24	477	1,366	2,403	1,975	897	745	511
Ac-ft	379	2,740	288	350	417	29,350	81,280	147,700	117,400	55,180	45,710	30,410
Calendar year 1955: Max			900		Min	3.6	Mean	285	Ac-ft	206,000		
Water year 1955-56: Max			4,310		Min	3.6	Mean	704	Ac-ft	511,200		

\* Discharge measurement made on this day.

g Computed from twice-daily staff-gage readings and watermaster's report of gate changes.

## Little Wood River at Campbell Ranch, near Carey, Idaho

Location.--Lat 43°28', long 114°03', in SW¼ sec. 35, T. 2 N., R. 20 E., on left bank at Campbell Ranch, above flow line of Little Wood Reservoir, 1½ miles downstream from High Five Creek, 2½ miles downstream from Muldoon Creek, 11 miles east of Bellevue, and 12 miles northwest of Carey.

Drainage area.--267 sq mi.

Records available.--February 1920 to September 1926 (published as Little Wood River near Carey); March 1941 to December 1942, April 1944 to September 1956 (no winter records except 1921-24, 1926). Records for other years published as Little Wood River near Carey are at site 6 miles downstream and are not equivalent owing to diversion, inflow, and regulation.

Gage.--Water-stage recorder. Altitude of gage is 5,250 ft (by barometer). Prior to Apr. 5, 1944, at site 650 ft downstream at datum 3.50 ft lower.

Average discharge.--5 years (1920-24, 1925-26), 152 cfs (110,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,110 cfs Dec. 22 (gage height, 6.34 ft, from floodmark), from rating curve extended above 1,800 cfs; minimum daily, 25 cfs Nov. 15, but may have been less during period of no record in winter; minimum gage height recorded, 0.92 ft Sept. 19, 20.

1920-26, 1941-42, 1944-56; Maximum discharge, that of Dec. 22, 1955; minimum recorded, 14 cfs Aug. 29, 30, 1926.

Remarks.--Records good except those for periods of ice effect or no gage-height record and maximum discharge, which are fair. Flow slightly regulated by Campbell Reservoir (capacity, 125 acre-ft; 2,700 acre-ft prior to failure of dam in 1930), on tributary. Diversions for irrigation of about 5,250 acres above station.

Cooperation.--Water-stage recorder inspected by employees of Little Wood Reservoir Co. and Water District No. 11 C.

Revisions.--WSP 633: Drainage area.

Rating tables, water year 1955-56, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 12, Mar. 28 to Apr. 24)

Oct. 1 to Dec. 23

Dec. 24 to Sept. 30

0.8	20	0.9	36	2.0	345
1.0	34	1.1	66	2.5	585
1.2	59	1.4	132	3.0	870
1.5	116	1.7	228	3.5	1,190

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	43				-	329	485	888	239	86	50
2	31	38				-	289	465	834	232	84	47
3	30	45				-	269	505	756	210	79	46
4	30	45				-	305	525	684	200	77	46
5	31	46				-	363	525	656	207	75	46
6	32	45				-	329	515	580	204	71	46
7	32	48				-	357	485	505	204	71	47
8	31	48				-	350	470	520	196	71	52
9	32	46				-	440	455	560	196	68	47
10	32	46				-	580	435	580	196	66	57
11	32	46				-	744	440	596	193	64	56
12	32	41		*82		-	680	412	*545	167	62	63
13	32	b34				-	734	372	530	171	62	54
14	32	a30				-	810	341	500	171	62	48
15	32	a25				-	858	329	485	161	62	47
16	32	a30				-	906	350	422	155	60	46
17	32	a35				-	*834	422	372	*141	62	44
18	32	a40				-	798	525	321	138	60	42
19	32	a55				-	852	612	325	129	60	42
20	34	a75				-	870	700	368	127	58	42
21	37	a95				-	900	780	321	129	*58	42
22	37	a70				-	912	*828	289	122	54	44
23	35	a52				-	*906	876	293	114	52	44
24	36	a51				-	858	966	309	111	51	43
25	*37	a50				-	744	944	309	104	51	42
26	41	a48				-	700	912	289	102	52	42
27	43	a46				-	690	894	305	102	54	42
28	43	a47				*285	640	834	297	104	57	44
29	42	*49				281	575	840	297	109	54	46
30	44	a49			-----	301	525	816	273	102	52	47
31	44	-----			-----	329	-----	816	-----	93	51	-----
Total	1,073	1,416	-	-	-	-	19,147	18,914	14,009	4,849	1,946	1,406
Mean	34.6	47.2	-	-	-	-	638	610	467	156	62.8	46.9
Ac-ft	2,130	2,810	-	-	-	-	37,980	37,520	27,790	9,620	3,860	2,790

Calendar year : Max Min Mean Ac-ft  
Water year : Max Min Mean Ac-ft

\* Discharge measurement made on this day.  
a No gage-height record; discharge estimated on basis of weather records and records for Little Wood Reservoir, Little Wood River near Carey, and nearby streams.  
b Stage-discharge relation affected by ice.

## 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 1956.

Gage.--Staff gage. Datum of gage is 5,100 ft above mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents during year, 12,640 acre-ft May 24 (gage height, 98.7 ft, from spillway rating and discharge record below reservoir); minimum, not determined.

Remarks.--Reservoir is formed by earth- and rock-fill dam constructed in 1939. Capacity of reservoir is 12,180 acre-ft between gage heights 27.4 (bottom of outlet gates) and 97.4 ft (top of stop logs in spillway). Water is used for irrigation of land near Carey.

Cooperation.--Gage readings furnished by employees of Little Wood Reservoir Co. and Water District No. 11 C. Capacity curve furnished by Bureau of Reclamation.

Capacity table (elevation, in feet, and contents, in acre-feet)

31.00	87	80.0	2,660
35.00	226	70.0	4,440
40.0	490	80.0	6,760
45.0	869	90.0	9,660
50.0	1,340	100.0	13,090

Contents, in acre-feet, at 10 a.m., water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	10,380	7,643	-	11,100	-	-	-	-	-
2	-	-	959	10,350	7,585	-	11,520	-	-	-	5,089	-
3	-	-	-	10,310	7,528	-	11,740	-	-	-	-	-
4	-	-	-	-	7,511	-	11,420	-	-	-	4,340	-
5	-	-	875	-	7,488	-	11,310	-	-	-	4,147	-
6	-	-	-	-	7,471	-	11,150	-	-	-	4,038	-
7	-	-	849	-	7,442	-	10,860	-	-	-	-	-
8	-	-	-	-	7,414	-	10,570	-	-	12,220	-	-
9	-	-	-	9,867	7,380	-	10,370	-	-	-	-	-
10	-	-	-	-	7,358	-	10,390	-	-	12,110	3,325	-
11	-	-	-	-	7,358	-	10,770	-	-	-	3,183	-
12	-	-	-	9,654	7,274	-	11,300	-	12,430	-	-	-
13	-	-	-	-	7,246	-	11,570	-	-	-	2,944	-
14	-	-	-	-	7,207	-	12,040	-	-	-	2,814	-
15	115	-	-	-	7,179	-	12,330	-	-	-	-	-
16	-	-	-	-	7,119	-	12,410	-	-	-	2,552	-
17	-	-	-	-	7,084	-	12,420	-	-	11,420	-	-
18	-	-	-	-	7,010	-	12,410	-	-	11,180	2,364	-
19	-	-	-	-	6,981	-	12,440	-	-	10,790	-	-
20	-	-	-	8,965	6,945	5,904	12,460	-	-	-	1,930	-
21	-	-	-	-	6,908	-	12,470	-	-	9,951	1,790	-
22	-	-	912	-	6,881	6,024	12,500	12,570	-	-	-	-
23	-	-	3,048	-	6,849	-	12,560	-	-	-	-	-
24	-	-	8,094	8,443	6,812	-	12,550	-	-	8,668	-	-
25	-	-	9,084	-	6,776	-	12,510	-	-	8,255	1,320	-
26	108	-	9,629	-	6,739	-	12,480	-	-	-	-	-
27	-	-	10,060	-	6,698	8,355	12,460	-	-	-	-	-
28	-	-	10,210	-	6,647	-	12,470	-	-	6,945	1,134	-
29	-	931	10,380	-	6,616	-	12,460	-	-	6,578	-	-
30	-	a940	10,350	-	-	-	12,400	-	e12,290	-	-	a122
31	-	-	10,380	7,712	-	10,510	-	e12,530	-	5,852	1,069	-
(†)	-	-	92.2	83.44	79.44	92.58	98.04	98.4	97.7	76.30	47.30	-
(‡)	-	-	+9,440	-2,668	-1,098	+3,894	+1,890	+130	-240	-6,438	-4,783	-947

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

a No gage-height record; contents interpolated or estimated on basis of inflow-outflow study.

e Contents from gage height computed from stage-discharge relation of spillway.

Little Wood River below reservoir, near Carey, Idaho

Location.--Lat 43°25'30", long 114°01'30", in N½ sec. 13, T. 1 N., R. 20 E., on left bank a quarter of a mile downstream from Little Wood River Dam, three-quarters of a mile upstream from Little Fish Creek, and 8½ miles northwest of Carey.

Drainage area.--280 sq mi.

Records available.--October 1955 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 5,107.33 ft above mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum discharge during year, 1,090 cfs May 24 (gage height, 4.36 ft); minimum, 5.5 cfs Nov. 10 (gage height, 0.87 ft).

Remarks.--Records excellent except those for periods of no gage-height record, which are good. Storage in Little Wood Reservoir (capacity, 11,700 acre-ft) began Feb. 12, 1941. Flow also slightly affected by storage in Campbell Reservoir (capacity, 125 acre-ft) on South Fork Muldoon Creek. Diversions for irrigation of about 5,250 acres above station.

Cooperation.--Water-stage recorder inspected by employees of Little Wood Reservoir Co. and Water District No. 11 C.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 11				June 12 to Sept. 30			
0.9	7.0	2.0	190	1.1	32	2.5	355
1.0	15	2.5	324	1.4	81	3.0	540
1.1	26	3.0	500	1.7	141	3.5	745
1.3	54	3.5	700	2.0	210		
1.6	106	4.4	1,110				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	46	44	129	81	74	109	458	880	258	269	81
2	32	44	44	129	81	74	145	444	875	241	283	89
3	32	42	46	129	81	74	310	462	785	226	255	98
4	32	44	46	129	79	73	458	492	700	215	229	94
5	32	47	44	127	79	73	455	496	664	210	130	90
6	32	47	42	127	79	73	466	481	588	210	143	87
7	33	48	40	127	79	73	489	462	508	210	161	81
8	33	47	37	127	79	72	492	455	496	208	159	79
9	33	32	34	127	79	72	485	432	540	205	156	76
10	33	25	34	124	79	72	496	418	580	228	141	72
11	33	25	34	124	79	72	504	411	600	244	124	72
12	33	25	35	*124	79	71	524	389	*560	244	120	68
13	33	25	35	124	79	71	580	356	532	250	118	67
14	28	25	35	123	77	71	628	321	504	241	122	63
15	40	25	35	123	77	71	816	303	492	210	128	60
16	35	23	34	121	77	70	898	315	435	196	118	57
17	33	14	35	121	77	70	830	372	379	*228	118	53
18	31	10	35	119	77	70	*767	473	326	280	135	49
19	31	12	35	119	77	70	844	592	317	326	154	47
20	33	13	35	119	77	70	880	708	349	345	133	44
21	34	22	35	119	76	70	902	790	333	339	*114	42
22	35	29	53	119	76	*70	924	*884	289	336	112	42
23	35	33	74	117	76	70	956	942	280	333	110	44
24	35	35	61	119	76	74	*888	1,060	292	323	108	44
25	35	38	66	117	75	81	772	1,030	301	320	96	42
26	*38	41	67	117	75	79	704	970	289	314	85	42
27	41	42	69	117	75	81	680	938	292	311	85	42
28	42	*42	81	117	75	82	648	880	295	298	76	42
29	42	*42	113	117	74	84	580	866	295	286	67	36
30	42	44	129	106	-----	86	508	844	283	280	87	48
31	46	-----	129	79	-----	93	-----	821	-----	275	72	-----
Total	1,079	987	1,636	3,736	2,250	2,306	18,738	18,865	14,059	8,188	4,168	1,852
Mean	34.8	32.9	52.8	121	77.6	74.4	625	609	469	264	134	61.7
Ac-ft	2,140	1,960	3,240	7,410	4,460	4,570	37,170	37,420	27,890	16,240	8,270	3,670

Calendar year 1955: Max - Min - Mean - Ac-ft -  
 Water year 1955-56: Max 1,060 Min 10 Mean 213 Ac-ft 154,400

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-14, Feb. 17 to Mar. 19; discharge estimated on basis of weather records and records for station near Carey.

## 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 1955. Monthly discharge only for some periods, published in WSP 1317. February 1920 to September 1926 at site 6 miles upstream; records not equivalent because of 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, at same site at datum 0.74 ft higher.

Average discharge.--29 years (1926-42, 1943-56), 134 cfs (97,010 acre-ft per year).

Extremes.--Maximum discharge during year, 1,070 cfs May 24 (gage height, 5.68 ft); minimum, 5.5 cfs Oct. 14 (gage height, 1.77 ft).

1904-5, 1926-56: 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 flood-mark), from rating curve extended above 1,800 cfs; minimum, 1 cfs Jan. 26, 1945, Jan. 20, 1948.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good. Diversions for irrigation of about 6,450 acres above station. Storage in Little Wood Reservoir (capacity, 11,700 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 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 30 to May 5)

1.8	6	3.6	276
2.0	14	4.0	410
2.2	25	4.5	590
2.5	52	5.0	760
2.8	90	6.0	1,220
3.2	168		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	44	47	140	b85	79	134	472	860	252	276	74
2	31	43	47	140	b85	*79	153	452	840	232	270	80
3	31	42	b48	140	b84	79	308	460	768	218	258	92
4	31	43	b48	140	b84	80	504	492	676	202	235	90
5	31	45	b47	140	b84	77	484	500	648	197	126	86
6	31	46	46	140	b83	b76	488	485	578	197	138	82
7	32	46	b44	140	b83	b76	516	465	500	200	161	77
8	32	46	b41	140	b83	76	516	455	492	192	159	76
9	32	31	b58	140	b83	76	516	430	529	192	157	72
10	32	24	b58	138	b83	b76	523	415	558	215	142	71
11	32	24	38	138	82	b76	562	410	570	232	128	70
12	33	24	39	*138	82	b76	602	385	*535	232	120	69
13	33	24	b39	140	82	b76	645	350	508	240	118	86
14	27	24	b59	138	82	b76	688	320	484	255	122	84
15	39	24	b59	138	81	b76	686	300	476	213	128	60
16	34	24	b59	142	81	b75	960	310	425	200	120	58
17	32	13	39	134	81	b75	890	370	370	*218	118	53
18	30	9	40	130	81	b77	*796	470	330	286	132	50
19	30	10	42	126	81	79	860	485	314	334	155	47
20	32	12	42	122	81	84	890	700	346	352	136	45
21	33	30	43	122	80	85	906	788	337	349	*115	43
22	34	35	425	122	80	*109	922	*874	289	343	111	42
23	34	36	454	122	80	142	*938	934	279	340	107	43
24	35	38	188	b122	80	170	890	1,040	289	334	102	43
25	*38	40	109	b122	80	180	780	1,030	298	327	90	42
26	40	44	95	b121	80	134	704	955	289	324	80	42
27	42	46	85	120	80	107	676	922	289	321	80	41
28	42	47	95	b120	80	105	657	865	289	311	72	42
29	42	*47	125	b120	79	116	590	850	289	295	63	40
30	43	47	140	b110	-----	130	516	830	276	289	83	41
31	45	-----	140	b85	-----	130	-----	796	-----	286	66	-----
Total	1,064	1,008	2,739	4,030	2,370	2,953	19,508	18,610	13,731	8,158	4,148	1,801
Mean	34.3	33.6	88.4	130	81.7	95.3	650	600	458	263	134	60.0
Ac-ft	2,110	2,000	5,430	7,990	4,700	5,860	38,690	36,910	27,240	16,180	8,230	3,570

Calendar year 1955: Max 454 Min 2 Mean 90.4 Ac-ft 65,480  
Water year 1955-56: Max 1,040 Min 9 Mean 219 Ac-ft 158,900

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 15-24, Nov. 7-28, Dec. 26 to Jan. 11, Feb. 11 to Mar. 1, May 6-20; discharge estimated on basis of weather records and records for station below Little Wood Reservoir.

## 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 1956 (1923-35, irrigation seasons only).

Gage.--Water-stage recorder. Altitude of gage is 4,790 ft (by barometer).

Average discharge.--23 years (1920-22, 1935-56), 154 cfs (111,500 acre-ft per year).

Extremes.--Maximum discharge during year, 357 cfs Dec. 24 (gage height, 3.70 ft); minimum, 57 cfs May 25 (gage height, 0.95 ft)  
1920-56: Maximum discharge recorded, that of Dec. 24, 1955; 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 above station. Two small canals bypass station. 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. Silver Creek receives considerable return flow resulting from Big Wood River irrigation.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.9	54	2.5	221
1.5	114	3.0	276
2.0	166	3.7	357

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	160	177	187	b90	149	241	159	104	168	162	185
2	144	157	176	182	b100	152	241	157	100	176	162	184
3	144	157	170	176	b110	150	229	157	102	186	162	181
4	144	157	b150	174	b120	156	225	136	107	187	162	179
5	146	159	b140	177	b130	152	241	134	104	192	162	176
6	150	160	b130	180	b140	147	248	134	107	197	163	177
7	155	160	b145	175	b145	b140	225	139	104	195	168	176
8	156	160	b150	173	b150	153	219	142	106	186	168	176
9	158	162	b145	170	b155	152	212	132	107	189	169	176
10	159	165	b160	169	b160	147	211	154	108	179	167	180
11	159	162	163	170	b165	147	207	152	106	173	162	194
12	157	153	164	*174	b170	147	199	132	102	170	161	208
13	159	115	164	178	b170	148	188	130	*104	182	158	206
14	158	b100	130	178	b165	147	181	125	107	190	153	200
15	158	b90	b110	178	b160	145	180	117	107	190	154	200
16	158	b85	b140	192	b160	145	174	116	119	189	160	199
17	157	b80	b160	191	b155	145	168	96	124	182	161	197
18	156	b95	162	180	b155	145	165	86	123	*181	162	196
19	157	b150	167	174	b155	148	162	91	123	177	161	196
20	156	b190	179	169	155	157	158	91	123	173	163	191
21	154	191	188	167	155	160	155	89	138	170	*160	187
22	156	188	221	166	*154	*172	152	69	142	176	159	178
23	159	178	296	174	154	190	150	*63	146	178	159	174
24	159	175	351	166	149	226	*150	66	155	165	167	177
25	*158	172	300	142	152	263	147	64	158	160	174	176
26	158	169	246	b135	153	285	148	68	156	157	169	176
27	180	172	238	b120	146	263	146	74	160	152	168	176
28	180	177	b210	b110	154	231	153	85	154	148	172	175
29	160	*179	b200	b105	153	221	147	109	154	145	178	182
30	180	177	b195	b100	-----	226	141	108	161	153	186	191
31	161	-----	b190	b90	-----	234	-----	106	-----	160	186	-----
Total	4,819	4,595	5,717	5,022	4,280	5,443	5,565	3,384	3,711	5,430	5,116	5,569
Mean	155	153	184	162	148	176	186	109	124	175	165	186
Ac-ft	9,580	9,110	11,340	9,960	8,490	10,800	11,040	6,710	7,360	10,770	10,150	11,050

Calendar year 1955: Max	351	Min	80	Mean	138	Ac-ft	99,800
Water year 1955-56: Max	351	Min	63	Mean	160	Ac-ft	116,300

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice. Flow in bypass channel, which carries water around gage, measured as 0.51 cfs Oct. 25; 1.30 cfs Nov. 23; 1.18 cfs Jan. 12; 7.53 cfs Feb. 22; 1.00 cfs Mar. 22; 1.16 cfs Apr. 24; 0.41 cfs May 23; 0.15 cfs June 13; 1.05 cfs July 18.

## 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 1956 (irrigation seasons only prior to 1955 except 1913, 1914, 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.

Extremes.--Maximum discharge during year, 508 cfs May 30 (gage height, 4.15 ft); maximum gage height recorded, 8.60 ft Feb. 21 (ice jam); minimum daily discharge, 60 cfs Nov. 16; minimum gage height, 2.20 ft May 19.

1911-56: Maximum discharge recorded, 868 cfs May 3, 1938 (gage height, 3.97 ft, site and datum then in use); minimum recorded, 7.6 cfs June 24, 25, 1920 (gage height, 0.52 ft, site and datum then in use).

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 38,300 acres above station. Flow partly regulated by Little Wood Reservoir (capacity, 11,700 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 table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.2	56	3.1	178
2.3	82	3.4	241
2.5	80	3.8	350
2.8	124	4.2	500

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	121	155	170	85	145	237	308	480	157	114	127
2	100	121	154	165	90	145	237	290	456	159	111	127
3	100	121	143	160	100	140	230	274	464	145	106	129
4	100	124	158	160	105	140	255	269	448	145	110	127
5	102	129	125	165	115	140	290	250	385	143	106	116
6	105	129	120	165	120	140	311	239	341	143	105	122
7	110	129	150	161	130	155	299	219	284	143	104	122
8	114	129	140	157	135	140	282	215	167	136	100	122
9	119	131	135	156	140	145	274	196	152	131	95	126
10	121	136	140	154	150	145	267	170	150	127	102	129
11	119	136	145	*152	155	145	267	161	*143	121	104	132
12	121	136	150	154	155	145	267	155	136	113	100	132
13	121	92	150	159	155	145	264	148	114	118	102	132
14	122	80	120	161	150	145	272	126	102	121	93	134
15	118	70	100	163	140	145	290	92	106	124	90	139
16	116	60	110	170	135	150	354	85	121	124	96	139
17	114	85	140	174	130	150	406	77	122	*124	99	136
18	114	85	150	167	135	150	428	*63	114	118	100	126
19	114	120	155	159	140	160	410	78	100	111	102	132
20	114	170	165	155	145	170	413	134	99	113	*102	131
21	113	185	180	152	145	*184	418	*182	111	108	102	134
22	113	160	200	152	145	182	420	215	122	108	99	132
23	114	160	250	157	140	198	420	223	119	111	104	127
24	119	155	300	154	140	239	428	248	121	108	106	127
25	*118	155	250	140	140	290	416	311	132	*102	113	129
26	119	155	230	125	140	317	*382	323	145	102	119	129
27	119	155	200	115	140	305	374	350	139	100	118	129
28	121	155	190	105	140	269	374	406	141	106	114	131
29	121	*155	185	95	140	237	350	448	145	110	114	131
30	121	155	180	90	-----	230	335	496	155	110	122	134
31	121	-----	175	90	-----	234	-----	472	-----	113	126	-----
Total	3,542	3,854	5,105	4,591	3,880	5,605	9,978	7,221	5,774	3,795	3,279	3,885
Mean	114	128	165	146	134	181	333	233	192	122	106	129
Ac-ft	7,030	7,640	10,130	9,110	7,700	11,120	19,790	14,320	11,450	7,530	6,500	7,700
Calendar year 1955: Max	300			Min	80		Mean	114	Ac-ft	82,330		
Water year 1955-56: Max	496			Min	60		Mean	165	Ac-ft	120,000		

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 14-28, Dec. 5-20, Jan. 25 to Mar. 15. No gage-height record Dec. 14, 15, Dec. 18 to Jan. 6, Feb. 2-20, Feb. 22 to Mar. 2, Mar. 6-20; discharge estimated on basis of weather records and records for station at Shoshone and Silver Creek near Pica.



## 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 and 400 ft upstream from highway bridge in Shoshone.

Drainage area--620 sq mi, approximately.

Records available--April 1922 to September 1956 (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 year, 586 cfs June 3 (gage height, 5.64 ft); minimum daily, 13 cfs Oct. 13-16.

1922-56: Maximum discharge recorded, 673 cfs Apr. 28, 1952 (gage height, 7.22 ft, present datum); practically no flow July 29, 1931, Oct. 3, 1938.

Remarks--Records excellent except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 52,200 acres 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 Byrns Slough for Dietrich Canal via Little Wood River at Richfield.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used July 2 to Aug. 7)

Oct. 1-31

Nov. 1 to Sept. 30

0.6	23	0.6	38	3.0	298
.8	35	1.0	65	3.5	372
1.1	56	1.5	106	4.0	429
		2.0	152	4.8	510
		2.5	217	5.6	583

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	50	142	b140	70	140	224	412	572	544	503	463
2	35	60	139	b145	80	140	224	418	573	546	499	457
3	25	64	136	b145	95	b135	223	485	580	542	511	454
4	23	62	b120	b150	100	b130	223	496	583	544	527	453
5	20	64	b110	154	105	b120	246	474	538	542	515	457
6	19	65	b105	153	110	b115	264	468	500	529	506	464
7	18	66	b115	156	120	b110	276	485	507	536	494	459
8	16	65	b125	148	130	130	262	471	482	532	487	459
9	16	64	b100	142	135	144	253	459	452	532	486	455
10	15	63	b100	139	140	147	243	461	481	518	485	460
11	14	67	b100	140	150	139	171	456	494	509	493	466
12	14	64	b100	137	150	b125	129	462	495	502	486	483
13	13	b50	b100	143	145	b125	130	461	497	502	486	487
14	13	45	b100	145	140	132	128	462	487	502	470	481
15	13	40	b85	151	130	134	133	451	484	508	465	468
16	13	45	b65	159	125	136	151	440	497	516	463	459
17	15	50	b90	171	120	152	184	431	*506	521	464	461
18	14	60	b120	175	125	176	310	434	520	516	463	440
19	14	b100	b140	153	130	246	359	438	520	507	464	433
20	16	148	146	150	140	310	340	452	525	*500	466	417
21	18	150	151	142	140	*459	362	483	546	500	*467	400
22	20	136	171	138	140	522	384	497	563	503	460	417
23	25	139	211	151	135	500	411	510	563	501	456	433
24	*27	139	256	158	130	498	422	496	554	508	484	425
25	28	130	283	128	130	438	*395	507	548	507	458	416
26	30	158	283	102	130	356	427	531	551	502	466	391
27	45	178	262	b95	130	301	390	517	548	502	473	378
28	47	*158	b90	130	377	394	331	527	498	488	468	365
29	43	162	178	b90	135	262	425	*565	527	501	486	392
30	45	149	143	75	-----	230	433	570	533	492	473	329
31	45	-----	b140	70	-----	220	-----	575	-----	498	460	-----
Total	750	2,803	4,537	4,225	3,640	7,149	8,516	14,898	15,733	15,960	14,884	13,142
Mean	24.2	93.4	146	136	126	231	284	481	524	515	480	438
Ac-ft	1,490	5,560	9,000	8,580	7,220	14,180	16,890	29,550	31,210	31,680	29,520	26,070

Calendar year 1955: Max 544  
Min 13  
Water year 1955-56: Max 580  
Min 13

Mean 259  
Mean 290

Ac-ft 187,800  
Ac-ft 210,700

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 2-25, Oct. 25 to Nov. 2, Nov. 14-18, Jan. 30 to Mar. 2, Mar. 8; discharge estimated on basis of records for station near Richfield, Silver Creek near Pícabo, and Malad River near Gooding.

## Malad River near Gooding, Idaho

Location.--Lat 42°54', long 114°48', in 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 1956 (fragmentary 1923-37, 1942). Prior to October 1950, published as Big Wood 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.--24 years (1916-22, 1937-41, 1942-56), 232 cfs (168,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,750 cfs May 29 (gage height, 8.26 ft); no flow Oct. 14.

1916-56: Maximum discharge, 6,500 cfs Apr. 27, 1952 (gage height, 10.67 ft); no flow at times in many years.

Remarks.--Records excellent except those below about 30 cfs which are fair, and those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 155,000 acres above station. Flow regulated by Magic Reservoir (see p. 113) 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 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.2	0	0.6	2.4	1.4	40	5.0	745
.5	.1	.7	4.3	2.0	106	6.3	1,140
.4	.4	.9	10	3.0	254	7.0	1,720
.5	1.1	1.1	19	4.0	453	8.2	2,700

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	153	66	198	b150	b65	119	1,200	1,070	*2,170	91	101	81
2	89	72	174	b150	b62	158	1,270	846	2,260	115	112	56
3	54	77	178	b140	a70	431	1,300	756	2,620	125	127	54
4	47	91	162	b150	a80	282	1,320	731	2,540	111	151	32
5	31	110	b140	b150	a90	256	1,340	710	2,180	114	202	60
6	26	89	b120	b170	a95	155	1,350	704	1,830	107	192	84
7	19	85	b90	b170	b95	137	1,370	720	1,560	89	184	70
8	17	87	b100	b160	a85	150	1,380	759	1,220	86	144	72
9	8.6	89	b68	139	a90	179	1,380	885	885	91	119	74
10	3.0	116	b90	150	a100	188	1,370	551	808	71	106	100
11	2.2	114	b90	*137	b110	140	1,220	551	846	61	114	129
12	1.1	115	88	130	b120	130	1,160	481	885	47	107	129
13	.1	80	b85	129	b130	130	1,260	453	933	38	98	148
14	0	b85	b75	125	b120	115	1,210	376	933	29	95	147
15	.4	b70	b60	162	b110	97	1,080	238	897	28	87	176
16	.3	b35	b65	1,050	a105	103	640	105	893	44	79	184
17	5.2	b14	71	410	a100	169	334	32	710	53	68	179
18	3.6	b70	82	222	b85	215	209	2.8	520	55	72	203
19	.8	b100	100	196	b75	297	416	1.6	*436	70	77	188
20	3.9	119	110	174	b65	*549	388	295	320	*81	*76	196
21	6.0	155	126	170	*b100	686	244	703	357	64	73	184
22	6.0	153	740	167	b120	953	227	1,050	355	63	73	202
23	5.8	168	1,670	708	140	1,280	216	1,370	313	69	64	236
24	*5.5	183	754	400	130	1,540	126	1,690	232	63	54	241
25	5.2	b170	399	170	122	1,720	159	2,040	164	67	54	220
26	18	184	473	141	b113	1,640	1,290	2,380	154	74	56	214
27	54	185	431	b150	114	1,380	*1,570	2,480	130	86	70	168
28	37	*208	274	b130	b113	1,300	1,580	2,500	110	74	89	167
29	68	222	208	b125	116	1,320	1,460	2,680	67	91	105	151
30	73	202	144	a130	-----	1,240	1,320	2,200	54	98	96	208
31	66	-----	b160	b90	-----	1,180	-----	2,150	-----	98	87	-----
Total	789.7	3,515	7,595	6,645	2,918	16,239	29,369	31,290.4	27,362	2,343	3,130	4,401
Mean	25.5	117	245	214	101	588	979	1,009	912	75.6	101	147
Ac-ft	1,570	6,970	15,060	13,180	5,790	36,180	56,250	62,060	54,270	4,650	6,210	8,730
Calendar year 1955: Max 1,670 Min 0 Mean 117 Ac-ft 84,720												
Water year 1955-56: Max 2,680 Min 0 Mean 376 Ac-ft 272,900												

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby streams.

b Stage-discharge relation affected by ice.

## King Hill Canal near Hagerman, Idaho

Location.--Lat 42°52', long 114°55', in SW $\frac{1}{4}$  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 Malad River and  $\frac{3}{4}$  miles north of Hagerman.

Records available.--March 1930 to September 1956 (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.--1930-56: Maximum daily discharge, 348 cfs July 2, 1956; no flow or small flow from leakage at headgate during nonirrigation seasons and other periods when gates were 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 in turn diverts from Malad River (Malad Springs water).

Cooperation.--Water-stage recorder graph for supplementary gage furnished by King Hill Irrigation District.

Revisions (water years).--WSP 723: 1930.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	274					0	2	322	330	344	328	314
2	272	(*)				0	81	*320	330	348	333	310
3	270					0	128	320	330	345	339	310
4	266					0	*164	318	328	342	340	315
5	264		(*)			0	164	318	327	342	333	321
6	263					0	164	315	327	340	328	318
7	262					0	164	321	327	340	328	316
8	262					0	164	322	321	338	43	322
9	262			(*)		0	164	326	50	334	2	326
10	262					0	164	326	1	333	55	322
11	252					0	226	324	*1	332	322	326
12	249					0	272	326	313	328	308	324
13	255					0	272	324	326	327	306	326
14	260					0	272	324	327	327	308	323
15	263					0	272	318	327	327	306	322
16	263					0	270	315	326	326	316	324
17	262					0	272	322	321	332	318	326
18	262					0	290	333	322	334	318	328
19	262					0	308	328	327	328	318	327
20	85				(*)	0	309	338	326	327	*318	327
21	2					0	308	334	330	322	322	324
22	0					0	308	330	332	321	321	310
23	0					0	323	332	333	321	315	316
24	0					0	332	333	333	322	308	315
25	0					0	333	328	333	322	310	*315
26	0					0	344	327	333	322	318	315
27	0					0	346	326	336	322	316	314
28	0					1	338	322	340	*322	315	315
29	0					3	328	*321	340	322	315	315
30	0					3	327	320	342	326	315	315
31	0	-----				2	-----	324	-----	327	315	-----
Total	5,072	0	0	0	0	9	7,409	10,057	8,939	10,243	9,037	9,490
Mean	164	0	0	0	0	0.3	247	324	298	330	292	316
Ac-ft	10,080	0	0	0	0	18	14,700	19,950	17,730	20,320	17,920	18,820
Calendar year 1955: Max	340					Min	0	Mean	158	Ac-ft	114,700	
Water year 1955-56: Max	348					Min	0	Mean	165	Ac-ft	119,500	

\* Discharge measurement made on this day.

## Snake River at King Hill, Idaho

Location.--Lat 43°00', long 115°11', in SW $\frac{1}{4}$  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 Malad River.

Drainage area.--35,800 sq mi, approximately.

Records available.--May 1909 to September 1956.

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 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, 29,400 cfs June 4 (gage height, 12.52 ft); minimum, 1,850 cfs Dec. 10 (gage height, 2.47 ft); minimum daily, 7,040 cfs July 3.

1909-56: 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 except those for period of partly estimated gage-height record, which are good. Flow regulated by powerplants at Lower Salmon Falls and near Bliss and by many reservoirs above station. Practically entire flow at Milner diverted during most 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 1956 are given in WSP 1453.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

5.0	5,730	9.0	16,500
6.0	7,840	11.0	23,700
7.0	10,300	13.0	31,500

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,340	9,980	9,510	9,440	12,100	12,800	21,400	18,100	*28,800	7,500	8,250	8,600
2	8,670	9,540	9,170	10,600	11,100	13,900	21,500	*18,300	28,400	8,770	8,580	8,580
3	9,020	9,340	8,960	10,600	11,800	13,200	21,500	17,000	28,400	7,040	8,520	8,390
4	8,980	10,300	8,840	10,400	11,800	13,200	20,900	16,800	28,900	7,360	8,620	8,680
5	8,760	9,740	*8,980	10,700	12,000	12,900	19,900	16,100	28,000	7,600	8,380	8,480
6	8,680	9,140	8,770	10,300	11,900	13,700	18,700	16,400	27,300	7,690	8,660	9,180
7	8,840	9,600	9,350	10,400	12,200	13,000	18,200	16,700	26,800	7,800	8,440	8,560
8	8,780	8,680	9,040	10,900	12,600	13,100	17,300	16,900	26,200	7,930	8,700	8,550
9	9,060	9,240	8,640	10,400	11,900	13,200	17,800	13,500	26,000	7,800	9,140	8,420
10	9,450	*9,090	9,090	10,400	12,100	13,200	15,700	13,500	23,900	7,790	8,480	8,720
11	8,600	9,060	8,720	10,000	11,700	12,200	13,600	13,400	*21,400	7,250	8,320	8,860
12	9,040	8,840	8,430	11,200	11,900	12,800	13,100	13,400	19,200	7,770	8,960	9,190
13	9,880	8,820	9,070	10,600	12,000	12,200	15,200	13,900	19,800	7,360	7,990	9,360
14	9,240	9,140	8,700	11,200	12,200	11,600	14,900	14,100	19,900	7,730	9,000	9,050
15	9,750	8,940	8,760	11,000	11,900	12,000	13,800	15,000	20,200	7,590	8,960	9,140
16	9,700	8,840	7,560	*13,600	11,900	11,900	13,200	14,000	19,500	8,100	8,120	9,120
17	9,690	7,950	9,020	12,500	11,600	12,200	13,500	13,200	21,200	7,720	8,500	9,700
18	9,900	8,920	9,060	11,300	10,900	12,700	10,400	11,900	14,200	7,880	8,500	9,470
19	8,990	9,450	9,180	10,800	11,500	*13,800	10,500	11,200	16,600	7,710	7,800	9,130
20	9,220	8,710	9,650	11,200	11,900	14,900	10,100	10,400	18,800	7,240	8,960	9,400
21	9,020	9,460	9,860	11,500	11,900	14,100	9,370	9,450	23,000	7,860	*8,440	9,280
22	9,460	8,860	11,700	11,400	11,600	15,100	12,200	8,640	22,270	8,100	*8,430	9,320
23	8,160	9,440	15,000	12,300	12,700	15,600	13,700	8,800	19,200	8,060	*7,800	9,170
24	9,780	8,740	11,400	12,700	11,900	15,900	13,700	9,200	16,800	7,480	7,780	*9,810
25	8,660	8,940	10,200	12,800	12,200	18,100	14,500	10,500	12,500	8,120	8,420	*10,000
26	9,040	9,510	10,300	12,000	12,700	19,000	16,400	11,300	11,800	8,080	7,710	9,280
27	9,340	8,960	9,950	12,500	12,700	17,000	19,500	12,500	10,400	*8,080	9,280	9,540
28	9,240	9,280	10,100	12,000	*12,900	17,100	19,300	17,200	9,850	8,160	8,240	8,980
29	9,170	9,240	10,100	11,600	12,900	17,400	17,500	*22,300	9,480	8,010	8,560	9,400
30	9,180	8,920	9,480	11,800	-----	17,600	18,400	26,600	8,140	8,430	8,460	9,590
31	9,240	-----	9,540	12,500	-----	20,300	-----	28,800	-----	9,020	8,840	-----
Total	283,780	274,670	295,610	350,640	348,200	445,700	475,470	458,090	607,370	243,030	262,800	272,930
Mean	9,154	9,156	9,536	11,310	12,010	14,380	15,850	14,780	20,250	7,840	8,477	9,098
Ac-ft	562,900	544,800	586,300	695,500	690,600	884,000	943,100	908,600	*1,205	482,000	521,300	541,300
Calendar year 1955: Max	15,000	Min	7,140	Mean	9,145	Ac-ft	6,621,000					
Water year 1955-56: Max	28,900	Min	7,040	Mean	11,800	Ac-ft	8,565,000					

\* Discharge measurement made on this day.

† Expressed in thousands.

‡ Discharge computed on basis of partly estimated gage-height record.

## 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 1956 (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, 1931-56: Maximum daily discharge, 182 cfs Jan. 1, 1943; no flow at times during most years.

Remarks.--Records good except those below 20 cfs, which are fair, and those for periods of no gage-height record or ice effect, 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	al.0	2.2	3.5	40	b3	32	40	88	75	79	42	42
2	al.0	1.7	3.5	37	b2.5	35	36	87	75	79	41	40
3	al.0	1.5	3.1	35	b2.5	37	34	85	75	78	41	53
4	al.0	1.5	2.8	34	b3	40	44	84	75	77	42	56
5	al.0	1.7	b1.4	35	b3.5	41	55	90	75	77	42	55
6	al.0	1.5	4.6	36	b3	39	52	90	74	78	*52	*56
7	al.0	1.5	b4.6	32	b3	37	75	76	58	77	61	56
8	al.0	1.5	b3.8	31	a3	*37	86	68	56	76	62	56
9	al.0	1.5	4.9	30	a3	37	85	62	55	75	62	56
10	al.2	1.7	b4.5	30	a3	36	88	59	53	74	59	56
11	al.4	1.7	4.2	29	a4	34	93	58	53	74	52	56
12	al.4	1.4	4.2	28	b4.5	34	98	56	54	74	52	56
13	al.3	1.2	b4.5	30	3.1	34	*97	55	54	*73	51	56
14	*1.2	b1.4	b4.2	31	19	33	95	54	55	73	59	56
15	1.0	b1.0	b3.5	125	32	31	94	53	57	73	60	55
16	1.2	b1.1	5.3	118	b20	32	105	51	52	78	59	52
17	1.2	*1.2	5.3	98	b21	35	110	48	42	79	58	38
18	1.2	1.0	4.9	83	b23	44	104	48	41	84	58	24
19	1.2	1.7	5.3	64	b25	62	99	61	41	84	60	20
20	1.4	2.0	6.5	36	28	86	95	63	41	84	60	30
21	1.5	1.5	*13	35	36	82	92	78	*41	83	59	31
22	1.5	1.2	75	41	34	27	92	*79	50	81	58	26
23	1.7	1.2	167	75	34	45	93	80	54	79	58	24
24	1.5	1.4	180	36	31	56	92	83	63	67	52	23
25	1.5	1.4	108	27	32	51	88	80	62	64	51	23
26	1.7	1.5	84	*22	32	43	88	79	71	64	51	23
27	1.7	1.5	72	18	31	38	89	83	75	64	51	23
28	1.7	1.5	62	11	30	33	90	81	75	59	51	24
29	2.0	1.7	53	7.0	30	35	90	80	74	45	51	23
30	2.2	2.2	47	6.0	-----	40	90	78	79	44	51	23
31	2.4	-----	43	b5	-----	43	-----	75	-----	43	51	-----
Total	42.1	45.1	966.6	1,265.0	499.1	1,289	2,489	2,212	1,805	2,239	1,657	1,212
Mean	1.36	1.50	31.2	40.8	17.2	41.6	83.0	71.4	60.2	72.2	53.5	40.4
Ac-ft	84	89	1,920	2,510	990	2,560	4,940	4,390	3,580	4,440	3,290	2,400

Calendar year 1955: Max 167 Min 0.5 Mean 20.2 Ac-ft 14,660  
 Water year 1955-56: Max 167 Min 1.0 Mean 45.0 Ac-ft 31,190

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, records for Moore Creek near Arrowrock, and other records for stations on nearby streams.

b Stage-discharge relation affected by ice.

## East Fork Jarbidge River near Three Creek, Idaho

Location.--Lat 42°02', long 115°22', in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> 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.

Records available.--October 1928 to March 1933, September 1953 to September 1956.

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.--7 years (1928-32, 1953-56), 47.2 cfs (34,170 acre-ft per year).

Extremes.--Maximum discharge during year, 548 cfs May 24 (gage height, 5.28 ft); minimum, 2.2 cfs Nov. 2; minimum gage height, 2.44 ft Aug. 23, Sept. 26.

1928-33, 1953-56: Maximum discharge, 564 cfs May 25, 1929, June 25, 1932 (gage height, about 5.1 ft, present datum); minimum, 1.6 cfs Nov. 30, 1954 (gage height, 2.29 ft).

Remarks.--Records good except those for period of no gage-height record and those below 10 cfs, which are fair. No regulation or diversion above station.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 28 to May 20)

Oct. 1 to May 20

May 21 to Sept. 30

2.5	2.2	3.0	35	2.4	6.5	3.5	152
2.6	4.5	3.5	104	2.5	10	4.0	257
2.7	9.0	4.0	191	2.6	17	4.5	374
2.8	16	4.8	370	2.8	37	5.1	521
				3.0	63		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	7.6	11	21	9.0	11	50	104	396	129	24	10
2	7.2	6.3	11	20	12	45	45	112	367	112	22	9.9
3	6.8	9.0	10	20	12	12	42	135	357	101	23	9.9
4	6.8	9.7	9	19	12	12	41	161	355	94	22	9.9
5	6.8	9.7	8.5	17	13	12	46	161	331	91	22	9.5
6	6.8	9.0	10	16	13	12	45	156	271	89	*22	9.1
7	6.8	9.7	10	15	13	*12	46	158	239	88	20	8.7
8	6.3	9.0	10	14	12	13	47	158	250	84	19	8.7
9	6.3	9.0	10	15	11	13	51	165	280	81	19	8.7
10	6.3	8.1	10	15	12	13	71	156	296	79	18	9.5
11	5.8	10	11	15	12	12	84	147	305	76	18	12
12	6.3	5.4	12	15	13	12	74	135	282	71	17	11
13	*6.8	6.2	11	15	12	15	68	125	275	66	16	*9.9
14	5.8	7.0	9	15	12	12	66	118	255	60	15	9.5
15	5.8	3.8	10	26	11	12	61	118	239	55	16	9.1
16	5.8	*8.3	13	59	b7.6	12	77	135	198	*50	15	8.7
17	5.8	10	12	37	12	16	84	180	162	48	15	8.3
18	5.8	10	11	30	11	27	82	239	141	45	15	8.3
19	6.3	12	11	27	10	45	95	299	*148	44	15	8.3
20	6.3	13	*11	23	11	50	*122	365	176	42	14	8.3
21	7.2	12	10	22	10	51	142	*408	160	42	13	9.5
22	9.0	9.7	24	20	11	54	161	422	142	41	12	9.5
23	8.1	7.5	31	20	11	66	167	441	146	37	12	9.5
24	7.6	9.7	101	17	10	86	168	521	168	34	11	9.1
25	7.2	8.9	59	*17	10	101	146	432	166	33	11	8.7
26	7.6	10	46	18	10	88	144	420	160	30	12	8.3
27	8.1	10	43	17	10	68	142	379	158	30	12	8.3
28	7.6	9.7	31	9.7	10	56	134	321	160	29	12	8.3
29	7.6	9.0	22	12	11	51	118	275	162	33	11	8.3
30	8.1	10	30	12	-----	51	109	285	150	29	11	8.3
31	8.6	-----	25	7.2	-----	54	-----	355	-----	26	11	-----
Total	214.9	269.3	732.5	605.9	323.6	1,061	2,728	7,586	6,897	1,869	495	275.1
Mean	6.93	8.98	23.6	19.5	11.2	34.2	90.9	245	230	60.3	16.0	9.17
Ac-ft	426	534	1,450	1,200	642	2,100	5,410	15,050	13,680	3,710	982	546
Calendar year 1955: Max 318 Min 3.8 Mean 38.7 Ac-ft 28,020												
Water year 1955-56: Max 521 Min 3.8 Mean 63.0 Ac-ft 45,730												

Peak discharge (base, 200 cfs).--May 24 (8:30 a.m.) 548 cfs (5.28 ft); June 1 (4:30 a.m.) 420 cfs (4.73 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Dec. 2-19; discharge estimated on basis of weather records and records for East Fork Bruneau River and Bruneau River near Hot Spring.

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 1956 (fragmentary May, August, November 1953, June to November 1954, January, March, June to August 1955).

Gage.--Water-stage recorder. Altitude of gage is 5,150 ft (by barometer). Prior to Aug. 30, 1955, staff gage at Salls Ranch 3 miles downstream at different datum.

Extremes.--Maximum discharge during year, 185 cfs May 28 (gage height, 4.83 ft); minimum, 2.0 cfs Oct. 3; minimum gage height, 2.57 ft Oct. 1.  
1953-56: Maximum discharge recorded, that of May 28, 1956, but may have been higher during June 1953; minimum recorded, 1.1 cfs Sept. 11, 12, 13, 1955 (gage height, 2.32 ft).

Remarks.--Records good except those below about 20 cfs, which are fair, and those for periods of ice effect, which are poor. Diversions for irrigation from main stem and tributaries 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.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	6.7	8.4	9.5	9	12	31	48	100	14	4.8	6.5
2	2.2	6.7	8.7	9.7	10	13	28	43	102	14	4.6	6.1
3	2.1	6.7	8.5	10	11	13	27	47	98	13	4.6	6.1
4	2.2	6.7	8.2	10	11	14	25	55	89	12	4.4	6.1
5	2.5	6.7	8.0	11	11	14	25	65	82	13	5.0	6.3
6	2.8	6.7	9.5	10	11	12	24	71	81	12	5.9	6.3
7	2.9	6.7	9.2	11	11	*11	24	79	72	11	*5.6	6.3
8	3.4	6.7	9.0	10	11	12	24	83	62	10	5.4	5.9
9	3.9	7.0	8.7	10	10	12	23	86	58	9.7	5.2	4.8
10	4.2	7.0	8.7	10	11	11	25	83	54	8.4	5.2	5.0
11	4.2	7.0	9.0	10	11	9.5	31	82	48	7.9	5.2	5.2
12	4.6	6.5	10	11	11	9.5	36	81	43	7.0	5.2	5.2
13	*4.8	6.0	9.0	11	11	11	35	67	36	6.3	5.2	*5.0
14	4.8	5.0	8.0	11	10	10	35	60	25	5.9	5.0	4.8
15	5.0	4.5	8.0	16	9.5	10	35	51	58	6.5	5.4	4.8
16	5.0	*5.5	8.5	15	9	11	36	43	86	*6.5	5.4	3.1
17	5.2	6.5	8.5	13	10	13	37	37	57	6.3	5.4	3.4
18	5.2	8.2	8.7	12	9.5	18	37	39	46	5.4	5.6	3.7
19	5.4	9.7	9.2	12	9	23	36	50	*38	4.8	6.1	3.9
20	6.1	9.7	*10	13	9	33	*39	58	37	4.6	6.1	4.2
21	5.4	8.4	9.5	13	9	38	43	*71	45	5.0	6.1	4.1
22	5.4	7.4	9.7	13	10	36	53	85	37	5.2	7.2	4.1
23	5.4	7.4	9.7	13	11	37	62	87	31	4.8	6.7	4.1
24	5.2	7.2	9.7	12	11	34	66	146	25	4.6	6.3	4.2
25	5.4	7.4	9.5	*11	11	39	69	170	25	4.6	6.1	4.4
26	5.6	7.4	9.2	11	11	43	67	153	21	4.6	7.0	4.4
27	6.3	7.7	9	10	11	38	74	165	17	4.2	6.7	4.6
28	6.3	7.4	9	9	12	33	81	179	17	4.8	7.0	4.6
29	6.1	7.4	9	10	11	31	84	160	16	7.9	7.0	4.4
30	6.3	7.7	9	10	-----	30	56	127	15	5.6	6.7	4.4
31	6.5	-----	9	8	-----	29	-----	107	-----	5.2	6.3	-----
Total	142.6	211.6	278.1	345.2	302.0	660.0	1,248	2,678	1,519	234.8	178.4	146.0
Mean	4.60	7.05	8.97	11.1	10.4	21.3	41.6	86.4	50.6	7.57	5.75	4.87
Ac-ft	263	420	552	685	599	1,310	2,480	5,310	3,010	466	354	290

Calendar year 1955: Max - Min - Mean - Ac-ft -  
Water year 1955-56: Max 179 Min 2.1 Mean 21.7 Ac-ft 15,760

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 11-17, Dec. 3-5, 13-17, Dec. 26 to Jan. 3, Jan. 8-10, Jan. 23 to Mar. 3, Mar. 6, 7, 9-18.

## East Fork Bruneau River near Hot Spring, Idaho

Location.--Lat 42°34', long 115°31', in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 16, T. 10 S., R. 8 E., on right bank at Winter Camp Ranch, 7 miles upstream from mouth and 20 miles southeast of Hot Spring.

Drainage area.--620 sq mi, approximately.

Records available.--August 1910 to April 1915, December 1948 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 3,864.7 ft, datum of 1929, supplementary adjustment of 1947 (levels by Topographic Division). Prior to Dec. 10, 1948, at approximately present site at different datum.

Average discharge.--11 years (1910-14, 1949-56), 31.3 cfs (22,660 acre-ft per year).

Extremes.--Maximum discharge during year, 145 cfs May 29 (gage height, 4.70 ft); no flow Oct. 1-7.

1910-15, 1948-56: Maximum daily discharge, 450 cfs Mar. 7, 8, 1911, during period of ice effect; maximum gage height observed, 10.65 ft Mar. 8, 1911, datum then in use; no flow for long periods during irrigation seasons in 1954 and 1955.

Maximum stage known, 16.9 ft, from floodmark, datum then in use, during spring of 1910.

Remarks.--Records good except those below 10 cfs, which are fair, and those for periods of ice effect, which are poor. Diversions for irrigation from main stem and tributaries above station. Water diverted from Deadwood Creek, tributary of the East Fork, to Cedar Creek Reservoir in Salmon Falls Creek basin for irrigation.

Revisions (water years).--WSP 1397: 1949.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	0	1.8	4.4	3.0	52
1.4	.1	2.0	10	3.5	76
1.5	.5	2.3	22	4.0	102
1.6	1.2	2.6	34	4.7	145
1.7	2.5				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	3.8	8	10	10	15	32	58	104	14	2.5	3.4
2	0	4.4	8	10	11	18	33	52	96	14	1.7	2.9
3	0	4.0	8	11	12	19	32	45	96	14	1.7	2.5
4	0	4.0	7.5	11	12	19	30	44	92	13	1.5	2.5
5	0	5.4	7.5	12	12	18	29	48	86	13	1.1	2.7
6	0	4.9	8	11	12	18	28	58	82	11	*1.1	*2.7
7	0	5.2	8.5	12	12	17	28	67	80	11	1.1	3.3
8	.8	5.6	8.5	11	12	*17	24	75	73	10	.8	1.5
9	1.0	5.8	8.5	11	11	16	27	76	64	8.8	.6	.7
10	1.1	5.6	8.5	11	12	15	25	82	60	7.8	.6	.5
11	1.1	5.6	8.5	12	12	14	25	84	55	6.4	.5	.7
12	1.3	5	9	13	12	13	28	79	51	5.6	.6	.7
13	*1.1	4	9.5	12	12	14	*35	78	46	4.4	1.1	1.1
14	.9	3.2	9	14	11	13	35	68	39	3.6	1.2	.8
15	.8	3.5	8.5	16	10	13	35	60	29	3.3	1.5	1.0
16	1.0	3.6	8.5	18	10	14	35	51	39	*3.3	1.1	.9
17	1.0	*4	9.5	18	10	14	35	45	80	2.4	1.0	.9
18	1.0	5	9	13	10	19	37	38	62	1.7	1.1	1.3
19	1.2	7	10	13	10	26	38	34	47	2.9	1.2	1.3
20	1.3	8	11	13	9.5	30	36	40	41	2.2	1.3	.7
21	1.7	7.5	*11	14	10	32	35	*47	*37	2.0	1.5	.3
22	2.2	7	11	15	12	43	39	53	41	1.8	1.6	.5
23	2.2	7	13	16	13	41	*48	70	40	1.5	1.7	.7
24	2.1	7	14	14	12	40	56	72	33	.8	2.1	.6
25	1.8	7	10	*12	12	38	60	110	29	.6	2.9	.8
26	2.0	7	9.4	12	12	39	66	133	25	.4	2.7	.6
27	2.2	7	9.5	11	13	43	65	135	23	.3	2.7	.6
28	2.5	7	9.5	10	14	42	72	134	20	.2	2.9	.6
29	3.1	7	9.5	11	14	38	76	144	16	.2	4.0	.6
30	3.8	7.5	9.5	11	-----	35	65	137	13	.3	4.0	.7
31	3.8	-----	9.5	9	-----	34	-----	119	-----	2.0	3.6	-----
Total	41.0	168.4	289.4	385	334.5	767	1,209	2,336	1,599	162.5	53.0	38.1
Mean	1.32	5.61	9.34	12.4	11.5	24.7	40.3	75.4	53.3	5.24	1.71	1.27
Ac-ft	81	334	574	764	663	1,520	2,400	4,630	3,170	322	105	76

Calendar year 1955: Max 77 Min 0 Mean 9.11 Ac-ft 6,600  
 Water year 1955-56: Max 144 Min 0 Mean 20.2 Ac-ft 14,640

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 12 to Dec. 21, Dec. 25, Dec. 27 to Jan. 10, Jan. 14, 17-19, 25-29, Jan. 31 to Feb. 29, Mar. 10-15.



## Bruneau River near Hot Spring, Idaho

Location.--Lat 42°46'00", long 115°43'30", in SE 1/4 sec. 34, T. 7 S., R. 6 E., on right bank at Dunham Ranch, 1 mile downstream from Hot Creek, 1 1/2 miles south of Hot Spring Post Office, 9 miles southeast of Bruneau, and 16 miles downstream from East Fork.

Drainage area.--2,010 sq mi, approximately.

Records available.--July 1909 to March 1915, October 1943 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 2,598.5 ft above mean sea level, datum of 1929 (levels by Topographic Division). 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.--18 years (1909-14, 1943-56), 404 cfs (292,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,570 cfs Jan. 16 (gage height, 8.16 ft); minimum, 49 cfs Nov. 15 (gage height, 3.51 ft).  
1909-15, 1943-56: Maximum discharge observed, 5,660 cfs Mar. 1, 1910 (gage height, 10.6 ft, site and datum then in use), from rating curve extended above 1,200 cfs; minimum observed, 40 cfs Jan. 23, Nov. 29, 1911.

Remarks.--Records excellent. Several small reservoirs on tributaries above station. Diversions above station for irrigation of about 8,500 acres.

Revisions (water years).--WSP 1063: 1913.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)

3.5	46	4.6	316	6.0	1,030
3.8	94	5.0	481	7.0	1,700
4.2	185	5.5	715	8.0	2,430

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	81	98	208	102	151	635	850	1,740	388	111	72
2	65	83	102	214	62	153	561	788	1,650	351	104	72
3	65	79	104	197	84	162	494	800	1,550	328	100	70
4	65	81	92	178	115	182	451	882	1,470	309	100	67
5	64	84	83	194	151	188	464	1,020	1,380	294	98	67
6	64	86	81	180	200	175	521	1,030	1,250	273	*96	*67
7	65	86	92	168	217	155	494	1,050	1,080	270	96	67
8	65	84	96	162	191	*153	516	1,090	1,000	256	92	67
9	65	86	88	142	175	170	556	1,100	995	246	90	67
10	65	86	111	130	165	170	615	1,080	995	236	86	65
11	65	84	100	170	175	162	720	1,100	1,000	227	86	69
12	65	88	100	155	197	139	794	1,180	960	217	84	67
13	65	90	113	155	202	153	*732	1,080	902	200	83	72
14	*67	77	98	155	191	162	715	908	850	191	83	72
15	69	56	79	170	168	162	695	800	812	182	83	69
16	69	*59	86	1,510	122	158	695	742	830	175	79	67
17	69	67	133	1,380	117	158	764	764	770	*165	79	64
18	69	86	119	650	130	194	800	888	675	160	79	64
19	69	113	113	494	139	328	800	1,070	584	153	79	64
20	70	122	111	417	178	451	928	1,280	570	146	77	62
21	73	117	*111	351	178	472	1,060	*1,460	*597	144	77	62
22	81	113	111	324	175	512	1,160	1,610	570	139	75	62
23	79	102	122	302	175	556	*1,220	1,690	534	139	72	65
24	77	94	418	316	168	695	1,290	1,970	512	133	72	67
25	75	88	512	280	155	1,000	1,290	2,390	521	126	72	67
26	75	90	376	*243	153	1,180	1,200	2,290	490	122	70	67
27	77	98	339	253	158	1,080	1,170	2,170	460	119	72	65
28	79	100	316	224	153	830	1,150	2,070	447	117	75	65
29	79	96	246	165	151	695	1,090	1,850	434	117	75	64
30	79	98	191	153	-----	635	960	1,640	417	124	77	64
31	81	-----	165	130	-----	630	-----	1,640	-----	117	75	-----
Total	2,180	2,674	4,906	9,750	4,547	12,011	24,540	40,282	26,055	6,164	2,597	1,999
Mean	70.3	89.1	158	315	157	387	818	1,299	868	199	83.8	66.6
Ac-ft	4,320	5,300	9,730	19,340	9,020	23,820	48,670	79,900	51,880	12,230	5,150	3,960

Calendar year 1955: Max 974 Min 56 Mean 201 Ac-ft 145,300  
Water year 1955-56: Max 2,390 Min 56 Mean 376 Ac-ft 273,100

\* Discharge measurement made on this day.

## SNAKE RIVER MAIN STEM

## C. J. Strike Reservoir near Grand View, Idaho

Lat 42°56'45", long 115°58'35", in SW $\frac{1}{4}$  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 1956. Remote registering water-stage recorder in channel leading to Grand View Irrigation District canal. Datum of gage is at mean sea level (levels of 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.

Month-end elevations and total contents at 12 p.m., October 1955 to September 1956

Date	Elevation (feet)	Contents (acre-feet)
Oct. 31, 1955.....	2,454.20	244,100
Nov. 30.....	2,454.82	248,700
Dec. 31.....	2,451.59	225,400
Jan. 31, 1956.....	2,454.11	243,400
Feb. 29.....	2,454.55	246,600
Mar. 31.....	2,455.49	253,700
Apr. 30.....	2,455.29	252,200
May 31.....	2,455.35	252,600
June 30.....	2,454.02	242,700
July 31.....	2,454.82	249,700
Aug. 31.....	2,454.27	244,600
Sept. 30.....	2,454.77	248,300

## Snake River near Murphy, Idaho

Location.--Lat 43°18', long 116°26', in NE $\frac{1}{4}$  sec. 35, T. 1 S., R. 1 W., on right bank 4 $\frac{1}{2}$  miles downstream from Swan Falls powerplant and  $\frac{7}{8}$  miles northeast of Murphy.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1956.

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  $\frac{3}{4}$  miles upstream at datum 9.79 ft higher.

Extremes.--Maximum discharge during year, 36,100 cfs June 5 (gage height, 12.19 ft); minimum, 6,990 cfs Aug. 19 (gage height, 3.66 ft); minimum daily, 7,100 cfs Dec. 18, 1912-56; 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 by C. J. Strike Reservoir (see above) and by gravity and pumping diversions. About 1,630,000 acres irrigated by diversion from river and its tributaries above station.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

3.7	7,020	7.0	17,300
4.5	9,330	8.0	20,800
5.0	10,900	10.0	27,800
6.0	14,000	12.0	35,300

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,790	9,840	*10,300	8,790	12,600	13,000	21,200	*19,200	*30,700	8,850	8,610	8,610
2	8,090	8,470	9,990	7,130	12,400	13,200	22,900	18,700	30,300	7,270	8,580	7,890
3	9,290	9,780	9,000	10,400	12,900	14,500	22,400	18,500	29,800	7,270	8,210	8,440
4	9,480	9,960	8,440	12,400	12,600	14,400	22,200	17,600	29,600	7,240	8,060	*8,500
5	8,760	11,400	8,530	12,800	12,600	14,100	21,100	17,300	33,800	7,360	8,000	8,530
6	8,790	10,300	8,730	13,300	12,000	13,800	20,100	17,200	30,800	7,980	8,150	8,090
7	8,670	9,370	9,360	10,700	11,800	14,200	19,300	16,200	28,200	9,730	8,000	9,210
8	8,210	11,000	10,200	8,970	11,800	13,700	19,200	18,100	27,400	7,500	8,180	8,730
9	6,790	9,060	9,150	10,300	13,000	14,200	17,600	17,600	26,900	7,300	8,380	7,860
10	9,240	9,640	8,300	*12,900	13,200	13,700	18,700	15,200	26,700	8,090	8,820	8,380
11	10,100	9,840	9,330	9,540	13,000	13,300	16,300	15,300	22,700	7,640	8,150	8,640
12	9,750	9,780	9,900	7,780	13,800	12,500	15,600	14,900	18,800	7,750	8,320	8,700
13	11,200	8,640	10,500	10,700	13,700	12,700	15,300	15,200	17,900	7,180	8,060	9,690
14	12,200	9,680	10,300	12,100	13,100	14,500	15,300	14,700	20,100	7,190	8,820	9,990
15	9,590	10,600	11,100	8,660	13,700	14,500	15,600	15,300	20,400	7,160	8,730	9,570
16	7,240	10,700	11,300	10,300	*13,400	14,500	15,600	14,800	20,600	7,160	9,480	9,060
17	8,210	8,910	7,980	14,600	13,500	11,100	15,400	15,200	20,500	7,560	8,530	8,760
18	9,510	8,530	7,100	15,300	15,000	9,210	15,200	15,100	20,100	7,130	7,780	9,270
19	8,030	8,090	8,610	14,900	9,780	9,840	15,000	14,200	14,400	7,470	7,190	9,420
20	9,150	8,910	9,660	13,500	10,600	15,200	13,900	12,800	17,500	7,640	7,440	9,780
21	10,500	8,610	11,000	12,300	12,600	*15,000	14,000	8,940	20,000	7,690	8,240	9,780
22	10,100	10,100	12,100	9,810	12,300	15,200	12,900	9,030	23,300	7,470	9,420	9,870
23	6,910	10,900	14,200	10,700	12,600	15,300	12,800	9,930	22,000	7,690	8,940	9,030
24	*7,720	9,030	14,300	13,200	12,500	15,500	15,100	8,500	18,200	7,750	7,920	8,470
25	9,180	8,790	11,100	13,500	11,900	17,800	15,200	10,100	*16,200	7,520	7,380	10,300
26	8,970	10,300	11,000	13,800	10,500	19,700	13,700	13,000	15,800	7,440	7,270	10,100
27	11,100	9,060	11,000	14,800	12,000	21,200	14,100	15,200	17,200	7,690	7,640	10,300
28	10,800	8,440	13,000	15,100	13,100	18,700	14,800	15,200	9,990	7,500	8,060	9,540
29	10,700	9,900	14,800	13,700	12,400	18,500	19,700	18,100	9,270	7,830	8,180	10,000
30	9,540	10,200	14,500	9,660	-----	18,700	18,200	26,100	9,090	*7,750	8,300	9,330
31	9,360	-----	11,900	11,800	-----	19,000	-----	29,600	-----	7,630	8,700	-----
Total	289,870	286,430	326,680	363,940	362,780	458,050	508,400	466,800	642,250	235,410	255,540	273,840
Mean	9,351	9,548	10,540	11,740	12,510	14,780	16,950	15,700	21,410	7,594	8,243	9,128
Ac-ft	574,900	568,100	648,000	721,900	719,600	908,500	1,006,000	965,600	1,274,000	466,900	506,900	543,200

Calendar year 1955: Max 14,600 Min 6,980 Mean 9,313 Ac-ft 6,742,000

Water year 1955-56: Max 33,800 Min 7,100 Mean 12,270 Ac-ft 8,906,000

\* Discharge measurement made on this day.

## Wild Horse Reservoir near Gold Creek, Nev.

Location.--Lat 41°41'10", long 115°51'20", in NE1/4 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 1956. Month-end contents for some periods, published in WSP 1317.

Gage.--Gage readings obtained about once a week from reference point on dam. Datum of gage is 6,109.18 ft above mean sea level (levels by Office of Indian Affairs).

Extremes.--Maximum contents observed during year, 32,880 acre-ft June 1 (gage height, 80.10 ft); minimum observed, 360 acre-ft Nov. 28.  
1938-56: Maximum contents observed, 35,630 acre-ft Apr. 29, 1952 (gage height, 81.56 ft); no contents at times during 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 ft (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 Office of Indian Affairs.

Contents, in acre-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	-	32,880	-	-	-
2	-	-	403	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	23,160	-
4	-	581	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	1,390	-	-	-	-	-	28,650	-	-
7	-	-	-	-	-	-	-	27,150	-	-	-	19,570
8	881	-	-	-	-	-	-	-	-	-	22,140	-
9	-	-	458	-	-	-	-	-	-	-	-	-
10	-	522	-	1,460	-	-	-	-	-	-	21,790	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	476	-	-	5,380	-	-	32,510	-	21,710	-
13	-	-	-	1,540	-	-	-	-	-	-	-	-
14	808	-	-	-	-	-	-	-	-	-	-	18,970
15	-	-	-	-	-	-	-	-	32,510	-	-	-
16	-	458	504	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	29,930	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	20,380	-	-	24,910	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
21	736	-	-	-	-	-	-	-	-	-	-	18,390
22	-	-	-	-	-	-	-	-	31,970	-	-	-
23	-	-	661	-	-	-	-	-	-	-	-	-
24	-	-	-	-	4,700	-	-	-	-	24,060	20,930	18,070
25	-	392	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	3,420	-	8,820	25,850	-	-	23,760	-	-
28	692	360	-	-	-	-	-	-	-	-	-	17,880
29	-	-	-	-	a4,900	-	-	32,600	-	-	-	-
30	-	a382	1,120	-	-	10,180	a26,240	-	a30,070	-	-	a17,700
31	a644	-----	a1,160	a3,600	-----	a10,690	-----	a32,790	-----	a23,420	20,170	-----
(†)	-	-	-	-	-	-	-	-	-	-	72.15	-
(‡)	-366	-262	+778	+2,440	+1,300	+5,790	+15,550	+6,550	-2,720	-6,650	-3,250	-2,470

Calendar year 1955..... ‡ -1,240

Water year 1955-56..... ‡ +16,690

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

a No gage reading; contents interpolated.

## 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 1956. 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.--28 years (1917-25, 1936-56), 43.0 cfs (31,130 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 136 cfs June 28 to July 15 (gage height, 3.10 ft); no flow Nov. 29 to May 27.  
1916-25, 1936-56: 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 are closed.

Remarks.--Records excellent. Small diversions for irrigation above station. Flow regulated by Wild Horse Reservoir beginning Mar. 18, 1938 (see preceding page).

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 23 to Nov. 28,  
Aug. 14-25)

0.4	0	1.9	16
.5	.1	2.2	31
.6	.2	2.6	66
.9	.9	3.0	125
1.1	2.0	3.5	221
1.5	5.8		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.5						0	37	136	32	37
2	11	9.5						0	44	136	32	37
3	11	9.5						0	44	136	32	37
4	11	9.5						0	40	136	32	36
5	11	9.5						0	40	136	31	34
6	11	9.5						0	44	136	31	34
7	11	9.5						*0	41	136	32	34
8	11	9.5						0	38	136	37	34
9	11	9.5						0	35	136	49	34
10	11	9.3		(*)				0	31	136	49	34
11	11	9.3						0	28	136	48	34
12	11	9.3	(*)			(*)		0	*25	136	48	34
13	11	9.3						0	24	136	45	34
14	11	9.0						0	23	136	40	34
15	11	9.0						0	29	136	*40	35
16	11	*9.0						0	40	134	40	35
17	11	9.0						0	40	134	40	35
18	11	9.0						0	40	134	40	35
19	10	8.8					(*)	0	40	111	40	35
20	10	8.6						0	50	72	40	35
21	10	8.6						0	57	72	40	35
22	10	9.0						0	57	71	40	35
23	10	9.0						0	58	71	40	35
24	10	9.0						0	58	*71	43	*35
25	9.7	9.0						0	58	57	46	35
26	9.7	9.0						0	71	49	47	35
27	9.7	9.0				(*)		0	92	43	47	35
28	9.7	5.4						3.0	116	33	47	35
29	9.7	0						*15	136	33	47	35
30	9.7	0						27	136	33	47	35
31	9.5	-----			-----		-----	34	-----	33	40	-----
Total	325.7	253.1	0	0	0	0	0	79.0	1,572	3,191	1,262	1,047
Mean	10.5	8.44	0	0	0	0	0	2.55	52.4	103	40.7	34.9
Ac-ft	646	502	0	0	0	0	0	157	3,120	6,330	2,500	2,080

Calendar year 1955: Max 134

Min 0

Mean 13.1

Ac-ft 9,470

Water year 1955-56: Max 136

Min 0

Mean 21.1

Ac-ft 15,340

\* Discharge measurement or observation of no flow made on this day.

Owyhee River above China diversion dam, near Owyhee, Nev.

Location.--Lat 41°55'20", long 116°04'10", in NW $\frac{1}{4}$  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 1956.

Gage.--Water-stage recorder. Datum of gage is 5,425 ft above mean sea level, unadjusted.

Average discharge.--17 years, 145 cfs (105,000 acre-ft per year).

Extremes.--Maximum discharge during year, 904 cfs Jan. 16 (gage height, 8.09 ft); minimum, 12 cfs Nov. 28.

1939-56: 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 or no gage-height record, which are fair. Numerous diversions above station for irrigation. Flow partly regulated by Wild Horse Reservoir (see p. 131).

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Aug. 1 to Sept. 30)

1.1	15	4.0	232
1.5	32	5.0	341
2.0	65	6.0	476
3.0	140	8.0	880

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	21				60	245	328	313	173	48	47
2	15	25				57	213	337	308	171	47	43
3	15	25		a55		58	193	353	297	166	46	43
4	16	25				58	191	400	283	167	47	44
5	16	23				70	231	405	260	165	47	41
6	16	23		55		63	197	378	252	162	47	38
7	16	22		53		64	203	*437	234	154	47	38
8	15	22	b20	50		55	216	416	209	151	45	36
9	15	22		53		57	227	408	192	148	51	34
10	15	22		*48		58	268	410	177	148	57	41
11	15	23		41	b75				165	148	59	39
12	15	22	(*)	42		b64	308	490	*146	149	58	38
13	15	b20		45		62	276	374	136	145	56	37
14	15	b20		67		55	276	343	128	146	54	36
15	16	a20		401		53	265	318	172	148	*48	36
16	17	(*)		753		51	292	310	190	147	46	36
17	16			354		55	319	322	164	144	47	36
18	16		b30	234		83	321	354	147	142	47	36
19	17			194		141	*365	363	132	143	48	37
20	18			165		191	407	394	153	108	47	36
21	19		32	148	81	236	428	444	165	91	45	38
22	19		56	136	80	278	450	437	148	91	44	36
23	18	b20	298	163	77	375	484	450	144	87	45	36
24	18		407	120	75	480	515	533	132	*84	47	*58
25	18		198	114	72	559	482	494	126	85	48	39
26	21	155	111	70	488	466	476	114	69	52	39	
27	22	163	a100	69	*349	446	474	129	66	55	39	
28	20	113	a90	67	294	430	410	147	60	56	40	
29	20	a90	a85	66	280	381	*368	166	58	55	42	
30	20	a70	*b80	-----	292	348	346	174	51	55	43	
31	20	a55	b75	-----	282	-----	324	-----	50	51	-----	
Total	529	635	2,087	4,052	2,157	5,332	9,728	12,287	5,503	3,817	1,545	1,162
Mean	17.1	21.2	67.3	131	74.4	172	324	396	183	123	49.8	38.7
Ac-ft	1,050	1,260	4,140	8,040	4,280	10,580	19,300	24,370	10,920	7,570	3,060	2,300
Calendar year 1955: Max 407 Min 9.7 Mean 58.5 Ac-ft 42,390												
Water year 1955-56: Max 753 Min 15 Mean 133 Ac-ft 96,870												

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby streams.

b Stage-discharge relation affected by ice.

## South Fork Owyhee River near Whiterock, Nev.

Location.--Lat 41°48', long 116°29', in NE $\frac{1}{4}$  sec. 16, T. 45 N., R. 49 E., on left bank 500 ft downstream from Rye Grass Creek,  $\frac{1}{4}$  miles upstream from Chimney Creek, and 17 miles northwest of Whiterock.

Records available.--October 1955 to September 1956.

Gage.--Water-stage recorder.

Extremes.--Maximum discharge during year, 1,580 cfs Jan. 16 (gage height, 5.04 ft); no flow Oct. 1-12.

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 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 13 to Nov. 14,  
Dec. 18-28, Jan. 6-15, Mar. 13-17)

1.5	0	1.9	19	3.0	345
1.6	.8	2.0	37	4.0	860
1.7	2.7	2.2	87	5.0	1,550
1.8	6.6	2.5	171		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	6.6					304	308	a350	66	31	11
2	0	4.6					217	271	a310	61	24	12
3	0	3.9		b60			188	236	a280	61	20	13
4	*0	9.5					165	236	a250	82	16	13
5	0	12				b90	168	274	*233	82	17	13
6	0	9.5		61			186	293	214	84	19	12
7	0	9.5		59			171	440	207	71	19	11
8	0	9.5	b17	59			159	490	165	66	17	11
9	0	11		61			148	545	139	42	17	11
10	0	11		*68			151	679	125	44	17	13
11	0	11		61			134	800	120	*44	16	12
12	0	14		61		*b123	183	756	114	44	13	11
13	.2	2.5		69			125	240	652	100	47	12
14	1.4	7.5		94			122	282	530	96	56	11
15	3.9	*b8.0		778	b90		111	308	408	171	44	*11
16	4.2		b60	*1,330		158	312	*390	267	44	11	8.5
17	4.2		b80	570		316	308	358	240	44	9.5	7.5
18	4.2		106	308		480	257	341	174	42	11	7.5
19	4.2		109	240		600	*257	350	139	39	12	8.5
20	4.2		120	214		590	271	376	151	42	11	9.5
21	4.2		106	207		580	278	422	189	42	9.5	9.5
22	3.9		98	223		530	278	430	204	47	8.5	9.5
23	4.6	b12	73	368		565	341	470	177	39	8.5	9.5
24	5.0		217	*320		600	341	605	122	39	9.5	9.5
25	4.6		131	247		600	333	762	*98	37	11	11
26	5.0		177	207		575	376	750	84	35	11	12
27	6.0		207	174		*490	404	756	84	33	11	11
28	6.6		134	142		300	560	706	71	33	12	11
29	6.6			114		297	585	640	64	35	13	11
30	6.6		b60	b100		289	424	525	56	33	11	11
31	6.6			b90		320		390		33	11	
Total	86.2	310.1	2,053	6,523	2,610	8,761	8,309	15,189	5,016	1,511	431.5	318.0
Mean	2.78	10.3	66.2	210	90.0	283	277	490	167	48.7	13.9	10.6
Ac-Ft	171	615	4,072	12,940	5,180	17,380	16,480	30,130	9,950	3,000	856	631

Calendar year 1955: Max - Min - Mean - Ac-Ft -  
Water year 1955-56: Max 1,330 Min 0 Mean 140 Ac-Ft 101,400

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record; discharge estimated on the basis of records for nearby stations.

b Stage-discharge relation affected by ice.

Jordan Creek above Lone Tree Creek, near Jordan Valley, Oreg.

Location.--Lat 42°52', long 116°57', in SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 29, T. 6 S., R. 5 W., on right bank half a mile downstream from proposed dam site, 0.6 mile upstream from Morgan Ranch house, 1 mile downstream from Williams Creek, 4 miles upstream from Lone Tree Creek, and 9 miles southeast of Jordan Valley.

Drainage area.--440 sq mi, approximately; 450 sq mi, approximately, at site 2 miles downstream.

Records available.--April 1955 to September 1956. 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.--8 years (1945-52, 1955-56), 212 cfs (153,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,100 cfs Mar. 25; maximum gage height, 7.74 ft Dec. 23; minimum, 2 cfs or less at times during period Oct. 1-25 while stage was below intakes. 1945-53, 1955-56: 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 or no gage-height record, which are poor. Diversions above station for irrigation.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 16 to Mar. 24, Apr. 19-21)

Oct. 1 to Mar. 24				Mar. 25 to Sept. 30			
0.9	2.4	2.5	89	1.4	2.0	3.0	120
1.0	3.5	3.0	156	1.6	4.0	3.5	220
1.1	5.0	4.0	350	1.8	8.0	4.0	380
1.2	7.0	5.0	625	2.1	18	5.0	880
1.4	14	6.0	1,020	2.4	37	6.0	1,730
1.7	26	7.5	1,950	2.7	89	7.0	2,900
2.0	44						

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		11	30	170	160	97	826	844	480	48	9.5	2.3
2	2.5	9.4	26	154	160	114	718	802	432	45	9.5	2.4
3		9.7	26	141	190	128	645	790	584	44	9.5	2.4
4		9.7	19	137	230	126	630	894	356	42	9.5	2.5
5	*2.3	10	b20	140	230	120	685	894	325	41	9.8	2.9
6		11	24	133	190	110	635	808	277	38	9.8	2.7
7		11	26	130	177	95	675	808	241	37	9.8	2.7
8	2	*11	b22	120	161	133	645	814	206	34	9.8	3.4
9		11	b24	108	147	164	690	772	196	34	9.5	3.4
10		11	25	118	*146	153	874	*826	188	26	10	3.5
11		11	28	109	134	122	1,030	971	180	*13	8.9	3.3
12		11	*32	108	144	120	936	*170	17	17	7.6	3.3
13		b9	36	118	134	140	943	730	158	26	7.6	3.2
14		b8	30	141	124	126	992	640	154	18	6.2	2.9
15		b9	b34	1,100	105	127	1,120	585	160	20	2.6	2.9
16		b11	b36	1,050	b90	*169	1,310	570	150	17	2.7	2.8
17		b14	37	577	b80	261	1,280	605	144	14	2.5	2.8
18		18	33	452	b100	493	*1,230	670	130	*13	2.3	2.8
19		22	37	400	b110	765	1,240	736	114	13	2.3	3.0
20		25	73	350	b115	869	1,150	724	124	12	2.3	3.0
21		42	135	313	117	980	1,370	706	116	15	2.3	2.9
22		34	345	358	122	1,090	1,460	695	104	18	2.2	2.9
23		22	*1,340	550	130	1,520	1,440	670	97	12	2.2	2.8
24		22	855	350	117	1,910	1,440	838	92	6.6	2.2	2.7
25		18	476	281	105	2,490	1,400	778	90	6.0	2.2	2.6
26	8.2	22	415	273	100	*2,000	1,590	655	83	7.0	2.3	2.6
27	9.4	22	358	249	96	1,290	1,610	706	72	9.2	2.4	3.4
28	8.8	29	269	180	94	992	1,300	610	62	9.5	*2.3	4.2
29	8.8	31	*196	207	97	943	1,090	560	54	9.5	2.3	3.9
30	9.1	28	196	209	-----	971	950	520	50	9.5	2.2	5.0
31	10	-----	200	180	-----	957	-----	510	-----	9.5	2.2	-----
Total	121.6	512.8	5,403	8,904	3,905	19,595	31,804	22,581	5,389	663.8	166.1	91.2
Mean	3.92	17.1	174	287	135	632	1,060	728	180	21.4	5.56	3.04
Ac-ft	241	1,020	10,720	17,660	7,750	38,870	63,080	44,790	10,690	1,320	329	181

Calendar year 1955: Max - Min - Mean - Ac-ft -  
Water year 1955-56: Max 2,490 Min - Mean 271 Ac-ft 196,700

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 1-4, 6-25, Jan. 31 to Feb. 6; discharge estimated on basis of weather records, recorded range in stage, and records for stations in Weiser River basin and Moore Creek above Robie Creek, near Arrowrock.

## OWYHEE RIVER BASIN

Owyhee River near Rome, Oreg.

Location.--Lat 42°52', long 117°38', in NE $\frac{1}{4}$  sec. 14, T. 31 S., R. 41 E., on right bank half a mile downstream from Jordan Creek and  $2\frac{1}{2}$  miles north of Rome.

Drainage area.--About 8,000 sq mi.

Records available.--October 1949 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 3,343.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--7 years, 946 cfs (684,900 acre-ft per year).

Extremes.--Maximum discharge during year, 23,000 cfs Jan. 16 (gage height, 14.23 ft); minimum, 68 cfs Aug. 25 (gage height, 0.84 ft).  
1949-56: Maximum discharge, 27,800 cfs Apr. 14, 1952 (gage height, 15.60 ft); minimum, 42 cfs Aug. 12, 1954.  
Flood of Apr. 14, 1952, reported by local resident as the highest in 70 years.

Remarks.--Records good except those for period of no gage-height record, which are poor. Diversions above station for irrigation. Flow regulated by Antelope Reservoir (capacity, 36,600 acre-ft), Wild Horse Reservoir (see p. 131), and numerous small reservoirs.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 16				Jan. 17 to Sept. 30			
0.7	71	5.0	2,450	0.8	60	4.0	1,540
1.0	132	7.0	5,400	1.0	102	5.0	2,470
2.0	410	9.0	9,100	1.5	230	7.0	5,480
3.0	850	11.0	13,500	2.0	390	9.0	9,100
4.0	1,510	13.0	19,000	3.0	850	11.0	13,500

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	98	144	509	775	462	4,300	2,500	1,810	239	a135	80
2	79	98	148	533	582	482	3,500	2,200	1,520	227	a130	87
3	79	98	144	485	558	950	2,940	1,990	1,510	210	a125	89
4	79	98	150	438	518	1,700	2,610	*1,870	1,150	210	a120	87
5	79	98	148	410	620	1,720	*2,610	1,790	1,020	208	a115	91
6	*80	98	137	*404	690	1,530	3,560	1,800	946	197	a110	102
7	80	100	94	378	720	1,120	2,860	1,810	850	190	a106	102
8	82	98	137	366	690	844	2,830	1,840	765	197	a104	98
9	80	98	150	345	595	1,080	2,630	2,000	690	197	a100	98
10	82	98	146	321	542	1,410	2,550	2,010	605	200	a98	98
11	86	104	144	345	506	1,370	2,720	2,090	546	190	a96	98
12	86	104	144	318	526	1,120	2,700	2,690	498	187	*95	98
13	86	102	144	306	*710	880	2,730	2,980	*446	177	93	95
14	88	102	153	336	705	750	2,680	2,570	414	172	91	95
15	88	98	153	1,120	620	705	2,660	2,160	394	184	95	95
16	88	86	141	17,300	556	650	2,720	1,800	383	194	95	91
17	88	88	146	11,000	442	725	2,790	1,690	376	177	91	91
18	88	106	148	5,860	406	1,380	2,950	1,550	438	162	89	*91
19	88	108	148	5,810	383	2,970	2,830	1,460	542	170	84	93
20	88	121	155	2,500	366	5,020	2,760	1,440	470	177	80	98
21	88	125	218	*2,070	430	5,620	2,730	1,430	434	182	82	98
22	88	130	260	2,130	765	*5,620	2,700	1,450	390	177	78	93
23	86	*137	5,690	3,570	1,300	6,840	2,660	1,390	386	172	74	89
24	84	137	9,030	4,360	1,260	8,900	2,590	1,560	414	*172	74	89
25	84	139	3,720	3,550	1,090	10,600	2,570	1,890	410	a170	74	87
26	*88	141	2,680	2,420	760	11,400	2,610	2,120	380	a165	76	87
27	92	130	2,070	1,930	625	9,100	3,320	2,540	330	a160	78	89
28	94	134	1,980	1,740	522	6,020	3,470	2,600	296	a155	78	91
29	96	144	1,520	1,470	438	4,640	2,980	2,350	272	a150	78	89
30	96	146	928	1,180	-----	4,320	2,740	2,240	251	a145	78	89
31	98	-----	614	1,000	-----	4,800	-----	2,090	-----	a140	78	-----
Total	2,665	3,364	31,584	72,204	18,700	104,728	86,300	62,000	18,736	5,653	2,900	2,778
Mean	86.0	112	1,019	2,329	645	3,378	2,877	2,000	624	182	93.5	92.6
Ac-ft	5,290	6,670	62,650	143,200	37,090	207,700	171,200	123,000	37,160	11,210	5,750	5,510
Calendar year 1955:	Max	9,050	Min	47	Mean	472	Ac-ft	341,600				
Water year 1955-56:	Max	17,300	Min	74	Mean	1,125	Ac-ft	816,400				

Peak discharge (base, 3,000 cfs).--Dec. 24 (8 a.m.) 12,300 cfs (10.47 ft); Jan. 16 (3 p.m.) 23,000 cfs (14.23 ft); Jan. 24 (8 p.m.) 4,620 cfs (6.49 ft); Mar. 26 (7 p.m.) 12,800 cfs (10.70 ft); Apr. 6 (6 a.m.) 4,980 cfs (6.27 ft); Apr. 27 (9 a.m.) 3,640 cfs (5.85 ft); May 13 (3 a.m.) 3,080 cfs (5.45 ft).

\* Discharge measurement made on this day.

No gage-height record; discharge estimated on basis of records for Donner and Blitzen River near Frenchglen.



Owyhee Reservoir at Owyhee Dam, 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 1956.

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, 1,111,000 acre-ft June 4 (elevation, 2,669.18 ft); minimum observed, 462,700 acre-ft Oct. 10 (elevation, 2,599.44 ft). 1932-56: Maximum contents observed, 1,140,000 acre-ft Apr. 15, 1952 (elevation, 2,671.40 ft); minimum observed since full capacity was attained on May 7, 1936, that of Oct. 10, 1955.

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 ft (bottom of sluice gates) and 2,670 ft (top spillway gate), 715,000 acre-ft between elevations 2,590.2 ft (diversion tunnel) and 2,670 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.--Record of elevations furnished by Bureau of Reclamation.

Month-end elevation and contents, water year October 1955 to September 1956

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	2,601.23	474,400	-
Oct. 31.....	2,600.62	470,400	-4,000
Nov. 30.....	2,602.46	482,800	+12,200
Dec. 31.....	2,611.97	549,900	+67,300
Calendar year 1955.....	-	-	-12,500
Jan. 31.....	2,630.25	698,000	+148,100
Feb. 29.....	2,635.90	748,800	+50,800
Mar. 31.....	2,655.45	947,800	+199,000
Apr. 30.....	2,665.60	1,067,000	+119,200
May 31.....	2,668.95	1,108,000	+41,000
June 30.....	2,665.30	1,085,000	-45,000
July 31.....	2,657.50	970,900	-92,100
Aug. 31.....	2,649.00	877,800	-93,100
Sept. 30.....	2,642.77	814,300	-63,500
Water year 1955-56.....	-	-	+339,900

† Hour of gage reading not known.

## Owyhee River below Owyhee Dam, Oreg.

Location.--Lat 43°39'10", long 117°15'00", in sec. 17, T. 22 S., R. 45 E., on left bank three-quarters of a mile downstream from Owyhee Dam and 20 miles southwest of Nyssa.

Drainage area.--11,160 sq mi, approximately.

Records available.--February 1929 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 2,343.67 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--24 years (1932-56), 353 cfs (255,600 acre-ft per year).

Extremes.--Maximum discharge during year, 236 cfs Apr. 3 (gage height, 1.58 ft); minimum daily determined, 2 cfs Nov. 1 to Feb. 29.

1929-56: 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 good except those below 4 cfs, which are poor. About 450,000 acre-ft diverted annually from Owyhee Reservoir for irrigation of lands below station and outside the basin. Many smaller diversions for irrigation above station. Flow regulated by Owyhee Reservoir since October 1932 (see p. 137), by Wild Horse Reservoir since March 1938 (see p. 131), and by many smaller reservoirs.

Cooperation.--One discharge measurement furnished by Bureau of Reclamation.

Revisions (water years).--WSP 983: 1941-42. WSP 1397: 1930, 1933, 1946.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							a3	163	174	175	149	115
2							a3	163	174	177	149	115
3							93	163	175	177	167	115
4							85	151	175	177	175	105
5							91	140	175	177	175	100
6		a4					94	140	148	177	175	100
7							*101	138	134	177	159	100
8							91	137	136	177	a160	100
9				a2			85	130	152	177	a160	100
10							92	122	160	177	a165	100
11							97	122	162	177	*165	92
12							103	122	*162	162	165	86
13							91	122	162	191	165	86
14							112	122	172	191	165	87
15							122	122	182	193	165	78
16			a2		a2		125	122	159	193	165	73
17				*2			144	137	144	193	165	73
18							157	148	152	193	165	73
19		a3					157	160	159	186	165	73
20							163	163	159	182	165	73
21							170	172	159	177	165	73
22							172	179	159	174	160	73
23							172	184	159	175	155	73
24				a2			172	187	159	168	155	73
25							155	154	159	163	142	73
26							159	155	165	163	136	73
27		*3					160	132	175	163	124	63
28							165	116	175	155	115	57
29		a3					165	116	175	149	115	57
30							165	132	175	149	115	57
31							165	132	175	149	115	57
Total	103	60	62	62	58	93	3,664	4,451	4,876	5,434	4,781	2,516
Mean	3.3	2	2.0	2	2	3	122	144	163	175	154	83.9
Ac-ft	204	119	123	123	115	184	7,270	8,830	9,670	10,780	9,480	4,990
Calendar year 1955: Max	93				Min -		Mean 22.2		Ac-ft 16,080			
Water year 1955-56: Max	193				Min -		Mean 71.5		Ac-ft 51,890			

\* Discharge measurement made on this day.

a No gage-height record; discharge interpolated.

## 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 flow line of Arrowrock Reservoir, 4 miles downstream from Twin Springs, and 13 miles upstream from Arrowrock.

Drainage area.--830 sq mi, approximately.

Records available.--March 1911 to September 1956.

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.--45 years, 1,174 cfs (849,900 acre-ft per year).

Extremes.--Maximum discharge during year, 11,200 cfs May 24 (gage height, 8.76 ft); maximum gage height, 9.59 ft Feb. 3 (ice jam); minimum discharge, 225 cfs Nov. 16 (gage height, 1.88 ft), but may have been less during period of ice effect.  
1911-56: Maximum discharge, that of May 24, 1956; maximum gage height, that of Feb. 3, 1956; 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 fair.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 22

May 23 to Sept. 30

2.0	254	4.0	2,020	2.1	376	5.0	3,770
2.2	338	5.0	3,520	2.5	625	6.0	5,440
2.5	505	6.0	5,300	3.0	1,050	7.0	7,320
3.0	880	8.0	9,530	3.5	1,610	8.6	10,800
3.5	1,380			4.0	2,280		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	329	418	*605	1,240	626	518	1,800	3,820	8,900	2,660	772	454
2	329	348	557	1,150	b580	538	1,700	3,830	8,330	2,470	748	442
3	324	390	493	1,080	b600	544	1,630	3,870	7,480	2,260	732	430
4	320	428	451	1,050	a610	550	1,680	4,170	7,000	2,120	716	430
5	369	457	329	1,050	a620	544	1,830	4,280	6,290	2,110	692	430
6	374	412	538	979	a600	499	1,820	4,260	5,330	2,130	678	430
7	359	396	577	934	a630	457	1,840	4,240	4,700	2,120	692	425
8	369	374	481	925	a620	531	1,750	4,530	4,730	2,040	682	419
9	364	385	518	832	a620	544	1,830	4,440	5,330	2,040	640	408
10	369	545	487	872	a640	531	2,340	4,510	5,940	2,040	618	408
11	481	840	481	848	a650	463	2,900	4,420	5,930	2,040	597	408
12	412	544	531	816	a700	445	3,020	4,020	5,460	1,920	583	403
13	390	418	605	848	a820	538	3,250	3,820	5,260	1,820	562	403
14	380	b410	428	832	*557	512	3,470	3,360	5,040	1,720	548	398
15	374	b330	412	1,040	531	505	4,100	3,410	4,890	1,570	569	392
16	364	b270	704	1,600	434	518	4,590	3,850	4,260	1,450	548	387
17	359	b400	598	1,410	512	584	4,370	4,730	3,610	1,370	529	381
18	354	b550	531	1,280	531	736	4,550	6,030	3,280	1,290	516	376
19	354	b570	639	1,190	518	952	5,150	7,250	3,450	1,260	510	376
20	*354	b950	1,100	1,140	531	1,120	5,710	8,100	3,950	1,230	503	376
21	354	1,150	1,330	1,080	544	1,260	6,250	8,780	3,550	1,180	496	381
22	359	880	5,930	1,040	564	1,390	6,660	9,300	3,240	1,150	484	387
23	354	704	8,480	1,050	564	1,880	6,760	9,560	*3,220	*1,080	472	392
24	348	635	5,920	970	531	2,540	*6,190	*10,800	3,180	1,040	466	387
25	348	570	3,440	792	538	3,200	5,650	9,920	3,220	1,020	466	381
26	359	577	2,510	*925	531	3,100	5,570	8,970	3,120	955	472	376
27	390	696	2,150	925	524	*2,480	5,450	9,230	3,300	928	490	376
28	369	728	*1,800	744	*512	2,050	5,200	8,370	3,280	901	*522	392
29	369	664	1,460	b745	512	1,870	4,640	7,910	3,420	883	490	419
30	428	626	1,360	824	-----	1,910	4,160	8,040	3,000	848	478	396
31	524	---	1,360	648	-----	1,880	-----	*8,480	-----	806	480	-----
Total	11,530	16,663	46,805	30,819	16,550	35,189	115,860	190,100	141,610	48,451	17,711	12,065
Mean	372	555	1,510	994	571	1,135	3,862	6,132	4,720	1,563	571	402
Cfs/m	0.448	0.669	1.62	1.20	0.688	1.37	4.65	7.39	5.69	1.88	0.688	0.484
In.	0.52	0.75	2.10	1.38	0.74	1.58	5.19	8.52	6.35	2.17	0.79	0.54
Ac-ft	22,870	33,050	92,840	61,130	32,830	69,800	229,800	377,100	280,900	96,100	35,130	23,930

Peak discharge (base, 3,700 cfs).--Dec. 23 (6 p.m.) 10,300 cfs (8.31 ft); Apr. 23 (3 a.m.) 7,120 cfs (6.90 ft); May 24 (6 p.m.) 11,200 cfs (8.76 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby streams.

b Stage-discharge relation affected by ice.

## South Fork Boise River near Featherville, Idaho

Location.--Lat 43°29'40", long 115°18'20", in lot 6, NW¼ sec. 19, T. 2 N., R. 10 E., on right bank 2½ miles upstream from Deer Creek and 8 miles southwest of Featherville.

Drainage area.--635 sq mi.

Records available.--April 1945 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 4,220 ft (from topographic map of Bureau of Reclamation).

Average discharge.--11 years, 825 cfs (597,300 acre-ft per year).

Extremes.--Maximum discharge during year, 7,580 cfs May 24 (gage height, 8.62 ft); minimum, 96 cfs Nov. 16; minimum gage height, 1.33 ft Sept. 19, 20, 21, 27.  
1945-56: Maximum discharge, that of May 24, 1956; minimum, 30 cfs Feb. 10, 1949 (gage height, 0.60 ft), result of snowslide upstream.

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

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 17 to May 31)

Oct. 1 to May 19                      May 20 to Sept. 30

1.6	120	3.5	1,030	1.3	202	3.0	1,100
1.8	170	4.0	1,410	1.6	298	4.0	2,060
2.0	235	5.0	2,400	2.0	457	5.0	4,480
2.5	450	6.0	3,600	2.5	730	8.0	7,390
3.0	720	7.3	5,320				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	197	221	263	480	224	266	852	3,040	6,300	1,630	440	251
2	194	188	232	460	252	266	816	3,100	5,920	1,510	*428	248
3	191	224	182	440	255	260	792	3,190	5,430	1,390	419	242
4	185	232	170	430	260	263	846	3,420	4,930	1,320	411	242
5	204	232	140	*445	270	260	942	3,400	4,680	1,280	407	238
6	207	214	210	415	260	232	936	3,310	4,040	1,260	395	238
7	207	210	230	378	*286	204	948	3,300	*3,540	1,230	391	235
8	200	207	200	378	266	242	924	3,350	3,500	1,170	383	*238
9	194	210	210	328	270	278	981	3,260	3,860	1,130	371	229
10	197	282	200	378	280	263	1,210	3,140	4,220	1,130	355	235
11	235	328	195	373	300	228	1,430	3,050	4,250	1,110	339	251
12	214	220	220	355	314	204	1,610	2,800	3,900	*1,040	331	245
13	204	179	250	368	302	*242	1,880	2,570	3,740	988	324	238
14	200	218	175	342	282	249	2,060	2,440	3,540	933	320	232
15	197	165	170	382	270	232	2,460	2,540	3,340	863	328	226
16	191	130	290	415	232	238	3,000	2,930	2,950	800	320	223
17	188	190	250	378	228	270	3,120	3,560	2,560	744	309	220
18	*191	250	220	337	263	302	3,160	4,470	2,360	706	305	220
19	191	270	280	352	274	355	3,500	5,240	2,460	688	298	214
20	191	500	450	337	270	405	3,950	5,630	2,630	670	291	211
21	214	577	540	350	278	460	4,320	6,100	2,350	646	291	211
22	224	*586	1,200	342	298	500	4,590	6,470	2,170	634	288	214
23	210	290	1,700	350	290	648	4,720	*6,820	2,120	593	274	223
24	200	282	1,200	310	270	846	*4,370	7,310	2,070	564	264	220
25	197	246	900	238	270	1,070	4,000	6,800	2,040	547	264	220
26	204	266	800	286	268	1,160	4,030	6,170	1,980	522	271	217
27	214	302	700	310	263	1,010	3,910	6,120	1,990	507	281	214
28	214	286	640	270	260	882	3,690	5,590	2,000	493	284	217
29	214	274	550	260	263	828	3,460	5,330	2,040	512	284	229
30	263	270	530	282	-----	852	3,220	5,420	1,830	484	271	232
31	266	-----	510	256	-----	858	-----	5,850	-----	462	261	-----
Total	6,398	7,853	13,807	11,005	7,816	14,373	75,787	135,720	98,740	27,556	10,198	6,873
Mean	206	262	445	355	270	464	2,526	4,378	3,291	889	329	229
Cfsm	0.324	0.415	0.701	0.559	0.425	0.731	3.98	6.89	5.18	1.40	0.518	0.361
In.	0.37	0.46	0.81	0.64	0.46	0.84	4.44	7.95	5.78	1.61	0.60	0.40
Ac-ft	12,690	15,580	27,390	21,830	15,500	28,510	150,300	269,200	195,800	54,660	20,230	13,630

Calendar year 1955: Max 3,650 Min 130 Mean 571 Cfsm 0.899 In. 12.21 Ac-ft 413,600  
Water year 1955-56: Max 7,310 Min 130 Mean 1,137 Cfsm 1.79 In. 24.36 Ac-ft 825,300

Peak discharge (base, 2,000 cfs)--Apr. 23 (2:30 a.m.) 4,960 cfs (6.85 ft); May 24 (12 m.) 7,580 cfs (8.62 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 16-20, Dec. 6 to Jan. 4, Feb. 3-6, 9-11; discharge estimated on basis of recorded range in stage, weather records, records for Boise River near Twin Springs, and other nearby streams.

## Lime Creek near Bennett, Idaho

Location.--Lat 43°25', long 115°16', in SW 1/4 sec. 16, T. 1 N., R. 10 E., on right bank 0.4 mile upstream from flow line of Anderson Ranch Reservoir, 2 miles upstream from mouth, and 12 miles northeast of Bennett.

Drainage area.--131 sq mi.

Records available.--June 1945 to October 1956 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 4,250 ft (from topographic map of Bureau of Reclamation).

Average discharge.--11 years, 89.8 cfs (65,010 acre-ft per year).

Extremes.--Maximum discharge during year, 858 cfs Apr. 22; maximum gage height, 5.24 ft Apr. 16; minimum, 6.6 cfs Nov. 2 (gage height, 2.15 ft).

1945-56: Maximum discharge, 1,180 cfs Apr. 19, 1946, Apr. 27, 1952; maximum gage height, 8.02 ft Feb. 15, 1949 (backwater from snowslide); minimum discharge, 2.5 cfs Feb. 11, 1949 (gage height, 1.67 ft), result of snowslide upstream.

Remarks.--Records excellent except those below 100 cfs, which are good, and those for periods of ice effect or no gage-height record, which are fair. No diversion or regulation.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	19	27	76	a40	47	194	513	343	64	30	a24
2	15	14	22	70	a43	48	187	506	323	61	*50	a24
3	14	22	b20	69	a45	48	185	510	297	61	30	a23
4	14	22	b19	70	a50	48	199	534	274	58	30	a23
5	16	22	b18	*69	a52	48	232	517	249	55	30	a23
6	17	19	b21	63	a52	40	229	493	225	52	30	a23
7	17	20	b25	60	*b51	47	234	483	*202	51	30	*23
8	17	20	b22	55	b48	57	237	464	190	50	30	24
9	16	21	b23	53	b49	47	262	441	180	47	29	22
10	17	26	b23	58	b52	47	337	429	175	46	28	23
11	20	27	27	55	b54	43	450	416	165	45	28	25
12	17	17	30	54	58	47	523	376	156	*45	27	24
13	17	b16	b28	57	59	*59	579	352	146	44	26	24
14	17	b15	b24	53	58	49	632	334	140	43	26	24
15	17	b13	b25	64	51	47	700	332	142	43	28	23
16	17	b17	b27	99	b41	49	740	346	144	42	a27	22
17	17	b21	30	88	b43	53	652	367	131	40	a27	22
18	*17	b25	27	81	b45	62	664	392	117	38	a26	22
19	17	29	35	78	b46	72	692	438	111	38	a26	23
20	17	38	40	84	46	83	704	486	113	38	a25	23
21	19	*62	44	73	52	93	740	503	109	37	a25	24
22	20	34	173	70	53	105	772	493	101	42	a24	25
23	19	27	510	70	51	134	800	*496	95	35	a24	25
24	17	27	344	59	48	187	*760	537	91	34	a23	25
25	18	26	192	55	48	214	696	486	84	33	a23	25
26	19	28	154	b56	47	232	705	454	80	32	a25	25
27	20	34	141	b58	46	206	672	467	75	32	a27	25
28	20	32	102	b54	47	197	607	404	72	32	a27	27
29	20	29	72	a45	48	190	566	382	67	34	a25	29
30	24	27	b80	a43	-----	192	537	355	65	32	a24	28
31	22	-----	b80	a41	-----	194	-----	346	-----	30	a24	-----
Total	550	749	2,403	1,980	1,423	2,965	15,487	13,652	4,662	1,334	834	722
Mean	17.7	25.0	77.5	63.9	49.1	95.6	516	440	155	43.0	26.9	24.1
Cfsm	0.135	0.191	0.592	0.488	0.375	0.730	3.94	3.36	1.18	0.328	0.205	0.184
In.	0.16	0.21	0.68	0.56	0.40	0.94	4.40	3.88	1.32	0.38	0.24	0.20
Ac-ft	1,090	1,490	4,770	3,930	2,820	5,880	30,720	27,080	9,250	2,650	1,650	1,430
Calendar year 1955: Max	262			Min 10		Mean 53.8	Cfsm 0.411	In. 5.57	Ac-ft 38,950			
Water year 1955-56: Max	800			Min 13		Mean 128	Cfsm 0.977	In. 13.27	Ac-ft 92,760			

Peak discharge (base, 230 cfs).--Dec. 23 (3 a.m.) 660 cfs (4.97 ft); Mar. 26 (1 a.m.) 242 cfs (5.65 ft); Apr. 22 (11 p.m.) 858 cfs (5.13 ft); May 24 (4:30 a.m.) 600 cfs (4.67 ft).

\* 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 Fall Creek near Anderson Ranch Dam, South Fork Boise River near Feather-ville, and other nearby streams.

b stage-discharge relation affected by ice.

Discharge, in cubic feet per second, 1956

Day	Oct.	Day	Oct.	Day	Oct.	Day	Oct.	Day	Oct.	Day	Oct.
1	27	6	27	11	50	16	32	21	a30	26	a28
2	27	7	27	12	44	17	31	22	a30	27	a38
3	27	8	27	13	36	18	*31	23	a30	28	a31
4	27	9	30	14	34	19	a32	24	a31	29	a29
5	27	10	34	15	32	20	a31	25	a31	30	a35
										31	a36
Total											982
Mean											31.7
Cubic feet per second per square mile											0.242
Runoff in inches											0.28
Runoff in acre-feet											1,950

\* 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 Fall Creek near Anderson Ranch Dam, South Fork Boise River near Feather-ville, and other nearby streams.

## Fall Creek near Anderson Ranch Dam, Idaho

Location.--Lat 43°26'00", long 115°23'10", in SE¼ sec. 9, T. 1 N., R. 9 E., on right bank 1 1/4 miles downstream from Mill Creek and 6 miles northeast of Anderson Ranch Dam.  
Drainage area.--55.3 sq mi.  
Records available.--April 1945 to October 1956 (discontinued).  
Gage.--Water-stage recorder. Altitude of gage is 4,350 ft (from topographic map of Bureau of Reclamation).  
Average discharge.--11 years, 72.7 cfs (52,630 acre-ft per year).  
Extremes.--Maximum discharge during year, 794 cfs Apr. 21 (gage height, 5.50 ft); maximum gage height, 5.89 ft probably on Feb. 4 (ice jam); minimum discharge, 9.9 cfs Nov. 2 (gage height, 2.50 ft), but may have been less during period of ice effect.  
 1945-56: Maximum discharge, 948 cfs Apr. 27, 1952 (gage height, 6.25 ft); minimum, 1.6 cfs Feb. 9, 1949 (gage height, 1.94 ft), result of snowslide upstream.  
Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No diversion or regulation.

Rating tables, October 1955 to October 1956, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
 (Shifting-control method used Apr. 19-21)

Oct. 1 to Apr. 18

Apr. 19 to Oct. 31

2.5	9.0	3.6	127	2.6	13	4.0	237
2.6	12	4.0	209	2.8	24	4.5	422
2.8	21	4.4	317	3.0	41	5.0	626
3.0	38	4.8	445	3.2	63	5.5	842
3.2	63			3.6	132		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	14	30	56	b32	29	116	430	406	77	27	18
2	13	b13	b26	54	b34	29	107	418	387	75	26	18
3	13	14	b21	b50	b36	30	106	434	368	71	*26	17
4	12	15	b20	50	b38	29	123	446	357	69	25	18
5	14	15	b18	49	b39	29	148	434	292	66	24	17
6	14	14	b20	46	*b38	b27	142	426	254	63	23	17
7	14	14	b22	43	b37	b26	146	430	*240	61	23	16
8	14	14	b20	39	b34	29	142	442	240	58	23	16
9	14	15	b22	b38	b34	28	162	434	247	56	22	*16
10	14	32	b21	38	b35	27	205	414	250	53	22	16
11	17	22	22	38	b36	28	254	399	244	51	21	17
12	14	16	29	37	36	*b26	284	364	234	50	20	17
13	13	b14	26	37	34	27	323	337	222	*49	20	16
14	13	b13	b22	34	34	26	351	322	204	48	20	16
15	12	b11	b23	68	32	26	406	337	202	45	21	16
16	12	b14	b25	104	b29	27	402	375	185	43	20	16
17	*12	*b18	26	77	b30	31	399	414	162	41	20	16
18	12	b21	26	69	b31	37	426	466	150	39	19	16
19	12	b24	26	62	b32	45	499	507	146	38	19	16
20	12	28	27	62	b32	51	606	528	144	36	19	16
21	14	43	31	56	33	55	710	536	130	36	18	16
22	13	*29	b161	56	32	62	745	552	122	35	18	16
23	13	25	369	54	31	84	685	*528	115	33	18	16
24	13	24	251	48	30	125	643	540	109	31	17	16
25	13	b24	180	b43	30	166	*569	495	102	31	17	16
26	14	26	120	b44	30	174	593	462	95	30	18	16
27	14	54	97	b46	30	144	573	466	91	30	20	16
28	14	42	*77	b42	29	122	524	422	88	30	20	16
29	14	36	b66	b40	29	120	474	399	83	32	19	17
30	20	33	b64	b37	-----	127	446	399	80	29	18	17
31	16	-----	62	b34	-----	122	-----	410	-----	28	18	-----
Total	422	677	1,930	1,553	957	1,910	11,311	13,566	5,929	1,435	641	493
Mean	13.6	22.6	62.3	50.1	33.0	61.6	377	438	198	46.3	20.7	16.4
Cfs/m	0.246	0.409	1.13	0.906	0.597	1.11	6.82	7.92	3.58	0.837	0.374	0.297
In.	0.28	0.46	1.30	1.04	0.64	1.28	7.61	9.12	3.99	0.97	0.43	0.33
Ac-ft	837	1,340	3,830	3,080	1,900	3,790	22,440	26,910	11,760	2,850	1,270	978

Calendar year 1955: Max 369 Min 11 Mean 45.6 Cfs/m 0.843 In. 11.44 Ac-ft 33,760  
 Water year 1955-56: Max 745 Min 11 Mean 112 Cfs/m 2.03 In. 27.45 Ac-ft 80,980

Peak discharge (base, 300 cfs).--Dec. 23 (3 p.m.) 438 cfs (4.78 ft); Apr. 21 (7 p.m.) 794 cfs (5.50 ft); May 22 (8 p.m.) 810 cfs (4.98 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Discharge, in cubic feet per second, 1956

Day	Oct.	Day	Oct.	Day	Oct.	Day	Oct.	Day	Oct.	Day	Oct.
1	16	6	16	11	28	16	19	21	a17	26	a16
2	16	7	16	12	23	17	*16	22	a17	27	a21
3	16	6	17	13	20	18	a18	23	a18	28	a18
4	16	9	19	14	19	19	a19	24	a18	29	a17
5	16	10	20	15	19	20	a18	25	a18	30	a20
										31	a21
Total											570
Mean											18.4
Cubic feet per second per square mile											0.333
Runoff in inches											0.38
Runoff in acre-feet											1,130

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, records for South Fork Boise River near Peatherville, and other nearby streams.

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, April 1924 to September 1956.

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, 1924-56: Maximum daily discharge, 77 cfs Apr. 27-30, May 1, 3, 9, 1924; no flow during nonirrigation seasons.

Remarks.--Records good except those for period of backwater from moss, which are fair. 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	30	50	56	8	56
2							0	30	50	54	*41	55
3							0	32	50	52	55	55
4							0	33	50	51	58	55
5							0	14	50	51	60	55
6							0	0	50	50	61	54
7							0	0	*50	51	61	*54
8							0	0	54	50	61	54
9							0	0	57	51	61	54
10							0	0	57	51	60	53
11							0	0	59	51	60	53
12							0	0	60	*51	60	53
13							0	0	60	51	59	53
14							0	0	60	51	59	53
15							0	0	60	51	59	53
16							0	11	60	51	59	20
17							0	18	60	50	59	0
18							0	18	*59	49	58	0
19							0	19	60	49	58	0
20							0	19	59	49	58	0
21							0	25	59	49	58	0
22							0	36	58	49	58	0
23							0	*38	59	49	58	0
24							0	44	58	49	58	0
25							7	44	58	47	57	0
26							21	44	58	46	57	0
27							25	44	57	46	57	0
28							25	44	57	46	57	0
29							25	47	56	22	57	0
30							28	50	56	0	57	0
31		-----			-----		-----	50	-----	0	56	-----
Total	0	0	0	0	0	0	131	690	1,691	1,423	1,745	830
Mean	0	0	0	0	0	0	4.4	22.3	56.4	45.9	56.3	27.7
Ac-ft	0	0	0	0	0	0	260	1,370	3,350	2,920	3,460	1,650

Calendar year 1955: Max 55 Min 0 Mean 8.1 Ac-ft 5,830  
 Water year 1955-56: Max 61 Min 0 Mean 17.8 Ac-ft 12,910

\* Discharge measurement made on this day.

Note.--Backwater from moss June 20 to July 29.

## Anderson Ranch Reservoir at Anderson Ranch Dam, Idaho

Location.--Lat 43°21'30", long 115°27'10", in SE $\frac{1}{4}$  sec. 1, T. 1 S., R. 8 E., on inlet structure of outlet works of dam on South Fork Boise River,  $\frac{1}{2}$  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 1956.

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, 472,800 acre-ft June 1 (elevation, 4,197.81 ft); minimum observed, 145,000 acre-ft Mar. 23 (elevation, 4,103.22 ft). 1945-56: Maximum contents observed, that of June 1, 1956; no usable contents prior to Jan. 27, 1946; minimum since full capacity was attained June 21, 1951, that of Mar. 23, 1956.

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 of land in Boise Valley.

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

Capacity table, water year 1955-56 (elevation, in feet, and contents, in acre-feet)

4,103.0	144,400	4,125.0	201,400	4,150.0	279,100	4,175.0	371,800
4,106.0	151,600	4,130.0	215,700	4,155.0	296,500	4,180.0	392,400
4,110.0	161,500	4,135.0	230,500	4,160.0	314,400	4,185.0	413,900
4,115.0	174,400	4,140.0	246,100	4,165.0	332,800	4,180.0	436,300
4,120.0	187,700	4,145.0	262,300	4,170.0	352,000	4,198.0	473,700

Contents, in acre-feet, at about 8 a.m., water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	271,700	252,500	251,000	248,300	-	173,800	156,100	315,200	472,800	464,400	457,600	415,900
2	271,100	252,700	250,900	-	-	175,100	157,800	320,800	472,200	464,500	457,800	414,300
3	271,000	253,200	249,400	248,200	-	172,500	158,500	326,500	470,700	464,700	457,800	414,400
4	269,200	253,600	249,500	247,500	-	171,800	159,500	332,000	470,400	464,600	458,300	414,800
5	267,700	254,000	249,300	246,800	214,600	171,800	160,800	338,000	471,200	464,800	458,800	414,600
6	266,200	254,400	249,000	245,700	213,400	171,000	161,500	343,500	469,300	464,600	459,500	414,600
7	264,100	254,800	249,300	244,600	211,700	169,900	163,400	350,100	465,100	464,300	459,500	414,200
8	261,100	254,500	249,300	244,000	210,800	169,200	164,700	355,600	465,000	463,900	459,100	414,600
9	258,500	255,000	248,900	243,400	209,400	168,600	166,600	360,700	465,500	463,500	457,400	415,000
10	255,700	255,400	248,700	242,100	208,200	167,900	167,800	366,200	466,500	462,900	455,000	415,400
11	253,300	255,700	248,800	240,000	206,200	167,100	169,700	370,800	466,700	462,600	452,700	415,300
12	250,500	255,100	248,700	239,400	205,100	162,700	172,600	375,400	465,700	461,900	450,100	415,500
13	247,600	254,200	247,100	238,300	204,500	161,500	176,100	379,000	465,300	462,000	448,000	415,900
14	247,000	253,400	-	-	203,400	160,000	180,400	383,100	465,900	461,700	445,600	416,000
15	247,100	252,600	241,900	237,000	200,900	157,000	185,500	386,400	465,700	462,600	443,100	416,300
16	247,700	251,300	239,600	238,400	198,600	155,000	192,000	399,800	465,500	463,900	441,000	416,800
17	248,000	249,900	237,200	238,000	196,700	152,600	199,600	394,500	464,700	463,800	438,800	416,500
18	248,100	249,300	235,900	236,700	194,800	147,800	206,500	400,400	464,100	463,500	436,300	414,100
19	248,300	248,900	235,900	235,700	192,600	147,000	213,200	409,300	464,400	462,800	435,300	412,100
20	248,500	249,600	236,700	234,200	190,400	146,600	221,200	418,900	466,600	461,700	435,300	411,000
21	248,600	251,100	237,000	234,200	188,500	145,900	229,300	430,200	466,800	460,600	433,700	409,600
22	248,800	251,500	237,300	234,500	186,300	145,900	240,100	442,900	467,600	459,700	431,900	408,400
23	249,300	251,100	241,300	235,500	184,400	145,000	250,800	456,200	465,600	459,700	430,400	407,900
24	249,600	251,100	248,900	235,300	182,300	145,100	260,900	467,700	465,000	457,900	428,800	408,200
25	249,700	251,900	251,500	234,600	180,200	145,400	269,600	471,900	464,300	457,500	427,600	407,100
26	250,100	251,500	253,600	233,600	178,000	148,000	277,500	470,700	464,900	456,800	427,600	405,600
27	250,500	251,800	253,400	232,900	176,200	150,400	286,800	470,500	464,900	456,500	427,600	404,100
28	251,000	252,500	252,800	229,900	174,600	151,400	294,600	470,200	465,000	456,100	425,400	402,200
29	251,400	251,800	251,800	228,900	175,100	153,100	302,300	470,700	465,000	456,600	422,700	401,900
30	251,700	251,300	249,900	227,200	174,000	154,100	309,900	471,500	464,900	457,800	420,900	402,200
31	252,500	-	248,500	225,100	173,000	155,300	-	472,200	-	457,400	418,300	-
(†)	4,142.00	4,141.63	-	4,133.2	4,115.28	4,107.50	4,158.77	4,197.69	4,196.15	4,194.57	4,186.00	4,182.30
(*)	-20,700	-1,200	-1,800	-24,400	-50,000	-19,800	154,600	412,300	-7,300	-7,500	-39,100	-16,100
Calendar year 1955..... * +12,200												
Water year 1955-56..... * +129,000												

† Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

‡ No gage-height record; contents estimated on basis of records of inflow and outflow and records for adjacent periods.



## South Fork Boise River at Anderson Ranch Dam, Idaho

Location.--Lat 43°20', long 115°29', in SW<sup>1</sup>/<sub>4</sub> 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 2½ miles northwest of Bennett (Dixie Store).

Drainage area.--982 sq mi.

Records available.--April 1943 to September 1956 (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.--13 years, 984 cfs (712,400 acre-ft per year).

Extremes.--Maximum discharge during year, 9,850 cfs May 25 (gage height, 10.56 ft); minimum, 13 cfs Oct. 16, 17, 24, Nov. 3, 4, 7; minimum gage height, 1.41 ft Oct. 17, Nov. 7. 1943-56: Maximum discharge, that of May 25, 1956; minimum, 0.3 cfs Feb. 16, 1950 (gage height, 0.99 ft), but may have been less during period of ice effect.

Remarks.--Records excellent. Flow of Little Camas Creek stored in Little Camas Reservoir (no spill most years) and diverted through Little Camas Canal (see p. 143) 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 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

1.4	12	2.6	276	6.0	2,930
1.6	26	3.0	450	7.0	4,190
1.8	50	3.5	730	8.0	5,660
2.0	86	4.0	1,050	9.0	7,250
2.3	168	5.0	1,890	10.6	9,920

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	677	139	499	1,200	1,340	992	648	1,230	7,630	1,920	400	1,590
2	146	15	796	468	1,340	769	1,040	1,280	8,000	1,660	388	256
3	925	13	888	1,270	1,610	1,040	932	1,290	6,950	1,650	*379	141
4	1,120	97	26	1,240	1,560	520	930	1,360	5,540	1,410	121	371
5	948	141	118	1,190	1,440	1,060	898	1,510	5,700	1,630	124	294
6	1,190	16	316	941	*1,360	1,220	1,100	1,280	6,510	1,630	414	562
7	1,580	429	146	1,150	728	1,070	998	1,280	5,150	1,640	708	*40
8	1,480	26	723	592	1,120	986	666	1,490	*3,740	1,580	960	*56
9	1,590	14	592	1,210	1,110	1,140	1,100	1,690	4,220	1,560	1,520	*118
10	1,590	330	132	1,310	1,480	1,200	1,270	1,400	4,540	1,570	1,580	272
11	1,580	472	26	1,160	1,210	646	1,580	1,890	5,000	1,560	1,600	124
12	1,580	690	1,140	1,230	916	*1,270	1,580	1,520	5,040	1,350	1,570	118
13	1,070	802	1,360	1,010	1,250	1,620	1,350	1,410	4,000	*1,230	1,580	118
14	296	664	1,490	992	1,350	1,510	1,240	1,240	3,920	838	1,600	142
15	16	886	1,510	78	1,330	1,620	1,290	1,400	3,890	366	1,600	118
16	13	810	1,520	937	1,450	1,610	1,250	1,560	3,760	730	1,620	115
17	*217	*682	1,350	984	1,530	1,610	1,220	1,470	2,940	990	1,440	1,350
18	160	587	707	1,260	1,620	1,410	1,400	1,680	2,700	1,260	1,150	1,280
19	140	104	583	1,160	1,440	1,380	1,660	1,420	1,970	1,230	403	1,160
20	198	24	252	1,020	1,480	1,460	1,670	1,670	2,460	1,590	1,240	862
21	164	463	679	455	1,410	1,130	1,680	1,660	2,340	1,290	1,210	875
22	16	666	694	134	1,270	1,100	1,690	1,560	3,030	861	1,220	462
23	14	457	918	904	1,430	870	1,560	2,210	3,180	1,370	1,110	124
24	237	26	1,180	652	1,410	1,000	1,700	6,350	2,380	1,190	1,130	914
25	124	471	762	1,020	1,620	1,060	*1,510	*9,770	2,050	998	448	981
26	16	363	1,190	926	1,540	1,110	1,540	8,640	2,160	862	149	926
27	14	26	1,520	1,060	1,280	1,120	1,280	8,190	2,240	791	1,130	994
28	113	752	*1,440	1,500	929	842	1,460	7,170	2,240	426	1,580	761
29	79	558	1,500	1,230	1,070	1,090	910	6,340	2,270	124	1,580	199
30	16	713	1,480	1,280	-----	952	1,230	6,470	2,250	760	1,400	121
31	356	-----	982	1,140	-----	1,090	-----	6,870	-----	352	1,590	-----
Total	17,665	11,436	26,337	30,703	38,643	35,497	38,382	94,100	117,800	36,218	32,944	15,464
Mean	570	361	850	990	1,333	1,145	1,279	3,035	3,927	1,168	1,063	515
Ac-ft	35,040	22,680	52,240	60,900	76,650	70,410	76,130	186,900	233,700	71,840	66,340	30,670

Calendar year 1955: Max 1,650 Min 4 Mean 715 Ac-ft 519,800  
 Water year 1955-56: Max 9,770 Min 13 Mean 1,353 Ac-ft 982,200

\* Discharge measurement made on this day.

## 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 and 14 miles east of Boise.

Drainage area.--2,210 sq mi, approximately.

Records available.--October 1917 to September 1956.

Gage.--Staff graduated on face of dam read once daily. Datum of gage is at mean sea level (surveys of Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 291,300 acre-ft Jan. 18 (elevation, 3,217.5 ft); minimum observed, 2,910 acre-ft Sept. 23 (elevation, 3,015.0 ft).  
1917-56: 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 ft (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 contents 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 ft to 5,000 acre-ft at elevation 3,085 ft and above. Water is used for irrigation of lands in Boise Valley.

Cooperation.--Gage readings and revised capacity table furnished by Bureau of Reclamation.

Capacity table, water year 1955-56 (elevation, in feet, and contents, in acre-feet)

3,015.0	2,910	3,100.0	49,000
3,020.0	3,800	3,120.0	75,000
3,030.0	5,870	3,140.0	107,500
3,040.0	8,270	3,160.0	146,000
3,050.0	11,920	3,180.0	189,500
3,060.0	16,770	3,200.0	240,000
3,080.0	30,000	3,218.0	292,800

Contents, in acre-feet, at about 8 a.m., water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20,790	31,840	32,730	267,300	223,100	247,600	175,800	163,200	289,100	289,700	182,400	25,500
2	19,400	33,120	98,110	272,400	226,200	247,000	169,000	161,300	290,300	287,200	176,200	22,800
3	16,770	34,000	99,000	276,000	230,600	246,700	162,400	158,800	289,100	285,000	169,900	16,290
4	16,030	34,540	101,700	280,500	235,300	246,200	155,900	157,100	287,200	282,900	163,800	15,360
5	15,720	35,800	103,200	285,000	240,000	245,800	149,200	155,200	284,700	281,700	157,300	17,580
6	15,210	36,680	104,400	289,400	244,800	245,000	143,600	154,800	282,900	281,100	150,400	19,570
7	15,110	37,960	106,100	287,500	243,200	245,000	137,800	154,400	284,400	280,500	144,000	21,940
8	16,500	39,500	108,200	285,700	252,300	245,000	132,800	153,400	281,700	279,900	138,200	23,470
9	17,310	40,700	109,500	282,900	256,000	244,500	127,400	153,600	279,000	279,000	132,600	24,860
10	18,140	41,900	112,900	281,100	259,800	244,500	123,200	154,000	279,300	277,200	129,000	26,220
11	14,360	43,500	114,900	276,000	264,200	244,500	121,100	153,100	280,500	275,100	124,900	27,770
12	15,360	45,920	116,500	270,000	269,500	242,800	121,300	153,100	284,700	273,000	120,900	29,140
13	15,770	48,340	113,700	270,600	271,800	242,800	120,700	151,500	286,900	270,900	116,700	30,320
14	14,480	50,800	123,900	274,500	270,500	243,600	120,900	148,900	287,500	267,300	112,700	31,600
15	11,070	53,560	127,800	278,700	269,100	244,200	122,000	146,000	287,500	263,600	108,200	32,800
16	12,610	55,780	131,800	282,900	267,300	244,800	123,900	144,000	287,200	258,600	104,100	34,000
17	13,600	58,250	135,900	286,800	265,600	242,500	126,400	143,600	285,000	254,000	100,400	34,990
18	14,510	60,720	139,600	291,200	264,400	239,200	128,200	144,400	280,500	250,100	95,090	36,500
19	16,230	63,190	142,800	287,200	262,700	237,100	130,000	146,500	278,400	246,400	90,160	39,220
20	17,580	64,360	145,800	284,700	260,400	234,300	135,200	154,400	279,600	242,000	83,300	19,340
21	18,990	67,220	148,700	279,300	258,900	229,600	140,200	162,400	284,700	238,200	79,350	9,870
22	20,170	70,800	155,400	273,900	257,500	225,400	146,000	169,200	287,800	234,300	74,020	5,010
23	21,420	73,600	176,700	267,600	255,700	220,200	152,100	175,800	290,600	229,300	69,260	2,910
24	22,400	76,500	201,500	262,700	254,000	216,300	156,700	185,100	290,600	225,400	62,800	3,070
25	23,400	79,150	216,800	256,900	253,200	213,000	160,700	206,200	290,300	220,800	58,120	3,210
26	24,720	80,700	226,500	251,500	252,000	211,000	162,600	228,300	289,700	216,100	54,160	3,190
27	25,500	82,500	234,800	246,400	250,400	208,500	164,900	245,600	289,700	211,000	46,800	3,010
28	26,880	84,740	242,500	242,200	249,000	204,000	166,600	262,700	289,700	205,800	42,000	5,870
29	27,690	87,780	249,500	237,900	248,100	196,700	166,600	274,500	290,000	200,100	38,410	7,750
30	28,840	90,670	255,700	232,200	-----	189,500	164,900	280,500	290,000	194,100	33,840	9,870
31	30,080	-----	262,100	227,000	-----	182,600	-----	265,400	-----	188,600	29,220	-----
(†)	3,080.1	3,150.1	3,207.6	3,195.0	3,202.9	3,177.0	3,169.0	3,215.6	3,217.1	3,179.6	3,079.0	3,045.0
(‡)	+8,960	+60,530	+171,430	-35,100	+21,100	-65,500	-17,700	+120,500	+4,600	-101,400	-159,380	-19,350

Calendar year 1955..... † +146,100  
Water year 1955-56..... ‡ -11,230

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

## Bannock Creek near Idaho City, Idaho

Location.--Lat 43°48'30", long 115°46'30", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 32, T. 6 N., R. 6 E., on right bank three-quarters of a mile upstream from South Fork,  $\frac{2}{3}$  miles upstream from mouth, and 3 miles southeast of Idaho City.

Drainage area.--4.5 sq mi., approximately.

Records available.--January 1939 to November 1941, December 1950 to September 1956.

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.--7 years (1939-41, 1951-56) 2.11 cfs (1,528 acre-ft per year).

Extremes.--Maximum discharge during year, 31 cfs Dec. 23 (gage height, 1.91 ft); minimum, 0.2 cfs Nov. 16 (gage height, 0.24 ft).

1939-41, 1950-56: Maximum discharge, 33 cfs (revised) Apr. 26, 1952 (gage height, 1.95 ft); 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).

Revisions.--The maximum discharge for the water year 1952 has been revised to 33 cfs Apr. 26, 1952 (gage height, 1.95 ft), superseding figure published in WSP 1247.

Remarks.--Records good except those for periods of ice effect or no gage-height record and those below 1.0 cfs, which are fair. No diversion or regulation.

Revisions.--Revised figures of discharge, in cubic feet per second, for high water period in the water year 1952, superseding those published in WSP 1247, are given herewith:

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
April 1952.....	429.4	31	2.0	14.3	3.18	3.55	852
Water year 1951-52.....	1,137.0	31	0.5	3.11	0.691	9.39	2,260
Calendar year 1952.....	1,090.6	31	0.5	2.98	0.662	9.02	2,160

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 25

Mar. 26 to Sept. 30

0.3	0.3	1.0	5.9	0.3	0.4	1.0	5.7
.4	.6	1.2	9.4	.4	.7	1.2	8.8
.5	1.0	1.4	14	.5	1.1	1.4	14
.6	1.6	1.7	24	.6	1.8	1.6	20
.8	3.3			.8	3.6		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.5	0.9	4.6	1.8	bl.3	7.7	12	5.3	2.1	0.8	0.6
2	.4	.5	.8	4.3	bl.8	bl.3	7.6	11	5.1	2.1	.8	.8
3	.4	.5	.8	4.1	bl.4	bl.3	7.4	9.9	5.1	2.0	.8	.6
4	.4	.6	.8	3.9	1.3	bl.3	7.6	9.9	4.8	1.9	.8	.6
5	.5	.6	b.8	3.9	bl.3	bl.2	*7.6	9.2	4.7	1.8	.8	.6
6	.4	.5	.9	3.5	bl.3	bl.2	7.4	9.0	4.4	1.8	.8	.6
7	.4	.5	.8	3.4	bl.3	bl.2	7.2	9.2	4.4	1.7	.8	.6
8	.4	.5	.8	3.5	bl.3	*bl.2	7.1	9.0	4.7	1.6	.7	.6
9	.4	.5	.8	b3.1	bl.3	1.1	7.1	8.4	4.7	1.5	.7	.6
10	.6	.5	.8	3.0	bl.4	1.1	7.6	8.2	4.4	1.5	.7	.6
11	.6	.5	.8	2.8	bl.5	bl.0	8.1	8.6	4.2	1.3	.7	.6
12	.5	.5	.9	2.8	bl.5	bl.1	9.0	7.9	4.2	1.4	.6	.6
13	.5	.5	.8	2.8	bl.5	1.2	9.2	7.4	3.8	1.4	.6	.6
14	.5	.5	b.8	2.4	bl.4	1.1	10	7.1	3.8	1.3	.7	.6
15	.5	.4	.9	4.5	bl.3	1.1	11	6.6	4.4	1.3	.7	.6
16	.4	b.4	.9	4.8	bl.3	1.2	12	6.5	4.2	1.2	.6	.6
17	.4	b.5	.9	4.5	bl.3	1.2	al1	6.4	3.6	1.2	.6	.6
18	.4	.5	.8	4.4	bl.3	1.3	al2	6.6	*3.0	1.1	.6	.6
19	.4	.7	2.3	4.4	bl.3	1.5	al2	7.2	2.8	1.1	.6	.6
20	.5	1.9	3.7	4.4	bl.3	1.6	al3	7.2	2.8	1.1	.6	.6
21	*.5	1.4	3.6	4.3	bl.3	1.8	al5	7.2	2.8	1.1	.6	.6
22	.5	1.0	15	4.3	bl.3	2.4	al7	7.2	2.6	1.0	.6	.6
23	.5	.8	*21	4.0	bl.3	3.3	al6	7.2	2.6	1.0	.6	.6
24	.5	.7	17	5.9	bl.3	5.1	al7	7.4	2.6	*.9	.6	.6
25	.5	.7	12	*b3.5	bl.3	7.2	*16	6.8	2.5	.9	.6	.6
26	.6	.9	9.4	3.4	bl.3	7.7	19	6.2	2.4	.9	.6	.6
27	.5	1.4	7.9	3.5	bl.3	7.7	18	6.5	2.3	.9	.7	.6
28	.5	1.0	6.7	b3.0	bl.3	7.7	17	5.8	2.2	.9	.7	.7
29	.5	.9	b5.9	b2.6	bl.3	7.6	15	*5.7	2.2	.9	*.6	.7
30	.7	*.9	5.5	b2.3	bl.3	7.7	14	5.7	2.2	.8	.6	.7
31	.5	---	5.1	b2.1	bl.3	7.7	---	5.6	---	.8	---	.6
Total	14.7	21.4	130.1	111.8	39.6	90.4	347.6	238.6	108.8	40.5	20.8	18.3
Mean	0.47	0.71	4.20	3.61	1.37	2.92	11.6	7.70	3.63	1.31	0.67	0.61
Cfsm	0.104	0.158	0.933	0.802	0.304	0.649	2.58	1.71	0.807	0.291	0.149	0.136
In.	0.12	0.18	1.08	0.92	0.33	0.75	2.87	1.97	0.90	0.33	0.17	0.15
Ac-ft	29	42	258	222	79	179	689	473	216	80	41	36

Calendar year 1955: Max 21 Min 0.2 Mean 1.61 Cfsm 0.358 In. 4.88 Ac-ft 1,170  
 Water year 1955-56: Max 21 Min 0.3 Mean 3.23 Cfsm 0.718 In. 9.77 Ac-ft 2,340

Peak discharge (base, 4.5 cfs).--Dec. 19 (12 p.m.) 5.2 cfs (0.93 ft); Dec. 23 (3 p.m.) 31 cfs (1.91 ft); Jan. 15 (7 a.m.) 5.5 cfs (0.95 ft); Apr. 26 (12 m.) 22 cfs (1.65 ft); May 19 (6:30 p.m.) 11 cfs (1.29 ft); May 24 (9 a.m.) 9.9 cfs (1.25 ft); May 29 (9 p.m.) 8.1 cfs (1.16 ft); June 15 (12 m.) 5.8 cfs (1.01 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for stations at Moore Creek above Robie Creek, Robie Creek near Arrowrock, and other nearby streams.

b Stage-discharge relation affected by ice.

## Moore Creek above Robie Creek, near Arrowrock, Idaho

Location.--Lat 43°38'45", long 115°58'45", in SE $\frac{1}{4}$  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 1956.

Gage.--Water-stage recorder. Altitude of gage is 3,120 ft (from topographic map).

Average discharge.--6 years, 341 cfs (246,900 acre-ft per year).

Extremes.--Maximum discharge during year, 5,440 cfs Dec. 23 (gage height, 9.55 ft); minimum, 22 cfs Nov. 15 (gage height, 1.94 ft).

1950-56: Maximum discharge, that of Dec. 23, 1955; minimum, 16 cfs Sept. 2-11, 1955; minimum gage height, 1.86 ft Sept. 6, 7, 1955.

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 tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 14, 15)

Oct. 1 to Feb. 21

Feb. 22 to Sept. 30

2.1	31	4.0	560	2.0	38	3.6	405
2.4	60	5.0	1,150	2.3	65	4.0	575
2.7	112	6.0	1,850	2.6	107	5.0	1,150
3.0	186	7.0	2,680	2.9	173	6.0	1,850
3.5	340	9.0	4,700	3.2	260	6.8	2,500

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	70	*150	400	b260	209	1,260	1,210	1,060	241	69	48
2	34	57	131	364	b240	238	1,190	1,140	994	232	67	47
3	34	58	106	329	b250	267	1,170	1,080	934	226	67	46
4	33	62	110	322	260	254	1,190	1,140	874	214	67	46
5	37	70	68	333	260	248	1,310	1,140	802	197	67	46
6	42	66	85	304	250	226	1,230	1,090	708	189	65	46
7	41	60	126	288	270	206	1,260	1,090	640	178	63	46
8	40	59	102	278	270	248	1,210	1,120	620	170	62	45
9	41	58	102	240	270	241	1,300	1,070	615	163	60	44
10	44	66	104	255	280	229	1,540	1,080	610	153	60	44
11	63	96	106	246	290	195	1,730	1,160	595	146	59	44
12	59	85	117	234	300	203	1,750	1,090	562	141	57	44
13	52	54	136	252	280	248	1,860	1,000	539	141	54	44
14	50	68	87	246	*249	214	1,950	928	521	137	54	43
15	48	b35	80	456	217	223	2,140	898	630	135	55	43
16	46	b45	114	1,190	b170	244	2,350	910	840	126	55	42
17	44	b80	134	958	b210	296	2,190	964	530	118	53	42
18	44	b110	136	814	b220	401	2,040	1,050	465	113	51	42
19	44	b125	b188	718	b220	557	2,070	1,130	437	107	50	43
20	*44	b200	b482	664	b230	730	2,070	1,230	457	102	50	45
21	44	b230	555	590	b240	838	2,070	1,270	425	101	49	46
22	44	178	*2,790	565	248	940	2,030	1,300	385	96	47	47
23	43	131	*4,530	616	251	1,350	1,990	1,300	*365	*68	46	47
24	43	122	5,200	535	229	1,770	*1,780	*1,480	365	84	45	47
25	43	106	1,620	*396	229	2,090	1,600	1,370	335	80	45	47
26	46	112	1,110	440	220	2,060	1,920	1,300	314	77	45	48
27	51	217	880	452	214	*1,700	1,890	1,370	296	77	50	50
28	52	211	660	326	*209	1,470	1,720	1,220	280	77	*54	53
29	52	173	470	348	212	1,370	1,520	1,140	270	75	54	57
30	60	150	436	372	-----	1,350	1,350	1,120	254	73	52	56
31	78	-----	428	275	-----	1,300	-----	1,090	-----	71	50	-----
Total	1,430	3,154	19,143	13,804	7,048	21,915	50,680	35,480	16,522	4,128	1,722	1,368
Mean	46.1	105	618	445	243	707	1,689	1,145	551	133	55.5	46.3
Cfsm	0.116	0.263	1.55	1.12	0.609	1.77	4.23	2.87	1.38	0.333	0.139	0.116
In.	0.13	0.29	1.78	1.29	0.66	2.04	4.72	3.31	1.54	0.38	0.16	0.13
Ac-ft	2,840	6,260	37,970	27,580	13,980	43,470	100,500	70,370	32,770	8,190	3,420	2,750
Calendar year 1955: Max	4,330	Min	16	Mean	227	Cfsm	0.569	In.	7.73	Ac-ft	164,600	
Water year 1955-56: Max	4,330	Min	33	Mean	492	Cfsm	1.21	In.	16.43	Ac-ft	349,900	

Peak discharge (base, 800 cfs).--Dec. 23 (8 p.m.) 5,440 cfs (9.55 ft); Jan. 16 (10 a.m.) 1,300 cfs (5.15 ft); Mar. 28 (2 to 3 a.m.) 2,190 cfs (6.43 ft); Apr. 16 (2 p.m.) 2,420 cfs (6.71 ft); Apr. 26 (4 p.m.) 2,350 cfs (6.62 ft); May 24 (5 p.m.) 1,590 cfs (5.63 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Dec. 28, Feb. 4-13, Aug. 30 to Sept. 30; discharge estimated on basis of weather records, recorded range in stage, and records for Robie Creek near Arrowrock, Bannock Creek near Idaho City, and Boise River near Twin Springs.

## 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.

Records available.--October 1950 to September 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,080 ft (from topographic map).

Average discharge.--6 years, 9.20 cfs (6,660 acre-ft per year).

Extremes.--Maximum discharge during year, 163 cfs Dec. 23 (gage height, 2.67 ft); minimum, 0.6 cfs Aug. 22; minimum gage height, 0.83 ft Nov. 13, Aug. 22.  
1950-56: Maximum discharge, that of Dec. 23, 1955; minimum, 0.1 cfs several days in August and September 1955; 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 fair. Small diversions above station for irrigation.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	0.7	1.6	20
.9	1.4	1.8	33
1.0	2.5	2.0	52
1.2	6.0	2.2	78
1.4	12	2.4	110

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	2.3	5.4	7.7	b11	8.4	38	30	6.7	2.0	0.9	1.3
2	1.2	2.2	4.8	7.2	b10	9.6	36	27	6.5	2.0	.9	1.2
3	1.1	2.2	3.8	6.5	*b10	11	35	25	6.7	2.1	1.0	1.2
4	1.3	2.4	3.1	6.2	9.0	11	35	28	6.7	2.1	1.0	1.1
5	1.8	2.4	3.0	7.7	8.7	11	36	25	7.2	2.0	1.0	1.1
6	1.6	2.2	4.4	7.0	7.9	10	34	23	6.2	2.0	1.2	1.0
7	1.6	2.1	3.7	6.7	7.7	10	34	24	6.0	2.0	1.3	1.0
8	1.5	2.1	b3.5	6.7	7.4	10	32	22	5.4	2.0	1.2	1.0
9	1.4	2.0	3.4	6.2	7.4	10	32	21	5.4	1.8	1.3	1.1
10	2.1	3.1	3.2	6.2	7.0	10	36	22	5.2	1.6	1.3	1.1
11	3.1	2.8	3.2	5.8	7.2	10	40	25	5.4	1.5	1.4	1.1
12	2.3	2.2	3.7	5.8	12	11	43	23	5.6	1.6	1.0	1.2
13	2.2	1.7	3.7	6.5	10	10	45	22	6.0	1.7	1.0	1.1
14	2.1	2.1	b3.0	6.2	9.0	10	48	20	6.7	2.0	1.0	1.1
15	2.0	1.2	b2.8	19	8.2	11	51	19	10	2.0	1.1	1.1
16	1.6	a1.5	b3.0	26	b6.5	12	58	17	8.4	1.7	1.1	1.1
17	1.6	a2.5	b3.2	22	b7.0	16	54	16	7.0	1.5	1.0	1.1
18	1.6	a3.5	3.2	20	b7.5	22	52	16	5.8	1.4	.9	1.0
19	1.5	a4.5	3.7	18	7.7	30	51	15	5.6	1.4	.9	1.0
20	*1.5	a6.5	5.0	17	7.7	37	50	14	5.8	1.3	.9	1.1
21	1.5	a8.0	7.4	16	7.7	38	49	12	5.2	1.3	.9	1.3
22	1.5	a6.0	*40	16	8.2	40	49	11	4.8	1.3	.8	1.6
23	1.5	a4.5	98	19	9.0	49	48	11	*4.5	*1.2	.8	1.7
24	1.5	a4.0	51	17	8.2	64	*40	*12	4.4	1.2	.8	1.7
25	1.6	a3.5	26	a15	8.4	70	38	11	3.6	1.1	.8	1.6
26	2.0	a4.0	a23	*15	8.7	71	48	11	3.2	1.1	.9	1.6
27	1.8	a7.0	a19	14	8.4	*57	44	13	3.0	1.1	1.1	1.5
28	1.8	a6.5	a15	b12	*8.2	42	39	11	2.6	1.0	*1.3	1.8
29	1.7	a6.0	11	b13	8.2	42	36	9.0	2.6	1.0	1.3	2.1
30	2.5	*5.4	8.7	12	-----	41	33	8.2	2.2	1.0	1.2	2.0
31	2.4	-----	8.2	b11	-----	39	-----	7.2	-----	.9	1.3	-----
Total	54.2	106.4	380.1	374.4	243.9	823.0	1,262	550.4	164.4	47.9	32.6	38.9
Mean	1.75	3.55	12.3	12.1	8.41	26.5	42.1	17.8	5.48	1.55	1.05	1.30
Cfs/m	0.111	0.225	0.778	0.766	0.532	1.68	2.66	1.13	0.347	0.098	0.066	0.082
In.	0.13	0.25	0.89	0.88	0.57	1.94	2.97	1.30	0.39	0.11	0.08	0.09
Ac-ft	108	211	754	743	484	1,630	2,500	1,090	326	95	65	77

Calendar year 1955: Max 98 Min 0.1 Mean 5.08 Cfs/m 0.322 In. 4.35 Ac-ft 3,680  
Water year 1955-56: Max 98 Min 0.8 Mean 11.1 Cfs/m 0.703 In. 9.60 Ac-ft 8,080

Peak discharge (base, 35 cfs).--Dec. 23 (4 p.m.) 163 cfs (2.67 ft); Mar. 25 (7 p.m.) 80 cfs (2.19 ft); Apr. 16 (8 a.m.) 62 cfs (2.08 ft); Apr. 26 (9:30 a.m.) 68 cfs (2.13 ft); May 4 (5:30 p.m.) 35 cfs (1.82 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Moore Creek above Robie Creek, near Arrowrock and other nearby streams.

b Stage-discharge relation affected by ice.

## Lucky Peak Reservoir near Boise, Idaho

Location.--Lat 43°32', long 116°04', in SW $\frac{1}{4}$  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 Moore Creek, and 9 miles southeast of Boise.

Drainage area.--2,680 sq mi, approximately.

Records available.--October 1954 to September 1956.

Gage.--Remote registering water-stage recorder. Datum of gage is at mean sea level (level by Corps of Engineers). Prior to May 13, 1955, staff gage at same site and datum.

Extremes.--Maximum contents during year, 300,050 acre-ft July 4 (elevation, 3,057.50 ft); minimum, 29,250 acre-ft Oct. 15 (elevation, 2,905.69 ft).

1954-56: Maximum contents, 305,130 acre-ft June 25, 1955 (elevation, 3,059.32 ft); minimum since near-full capacity was attained on June 25, 1955, that of Oct. 15, 1955.

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 2,824.0 ft (floor of outlet tunnel) 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.--Gage-height record and capacity table furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-ft)

2,900.0	24,910	3,000.0	162,790
2,920.0	42,160	3,020.0	205,580
2,940.0	64,600	3,040.0	253,570
2,960.0	92,370	3,060.0	307,040
2,980.0	125,090		

Contents, in acre-feet, at 12 p.m., water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50,840	32,290	39,810	80,240	222,610	151,590	61,950	96,300	155,830	297,880	293,170	282,140
2	48,800	32,450	40,100	81,150	221,060	144,800	63,400	94,470	174,830	298,990	293,410	281,680
3	46,850	32,610	40,350	81,920	259,640	137,530	64,320	92,430	191,680	299,800	293,580	278,660
4	44,400	32,750	40,600	82,690	258,340	150,750	64,740	90,580	250,510	299,350	293,580	271,170
5	42,010	32,990	40,780	83,770	257,590	126,300	65,280	88,620	215,520	298,080	293,360	263,560
6	39,620	33,110	40,960	88,620	257,980	118,130	65,830	86,530	222,190	296,910	293,190	255,780
7	37,280	33,300	41,270	95,720	258,410	110,140	66,100	84,270	227,340	295,640	293,470	249,330
8	35,270	33,440	41,480	102,450	256,370	101,800	65,970	82,090	231,230	294,430	293,410	241,040
9	33,300	33,590	41,720	108,990	250,540	83,100	65,540	79,790	224,530	293,940	293,080	235,630
10	33,070	33,770	41,960	117,870	243,720	84,420	65,300	77,400	237,730	293,680	292,560	228,390
11	32,970	33,980	42,200	128,290	237,950	76,200	65,460	75,220	240,900	293,940	292,120	219,130
12	31,870	34,210	42,440	136,820	231,620	68,200	65,790	73,220	245,060	294,020	291,880	212,070
13	30,910	34,320	42,750	136,220	226,100	60,200	71,430	71,430	250,890	293,960	291,490	204,970
14	29,760	34,480	42,920	136,860	223,020	52,170	72,040	69,260	257,520	293,960	291,270	197,770
15	29,590	34,580	43,070	137,880	219,790	44,880	73,170	66,900	264,440	293,910	290,890	190,690
16	29,790	34,670	43,340	139,920	216,390	46,970	75,000	64,440	269,970	293,800	290,460	183,690
17	29,950	34,810	43,640	144,540	212,350	43,000	76,520	62,150	274,340	293,680	289,830	176,570
18	30,080	35,040	43,330	153,130	209,520	39,240	77,810	60,080	278,400	293,520	289,200	177,830
19	30,260	35,240	44,330	160,870	206,100	36,670	79,340	58,300	279,810	293,630	288,440	183,130
20	30,400	35,630	45,530	169,390	202,730	36,210	81,180	57,130	279,170	293,830	287,600	187,130
21	30,540	36,170	46,560	178,480	199,460	35,540	83,310	58,630	278,420	293,990	286,970	189,190
22	30,690	36,590	52,010	187,610	196,230	35,160	85,740	62,620	278,850	294,100	286,540	186,980
23	30,840	36,890	60,940	196,570	193,100	35,860	88,330	66,850	282,170	294,160	287,330	182,680
24	30,970	37,190	67,530	205,280	188,370	38,280	90,820	72,150	285,190	294,160	286,730	177,720
25	31,090	37,440	70,580	213,640	183,090	42,060	93,070	78,170	287,840	294,130	284,560	174,270
26	31,200	37,730	72,810	221,880	177,870	45,570	96,260	84,530	289,530	293,960	283,600	171,040
27	31,340	38,250	74,640	230,170	172,630	48,140	98,450	91,930	291,190	293,880	283,030	166,510
28	31,500	38,690	76,090	236,120	166,060	51,130	99,390	98,180	292,970	293,850	282,520	160,350
29	31,870	39,060	77,240	246,910	158,790	54,400	99,040	108,960	294,320	293,880	282,710	154,340
30	31,850	39,420	78,240	255,450	-----	57,340	97,790	121,640	296,000	293,500	283,140	148,290
31	32,050	-----	79,260	260,900	-----	59,870	-----	137,180	-----	293,250	282,920	-----
(†)	2,908.98	2,917.18	2,951.01	3,042.87	2,998.00	2,936.15	2,983.53	2,986.71	3,056.04	3,055.04	3,051.24	2,992.62
(‡)	-20,750	+7,370	+39,840	+181,840	+102,110	-98,920	+37,920	+39,390	+58,820	-2,750	-10,330	+34,630

Calendar year 1955..... ‡ +69,800

Water year 1955-56..... ‡ +95,490

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

## Boise River near Boise, Idaho

Location.--Lat 43°32', long 116°04', in NE $\frac{1}{4}$  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,  $7\frac{1}{2}$  miles downstream from mouth of Moore Creek, and 9 miles south-east of Boise.

Drainage area.--2,680 sq mi, approximately.

Records available.--January 1895 to September 1916 (no winter records 1904-5, 1907), October 1954 to September 1956. Published as "near Highland" 1905-15 and as "below Moore Creek, near Arrowrock" 1916.

Gage.--Remote recorder records of openings of six slide gates, one hollow-jet valve, and elevation of Lucky Peak Reservoir. 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.--19 years (1895-96, 1897-1903, 1905-6, 1907-16, 1954-56), 3,038 cfs (2,199,000 acre-ft per year).

Extremes.--Maximum discharge during the year, 9,490 cfs June 10; minimum, 1 cfs Oct. 15 to Jan. 18, when gates were closed.

1895-1916, 1954-56: Maximum discharge observed, 35,500 cfs June 14, 1896; no flow Oct. 17, 1954, to Feb. 18, 1955, Feb. 20, 1955, during building of gate structure at Lucky Peak Dam.

Remarks.--Records excellent except those below 10 cfs, which are poor. Discharge measurements made two to six times per month. Daily discharge computed from gate ratings. Flow regulated by Lucky Peak Reservoir (see preceding page), Arrowrock Reservoir (see p. 146), and Anderson Ranch Reservoir (see p. 144). Small diversions from tributaries upstream for 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,860	1	1	1	1,020	6,090	7,750	9,290	8,070	4,980	4,600	4,040
2	2,820	1	1	1	968	6,070	7,800	9,300	8,710	4,980	4,540	3,950
3	2,800	1	1	1	968	6,060	7,870	9,280	8,690	5,090	4,480	3,940
4	2,850	1	1	1	968	5,980	7,980	9,280	8,690	5,080	4,480	3,930
5	2,900	1	1	1	718	4,790	7,830	9,300	9,180	5,080	4,460	3,940
6	2,930	1	1	1	80	6,570	7,550	9,280	9,470	5,080	4,460	3,930
7	2,890	1	1	1	80	6,580	7,540	9,280	9,440	5,010	4,460	3,930
8	2,780	1	1	1	1,320	6,700	7,500	9,310	9,470	4,970	4,500	3,930
9	2,790	1	1	1	2,680	6,980	7,530	9,320	9,460	4,940	4,520	3,920
10	2,860	1	1	1	4,300	6,920	7,510	9,280	9,470	4,930	4,530	3,900
11	2,820	1	1	1	3,350	6,610	7,480	9,280	9,020	4,890	4,530	3,830
12	2,760	1	1	1	3,720	6,510	7,450	9,040	7,850	4,810	4,520	3,810
13	2,720	1	1	1	5,130	6,500	4,800	8,790	6,960	4,880	4,530	3,800
14	2,690	1	1	1	5,110	6,520	7,540	8,790	6,500	4,840	4,550	3,800
15	1,030	1	1	1	5,090	6,230	7,490	8,770	6,510	4,780	4,550	3,770
16	1	1	1	1	5,140	2,480	7,500	8,780	7,110	4,750	4,550	3,730
17	1	1	1	5	5,190	6,480	7,530	8,750	7,460	4,740	4,550	3,690
18	1	1	1	694	5,170	6,470	7,530	8,770	6,330	4,810	4,500	3,640
19	1	1	1	1,040	5,150	6,480	7,510	8,840	5,490	4,830	4,500	3,580
20	1	1	1	1,040	5,120	6,490	7,530	8,800	5,250	4,830	4,490	3,510
21	1	1	1	1,040	5,100	7,020	7,540	8,200	5,020	4,830	4,520	3,460
22	1	1	1	1,020	5,090	7,490	7,550	7,530	4,980	4,810	4,500	3,440
23	1	1	1	1,030	4,970	7,620	7,560	7,500	4,980	4,770	4,480	3,430
24	1	1	1	996	5,770	7,680	7,550	7,510	4,990	4,740	4,480	3,390
25	1	1	1	1,050	6,080	7,670	7,550	7,530	4,990	4,710	4,460	3,320
26	1	1	1	1,060	6,040	7,730	7,540	7,530	4,980	4,690	4,430	3,260
27	1	1	1	1,070	6,090	7,770	7,540	7,540	4,970	4,650	4,380	3,230
28	1	1	1	1,080	6,100	7,760	7,550	7,550	4,970	4,550	4,290	3,250
29	1	1	1	1,080	6,100	7,710	9,110	5,280	5,280	4,440	4,230	3,260
30	1	1	1	1,090	-----	7,700	9,270	7,620	4,980	4,590	4,150	3,220
31	1	-----	1	1,100	-----	7,750	-----	7,630	-----	4,630	4,110	-----
Total	40,536	30	31	14,411	112,612	207,400	229,520	265,240	209,270	149,710	138,310	109,830
Mean	1,308	1.0	1.0	465	3,883	6,890	7,651	8,556	6,976	4,829	4,462	3,661
Ac-ft	80,400	60	61	28,580	223,400	411,400	455,200	526,100	415,100	296,900	274,300	217,800
Calendar year 1955: Max	5,110			Min	0		Mean	1,924	Ac-ft	1,293,000		
Water year 1955-56: Max	9,470			Min	1		Mean	4,025	Ac-ft	2,929,000		

Note.--Discharge Oct. 16 to Jan. 17, when gates at dam were closed, estimated on basis of 4 discharge measurements.

## BOISE RIVER BASIN

## Lake Lowell near Caldwell, Idaho

Location.--Lat 43°35', long 116°45', in SE $\frac{1}{4}$  sec. 19, T. 3 N., R. 3 W., on outlet structure at lower embankment, 2 miles west and 5 miles south of Caldwell, and lat 43°34', long 116°39', in NW $\frac{1}{4}$  sec. 36, T. 3 N., R. 3 W., on outlet structure at upper embankment 1 mile south and 4 miles west of Nampa.

Records available.--October 1917 to September 1956. 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, 168,300 acre-ft May 17 (gage height, 29.08 ft); minimum observed, 45,030 acre-ft Aug. 28, 29 (gage height, 12.37 ft).  
1917-56: 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.

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 ft (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 here represent usable contents.

Cooperation.--Gage readings and capacity table furnished by Board of Control for Boise project.

Capacity table, water year 1955-56 (gage height, in feet, and contents, in acre-feet)

12.0	43,080	22.0	107,900
14.0	54,060	24.0	123,700
16.0	66,110	26.0	140,500
18.0	79,110	28.0	158,200
20.0	93,040	30.0	177,200

Contents, in acre-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48,650	78,030	81,950	86,160	89,750	116,100	153,200	154,000	152,400	127,800	78,300	45,830
2	50,320	78,170	82,360	86,230	89,750	118,000	154,900	154,600	153,000	125,800	77,500	46,370
3	51,780	78,170	82,500	86,300	89,820	119,900	156,600	154,900	153,500	123,600	76,630	46,850
4	53,260	78,440	82,640	86,440	89,890	121,700	158,000	155,300	153,700	121,800	75,770	47,400
5	54,470	78,500	82,780	86,650	90,030	123,600	159,600	155,800	154,000	120,200	74,580	47,720
6	56,100	78,640	82,980	86,650	90,030	125,500	160,900	156,200	154,200	118,400	73,730	48,160
7	57,690	78,700	83,120	86,790	90,170	127,200	162,100	156,800	154,600	116,800	72,820	48,490
8	59,600	78,700	83,190	86,860	90,170	129,100	163,300	158,100	154,900	115,100	71,520	48,820
9	61,480	78,770	83,320	86,930	90,320	131,100	164,500	159,500	155,100	113,300	69,780	49,430
10	63,500	78,900	83,530	87,000	90,460	132,900	165,400	160,900	155,100	111,300	68,570	50,040
11	65,610	78,970	83,670	87,070	90,600	134,600	165,600	162,000	155,000	109,200	67,050	50,480
12	66,420	78,970	83,740	87,140	90,600	134,600	166,100	163,400	154,600	106,800	65,860	50,990
13	68,950	79,040	83,740	87,210	90,600	134,700	166,500	164,200	153,500	104,800	64,610	51,550
14	71,200	79,110	83,810	87,420	91,030	134,400	166,800	165,600	152,500	102,700	63,070	52,400
15	73,340	79,170	83,880	87,910	92,600	134,200	166,400	166,800	151,100	100,700	61,780	53,550
16	75,770	79,310	84,010	87,980	93,760	134,000	166,200	168,000	149,800	98,870	60,260	54,760
17	76,230	79,380	84,150	88,050	95,060	133,800	165,600	168,300	148,500	96,880	58,640	56,100
18	76,430	79,510	84,220	88,190	96,220	133,800	165,200	167,800	147,500	95,060	57,270	57,630
19	76,230	79,650	84,430	88,260	97,030	133,700	164,600	166,500	146,600	93,320	56,040	59,190
20	76,700	80,190	84,570	88,340	97,980	133,700	163,700	164,700	145,400	91,960	54,760	60,320
21	76,830	80,460	84,700	88,410	99,310	133,400	162,600	162,400	144,000	90,460	53,450	61,660
22	76,960	80,590	84,840	88,900	100,700	133,200	161,100	160,200	143,000	89,040	52,120	63,000
23	77,160	80,660	85,190	89,110	102,500	134,900	159,900	157,700	141,800	87,420	50,820	64,360
24	77,160	80,800	85,400	89,180	104,400	137,000	158,500	155,200	140,400	86,230	48,980	65,860
25	77,300	80,930	85,610	89,250	106,500	139,100	156,900	153,100	139,500	84,840	47,610	67,120
26	77,430	81,070	85,820	89,250	108,500	141,500	155,100	151,400	138,100	83,530	46,530	68,320
27	77,430	81,200	85,880	89,250	110,500	142,700	154,000	150,100	136,500	82,160	45,610	69,720
28	77,560	81,340	85,880	89,320	112,500	144,800	153,400	149,800	134,200	81,070	45,030	70,940
29	77,700	81,480	86,020	89,320	114,300	146,800	153,400	150,000	132,200	80,320	45,030	72,490
30	77,760	81,750	86,090	89,320	116,000	149,000	153,700	150,600	130,100	79,440	45,190	74,260
31	77,900	82,000	86,160	89,420	117,500	151,300	153,700	151,600	128,000	79,040	45,450	75,400
(†)	17.82	18.39	19.03	19.48	22.82	27.23	7.50	27.27	24.77	17.99	12.45	17.27
(‡)	+31,100	+3,850	+4,410	+3,160	+24,980	+37,000	+2,400	-2,100	-21,500	-51,060	-33,590	+28,610
Calendar year 1955..... \$ 18,340												
Water year 1955-56..... \$ 27,460												

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.



## 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 1947-56, 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 to 1956 on file in office of Idaho State Reclamation Engineer. No record of October and March diversion except for New York Canal. Diversion through New York Canal for period October to March as reported by Boise Project, Board of Control were: October, 65,380 acre-ft; February, 27,810 acre-ft; March, 45,770 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 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							1,360	3,420	3,340	3,530	3,500	3,400
2							1,380	3,420	3,360	3,520	3,490	3,240
3							1,420	3,420	3,350	3,530	3,480	3,240
4							1,500	3,220	3,350	3,520	3,480	3,230
5							1,640	3,320	3,350	3,520	3,480	3,240
6							1,630	3,320	3,350	3,530	3,500	3,240
7							1,670	3,280	3,460	3,510	3,480	3,240
8							1,360	3,260	3,360	3,520	3,470	3,240
9							1,800	3,270	3,360	3,510	3,480	3,240
10							2,050	3,260	3,360	3,510	3,480	3,220
11							2,350	3,130	3,370	3,500	3,490	3,210
12							2,540	2,820	3,420	3,520	3,490	3,200
13							2,480	2,760	3,420	3,530	3,490	3,210
14							2,960	2,850	3,410	3,520	3,490	3,210
15							3,060	2,990	3,430	3,520	3,490	3,200
16							3,140	3,240	3,410	3,530	3,490	3,180
17							3,290	3,360	3,380	3,520	3,490	3,180
18							3,340	3,420	3,380	3,520	3,490	3,120
19							3,320	3,430	3,410	3,520	3,480	3,070
20							3,440	3,420	3,410	3,520	3,480	3,010
21							3,430	3,440	3,420	3,520	3,480	2,920
22							3,460	3,450	3,440	3,520	3,480	2,910
23							3,470	3,460	3,440	3,530	3,490	2,870
24							3,490	3,480	3,450	3,520	3,480	2,860
25							3,510	3,450	3,450	3,510	3,480	2,750
26							3,480	3,450	3,450	3,510	3,480	2,780
27							3,430	3,300	3,480	3,500	3,460	2,790
28							3,440	3,300	3,510	3,500	3,430	2,780
29							3,440	3,300	3,540	3,500	3,420	2,780
30							3,440	3,310	3,540	3,490	3,410	2,760
31							-----	3,260	-----	3,500	3,390	-----
Total							80,290	101,790	102,400	109,000	107,720	92,330
Mean							2,676	3,284	3,410	3,516	3,475	3,078
Ac-ft							159,300	201,900	203,100	216,200	213,700	183,100
Calendar year	: Max		Min		Mean		Ac-ft					
Water year	: Max		Min		Mean		Ac-ft					

## BOISE RIVER BASIN

## Boise River at Boise, Idaho

Location.--Lat 43°37', long 116°13', in SW $\frac{1}{4}$  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 1956.

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, 7,010 cfs Mar. 10 (gage height, 7.15 ft); minimum, 8.6 cfs Dec. 16 (gage height, 2.38 ft); minimum daily, 10 cfs Dec. 18, Jan. 12, 13.

1940-56: 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, 6.8 cfs Feb. 3, 1955.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good, and those below about 100 cfs, which are fair. Flow regulated by Arrowrock Reservoir (see p. 146), Anderson Ranch Reservoir (see p. 144), and Lucky Peak Reservoir (see p. 150). New York, Ridenbaugh, and four smaller canals (see p. 153) divert between station near Boise and this station.

Rating table, water year 1955-56, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.4	8.0	3.6	381
2.5	14	4.0	730
2.6	23	4.5	1,470
2.8	52	5.0	2,340
3.0	98	6.0	4,320
3.3	210	7.2	7,060

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	355	17	15	17	b1,060	5,050	6,560	6,000	4,650	1,500	1,120	730
2	330	*16	14	16	b1,030	5,050	6,580	6,000	5,430	1,520	1,060	719
3	306	14	13	13	b990	5,000	6,600	6,000	5,430	1,520	1,000	719
4	277	15	12	13	b970	4,910	6,530	6,140	5,410	1,520	972	719
5	300	13	13	13	930	3,720	6,400	6,120	5,620	1,520	972	719
6	294	13	17	13	228	5,570	6,000	6,100	6,210	*1,490	972	708
7	300	14	16	12	116	5,520	5,870	6,140	*6,210	1,520	944	697
8	288	14	13	11	700	*5,660	5,800	6,170	6,210	1,490	972	697
9	245	13	*15	11	2,430	6,000	5,810	6,120	6,190	1,470	1,020	697
10	388	13	14	12	4,050	6,300	5,320	6,210	6,240	1,420	1,030	686
11	423	13	13	11	3,800	6,840	5,020	6,400	5,750	1,390	1,030	642
12	350	14	13	10	3,090	6,770	4,760	6,400	4,470	1,340	1,040	611
13	268	15	12	10	*4,520	6,750	2,090	6,070	3,610	1,330	1,030	602
14	260	14	12	12	4,110	6,720	4,340	6,000	3,130	1,360	1,040	611
15	215	13	11	27	3,900	6,700	4,240	5,820	3,210	1,340	1,030	611
16	152	13	11	33	4,130	2,330	*4,150	5,540	3,690	1,310	1,030	593
17	104	16	11	30	4,780	6,630	4,130	5,430	4,150	1,260	1,040	584
18	*44	18	10	262	4,740	6,600	4,170	*5,410	3,150	1,280	1,020	575
19	32	14	11	858	4,690	6,750	4,130	5,480	2,230	1,310	1,020	575
20	28	18	12	1,000	4,470	6,750	4,090	5,450	1,980	*1,280	1,020	557
21	26	15	13	1,020	4,110	6,700	4,090	4,940	1,690	1,290	1,020	557
22	24	13	15	1,020	3,920	6,600	4,090	3,900	1,570	1,290	1,000	548
23	24	13	39	*1,020	3,820	6,700	4,090	3,920	1,570	1,260	972	548
24	23	12	42	1,020	4,580	6,700	4,070	3,960	1,590	1,230	972	548
25	22	13	31	1,030	5,110	6,750	4,050	3,990	1,560	1,200	972	*506
26	22	12	27	1,040	5,070	6,770	4,190	4,030	1,540	1,170	972	467
27	19	12	22	1,050	5,090	6,750	4,670	4,190	1,520	1,150	944	430
28	19	12	19	1,080	5,070	6,700	5,220	4,220	1,470	1,100	*902	409
29	18	13	17	a1,080	5,070	6,630	5,780	4,240	1,270	972	860	451
30	18	13	16	a1,070	5,070	6,600	5,980	4,280	1,500	1,080	821	459
31	18	-----	17	b1,080	5,330	6,530	-----	4,320	-----	1,140	756	-----
Total	5,150	418	516	13,964	96,574	189,050	148,610	184,990	108,880	41,112	30,553	17,975
Mean	166	13.9	16.8	450	3,330	6,098	4,954	5,322	3,629	1,328	986	599
Ac-ft	10,200	828	1,020	27,700	191,600	375,000	294,900	327,200	216,000	81,540	60,600	35,650

Calendar year 1955: Max 1,740 Min 6.8 Mean 435 Ac-ft 315,200  
 Water year 1955-56: Max 6,940 Min 10 Mean 2,234 Ac-ft 1,622,000

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for stations near Boise and at Notus.

b Stage-discharge relation affected by ice.

## Spring Valley Creek near Eagle, Idaho

Location.--Lat 43°44'20", long 116°18'00" on right bank in SE $\frac{1}{4}$  sec. 26, T. 5 N., R. 1 E., half a mile upstream from mouth and 4 miles northeast of Eagle.

Drainage area.--20.9 sq mi.

Records available.--June 1954 to September 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,721.70 ft above mean sea level, unadjusted.

Extremes.--Maximum discharge during year, 54 cfs Dec. 23 (gage height, 2.18 ft); maximum gage height, 2.24 ft Dec. 23 (backwater from debris on control); no flow for long periods.

1954-56: Maximum discharge, 60 cfs Apr. 22, 1955 (gage height, 2.19 ft); maximum gage height, that of Dec. 23, 1955; no flow for long periods.

Remarks.--Records good except those below 1.0 cfs, which are poor. Diversions above station for irrigation.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	0	1.5	5.3
1.1	.1	1.6	8.8
1.2	.6	1.7	13.5
1.3	1.3	1.8	20
1.4	2.9	2.0	38

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.1	2.8	b4.5	8.4	7.4	2.1	0.9	0.1	(*)	
2			.1	2.4	b4.5	10.5	8.7	*1.9	.8	*0		
3			.1	2.3	b5.0	13.5	6.0	1.8	.8	0		
4			.1	2.3	b6.0	14	6.4	2.3	.9	0		
5			b.1	2.3	b6.5	12	6.0	1.4	.9	0		
6			*.1	2.1	b7.0	11	5.1	.7	.8	0		
7			.1	1.9	b6.5	10.5	5.1	.7	*.8	0		
8			.1	1.8	b5.5	*10.5	4.8	.7	.7	0		
9		(*)	.3	1.8	5.1	11	4.5	.6	.6	0		
10			.4	1.5	4.8	10	4.1	.7	.5	0		
11			.4	1.3	4.8	b8.0	3.4	2.8	.4	0		(*)
12			.6	1.3	11	b6.0	.7	3.4	.4	0		
13			.7	1.9	*8.1	9.8	.8	3.4	.4	0		
14			b.5	1.9	6.0	7.8	1.3	3.1	.4	0		
15			b.5	16.5	b5.0	7.8	.6	2.6	.4	0	(*)	
16			.6	14.5	b2.0	7.0	*1.5	1.9	.6	0		
17			.6	9.8	b4.5	7.4	1.3	1.9	.4	0		
18	(*)		.6	8.8	b5.5	9.3	1.8	1.5	.4	0		
19			.8	8.4	b5.0	10	.8	1.5	.3	0		
20			2.1	7.4	5.6	*12	.9	1.5	.1	0		
21		(*)	*2.2	7.0	9.2	15	.8	1.1	.1	0		
22			6.2	11	9.8	18	.6	.4	.1	0		
23			*28	*22	10	17.5	.6	.4	.1	0		
24			*18	14	7.8	17.5	.2	1.0	.1	0		
25			9.3	12.5	8.1	17.5	.1	.8	.1	0		
26			6.4	12.5	8.1	15.5	.6	.7	.1	0		
27			5.3	12	7.8	13	2.4	1.2	.1	0		
28			*4.1	*b7.0	7.8	10	2.4	1.2	.1	0		
29			2.6	b9.0	8.4	9.3	2.4	.9	.1	0		
30			b2.4	b9.0	-----	8.4	2.1	.8	.1	0		
31			b2.9	b4.0	-----	6.1	-----	.8	-----	0		-----
Total	0	0	96.3	212.6	189.9	346.3	81.4	45.8	12.5	0.1	0	0
Mean	0	0	3.11	6.88	6.55	11.2	2.71	1.48	0.42	0.003	0	0
Ac-ft	0	0	191	422	377	687	161	91	25	0.2	0	0

Calendar year 1955: Max 37 Min 0 Mean 1.82 Ac-ft 1,320  
 Water year 1955-56: Max 28 Min 0 Mean 2.69 Ac-ft 1,950

\* Discharge measurement or observation of no flow made on this day.

b Stage-discharge relation affected by ice.

## 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 1956.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,692.80 ft above mean sea level, unadjusted.

Extremes.--Maximum discharge during year, 156 cfs Dec. 23 (gage height, 3.73 ft); minimum, 0.1 cfs Sept. 4, 5; minimum gage height, 1.08 ft Sept. 27.  
1954-56: Maximum discharge, that of Dec. 23, 1955; minimum, 0.1 cfs Oct. 21-29, 1954, Sept. 4, 5, 1956; minimum gage height, 1.08 ft Sept. 27, 1956.

Remarks.--Records good except those for periods of no gage-height record and those below 1.0 cfs, which are fair. Diversions upstream for irrigation.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 23, 24)

1.0	0	1.6	12
1.1	.2	1.8	23
1.2	.7	2.0	38
1.3	1.8	2.3	68
1.4	4.1	2.6	104
1.5	7.4		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	1.4	1.5	15	all	23	36	17	4.1	0.4	*0.4	0.2
2	.2	1.5	1.4	12	all	28	33	*9.5	2.2	*.4	.4	.2
3	.2	1.5	1.4	10	a13	32	31	7.4	a1.5	.4	.4	.2
4	.2	1.4	1.4	9.9	a16	32	30	11	a1.8	.3	.3	.2
5	.2	1.4	1.4	10	a17	30	29	11	a1.8	.3	.3	.2
6	.2	1.4	1.5	9.1	18	26	28	9.5	a2.0	.4	.3	.2
7	.2	1.5	1.6	8.2	17	24	26	14	*1.8	.7	.3	.2
8	.2	1.5	1.6	7.4	16	*27	22	14.5	2.4	.8	.3	.2
9	.2	1.4	1.8	7.1	15	28	20	13	3.1	.5	.2	.2
10	.3	1.4	1.6	7.1	14.5	24	16.5	12.5	2.8	.4	.4	.2
11	.4	1.4	1.6	6.7	14	19.5	9.3	14	2.4	.4	.6	*.2
12	.4	1.4	1.6	6.7	30	21	a3.5	16	2.2	.4	.4	.2
13	.3	1.5	2.4	7.8	*28	24	a5.0	18.5	1.5	.3	.3	.2
14	.2	1.6	1.4	7.8	22	21	a4.5	18.5	.5	.3	.3	.2
15	.2	1.6	1.5	52	16.5	20	a8.0	9.1	1.3	.3	*.3	.2
16	.2	1.6	1.6	56	5.9	22	*14	5.2	4.7	.3	.3	.2
17	.2	1.6	2.4	44	14.5	24	11.5	3.6	3.3	.3	.3	.2
18	*.8	1.6	2.4	36	17.5	29	3.1	2.6	.8	.5	.3	.2
19	1.4	1.6	3.1	32	16.5	38	4.2	1.5	1.1	.4	.3	.4
20	1.4	1.6	6.7	30	18.5	*43	4.3	.7	1.8	.3	.3	.4
21	1.4	*1.5	*9.1	29	25	45	3.8	.7	1.6	.3	.2	.2
22	1.5	1.5	30	36	26	50	3.2	.6	.7	.2	.2	.2
23	1.5	1.5	*98	*66	26	57	2.6	.7	.7	.3	.2	.2
24	1.5	1.5	*78	43	20	66	1.6	1.4	.7	.3	.2	.2
25	1.5	1.5	40	32	20	69	1.9	2.7	.6	.3	.2	.2
26	1.6	1.4	29	30	20	66	18	1.1	.5	.3	.2	.2
27	1.6	1.5	25	28	21	56	27	6.0	.3	.3	.2	.2
28	1.6	1.4	*20	17	21	48	25	11.5	.3	.3	.2	.2
29	1.5	1.4	13	22	22	43	22	10.5	.3	.4	.2	.2
30	1.4	1.4	12	22	-----	41	21	8.4	.4	.4	.2	.2
31	1.4	-----	16	9.5	-----	38	-----	5.4	-----	.4	.3	-----
Total	24.1	44.5	408.0	709.3	532.9	1,112.5	465.0	258.1	49.4	11.6	9.0	6.4
Mean	0.78	1.48	13.2	22.9	18.4	35.9	15.5	8.33	1.65	0.37	0.29	0.21
Ac-ft	48	88	809	1,410	1,060	2,210	922	512	98	23	16	13
Calendar year 1955: Max	101											
Water year 1955-56: Max	96											
Min	0.2											
Mean	6.20											
Ac-ft	4,480											
Ac-ft	7,210											

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for station at Eagle and nearby streams.

## Dry Creek at Eagle, Idaho

Location--Lat 43°41'45", long 116°22'05", in SW<sup>1</sup>/<sub>4</sub> sec. 8, T. 4 N., R. 1 E., 40 ft downstream from State Highway 44, 0.4 mile upstream from mouth, and 0.7 mile west of Eagle.

Drainage area--66.4 sq mi.

Records available--June 1954 to September 1956.

Gage--Water-stage recorder and concrete control. Datum of gage is 2,545.82 ft, unadjusted.

Extremes--Maximum discharge during year, 149 cfs Dec. 23; maximum gage height, 4.86 ft May 14; no flow Nov. 11 to Dec. 20, Apr. 15.  
1954-56: Maximum discharge, that of Dec. 23, 1955; maximum gage height, that of May 14, 1956, no flow for long periods.

Remarks--Records fair. Diversions upstream for irrigation. Canals waste water into creek above station.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	0.3	0	9.0	a9.0	18	33	48	25	9.7	*20	26
2	3.7	.2	0	7.9	a9.0	23	29	*34	30	*8.6	13.5	25
3	3.9	.3	0	7.3	a11	30	27	29	32	11.5	13.5	25
4	3.7	.3	0	7.3	a13	30	29	33	32	13.5	12.5	20
5	3.7	.3	0	7.3	a14	28	51	35	33	11.5	11	23
6	3.9	.2	0	6.6	a15	24	69	30	28	11.5	11.5	26
7	3.4	.2	0	5.3	a14	23	54	40	*26	10.5	18.5	19.5
8	3.4	.2	0	4.2	a13	*23	43	44	29	12.5	7.3	23
9	3.7	.2	0	3.7	a12	24	30	44	29	*15.5	7.5	23
10	3.9	.1	0	3.7	a11	21	19.5	51	30	7.6	6.9	15
11	3.2	0	0	3.4	a11	21	17.5	57	29	9.3	6.6	*10.5
12	3.4	0	0	3.4	26	24	9.3	59	32	10	3.4	13.0
13	1.6	0	0	4.7	*24	26	3.2	64	36	14	3.7	14.5
14	.9	0	0	5.6	17	21	.6	63	39	17	4.2	15.5
15	.7	0	0	47	12	19.5	0	40	48	16	*5.6	11.5
16	.7	0	0	56	3.4	19.5	*2.0	30	56	15.5	10.5	10.5
17	.6	0	0	37	10	21	20	23	62	14	9.3	11.5
18	*.5	0	0	30	12	25	29	19	64	15.5	6.9	20
19	.5	0	0	27	11	32	*27	24	62	15.5	9.7	21
20	.4	0	*0	24	13	*36	24	26	62	18	12.5	13.5
21	.4	*0	1.8	23	17.5	37	19.5	21	59	18	8.6	13
22	.4	0	17	28	18	*45	9.7	18.5	51	19.5	11.5	18.5
23	.4	0	*77	*62	18	58	6.9	21	30	18.5	11	19.5
24	.4	0	76	34	13	69	4.7	29	20	20	10	16.5
25	.4	0	35	24	13	91	8.8	32	23	18	9.3	13.5
26	.4	0	24	23	13.5	80	23	36	24	16	9.0	14
27	.4	0	19	23	14	67	35	46	26	15	14	14.5
28	.3	0	*15	13	14	53	42	51	26	9.0	18	14
29	.3	0	9.7	16	15.5	45	48	45	22	10.5	18	13.5
30	.3	0	7.9	16	-----	42	51	56	8.6	16.5	19.5	13
31	.3	-----	10	7.8	-----	38	-----	29	-----	18.5	24	-----
Total	53.2	2.3	292.4	570.2	396.9	1,102.0	765.7	1,157.5	1,073.6	436.7	347.3	517.0
Mean	1.72	0.08	9.43	18.4	13.7	35.5	25.5	37.3	35.8	14.1	11.2	17.2
Ac-ft	106	4.6	580	1,130	787	2,190	1,520	2,300	2,130	866	689	1,030
Calendar year 1955: Max	91			Min	0		Mean	6.74	Ac-ft	4,880		
Water year 1955-56: Max	81			Min	0		Mean	18.3	Ac-ft	13,330		

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for station near Eagle and nearby streams.

## Diversions from Boise River between Boise and Notus gaging stations, Idaho

Between Boise and 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 diversion covering period April to September for years 1947-56 in reports of Geological Survey. Records of daily diversion for each canal from 1916 to 1956 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. Records fair.

Discharge, in cubic feet per second, April to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							20	2,170	2,040	2,350	2,070	1,770
2							20	2,160	2,060	2,380	2,060	1,780
3							131	2,180	2,060	2,410	2,000	1,740
4							199	2,180	2,060	2,400	1,990	1,740
5							289	2,110	2,060	2,320	2,000	1,740
6							296	2,100	2,020	2,350	1,930	1,680
7							322	2,000	2,030	2,360	1,980	1,650
8							335	1,920	2,040	2,310	1,920	1,640
9							434	1,900	2,080	2,300	1,960	1,630
10							736	1,880	2,120	2,270	1,960	1,630
11							950	1,840	2,140	2,270	2,020	1,580
12							1,100	1,810	2,170	2,280	2,020	1,550
13							912	1,770	2,200	2,260	2,030	1,520
14							1,310	1,780	2,210	2,290	1,950	1,500
15							1,430	1,840	2,210	2,300	1,980	1,500
16							1,600	1,990	2,160	2,300	2,040	1,490
17							1,750	2,070	2,120	2,270	2,060	1,510
18							1,900	2,150	2,130	2,260	2,060	1,500
19							1,980	2,230	2,010	2,240	2,070	1,500
20							2,090	2,230	2,070	2,260	2,080	1,470
21							2,150	2,260	2,050	2,290	2,070	1,390
22							2,160	2,260	2,090	2,280	2,060	1,380
23							2,220	2,280	2,120	2,270	2,040	1,370
24							2,260	2,260	2,150	2,240	2,030	1,330
25							2,280	2,220	2,170	2,230	2,020	1,350
26							2,260	2,200	2,180	2,220	2,010	1,300
27							2,210	2,100	2,200	2,020	2,010	1,290
28							2,200	1,780	2,220	2,180	1,900	1,260
29							2,190	1,820	2,280	2,160	1,860	1,220
30							2,180	1,870	2,300	2,130	1,830	1,200
31							-----	1,910	-----	2,140	1,800	-----
Total							39,914	63,370	63,750	70,380	61,800	45,190
Mean							1,330	2,044	2,125	2,270	1,994	1,506
Ac-ft							79,170	125,700	126,400	159,600	122,600	89,630
Calendar year	: Max			Min			Mean			Ac-ft		
Water year	: Max			Min			Mean			Ac-ft		

## Boise River at Notus, Idaho

Location.--Lat 43°43', long 116°48', in SE $\frac{1}{4}$  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 1956 (irrigation season only 1923-24).

Gage.--Water-stage recorder. Datum of gage is 2,388.55 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, 6,960 cfs Mar. 11 (gage height, 7.44 ft); minimum, 232 cfs July 12 (gage height, 1.81 ft); minimum daily, 239 cfs July 12.

1920-56: Maximum discharge, 20,500 cfs Apr. 20, 1943 (gage height, 10.43 ft); minimum observed, 10 cfs Aug. 18, 21, 1920.

Remarks.--Records excellent except those for period Oct. 1 to Feb. 19, which are good. Diversions above station for irrigation of about 309,300 acres. Diversions between station and mouth for irrigation of about 5,300 acres. Flow regulated by Arrowrock Reservoir (see p. 146), Anderson Ranch Reservoir (see p. 144), and Lucky Peak Reservoir (see p. 150). Records of chemical analyses and water temperatures for the water year 1956, are given in WSP 1453.

Revisions (water years).--WSP 1347: 1930.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 12-31, Dec. 23-25,  
Jan. 19 to Feb. 21)

1.8	228	4.0	1,910
2.0	306	5.0	3,110
2.5	580	6.0	4,560
3.0	960	7.5	7,060

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	278	752	*632	815	1,640	5,500	6,870	4,880	3,770	350	380	467
2	310	736	679	801	1,600	5,510	6,580	4,830	4,340	422	375	411
3	315	720	657	820	1,550	5,530	6,550	4,820	4,670	428	411	396
4	306	728	636	580	1,540	5,530	6,500	4,960	4,700	444	406	365
5	315	720	629	580	1,560	5,230	6,230	5,250	4,930	503	380	355
6	360	706	650	567	1,330	4,700	5,990	5,250	5,430	*467	370	385
7	385	699	650	560	848	5,960	5,780	5,580	5,390	444	332	428
8	444	692	622	548	788	5,970	5,620	5,800	*5,300	433	310	438
9	491	692	636	534	1,890	*6,190	5,440	5,770	5,140	428	274	455
10	450	706	622	534	3,440	6,400	4,960	5,680	5,100	332	258	455
11	678	699	615	*534	*4,950	6,720	4,620	6,020	5,100	274	290	450
12	776	692	615	534	3,020	6,910	4,300	6,260	4,250	239	282	455
13	768	678	601	534	4,770	6,860	2,670	6,020	3,310	247	286	467
14	800	685	587	548	4,750	6,870	2,910	5,820	2,670	266	302	491
15	960	657	574	685	4,480	6,820	3,270	5,550	2,750	298	*341	491
16	1,080	643	587	888	4,460	4,860	3,230	4,860	3,030	326	324	491
17	952	671	587	760	4,390	4,800	*3,140	4,430	3,740	298	286	473
18	912	678	580	699	5,260	6,890	3,100	4,200	3,660	266	282	438
19	864	692	574	390	5,200	6,800	3,040	4,100	2,060	278	274	455
20	856	760	560	1,550	5,200	6,860	2,780	4,180	1,830	266	294	450
21	648	744	554	1,800	4,910	6,920	2,710	4,130	1,470	298	286	436
22	858	699	574	1,830	*4,650	6,770	2,700	5,100	1,140	348	278	467
23	824	678	776	1,940	4,540	6,770	2,720	2,820	936	380	274	515
24	*808	671	962	*1,740	4,510	6,800	2,720	3,140	936	370	266	541
25	800	657	796	1,690	5,460	6,840	2,720	3,520	888	360	270	*528
26	808	657	728	1,680	5,500	6,840	3,010	3,390	692	380	294	509
27	784	657	706	1,720	5,460	6,840	3,530	4,010	554	428	422	485
28	776	650	678	1,660	5,530	6,800	3,960	4,300	438	433	594	467
29	760	650	643	1,670	5,500	6,750	4,400	*4,130	337	461	605	509
30	768	650	622	1,690	6,720	6,720	4,900	4,120	479	450	567	528
31	752	-----	615	1,620	-----	6,690	-----	4,040	-----	400	522	-----
Total	21,084	20,719	20,006	32,061	109,296	195,450	126,750	144,760	89,090	11,317	10,838	13,802
Mean	680	691	645	1,034	3,769	6,305	4,225	4,670	2,970	365	350	460
Ac-ft	41,820	41,100	39,680	63,590	216,800	387,700	251,400	287,100	176,700	22,450	21,500	27,380
Calendar year 1955: Max	1,080				Min 15	Mean 391		Ac-ft 283,300				
Water year 1955-56: Max	6,920				Min 239	Mean 2,173		Ac-ft 1,577,000				

\* Discharge measurement made on this day.

## Malheur River near Drewsey, Oreg.

Location.--Lat 43°47', long 118°20', in SE $\frac{1}{4}$  sec. 31, T. 20 S., R. 36 E., on left bank 300 ft downstream from crossing of Burns-Ontario Highway, 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 1956. 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 datums. Apr. 27, 1923, to June 6, 1939, water-stage recorder at site 7 miles downstream at different datum.

Average discharge.--30 years (1926-56), 168 cfs (121,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,440 cfs Mar. 26 (gage height, 9.49 ft); minimum, 6.1 cfs Sept. 28 (gage height, 2.56 ft).  
1920-21, 1923, 1926-56: Maximum discharge, 5,600 cfs Mar. 25, 1952 (gage height, 12.90 ft); 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).

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 26

Mar. 27 to Sept. 30

2.7	6.6	4.0	227	2.5	4.0	3.5	100
2.8	12	5.0	515	2.6	7.5	4.0	195
3.0	32	7.0	1,250	2.8	19	5.0	450
3.2	62	9.0	2,200	3.0	37	6.0	800
3.5	118			3.2	59	8.0	1,650

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.4	38	97	b180	b100	392	1,040	586	338	31	9.5	16
2	10	36	91	b170	b110	479	864	516	325	33	9.5	16
3	11	30	78	b160	b120	563	*772	480	302	35	10	13
4	11	31	75	159	b130	458	740	504	290	31	10	13
5	*12	40	b55	*161	b140	302	792	676	272	34	11	14
6	14	45	b50	151	b135	240	796	712	258	35	12	15
7	13	42	b55	144	b130	208	744	772	238	34	14	15
8	11	43	b65	b140	b130	308	724	852	197	32	14	12
9	12	42	b70	b130	b130	560	688	800	171	31	*13	12
10	16	36	b75	120	b140	383	796	*708	131	25	12	13
11	20	40	78	138	180	258	976	700	*124	21	12	13
12	49	59	90	138	210	215	1,150	648	126	20	12	12
13	48	53	b85	136	b200	248	1,220	564	114	18	12	12
14	45	b50	b80	132	b180	329	1,280	501	112	18	12	13
15	46	b25	b80	582	*b170	341	1,360	450	131	18	15	14
16	45	28	b82	1,290	b100	479	1,420	411	131	19	14	10
17	43	38	b86	590	b105	806	1,430	388	119	21	14	9.0
18	42	45	95	446	b120	1,040	1,350	393	105	21	12	9.5
19	45	60	103	350	b130	1,430	1,280	423	92	21	11	7.5
20	48	95	584	321	153	1,480	1,250	468	67	18	11	6.8
21	48	*112	890	307	250	*1,440	1,250	489	81	17	10	6.4
22	48	107	1,180	321	926	1,310	1,260	489	81	16	12	6.4
23	46	91	1,160	954	874	1,380	1,240	489	74	16	12	6.4
24	*45	78	599	440	416	1,850	1,180	492	70	16	13	6.4
25	*45	80	404	256	291	2,160	1,080	486	66	14	12	6.8
26	45	86	327	205	258	2,180	1,010	456	56	*11	12	6.8
27	45	97	b360	b150	222	1,530	976	438	46	9.5	14	6.8
28	31	132	b230	130	220	1,170	880	432	39	10	18	6.4
29	28	118	b140	110	245	1,040	764	375	34	11	21	6.4
30	35	103	b140	b105	-----	1,030	666	348	32	10	20	8.0
31	35	-----	b160	b100	-----	1,080	-----	332	-----	9.5	17	-----
Total	1,001.4	1,820	7,664	8,726	6,455	26,667	30,978	16,378	4,222	656.0	401.0	312.6
Mean	32.3	60.7	247	281	223	860	1,033	528	141	21.2	12.9	10.4
Ac-ft	1,990	3,610	15,200	17,310	12,800	52,890	61,440	32,490	8,370	1,300	795	820

Calendar year 1955: Max 1,180 Min 3.7 Mean 95.9 Ac-ft 69,450  
Water year 1955-56: Max 2,160 Min 6.4 Mean 288 Ac-ft 208,800

Peak discharge (base, 800 cfs).--Dec. 22 (6:30 p.m.) 1,450 cfs (7.49 ft); Jan. 16 (6:30 a.m.) 1,740 cfs (8.09 ft); Jan. 23 (7 a.m.) 1,290 cfs (7.09 ft); Feb. 22 (12 p.m.) 1,270 cfs (7.06 ft); Mar. 1 (9 p.m.) 826 cfs (5.94 ft); Mar. 26 (2 p.m.) 2,440 cfs (9.49 ft); Apr. 16 (9 p.m.) 1,530 cfs (7.76 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.



Malheur River below Warm Springs Reservoir, near Riverside, Oreg.

Location.--Lat 43°34', long 118°12', in SW $\frac{1}{4}$  sec. 17, T. 23 S., R. 37 E., on left bank 1 mile downstream from Warm Springs 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 1956. Records 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 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). Prior to Dec. 9, 1914, staff or chain gages at several sites 3 miles downstream, 200 ft upstream from South Fork at various datums. Dec. 9, 1914, to July 24, 1917, water-stage recorder at site 1 mile upstream and 500 ft upstream from dam site at different datum. Mar. 18, 1919, to Apr. 27, 1920, staff gage at site 1 mile upstream and 250 ft downstream from dam at different datum. Apr. 28, 1920, to Sept. 28, 1949, hook gage at different sites within 80 ft of present site and at present datum.

Average discharge.--37 years (1919-56), 162 cfs (117,300 acre-ft per year).

Extremes.--Maximum discharge during year, 660 cfs July 7 (gage height, 5.14 ft); minimum, 0.2 cfs Oct. 16 to Jan. 14.

1909-10, 1915-17, 1919-56: 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 except those below 10 cfs which are poor. Flow completely regulated since November 1919 by Warm Springs Reservoir (see p. 167). Diversions for irrigation of about 13,000 acres above station.

Revisions (water years).--WSP 833: 1936. WSP 1063: 1942-45. WSP 1397: 1909-10, 1917. See also Records available. Revised figures of discharge, in cubic feet per second, for the water year 1955, superseding those published in WSP 1397, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1955		1955-Con.		1955-Con.		1955-Con.		1955-Con.	
Aug. 18	11	Aug. 27	6	Sept. 5	4	Sept. 14	4	Sept. 23	4
19	10	28	7	6	4	15	5	24	3
20	6	29	6	7	3	16	5	25	3
21	2	30	6	8	3	17	6	26	6
22	6	31	5	9	3	18	6	27	7
23	10	Sept. 1	4	10	3	19	6	28	7
24	9	2	4	11	3	20	6	29	8
25	8	3	4	12	4	21	5	30	6
26	8	4	4	13	4	22	4		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
August 1955.....	2,129	180	2	68.7	4,220
September.....	138	8	3	4.6	274
Water year 1954-55.....	35,239	505	0	96.5	69,890

## MALHEUR RIVER BASIN

Malheur River below Warm Springs Reservoir, near Riverside, Oreg.--Continued

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)

2.7	1	3.7	74
2.8	2	4.0	143
3.0	7	4.5	340
3.2	16	5.0	590
3.4	32	5.5	840

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4							405	286	580	475	355
2	5							405	286	565	465	355
3	6							405	272	565	465	350
4	6							410	290	565	425	350
5	5							410	290	565	415	350
6	3						0.5	410	290	565	415	318
7	6							308	286	620	415	304
8	10			0.2				254	277	645	400	304
9	12							254	277	645	*395	304
10	8							180	277	645	395	282
11	2						21	106	*277	645	395	272
12	1						184	110	277	645	395	272
13	1						199	112	308	645	395	272
14	1						230	106	322	645	390	250
15	1						308	101	360	645	390	238
16		0.2	0.2		0.5	0.5	308	84	375	645	400	238
17							308	155	370	645	410	238
18							308	184	370	620	410	226
19							239	214	370	615	410	218
20							122	230	370	590	430	199
21							115	259	370	580	450	192
22							115	331	375	580	470	177
23		.2		.5			115	375	415	580	520	170
24							117	380	465	550	545	167
25							117	395	480	540	540	152
26							117	425	480	*540	535	149
27							161	430	480	540	500	149
28							195	420	525	520	440	149
29							195	331	560	515	410	130
30							248	308	585	515	395	122
31							-----	308	-----	500	365	-----
Total	74.2	6.0	6.2	11.3	14.5	15.5	3,727.0	8,805	10,947	18,260	13,460	7,252
Mean	2.39	0.20	0.20	0.36	0.50	0.50	124	284	355	589	434	242
Ac-ft	147	12	12	22	29	31	7,390	17,460	21,710	36,220	26,700	14,380
Calendar year 1955: Max		505			Min 0	Mean 92.3	Ac-ft 66,830					
Water year 1955-56: Max		645			Min 0.2	Mean 171	Ac-ft 124,100					

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 16 to Apr. 11; discharge estimated on basis of observer's notes.

North Fork Malheur River above Agency Valley Reservoir, near Beulah, Oreg.

Location.--Lat 43°58', long 118°11', in sec. 33, T. 18 S., R. 37 E., on left bank 3 miles upstream from Warm Springs Creek, 4 miles upstream from Agency Valley Dam, and 4 miles northwest of Beulah.

Drainage area.--355 sq mi.

Records available.--January to September 1914, June 1936 to September 1956. Published as "at Scott's Ranch, near Beulah" in 1914.

Gage.--Water-stage recorder. Altitude of gage is 3,350 ft (by barometer). Jan. 1 to Sept. 30, 1914, staff gage at same site at different datum.

Average discharge.--20 years (1936-56), 126 cfs (91,220 acre-ft per year).

Extremes.--Maximum discharge during year, 1,080 cfs Mar. 26 (gage height, 2.76 ft); minimum, 16 cfs Dec. 5.

1914, 1936-56: Maximum discharge, 1,300 cfs Mar. 25, 1952 (gage height, 4.17 ft), from rating curve extended above 530 cfs by logarithmic plotting; maximum gage height, 4.60 ft Mar. 26, 1940; minimum discharge recorded, 12 cfs Jan. 27, 1948, but may have been less at times during periods of ice effect.

Remarks.--Records good except those for periods of ice effect, which are poor. Diversions for irrigation of about 900 acres of which about 50 acres are below station.

Revisions (water years).--WSP 883: 1938(M). WSP 1093: 1944(m). WSP 1397: 1914, 1937, 1941-42, 1944, 1950.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 20

Nov. 21 to Sept. 30

-0.2	31	-0.3	22	0.2	90	1.5	435
0.0	55	-0.2	31	.5	147	2.0	650
		0.0	56	1.0	275	2.5	920

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	52	58	118	55	133	421	368	248	77	50	46
2	43	41	52	118	60	176	379	344	251	79	52	46
3	42	52	42	116	65	194	*365	341	234	88	53	46
4	*41	52	35	*110	70	158	365	386	225	81	52	48
5	46	55	29	97	65	127	376	410	212	81	52	49
6	46	50	25	85	60	118	347	414	202	77	55	48
7	43	50	30	77	60	104	353	414	190	74	58	48
8	43	48	35	70	65	173	335	470	169	72	55	48
9	42	48	40	58	70	169	353	*449	156	70	*55	48
10	45	48	45	67	80	129	407	449	145	69	52	49
11	51	48	48	83	90	97	466	446	*143	72	50	49
12	46	42	55	79	100	101	522	407	143	70	48	50
13	45	40	50	77	130	149	526	365	137	*72	46	50
14	43	35	24	70	100	137	575	365	141	69	45	50
15	43	30	25	111	*85	163	*610	296	151	67	40	50
16	43	40	35	194	60	238	660	272	143	66	40	52
17	42	50	50	129	70	314	835	266	135	62	39	52
18	42	70	67	114	80	376	605	284	125	61	39	52
19	42	90	81	101	90	442	605	317	121	59	39	50
20	43	100	185	110	110	482	625	353	123	58	39	52
21	43	80	305	103	160	*460	660	365	118	58	39	52
22	45	*65	514	108	200	482	665	365	110	55	38	52
23	45	60	353	112	180	601	665	365	104	55	38	52
24	45	58	220	83	143	750	635	379	104	52	36	52
25	*45	55	180	67	125	800	585	368	101	49	35	52
26	45	58	192	62	114	806	542	338	99	48	39	52
27	46	86	178	60	116	530	506	332	95	50	45	52
28	46	86	85	58	112	470	466	302	90	55	46	53
29	47	66	64	56	114	452	432	275	86	56	45	53
30	51	58	56	54	-----	474	396	254	79	53	45	52
31	54	-----	112	50	-----	474	-----	245	-----	52	46	-----
Total	1,388	1,713	3,270	2,795	2,829	10,279	15,082	10,979	4,380	2,007	1,411	1,505
Mean	44.8	57.1	105	90.2	97.6	332	503	354	146	64.7	45.5	50.2
Ac-ft	2,750	3,400	6,490	5,540	5,610	20,390	29,910	21,780	8,690	3,980	2,800	2,990

Calendar year 1955: Max 514 Min 24 Mean 79.6 Ac-ft 57,660  
Water year 1955-56: Max 806 Min 24 Mean 157 Ac-ft 114,300

Peak discharge (base 500 cfs).--Dec. 22 (12 p.m.) 685 cfs (2.07 ft); Mar. 26 (4 a.m.) 1,080 cfs (2.76 ft); Apr. 17 (2 a.m.) 695 cfs (2.09 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13-25, Dec. 4, 6-10, 15-17, 31, Jan. 2, 8, Jan. 26 to Feb. 23.

## North Fork Malheur River at Beulah, Oreg.

Location.--Lat 43°54', long 118°09', in NE¼NE¼ 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 1956. 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.--21 years (1935-56), 133 cfs (96,290 acre-ft per year).

Extremes.--Maximum discharge during year, 677 cfs Apr. 21 (gage height, 3.39 ft); no flow Oct. 13 to Dec. 21.

1926-56: Maximum discharge, 7,000 cfs May 7, 1942 (gage height, 8.4 ft, from floodmark), 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 below 10 cfs, which are poor. Flow regulated by Agency Valley Reservoir since December 1935 (see p. 167). Diversions for irrigation of about 3,000 acres above station. Prior to Apr. 25, 1936, station was below intake of 2 diversions for irrigation of about 120 acres below station.

Revisions (water years).--WSP 1397: 1927-32, 1934, drainage area.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

0.0	0.4	1.0	82
.1	2.0	1.5	170
.2	5.0	2.0	280
.3	10	3.0	560
.5	25	4.0	860
.7	44		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43		0	0.3	0.6	0.9	220	407	325	362	245	222
2	43		0	.3	.8	.9	222	389	325	360	248	222
3	43		0	.3	.6	1.0	*222	365	328	360	248	214
4	*44		0	**3	.6	1.0	224	318	330	360	248	206
5	42		0	.3	.7	1.0	224	318	312	358	245	204
6	22	0	0	.3	.7	1.0	224	330	305	355	245	230
7	11	0	0	.3	.7	1.0	226	389	300	305	245	252
8	13	0	0	.3	.7	1.0	226	449	298	282	245	255
9	14	0	0	.4	.7	1.1	226	479	298	282	*245	255
10	14	0	0	.4	.7	1.1	250	*421	300	285	245	255
11	15	0	0	.4	.7	1.1	258	491	*300	295	230	252
12	6	0	0	.4	.7	1.1	255	458	300	300	226	248
13	0	0	0	.4	.7	1.1	255	404	300	300	228	240
14	0	0	0	.4	.7	1.2	258	386	348	300	255	235
15	0	0	0	.4	.8	1.2	258	380	332	298	275	220
16	0	0	0	.4	.8	1.2	260	378	288	278	275	218
17	0	0	0	.4	.8	1.2	262	375	278	275	290	208
18	0	0	0	.5	.8	1.2	265	375	280	272	300	203
19	0	0	0	.5	.8	1.3	446	375	280	270	300	192
20	0	0	0	.5	.8	1.3	566	375	280	268	278	188
21	0	0	0	.5	.8	*1.3	614	375	282	268	270	166
22	0	.1	.1	.5	.8	1.5	653	375	282	250	270	152
23	0	.1	.1	.5	.8	1.7	665	372	298	245	272	152
24	0	.1	.1	.5	.9	2.0	665	370	305	262	272	152
25	*0	.1	.1	.5	.9	2.2	668	368	305	275	270	152
26	0	0	.2	.5	.9	2.4	665	368	305	*265	270	152
27	0	0	.2	.5	.9	2.4	647	325	322	280	268	150
28	0	0	.2	.6	.9	2.4	638	308	368	255	250	150
29	0	0	.2	.6	.9	120	638	338	362	252	245	148
30	0	0	.2	.6	-----	218	581	330	362	250	230	148
31	0	-----	.2	.6	-----	220	-----	322	-----	242	224	-----
Total	310	0	1.6	13.5	22.0	595.8	11,781	11,783	9,298	8,989	7,957	6,038
Mean	10.0	0	0.05	0.44	0.76	19.2	393	380	310	290	257	201
Ac-ft	615	0	3.2	27	44	1,180	23,370	23,370	18,440	17,830	15,780	11,980

Calendar year 1955: Max 355 Min 0 Mean 87.6 Ac-ft 63,410  
 Water year 1955-56: Max 668 Min 0 Mean 155 Ac-ft 112,600

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.

Note.--No gage-height record Oct. 13 to Mar. 20; discharge estimated on basis of 1 observation of no flow, 1 field estimate, weather records, and records for Agency Valley Reservoir.

Malheur River at Little Valley, near Hope, Ore.

Location.--Lat 43°54', long 117°30', in SE $\frac{1}{4}$  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 1956.

Gage.--Water-stage recorder. Datum of gage is 2,424.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--7 years, 182 cfs (131,800 acre-ft per year).

Extremes.--Maximum discharge during year, 3,530 cfs Feb. 23 (gage height, 6.49 ft), from rating curve extended above 1,700 cfs on basis of slope-area determination of peak flow of Feb. 24, 1957; minimum, 12 cfs Oct. 27 (gage height, 1.49 ft). 1949-56: Maximum discharge, 8,800 cfs Mar. 26, 1952 (gage height, 9.00 ft); minimum, that of Oct. 27, 1955.

The two greatest floods known occurred in March 1894 and March 1910.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Vale-Oregon Canal diverts as much as 600 cfs at Namorf for irrigation of about 31,000 acres, mostly below station; no other large diversions above station, but many small ones. Flow regulated by Warm Springs and Agency Valley Reservoirs (see p. 167).

Revisions (water years).--WSP 1217: 1949-50(M). WSP 1397: 1950.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.5	13	3.5	620
1.7	31	4.0	940
2.0	74	5.0	1,800
2.5	185	6.0	2,910
3.0	375		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	15	48	b95	b70	156	339	322	197	290	240	-158
2	31	18	51	b90	b75	250	302	334	191	302	218	161
3	34	25	48	b88	b80	500	236	344	172	314	209	153
4	*27	34	b45	*85	b90	435	212	350	182	314	215	144
5	21	35	b40	87	b100	278	203	298	209	306	222	132
6	20	34	b30	79	b95	197	*194	294	197	302	203	134
7	20	36	b32	74	b90	151	185	326	194	302	182	148
8	20	26	35	83	b90	135	163	380	197	302	180	158
9	19	25	b40	71	b95	318	161	*370	182	298	174	158
10	19	29	41	69	b100	384	151	398	*174	302	*169	158
11	18	27	48	72	b110	240	123	393	169	302	166	151
12	18	28	50	68	b120	174	87	278	153	326	163	151
13	17	31	50	68	b150	139	118	246	148	334	153	144
14	16	b28	b45	69	b130	139	151	200	153	322	146	141
15	16	a25	40	112	*b115	153	163	151	212	326	153	141
16	16	a30	44	1,280	b100	188	229	139	240	322	156	130
17	15	a40	b48	951	b110	388	222	127	215	302	158	125
18	15	a50	52	430	b120	510	225	125	194	286	174	123
19	15	a55	54	306	b130	632	218	166	197	290	172	119
20	15	a60	94	243	151	*674	306	188	203	282	172	119
21	14	*58	102	203	b630	605	274	240	191	274	172	110
22	14	52	119	191	998	525	302	185	163	254	163	102
23	14	61	169	1,230	1,900	455	330	209	153	240	177	98
24	14	54	250	1,360	541	440	286	245	194	243	222	96
25	14	55	197	490	326	445	243	250	226	229	243	90
26	14	54	153	322	209	370	254	262	229	229	254	87
27	*13	52	b160	203	172	268	294	318	194	*236	278	85
28	14	50	b130	b150	151	246	278	286	200	250	236	87
29	15	48	b110	b100	156	200	322	246	250	226	194	87
30	15	47	b90	b80	-----	214	330	240	262	218	188	85
31	15	-----	b100	b70	-----	339	-----	203	-----	236	172	-----
Total	557	1,182	2,515	8,819	7,304	10,147	6,900	8,094	5,841	8,759	5,924	3,775
Mean	18.0	39.4	81.1	284	252	327	230	261	195	283	191	126
Ac-ft	1,100	2,340	4,990	17,490	14,490	20,130	13,690	16,050	11,590	17,370	11,750	7,490
Calendar year 1955: Max			250	Min	13	Mean	64.5	Ac-ft	46,720			
Water year 1955-56: Max			1,900	Min	13	Mean	191	Ac-ft	138,500			

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for station near Drewsey.

b Stage-discharge relation affected by ice.

## Bully Creek near Vale, Oreg.

Location.--Lat 43°57'30", long 117°20'30", in SW $\frac{1}{4}$  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 (revised), approximately.

Records available.--May 1933 to September 1934, November 1934, March 1935, March, April 1936, June 1937 to September 1956. 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 and concrete control at present site at datum 0.38 ft higher.

Average discharge.--20 years (1933-34, 1937-56), 39.6 cfs (28,670 acre-ft per year).

Extremes.--Maximum discharge during year, 810 cfs Feb. 23 (gage height, 4.00 ft); minimum daily, 1.7 cfs Nov. 14, 15.

1933-34, 1937-56: Maximum discharge, 3,400 cfs Feb. 27, 1940, from rating curve extended above 1,000 cfs; maximum gage height, 6.98 ft Mar. 26, 1952; no flow at times.

Remarks.--Records good except those for periods of shifting control and doubtful gage-height record, which are fair, and those for periods of ice effect, 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 above station for irrigation of about 7,000 acres.

Revisions (water years).--WSP 1183: 1946-47. WSP 1397: 1948.

Rating table, water year 1955-56, except periods of ice effect and shifting-control (gage height, in feet, and discharge, in cubic feet per second)

0.2	1.3	1.5	68
.4	4.0	2.0	140
.6	8.5	2.5	250
.8	15	3.0	395
1.1	31	3.5	580

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	2.0	7.0	b45	b15	d235	118	5.2	16	17	12	21
2	3.0	2.0	6.8	b40	b15	d341	94	5.0	13	19	12	87
3	3.0	2.0	5.8	34	b18	d368	75	5.8	17	19	15	48
4	*2.3	2.1	6.0	*32	b20	d268	66	11	18	19	16	17
5	2.3	2.0	5.6	28	b25	d190	65	18	18	20	15	17
6	2.4	2.1	5.2	26	b25	d135	*45	20	16	21	16	16
7	2.4	2.0	4.8	23	b24	d105	37	20	15	24	18	17
8	2.4	2.0	5.0	22	b22	d116	37	25	16	21	19	17
9	2.3	2.1	5.2	20	b21	d260	34	*31	19	22	17	18
10	2.3	2.0	5.0	18	b20	d178	31	37	*21	19	*17	17
11	2.1	1.9	5.6	17	22	d120	22	36	21	20	16	19
12	2.0	1.8	5.6	17	25	d110	17	29	23	19	16	26
13	1.9	b1.8	5.4	18	29	d112	12	15	24	20	15	22
14	1.8	b1.7	b5.0	19	29	d112	17	13	26	19	15	20
15	1.8	b1.7	4.4	23	*b20	d114	6.2	14	27	18	16	20
16	1.9	b1.8	5.0	314	b19	d170	7.0	16	27	19	17	20
17	2.0	b2.0	5.2	180	b18	d250	7.2	18	21	19	18	20
18	2.0	2.3	5.2	116	b18	d371	7.2	19	21	17	21	23
19	2.1	2.4	5.8	93	b20	d409	8.2	21	20	17	23	26
20	2.1	2.6	85	85	23	*d380	7.8	19	19	14	22	27
21	2.0	*3.0	94	76	57	356	7.5	15	19	13	20	27
22	2.0	2.5	185	70	217	355	5.8	13	18	13	20	24
23	2.0	2.6	230	74	d560	326	5.8	12	20	13	19	25
24	2.0	3.1	130	68	d228	338	5.6	11	24	13	19	26
25	2.0	5.6	89	59	d128	338	5.4	10	22	15	20	24
26	2.1	6.2	75	49	d105	317	5.8	10	19	14	24	22
27	*2.0	6.5	b100	b40	d89	*268	16	18	22	*14	25	21
28	2.0	6.8	b80	b30	d98	202	9.8	18	19	12	26	22
29	2.0	9.2	b60	b25	d152	170	5.6	18	17	13	24	20
30	2.0	6.0	b55	b20	-----	154	4.4	17	17	13	23	20
31	2.0	-----	b50	b15	-----	135	-----	15	-----	12	23	-----
Total	67.2	91.8	1,335.6	1,696	2,062	7,283	786.3	535.0	598	528	579	729
Mean	2.17	3.06	43.1	54.7	71.1	235	26.2	17.3	19.9	17.0	18.7	24.3
Ac-ft	133	182	2,650	3,360	4,090	14,450	1,560	1,060	1,190	1,050	1,150	1,450
Calendar year 1955:	Max	230		Min	1.6	Mean	8.80	Ac-ft	6,370			
Water year 1955-56:	Max	560		Min	1.7	Mean	44.5	Ac-ft	32,320			

Peak discharge (base, 130 cfs).--Dec. 22 (10 p.m.) 406 cfs (3.03 ft); Dec. 27 (12 m.) 178 cfs (2.19 ft); Jan. 16 (10 a.m.) 444 cfs (3.14 ft); Feb. 23 (5:30 a.m.) 810 cfs (4.00 ft); Mar. 3 (10 a.m.) 430 cfs (3.10 ft); Mar. 9 (7 a.m.) 350 cfs (2.85 ft); Mar. 20 (4 to 5 p.m.) 434 cfs (3.11 ft); Sept. 2 (10 a.m.) 220 cfs (2.42 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

d Doubtful gage-height record; discharge computed from doubtful gage-height record.

Note.--Shifting-control method used Oct. 1 to Nov. 12, Apr. 14 to Aug. 8, Sept. 2-30.

## Reservoirs in Malheur River basin, Oreg.

Warm Springs Reservoir.--Lat 43°35', long 118°12', in SE $\frac{1}{4}$  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 September 1956. 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 ft above mean sea level (levels by Bureau of Reclamation); gage readings have been reduced to elevations above mean sea level. Maximum contents during year, 190,300 acre-ft May 31 to June 4 (elevation, 3,405.85 ft); minimum, 55 acre-ft Oct. 1 (elevation, 3,328.15 ft). Maximum contents during period 1920-56, 196,000 acre-ft Apr. 7, 1942 (elevation, 3,407.08 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 ft (bottom of outlet tunnel) and 3,406 ft (top of 5-ft flashboards). Dead storage, 1,400 acre-ft below elevation 3,327 ft, not included in records presented. Storage began in 1919. In 1926, a half interest in reservoir was purchased by the Federal Government for Vale project of Bureau of Reclamation. Water used to irrigate lands on both sides of river between Namorf and Ontario. Data for computing capacity table furnished by Bureau of Reclamation.

Agency Valley Reservoir.--Lat 43°55', long 118°09', in SE $\frac{1}{4}$  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 1956. Pressure gage with mercury column read once each day except Oct. 5-9, Oct. 11 to Mar. 18 when only month-end readings were made. 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 during year, 60,110 acre-ft Apr. 25, 26 (elevation, 3,340.10 ft); no contents Oct. 1-4. Maximum contents observed during period 1935-56, 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 3,283.21 (bottom of outlet tunnel) and 3,340 ft (top of 17-foot 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.

Month-end elevation and contents, water year October 1955 to September 1956

Date	Warm Springs Reservoir			Agency Valley Reservoir		
	Elevation (feet)	Contents (acre- feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre-feet)
Sept. 30.....	3,328.15	55	-	-	0	-
Oct. 31.....	-	±2,320	+2,260	3,285.70	2,220	+2,220
Nov. 30.....	-	±8,440	+4,120	3,294.30	5,740	+3,520
Dec. 31.....	3,353.40	22,280	+15,840	3,305.15	12,640	+6,900
Calendar year 1955....	-	-	+3,000	-	-	-4,260
Jan. 31.....	-	±42,780	+20,500	3,312.30	19,290	+6,650
Feb. 29.....	-	±58,250	+15,470	3,317.70	25,420	+6,130
Mar. 31.....	3,387.37	115,100	+56,850	3,334.20	49,430	+24,010
Apr. 30.....	3,402.38	174,800	+59,700	3,339.60	59,170	+9,740
May 31.....	3,405.85	190,300	+15,500	3,339.62	59,210	+40
June 30.....	3,402.28	174,300	-16,000	3,333.90	48,910	-10,300
July 31.....	3,392.80	134,800	-39,500	3,324.70	34,600	-14,310
Aug. 31.....	3,394.40	105,000	-29,800	3,313.88	20,980	-13,620
Sept. 30.....	-	±87,300	-17,700	3,303.93	11,690	-9,290
Water year 1955-56....	-	-	+87,240	-	-	+11,690

a No gage-height record; contents interpolated.

## South Fork Payette River at Lowman, Idaho

Location.--Lat 44°05'00", long 115°37'30", in SW $\frac{1}{4}$  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.

Records available.--May 1941 to September 1956.

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.--15 years, 901 cfs (652,300 acre-ft per year).

Extremes.--Maximum discharge during year, 7,050 cfs May 24 (gage height, 7.45 ft); minimum, 207 cfs Dec. 14 (gage height, 2.53 ft).  
1941-56: Maximum discharge, that of May 24, 1956; minimum, 148 cfs Dec. 9, 1944 (gage height, 2.40 ft).

Remarks.--Records excellent. No regulation. Several small diversions for irrigation and placer mining, the return flow from which enters river above station.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 19			May 20 to Sept. 30		
2.6	225	4.0	1,110	4.5	1,630
2.8	288	4.5	1,630	5.0	2,290
3.0	372	5.0	2,250	5.5	3,100
3.3	540	5.5	2,960		
3.6	760	6.1	3,970		

Note.--Same as preceding table below 4.5 ft.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	319	336	363	624	*300	336	752	1,800	6,800	2,340	824	487	
2	315	308	350	596	327	350	736	1,810	6,550	2,170	808	478	
3	311	332	340	561	372	345	728	1,820	6,020	2,030	792	478	
4	308	345	308	547	412	345	736	1,930	5,620	1,880	768	472	
5	332	358	254	540	456	340	784	1,980	5,010	1,850	744	467	
6	319	327	350	515	407	319	776	2,000	4,250	1,850	744	461	
7	323	319	358	497	407	315	808	2,040	3,800	1,850	768	450	
8	323	315	323	490	382	358	784	2,180	3,860	1,770	720	450	
9	315	315	363	461	382	336	849	2,250	4,400	1,770	696	439	
10	319	407	345	467	402	327	1,100	2,330	4,870	1,790	696	439	
11	363	428	340	450	402	308	1,290	2,260	4,990	1,800	680	439	
12	340	354	397	439	407	315	1,320	2,070	4,700	1,760	659	433	
13	340	308	358	444	372	354	1,410	1,910	4,500	1,650	645	428	
14	332	336	242	439	358	315	1,580	1,810	4,380	1,550	638	422	
15	323	248	300	507	350	319	1,820	1,870	4,170	1,480	645	417	
16	323	254	382	562	285	327	1,910	2,130	3,710	1,390	631	412	
17	319	327	377	496	358	345	1,830	2,630	3,200	1,310	617	412	
18	315	345	363	472	372	382	1,970	3,260	*2,960	1,260	603	402	
19	315	450	422	461	363	439	2,210	3,950	3,080	1,240	589	402	
20	315	736	534	450	372	*484	2,460	4,520	3,450	1,230	575	397	
21	*315	666	701	444	358	534	2,700	5,130	3,170	1,210	568	402	
22	319	521	2,120	444	358	589	2,810	5,720	2,840	1,170	554	402	
23	315	450	2,800	444	354	744	2,760	6,100	2,830	1,110	547	397	
24	308	417	2,010	422	345	1,000	2,620	6,840	2,810	*1,090	540	397	
25	308	392	1,390	358	345	1,190	*2,520	6,590	2,790	1,050	534	387	
26	323	392	1,110	417	340	1,080	2,440	*6,300	2,710	1,010	547	387	
27	319	402	957	422	336	885	2,330	6,450	2,740	975	568	382	
28	315	387	824	358	332	776	2,200	6,000	2,810	948	568	402	
29	315	372	704	402	332	736	2,020	5,800	2,910	921	*534	402	
30	387	*368	*666	392	-----	760	1,880	5,980	2,660	885	521	392	
31	354	-----	680	315	-----	768	-----	6,400	-----	849	509	-----	
Total	10,047	11,515	21,031	14,436	10,586	16,021	50,113	113,860	118,590	45,188	19,832	12,751	
Mean	324	384	678	466	365	517	1,670	3,673	3,953	1,458	640	425	
Cfsm	0.711	0.842	1.49	1.02	0.800	1.13	3.66	8.05	8.67	3.20	1.40	0.932	
In.	0.82	0.94	1.72	1.18	0.86	1.31	4.09	9.29	9.67	3.69	1.62	1.04	
Ac-ft	19,930	22,840	41,710	28,630	21,000	31,780	99,400	225,800	234,200	89,630	39,340	25,290	
Calendar year 1955: Max	3,990			Min	200	Mean	742	Cfsm	1.63	In.	22.10	Ac-ft	537,200
Water year 1955-56: Max	6,840			Min	242	Mean	1,213	Cfsm	2.66	In.	36.23	Ac-ft	880,600

\* Discharge measurement made on this day.



## Deadwood Reservoir near Lowman, Idaho

Location.--Lat 44°18', long 115°39', in SE $\frac{1}{4}$  sec. 8, T. 11 N., R. 7 E., at dam on Deadwood River, 15 miles north of Lowman.

Drainage area.--108 sq mi.

Records available.--October 1935 to September 1956.

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, 5,336.45 ft June 6; minimum observed, 5,284.70 ft Sept. 29.  
1935-56: 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 protection, 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 Emmett. Small diversion from tributary of Johnson Creek in Salmon River basin to Deadwood River basin for supplemental storage in Deadwood Reservoir. Discharge of 0.85 cfs was measured in this canal Sept. 7.

Cooperation.--Gage readings furnished by Bureau of Reclamation.

Elevation, in feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	290.55	287.26	290.92	297.00	-	305.29	306.00	303.40	332.74	334.68	333.40	321.76
2	290.42	287.33	291.10	297.23	-	303.44	306.10	303.10	334.02	334.60	333.28	320.38
3	290.20	287.40	291.14	297.27	-	303.52	306.24	302.80	335.24	334.54	333.10	318.99
4	289.80	287.52	291.17	297.52	-	303.60	306.36	302.20	335.98	334.47	332.91	317.56
5	289.50	287.64	291.20	297.68	-	303.65	306.48	302.10	336.35	334.41	332.70	316.12
6	289.10	287.68	291.42	297.82	-	303.72	306.54	302.00	336.45	334.34	332.44	315.42
7	288.70	287.76	291.52	297.94	-	303.80	306.72	301.88	336.42	334.27	332.20	314.38
8	288.50	287.90	291.54	298.10	301.36	303.90	306.80	302.17	336.00	334.19	331.93	312.88
9	287.90	287.95	291.68	298.16	301.40	303.93	306.95	303.60	335.60	334.13	331.67	311.38
10	287.48	288.50	291.74	298.30	301.48	303.97	307.10	304.50	335.90	334.05	331.54	309.80
11	287.15	288.55	291.94	298.46	301.58	303.97	307.28	305.50	336.17	334.00	331.60	308.30
12	286.70	288.56	292.00	298.56	301.72	303.97	307.15	306.30	336.12	333.91	331.64	306.70
13	286.25	288.57	292.10	298.73	301.78	303.97	307.00	306.95	336.02	333.92	331.72	305.20
14	285.82	288.58	292.15	298.76	301.85	304.10	306.50	307.55	335.94	333.90	331.78	303.76
15	285.75	288.61	292.17	299.20	301.98	304.10	306.00	308.26	335.87	333.88	331.84	302.48
16	285.78	288.66	292.45	299.22	302.02	304.15	305.40	309.00	335.82	333.86	331.90	301.30
17	285.85	288.73	292.56	299.27	302.02	304.15	305.10	309.90	335.70	333.85	331.71	300.06
18	286.00	288.80	292.63	299.32	302.16	304.15	304.80	310.94	335.50	333.84	331.19	-
19	286.05	288.88	292.68	299.60	302.23	304.19	304.60	312.20	335.44	333.83	330.60	297.50
20	286.14	289.42	293.08	299.63	302.38	304.46	304.80	313.77	335.42	333.81	330.02	296.10
21	286.20	289.64	293.20	299.74	302.56	304.71	304.60	315.29	335.39	333.79	329.38	294.70
22	286.32	289.80	293.80	299.84	302.61	304.79	304.50	316.98	335.30	333.77	328.74	293.25
23	286.38	289.95	294.60	299.96	302.73	304.88	304.30	318.70	335.21	333.76	328.08	291.81
24	286.46	290.08	295.20	300.08	302.80	305.00	304.20	320.46	335.15	333.73	327.39	290.46
25	286.55	290.20	295.60	300.10	303.10	305.16	304.10	322.18	335.12	333.69	326.67	289.00
26	286.60	290.30	295.82	300.22	303.15	305.29	304.10	323.68	335.10	333.67	325.94	287.68
27	286.73	290.47	296.10	300.38	303.18	305.43	304.10	325.30	334.94	333.64	325.30	286.39
28	286.80	290.60	296.32	300.45	303.20	305.50	304.00	326.90	334.90	333.65	324.66	285.52
29	286.87	290.68	296.44	300.53	303.24	305.58	303.80	328.48	334.84	333.66	324.00	284.70
30	287.05	290.78	296.54	300.61	-----	305.80	303.60	329.88	334.76	333.62	323.35	284.72
31	287.18	-----	296.85	300.63	-----	305.94	-----	331.30	-----	333.54	322.70	-----

Note.--Add 5,000 ft to obtain elevation above mean sea level. Gage read at irregular intervals.

## 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.--108 sq mi.

Records available.--October 1926 to September 1956. 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.--30 years (1926-56), 221 cfs (160,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,160 cfs June 7 (gage height, 8.93 ft); minimum, 0.5 cfs Nov. 24-29 (gage height, 0.75 ft).  
1926-56: Maximum discharge, 2,580 cfs July 14, 1953; maximum gage height, that of June 7, 1956; no flow or small amount of leakage from reservoir for long periods during 1934-37 when gates in dam were closed.

Remarks.--Records excellent except those below 200 cfs, which are fair. Flow regulated by Deadwood Reservoir (see preceding page).

Revisions (water years).--WSP 1123: 1943.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

0.7	0.3	1.5	15	4.0	325
.8	.7	1.7	26	5.0	575
.9	1.2	2.0	50	6.0	900
1.0	2.1	2.5	101	7.0	1,300
1.1	3.5	3.0	164	9.0	2,200
1.3	8.0	3.5	239		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	202	1.8	1.8	4.5	2.9	2.9	3.4	952	18	569	291	1,810
2	178	2.0	1.8	4.5	3.1	3.1	3.5	952	126	539	327	2,020
3	320	2.0	1.8	4.7	3.1	3.1	3.5	948	555	517	404	2,010
4	397	2.0	1.8	4.5	3.1	3.2	3.5	948	1,010	493	404	1,990
5	404	1.9	1.8	4.5	3.1	3.2	3.5	952	1,230	471	466	1,490
6	414	1.9	1.7	4.3	3.1	3.2	3.7	952	1,300	*450	504	982
7	414	1.9	1.8	4.3	3.1	3.2	3.9	953	1,640	427	501	*1,970
8	417	2.0	1.8	4.3	3.2	3.1	3.9	11	1,900	412	517	1,950
9	417	1.9	1.8	4.1	3.2	3.1	4.1	11	1,090	400	372	1,960
10	419	1.9	1.8	4.1	3.2	3.1	14	11	948	385	151	1,940
11	424	1.9	1.9	3.9	3.2	3.1	216	11	1,290	378	2.0	1,930
12	427	1.8	2.0	3.9	3.1	3.1	484	8.9	1,400	298	2.0	1,840
13	427	1.8	1.9	3.7	3.1	3.2	725	7.5	1,320	253	2.0	1,700
14	*267	1.8	1.9	3.7	3.1	3.2	956	6.8	*1,280	260	*2.4	1,560
15	2.0	1.8	2.0	3.7	3.1	3.2	956	7.2	1,230	262	2.8	1,360
16	1.8	1.8	2.0	3.7	3.2	3.2	968	9.8	1,180	228	213	1,560
17	1.8	1.9	2.1	3.5	3.2	3.2	964	13	1,100	210	781	1,370
18	1.8	1.9	2.1	3.4	3.2	3.4	960	18	1,010	208	996	1,380
19	1.9	2.0	2.1	3.2	3.2	3.4	960	20	948	208	996	*1,430
20	1.9	2.1	2.1	3.2	3.1	3.4	960	22	944	210	1,040	1,420
21	1.9	2.0	2.9	3.1	3.1	3.5	960	25	908	210	1,070	1,410
22	1.9	1.9	5.1	3.1	3.1	3.7	960	27	853	199	1,080	1,350
23	1.9	.8	7.6	3.1	3.1	3.9	960	27	800	184	1,120	1,310
24	1.8	.5	8.0	3.1	3.1	3.9	960	30	774	184	1,160	1,300
25	1.8	.5	6.2	3.1	2.9	4.1	956	26	741	184	1,160	1,200
26	1.9	.5	5.3	2.9	2.9	4.1	956	25	703	186	1,090	1,130
27	1.8	.5	5.1	2.9	2.9	3.9	960	35	673	150	1,070	882
28	1.8	.5	5.1	2.9	2.9	3.9	956	29	661	132	1,040	741
29	1.8	1.0	4.9	2.8	2.9	3.5	952	25	637	139	1,030	251
30	1.9	1.8	4.7	2.8	-----	3.4	952	22	607	291	1,040	1.5
31	1.8	-----	4.5	2.9	-----	3.5	-----	20	-----	291	1,300	-----
Total	5,175.5	48.1	97.6	112.4	89.5	105.0	17,768.0	6,515.2	28,858	9,348	20,134.2	43,057.5
Mean	167	1.60	3.15	3.63	3.09	3.39	592	210	962	302	649	1,455
Ac-Ft	10,270	95	194	223	178	208	35,240	12,920	57,240	18,540	39,840	85,400

Calendar year 1955: Max 1,570 Min 0.5 Mean 189 Ac-ft 137,200  
Water year 1955-56: Max 2,020 Min 0.5 Mean 352 Ac-ft 260,400

\* Discharge measurement made on this day.

## South Fork Payette River near Garden Valley, Idaho

Location.--Lat 44°04', long 115°56', in 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.--773 sq mi.

Records available.--May 1921 to September 1956. 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.--35 years (1921-56), 1,295 cfs (937,500 acre-ft per year).

Extremes.--Maximum discharge during year, 9,980 cfs May 24 (gage height, 7.43 ft); minimum, 274 cfs Dec. 5, 6 (gage height, 1.54 ft).  
1921-56: 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, 136 cfs Dec. 10, 1944.

Remarks.--Records excellent except those for periods of ice effect, which are good. Small diversions above station. Since Nov. 2, 1930, flow has been regulated by Deadwood Reservoir (see p. 169).

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 11-20, July 19 to Sept. 13)

1.6	310	3.5	2,190
1.8	445	4.0	2,690
2.0	600	5.0	4,560
2.5	1,050	6.0	6,710
3.0	1,570	7.2	9,510

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	702	452	544	964	b430	482	1,250	3,690	8,790	3,430	1,570	2,270
2	600	403	*520	917	b470	520	1,170	3,700	8,460	3,220	1,350	2,600
3	642	424	498	851	b540	528	1,130	3,700	8,160	3,060	1,450	2,590
4	651	445	462	833	b600	528	1,140	3,960	8,140	2,980	1,400	2,570
5	698	498	342	824	b650	512	1,210	4,160	7,700	2,780	1,400	2,520
6	879	452	460	762	b580	475	1,190	4,120	6,890	2,760	1,450	1,120
7	888	424	520	736	b580	452	1,230	3,910	6,410	2,710	1,460	2,520
8	888	410	452	713	b550	544	1,190	3,610	6,890	2,630	1,430	2,520
9	870	410	490	660	b540	520	1,230	3,650	6,850	2,600	1,540	2,490
10	888	568	468	676	568	490	1,560	3,840	6,990	2,590	1,110	2,470
11	964	651	475	668	568	445	1,930	3,780	7,400	2,590	860	2,460
12	917	498	544	634	568	431	2,520	3,460	7,260	2,500	833	2,400
13	908	382	592	651	*528	536	2,710	3,140	6,940	2,290	815	2,300
14	898	445	b380	634	490	430	3,350	2,340	6,690	2,200	797	2,150
15	552	b330	b400	726	475	482	3,690	2,960	6,480	2,110	824	1,910
16	424	b340	b560	879	b400	498	3,940	3,330	5,930	2,010	797	1,870
17	410	b440	560	788	b450	544	3,770	3,940	5,150	1,880	1,350	1,880
18	403	505	536	728	556	617	3,870	4,920	*4,720	1,820	1,740	1,890
19	403	560	634	702	612	*753	4,260	6,110	4,700	1,770	1,710	1,930
20	410	1,130	917	694	505	633	4,680	6,990	5,190	1,750	1,710	1,920
21	403	1,060	1,170	676	505	898	5,130	7,650	4,860	1,730	1,800	1,920
22	417	860	3,950	668	505	964	5,450	8,300	4,450	1,690	1,750	1,880
23	410	685	5,740	694	520	1,220	5,470	8,600	4,300	1,590	1,790	1,850
24	403	634	3,830	651	505	1,620	5,130	9,490	4,240	1,570	1,810	1,830
25	396	576	2,440	536	490	2,000	4,880	9,220	4,150	*1,540	1,820	1,770
26	417	576	1,870	600	490	1,910	*4,700	*8,650	4,010	1,480	1,790	1,650
27	438	634	*1,590	634	498	1,610	4,600	9,080	3,990	1,450	1,760	1,550
28	*417	600	1,340	552	475	1,260	4,450	8,440	4,030	1,370	1,750	1,310
29	410	568	1,120	568	482	1,260	4,120	8,020	4,100	1,350	*1,700	1,180
30	498	552	984	576	-----	1,280	3,960	6,000	3,790	1,430	1,690	844
31	528	-----	1,040	b490	-----	1,290	-----	8,370	-----	1,420	1,800	-----
Total	19,132	16,512	35,448	21,713	15,010	26,032	34,740	173,650	177,680	86,200	44,636	59,754
Mean	617	550	1,143	700	516	842	3,158	5,602	5,923	2,135	1,440	1,892
Ac-ft	37,950	32,750	70,310	43,070	29,770	51,750	187,900	344,400	352,400	131,300	88,530	118,500
Calendar year 1955: Max	5,740			Min	270		Mean	1,308	Ac-ft	873,100		
Water year 1955-56: Max	9,490			Min	330		Mean	2,051	Ac-ft	1,489,000		

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## 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.

Records available.--August 1921 to September 1956.

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.--35 years, 1,747 cfs (1,265,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,400 cfs May 24 (gage height, 11.10 ft); minimum, 351 cfs Nov. 16 (gage height, 0.22 ft).  
1921-56: 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 period of no gage-height record, which are good. Small diversions above station for irrigation. Flow regulated by Deadwood Reservoir (see p. 169).

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 14 to July 12)

0.4	420	5.0	4,070
.6	510	6.0	5,250
1.0	720	8.0	7,900
2.0	1,370	10.0	11,000
3.0	2,130	11.2	12,900
4.0	3,030		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	792	*616	798	al, 730	704	798	2,300	5,620	11,300	4,050	1,540	2,300
2	692	580	*744	al, 550	792	886	2,180	5,580	10,800	3,780	1,520	2,660
3	692	575	687	al, 450	924	918	2,130	5,550	10,300	3,630	1,570	2,640
4	905	616	665	al, 400	1,040	905	2,120	5,850	10,200	3,420	1,570	2,630
5	970	687	488	al, 350	1,130	879	2,240	6,090	9,530	3,290	1,560	2,620
6	970	626	575	al, 300	1,040	816	2,190	6,060	8,550	3,250	1,600	1,280
7	964	585	732	al, 200	970	768	2,220	5,900	7,820	3,190	1,620	2,490
8	970	565	632	al, 150	912	834	2,140	5,740	8,300	3,090	1,590	2,570
9	964	570	660	al, 150	860	860	2,240	5,710	6,260	3,030	1,530	2,540
10	976	714	660	al, 100	879	798	2,710	5,960	8,270	2,990	1,330	2,520
11	1,110	918	648	1,100	905	726	3,350	5,970	8,590	2,980	1,050	2,510
12	1,030	682	728	1,060	938	704	4,260	5,450	8,400	2,880	1,010	2,500
13	1,020	515	854	1,100	*905	854	4,650	4,940	6,080	2,680	983	2,280
14	1,000	575	520	1,070	853	760	5,370	4,620	7,830	2,540	957	2,240
15	750	470	456	1,360	816	768	6,030	4,600	7,720	2,450	976	2,000
16	565	420	816	1,890	660	780	6,720	5,050	7,170	2,340	957	1,950
17	555	535	780	1,610	726	853	6,390	5,880	6,310	2,180	1,350	1,960
18	550	654	738	1,460	853	1,010	6,440	7,030	5,760	2,110	1,850	1,950
19	550	726	897	1,390	822	*1,240	7,000	8,460	5,670	2,050	1,830	2,000
20	555	1,450	1,810	1,340	816	1,430	7,560	9,700	6,060	2,030	1,830	2,000
21	550	1,520	2,180	1,290	810	1,570	8,130	10,400	5,750	1,990	1,880	1,990
22	560	1,200	8,290	1,280	846	1,710	8,480	11,100	5,300	1,940	1,860	1,980
23	555	931	*10,700	1,380	892	2,290	8,440	11,700	5,100	1,840	1,900	1,920
24	545	834	7,040	1,270	853	3,050	7,930	12,900	5,020	1,780	1,910	1,910
25	540	774	4,350	1,090	828	3,670	7,510	12,400	*4,900	1,750	1,920	1,860
26	565	799	3,280	1,140	822	3,530	*7,260	*11,600	4,740	*1,670	1,910	1,720
27	605	912	2,850	1,180	810	2,990	7,170	12,200	4,660	1,640	1,890	1,670
28	565	879	2,370	1,010	792	2,570	7,000	11,400	4,660	1,560	1,870	1,400
29	560	816	a2,000	1,040	798	2,420	6,400	10,800	4,690	1,540	1,830	1,380
30	638	792	al, 700	1,050	-----	2,410	5,940	10,600	4,410	1,580	*1,800	732
31	732	-----	al, 800	738	-----	2,410	-----	10,900	-----	1,590	1,870	-----
Total	22,995	22,515	61,426	39,288	24,996	46,207	154,490	245,760	214,250	76,820	48,863	62,202
Mean	742	750	1,981	1,267	862	1,491	5,150	7,928	7,142	2,478	1,576	2,075
Ac-ft	45,610	44,660	121,800	77,930	49,580	91,650	306,400	487,500	425,000	152,400	96,920	123,400
Calendar year 1955: Max	10,700			Min	375	Mean	1,595	Ac-ft	1,154,000			
Water year 1955-56: Max	12,900			Min	420	Mean	2,786	Ac-ft	2,023,000			

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for station near Garden Valley, North Fork Payette River near Banks, and Payette River near Horseshoe Bend.

## 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 1956 (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, 7.05 ft June 28; minimum, 1.96 ft Nov. 17. 1921-56: 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 taintor gates and removable stoplogs of a buttress and slab-type dam completed in November 1943. During period 1923 to 1943 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 of lands 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.20	2.27	2.30	3.13	2.35	2.21	2.23	3.87	6.83	6.82	6.90	6.68
2	6.20	2.23	2.27	3.08	2.33	2.21	2.21	3.84	6.88	6.88	6.89	6.67
3	6.19	2.18	2.25	3.03	2.31	2.20	2.21	3.86	6.45	6.88	6.88	6.66
4	6.19	2.20	2.21	2.97	2.29	2.19	2.20	4.05	6.24	6.87	6.88	6.65
5	6.20	2.17	2.22	2.92	2.27	2.18	2.20	4.15	5.89	6.88	6.87	6.64
6	6.20	2.14	2.22	2.88	2.25	2.16	2.19	4.18	5.47	6.87	6.88	6.63
7	6.19	2.12	2.20	2.83	2.24	2.15	2.18	4.22	5.14	6.87	6.85	6.62
8	6.10	2.08	2.20	2.80	2.23	2.14	2.19	4.35	5.08	6.87	6.84	6.61
9	5.95	2.09	2.19	2.75	2.21	2.14	2.19	4.47	5.29	6.87	6.83	6.60
10	5.87	2.11	2.17	2.72	2.20	2.12	2.22	4.59	5.49	6.90	6.82	6.59
11	5.77	2.10	2.18	2.68	2.21	2.11	2.28	4.58	5.50	6.90	6.81	6.58
12	5.54	2.09	2.18	2.64	2.20	2.09	2.36	4.41	5.40	6.90	6.80	6.57
13	5.17	2.08	2.15	2.63	2.19	2.11	2.43	4.24	5.33	6.90	6.79	6.56
14	4.80	2.06	2.13	2.64	2.18	2.09	2.54	4.12	5.25	6.84	6.78	6.55
15	4.48	2.00	2.12	2.71	2.17	2.07	2.67	4.09	5.26	6.82	6.77	6.54
16	4.18	1.98	2.13	2.68	2.16	2.07	2.84	4.27	5.17	6.83	6.76	6.53
17	3.91	1.97	2.12	2.64	2.15	2.05	2.90	4.61	4.93	6.84	6.75	6.52
18	3.68	2.02	2.14	2.62	2.15	2.04	2.98	5.06	4.89	6.86	6.74	6.51
19	3.48	2.10	2.23	2.60	2.16	2.04	3.12	5.56	5.04	6.87	6.72	6.50
20	3.30	2.22	2.27	2.58	2.23	2.03	3.33	5.98	5.26	6.88	6.71	6.49
21	3.13	2.29	2.40	2.56	2.23	2.04	3.56	6.33	5.33	6.88	6.68	6.46
22	2.98	2.30	2.78	2.56	2.22	2.05	3.82	6.59	5.62	6.87	6.68	6.42
23	2.85	2.33	3.18	2.55	2.24	2.06	4.00	6.73	5.99	6.88	6.66	6.38
24	2.74	2.32	3.33	2.53	2.23	2.07	4.11	6.85	6.37	6.89	6.66	6.35
25	2.63	2.32	3.38	2.49	2.24	2.10	4.16	6.67	6.74	6.91	6.66	6.33
26	2.58	2.34	3.42	2.47	2.22	2.15	4.15	6.65	6.93	6.90	6.71	6.30
27	2.50	2.32	3.40	2.45	2.21	2.17	4.11	6.82	7.02	6.89	6.72	6.27
28	2.43	2.30	3.35	2.43	2.19	2.17	4.08	6.87	6.97	6.89	6.72	6.25
29	2.38	2.29	3.28	2.42	2.20	2.18	4.01	6.65	6.87	6.89	6.71	6.22
30	2.34	2.30	3.21	2.39	2.23	2.19	3.94	6.67	6.80	6.89	6.70	6.14
31	2.30	-----	3.17	2.37	-----	2.23	-----	6.76	-----	6.90	6.68	-----

Note.--Gage heights Nov. 15-20, Feb. 1-6, Apr. 11, 12, July 23 to Aug. 14, Sept. 3-17 estimated from recorded range in stage and gage heights for North Fork Payette River at McCall.

## 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.

Records available.--September 1908 to June 1917, May 1919 to September 1956. 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, 1933, staff gages at sites near present gage at present datum.

Average discharge.--45 years (1908-16, 1919-56), 357 cfs (258,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,550 cfs June 1 (gage height, 6.89 ft); minimum, 17 cfs Sept. 6-21; minimum gage height, 1.54 ft Sept. 14-18.

1908-17, 1919-56: Maximum discharge, 4,260 cfs June 10, 1933, June 4, 1948; maximum gage height, 7.71 ft June 4, 1948; practically no flow Nov. 5-8, 1931, Nov. 17-24, 1933, Nov. 14-27, 1935, Oct. 22 to Nov. 11, 1938.

Remarks.--Records excellent except those below 100 cfs, which are good. Flow partly regulated by gates at outlet of Payette Lake (see preceding page) and several smaller lakes upstream. No diversion above station.

Cooperation.--Water-stage recorder inspected by employees of U.S. Forest Service.

Revisions.--WSP 963: Drainage area.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 31

Feb. 1 to Sept. 30

1.6	17	3.0	275	1.5	15	2.5	122	4.5	1,110
1.8	30	3.5	486	1.7	25	3.0	262	5.0	1,530
2.0	48	4.0	770	1.9	39	3.5	470	6.0	2,520
2.3	90	4.5	1,100	2.2	71	4.0	755	7.0	3,680
2.6	154								

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	176	173	393	166	140	142	946	3,510	536	34	19
2	21	162	170	380	164	140	142	918	3,480	448	32	19
3	21	152	162	359	159	137	140	918	3,280	495	31	19
4	21	149	154	343	154	135	137	975	3,040	*515	31	18
5	21	147	*149	332	149	135	137	1,100	2,770	526	29	18
6	21	140	154	316	*146	131	137	1,140	2,400	520	27	17
7	21	132	152	305	144	129	137	1,150	2,030	480	26	17
8	222	126	147	294	142	126	137	1,220	1,850	461	25	17
9	589	119	149	282	137	122	137	1,320	1,920	425	24	17
10	585	126	142	272	135	120	142	*1,410	2,140	384	24	17
11	*380	126	142	261	135	116	*159	1,480	2,240	376	24	17
12	634	124	142	251	137	114	197	1,400	2,190	372	24	17
13	974	119	140	248	133	*114	219	1,260	2,110	376	23	17
14	953	117	132	241	131	112	252	1,150	2,050	412	22	17
15	866	108	128	251	129	111	295	1,100	2,000	326	*22	17
16	800	101	126	258	129	107	355	1,150	1,980	201	22	17
17	714	95	126	251	126	105	402	1,350	1,810	140	22	*17
18	637	101	126	241	126	103	430	1,660	1,390	140	22	17
19	564	113	142	235	126	101	480	2,080	1,040	140	22	17
20	506	135	158	229	133	101	564	2,550	1,120	140	21	17
21	452	162	179	222	142	100	678	2,890	1,090	137	21	41
22	402	176	248	222	137	103	827	3,220	366	137	21	68
23	359	181	377	222	142	103	968	3,370	70	122	20	68
24	328	181	455	219	142	107	1,060	3,500	82	88	20	67
25	294	181	485	210	144	111	1,110	3,420	96	66	20	67
26	275	184	496	201	142	120	1,120	3,310	462	65	21	67
27	251	184	*506	196	140	126	1,100	3,430	807	65	20	67
28	229	178	495	190	137	131	1,080	3,370	1,210	64	20	67
29	213	176	443	184	137	133	1,040	*3,330	1,260	62	20	67
30	198	173	420	181	-----	133	990	3,360	953	60	20	182
31	184	-----	406	173	-----	142	-----	3,400	-----	44	19	-----
Total	11,358	4,344	7,425	7,962	4,064	3,708	14,714	62,877	50,746	8,323	729	1,109
Mean	366	145	240	257	140	120	490	2,028	1,692	268	235	370
Ac-ft	22,520	8,620	14,730	15,790	8,060	7,350	29,180	124,700	100,700	16,510	1,450	2,200

Calendar year 1955: Max 2,780 Min 21 Mean 307 Ac-ft 222,200  
 Water year 1955-56: Max 3,510 Min 17 Mean 485 Ac-ft 351,800

\* Discharge measurement made on this day.

## Lake Fork Payette River above Jumbo Creek, near McCall, Idaho

Location.--Lat 44°55', long 115°59', in NE $\frac{1}{4}$  sec. 8, T. 18 N., R. 4 E., on left bank 200 ft upstream from bridge at abandoned powerplant,  $\frac{3}{4}$  quarter of a mile upstream from Jumbo Creek,  $\frac{3}{2}$  miles upstream from Lake Fork Reservoir dam, and  $\frac{5}{2}$  miles east of McCall.

Drainage area.--48.9 sq mi.

Records available.--October 1945 to September 1956.

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.--11 years, 152 cfs (110,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,950 cfs May 24 (gage height, 8.21 ft); minimum, 12 cfs Sept. 20, 26, 27; minimum gage height, 2.06 ft Sept. 27.  
1945-56: 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 excellent except those for periods of ice effect or no gage height record, which are fair. No diversion above station.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 22-28, Jan. 1-5, May 16 to June 4, June 9, 10)

2.0	11	5.0	216
2.5	18	5.5	306
2.6	26	6.0	422
3.0	43	6.5	595
3.5	71	7.0	850
4.0	105	8.0	1,650
4.5	151		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	27	57	112	b42	*34	59	300	1,350	280	40	20
2	16	26	54	98	b46	34	57	310	1,140	262	38	18
3	16	28	52	89	b48	32	55	329	985	239	37	18
4	16	39	b47	91	48	32	56	401	896	218	34	18
5	20	45	b40	84	46	31	56	422	715	*218	33	17
6	19	34	b50	80	44	30	55	382	561	213	32	17
7	19	30	b48	76	*43	32	56	386	495	202	37	16
8	20	30	b45	75	42	35	56	498	662	190	35	16
9	20	29	54	70	40	35	62	475	896	190	32	16
10	25	82	48	72	41	31	79	*505	943	187	31	15
11	42	63	48	68	40	30	*114	456	808	179	29	14
12	30	47	61	66	40	32	144	367	730	156	28	15
13	32	b40	b50	66	40	32	169	325	730	145	27	15
14	*35	b50	b40	60	39	b29	216	314	695	137	*26	14
15	32	b35	b54	66	38	b30	275	356	762	119	26	14
16	29	b30	b60	72	35	b30	296	488	604	107	25	13
17	27	b40	a57	64	40	31	244	725	472	98	24	13
18	25	b70	a54	63	38	32	269	950	491	91	22	*13
19	25	b130	a74	60	37	35	363	1,160	557	88	22	13
20	25	171	a100	61	36	34	442	1,250	582	84	21	13
21	24	146	174	58	37	34	538	1,360	462	79	20	14
22	24	*95	583	57	36	40	582	1,450	456	75	20	14
23	24	81	468	56	36	45	549	1,390	417	68	19	14
24	24	73	246	52	35	58	501	1,530	436	63	19	13
25	21	69	181	b45	34	76	478	1,270	419	58	20	13
26	24	67	156	b48	34	81	401	1,240	412	54	30	12
27	25	64	143	b52	34	69	391	1,470	444	52	34	13
28	24	63	*124	b48	34	64	386	1,230	466	50	29	15
29	24	61	b102	b50	34	64	342	*1,300	399	48	24	14
30	22	58	b100	b46	-----	62	316	1,390	321	44	22	13
31	31	-----	b108	b40	62	-----	62	1,370	-----	42	21	-----
Total	765	1,823	3,578	2,043	1,137	1,290	7,607	25,379	19,286	4,034	857	443
Mean	24.7	60.8	115	65.9	39.2	41.6	254	819	643	150	27.6	14.8
Cfsm	0.505	1.24	2.35	1.35	0.802	0.851	5.19	16.7	13.1	2.66	0.564	0.303
In.	0.58	1.39	2.72	1.55	0.86	0.98	5.79	19.30	14.67	3.07	0.65	0.34
Ac-ft	1,520	3,620	7,100	4,050	2,260	2,560	15,090	50,340	38,250	8,000	1,700	879

Calendar year 1955: Max 1,100 Min 10 Mean 121 Cfsm 2.47 In. 33.56 Ac-ft 87,530

Water year 1955-56: Max 1,530 Min 12 Mean 186 Cfsm 3.80 In. 51.90 Ac-ft 135,400

Peak discharge (base, 850 cfs).--Dec. 22 (4 p.m.) 1,030 cfs (7.26 ft); May 24 (1 a.m.) 1,950 cfs (8.21 ft); June 9 (10 p.m.) 1,500 cfs (7.50 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 and Johnson Creek at Yellow Pine.

b Stage-discharge relation affected by ice.

## PAYETTE RIVER BASIN

## Lake Fork Reservoir near McCall, Idaho

Location.--Lat 44°54', long 116°03', in NW $\frac{1}{4}$  NW $\frac{1}{4}$  sec. 13, T. 18 N., R. 3 E., on Lake Fork Payette River, 3 miles east of McCall.

Drainage area.--64 sq mi, approximately.

Records available.--April 1926 to September 1956 (fragmentary).

Gage.--Staff gage and graduations on concrete gate-control structure of dam; gage read once daily during irrigation season. Datum of gage is at mean sea level (levels by Lake Irrigation District).

Extremes.--Maximum contents observed during year, 19,310 acre-ft June 28 (elevation, 5,118.49 ft); practically no storage at times during fall and winter.  
1926-56: Maximum contents observed, 19,740 acre-ft June 19, 1941 (elevation, 5,118.75 ft); no storage above elevation 5,101.0 ft for long periods during 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 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 reservoir reported below 5,101.0 ft as follows: Feb. 29, 5,100.37 ft. Storage figures from elevations as observed.

Cooperation.--Elevation record and capacity table furnished by Lake Irrigation District.

Capacity table (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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	-	-	-	-	8,570	17,100	19,100	12,210	3,610
2	-	-	-	-	-	-	-	-	17,100	19,090	11,850	3,410
3	-	-	-	-	-	-	-	-	16,860	19,040	11,540	-
4	-	-	-	-	-	-	-	-	16,850	18,990	11,160	-
5	-	-	-	-	-	-	-	-	16,890	18,940	10,820	-
6	-	-	-	-	-	-	-	-	16,890	18,910	10,470	-
7	-	-	-	-	-	-	-	9,930	16,890	18,850	10,160	-
8	-	-	-	-	-	-	-	-	16,850	18,750	9,810	-
9	-	-	-	-	-	-	-	-	17,320	18,650	9,490	-
10	-	-	-	-	-	-	-	11,120	17,730	18,560	9,160	-
11	162	-	-	-	-	-	-	11,520	17,680	18,460	8,860	-
12	-	-	-	-	-	-	-	-	17,730	18,350	8,530	-
13	-	-	-	-	-	-	569	11,570	18,360	18,140	8,220	-
14	-	-	-	-	-	-	-	-	18,590	17,980	7,880	-
15	-	-	-	-	-	-	-	-	18,940	17,740	7,580	-
16	-	-	-	346	-	-	1,500	11,420	19,100	17,520	7,270	-
17	-	-	-	-	-	-	-	11,840	18,910	17,240	7,010	1,600
18	-	-	-	-	-	-	-	-	18,970	16,940	6,750	-
19	-	-	-	-	-	-	-	13,540	19,140	16,630	6,460	-
20	-	-	-	-	-	-	-	14,620	19,270	16,360	6,190	-
21	-	274	-	-	-	-	-	15,540	19,100	16,070	5,940	-
22	-	-	-	-	-	-	-	16,320	18,970	15,740	5,660	-
23	-	-	-	-	-	-	-	16,690	19,010	15,390	5,390	-
24	-	-	-	-	-	-	-	16,940	19,020	15,080	5,160	-
25	-	-	-	-	-	-	-	17,140	19,140	14,770	4,920	-
26	-	-	-	-	-	-	-	16,920	19,170	14,400	4,720	-
27	-	-	-	-	-	-	7,730	17,100	19,230	14,030	4,550	-
28	-	-	-	-	-	-	-	17,100	19,310	13,690	4,400	-
29	-	-	-	-	-	-	-	17,100	19,300	13,280	4,210	-
30	-	-	-	-	-	-	as,500	17,070	19,140	12,930	4,010	-
31	-	-	-	-	-	-	-	17,030	-	12,560	3,800	-
(+)	-	-	-	-	-	-	-	5,117.06	5,118.36	5,114.16	5,107.20	-
(*)	-	-	-	-	-	-	-	+8,530	+2,110	-6,580	-8,760	-

+ Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

a Contents estimated on basis of records for Lake Fork Payette River above Jumbo Creek and Lake Fork Payette River below Lake Irrigation District Canal.



## Lake Irrigation District Canal near McCall, Idaho

Location.--Lat 44°54', long 116°03', in SW $\frac{1}{4}$  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 1956 (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.--1926-56: 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 below 10 cfs, which are poor. No diversion between headgate and station. Canal diverts from right bank of Lake Fork Payette River in SW $\frac{1}{4}$  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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	1	1					0	124	180	137	76
2	20	0	1					0	126	182	137	76
3	20	1	1					0	128	184	135	76
4	19	1	1					0	131	181	135	72
5	19	1	1					0	136	*178	135	69
6	18	1	1					0	139	179	133	69
7	18	1	1					0	142	179	132	69
8	17	1	1					0	144	180	130	66
9	17	1	1					0	152	180	129	65
10	16	1	1					0	159	180	127	47
11	*15	1	1					*0	160	182	127	17
12	6	1	1					0	164	182	127	0
13	1	1	1				(*)	0	170	179	127	0
14	1	1	1					0	175	178	126	0
15	1	1	1					0	180	175	*118	0
16	1	1	1	(*)				0	177	174	108	0
17	1	1	1					13	173	171	103	*1
18	1	1	1					22	168	164	98	*0
19	1	1	1					28	166	162	97	0
20	1	1	1					34	166	160	97	0
21	1	**1	1					36	166	160	97	0
22	1	1	1					37	166	160	95	0
23	1	1	1					46	169	160	95	0
24	1	1	1					59	167	157	93	0
25	1	1	1					67	166	156	90	0
26	1	1	1					76	166	156	89	0
27	1	1	1					86	166	153	89	0
28	1	1	1					102	169	153	86	0
29	1	1	1			(*)		*108	173	149	83	0
30	1	1	1			----		113	176	147	81	0
31	1	-----	1			-----	-----	120	-----	141	77	-----
Total	225	29	31	0	0	0	0	947	4,764	5,222	3,433	703
Mean	7.3	1.0	1.0	0	0	0	0	30.5	159	168	111	23.4
Ac-ft	446	58	61	0	0	0	0	1,880	9,450	10,360	6,810	1,390
Calendar year 1955: Max	191			Min 0			Mean 40.0	Ac-ft 28,940				
Water year 1955-56: Max	184			Min 0			Mean 42.0	Ac-ft 30,460				

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.

Note.--No gage-height record Oct. 2-10, Oct. 12 to May 16, Sept. 12-30; discharge estimated on basis of 8 discharge measurements or field estimates, reported gate changes, records for Lake Fork Payette River below Lake Irrigation District Canal, and inflow-outflow study of Lake Fork Reservoir.

Lake Fork Payette River below Lake Irrigation District Canal, near McCall, Idaho

Location.--Lat 44°54', long 116°03', in SW<sup>1</sup>/<sub>4</sub> 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 1956.

Gage.--Water-stage recorder. Altitude of gage is 5,080 ft (from topographic map).

Average discharge.--16 years, 131 cfs (94,840 acre-ft per year).

Extremes.--Maximum discharge during year, 1,430 cfs May 25 (gage height, 6.28 ft); minimum, 9.4 cfs Nov. 2 (gage height, 2.29 ft).

1940-56: 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 below 50 cfs, which are good. Flow regulated by Lake Fork Reservoir (see p. 176). Lake Irrigation District Canal diverts above station for irrigation of about 6,800 acres.

Revisions (water years).--WSP 963: 1941.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.3	9.1	4.0	275
2.4	12	4.5	480
2.6	23	5.0	720
2.8	41	5.5	975
3.0	67	6.3	1,440
3.5	152		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	28	85	184	b65	40	74	248	1,310	113	67	51
2	22	9.4	80	178	b64	41	74	254	1,210	100	67	49
3	22	47	78	171	63	40	73	257	1,010	88	66	49
4	21	80	73	162	60	40	72	260	810	80	66	51
5	21	78	70	156	59	b40	72	260	635	*73	63	51
6	20	72	68	150	b58	b39	72	263	448	67	63	46
7	20	64	67	142	56	b38	72	272	352	68	63	39
8	19	59	66	135	b55	38	72	292	374	70	63	31
9	19	54	66	128	b54	b38	72	322	530	68	63	25
10	19	57	63	122	54	b37	74	342	760	64	61	23
11	*21	64	61	117	53	b37	79	*374	700	61	60	22
12	29	64	61	113	49	b37	84	390	380	70	57	23
13	34	60	63	110	48	37	*103	385	332	68	57	23
14	35	57	59	105	48	b37	126	374	405	64	57	23
15	35	45	57	103	b48	b36	148	370	425	63	*54	22
16	35	22	57	*103	b47	b35	158	378	580	67	56	22
17	35	33	59	101	b47	34	154	412	330	76	56	21
18	35	64	59	98	47	b34	160	512	260	80	56	*21
19	35	64	63	95	46	b35	169	640	306	74	54	21
20	34	82	71	93	47	35	182	815	430	79	51	21
21	34	*100	90	92	46	36	198	942	382	78	52	21
22	34	110	136	88	43	37	206	1,120	263	74	53	21
23	34	110	205	85	43	39	220	1,240	235	72	53	21
24	33	106	218	84	b43	43	225	1,390	225	59	52	21
25	32	103	220	b80	b42	53	230	1,370	220	70	51	21
26	32	100	221	b76	b42	61	232	1,280	215	84	51	21
27	32	96	220	b41	67	67	238	1,250	222	84	52	21
28	32	93	216	b70	40	70	242	1,280	260	84	54	21
29	32	90	210	68	*41	72	245	*1,330	266	78	49	21
30	32	87	198	b67	-----	73	245	1,310	181	74	48	21
31	31	-----	191	b68	-----	74	-----	1,290	-----	68	51	-----
Total	892	2,098.4	3,451	3,415	1,449	1,373	4,371	21,223	14,056	2,318	1,766	844
Mean	28.8	69.9	111	110	50.0	44.3	146	685	469	74.8	57.0	28.1
Ac-ft	1,770	4,160	6,840	6,770	2,870	2,720	8,670	42,100	27,680	4,600	3,500	1,670
Calendar year 1955: Max 1,070 Min 2.3 Mean 93.0 Ac-ft 67,300												
Water year 1955-56: Max 1,390 Min 9.4 Mean 156 Ac-ft 113,600												

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## Cascade Reservoir at Cascade, Idaho

Location.--Lat 44°31'30", long 116°03'05", in NE<sup>1</sup>/<sub>4</sub> 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 1956.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (preliminary, unadjusted levels of U. S. Coast and Geodetic Survey).

Extremes.--Maximum contents observed during year, 565,400 acre-ft June 28-30, July 1, 6, 7 (elevation, 4,822.50 ft.); minimum, 160,000 acre-ft Oct. 14 (elevation, 4,799.58 ft). 1948-56: Maximum contents observed, that of June 28-30, July 1, 6, 7, 1956; no contents at times during March and 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 herein show 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 (elevation, in feet, and contents, in acre-feet)

4,799.0	140,900	4,812.0	348,600
4,800.0	165,200	4,816.0	424,600
4,802.0	191,000	4,820.0	508,500
4,804.0	218,900	4,824.0	601,400
4,808.0	280,100		

Contents, in acre-feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	181,800	163,100	188,700	259,400	303,600	315,400	259,700	262,800	461,200	565,400	517,400	406,700
2	179,000	163,100	189,700	261,700	304,300	314,900	258,100	262,300	476,000	564,500	513,600	405,700
3	176,300	163,000	189,900	264,100	305,300	314,400	256,700	262,300	488,900	563,300	509,800	404,900
4	173,900	163,100	190,200	266,400	306,600	313,800	255,300	261,900	501,900	563,800	506,100	404,100
5	171,500	163,300	190,500	268,800	306,300	313,200	253,800	263,100	510,700	564,900	502,300	403,100
6	170,200	163,400	191,000	269,600	307,000	312,500	252,200	263,900	517,400	565,400	499,600	399,200
7	168,700	163,700	191,300	271,200	307,700	311,800	250,700	264,700	518,500	565,400	494,700	397,700
8	166,400	164,100	191,500	272,800	308,500	310,200	249,200	265,500	517,400	564,700	491,200	396,700
9	164,600	164,400	191,500	274,400	309,000	308,500	247,600	266,500	516,300	564,700	487,100	395,300
10	162,700	164,800	191,800	276,200	309,600	306,300	247,600	267,100	515,600	564,700	482,800	395,000
11	162,100	165,200	192,500	278,600	309,700	305,800	247,300	270,200	515,600	564,700	478,500	394,000
12	161,300	165,600	193,700	278,400	310,100	301,100	247,800	271,400	520,000	564,900	473,900	392,900
13	160,200	165,800	194,500	280,100	310,600	298,600	247,600	272,600	523,000	564,500	468,800	391,300
14	160,000	166,100	195,000	281,700	311,100	296,000	249,400	273,000	527,500	564,000	464,100	389,800
15	161,200	166,200	195,700	285,000	311,600	293,200	248,400	273,600	533,600	563,500	459,100	387,900
16	162,200	166,200	196,400	286,600	311,800	290,100	249,900	273,600	542,200	562,600	454,200	385,900
17	163,100	166,400	196,400	289,100	312,000	287,100	253,000	274,600	548,000	561,000	450,100	384,200
18	163,700	166,700	196,100	290,700	312,100	284,100	255,300	275,500	552,100	559,100	446,800	383,100
19	163,700	169,600	196,100	292,400	312,300	280,900	255,000	281,500	556,500	556,800	443,600	381,800
20	165,000	173,400	197,700	294,000	312,600	277,500	255,600	290,600	560,700	554,500	440,300	379,900
21	165,200	176,600	203,200	295,700	313,000	274,400	255,300	301,400	561,700	551,900	437,100	378,000
22	165,000	177,900	218,900	296,600	313,500	272,800	255,800	312,500	561,900	549,600	433,900	376,100
23	164,700	178,400	232,000	296,200	314,000	273,600	256,600	325,600	561,900	546,300	430,600	374,200
24	164,400	179,800	236,500	299,900	314,500	271,500	258,400	339,700	561,200	545,900	427,400	372,500
25	164,200	181,100	241,000	300,700	315,000	269,900	259,400	354,900	561,400	540,600	424,500	371,000
26	164,000	183,100	244,000	301,600	315,600	268,700	260,800	368,600	562,600	537,700	422,500	369,600
27	163,700	184,400	248,600	302,100	315,900	267,500	262,800	397,500	563,900	534,300	420,300	368,100
28	163,400	185,700	253,200	302,100	315,900	266,000	262,800	402,900	565,400	530,900	417,700	366,200
29	163,200	186,600	255,500	302,400	315,900	263,900	262,800	418,700	565,400	527,500	414,700	363,800
30	163,000	187,700	257,000	302,800	-----	262,300	262,800	432,600	565,400	524,900	411,800	360,500
31	163,000	-----	257,800	302,800	-----	260,900	-----	446,800	-----	521,200	408,800	-----
(+)	4,799.52	4,801.78	4,806.63	4,809.39	4,810.13	4,806.77	4,806.32	4,822.50	4,820.44	4,815.12	4,812.48	
(#)	-19,400	+25,100	+70,200	+44,800	+12,600	-55,200	+2,300	+194,700	+107,900	-47,100	-111,000	-50,100

Calendar year 1955..... # +120,600

Water year 1955-56..... # +174,800

+ Elevation, in feet, at end of month.

# Change in contents, in acre-feet.

Note.--Daily contents as given are computed from once-daily staff-gage readings made about 7 a.m. Oct. 1-20, about 5 a.m. Oct. 21 to Apr. 8, and about 6 a.m. Apr. 9 to Sept. 30.

## North Fork Payette River at Cascade, Idaho

Location.--Lat 44°31', long 116°02', in NE¼ sec. 36 T. 14 N., R. 3 E., on right bank at Cascade, 285 ft downstream from Boise Payette Lumber Company (formerly Halleck and Howard) milldam, half a mile upstream from Beaver Creek, and 1½ miles downstream from Cascade Dam.

Drainage area.--626 sq mi.

Records available.--May 1941 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 4,730 ft (from topographic map of Bureau of Reclamation). Prior to Jan. 28, 1947, staff gages at present or nearby sites at present datum.

Average discharge.--15 years, 1,029 cfs (745,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,990 cfs June 8 (gage height, 4.48 ft); minimum, 23 cfs June 2 (gage height, 0.23 ft).  
1941-56: Maximum discharge recorded, 7,320 cfs May 10, 1947 (gage height, 6.29 ft); minimum, 2 cfs or less in January 1948 when stage was below intake.

Remarks.--Records excellent except those between 1,000 to 2,500 cfs, which are good. Flow regulated by Cascade Reservoir (see preceding page), Payette Lake (see p. 173), Lake Fork Reservoir (see p. 176), and occasionally by milldam at Cascade. Diversions above station for irrigation of about 37,000 acres.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 14 to May 18, June 4-13, July 16-25)

Oct. 1 to Mar. 22

Mar. 23 to Sept. 30

0.8	172	2.0	1,040	0.8	154	2.5	1,910
1.0	264	2.5	1,720	1.0	237	3.0	2,780
1.3	436	3.0	2,640	1.3	409	4.0	4,060
1.6	660			1.6	553	5.0	5,440
				2.0	1,110		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,420	417	206	417	220	1,040	1,950	2,720	233	2,000	1,950	746
2	1,420	424	198	417	211	1,040	1,950	2,720	298	1,380	1,910	475
3	1,310	490	198	315	206	1,040	1,970	2,720	237	610	1,890	446
4	1,210	519	198	215	211	1,040	1,990	2,740	922	*446	1,870	547
5	1,230	424	198	215	211	1,040	1,990	2,740	2,530	590	1,870	1,140
6	1,230	424	331	220	*211	1,040	2,020	2,720	3,490	827	1,870	1,450
7	1,230	360	411	215	211	1,040	2,020	2,720	4,550	943	1,870	522
8	1,230	278	311	215	211	1,170	2,020	2,720	4,550	773	2,000	539
9	1,220	220	198	220	230	1,400	2,060	2,720	4,120	635	2,390	490
10	1,220	194	198	220	230	1,480	2,060	2,720	4,120	644	2,510	482
11	1,200	189	198	220	230	1,480	2,430	2,720	3,180	572	2,480	608
12	*1,170	189	202	220	230	1,480	2,580	2,720	2,350	506	2,540	712
13	1,140	189	202	220	230	*1,480	*2,580	*2,720	1,930	873	*2,580	816
14	879	202	198	220	312	1,480	1,520	2,740	1,100	783	2,560	907
15	635	266	198	235	417	1,640	2,590	2,720	1,080	837	2,560	943
16	635	194	539	249	511	1,890	2,180	2,720	1,080	1,040	2,340	931
17	627	189	1,170	235	603	1,930	1,840	2,740	1,080	1,110	1,860	931
18	687	194	1,170	235	603	1,930	2,390	1,410	1,040	1,210	1,710	919
19	714	206	1,190	230	603	1,930	2,720	176	1,010	1,320	1,700	919
20	750	202	616	230	511	1,960	2,720	189	1,500	1,320	1,700	*907
21	750	198	246	225	430	1,980	2,710	224	1,820	1,320	1,700	931
22	750	*189	374	230	430	823	2,710	219	1,840	1,420	1,880	943
23	750	194	241	230	430	785	2,560	219	1,480	1,540	1,880	943
24	750	194	178	225	430	2,000	2,260	224	967	1,580	1,660	931
25	750	194	172	225	430	2,020	2,530	228	600	1,710	1,640	943
26	714	198	172	322	430	2,000	2,710	242	482	1,840	1,660	943
27	669	198	202	477	526	1,990	2,720	252	482	1,770	1,660	1,280
28	652	198	*225	484	759	1,970	2,710	233	1,170	1,800	1,890	1,450
29	652	198	220	484	1,010	1,970	2,710	237	1,780	1,820	1,700	1,770
30	652	198	259	484	1,970	1,970	2,720	247	2,000	1,800	1,580	2,100
31	506	-----	411	435	-----	1,970	-----	*237	-----	1,890	1,310	-----
Total	28,752	7,769	10,830	8,784	11,277	48,008	69,920	50,657	52,619	36,709	60,320	27,664
Mean	927	259	349	283	389	1,549	2,331	1,634	1,754	1,184	1,946	922
Ac-ft	57,030	15,410	21,480	17,420	22,370	95,220	138,700	100,500	104,400	72,810	119,600	54,870
Calendar year 1955: Max			2,640		Min 158		Mean 732		Ac-ft 530,100			
Water year 1955-56: Max			4,350		Min 172		Mean 1,129		Ac-ft 819,800			

\* Discharge measurement made on this day.

## North Fork Payette River near Banks, Idaho

Location.--Lat 44°07', long 116°06', in SE $\frac{1}{4}$  sec. 16, T. 9 N., R. 3 E., on right bank 40 ft downstream from highway bridge,  $2\frac{1}{2}$  miles north of Banks, and 3 miles upstream from confluence with South Fork.

Drainage area.--933 sq mi.

Records available.--April 1947 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 3,081.13 ft above mean sea level, unadjusted.

Average discharge.--9 years, 1,370 cfs (991,800 acre-ft per year).

Extremes.--Maximum discharge during year, 5,480 cfs June 8 (gage height, 11.20 ft); minimum, 147 cfs Nov. 15 (gage height, 3.73 ft).

1947-56: 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 no gage-height record, which are good. Flow regulated by Payette Lake (see p. 173), Lake Fork Reservoir (see p. 176), Cascade Reservoir (see p. 179), and occasionally by milldam at Cascade. Many diversions from tributaries above station for irrigation.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 31

Feb. 1 to Sept. 30

3.9	173	6.0	915	4.6	379	8.0	2,200
4.1	216	7.0	1,460	5.0	513	9.0	3,030
4.4	294	8.0	2,120	5.5	710	10.0	4,020
4.8	416	9.0	2,960	6.0	940	11.2	5,480
5.3	596	10.0	4,000	7.0	1,510		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,540	*536	347	755	b510	1,220	2,620	3,600	1,890	2,300	2,050	1,160
2	1,430	478	*335	750	434	1,220	2,520	3,580	1,840	2,130	2,050	714
3	1,480	482	314	711	444	1,240	2,530	3,580	1,630	1,420	2,040	561
4	1,320	608	308	585	454	1,220	2,600	3,710	1,540	803	2,020	584
5	1,330	585	261	536	464	1,200	2,700	3,800	2,900	766	2,020	648
6	1,320	499	228	517	447	1,220	2,620	3,690	3,750	1,020	2,010	1,860
7	1,310	489	419	499	428	1,170	2,690	3,700	4,550	1,220	2,000	820
8	1,310	426	489	496	408	1,220	2,650	3,820	5,310	1,200	2,000	693
9	1,310	347	372	430	b390	1,450	2,800	3,750	4,930	925	2,280	627
10	1,330	359	323	478	b420	1,680	2,990	3,770	4,810	882	2,500	580
11	1,340	335	332	482	441	1,680	3,180	3,950	4,650	863	2,540	627
12	1,280	263	372	454	441	1,670	3,830	3,790	2,950	744	2,540	736
13	1,270	238	378	460	441	1,680	3,840	3,640	2,800	744	2,660	853
14	1,220	238	314	447	*421	1,660	3,150	3,590	1,980	985	2,620	901
15	805	b175	280	544	496	1,680	3,610	3,600	1,950	1,000	2,590	1,020
16	703	b290	350	936	b450	1,960	4,040	3,630	2,060	1,120	2,580	1,020
17	687	286	875	883	694	2,100	3,160	3,720	1,830	1,340	2,130	1,000
18	711	277	1,360	735	839	2,120	3,100	3,650	1,710	1,350	1,750	995
19	745	294	1,400	659	794	2,130	3,870	1,960	1,610	1,510	1,720	985
20	800	554	1,540	619	753	*2,130	3,960	1,960	1,750	1,530	1,700	980
21	810	631	1,070	588	685	a2,200	4,050	2,050	2,480	1,530	1,710	970
22	810	478	3,400	569	639	a2,000	4,090	2,070	2,470	1,530	1,700	995
23	805	368	3,050	577	680	a600	4,110	2,110	2,410	1,690	1,680	1,000
24	805	328	*1,650	543	631	a1,900	3,690	2,170	2,020	1,690	1,680	995
25	805	350	1,190	450	584	a2,800	3,590	2,120	*1,470	*1,780	1,660	1,000
26	825	347	945	485	639	a2,900	*3,870	2,170	945	1,910	1,660	1,000
27	745	390	1,000	604	619	a2,700	4,000	2,600	916	1,910	1,640	1,020
28	715	394	840	655	776	a2,600	3,880	2,230	980	1,910	1,770	1,500
29	703	368	612	707	980	2,580	3,770	2,060	1,910	1,960	1,810	1,500
30	745	356	581	707	-----	2,680	3,670	2,050	2,290	1,940	*1,620	2,070
31	720	-----	643	635	-----	2,700	-----	*1,960	-----	1,940	1,550	-----
Total	31,789	11,767	25,578	18,502	16,382	57,310	101,180	94,080	74,331	43,702	62,280	29,414
Mean	1,025	392	825	597	565	1,849	3,373	3,035	2,478	1,410	2,009	980
Ac-ft	63,050	23,340	50,730	36,700	32,490	113,700	200,700	186,600	147,400	86,680	123,500	58,340
Calendar year 1955:	Max	3,400	Min	175	Mean	960	Ac-ft	695,300				
Water year 1955-56:	Max	5,310	Min	175	Mean	1,547	Ac-ft	1,123,000				

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for station at Cascade and Payette River near Horseshoe Bend.

b Stage-discharge relation affected by ice.

## Payette River near Horseshoe Bend, Idaho

Location.--Lat 43°56'30", long 116°12'00", in SE<sup>1</sup>/<sub>4</sub> 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.

Records available.--February 1906 to September 1916, July 1919 to September 1956. 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  $1\frac{1}{2}$  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.--47 years (1906-16, 1919-56), 3,195 cfs (2,313,000 acre-ft per year).

Extremes.--Maximum discharge during year, 19,200 cfs Dec. 23 (gage height, 14.05 ft); minimum daily, 680 cfs Nov. 16.

1906-16, 1919-56: 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, which are good. Flow regulated by Deadwood Reservoir (see p. 169), Payette Lake (see p. 173), Lake Fork Reservoir (see p. 176) and Cascade Reservoir (see p. 179). Diversions from tributaries above station for irrigation of about 50,000 acres.

Cooperation.--Water-stage recorder inspected by employees of Idaho Power Company.

Revisions.--WSP 533: Drainage area.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 22-24, Aug. 26 to Sept. 2)

Oct. 1 to Feb. 15

Feb. 16 to Sept. 30

2.4	680	7.0	3,910	8.0	5,230
3.0	860	8.0	5,230	10.0	8,740
4.0	1,330	10.0	8,770	12.0	13,600
5.0	1,950	13.0	16,900	12.6	15,200
6.0	2,800				

Note.--Same as preceding table below 8.0 ft.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,360	*1,210	1,210	2,630	*1,400	2,080	5,240	9,380	13,400	6,460	3,630	3,540
2	2,210	1,050	1,140	2,430	1,400	2,190	5,010	9,310	13,000	6,140	3,600	3,530
3	2,190	1,040	1,030	2,280	1,400	2,270	4,860	9,250	12,200	5,290	3,630	3,330
4	2,330	1,200	1,020	2,090	1,600	2,250	5,020	9,690	12,000	4,450	3,650	3,320
5	2,300	1,300	850	*2,000	1,700	2,180	5,240	10,200	12,800	4,220	3,590	3,370
6	2,300	1,140	808	1,900	1,600	2,110	5,150	10,000	12,500	4,380	3,650	3,160
7	2,270	1,080	1,140	1,800	1,500	2,020	5,230	9,880	12,600	4,540	3,660	3,430
8	2,270	1,000	1,200	1,780	1,400	2,080	5,100	9,760	14,000	4,490	3,610	3,360
9	2,270	956	1,080	1,610	1,350	2,350	5,310	9,670	13,700	4,150	3,830	3,290
10	2,230	1,000	1,020	1,640	1,400	2,520	5,960	10,000	13,600	4,030	3,870	3,220
11	2,460	1,300	1,000	1,670	1,450	2,450	6,880	10,300	13,900	3,980	3,650	3,220
12	2,320	1,000	1,100	1,580	1,500	*2,400	8,610	9,580	11,900	3,800	a3,600	3,330
13	2,280	804	1,280	1,620	1,500	2,550	8,930	8,870	11,300	3,530	a3,700	3,230
14	2,240	839	928	1,590	1,450	2,470	9,080	8,420	10,200	3,630	a3,650	3,220
15	1,690	754	751	2,140	*1,400	2,460	9,880	8,380	10,000	3,550	a3,600	3,090
16	1,280	*680	1,130	3,110	1,250	2,740	11,300	8,820	9,690	3,510	a3,600	2,980
17	1,250	850	1,560	2,760	1,500	3,050	9,910	9,740	8,490	3,590	a3,550	3,000
18	1,240	1,000	2,290	2,370	1,700	3,210	9,720	11,000	7,690	3,520	3,670	2,980
19	1,230	1,100	2,300	2,210	1,700	3,480	11,200	10,700	7,450	3,600	3,630	3,010
20	1,360	2,120	3,480	2,110	1,650	3,720	*12,000	11,900	8,070	3,600	3,590	3,000
21	1,370	2,280	3,350	2,030	1,600	3,890	12,700	12,700	8,640	3,560	3,660	2,990
22	1,380	1,790	11,400	2,030	1,600	4,020	13,300	13,400	8,110	3,510	3,600	3,000
23	1,380	1,380	*15,600	2,190	1,600	3,230	13,200	14,000	7,770	3,550	3,620	2,940
24	1,380	1,220	9,870	2,000	1,590	5,230	12,100	15,200	7,220	3,510	3,630	2,930
25	1,350	1,190	6,040	1,710	1,530	6,740	11,400	16,000	*6,570	3,550	3,630	2,900
26	1,400	1,180	4,620	1,750	1,540	6,950	11,400	*14,000	5,920	*3,610	3,630	2,740
27	1,400	1,370	4,190	1,920	1,520	6,240	11,400	14,900	5,780	3,610	3,570	2,730
28	1,310	*1,350	3,530	1,840	1,630	5,690	11,100	13,900	5,750	3,500	3,680	2,870
29	1,280	1,240	2,800	1,660	1,620	*5,430	10,400	13,000	6,660	3,530	3,690	2,910
30	1,370	1,200	2,470	1,900	1,600	5,430	9,760	12,700	6,810	3,540	*3,480	2,760
31	1,530	-----	2,550	1,600	-----	5,430	-----	15,000	-----	3,550	3,440	-----
Total	55,250	35,593	92,537	62,120	44,280	108,820	266,490	346,650	297,520	123,480	112,590	93,380
Mean	1,782	1,186	2,985	2,004	1,527	3,510	8,483	11,180	9,917	3,983	3,632	3,113
Ac-ft	109,600	70,600	183,500	123,200	87,830	215,800	528,600	687,600	590,100	244,900	223,300	185,200
Calendar year 1955: Max	15,600				Min 680	Mean 2,634	Ac-ft 1,907,000					
Water year 1955-56: Max	15,600				Min 680	Mean 4,477	Ac-ft 3,250,000					

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for South Fork Payette River and North Fork Payette River near Banks.

Note.--Stage-discharge relation affected by ice Nov. 16-19, Feb. 1-23.

## 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 1956.

Gage.--Water-stage recorder. Altitude of gage is 2,400 ft (from topographic map).

Average discharge.--31 years, 2,991 cfs (2,165,000 acre-ft per year).

Extremes.--Maximum discharge during year, 22,700 cfs Dec. 22 (gage height, 12.98 ft); minimum, 4 cfs Nov. 25-29 (gage height, -1.40 ft), when gates in dam were closed; minimum daily, 4 cfs, Nov. 26-28.  
1925-56: Maximum discharge, 22,800 cfs May 1, 1938 (gage height, 12.90 ft); minimum daily, 3 cfs Jan. 10-14, Feb. 2, 22-25, 1938, when gates in dam were closed.

Remarks.--Records excellent except those below 100 cfs, which are fair. Diversions above station for irrigation of about 135,000 acres. Flow regulated by diversion at and operation of gates in Black Canyon Dam and by Cascade Reservoir (see p. 179), Deadwood Reservoir (see p. 169), Payette Lake (see p. 173), and Lake Fork Reservoir (see p. 176).

Cooperation.--Gage-height record collected in cooperation with Bureau of Reclamation.

Revisions (water years).--WSP 1153: 1946(m), 1948(m).

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 20				Mar. 21 to Sept. 30			
-1.4	4	2.5	990	3.0	1,540	7.0	7,710
0.0	50	3.0	1,540	4.0	2,770	9.0	12,100
.5	95	5.0	4,150	5.0	4,150	11.0	17,200
1.0	175	7.0	7,500	6.0	5,900		
1.5	310	10.0	14,250				
2.0	550	13.0	22,800				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,880	1,650	1,710	3,100	1,820	2,420	5,910	8,590	13,200	4,900	1,860	1,970
2	1,850	1,530	1,700	2,350	*1,830	2,690	5,510	8,450	12,800	4,610	1,890	2,080
3	1,860	1,280	1,640	2,650	1,740	2,940	5,390	8,340	11,900	3,750	1,900	1,840
4	1,740	1,390	1,530	2,520	1,670	2,860	5,410	8,820	11,500	2,660	1,900	1,820
5	1,680	1,640	1,580	2,390	1,920	2,770	5,370	9,620	12,000	2,550	1,860	1,910
6	1,800	1,490	1,200	2,270	2,040	2,580	5,200	9,310	12,000	2,680	1,900	1,730
7	1,800	1,380	1,450	2,130	1,910	2,420	5,270	9,340	11,800	2,820	1,910	1,960
8	1,840	1,390	1,520	2,130	1,790	2,460	5,100	9,360	13,100	2,810	1,900	1,910
9	1,770	1,260	1,420	1,940	1,840	2,700	5,120	9,230	13,200	2,480	2,040	1,880
10	1,680	1,240	1,460	1,680	1,800	2,860	5,850	9,510	12,800	2,310	2,180	1,900
11	1,820	1,610	1,330	1,900	1,840	2,810	6,810	10,100	13,100	*2,260	2,020	1,790
12	1,860	1,460	1,280	1,830	1,960	*2,770	8,470	9,510	11,300	2,150	1,850	1,900
13	1,800	1,320	1,650	1,910	1,940	2,930	8,870	8,640	10,300	1,850	1,940	1,910
14	1,880	1,440	1,530	1,970	1,780	2,870	9,340	8,070	9,290	1,900	1,940	1,910
15	1,840	1,420	1,060	3,430	1,640	2,800	9,560	7,870	8,870	1,850	1,900	1,890
16	1,660	920	1,010	5,140	1,450	3,030	11,300	8,130	8,990	1,800	*1,910	1,780
17	1,590	940	1,120	4,020	1,310	3,330	10,300	8,970	7,470	1,840	1,790	1,790
18	*1,590	1,270	1,400	3,350	1,750	3,620	9,600	*10,300	6,580	1,790	1,940	*1,800
19	1,590	1,800	1,550	3,060	2,020	4,000	11,000	10,200	6,290	1,860	1,910	1,830
20	1,550	2,070	*2,560	2,870	1,950	4,270	*11,600	11,400	*6,710	1,890	1,880	1,860
21	1,610	2,130	4,010	2,700	1,940	4,470	12,100	12,200	7,370	1,880	1,900	1,840
22	1,550	2,180	*12,800	2,850	1,940	4,670	12,600	13,000	6,790	1,820	1,860	1,900
23	1,800	2,150	*20,600	3,890	1,680	4,200	12,800	13,500	6,410	1,830	1,840	1,830
24	1,560	2,070	12,800	2,960	1,710	6,020	11,800	14,500	5,960	1,890	1,880	1,840
25	1,560	*725	7,560	2,380	1,790	7,990	11,000	*14,700	5,250	1,840	1,860	1,910
26	1,610	a4	5,560	2,260	1,860	8,280	10,900	13,400	4,480	1,890	1,900	1,880
27	1,670	a4	5,250	2,390	1,850	7,330	11,000	14,500	4,240	1,940	1,860	1,800
28	1,610	4	4,300	2,180	1,890	6,580	10,700	13,700	4,200	1,800	2,070	1,840
29	1,610	a67	3,580	2,180	2,080	*6,120	9,840	12,800	4,930	1,830	2,240	2,060
30	1,640	1,190	2,840	2,220	-----	6,120	11,400	12,400	5,250	1,830	1,920	1,910
31	1,920	-----	2,850	1,910	-----	6,120	-----	12,700	-----	1,860	1,830	-----
Total	52,900	59,024	111,250	81,320	52,320	127,050	265,120	331,160	268,080	71,370	59,570	56,210
Mean	1,706	1,301	3,589	2,623	1,804	4,098	8,837	10,680	8,936	2,302	1,922	1,874
Ac-ft	104,900	77,400	220,700	161,300	103,800	252,000	525,900	656,800	531,700	141,600	118,200	111,500

Calendar year 1955: Max 20,600 Min 4 Mean 2,245 Ac-ft 1,625,000  
Water year 1955-56: Max 20,600 Min 4 Mean 4,140 Ac-ft 3,006,000

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of 1 discharge measurement and records for station near Payette.

## PAYETTE RIVER BASIN

Payette River near Payette, Idaho

Location.--Lat 44°02'30", long 116°55'30", in SW $\frac{1}{4}$  sec. 10, T. 8 N., R. 5 W., on right bank at highway bridge,  $1\frac{1}{2}$  miles south of Payette.

Drainage area.--3,240 sq mi, approximately.

Records available.--August 1935 to September 1956. Records for January 1895 to July 1897 (published as "at Payette" in 18th and 19th Annual Reports), found to be unreliable.

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.--21 years, 3,144 cfs (2,276,000 acre-ft per year).

Extremes.--Maximum discharge during year, 21,900 cfs Dec. 23 (gage height, 12.75 ft); minimum, 326 cfs Nov. 30 (gage height, 4.12 ft); minimum daily, 335 cfs Nov. 29. 1935-56: Maximum discharge, 23,400 cfs May 2, 1938 (gage height, 11.90 ft); minimum, 180 cfs Oct. 13, 20, 1935 (gage height, 2.04 ft); minimum daily, 220 cfs Oct. 5, 1935.

Remarks.--Records excellent except those for periods of ice effect or indefinite stage-discharge relation, which are good. Diversions above station for irrigation of about 188,000 acres. Flow regulated by Black Canyon Dam and reservoirs on tributary streams.

Revisions (water years).--See Records available. WSP 1397: 1949(m), 1952, 1953-54(m).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,750	2,090	1,990	3,360	2,200	2,590	6,180	8,170	12,700	4,320	1,530	1,860
2	1,940	2,030	2,090	3,280	*2,210	2,820	5,820	7,870	12,600	3,960	1,590	1,900
3	1,730	1,790	2,010	3,030	b1,950	3,240	5,590	7,780	11,800	3,520	1,600	1,860
4	1,690	1,710	1,900	2,860	b1,900	3,190	5,600	8,110	11,200	2,820	1,640	1,740
5	1,770	1,940	1,860	2,750	1,990	3,110	5,600	9,220	11,300	2,270	1,600	1,750
6	1,800	1,920	1,630	2,690	2,290	2,940	5,500	9,160	11,800	2,100	1,590	1,780
7	1,820	1,790	1,660	2,490	2,200	2,730	5,450	9,190	11,500	2,180	1,620	1,650
8	1,820	1,710	1,880	2,410	2,050	2,670	5,480	9,280	12,000	2,250	1,600	1,900
9	1,820	1,640	1,840	2,290	1,970	*2,940	5,220	9,190	12,700	2,140	1,570	1,830
10	1,770	1,580	1,820	2,160	1,840	3,070	5,520	9,250	12,200	1,750	1,690	1,780
11	1,820	1,790	1,770	2,250	2,050	3,050	6,320	9,790	12,400	*1,740	1,640	1,750
12	1,940	1,940	1,680	2,140	2,180	2,940	7,780	9,820	11,600	1,680	1,570	1,790
13	1,970	1,610	1,920	2,080	2,390	2,980	8,530	8,860	9,910	1,500	1,560	1,920
14	1,970	1,750	2,010	2,310	2,140	3,110	8,920	8,080	9,220	1,340	1,600	1,880
15	2,050	b1,750	1,680	3,330	1,990	3,000	8,650	7,690	8,290	1,430	1,590	1,890
16	1,970	1,540	1,350	6,100	b1,900	3,070	10,200	7,630	8,920	1,370	*1,600	1,780
17	1,800	1,020	1,390	4,850	b1,700	3,430	*10,500	8,110	7,600	1,400	1,570	1,710
18	1,800	1,410	1,610	3,720	1,900	3,690	9,160	9,160	6,500	1,450	1,620	*1,740
19	1,790	1,900	1,900	3,360	2,290	3,960	9,670	9,880	6,080	1,360	1,590	1,720
20	1,840	2,270	*3,370	3,130	2,230	4,270	10,700	10,300	*6,180	1,410	1,590	1,790
21	1,970	2,290	3,520	3,000	2,250	4,510	11,200	*11,300	6,910	1,420	1,570	1,810
22	1,940	2,330	8,040	3,050	*2,490	4,720	11,600	11,900	6,520	1,370	1,600	1,820
23	1,940	2,350	*19,400	5,050	2,120	4,650	12,000	12,600	6,150	1,360	1,650	1,960
24	1,970	2,290	17,000	3,540	2,100	4,880	11,500	13,200	5,820	1,430	1,680	1,860
25	2,010	2,060	9,590	2,860	2,060	7,600	10,600	14,600	5,180	1,420	1,720	1,860
26	2,010	498	6,620	2,470	2,200	8,290	10,200	13,300	4,340	1,420	1,780	1,820
27	2,010	400	5,880	2,610	2,210	7,900	10,400	13,800	3,760	1,520	1,830	1,720
28	1,990	*356	4,950	2,450	2,180	6,940	10,300	14,400	3,540	1,530	1,860	1,690
29	1,950	335	4,100	2,290	2,330	6,400	9,670	13,000	3,850	1,470	2,070	1,960
30	1,990	595	*3,560	2,470	-----	6,200	8,920	12,400	4,480	1,540	1,940	2,000
31	*2,150	-----	3,150	2,200	-----	6,250	-----	12,300	-----	1,570	1,610	-----
Total	58,680	48,684	122,970	92,380	61,310	131,140	252,770	319,340	257,050	58,060	51,470	54,420
Mean	1,893	1,623	3,967	2,980	2,114	4,230	8,426	10,300	8,568	1,873	1,660	1,814
Ac-ft	116,400	96,560	243,900	183,200	121,600	260,100	501,400	633,400	509,900	115,200	102,100	107,900
Calendar year 1955: Max	19,400				335		Mean 2,292			Ac-ft 1,680,000		
Water year 1955-56: Max	19,400				335		Mean 4,121			Ac-ft 2,992,000		

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--Stage-discharge relation indefinite Aug. 7 to Sept. 3; discharge computed on basis of recorder record, 1 discharge measurement, and records for station near Emmett.



## 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.

Records available.--September 1936 to September 1956.

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.--20 years, 44.1 cfs (31,930 acre-ft per year).

Extremes.--Maximum discharge during year, 1,320 cfs Dec. 22 (gage height, 7.17 ft); minimum, 0.7 cfs Oct. 1 (gage height, 1.09 ft).  
1936-56: Maximum discharge, that of Dec. 22, 1955; minimum, that of Oct. 1, 1955.

Remarks.--Records good except those for periods of shifting control, ice effect or no gage-height record, 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 table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-30, Dec. 22-28, July 18-30)

1.3	6.0	2.2	54	4.0	350
1.4	8.8	2.6	92	5.0	567
1.6	17	3.0	152	6.0	870
1.9	33	3.5	250	7.0	1,250

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	8.0	22	87	b24	20	173	150	36	13	8.5	6.8
2	6.8	6.6	20	75	b25	20	167	135	34	13	9.9	6.8
3	9.9	7.7	18	64	b22	22	*173	125	31	14	8.2	6.8
4	11	13	b15	61	b22	22	190	150	31	12	8.2	6.6
5	17	16	*b15	55	b21	b21	210	190	34	12	8.0	6.6
6	16	11	17	52	20	b20	200	190	30	11	8.0	6.3
7	14	11	b18	48	18	b20	196	200	28	11	8.5	6.6
8	13	8.0	b18	45	b18	21	198	200	23	9.9	9.2	6.3
9	12	8.5	18	37	b19	21	232	200	24	9.2	8.5	6.3
10	17	12	18	40	18	b20	278	200	26	9.2	8.2	6.0
11	23	14	17	37	17	b19	332	210	19	8.8	8.0	6.3
12	18	9.9	18	35	18	b19	390	190	21	8.8	7.7	6.0
13	14	8.5	b17	34	17	20	400	170	18	9.2	7.4	6.3
14	13	b8.0	b16	33	17	b19	417	150	10	8.8	7.4	6.0
15	13	b7.5	b16	32	b17	b19	430	140	27	8.8	7.4	6.0
16	11	b7.5	b16	31	b16	b19	474	130	32	8.5	7.1	6.0
17	8.8	7.7	17	*b32	b18	20	426	120	27	8.5	8.8	6.0
18	9.9	12	18	b33	b17	23	568	120	20	8.0	8.8	6.3
19	9.5	9.2	31	b33	b17	26	371	125	20	8.0	6.6	6.3
20	9.2	26	77	b34	b17	28	377	125	26	8.0	7.4	6.3
21	8.5	38	291	35	18	32	382	115	22	7.7	6.8	6.6
22	8.0	30	*1,040	35	20	44	379	100	20	7.7	6.8	6.6
23	7.4	25	741	34	24	75	375	90	19	8.2	7.1	6.6
24	6.8	22	360	32	23	175	336	80	*20	9.5	*7.1	6.6
25	6.8	20	202	b32	23	278	*288	*63	18	8.8	6.3	6.8
26	11	20	175	b31	*21	302	250	52	17	8.5	9.5	6.6
27	9.5	20	234	b30	20	246	224	65	15	8.5	11	6.8
28	8.2	21	158	b29	20	208	200	55	14	9.5	9.5	*6.8
29	7.7	22	*b110	b27	20	200	180	48	14	9.5	8.2	6.8
30	*8.8	22	b120	b26	-----	194	160	45	13	*8.7	7.7	6.8
31	8.8	-----	107	b25	-----	184	-----	39	-----	8.2	7.1	-----
Total	348.6	452.1	5,960	1,234	563	2,357	8,796	3,972	689	294.5	244.9	193.4
Mean	11.2	15.1	128	39.8	18.4	76.0	293	128	23.0	9.50	7.90	6.45
Ac-ft	691	897	7,850	2,450	1,120	4,680	17,450	7,880	1,370	584	496	384
Calendar year 1955: Max			1,040		Min 3.1	Mean 40.2		Ac-ft 29,120				
Water year 1955-56: Max			1,040		Min 6.0	Mean 63.1		Ac-ft 45,840				

Peak discharge (base, 280 cfs).--Dec. 22 (4 p.m.) 1,320 cfs (7.17 ft); Dec. 27 (1 a.m.) 286 cfs (3.93 ft); Mar. 25 (8 p.m.) 336 cfs (3.91 ft); Apr. 16 (3 p.m.) 513 cfs (4.74 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--Shifting-control method used Oct. 1-30, Dec. 22-28, June 10 to July 30. No gage-height record Jan. 14-16, Apr. 28 to May 24; discharge estimated on basis of recorded range in stage, weather records, and records for nearby stations.

## 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 1956 (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, 26.30 ft June 20; minimum observed, 3.05 ft Oct. 9.  
1924, 1926-56: Maximum gage height observed, 26.90 ft May 14, 1940; no storage at times during 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.--Twenty-four gage readings furnished by Lost Valley Reservoir Co.

Revisions.--WSP 833: Drainage area.

Daily gage height, in feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-						-	-	-	-	-	
2	-						-	-	-	-	-	
3	6.00						-	-	24.90	-	-	
4	5.50						-	-	-	-	-	
5	-						-	-	-	-	22.30	
6	-						-	-	-	-	-	
7	-						-	-	-	-	-	
8	-						-	-	-	25.96	-	
9	3.05						-	-	-	-	21.70	
10	3.15						-	-	25.35	25.96	-	
11	3.35								-	-	-	
12	-						24.00	23.55	-	-	-	
13	-						24.50	-	-	25.94	-	
14	3.08						-	-	-	-	-	
15	3.06						-	-	-	-	-	
16	-						-	-	-	25.32	-	
17	-						-	-	-	25.10	-	
18	-						-	-	-	-	-	
19	-						-	-	-	-	-	
20	-			19.26			-	24.30	26.30	-	-	
21	-						-	-	-	-	-	
22	-	4.10					-	-	-	24.42	-	
23	-						-	-	26.08	-	-	
24	-						-	24.42	-	-	-	
25	-						-	-	-	-	-	
26	-						24.30	-	-	-	-	
27	-						-	-	-	23.68	-	
28	-						-	-	-	-	-	
29	3.41				21.40		23.80	-	-	-	-	
30	-						-	-	-	23.26	-	
31	-									-	-	

Note.--Gage-height readings obtained only on days listed above.

## 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.

Records available.--January 1910 to August 1914, May 1920 to September 1921, May 1924 to November 1929 (fragmentary); March 1930 to September 1956.

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.--26 years (1930-56), 39.0 cfs (28,240 acre-ft per year).

Extremes.--Maximum discharge during year, 392 cfs Apr. 23, 24 (gage height, 3.23 ft); minimum, 0.4 cfs Oct. 25, 26 (gage height, 0.86 ft).  
1910-14, 1920-21, 1924-56: Maximum discharge, 688 cfs May 17, 18, 1921 (gage height, 4.29 ft); practically no flow at times when gates in dam were closed.

Remarks.--Records good except those below 10 cfs, which are fair, and those for periods of no gage-height record, which are poor. No diversion between reservoir and station; practical, 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 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 23-27)

1.1	3.2	2.0	63
1.2	5.4	2.3	112
1.3	8.5	2.6	190
1.5	18	2.9	300
1.7	32	3.2	420

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	87	8.2	5.5	5.5	5.5	5.4	43	178	116	22	59	62
2	82	6.6	5.5	5.5	5.5	5.0	44	172	112	22	59	61
3	76	9.7	5.5	5.5	5.5	5.0	44	169	77	23	59	61
4	82	14	5.5	5.5	5.5	5.2	45	172	30	22	58	59
5	38	19	5.5	5.5	5.5	5.2	50	190	37	21	59	59
6	14	11	5.5	5.5	5.5	5.2	51	208	43	20	62	58
7	9.3	11	5.5	5.5	5.5	5.2	55	214	46	19	62	58
8	9.3	9.7	5.5	5.5	5.5	5.2	58	218	47	19	62	57
9	8.5	10	5.5	5.5	5.5	5.2	61	218	46	19	62	57
10	14	14	5.5	5.5	5.5	5.2	70	218	40	32	62	57
11	14	18	5.5	5.5	5.5	5.2	90	218	27	51	61	57
12	10	10	5.5	5.5	5.5	5.2	*119	188	19	49	61	57
13	9.3	12	5.5	5.5	5.5	5.4	150	166	5.4	51	59	57
14	8.5	8	5.5	5.5	5.5	5.4	270	160	6.6	56	59	56
15	8.2	7	5.5	5.5	5.5	5.4	348	129	12	55	59	56
16	7.9	8	5.5	5.5	5.5	5.4	348	85	19	58	59	56
17	7.6	10	5.5	5.5	5.5	5.7	344	106	23	62	59	47
18	7.3	11	5.5	5.5	5.5	5.7	316	152	25	62	59	38
19	7.6	10	5.5	*5.4	5.5	5.7	308	160	27	62	59	38
20	7.3	20	5.5	5.5	5.5	5.7	324	181	51	61	62	38
21	6.6	40	5.5	5.5	5.5	5.7	348	187	63	61	66	38
22	7.0	30	5.5	5.5	5.5	5.7	376	190	57	61	66	38
23	7.0	12	5.5	5.5	5.5	5.7	388	190	*55	61	66	38
24	5.4	5.5	5.5	5.5	5.5	5.7	380	*190	50	61	66	40
25	6.7	5.5	5.5	5.5	5.5	5.7	356	133	42	61	*64	44
26	12	5.5	5.5	5.5	5.5	6.0	*316	71	21	61	64	44
27	8.9	5.5	5.5	5.5	5.5	10	272	99	23	61	63	*44
28	8.5	5.5	5.5	5.5	5.5	19	242	114	23	61	63	44
29	*8.2	5.5	5.5	5.5	*5.4	26	214	123	23	61	63	43
30	14	5.5	5.5	5.5	5.5	33	194	123	22	*61	63	43
31	9.7	-----	5.5	5.5	-----	38	-----	121	-----	61	62	-----
Total	581.8	347.7	170.5	170.4	159.4	267.1	6,224	5,023	1,188.0	1,457	1,907	1,505
Mean	18.8	11.6	5.50	5.50	5.50	8.62	207	162	39.6	47.0	61.5	50.2
Ac-ft	1,150	690	338	338	331.6	530	12,350	9,960	2,360	2,890	3,780	2,990
Calendar year 1955: Max 280 Min 5.0 Mean 32.3 Ac-ft 23,390												
Water year 1955-56: Max 388 Min 5.0 Mean 51.9 Ac-ft 37,690												

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 14 to Jan. 18, Jan. 20 to Feb. 28; discharge estimated on basis of weather records, reported gate openings at Lost Valley Reservoir, 2 discharge measurements, and records for nearby streams.

## Weiser River near Cambridge, Idaho

Location.--Lat 44°35', long 116°38', in NE $\frac{1}{4}$  sec. 1, T. 14 N., R. 3 W., on left bank 100 ft upstream from road bridge,  $2\frac{1}{4}$  miles northeast of Cambridge, and  $2\frac{1}{2}$  miles upstream from Rush Creek.

Drainage area.--605 sq mi.

Records available.--March 1939 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 2,660 ft (by barometer). Prior to Apr. 23, 1939, staff gage, and Apr. 24, 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  $2\frac{1}{2}$  miles downstream at different datum.

Average discharge.--17 years, 665 cfs (481,400 acre-ft per year).

Extremes.--Maximum discharge during year, 10,100 cfs Dec. 22 (gage height, 13.9 ft, from floodmark, site and datum then in use); minimum observed, 60 cfs Aug. 18 (gage height, 5.73 ft, site and datum then in use).

1939-56: Maximum discharge, that of Dec. 22, 1955; minimum, 23 cfs Oct. 1, 1943.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Flow partly regulated by Lost Valley Reservoir (see p. 186) and other reservoirs. Diversions above station for irrigation of about 9,200 acres.

Rating tables, water year 1955-56, except periods of ice effect, (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 21				Dec. 22 to Aug. 28				Aug. 29 to Sept. 30			
0.5	70	3.0	1,080	5.7	54	8.0	1,240	2.1	70		
.7	97	4.0	1,780	6.0	124	9.0	2,260	2.2	89		
1.0	149	5.0	2,630	6.3	234	10.0	3,650	2.4	141		
1.5	298	6.0	3,610	6.6	375	12.0	6,680				
2.0	517	7.0	4,720	7.0	575	13.5	9,330				
2.5	780			7.5	860						

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	124	110	469	979	b390	680	1,400	1,620	1,780	351	76	116
2	122	103	388	842	a380	895	1,240	1,560	1,600	385	86	113
3	117	103	306	800	a470	1,210	1,200	1,510	1,420	375	72	108
4	114	119	232	758	a520	1,050	*1,230	1,880	1,310	332	76	106
5	117	165	*b180	724	a540	830	1,250	2,160	1,190	304	72	103
6	104	137	232	690	a490	729	1,200	2,130	1,070	318	64	99
7	89	122	236	668	a360	624	1,230	2,080	930	262	74	96
8	82	115	b185	646	a340	663	1,180	2,350	888	262	76	96
9	80	114	211	540	a310	663	1,220	*2,240	881	212	79	94
10	82	124	202	540	a300	580	1,400	2,190	902	191	74	91
11	119	141	196	555	a320	485	1,690	2,190	867	217	74	89
12	115	120	232	525	a330	450	2,150	1,940	782	191	74	91
13	106	a100	252	575	a340	505	2,350	1,680	724	173	70	87
14	102	a80	151	597	a320	435	2,550	1,550	685	173	68	85
15	97	a90	b180	1,110	a290	450	2,830	1,540	854	180	68	83
16	93	a100	b240	2,360	a220	520	3,170	1,560	1,100	162	70	83
17	91	112	252	1,476	a200	696	3,100	1,670	854	169	64	83
18	89	119	236	*1,160	a250	979	2,820	1,920	770	152	60	83
19	90	133	1,270	993	a270	1,160	2,780	2,140	712	152	56	76
20	90	a200	3,760	951	a290	1,160	2,940	2,340	740	146	68	74
21	89	a500	3,920	881	a600	1,280	3,100	2,390	752	140	62	72
22	89	a350	a8,520	860	b1,500	1,600	3,280	2,380	*685	136	68	74
23	89	a240	*7,790	1,300	2,340	1,990	3,320	*2,320	668	130	74	78
24	89	a220	4,130	1,020	1,180	2,550	*3,140	2,460	646	116	70	76
25	89	208	2,170	718	895	2,970	2,850	2,210	608	110	*76	78
26	93	a220	1,900	707	*764	2,850	2,590	2,020	535	119	100	*80
27	109	a450	2,680	836	680	2,270	2,380	2,350	500	*108	140	80
28	*104	341	1,920	602	736	1,770	2,200	2,030	455	100	146	94
29	103	358	1,380	b550	680	1,530	1,980	1,930	415	95	*127	96
30	104	366	*1,190	b500	-----	1,540	1,790	1,910	430	92	121	94
31	109	-----	1,140	b400	-----	1,460	-----	1,810	-----	105	116	-----
Total	3,090	5,660	46,160	25,857	16,305	36,574	65,480	62,040	25,753	5,958	2,531	2,678
Mean	99.7	189	1,489	834	562	1,180	2,183	2,001	858	192	81.6	89.3
Ac-ft	6,130	11,230	91,560	51,290	32,340	72,540	129,900	123,100	51,080	11,820	5,020	5,310

Calendar year 1955: Max 8,520 Min 70 Mean 563  
 Water year 1955-56: Max 8,520 Min 60 Mean 814 Ac-ft 407,500  
 Ac-ft 591,300

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for station near Weiser and nearby streams.

b Stage-discharge relation affected by ice.

## Pine Creek near Cambridge, Idaho

Location.--Lat 44°35', long 116°44', in SW $\frac{1}{4}$  sec. 32, T. 15 N., R. 3 W., on right bank 800 ft upstream from West Fork and 3.2 miles northwest of Cambridge.

Drainage area.--54 sq mi, approximately.

Records available.--April 1938 to September 1956.

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.--18 years, 39.0 cfs (28,240 acre-ft per year).

Extremes.--Maximum discharge observed during year, 420 cfs Dec. 22 (gage height, 3.65 ft, from floodmarks), from rating curve extended above 190 cfs on basis of slope-area determination at peak stage and slope-conveyance study; minimum observed, 1.6 cfs Aug. 22, 23 (gage height, 1.10 ft).  
1938-56: Maximum discharge observed, 505 cfs May 27, 1948 (gage height, 3.60 ft), from rating curve extended above 200 cfs by logarithmic plotting, but may have been more when gage was overtopped June 3, 1948; maximum gage height observed, that of Dec. 22, 1955; 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.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	8.8	16	53	b25	45	94	104	156	26	5.5	3.0
2	4.4	8.2	14	53	b28	56	87	102	135	24	5.9	3.0
3	3.3	8.2	15	43	b30	74	87	96	119	24	5.2	3.2
4	4.4	9.2	b11	45	b33	84	*83	115	113	23	5.5	3.2
5	4.4	9.8	*b10	40	b35	54	76	109	89	22	5.2	3.2
6	3.5	9.2	b11	38	b35	53	76	109	85	19	5.2	2.2
7	4.0	8.8	b12	35	b35	48	76	115	83	19	5.2	2.6
8	3.5	8.8	b9.5	33	b33	49	73	113	83	17	5.2	2.6
9	3.5	9.2	b10	33	b32	48	73	115	89	17	4.7	3.0
10	5.8	12	10	33	b32	45	80	119	83	15	3.7	3.2
11	7.2	13	13	33	b32	40	87	107	80	16	3.2	3.0
12	6.8	b10	13	33	33	42	90	98	76	14	3.4	3.2
13	6.2	b5.0	11	38	33	40	94	98	69	12	3.4	3.2
14	5.8	b4.5	b10	45	30	39	96	98	62	12	3.0	2.7
15	5.3	b4.0	b11	60	b25	38	96	107	89	10	3.0	2.7
16	5.8	b5.0	b11	72	b20	46	117	115	80	9.7	3.4	2.7
17	5.3	b5.0	b12	61	b22	51	119	141	68	9.3	3.0	2.6
18	4.8	b7.5	b15	54	b24	59	105	164	59	8.9	2.6	2.6
19	5.8	b10	35	*49	b25	92	111	206	59	8.2	2.4	2.1
20	5.8	b20	94	48	b28	107	113	210	54	7.5	2.2	2.1
21	4.8	26	290	49	45	139	121	243	49	6.8	2.1	2.7
22	5.3	13	*362	69	49	156	125	239	46	6.2	2.0	3.2
23	5.8	13	*212	57	89	188	125	*215	*43	5.9	1.8	2.7
24	5.3	12	117	49	*61	234	*127	212	40	5.5	2.0	2.7
25	6.2	13	74	56	53	246	117	199	36	5.2	*2.4	2.7
26	7.8	14	64	b50	51	237	109	177	33	5.2	4.4	3.7
27	6.8	16	83	b45	48	197	107	182	32	*5.5	5.2	*2.4
28	*8.2	14	85	b40	45	148	109	150	29	5.2	3.7	2.6
29	7.2	14	69	b58	48	127	102	160	28	5.2	3.4	2.2
30	7.2	15	59	b35	-----	115	104	154	28	5.2	3.4	2.7
31	8.2	-----	57	b30	-----	104	-----	175	-----	5.2	3.0	-----
Total	175.0	327.2	1,813.5	1,417	1,079	2,981	2,981	4,547	2,095	374.7	114.3	83.7
Mean	5.58	10.9	58.5	45.7	37.2	98.2	99.4	147	69.8	12.1	3.69	2.79
Ac-ft	345	649	3,600	2,810	2,140	5,910	5,910	9,020	4,180	743	227	166
Calendar year 1955: Max 562 Min 1.2 Mean 27.1 Ac-ft 19,630												
Water year 1955-56: Max 362 Min 1.8 Mean 49.1 Ac-ft 35,680												

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

## Little Weiser River near Indian Valley, Idaho

Location.--Lat 44°30', long 116°24', in NE $\frac{1}{4}$  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 4 $\frac{1}{2}$  miles southeast of Indian Valley.

Drainage area.--81.9 sq mi.

Records available.--June 1920 to February 1921, March to June 1923, February 1924 to October 1927, April 1938 to September 1956.

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.--21 years (1924-27, 1938-56), 105 cfs (76,020 acre-ft per year).

Extremes.--Maximum discharge during year, 1,200 cfs Dec. 22 (gage height, 4.67 ft); minimum, 3.3 cfs Nov. 13 (gage height, 0.25 ft).  
1920-21, 1923-27, 1938-56: Maximum discharge observed, about 1,840 cfs Feb. 4, 1925; minimum recorded, 3.0 cfs sometime during period Nov. 21 to Dec. 7, 1954 (gage height, 0.18 ft).

Remarks.--Records good except those for periods of ice effect, which are fair. One small ranch diversion above station. Many diversions below station for irrigation including feeder canal to C. Ben Ross Reservoir.

Revisions (water years).--WSP 1347: 1923.

Rating tables, water year 1955-56, except for periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 22

Dec. 22 to Sept. 30

0.3	4.5	2.0	173	0.3	8.1	2.0	177
.4	6.4	2.5	315	.4	11	2.5	306
.6	12	3.0	482	.6	18	3.0	460
.8	21	3.5	670	.8	27	3.5	625
1.0	34	4.0	870	1.0	40	4.0	840
1.3	61	4.5	1,110	1.3	64	4.5	1,100
1.6	97			1.6	101		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	12	42	94	b42	47	135	256	599	94	24	.12
2	11	11	38	85	b47	52	124	251	549	90	23	12
3	10	15	34	79	b51	57	*115	246	500	87	24	12
4	11	19	25	77	b53	55	115	318	480	81	22	11
5	15	12	*20	85	b55	52	117	326	409	77	24	11
6	12	14	36	77	56	49	112	306	344	75	22	11
7	12	14	32	74	56	48	112	354	318	72	20	11
8	12	13	28	71	49	49	111	409	323	67	18	10
9	12	14	31	64	47	49	126	374	338	64	17	9.7
10	14	19	28	62	47	46	166	396	341	61	16	9.4
11	24	20	30	60	47	41	212	444	323	60	16	9.1
12	16	9.7	68	59	51	41	233	384	298	58	16	9.4
13	16	5.4	52	65	49	44	251	341	281	55	15	9.9
14	14	b8.0	b32	62	46	40	281	320	284	54	14	9.7
15	13	7.2	b40	411	41	39	303	320	323	50	16	9.1
16	12	6.6	45	410	b32	44	377	341	273	47	15	9.1
17	12	14	42	239	b45	56	350	390	222	44	14	8.9
18	11	15	59	*177	45	79	344	447	202	41	13	8.9
19	12	22	321	143	42	91	371	513	198	38	13	8.9
20	12	68	392	126	44	100	399	592	200	36	13	9.1
21	12	73	375	112	56	111	425	622	170	36	12	9.9
22	11	41	920	114	65	155	447	646	153	34	12	9.9
23	11	32	502	147	85	222	444	*672	*147	34	11	9.9
24	11	28	298	112	*59	289	418	740	149	35	11	9.4
25	11	26	218	94	53	300	*377	628	133	34	*12	9.1
26	14	30	233	90	50	270	350	639	124	30	21	9.1
27	14	41	202	85	49	208	362	740	119	29	18	*9.4
28	12	36	*159	75	47	173	326	668	114	28	17	12
29	*13	36	124	75	47	162	292	632	107	*26	15	11
30	14	37	115	62	-----	157	267	605	98	24	13	10
31	14	-----	107	b45	-----	151	-----	595	-----	23	13	-----
Total	399	707.9	4,628	3,531	1,456	3,277	8,062	14,515	8,119	1,584	510	300.9
Mean	12.9	23.6	149	114	50.2	106	269	468	271	51.1	16.5	10.0
Cfs/m	0.158	0.288	1.82	1.39	0.613	1.29	3.28	5.71	3.31	0.624	0.201	0.122
In.	0.18	0.32	2.10	1.60	0.66	1.49	3.66	6.59	3.69	0.72	0.23	0.14
Ac-ft	791	1,400	9,180	7,000	2,890	6,500	15,990	28,790	16,100	3,140	1,010	597

Calendar year 1955: Max 920 Min 5.4 Mean 81.6 Cfs/m 0.996 In. 13.52 Ac-ft 59,040  
Water year 1955-56: Max 920 Min 5.4 Mean 129 Cfs/m 1.58 In. 21.38 Ac-ft 93,390

Peak discharge (base, 400 cfs)--Dec. 22 (12 m.) 1,200 cfs (4.67 ft); Jan. 15 (6 p.m.) 880 cfs (4.08 ft); Apr. 21 (10 p.m.) 490 cfs (3.08 ft); May 7 (8:30 p.m.) 510 cfs (3.15 ft); May 23 (11 p.m.) 950 cfs (4.22 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.



## Crane Creek near Midvale, Idaho

Location.--Lat 44°21'30", long 116°37'10", in SE $\frac{1}{4}$  sec. 19, T. 12 N., R. 2 W., on left bank 400 ft downstream from Crane Creek Dam and  $9\frac{1}{2}$  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 1956.

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.--35 years (1912-15, 1924-56), 72.7 cfs (52,630 acre-ft per year).

Extremes.--Maximum discharge during year, 706 cfs Dec. 27 (gage height, 4.76 ft); no flow for long period.  
1910-16, 1924-56: Maximum discharge observed, 4,240 cfs Dec. 3, 1910 (gage height, 8.9 ft, 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 1 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 Crane Creek Reservoir Administration Board.

Revisions (water years).--WSP 833: Drainage area. WSP 963: 1941(M). WSP 1347: 1925, 1927.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 8				July 9 to Sept. 30			
1.5	0	2.5	59	2.3	43		
1.6	.4	3.0	114	2.5	64		
1.7	3.3	3.5	193	3.0	124		
1.8	7.3	4.0	340	3.5	207		
1.9	12	4.5	580				
2.0	18	4.8	730				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	2.4		0	392	520	20	88	12	6.5	13	201	100	
2	2.1		0	392	520	20	71	12	6.1	13	199	99	
3	2.1		0	388	515	20	.2	12	6.1	15	199	99	
4	2.1		0	388	515	19	.1	11	6.1	15	199	99	
5	2.1		0	388	510	19	.1	11	5.7	15	197	98	
6	2.1		*0	388	352	19	.1	11	5.7	15	197	98	
7	2.4		0	273	88	19	.1	11	5.7	15	189	97	
8	1.8		0	169	87	19	.1	11	5.3	26	180	97	
9	1.8		0	169	87	19	.1	11	5.7	102	180	97	
10	1.2		0	169	87	19	.1	11	5.7	162	180	97	
11	.2		0	167	87	19	.1	10	5.7	189	180	97	
12	.2		0	167	87	19	.1	10	5.7	187	180	97	
13	.2		0	167	87	19	.1	24	5.7	187	178	97	
14	.2		0	167	87	19	.1	34	6.1	187	178	95	
15	.2		0	167	87	19	.1	34	6.5	185	178	95	
16	.2		0	347	87	19	.1	34	6.5	185	178	95	
17	.2		0	520	86	19	.1	34	6.5	185	182	94	
18	.2		0	520	86	18	.1	34	6.5	185	193	94	
19	.1		0	*520	86	18	.1	34	6.5	185	193	94	
20	.1		3.3	520	86	18	.1	35	6.5	183	191	94	
21	.1		.6	571	86	18	2.8	35	6.5	183	191	94	
22	0		.6	642	87	38	9.5	*21	*6.5	183	191	94	
23	0		121	648	*87	89	9.1	6.9	6.5	183	197	94	
24	0		348	648	87	89	*8.6	6.5	6.5	183	203	67	
25	0		348	648	88	88	8.6	6.1	6.5	183	203	*51	
26	0		484	648	88	88	8.6	6.5	6.9	*191	*203	49	
27	0		700	642	54	88	8.2	6.5	6.9	203	203	49	
28	*0		700	620	20	88	7.8	6.5	12	203	159	49	
29	0		694	560	20	88	7.8	6.5	24	201	130	49	
30	0		694	520	-----	89	8.6	6.5	21	201	115	48	
31	0	-----	620	520	-----	89	-----	6.5	-----	201	101	-----	
Total	22.0		0	4,713.5	13,045	4,764	1,232	240.5	510.5	224.1	4,364	5,648	2,577
Mean	0.71		0	152	421	164	39.7	8.02	16.5	7.47	141	182	85.9
Ac-Ft	44		0	9,350	25,870	9,450	2,440	477	1,010	444	8,660	11,200	5,110
Calendar year 1955: Max 700 Min 0 Mean 57.1 Ac-ft 41,330													
Water year 1955-56: Max 700 Min 0 Mean 102 Ac-ft 74,060													

\* Discharge measurement or observation of no flow made on this day.

Note.--No gage-height record Nov. 15 to Dec. 19, Feb. 1-5; discharge estimated on basis of 1 observation of no flow, record of gate changes, recorded range in stage, and records for station at mouth, near Weiser.



## 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.

Records available.--July to September 1920, February 1921 to September 1956.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,240 ft (by barometer).

Average discharge.--35 years (1921-56), 81.1 cfs (58,710 acre-ft per year).

Extremes.--Maximum discharge during year, 1,780 cfs Dec. 19 (gage height, 5.26 ft); minimum no flow for part of May 1; minimum daily, 0.2 cfs May 3, 1920-56; Maximum discharge, 2,350 cfs about Feb. 7, 1925 (gage height, 6.80 ft, from high-water marks on gage), from rating curve extended above 1,000 cfs; no flow for part of May 1, 1956; minimum daily, that of 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 since 1911 by Crane Creek Reservoir (see p. 191). Several small ditches divert above station for irrigation.

Revisions.--WSP 833: Drainage area.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 26

Nov. 27 to Sept. 30

1.5	0.5	1.4	0	1.9	9.6	3.5	272
1.6	1.3	1.5	.5	2.1	19	4.0	505
1.7	2.5	1.6	1.6	2.4	40	4.5	950
1.8	4.2	1.7	3.5	2.7	73	5.0	1,470
1.9	7.0	1.8	6.2	3.0	128		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	4.8	10	405	b560	69	94	0.4	4.8	12	181	93
2	1.2	3.9	13	400	b555	120	94	.4	2.8	6.4	178	94
3	1.7	2.3	8.8	395	554	114	25	.2	1.6	3.8	187	94
4	2.5	2.7	7.1	395	547	68	7.1	1.7	2.8	3.0	184	93
5	2.5	3.9	6.2	420	533	60	*4.8	4.5	5.3	5.3	187	93
6	2.0	4.2	*7.8	430	377	47	4.0	6.5	5.9	5.1	184	91
7	3.0	4.5	6.2	343	107	41	3.5	7.5	6.8	5.6	178	89
8	2.8	4.5	6.2	304	102	48	3.5	7.5	3.3	6.8	162	84
9	3.2	4.5	6.5	181	102	68	4.3	8.1	4.8	5.6	165	84
10	3.4	4.5	5.9	173	100	46	5.6	9.6	6.8	122	162	84
11	4.2	4.8	7.5	173	100	35	6.5	12	6.5	157	160	86
12	3.9	4.5	8.5	178	102	31	6.8	10	6.2	162	157	86
13	3.5	4.5	b8.0	198	102	31	6.2	11	6.2	168	157	87
14	3.5	4.2	b7.0	184	102	31	5.3	31	6.1	168	157	87
15	3.7	4.5	b9.0	344	102	31	5.3	31	5.2	168	157	84
16	3.7	5.0	9.2	703	b95	31	5.6	29	8.8	165	152	86
17	2.1	4.8	8.1	670	b96	31	4.2	26	6.2	162	157	87
18	2.7	5.6	7.1	599	96	*32	1.9	30	4.2	168	170	87
19	3.9	6.4	*487	575	96	31	4.0	29	2.7	168	170	87
20	4.0	9.4	485	*575	100	31	3.3	30	5.9	170	170	86
21	4.0	9.0	215	615	*267	31	3.0	33	*5.9	170	165	87
22	4.2	6.7	305	859	396	30	1.6	*25	6.2	170	160	87
23	4.0	5.9	252	1,150	424	94	*5.1	7.8	6.2	*170	168	85
24	4.0	5.9	*431	823	142	100	3.3	7.8	4.8	168	175	*67
25	3.7	5.6	421	758	120	98	2.1	4.5	4.9	162	178	47
26	3.7	6.2	596	740	118	98	3.3	4.0	4.6	168	184	45
27	*4.5	13	882	732	94	96	4.0	7.8	5.1	181	*187	46
28	4.5	9.2	821	698	44	94	2.8	5.1	6.5	184	160	45
29	4.5	7.1	794	631	51	96	3.0	5.6	13	181	120	44
30	4.8	6.8	785	575	-----	96	2.7	5.1	18	181	109	48
31	4.8	-----	723	568	-----	96	-----	4.8	-----	184	89	-----
Total	105.9	168.9	7,338.2	15,694	6,184	1,925	325.8	395.9	177.1	3,801.0	5,070	2,361
Mean	3.42	5.63	237	506	213	62.1	10.9	12.8	5.90	123	164	78.7
Ac-ft	210	335	14,560	31,130	12,270	3,820	646	785	351	7,540	10,060	4,680

Calendar year 1955: Max 882 Min 1.2 Mean 66.1 Ac-ft 47,840  
 Water year 1955-56: Max 1,150 Min 0.2 Mean 119 Ac-ft 86,390

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

## Weiser River near Weiser, Idaho

Location.--Lat 44°16'50", long 116°47'00", in NW $\frac{1}{4}$  sec. 23, T. 11 N., R. 4 W., on right bank 0.4 mile upstream from county road bridge, 1 $\frac{1}{4}$  miles downstream from Crane Creek, and 9 $\frac{1}{2}$  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 1956. 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 2 $\frac{1}{2}$  miles of present site at various datums.

Average discharge.--13 years (1895-96, 1898-99, 1900-04, 1911-14, 1952-56), 1,227 cfs (888,300 acre-ft per year).

Extremes.--Maximum discharge during year, 19,900 cfs Dec. 23 (gage height, 11.06 ft); minimum, 71 cfs Nov. 14 (gage height, 1.49 ft).

1890-91, 1894-1904, 1910-14, 1952-56: Maximum discharge observed, that of Dec. 23, 1955; 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 for periods of ice effect or no gage-height record, which are fair. Flow partly regulated by Crane Creek Reservoir (see p. 191), Lost Valley Reservoir (see p. 186), and other small reservoirs. Diversions above station for irrigation of about 22,000 acres.

Revisions (water years).--WSP 1347: 1895-1905, 1953(M).

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	56	3.0	642	6.0	4,470
1.7	114	3.5	988	7.0	6,620
2.0	194	4.0	1,480	9.0	12,500
2.5	387	5.0	2,740	11.0	19,700

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	157	160	700	1,940	964	1,590	2,130	2,120	2,840	488	277	230
2	149	160	744	1,770	923	1,770	1,950	2,010	2,580	429	285	230
3	146	149	560	1,620	980	2,970	1,750	1,950	2,310	429	289	223
4	141	154	454	1,520	1,130	2,450	1,680	2,100	2,150	425	277	207
5	141	194	292	1,520	1,180	1,890	*1,680	2,740	1,970	406	273	200
6	149	233	*b280	1,500	1,040	1,460	1,810	2,650	1,710	401	269	200
7	136	197	b330	1,340	732	1,210	1,590	2,580	1,510	374	261	197
8	121	180	329	1,160	700	1,160	1,540	2,880	1,420	304	247	200
9	110	174	300	1,080	626	1,340	1,540	2,880	1,430	304	254	197
10	110	174	b360	939	614	1,040	1,750	2,800	1,450	342	250	200
11	119	204	334	923	642	884	2,130	2,910	1,400	351	250	197
12	171	197	392	923	642	784	2,640	2,700	1,280	351	254	188
13	162	146	b420	1,010	671	854	2,860	2,350	1,160	362	250	188
14	152	b95	b250	1,270	648	791	3,020	2,150	1,080	351	247	194
15	146	b100	a330	1,910	598	784	3,280	2,060	1,140	351	240	194
16	138	b130	a500	7,120	439	811	3,680	2,120	1,810	342	236	188
17	133	b160	508	4,320	401	1,080	3,960	2,270	1,420	321	240	185
18	128	b170	478	3,090	524	1,810	3,530	2,590	1,180	313	254	182
19	126	b210	1,620	2,580	555	2,030	3,460	2,940	1,080	308	247	182
20	124	b360	7,170	*2,320	598	2,050	3,800	3,300	1,090	300	244	182
21	124	803	7,530	2,190	*1,350	2,190	3,840	*3,450	*1,090	296	240	177
22	124	842	*16,000	2,450	*3,870	2,560	4,020	3,550	980	284	233	182
23	119	468	16,100	2,840	5,970	3,180	*4,150	3,530	907	280	226	185
24	119	392	*8,110	3,050	3,370	4,000	3,950	3,730	862	*280	233	*182
25	116	338	4,770	2,220	2,030	4,450	3,590	3,500	804	321	235	182
26	121	325	4,030	1,970	1,670	4,410	3,210	3,110	732	273	250	180
27	*136	706	5,580	2,030	1,400	3,710	3,020	3,550	659	280	*292	182
28	157	636	4,080	1,710	1,280	2,910	2,830	3,280	604	296	329	182
29	152	529	3,040	1,580	1,270	2,550	2,550	3,110	566	288	292	177
30	152	576	2,550	1,460	-----	2,370	2,310	3,000	545	280	265	182
31	154	-----	2,410	1,180	-----	2,270	-----	2,890	-----	296	230	-----
Total	4,230	8,982	90,531	63,535	36,797	63,158	82,850	86,800	39,739	10,446	7,927	5,695
Mean	136	299	2,920	2,050	1,269	2,037	2,762	2,800	1,325	337	256	190
Ac-ft	8,390	17,780	179,860	126,000	72,990	126,300	164,300	172,200	78,820	20,720	15,720	11,300
Calendar year 1955: Max			16,100		Min 95	Mean	930	Ac-ft	673,600			
Water year 1955-56: Max			16,100		Min 95	Mean	1,368	Ac-ft	993,100			

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for station near Cambridge, Crane Creek near Weiser, and other nearby streams.

b Stage-discharge relation affected by ice.

## 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 1956 (winter records fragmentary prior to 1950).

Gage.--Water-stage recorder. Altitude of gage is 2,160 ft (by barometer).

Extremes.--1920-56: Maximum daily discharge, 220 cfs June 27, July 1, 1954, July 6, 11-13, 15-18, 1956; no flow at times when gates were closed.

Remarks.--Records excellent except those below 20 cfs, which are good, and those for period 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, 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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	18	3.1	1.5	1.3	1.3	0	196	206	216	208	162
2	106	18	3.1	1.5	1.3	1.3	0	196	206	217	206	165
3	92	18	3.1	1.7	1.3	1.3	0	196	206	216	206	163
4	90	18	2.7	1.5	1.3	1.3	0	197	206	217	204	165
5	91	17	2.4	1.5	1.3	1.3	*43	199	206	218	198	161
6	87	18	*2.1	1.3	1.3	1.3	92	196	206	220	199	161
7	86	18	2.1	1.1	1.3	1.3	96	194	205	218	200	158
8	91	18	1.9	1.1	1.3	1.3	96	195	206	212	195	159
9	81	18	1.9	1.1	1.3	1.1	101	195	207	211	200	158
10	79	17	1.7	1.1	1.3	1.1	112	195	209	218	200	149
11	88	18	1.7	1.0	1.1	1.0	122	187	207	220	200	153
12	91	18	1.7	.8	0	1.0	136	184	209	220	200	148
13	86	18	1.7	.8	0	.8	152	183	209	220	200	146
14	83	17	1.9	.6	0	.6	156	183	210	219	198	148
15	49	16	1.7	1.7	0	.6	162	183	212	220	190	147
16	19	15	1.5	3.1	0	.6	168	184	212	220	182	145
17	18	12	1.3	2.1	0	.4	168	182	209	220	188	145
18	19	6.0	1.1	1.9	0	.3	168	190	206	220	196	143
19	19	6.4	2.1	1.7	0	.3	166	199	206	219	194	142
20	18	6.4	5.2	*1.7	.4	.2	165	201	206	216	191	141
21	18	6.4	4.4	1.9	1.9	.2	166	202	205	216	190	139
22	18	5.2	2.5	2.7	*1.7	.2	167	*205	*208	212	181	141
23	18	5.0	1.5	5.2	2.1	.1	*173	209	208	209	174	144
24	18	4.8	4.0	2.7	2.1	0	185	210	209	*209	184	*146
25	18	4.4	3.1	2.1	2.1	0	185	207	211	212	188	132
26	*17	4.0	2.4	2.1	1.9	0	191	207	213	202	195	126
27	17	3.5	2.1	1.9	1.7	0	199	208	213	206	*194	122
28	18	3.5	2.1	1.9	1.5	0	200	206	212	206	185	124
29	18	3.1	1.9	1.7	1.5	0	196	206	212	209	174	130
30	18	3.1	1.7	1.7	1.5	0	194	206	215	209	168	133
31	18	---	1.5	1.5	---	0	---	206	---	211	164	---
Total	1,609	353.8	107.2	54.2	31.0	18.9	3,957	6,107	6,255	6,658	5,951	4,396
Mean	51.9	11.8	3.46	1.75	1.07	0.61	132	197	208	215	192	147
Ac-ft	3,190	702	213	108	61	37	7,850	12,110	12,410	13,210	11,800	8,720
Calendar year 1955: Max	218			Min -		Mean	83.9	Ac-ft	60,750			
Water year 1955-56: Max	220			Min 0		Mean	97.0	Ac-ft	70,410			

\* Discharge measurement made on this day.

Note.--No gage-height record Mar. 16 to Apr. 4; discharge estimated.

## WEISER RIVER BASIN

Mann Creek near Weiser, Idaho

Location.--Lat 44°23'30", long 116°53'40", in NE $\frac{1}{4}$  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 1 $\frac{1}{2}$  miles upstream from mouth.

Drainage area.--56 sq mi, approximately.

Records available.--March 1911 to September 1913, July to November 1920, April 1937 to September 1956.

Gage.--Staff gage read twice daily. 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.--21 years (1911-13, 1937-56), 41.2 cfs (29,830 acre-ft per year).

Extremes.--Maximum discharge during year, 550 cfs Dec. 22 (gage height, 3.00 ft, from graph based on gage readings); minimum observed, 0.8 cfs Aug. 31; minimum gage height 0.74 ft Oct. 2.  
1911-13, 1920, 1937-56: 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 determination 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.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	4.6	10	28	b22	28	113	113	35	12	4.5	1.1
2	2.7	3.3	9.5	26	b25	52	113	108	32	12	3.6	2.0
3	2.7	3.3	8.1	23	b28	65	113	108	30	15	4.5	2.8
4	2.7	4.6	5.2	22	b30	50	*136	116	31	15	4.5	2.8
5	3.7	5.4	b5.0	22	b32	44	145	108	32	15	4.5	2.2
6	3.5	5.0	*b7.5	20	b32	35	123	110	28	14	4.5	2.2
7	3.3	5.0	8.4	20	b32	30	118	115	27	12	4.5	2.2
8	3.0	5.0	5.9	20	b29	34	113	110	27	12	3.6	2.2
9	3.0	4.6	7.6	18	b28	32	128	108	24	12	3.2	2.2
10	3.1	5.0	7.8	18	b28	35	190	103	24	9.7	2.8	2.2
11	4.6	5.2	7.6	17	b28	38	209	93	24	9.7	2.8	2.0
12	4.1	5.4	7.8	22	28	34	232	81	26	9.7	2.8	2.0
13	3.7	b4.3	b7.0	27	30	31	232	79	26	12	2.9	1.7
14	3.7	b3.5	b6.0	24	29	32	267	74	23	9.7	2.2	1.5
15	3.1	b3.0	b7.5	166	17	32	295	70	26	9.7	2.2	1.7
16	3.1	b3.3	b8.5	180	b13	44	373	70	33	9.7	2.2	1.7
17	3.1	b3.6	b9.0	101	b15	52	295	74	27	8.1	1.7	1.5
18	3.0	b4.0	9.8	65	b16	74	253	79	24	7.4	1.5	1.5
19	3.3	4.6	17	55	b16	134	264	81	23	7.4	1.3	1.7
20	3.3	9.8	108	47	b18	99	264	84	23	6.2	1.3	2.0
21	3.3	11	142	*41	b20	104	267	74	17	5.6	1.3	1.7
22	3.5	7.6	403	46	*b27	126	260	*68	*15	5.6	1.3	1.5
23	3.3	8.1	196	65	b100	209	253	66	14	5.0	1.3	2.0
24	3.7	7.8	109	43	b45	339	*226	57	14	5.0	1.3	1.7
25	3.3	6.5	76	54	30	321	206	53	14	5.0	2.8	*2.0
26	3.7	6.2	67	b43	28	253	165	46	12	*5.0	*5.0	1.7
27	*4.6	8.1	65	b40	27	174	162	61	12	4.5	6.8	2.0
28	4.6	9.5	*65	b36	26	131	145	48	15	6.8	5.6	3.2
29	4.6	8.4	b62	b34	29	121	123	43	15	5.6	5.6	3.6
30	4.6	8.8	*b55	b30	-----	118	118	41	12	4.5	1.3	2.5
31	4.6	-----	b44	b26	-----	111	-----	38	-----	4.5	1.0	-----
Total	109.0	174.5	1,547.2	1,379	828	2,982	5,901	2,477	685	275.4	94.3	61.1
Mean	3.52	5.82	49.9	44.5	28.6	96.2	197	79.9	22.8	8.88	3.04	2.04
Ac-ft	216	346	3,070	2,740	1,640	5,910	11,700	4,910	1,360	546	187	121

Calendar year 1955: Max 403 Min 0.4 Mean 25.6 Ac-ft 18,510  
 Water year 1955-56: Max 403 Min 1.0 Mean 45.1 Ac-ft 32,750

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

## 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.

Records available.--October 1910 to September 1956. Monthly discharge only for some periods, published in WSP 1317. Fragmentary gage-height record obtained by U. S. Weather Bureau since 1895.

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 at site 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, 56,400 cfs June 6 (gage height, 11.28 ft); minimum, 9,940 cfs Nov. 29 (gage height, 3.08 ft).

1910-56: 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 15.7 ft on old U. S. Weather Bureau gage (discharge, about 100,000 cfs). Flood of June 1894 was considerably higher.

Remarks.--Records excellent except those for periods of incomplete or no gage-height record, which are good. Flow regulated by many reservoirs above station. Diurnal fluctuation caused by Swan Falls powerplant. Diversions for irrigation of about 2,456,000 acres above station (1946 determination).

Revisions (water years).--WSP 1317: 1918.

Rating table, water year 1955-56 (gage height, in feet,  
and discharge, in cubic feet per second)  
(Shifting-control method used Sept. 21-30)

3.0	9,700	7.0	28,500
4.0	13,600	8.0	34,500
5.0	17,900	10.0	47,400
6.0	22,900	12.0	61,500

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,400	12,800	14,600	21,000	17,200	23,000	35,800	36,100	51,200	15,400	11,200	13,100
2	12,900	14,400	15,000	18,000	17,700	23,800	37,400	36,200	*52,600	15,500	12,300	13,200
3	12,500	12,000	14,700	14,400	18,300	26,800	38,300	35,300	52,000	13,500	12,400	12,300
4	12,400	13,200	13,000	14,700	18,400	27,500	38,400	35,800	51,200	12,300	12,500	12,700
5	13,700	13,800	13,200	18,800	18,500	27,100	37,800	37,100	51,100	11,700	12,100	12,500
6	12,700	15,200	*11,400	18,800	17,000	24,600	*36,700	37,200	55,400	11,300	12,100	12,500
7	13,200	14,500	12,600	18,800	14,500	24,500	35,300	37,100	53,400	12,000	11,900	11,700
8	12,500	12,800	12,900	17,500	16,300	24,800	34,100	37,800	50,300	12,800	11,900	13,600
9	13,000	15,000	13,800	15,000	16,400	25,100	33,300	39,500	50,300	11,900	11,900	13,000
10	12,900	12,500	13,700	14,000	18,200	26,100	32,300	39,200	49,100	11,000	12,200	12,200
11	13,600	13,200	12,400	17,800	20,700	25,600	33,700	37,700	48,700	11,500	12,500	11,800
12	15,200	13,900	12,700	15,800	21,200	25,400	32,900	38,000	44,600	10,900	12,100	13,200
13	14,800	12,800	13,200	12,800	21,200	24,700	33,100	36,400	37,200	11,400	11,900	12,700
14	16,000	12,900	14,800	14,800	23,100	24,400	30,800	35,100	33,600	10,300	11,300	13,900
15	16,900	11,300	13,800	18,100	21,800	25,800	32,000	*33,500	34,900	10,500	12,900	14,700
16	15,800	13,600	14,300	27,200	21,000	26,300	34,100	32,700	36,700	10,600	12,300	14,200
17	12,100	13,800	14,800	24,500	21,200	23,900	35,700	32,000	36,400	10,500	12,800	13,700
18	12,200	12,500	13,700	24,800	21,400	25,500	33,300	33,100	35,200	10,700	12,400	13,000
19	14,200	12,500	11,400	24,500	22,100	24,700	32,600	34,200	33,700	10,400	11,300	13,600
20	12,200	12,400	18,300	24,000	20,300	24,400	33,900	33,800	26,700	10,800	10,900	13,600
21	13,100	14,200	22,500	*22,600	18,900	28,900	33,100	34,500	*29,600	11,000	10,600	14,100
22	14,500	13,600	*31,300	21,600	26,000	31,000	33,500	30,200	31,200	11,300	11,500	14,000
23	14,600	14,800	49,000	23,800	28,600	32,600	33,700	30,400	33,700	11,100	12,400	14,400
24	13,400	15,100	*48,200	22,500	*26,800	33,300	33,000	31,900	32,200	*11,100	12,800	14,100
25	11,900	13,800	35,000	23,000	23,300	36,800	33,800	32,700	27,600	11,400	11,300	*12,900
26	*12,900	11,500	27,400	21,900	22,700	39,600	32,800	32,300	24,200	11,100	11,200	14,400
27	13,100	13,200	25,300	21,400	21,000	40,900	32,300	37,000	20,500	11,000	*11,200	14,400
28	14,800	11,400	23,400	22,200	20,900	40,100	32,800	40,800	19,200	11,600	12,100	14,600
29	14,800	10,800	22,400	21,900	23,300	36,600	33,200	39,400	16,500	11,500	13,100	14,300
30	14,700	12,700	22,500	21,400	-----	36,100	37,300	40,300	16,300	11,600	13,200	15,100
31	14,200	-----	22,200	16,400	-----	35,800	-----	47,600	-----	11,700	12,700	-----
Total	424,200	398,100	603,500	613,800	598,000	895,700	*1,027	*1,114.9	*1,135.3	359,200	372,600	403,500
Mean	13,680	13,200	19,470	19,790	20,620	28,890	34,230	35,960	37,840	11,590	12,020	13,450
Ac-ft	841,400	785,700	*1,197	*1,217	*1,186	*1,777	*2,037	*2,211	*2,252	712,500	739,000	800,300
Calendar year 1955:	Max	49,000	Min	9,260	Mean	14,040	Ac-ft	10,160,000				
Water year 1955-56:	Max	55,400	Min	10,300	Mean	21,700	Ac-ft	15,760,000				

\* Discharge measurement made on this day.

\* Expressed in thousands.

Note.--Discharge for periods of incomplete or no gage-height record Dec. 22-24, Jan. 14, 22-25, Feb. 21-24, Apr. 18 to May 14 computed from graph based on once-daily telemark readings and records for station at Oxbow.

## Unity Reservoir near Unity, Oreg.

Location.--Lat 44°30'20", long 118°11'00", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ , sec. 21, T. 12 S., R. 37 E., at Unity Dam on Burnt River, 500 ft downstream from Job Creek, half a mile downstream from confluence of North, Middle, and South Forks of Burnt River, and  $4\frac{1}{2}$  miles north of Unity.

Drainage area.--309 sq mi.

Records available.--March 1938 to September 1956.

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 benchmark (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 during year, 25,220 acre-ft May 5-12, 18-28 (elevation, 3,820.0 ft); no contents Oct. 1-4.  
1938-56: Maximum contents, 25,770 acre-ft Apr. 13, 1942 (elevation, 3,820.6 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 ft (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 Burnt River Irrigation District near Hereford and Bridgeport. Contents computed from capacity table based on surveys by Bureau of Reclamation.

Month-end elevation and usable contents, water year October 1955 to September 1956

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	3,776.0	0	-
Oct. 31.....	3,781.25	870	+870
Nov. 30.....	3,784.8	1,890	+1,020
Dec. 31.....	3,803.2	11,700	+9,810
Calendar year 1955.....	-	-	+9,180
Jan. 31.....	3,804.25	12,440	+740
Feb. 29.....	3,805.0	12,960	+520
Mar. 31.....	3,812.0	18,260	+5,300
Apr. 30.....	3,819.28	24,580	+6,300
May 31.....	3,819.60	24,850	+290
June 30.....	3,814.30	20,170	-4,680
July 31.....	3,806.60	14,120	-6,050
Aug. 31.....	3,797.0	7,750	-6,370
Sept. 30.....	3,789.2	3,650	-4,100
Water year 1955-56.....	-	-	+3,650

Note.--Gage read in afternoon.

## Burnt River near Hereford, Oreg.

Location.--Lat 44°30'20", long 118°10'50", in SE $\frac{1}{4}$  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, 5 miles upstream from Camp Creek, 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 1956. 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 half a mile 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.--28 years (1928-56), 80.5 cfs (58,280 acre-ft per year).

Extremes.--Maximum discharge during year, 1,110 cfs Apr. 13 (gage height, 5.43 ft); minimum, 0.4 cfs Nov. 4-16.

1915-16, 1928-56: Maximum discharge, 2,220 cfs Apr. 17, 1943 (gage height, 7.35 ft, present datum), caused by opening of automatic spillway gates, 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 Reservoir Dam, 1.6 cfs Aug. 31, 1935.

Remarks.--Records good. Diversions for irrigation of about 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. Flow regulated by Unity Reservoir (see preceding page) and partly regulated by reservoir (capacity about 700 acre-ft) on South Fork Burnt River, 3 miles above mouth.

Revisions (water years).--WSP 903: 1939. WSP 1397: 1916, 1930, 1933(M).

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 16

Nov. 17 to Sept. 30

0.9	0.4	1.1	2.0	2.5	83
1.0	1.8	1.3	6.0	3.0	150
1.1	1.7	1.5	12	3.5	255
1.2	3.3	1.7	20	4.0	400
1.3	5.6	2.0	38	5.0	850

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	1.0	3.2	5.8	78	117	379	250	148	117	101	109
2	2.8	.6	3.2	10	76	154	385	238	144	116	95	107
3	2.8	.5	3.2	10	74	178	382	218	170	120	88	106
4	2.8	.4	3.2	9.4	74	196	379	248	135	99	101	105
5	2.8	.4	3.2	9.4	76	196	379	304	136	91	114	104
6	2.8	.4	3.2	11	77	*194	376	331	140	84	113	95
7	2.8	.4	3.2	18	78	190	370	379	146	88	112	83
8	2.8	.4	3.2	30	77	206	*364	428	148	86	*110	82
9	2.8	.4	3.2	58	74	220	382	488	152	138	110	81
10	2.8	.4	3.2	44	72	220	408	488	*140	135	110	80
11	2.8	.4	3.4	51	71	218	412	488	160	96	110	79
12	2.8	.4	3.4	58	73	216	456	484	160	91	116	64
13	2.8	.4	3.4	63	74	214	605	490	158	96	136	37
14	2.8	.4	3.4	65	76	214	600	336	140	94	156	27
15	2.8	.4	*3.4	73	76	212	615	224	132	102	156	27
16	2.7	4.5	3.4	78	70	212	655	208	140	116	140	27
17	2.7	9.1	3.4	89	69	238	*685	168	135	122	120	44
18	2.7	9.1	3.4	102	70	260	690	150	148	*123	132	80
19	2.7	9.1	3.4	105	72	260	690	162	138	110	141	62
20	2.7	9.1	3.4	104	73	262	695	192	132	102	140	61
21	2.5	9.1	3.4	102	78	265	710	200	129	95	136	60
22	2.5	9.1	3.6	105	91	272	720	206	130	119	136	60
23	2.3	9.1	3.8	106	109	275	725	206	140	128	136	58
24	2.3	9.4	3.8	105	117	286	735	200	132	123	135	58
25	2.3	9.4	3.8	*100	114	301	720	210	124	114	134	58
26	2.2	9.4	3.8	98	110	316	548	204	117	110	130	58
27	2.2	5.8	4.0	91	105	316	385	190	109	106	129	58
28	*2.2	3.0	4.0	86	100	361	348	188	110	101	129	58
29	2.2	3.2	4.0	84	100	382	346	*184	109	102	117	58
30	2.0	3.2	4.0	84	---	382	304	182	123	107	110	58
31	2.0	---	4.0	83	---	382	---	164	---	109	*109	---
Total	80.2	118.5	108.2	2,018.6	2,404	7,715	15,456	8,396	4,125	3,340	3,802	2,044
Mean	2.59	3.95	3.49	65.1	82.9	249	515	271	138	108	123	68.1
Ac-ft	159	235	215	4,000	4,770	15,300	30,660	16,650	8,180	6,620	7,540	4,050

Calendar year 1955: Max 153 Min 0.1 Mean 35.2 Ac-ft 25,480  
 Water year 1955-56: Max 735 Min 0.4 Mean 136 Ac-ft 98,390

\* Discharge measurement made on this day.

## Powder River near Baker, Oreg.

Location.--Lat 44°39'20", long 117°52'30", in NE $\frac{1}{4}$  sec. 36, T. 10 S., R. 39 E., on right bank 700 ft downstream from Stices Gulch and 8 $\frac{1}{2}$  miles south of Baker.

Drainage area.--219 sq mi.

Records available.--December 1903 to August 1914, June 1926 to September 1956. Published as "near Baker City" December 1903 to December 1905, and as "at Salisbury" January 1906 to August 1914, June 1926 to September 1951. Monthly discharge only for some periods, published in WSP 1317.

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.--39 years (1904-13, 1926-56), 111 cfs (80,360 acre-ft per year).

Extremes.--Maximum discharge during year, 1,340 cfs May 24 (gage height, 6.19 ft); minimum, 7.2 cfs Oct. 1, 2 (gage height, 1.22 ft).  
1903-14, 1926-56: 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 600 cfs; no flow Aug. 31, 1909, Sept. 7, 1931.

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

Revisions (water years).--WSP 813: 1935. WSP 1093: Drainage area. WSP 1397: 1904-13, 1929-31, 1940, 1942, 1949-50.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Backwater from beaver dam Sept. 26-30)

Oct. 1 to May 24

May 25 to Sept. 30

1.2	6.2	2.5	200	1.1	6.0	2.0	104
1.7	21	5.0	316	1.3	15		
5.6	4.0	800		1.5	35		
2.0	104	6.0	1,260	1.7	59		

Note.--Same as preceding table above 2.0 ft.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	18	57	108	35	76	411	385	735	100	24	11
2	7.8	*18	53	99	40	95	358	362	653	90	27	10
3	7.8	16	48	95	50	99	323	352	609	80	28	9.6
4	8.4	18	47	93	55	84	318	429	585	75	27	9.6
5	9.0	18	45	83	65	75	348	489	498	70	27	9.6
6	9.0	18	45	78	62	*72	338	567	420	70	26	9.2
7	9.0	20	43	76	60	70	342	636	350	70	26	9.2
8	9.0	19	40	76	56	65	*316	642	314	70	*24	9.6
9	9.0	19	44	69	54	62	309	603	306	70	23	9.2
10	11	18	45	69	50	60	368	567	*321	70	22	8.9
11	12	18	45	67	55	60	489	522	300	75	21	9.2
12	12	15	40	67	58	58	708	456	280	70	20	9.2
13	12	12	35	66	60	60	729	402	260	60	18	9.2
14	12	10	40	62	60	70	752	360	230	55	17	9.6
15	13	8.5	*38	61	55	61	771	333	220	47	17	9.6
16	13	8	40	142	45	95	798	355	220	45	17	9.2
17	12	13	45	144	40	126	*768	438	210	42	16	8.5
18	12	15	50	136	45	176	714	570	210	*40	14	8.9
19	12	21	60	131	60	229	711	696	210	39	14	9.2
20	11	26	75	133	80	297	771	813	200	39	13	9.6
21	11	27	180	117	100	348	855	858	180	39	13	9.6
22	10	27	450	111	120	382	959	894	165	34	12	9.6
23	9.6	24	543	108	100	483	984	959	156	31	11	9.6
24	9.0	25	311	70	90	678	894	1,240	150	27	11	9.6
25	9.0	25	227	*55	80	867	777	1,000	145	26	11	9.6
26	9.6	29	238	52	76	918	672	858	140	25	11	9.6
27	9.0	52	207	50	74	657	591	964	135	26	12	9.6
28	*9.6	80	148	48	72	525	528	732	130	28	12	9.6
29	11	73	97	45	72	*471	471	*678	120	31	12	9.6
30	14	63	88	42	-----	471	417	681	110	27	11	9.6
31	14	-----	111	40	-----	468	-----	711	-----	23	*11	-----
Total	324.6	753.5	3,525	2,613	1,869	8,278	17,750	19,432	8,572	1,594	548	284.1
Mean	10.5	25.1	114	84.3	64.4	267	592	627	286	51.4	17.7	9.47
Ac-ft	644	1,490	6,990	5,180	3,710	16,420	35,210	38,540	17,000	3,160	1,090	564

Calendar year 1955: Max 543 Min 3.6 Mean 63.0 Ac-ft 45,600  
Water year 1955-56: Max 1,240 Min 7.8 Mean 179 Ac-ft 130,000

Peak discharge (base, 300 cfs).--Dec. 23 (1 a.m.) 666 cfs (4.22 ft); Mar. 25 (9:30 p.m.) 1,090 cfs (5.57 ft); Apr. 23 (3 p.m.) 1,010 cfs (5.33 ft); May 7 (11 p.m.) 672 cfs (4.24 ft); May 24 (1:30 p.m.) 1,340 cfs (6.19 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Feb. 1, 2, 4, 6-8, 10, 11, 21-27, Mar. 5, June 11-22, June 24 to July 14, July 16, 17; discharge estimated on basis of weather records and records for station near Robinette. Stage-discharge relation affected by ice Nov. 11-16, Dec. 5, 6, 8, 10-22, Jan. 24-31, Feb. 3, 5, 9, 12-20, Mar. 6-14.



## Powder River near Robinette, Oreg.

Location.--Lat 44°46'10", long 117°04'10", in E $\frac{1}{2}$  sec. 22, T. 9 S., R. 46 E., on left bank  $2\frac{1}{4}$  miles northwest of Robinette and  $2\frac{1}{2}$  miles upstream from mouth.

Drainage area.--1,660 sq mi, approximately.

Records available.--September 1928 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 1,937.01 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Aug. 24, 1936, staff gage at site half a mile upstream at different datum. Aug. 24, 1936, to Oct. 31, 1948, staff gage at site 50 ft upstream at present datum.

Average discharge.--28 years, 528 cfs (382,300 acre-ft per year).

Extremes.--Maximum discharge during year, 5,500 cfs May 27 (gage height, 6.38 ft); minimum, 85 cfs Nov. 15, 16 (gage height, 0.23 ft).

1928-56: Maximum discharge, that of May 27, 1956; minimum observed, 18 cfs Sept. 2-10, 1931.

Remarks.--Records excellent except those for periods of ice effect or shifting control, which are good. Many diversions above station for irrigation; none below. One canal with capacity of about 5 cfs diverts around station on left bank. Flow partly regulated by several reservoirs, the largest being Thief Valley Reservoir near North Powder (capacity, 17,400 acre-ft).

Revisions (water years).--WSP 1217: Drainage area. WSP 1397: 1929, 1936, 1949.

Rating tables, water year 1955-56, except periods of ice effect or shifting control (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 26

May 27 to Sept. 30

0.2	80	2.0	760	0.4	115	3.0	1,540
.4	115	3.0	1,540	.8	210	4.0	2,500
.9	245	4.0	2,520	1.3	400	6.0	4,960
1.5	485	6.0	5,300	2.0	790		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	96	157	304	646	*319	618	1,700	1,810	4,200	688	248	198
2	96	*148	301	634	294	851	1,580	1,660	3,780	634	240	180
3	94	145	290	607	367	1,040	1,480	1,530	3,720	592	234	178
4	96	159	276	580	431	1,070	1,420	1,670	3,570	540	208	182
5	107	167	262	560	444	*1,010	1,410	1,860	3,090	540	205	188
6												
7	119	154	262	565	440	935	1,350	1,860	2,750	525	192	182
8	111	154	280	570	472	802	1,310	1,920	2,360	535	192	172
9	113	152	245	560	449	688	1,270	2,100	2,140	530	182	162
10	111	177	270	525	422	629	1,290	2,240	2,170	530	188	152
11	168	342	256	495	422	602	1,390	2,430	2,220	550	182	148
12												
13	206	287	290	480	422	585	1,590	2,370	2,050	622	172	140
14	175	215	319	490	436	525	1,900	2,190	1,850	658	158	148
15	189	180	294	525	449	535	2,101	2,010	1,770	604	168	150
16	169	b150	*177	602	426	515	2,180	1,870	1,640	598	158	142
17	162	128	b160	892	400	505	2,440	1,750	1,630	495	158	142
18												
19	152	*b110	256	1,370	294	525	3,120	1,750	1,640	430	142	142
20	148	b140	276	1,240	327	629	2,860	1,880	1,570	376	133	138
21	143	b170	280	1,110	347	879	*2,710	2,210	1,540	340	135	133
22	132	248	363	978	367	1,180	2,760	2,740	1,570	312	142	170
23	132	248	700	900	426	1,350	2,930	3,160	1,590	316	142	145
24												
25	128	256	865	837	607	1,500	3,150	3,310	1,440	332	142	148
26	117	224	1,270	921	886	1,600	3,350	3,540	1,330	324	131	150
27	117	209	*1,120	1,180	823	1,750	3,490	3,920	1,280	288	123	158
28	117	197	760	*956	652	1,950	3,430	4,590	1,140	*256	129	162
29	117	252	688	718	640	2,220	3,220	4,300	1,120	255	140	160
30												
31	121	284	823	580	658	2,370	2,980	4,460	1,020	213	172	155
32	121	319	872	575	670	2,280	2,750	4,950	1,020	216	205	158
33	126	319	634	510	640	2,120	2,550	*4,480	1,020	228	213	160
34	134	301	462	530	602	2,040	2,320	4,470	934	231	198	155
35	159	294	580	510	-----	1,980	2,080	4,240	796	248	198	158
36	162	-----	694	391	-----	1,840	-----	4,270	-----	244	*202	-----
Total	4,118	6,286	14,629	22,047	14,123	37,103	68,020	87,530	57,950	13,220	5,429	4,726
Mean	133	210	472	711	487	1,197	2,267	2,824	1,932	426	175	158
Ac-ft	8,170	12,470	29,020	43,730	28,010	73,590	134,900	173,600	114,900	26,220	10,770	9,370
Calendar year 1955: Max		1,580		Min	71		Mean	325		Ac-ft	235,200	
Water year 1955-56: Max		4,950		Min	94		Mean	916		Ac-ft	664,800	

Peak discharge (base, 1,100 cfs).--Dec. 22 (5 p.m.) 1,480 cfs (2.93 ft); Jan. 15 (11:30 p.m.) 1,580 cfs (3.04 ft); Jan. 23 (9 a.m.) 1,220 cfs (2.61 ft); Feb. 22 (10 p.m.) 1,610 cfs (3.08 ft); Mar. 26 (5 a.m.) 2,430 cfs (3.92 ft); Apr. 23 (3 a.m.) 3,570 cfs (4.87 ft); May 10 (11 a.m. to 1 p.m.) 2,450 cfs (3.94 ft); May 27 (5 a.m.) 5,500 cfs (6.38 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--Shifting-control method used May 22-26, Sept. 27-30.

## SNAKE RIVER MAIN STEM

Snake River at Oxbow, Oreg.

Location.--Lat 44°57', long 116°51', in NW¼ sec. 16, T. 7 S., R. 48 E., on left bank at Oxbow, five-eighths of a mile upstream from intake of diversion tunnel for former Oxbow powerplant and 2½ miles upstream from Indian Creek.

Drainage area.--72,800 sq mi, approximately.

Records available.--May 1923 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 1,696.71 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Dec. 20, 1923, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 58,900 cfs June 6 (gage height, 17.90 ft); minimum, 10,400 cfs Nov. 30 (gage height, 8.19 ft).

1923-56: Maximum discharge, 89,700 cfs Apr. 28, 1952 (gage height, 23.10 ft); maximum gage height, about 29 ft (ice jam), from floodmark, sometime during period Jan. 17-27, 1949; minimum discharge, 4,890 cfs Aug. 6, 1924 (gage height, 6.30 ft).

Remarks.--Records excellent. Flow regulated by many reservoirs above station. Diurnal fluctuation caused by Swan Falls powerplant. Diversions for irrigation (1946 determination) of about 2,594,000 acres above station.

Revisions (water years).--WSP 1347: 1925.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 22 to Mar. 24)

8.2	10,500	14.0	36,500
9.0	13,100	16.0	47,700
10.0	16,900	18.0	59,500
12.0	25,900		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,600	13,900	13,800	23,100	16,600	24,000	38,800	39,400	53,600	17,100	11,600	13,300
2	13,500	14,000	15,700	20,800	17,800	24,700	39,400	38,400	*56,600	*16,700	11,800	13,500
3	13,000	13,800	15,600	16,900	18,900	27,000	40,100	38,000	55,500	15,700	12,800	13,200
4	12,300	12,800	14,600	14,600	18,900	29,000	40,900	38,000	55,100	13,800	12,500	12,700
5	13,300	13,900	13,800	17,900	19,200	28,900	40,400	38,800	53,900	13,000	12,400	12,900
6	13,400	14,600	12,800	19,700	18,800	27,200	39,700	40,400	55,800	12,400	12,200	12,800
7	13,100	15,700	*12,700	20,000	15,600	25,200	*38,800	39,800	57,500	12,400	12,200	12,700
8	13,100	14,100	12,900	19,900	16,100	26,000	36,900	41,000	53,200	13,000	12,200	12,600
9	13,000	14,200	13,900	*16,600	16,800	26,100	36,000	41,200	52,800	13,600	12,100	13,500
10	12,900	14,600	14,300	15,100	17,200	26,600	36,300	42,000	51,900	12,200	12,100	13,000
11	13,500	13,200	13,600	16,900	20,600	26,800	35,200	41,500	50,600	11,800	12,400	12,200
12	14,400	13,900	12,800	18,300	21,900	26,400	36,800	40,800	49,600	12,200	12,600	12,700
13	15,300	13,600	13,300	14,900	21,400	25,800	36,900	40,000	42,700	11,800	12,000	13,000
14	15,300	13,500	14,400	14,000	23,200	25,300	35,800	38,200	36,400	11,700	11,900	13,300
15	16,500	12,100	14,700	16,500	22,800	25,800	35,600	37,000	37,400	10,900	12,000	14,500
16	17,800	12,800	14,300	24,800	21,200	26,900	37,700	*35,600	38,000	11,100	12,400	14,600
17	14,400	14,200	14,900	26,500	21,600	26,700	40,000	35,200	39,400	11,000	12,400	14,100
18	12,100	13,800	15,300	26,600	21,700	26,000	38,800	35,300	37,900	10,900	12,900	13,500
19	13,000	12,700	12,800	26,600	22,500	26,800	37,200	37,200	37,800	11,000	11,900	13,500
20	13,800	12,900	15,200	25,800	22,300	26,100	37,900	37,700	32,400	10,800	11,300	13,600
21	12,500	13,800	24,800	25,200	19,000	29,700	38,300	38,300	30,200	11,300	10,800	14,000
22	13,600	14,600	30,300	23,200	23,700	32,600	38,300	36,700	32,800	11,600	10,800	14,100
23	14,900	14,600	43,800	24,400	28,400	35,300	39,100	35,400	35,000	11,700	11,800	14,300
24	14,400	15,500	51,200	24,800	31,000	36,500	39,000	35,900	35,200	11,400	12,900	14,600
25	*13,200	15,300	41,200	24,200	*25,600	39,000	37,900	37,600	32,200	11,700	12,400	13,600
26	12,400	13,600	32,100	23,100	24,400	41,800	38,000	37,600	28,100	11,500	*11,600	*13,500
27	13,600	12,800	27,400	22,300	23,100	44,600	37,200	40,000	24,600	11,400	11,500	14,800
28	13,800	13,200	26,400	22,700	21,800	43,600	36,800	44,000	21,700	*11,500	12,000	14,700
29	15,400	11,400	23,600	22,700	23,600	41,000	36,700	45,000	20,400	12,000	12,800	14,800
30	15,200	12,100	23,200	22,600	-----	39,000	38,000	43,300	17,500	11,800	13,600	14,800
31	15,200	-----	23,600	20,000	-----	39,000	-----	48,100	-----	11,900	13,400	-----
Total	431,500	410,800	629,000	654,700	615,400	949,400	*1,137.5	*1,217.4	*1,225.8	380,900	377,000	408,400
Mean	13,920	13,690	20,290	21,120	21,220	30,630	37,920	39,270	40,860	12,290	12,160	13,610
Ac-ft	855,900	814,800	*1,248	*1,299	*1,221	*1,883	*2,256	*2,415	*2,431	755,500	747,800	810,000
Calendar year 1955: Max	41,200	Min	9,480	Mean	14,530	Ac-ft	10,520,000					
Water year 1955-56: Max	57,500	Min	10,800	Mean	23,050	Ac-ft	16,740,000					

\* Discharge measurement made on this day.

\* Expressed in thousands.

## 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 dam site, 0.7 mile upstream from Imnaha River, 0.9 mile downstream from Divide Creek, 13 miles west of Joseph, 22 miles west of Whitebird, and at mile 53.2 from Lewiston.

Drainage area.--73,800 sq mi, approximately.

Records available.--April 1955 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 940.48 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum discharge during year, 64,700 cfs June 7 (gage height, 18.65 ft); minimum, 10,600 cfs Aug. 22 (gage height, 1.70 ft).  
1955-56: Maximum discharge, that of June 7, 1956; minimum, 9,940 cfs Aug. 19, 1955 (gage height, 1.29 ft).

Remarks.--Records excellent except those for periods of backwater from Imnaha River and those for periods of no gage-height record, which are good. Flow regulated by many reservoirs above station. Diurnal fluctuation caused by Swan Falls powerplant. Diversions for irrigation (1946 determination) of about 2,613,000 acres above station.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13,700	15,200	13,900	a25,000	18,200	24,700	39,400	40,800	a54,000	18,800	12,300	13,400
2	13,700	13,200	15,700	a23,000	18,300	25,000	39,300	38,900	a58,000	17,700	11,700	13,600
3	13,400	15,000	18,300	20,000	19,000	28,600	40,400	38,900	a60,000	17,900	12,800	13,800
4	13,000	12,800	15,900	a16,000	19,800	29,400	41,000	38,500	a59,000	15,700	12,900	12,800
5	12,600	13,600	14,200	*16,200	20,300	29,700	41,000	39,800	58,600	14,500	12,800	13,000
6	14,000	14,300	*14,400	20,400	19,800	28,700	40,300	41,300	a58,000	13,800	12,600	*13,000
7	13,100	15,600	12,300	20,500	18,600	26,300	39,200	41,300	62,800	13,400	12,700	12,900
8	13,500	15,200	13,600	20,600	16,100	26,400	37,500	42,100	*57,700	13,700	12,400	12,300
9	12,800	13,400	13,600	19,400	17,700	26,500	36,500	42,800	a56,000	14,500	12,400	13,700
10	13,700	15,600	14,400	16,800	17,700	26,700	36,100	44,200	a54,000	13,900	12,400	13,400
11	13,700	13,800	14,600	15,600	19,600	27,400	35,800	43,800	52,900	13,000	12,400	12,800
12	14,000	13,700	13,500	19,200	22,000	26,700	37,800	42,000	a52,000	13,200	13,000	12,000
13	15,700	14,300	13,700	17,600	22,400	26,600	37,800	41,800	a47,000	12,600	12,600	13,500
14	15,400	13,400	13,800	14,500	22,600	25,800	37,900	39,600	a41,000	13,300	12,100	13,000
15	16,400	13,500	15,400	16,800	23,800	25,700	36,400	38,300	a39,000	11,800	11,700	14,000
16	17,200	11,300	15,000	22,600	22,300	27,200	39,700	36,500	a40,000	11,700	13,000	15,000
17	17,000	13,900	15,100	30,700	21,800	27,600	43,500	35,900	a41,000	11,700	12,500	14,500
18	12,900	14,400	15,600	27,700	22,100	25,800	42,800	36,000	a40,000	11,500	12,900	14,000
19	12,300	13,400	15,400	27,600	22,700	28,000	39,800	38,300	39,100	11,500	12,900	13,300
20	14,500	13,100	14,100	27,100	23,000	27,800	39,800	40,700	37,400	11,400	11,600	13,800
21	15,000	13,800	21,900	26,300	21,300	28,500	41,200	40,700	30,900	11,500	11,200	13,800
22	13,400	15,000	34,200	25,100	20,900	33,000	41,000	41,600	33,000	11,800	10,700	14,300
23	14,600	14,600	44,300	24,700	28,400	35,600	41,900	37,400	34,400	12,100	11,400	14,200
24	18,100	15,600	*56,700	27,100	30,700	38,400	41,300	39,200	36,300	11,800	12,500	14,600
25	*14,100	15,900	a47,000	25,100	28,100	40,700	39,800	41,200	34,600	11,800	13,200	14,600
26	12,600	15,000	a38,000	25,100	24,900	45,000	39,900	41,100	30,000	*12,100	12,000	13,400
27	13,000	13,300	a30,000	23,900	24,300	46,300	38,900	43,100	26,900	11,700	12,000	14,200
28	13,500	14,600	a28,000	23,400	22,700	*45,900	37,900	47,300	23,600	11,600	11,800	14,900
29	14,800	13,000	a26,000	23,900	23,000	44,300	37,600	*50,100	22,200	12,200	12,500	15,000
30	15,400	11,700	a25,000	23,700	-----	40,400	37,600	47,900	19,700	12,200	13,500	14,900
31	15,300	-----	a25,000	22,800	-----	39,900	-----	47,900	-----	12,200	13,800	-----
Total	437,400	421,200	686,600	686,400	632,100	976,600	\$1,178.9	\$1,279	*1,299.1	406,300	384,300	411,500
Mean	14,110	14,040	21,500	22,210	21,800	31,500	39,300	41,260	43,300	13,110	12,400	13,720
Ac-ft	867,600	835,400	*1,322	*1,365	*1,254	*1,937	*2,338	*2,537	*2,577	805,900	762,200	816,200

Calendar year 1955: Max - Min - Mean - Ac-ft -  
 Water year 1955-56: Max 62,800 Min 10,700 Mean 23,990 Ac-ft 17,420,000

\* Discharge measurement made on this day.

\* Expressed in thousands.

a No gage-height record; discharge estimated on basis of weather records and records for station at Oxbow.

Note.--Stage-discharge relation affected by backwater from Imnaha River Oct. 10, 11, Nov. 11, Nov. 17 to Dec. 12, Dec. 20 to Jan. 23, Mar. 19 to July 25.

## IMNAHA RIVER BASIN

Imnaha River at Imnaha, Oreg.

Location.--Lat 45°34', long 116°50', in SW $\frac{1}{4}$  sec. 16, T. 1 N., R. 48 E., on left bank at Imnaha, three-eighths of a mile downstream from Sheep Creek.

Drainage area.--640 sq mi, approximately.

Records available.--June 1928 to September 1956.

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.--28 years, 484 cfs (350,400 acre-ft per year).

Extremes.--Maximum discharge during year, 4,650 cfs May 27 (gage height, 6.05 ft); minimum, 90 cfs Dec. 14 (gage height, 1.66 ft).

1928-56: Maximum discharge, 5,700 cfs May 28, 1948 (gage height, 7.06 ft); minimum observed, 16 cfs Nov. 22, 1931.

Remarks.--Records excellent except those for period of shifting control, which are good, and those for periods of ice effect, which are fair. Diversions for irrigation of about 4,000 acres above station. Water is diverted above station from Sheep Creek and Little Sheep Creek to Grande Ronde River basin for irrigation of about 6,500 acres in Wallowa Valley.

Revisions (water years).--WSP 883: 1938. WSP 1217: Drainage area. WSP 1397: 1929, 1932(M), 1949.

Rating tables, water year 1955-56, except periods of ice effect or shifting control (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 21				Dec. 22 to Sept. 30			
1.8	120	3.0	615	1.8	135	4.0	1,390
2.0	170	3.5	935	2.3	275	5.0	2,810
2.5	350	4.0	1,390	3.0	580	6.0	4,560
				3.5	930		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	179	270	616	b180	233	994	1,560	3,200	1,070	322	212
2	128	160	263	545	b210	*245	858	1,540	2,610	1,000	314	204
3	128	173	252	495	b250	268	773	1,580	2,380	930	303	198
4	132	182	221	470	306	265	738	1,800	2,420	882	292	196
5	150	200	221	440	286	255	731	1,950	2,070	882	289	193
6	142	191	*256	414	289	249	703	1,930	1,780	*874	278	190
7	138	191	242	408	265	249	717	1,930	1,580	882	275	182
8	135	188	214	394	239	255	710	2,120	1,510	866	268	180
9	132	191	235	368	233	255	794	2,140	1,700	850	258	175
10	349	210	214	362	249	245	1,070	2,140	1,930	882	258	172
11	334	270	224	346	249	233	*1,400	2,060	1,900	986	245	170
12	228	207	228	330	255	204	1,630	1,820	1,740	874	242	170
13	207	b180	210	354	242	288	1,870	1,820	1,720	874	236	170
14	197	b170	122	350	235	242	2,070	1,470	1,700	850	227	168
15	188	b140	b110	390	215	235	2,240	1,460	1,900	724	230	162
16	179	b200	b140	450	b180	245	2,300	1,620	1,980	654	227	158
17	173	b250	b170	*450	b200	268	2,080	1,930	1,830	610	*215	152
18	168	b300	197	455	b220	350	1,980	2,320	1,730	580	209	150
19	*168	318	286	440	245	555	2,070	2,660	1,780	560	204	152
20	170	338	462	435	230	634	2,320	3,030	1,910	540	198	152
21	165	310	1,040	418	262	731	2,740	3,000	1,720	520	193	155
22	165	274	*2,740	406	268	898	3,200	2,980	1,600	490	188	158
23	162	260	2,300	402	268	1,180	3,220	*3,130	1,570	455	185	168
24	155	256	1,390	374	245	1,690	2,910	*3,700	1,460	435	190	170
25	152	252	1,040	303	239	1,900	2,480	2,910	1,390	418	196	*172
26	173	256	946	289	233	1,840	2,320	2,840	1,320	398	278	170
27	173	263	1,210	b250	233	1,490	2,270	3,980	1,370	382	338	175
28	162	252	1,050	b210	230	1,170	2,100	3,240	1,470	374	286	185
29	182	252	794	b230	230	1,050	1,840	3,150	1,400	374	242	180
30	182	256	668	b180	-----	1,070	1,680	3,080	1,200	354	230	175
31	188	-----	682	b160	-----	1,110	-----	*3,120	-----	334	221	-----
Total	5,413	6,869	18,397	11,730	6,975	19,890	52,808	73,810	53,870	20,904	7,637	5,214
Mean	175	229	593	378	241	642	1,760	2,381	1,796	674	246	174
Ac-ft	10,740	13,620	36,490	23,270	13,830	39,450	104,700	146,400	106,800	41,460	15,150	10,340
Calendar year 1955: Max 2,740 Min 67 Mean 468												
Water year 1955-56: Max 3,980 Min 110 Mean 775												
Ac-ft 582,200												

Peak discharge (base, 1,500 cfs).--Dec. 22 (9 p.m.) 3,320 cfs (5.30 ft); Mar. 25 (9:30 p.m.) 2,190 cfs (4.77 ft); Apr. 23 (5 a.m.) 3,490 cfs (5.45 ft); May 10 (4 a.m.) 2,240 cfs (4.65 ft); May 24 (5 a.m.) 4,150 cfs (5.77 ft); May 27 (8 a.m.) 4,650 cfs (6.05 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## Valley Creek at Stanley, Idaho

Location.--Lat 44°13, long 114°56', in 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.--176 sq mi.

Records available.--December 1910 to April 1911 (gage heights only), May 1911 to October 1913, May 1921 to September 1956. 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.--37 years (1911-13, 1921-56), 197 cfs (142,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,000 cfs May 24 (gage height, 3.92 ft); minimum, 66 cfs Nov. 2 (gage height, 0.87 ft).  
1910-13, 1921-56: Maximum discharge, that of May 24, 1956; minimum, 40 cfs (estimated) Nov. 17-30, 1929, Dec. 8-13, 1932.

Remarks.--Records good except those for periods of ice effect, which are fair. Diversion for irrigation of about 590 acres above station.

Revisions (water years).--WSP 362: 1911-12.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 15 to May 10)

Oct. 1 to May 20

May 21 to Sept. 30

0.9	66	2.0	366	1.0	95	2.5	720
1.0	79	2.5	648	1.2	134	3.0	1,110
1.2	114	3.0	990	1.5	216	4.0	2,090
1.5	191	3.3	1,240	2.0	428		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	95	*112	194	b90	b90	125	590	1,710	624	220	150
2	97	82	106	201	b85	b95	121	625	1,720	593	210	121
3	97	101	103	176	b90	95	118	654	1,630	570	204	119
4	95	116	92	174	b100	95	123	667	1,500	518	194	119
5	99	127	85	168	b110	b90	*125	685	1,320	491	188	117
6	99	95	101	154	b105	b85	118	698	1,160	486	194	115
7	101	92	99	157	b105	b90	129	704	1,100	475	197	117
8	99	89	b90	146	b100	99	123	704	948	459	185	119
9	97	95	b95	134	b95	97	125	685	1,020	464	174	117
10	99	134	b90	139	b98	b90	144	710	1,160	480	182	119
11	118	114	b95	139	b100	b90	165	685	1,240	486	172	117
12	108	82	108	123	b100	b90	179	562	1,220	480	163	117
13	103	89	99	*129	b100	95	204	509	1,170	475	158	117
14	101	101	b85	123	b100	b90	238	504	1,150	459	156	115
15	99	b85	b90	132	b95	b90	280	557	1,120	418	163	111
16	97	b80	99	141	b85	b95	312	625	1,020	389	161	109
17	95	b80	97	132	b85	97	354	723	860	370	153	111
18	95	b75	97	125	b90	101	405	852	*789	351	146	117
19	103	b130	97	123	b90	99	468	998	755	338	144	113
20	103	b200	101	129	b90	104	540	1,180	839	*333	141	111
21	99	b190	123	125	*b90	106	619	1,350	632	338	139	113
22	103	b170	305	123	b95	110	685	1,430	734	333	136	111
23	99	b150	499	123	b95	121	698	1,560	776	307	*134	115
24	110	b140	368	118	b95	134	691	1,900	734	299	130	113
25	95	136	320	108	b90	139	667	1,830	714	290	128	113
26	*103	129	295	b105	b90	139	607	*1,720	694	278	136	111
27	97	125	272	b105	b90	132	602	1,840	694	270	158	117
28	95	121	231	b110	b90	121	613	1,620	707	263	163	134
29	90	116	211	b110	b90	125	*579	1,500	741	259	149	130
30	146	114	201	b105	-----	125	568	*1,530	700	248	141	*124
31	114	-----	198	b95	-----	127	-----	1,600	-----	237	134	-----
Total	3,155	3,453	4,964	4,166	2,738	3,256	10,725	31,797	50,737	12,381	5,050	3,512
Mean	102	115	160	134	84.4	105	358	1,026	1,025	399	163	117
Cfs/m	0.580	0.653	0.909	0.761	0.536	0.597	2.03	5.83	5.82	2.27	0.926	0.665
In.	0.67	0.73	1.05	0.88	0.58	0.69	2.27	6.72	6.49	2.62	1.07	0.74
Ac-ft	6,260	6,850	9,850	8,260	5,430	6,460	21,270	63,070	60,970	24,560	10,020	6,970

Calendar year 1955: Max 908 Min 62 Mean 183 Cfs/m 1.04 In. 14.09 Ac-ft 132,200  
Water year 1955-56: Max 1,900 Min 75 Mean 317 Cfs/m 1.80 In. 24.51 Ac-ft 230,000

Peak discharge (base, 600 cfs).--Dec. 22 (9 p.m.) 679 cfs (2.50 ft); May 5 (9 p.m.) 880 cfs (2.73 ft); May 24 (6 to 9:30 p.m.) 2,000 cfs (3.92 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## Salmon River below Valley Creek, at Stanley, Idaho

Location.--Lat 44°14', long 114°55', in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 34, T. 11 N., R. 13 E., on left bank three-quarters of a mile downstream from Valley Creek and  $\frac{1}{4}$  miles northeast of upper Stanley.

Drainage area.--535 sq mi.

Records available.--July 1925 to September 1956.

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.--31 years, 658 cfs (476,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,070 cfs May 27 (gage height, 4.62 ft); minimum, 280 cfs Feb. 21.

1925-56: Maximum discharge, that of May 27, 1956; minimum, 100 cfs (estimated) Nov. 20-30, 1929.

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 6,000 acres.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.9	280	2.0	1,170
1.0	320	3.0	2,450
1.2	430	4.0	4,020
1.5	660	4.6	5,040

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	345	400	412	560	330	350	420	1,510	4,890	2,370	900	472
2	340	365	406	580	350	350	410	1,590	4,970	2,250	850	458
3	340	400	388	b570	380	350	400	1,650	4,800	2,140	820	444
4	335	424	365	564	400	350	400	1,730	4,650	1,990	770	437
5	350	430	325	564	410	350	*406	1,780	4,380	1,690	741	430
6	340	382	390	548	400	330	388	1,780	3,990	1,820	741	430
7	345	382	390	b530	380	330	406	1,840	3,560	1,800	723	430
8	345	370	360	516	360	350	394	1,840	3,340	1,780	686	437
9	345	376	390	479	350	350	406	1,760	3,470	1,780	687	424
10	345	437	370	508	370	340	437	1,780	3,720	1,800	687	430
11	382	424	380	*500	390	330	486	1,780	4,020	1,820	652	430
12	360	370	400	486	400	320	524	1,580	4,020	1,850	636	424
13	360	355	380	493	390	340	572	1,470	3,940	1,810	620	418
14	355	365	320	465	390	330	628	1,470	3,850	1,740	612	412
15	355	325	330	500	360	320	714	1,540	3,750	1,640	620	406
16	350	500	380	540	340	320	800	1,680	3,510	1,540	588	400
17	345	320	380	516	360	320	900	1,900	3,100	1,460	572	400
18	345	380	380	493	360	330	983	2,210	*2,800	1,400	564	390
19	360	450	390	486	360	330	1,130	2,600	2,720	1,360	548	390
20	360	600	400	486	350	340	1,280	2,980	2,940	*1,340	524	390
21	355	700	470	479	*350	340	1,460	3,400	2,900	1,500	516	390
22	370	580	800	465	350	350	1,620	3,670	2,660	1,320	508	390
23	365	480	1,200	472	350	370	1,680	3,990	2,520	1,260	508	437
24	355	480	1,050	451	345	390	1,720	4,780	2,540	1,220	*493	451
25	355	470	950	400	350	430	1,680	4,940	2,520	1,190	493	444
26	*365	450	880	380	350	460	1,650	*4,840	2,460	1,140	500	444
27	365	444	830	400	350	450	1,650	4,940	2,440	1,120	540	451
28	370	430	700	400	350	440	*1,650	4,650	2,500	1,080	540	472
29	365	418	630	400	350	430	1,540	4,440	2,630	1,050	508	465
30	465	418	580	400	-----	420	1,480	*4,430	2,570	1,020	493	*458
31	418	-----	560	350	-----	420	-----	4,560	-----	961	479	-----
Total	11,150	12,725	16,166	14,981	10,565	11,230	28,214	85,110	102,160	48,261	19,129	12,854
Mean	360	424	521	483	364	362	940	2,745	3,405	1,557	617	428
Cfs/m	0.673	0.793	0.974	0.903	0.690	0.677	1.76	5.13	6.36	2.91	1.15	0.800
In.	0.78	0.98	1.12	1.04	0.75	0.78	1.96	5.92	7.10	3.35	1.33	0.89
Ac-ft	22,120	25,240	32,060	29,710	20,960	22,270	55,960	168,800	202,600	95,720	37,940	25,500

Calendar year 1955: Max 3,000 Min 270 Mean 631 Cfs/m 1.18 In. 16.01 Ac-ft 456,800  
 Water year 1955-56: Max 4,970 Min 300 Mean 1,018 Cfs/m 1.90 In. 25.88 Ac-ft 738,900

Peak discharge (base, 1,700 cfs).--May 27 (9 to 11 a.m.) 5,070 cfs (4.62 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Nov. 16-26, Dec. 6 to Jan. 2, Jan. 26 to Feb. 20, Feb. 25 to Apr. 4, Sept. 18-22; discharge estimated on basis of weather records, recorded range in stage, and records for other Salmon River stations.

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 Sunbeam Dam and Yankee Fork and 18 miles upstream from Clayton.

Drainage area.--841 sq mi.

Records available.--October 1921 to September 1956. 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.--35 years (1921-56), 979 cfs (708,800 acre-ft per year).

Extremes.--Maximum discharge during year, 10,300 cfs May 24 (gage height, 11.60 ft); minimum daily, 370 cfs Nov. 16.  
1921-56: Maximum discharge, that of May 24, 1956; minimum, 160 cfs (estimated) Nov. 25-30, 1929.

Remarks.--Records excellent except those for periods of ice effect, which are good. Divisions for irrigation of about 6,000 acres above station.

Revisions (water years).--WSP 1347: 1931.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 24)

Oct. 1 to May 23

May 24 to Sept. 30

2.2	362	6.0	3,070	2.3	495	6.0	2,920
2.5	509	7.0	4,090	2.6	642	7.0	3,850
3.0	773	9.0	6,300	3.0	847	9.0	6,370
4.0	1,410	10.2	7,810	4.0	1,420	11.4	9,960
5.0	2,160			5.0	2,100		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	488	518	539	707	b390	453	590	2,140	9,350	3,270	1,230	682
2	483	463	*518	734	b420	453	569	2,300	8,270	3,080	1,180	552
3	473	534	493	580	b450	458	554	2,410	8,760	2,940	1,140	642
4	463	564	448	691	b480	458	564	2,560	8,190	2,720	1,080	632
5	483	575	409	680	b500	458	*575	2,630	7,640	2,600	1,050	617
6	478	498	488	664	488	429	559	2,730	6,750	2,510	1,060	607
7	478	493	498	659	b460	429	585	2,770	5,820	2,480	1,050	607
8	483	483	463	643	b440	458	564	2,870	5,500	2,450	1,000	617
9	478	498	503	585	b430	458	595	2,830	6,030	2,410	977	597
10	473	560	478	601	b450	448	702	2,850	6,620	2,410	972	602
11	534	580	493	*595	478	424	856	2,840	6,990	2,440	944	597
12	498	483	518	580	483	419	907	2,520	6,800	2,440	922	587
13	488	443	478	580	473	434	1,000	2,290	6,550	2,400	895	587
14	483	498	419	554	463	424	1,170	2,260	6,290	2,310	874	572
15	478	b410	429	590	b450	419	1,370	2,460	6,020	2,180	895	563
16	468	b370	493	632	b410	429	1,540	2,920	5,420	2,060	868	553
17	468	b420	498	601	b440	434	1,680	3,620	4,620	1,960	837	548
18	458	b480	493	569	b440	438	1,750	4,420	*4,140	1,880	816	533
19	473	590	508	564	b440	448	2,040	5,270	4,060	1,830	800	533
20	483	822	518	575	443	463	2,340	5,990	4,370	*1,750	785	529
21	468	942	575	569	*443	473	2,700	6,680	4,260	1,720	764	529
22	478	748	1,070	559	453	489	2,260	7,260	3,980	1,730	748	529
23	473	622	1,550	569	453	513	2,380	7,730	3,690	1,650	738	563
24	453	627	1,300	539	448	606	2,780	9,650	3,680	1,610	*733	582
25	463	601	1,130	478	453	675	2,710	9,800	3,630	1,570	723	562
26	*478	590	1,080	b470	453	718	2,570	*9,350	3,550	1,500	748	568
27	483	580	1,010	b490	453	675	2,480	9,160	3,530	1,470	821	577
28	488	564	862	b480	448	616	*2,450	8,610	3,600	1,420	826	622
29	479	549	773	b480	453	611	*2,500	*8,240	3,690	1,390	779	627
30	601	544	713	b490	---	606	2,160	8,300	3,540	1,350	748	*617
31	559	---	713	b430	---	601	---	8,680	---	1,300	718	---
Total	15,023	16,667	20,460	18,028	13,085	15,426	46,500	154,140	166,240	64,820	27,721	17,653
Mean	485	556	660	582	451	498	1,550	4,972	5,541	2,091	894	588
Cfsm	0.577	0.661	0.785	0.692	0.536	0.592	1.84	5.91	6.59	2.49	1.06	0.699
In.	0.66	0.74	0.90	0.80	0.59	0.68	2.06	6.82	7.35	2.87	1.23	0.78
Ac-ft	29,800	33,060	40,580	35,760	25,950	30,600	92,230	308,700	329,700	128,600	54,990	34,010

Calendar year 1955: Max 5,040 Min 330 Mean 911 Cfsm 1.08 In. 14.70 Ac-ft 659,400  
Water year 1955-56: Max 9,800 Min 370 Mean 1,573 Cfsm 1.87 In. 25.47 Ac-ft 1,142,000

Peak discharge (base, 2,350 cfs).--Apr. 22 (12:30 a.m.) 3,070 cfs (6.00 ft); May 7 (12 p.m.) 3,070 cfs (6.00 ft); May 24 (10:30 p.m.) 10,300 cfs (11.60 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## 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.

Records available.--October 1928 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 5,163.99 ft above mean sea level, datum of 1929.

Average discharge.--28 years, 1,436 cfs (1,040,000 acre-ft per year).

Extremes.--Maximum discharge during year, 15,400 cfs May 25 (gage height, 10.95 ft, partly estimated on basis of recorder graph for station near Clayton); minimum, 263 cfs Feb. 1 (gage height, 1.28 ft), but may have been less during period of ice effect.  
1928-56: Maximum discharge, that of May 25, 1956; minimum, 160 cfs Dec. 14, 1940.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good. Diversions for irrigation of about 10,000 acres above station.

Revisions.--WSP 1043: Drainage area.

Rating table, water year 1955-56, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.7	420	4.0	2,150	7.0	6,480
2.0	560	5.0	3,390	9.0	10,600
2.5	840	6.0	4,850	11.0	15,500
3.0	1,190				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	762	798	770	1,000	b450	638	931	2,890	14,600	4,990	2,010	1,090
2	750	709	*728	1,050	b520	643	892	3,020	14,400	4,670	1,900	1,050
3	732	768	692	1,000	b590	643	945	3,180	15,400	4,440	1,830	1,030
4	714	822	645	1,000	648	638	*879	3,400	12,500	4,140	1,750	1,020
5	728	866	520	1,050	709	632	912	3,460	11,700	3,960	1,690	998
6	744	774	600	1,000	687	565	853	3,590	10,100	3,880	1,670	991
7	750	762	680	970	665	565	898	3,600	8,670	3,850	1,660	984
8	750	738	640	900	626	648	879	3,770	8,070	3,780	1,590	998
9	750	744	710	850	605	643	898	3,710	8,690	3,780	1,530	984
10	738	798	660	840	638	621	1,040	3,730	9,710	3,810	1,520	970
11	780	905	680	*828	692	580	1,290	3,750	10,600	3,850	1,480	970
12	892	750	720	792	704	550	1,390	3,520	10,300	3,810	1,450	964
13	774	595	670	792	687	621	1,480	3,200	9,870	3,740	1,400	964
14	756	692	620	738	648	595	1,670	3,060	9,490	3,600	1,370	944
15	750	565	560	798	632	575	1,940	3,160	9,100	3,360	1,400	931
16	738	480	630	866	530	605	2,150	3,640	8,440	3,210	1,380	918
17	728	545	700	828	610	692	2,380	4,480	*7,270	3,070	1,330	912
18	720	700	700	768	621	744	2,390	5,360	6,340	2,950	1,290	892
19	720	900	710	788	605	840	2,670	6,880	6,210	*2,860	1,270	879
20	750	1,100	730	780	632	950	3,070	8,230	6,570	2,810	1,240	879
21	744	1,250	1,000	780	638	905	3,490	9,540	6,360	2,760	1,220	879
22	750	1,070	1,700	768	*665	1,050	3,890	10,900	5,820	2,780	1,190	872
23	750	900	3,000	768	670	1,150	3,950	11,900	5,560	2,650	1,180	892
24	714	890	2,400	704	621	1,430	3,770	13,800	5,540	2,570	*1,170	924
25	720	880	1,850	605	621	1,460	3,730	14,900	5,510	2,530	1,150	924
26	*732	860	1,700	616	626	1,330	3,540	14,200	5,380	2,420	1,160	912
27	756	850	1,550	648	616	1,100	3,390	13,800	5,400	2,340	1,210	912
28	750	840	1,400	632	621	970	*3,320	13,000	5,460	2,290	1,260	944
29	750	810	1,250	621	643	977	3,150	*12,500	5,670	2,260	1,200	964
30	810	780	1,150	654	-----	991	2,960	12,500	5,430	2,220	1,150	944
31	912	-----	1,000	b520	-----	977	-----	13,800	-----	2,110	1,120	-----
Total	23,310	24,141	31,351	24,934	18,210	25,328	64,648	220,170	252,160	101,480	43,770	28,555
Mean	752	805	1,011	804	628	817	2,155	7,102	8,405	3,274	1,412	951
Cfsm	0.418	0.447	0.562	0.447	0.349	0.454	1.20	3.95	4.67	1.82	0.784	0.528
In.	0.48	0.50	0.65	0.52	0.38	0.52	1.34	4.55	5.21	2.10	0.90	0.59
Ac-ft	46,230	47,880	62,180	49,460	36,120	50,240	128,200	436,700	500,200	201,300	86,820	56,600

Calendar year 1955: Max 7,020 Min 415 Mean 1,310 Cfsm 0.728 In. 9.87 Ac-ft 948,000  
Water year 1955-56: Max 14,900 Min 450 Mean 2,344 Cfsm 1.30 In. 17.74 Ac-ft 1,702,000

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Nov. 18 to Dec. 1, Dec. 6 to Jan. 10; discharge estimated on basis of recorded range in stage, weather records, and records for station below Yankee Fork, near Clayton and stations on other streams in Salmon River basin.



## 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  $6\frac{1}{2}$  miles upstream from mouth.

Drainage area.--85 sq mi, approximately.

Records available.--October 1943 to September 1956.

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.--13 years, 45.7 cfs (33,080 acre-ft per year).

Extremes.--Maximum discharge during year, 508 cfs June 1 (gage height, 5.50 ft); maximum gage height, 6.30 ft May 24; minimum daily discharge, 9.0 cfs Mar. 6, 7, 10, 11. 1943-56: Maximum discharge, that of June 1, 1956; maximum gage height, that of May 24, 1956; minimum discharge, 5.7 cfs Mar. 11, 29, 1950.

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

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	17	13	12	10	10	26	89	496	150	52	43
2	21	16	*13	b13	11	9.5	24	88	466	140	51	42
3	20	18	14	b13	11	9.5	25	91	446	135	51	41
4	20	19	b12	b14	11	9.5	*27	92	424	130	50	41
5	21	19	b11	13	11	9.3	25	94	410	120	50	40
6	21	17	b13	12	11	b9.0	22	94	370	110	50	39
7	23	17	b13	12	11	9.0	22	95	332	105	49	40
8	23	17	b12	12	11	10	22	101	310	100	49	40
9	22	18	13	b12	11	9.5	25	105	307	97	48	38
10	21	20	13	12	11	b9.0	33	110	314	94	48	38
11	21	19	13	12	11	b9.0	41	110	307	90	48	38
12	21	15	13	11	11	9.5	42	104	302	86	49	38
13	21	b14	b12	*12	11	10	43	98	303	82	49	36
14	20	b15	b10	12	11	9.5	62	94	294	78	49	34
15	20	b13	12	12	11	9.5	68	95	282	74	50	33
16	20	b12	b15	12	10	13	94	104	275	70	48	33
17	19	b13	b14	11	10	18	102	132	*262	66	49	32
18	19	b15	13	b11	10	25	97	169	242	63	48	32
19	19	b25	12	11	10	29	101	204	241	*62	47	32
20	20	b30	12	11	10	39	111	224	235	61	47	31
21	20	25	15	11	11	38	122	250	225	60	46	30
22	20	19	118	11	*10	61	134	274	210	59	45	32
23	19	19	109	11	10	91	138	293	200	58	45	32
24	18	16	29	b11	b10	95	132	366	210	58	45	31
25	19	16	b19	b10	10	64	125	384	200	57	45	31
26	19	16	b15	b10	10	40	*120	380	190	56	48	32
27	19	16	14	b10	10	29	112	436	180	55	*51	32
28	*19	16	b14	b10	10	27	106	446	180	60	50	35
29	18	16	b13	10	29	98	449	170	58	47	32	
30	20	15	b13	10	-----	34	93	*454	160	56	46	31
31	18	-----	b12	10	-----	30	-----	472	-----	54	45	-----
Total	623	523	624	354	305	803.8	2,212	6,497	8,543	2,544	1,495	1,057
Mean	20.1	17.4	20.1	11.4	10.5	25.9	73.7	210	285	82.1	48.2	35.2
Ac-ft	1,240	1,040	1,240	702	605	1,590	4,390	12,890	16,940	5,050	2,970	2,100
Calendar year 1955: Max 196 Min 8.0 Mean 35.0 Ac-ft 25,360												
Water year 1955-56: Max 496 Min 9.0 Mean 69.9 Ac-ft 50,760												

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Dec. 15, Jan. 1, 21-23, Jan. 29 to Feb. 21, Feb. 25 to Mar. 2, Mar. 7, 8, 12-17, June 21 to Aug. 11; discharge estimated on basis of weather records, 1 discharge measurement, and records for Johnson Creek at Yellow Pine and stations on other streams in Salmon River basin. Shifting-control method used May 23 to June 20.

## Pahsimeroi River near May, Idaho

Location.--Lat 44°42', long 114°03', in W $\frac{1}{2}$  sec. 25, T. 16 N., R. 20 E., on right bank a quarter of a mile downstream from old highway bridge on Challis-Salmon River highway, a quarter of a mile upstream from mouth, and 10 miles northwest of May.

Drainage area.--845 sq mi, approximately.

Records available.--October 1929 to September 1956. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Staff gage read once daily. Datum of gage is 4,636.95 ft above mean sea level, adjustment of 1912.

Average discharge.--27 years, 209 cfs (151,300 acre-ft per year).

Extremes.--Maximum discharge observed during year, 409 cfs Dec. 23 (gage height, 2.87 ft); maximum gage height observed, 4.37 ft May 25 (backwater from Salmon River); minimum daily discharge, 90 cfs May 21, 22, 23.  
1929-56: Maximum discharge observed, 454 cfs May 30, 1943 (gage height, 2.81 ft); maximum gage height observed, that of May 25, 1956; minimum discharge observed, 74 cfs May 19, 1955 (gage height, 1.66 ft).

Remarks.--Records good except those for periods of no gage-height record, ice effect, or backwater from Salmon River, which are fair. Diversions for irrigation of about 12,500 acres above station.

Rating table, water year 1955-56, except periods of ice effect or backwater from Salmon River (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Dec. 10)

1.7	81
1.8	97
2.0	136
2.4	247
2.9	445

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	190	254	278	238	b220	241	257	143	*260	158	158	174
2	190	250	274	241	b215	274	250	132	280	158	158	176
3	187	247	*271	238	b220	278	250	130	260	160	158	a175
4	182	247	264	238	222	267	*250	121	240	163	160	a175
5	182	244	254	250	219	257	247	119	230	165	160	a180
6	190	247	247	247	216	250	235	102	230	163	160	179
7	193	244	244	244	213	244	235	101	230	163	153	184
8	193	244	244	247	213	264	232	99	232	160	153	182
9	193	247	241	247	213	274	235	99	250	160	150	182
10	190	267	238	250	216	264	235	99	220	158	150	184
11	187	264	244	254	219	250	235	102	210	158	150	190
12	187	254	254	261	219	247	235	101	200	155	150	187
13	190	247	235	*267	222	254	232	95	190	155	150	184
14	190	238	225	271	225	257	228	97	184	153	150	184
15	187	213	219	271	222	257	228	102	182	153	150	182
16	187	204	219	274	216	274	225	101	*193	150	146	182
17	182	207	225	264	219	285	247	94	187	150	143	176
18	182	216	232	254	219	288	235	92	190	150	143	174
19	184	232	244	257	219	292	228	91	196	*148	143	171
20	213	274	247	261	219	322	216	91	193	150	143	174
21	210	274	257	261	235	288	213	90	187	155	146	174
22	207	271	278	267	a250	288	207	90	184	155	146	179
23	204	264	409	267	250	307	202	90	187	155	146	174
24	210	261	375	261	238	334	204	95	182	155	148	184
25	213	261	334	250	235	330	204	100	182	155	148	193
26	225	264	314	244	238	322	*199	105	176	155	160	196
27	225	267	292	244	*235	278	202	110	158	155	*168	196
28	*241	267	278	235	238	264	199	120	158	155	168	199
29	241	271	257	232	235	264	a195	140	158	153	171	202
30	247	274	244	228	-----	261	190	160	155	155	174	202
31	254	-----	238	222	-----	261	-----	210	-----	155	174	-----
Total	6,256	7,514	8,175	7,785	6,520	8,536	6,750	3,441	6,084	4,833	4,777	5,494
Mean	202	250	264	251	225	275	225	111	203	156	154	183
Ac-ft	12,410	14,900	16,210	15,440	12,930	16,930	13,390	6,830	12,070	9,590	9,480	10,900

Calendar year 1955: Max 409 Min 74 Mean 199 Ac-ft 143,900  
Water year 1955-56: Max 409 Min 90 Mean 208 Ac-ft 151,100

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, records for adjacent periods, and records for stations on nearby streams.

b Stage-discharge relation affected by ice.

## 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.

Records available.--April 1912 to September 1916, July 1919 to September 1956. 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.--41 years (1912-16, 1919-56), 1,906 cfs (1,380,000 acre-ft per year).

Extremes.--Maximum discharge during year, 16,500 cfs May 25 (gage height, 8.25 ft); maximum gage height, 8.9 ft Feb. 3 (ice jam); minimum discharge, 690 cfs Feb. 2 (gage height, 2.42 ft).

1912-16, 1919-56: Maximum discharge, that of May 25, 1956; maximum gage height, 9.62 ft Jan. 8, 1942 (ice jam); minimum, 242 cfs Jan. 8, 1937 (gage height, 1.50 ft).

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

Revisions (water years).--WSP 1043: Drainage area. WSP 1317: 1916.

Rating tables, water year 1955-56, except periods of ice effect or shifting control (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 22

May 23 to Sept. 30

2.5	730	5.0	4,600	2.3	1,160	5.0	6,860
2.8	1,010	6.0	7,100	2.8	1,730	6.0	10,200
3.2	1,460	7.0	10,200	3.4	2,660	7.0	13,600
4.0	2,610	8.0	13,500	4.0	3,950	8.0	17,000

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	1,420	1,350	1,500	874	b1,100	1,590	3,680	15,500	5,690	2,180	1,420
2	1,060	1,360	1,340	1,500	811	b1,100	1,520	3,680	16,000	5,330	2,090	1,390
3	1,040	1,300	*1,300	1,520	b840	1,100	*1,460	3,800	15,300	5,100	2,030	1,350
4	1,010	1,360	1,230	1,520	b1,000	1,100	1,420	3,970	14,500	4,790	1,860	1,310
5	1,010	1,410	1,150	1,610	1,100	1,100	1,480	4,130	13,700	4,510	1,850	1,280
6	1,030	1,450	1,080	1,530	1,200	1,100	1,450	4,220	12,600	4,330	1,800	1,270
7	1,070	1,350	1,200	1,450	1,150	1,000	1,380	4,240	10,900	4,200	1,800	1,260
8	1,100	1,330	1,240	1,410	1,100	1,000	1,380	4,330	9,710	4,100	1,810	1,270
9	1,100	1,300	1,180	1,400	1,050	1,100	1,400	4,390	9,610	4,050	1,770	1,290
10	1,090	1,330	1,220	1,320	1,000	1,100	1,470	4,390	10,400	4,050	1,690	1,270
11	1,090	1,390	1,200	1,380	1,050	1,050	1,710	4,460	11,100	4,080	1,670	1,270
12	1,140	1,440	1,260	1,380	1,100	1,000	1,980	4,370	11,200	4,150	1,630	1,290
13	1,150	1,280	1,260	1,350	1,200	850	2,020	4,040	10,800	4,080	1,610	1,310
14	1,130	1,150	1,110	1,330	1,150	1,050	2,220	3,780	10,500	3,980	1,570	1,290
15	1,120	1,200	930	*1,340	1,100	1,100	2,220	3,680	10,200	3,760	1,550	1,270
16	1,110	970	940	1,380	1,050	1,200	2,830	e3,910	*9,840	3,550	1,550	1,250
17	1,100	920	1,200	1,410	950	1,400	3,220	e4,670	9,020	3,370	1,510	1,240
18	1,100	1,030	1,330	1,330	1,000	1,500	3,310	e5,820	7,800	*3,240	1,480	1,230
19	1,080	1,330	1,330	1,300	1,050	1,600	3,420	e7,180	7,310	3,070	1,460	1,220
20	1,070	1,520	1,350	1,300	1,000	1,800	3,820	e8,740	7,440	2,950	1,420	1,200
21	1,120	1,840	1,400	1,300	1,050	2,070	4,280	e10,200	7,830	2,910	1,380	1,180
22	1,140	1,910	1,790	1,330	1,050	2,160	4,760	e11,700	7,120	2,810	1,360	1,180
23	1,180	1,640	3,420	1,300	*b1,200	2,680	5,020	e12,900	6,570	2,760	1,350	1,220
24	1,220	1,470	3,890	1,280	b1,200	2,910	4,900	e14,000	6,440	2,680	1,350	1,230
25	1,210	1,470	2,540	1,180	b1,100	3,000	4,690	e16,300	6,380	2,640	1,340	1,250
26	1,220	1,450	2,220	1,080	b1,100	2,490	4,550	e15,500	6,160	2,550	1,370	1,240
27	1,230	1,440	2,120	1,140	b1,100	2,010	*4,460	e15,400	6,030	2,480	1,450	1,240
28	*1,270	1,410	1,970	1,180	b1,050	1,750	4,260	e15,300	6,030	2,410	*1,490	1,250
29	1,280	1,390	1,700	1,070	b1,100	1,620	4,080	14,600	6,130	2,380	1,530	1,270
30	1,300	1,360	1,540	970	-----	1,670	3,870	14,400	6,100	2,380	1,470	1,290
31	1,380	-----	1,450	1,020	-----	1,710	-----	*14,700	-----	2,290	1,440	-----
Total	35,210	41,220	48,250	41,090	30,725	47,520	86,490	246,480	288,320	110,670	49,960	38,030
Mean	1,136	1,374	1,556	1,325	1,059	1,533	2,883	7,951	9,611	3,570	1,612	1,268
Ac-ft	69,840	81,760	95,700	81,500	60,940	94,250	171,600	488,900	571,900	219,500	99,090	75,430
Calendar year 1955:	Max	7,940	Min	750	Mean	1,715	Ac-ft	1,241,000				
Water year 1955-56:	Max	16,300	Min	811	Mean	2,907	Ac-ft	2,110,000				

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

e Shifting-control method used.

## 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 county road bridge, and 6½ miles south of Leadore.

Drainage area.--73 sq mi, approximately; 74 sq mi, approximately, at former site.

Records available.--June 1955 to September 1956. 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). November 1938 to July 1939, staff gage at site half a mile downstream at different datum.

Extremes.--Maximum discharge during year, 116 cfs Mar. 25 (gage height, 3.94 ft), from rating curve extended above 50 cfs by logarithmic plotting; maximum gage height recorded, 4.11 ft Mar. 7 (ice jam); minimum discharge, 5.2 cfs May 15 (gage height, 2.77 ft).

1955-56: Maximum discharge, that of Mar. 25, 1956; maximum gage height, that of Mar. 7, 1956; minimum discharge, 4.3 cfs Aug. 31, 1955 (gage height, 2.72 ft).

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

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Sept. 11-30)

2.7	4	3.3	45
2.8	7	3.6	75
2.9	13	4.0	125
3.0	20		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	23	24	25	13	24	34	16	21	13	9.4	12
2	7.0	b23	23	25	16	25	32	14	26	19	8.8	12
3	7.0	25	23	26	20	25	32	14	28	21	7.6	12
4	7.6	27	*22	27	22	25	34	14	30	12	7.6	13
5	10	28	b20	27	24	25	34	11	26	10	8.8	12
6	9.4	26	b23	27	25	b24	b32	8.8	25	11	9.4	8.2
7	8.8	26	b23	27	24	b23	33	10	23	11	10	7.0
8	11	26	b22	26	22	24	32	9.4	21	11	8.8	7.6
9	12	27	b22	24	21	24	36	7.6	21	10	8.2	7.0
10	11	33	b24	25	23	25	44	8.2	23	11	11	7.6
11	12	28	26	*26	25	25	44	11	22	13	11	7.6
12	14	b22	26	25	27	24	39	16	22	14	11	7.6
13	15	b19	b25	25	26	25	36	12	21	11	11	7.6
14	15	b17	b24	24	25	24	35	9.4	18	12	8.8	7.0
15	14	b16	22	25	23	24	34	6.7	16	11	7.0	7.6
16	14	b15	22	26	22	25	35	7.6	*26	11	6.4	8.2
17	13	b18	23	25	22	26	39	7.6	25	8.2	7.6	8.2
18	12	b25	25	b25	23	27	32	9.4	19	8.8	8.8	8.8
19	13	32	25	25	24	31	30	12	15	9.4	10	8.8
20	14	43	27	25	24	37	30	10	15	10	11	8.2
21	15	41	32	26	25	45	28	8.2	23	11	12	8.8
22	18	30	45	26	24	53	26	*7.0	19	11	*12	8.2
23	20	b22	60	26	25	58	25	7.0	16	11	13	10
24	19	25	50	b18	24	74	*24	17	18	9.4	14	11
25	19	23	41	b16	23	100	22	20	16	10	14	11
26	19	25	38	b19	24	75	22	21	16	*10	14	10
27	22	25	35	b19	24	49	26	26	15	11	14	8.2
28	*26	25	31	b18	24	*44	25	28	14	10	14	10
29	26	25	28	b19	*24	36	22	30	12	11	14	10
30	26	24	25	b17	-----	40	20	30	12	11	13	*10
31	25	-----	24	15	-----	39	-----	22	-----	11	12	-----
Total	461.8	765	880	729	668	1,125	937	430.9	604	353.8	328.2	275.2
Mean	14.9	25.5	28.4	23.5	23.0	36.3	31.2	13.9	20.1	11.4	10.6	9.17
Ac-ft	916	1,520	1,750	1,450	1,320	2,230	1,860	855	1,200	702	651	546

Calendar year 1955: Max - Min - Mean - Ac-ft -  
Water year 1955-56: Max 100 Min 6.4 Mean 20.6 Ac-ft 15,000

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Dec. 15 to Jan. 10, Jan. 31 to Feb. 28, Mar. 1-5, 8-21; discharge estimated on basis of weather records and records for Lemhi River near Lemhi and stations on other nearby streams.

## 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 1956.

Gage.--Staff gage read once daily; crest-stage indicator since Apr. 29, 1955. Datum of gage is 4,971.7 ft above mean sea level, adjustment of 1929 (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 1,090 cfs probably June 1 (gage height, 3.51 ft); minimum observed, 124 cfs Aug. 25 (gage height, 1.62 ft).  
1938-39, 1955-56: Maximum discharge, that of June 1, 1956; minimum observed, 93 cfs Sept. 3-7, 1955 (gage height, 1.51 ft); minimum gage height observed, 1.41 ft Aug. 27, 1939.

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

Revisions (water years).--WSP 1397: 1939.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Sept. 22-30)

1.5	113	2.6	500
1.6	136	3.0	735
1.9	221	3.5	1,080
2.2	330		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	190	212	212	b210	a150	184	269	255	1,050	350	224	152
2	190	212	212	218	a160	190	241	248	1,040	322	218	141
3	179	224	*209	218	a170	190	228	241	1,010	370	182	141
4	173	231	199	224	a185	196	*235	255	982	330	170	141
5	170	231	b180	228	a210	190	241	262	968	322	154	146
6	176	218	b200	228	a210	184	215	255	835	318	154	146
7	193	218	b200	228	a200	b190	255	269	722	318	159	141
8	202	218	b180	228	a190	190	228	269	670	310	159	152
9	202	218	196	206	a180	190	228	269	670	294	149	152
10	218	224	221	224	a180	196	248	276	683	290	149	154
11	196	231	218	224	a200	190	269	269	709	283	144	165
12	199	218	212	221	b210	184	258	290	683	290	144	176
13	218	b200	199	228	206	196	258	269	646	290	139	176
14	193	193	b190	228	199	190	272	255	610	286	139	165
15	184	b180	b160	*231	b190	184	260	248	550	280	139	159
16	190	b170	b180	235	b180	184	294	248	*610	266	144	159
17	184	b190	202	228	b180	196	318	280	550	258	*144	165
18	179	224	199	235	a180	209	294	326	520	*231	144	159
19	187	218	199	235	a190	241	266	370	530	224	139	159
20	170	245	206	228	a190	290	290	446	592	212	139	139
21	170	252	221	224	196	334	314	500	556	218	144	149
22	162	238	286	228	190	366	322	556	498	231	139	152
23	162	206	306	224	*196	424	322	640	460	218	134	146
24	173	212	290	231	190	491	314	*728	455	199	129	152
25	184	206	258	212	184	556	290	828	446	193	124	146
26	187	212	286	b190	190	486	283	828	402	193	129	146
27	193	218	258	b190	190	346	298	870	386	193	144	141
28	*212	212	238	b200	184	290	*288	842	382	206	154	152
29	218	212	b220	b180	190	290	276	891	398	224	152	184
30	224	206	b220	b160	-----	298	268	926	374	238	157	196
31	224	-----	b210	a155	-----	290	-----	947	-----	231	146	-----
Total	5,902	6,449	6,767	6,699	5,470	8,125	8,161	14,156	18,985	8,188	4,685	4,852
Mean	190	215	218	216	189	262	272	457	633	264	151	155
Ac-ft	11,710	12,790	13,420	13,390	10,850	16,120	16,190	28,080	37,680	16,240	9,290	9,230
Calendar year 1955: Max	-	-	-	Min	-	Mean	-	Ac-ft	-	-	-	-
Water year 1955-56: Max	1,050	-	-	Min	124	Mean	268	Ac-ft	194,900	-	-	-

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for Texas Creek and other nearby streams.

b Stage-discharge relation affected by ice.

## Panther Creek near Shoup, Idaho

Location.--Lat 45°19', long 114°23', in sec. 19, T. 23 N., R. 18 E., on left bank 25 ft downstream from bridge on private road, 1 mile upstream from mouth, and 7 miles southwest of Shoup.

Drainage area.--529 sq mi.

Records available.--October 1944 to September 1956.

Gage.--Staff gage read once daily. Altitude of gage is 3,280 ft (from river-profile map).

Average discharge.--12 years, 254 cfs (183,900 acre-ft per year).

Extremes.--Maximum discharge observed during year, 2,740 cfs May 25 (gage height, 4.30 ft); minimum daily, 50 cfs Feb. 2.

1944-56: Maximum discharge observed, that of May 25, 1956; maximum gage height observed, 4.4 ft Jan. 6, 1947 (backwater from ice); minimum discharge observed, 30 cfs Feb. 10, 1953 (gage height, -0.21 ft).

Remarks.--Records good except those for periods of ice effect or doubtful gage-height record, which are fair. Diversions for irrigation of about 1,000 acres above station.

Revisions (water years).--WSP 1063: 1945.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 18 to June 13)

0	45	2.0	715
.2	70	2.5	1,030
.4	106	3.0	1,410
.8	198	4.0	2,300
1.2	326	4.5	2,800
1.6	495		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	96	93	200	55	75	146	454	2,430	409	177	146
2	100	93	93	95	50	80	141	436	2,250	393	170	133
3	96	100	93	90	55	80	*135	454	2,040	409	170	133
4	96	112	*75	92	60	80	137	505	1,940	401	165	128
5	100	116	55	92	70	80	137	547	1,760	368	165	124
6	100	108	80	91	75	75	120	558	d1,500	345	180	120
7	100	104	90	91	75	70	116	569	1,250	322	165	114
8	96	100	80	90	70	70	137	579	1,250	315	180	114
9	96	100	95	85	70	70	141	692	1,200	308	155	114
10	96	96	80	90	70	75	177	715	1,200	290	150	114
11	100	96	85	95	75	75	256	756	1,170	283	146	110
12	100	96	100	93	78	70	263	756	1,100	290	141	118
13	100	93	90	90	75	65	276	692	1,030	285	141	118
14	100	89	80	*85	75	65	276	590	982	276	137	110
15	100	80	75	90	70	70	345	569	*923	250	137	106
16	100	70	90	90	65	75	393	657	891	244	137	100
17	100	85	85	85	70	75	409	761	866	232	133	100
18	96	100	90	80	70	80	384	1,390	767	*229	133	100
19	96	120	100	90	75	85	472	1,560	692	220	128	100
20	100	150	110	90	75	90	505	1,970	657	215	124	96
21	100	137	120	89	80	95	580	2,040	646	209	120	96
22	100	128	212	89	85	105	692	2,150	625	204	120	96
23	100	116	250	82	80	120	703	2,310	590	195	120	100
24	100	104	155	82	75	d150	703	2,640	579	193	120	96
25	96	100	128	70	75	d200	612	2,740	537	193	116	95
26	96	104	124	70	75	d250	569	2,540	505	188	133	95
27	96	104	124	72	*75	d200	*574	2,540	481	188	250	91
28	96	104	89	75	75	175	590	2,540	472	193	*201	106
29	*96	100	95	75	75	165	505	2,230	454	182	180	106
30	100	93	100	70	-----	155	481	2,230	445	188	170	106
31	100	-----	100	65	-----	155	-----	*2,180	-----	182	165	-----
Total	3,056	3,094	3,246	2,643	2,073	3,275	10,985	41,330	31,190	8,200	4,689	3,285
Mean	98.6	103	105	85.3	71.5	106	366	1,333	1,040	265	151	110
Cfsm	0.186	0.195	0.198	0.161	0.135	0.200	0.692	2.52	1.97	0.501	0.285	0.208
In.	0.21	0.22	0.23	0.19	0.15	0.23	0.77	2.91	2.19	0.58	0.33	0.23
Ac-ft	6,060	6,140	6,440	5,240	4,110	6,500	21,790	81,860	61,860	16,260	9,300	6,520
Calendar year 1955: Max	1,250				Min 50	Mean 205		Cfsm 0.388	In. 5.26	Ac-ft 148,500		
Water year 1955-56: Max	2,740				Min 50	Mean 320		Cfsm 0.605	In. 8.24	Ac-ft 232,200		

\* Discharge measurement made on this day.

d Doubtful gage-height record; discharge estimated on basis of weather records and records for Big Creek near Big Creek, Johnson Creek at Yellow Pine, and other nearby streams.

Note.--Stage-discharge relation affected by ice Nov. 15-19, Dec. 4-21, Dec. 29 to Jan. 20, Jan. 25 to Mar. 22.

## Salmon River near Shoup, Idaho

Location--Lat 45°19'30", long 114°26'00", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  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.

Records available--October 1944 to September 1956.

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 (corrected).

Average discharge--12 years, 3,056 cfs (2,212,000 acre-ft per year).

Extremes--Maximum discharge during year, 24,900 cfs May 26 (gage height, 13.00 ft); minimum daily, 1,130 cfs Feb. 2.

1944-56: Maximum discharge, that of May 26, 1956; minimum daily, 800 cfs Jan. 31, Feb. 1, 1951.

Remarks--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Diversions for irrigation of about 88,000 acres above station.

Rating table, water year 1955-56, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	1,070	5.0	5,190
2.1	1,280	7.0	9,150
2.5	1,640	9.0	13,700
3.0	2,200	11.0	19,000
4.0	3,590	13.0	24,900

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,500	2,000	1,900	2,100	1,250	1,700	2,420	4,990	21,500	6,930	2,900	2,000
2	1,500	1,900	1,900	2,100	1,130	1,700	2,250	4,730	22,500	6,510	2,780	1,930
3	1,450	1,800	1,800	2,100	1,250	1,700	*2,150	4,760	22,200	6,340	2,700	1,860
4	1,420	1,900	*1,760	2,100	1,400	1,700	2,080	4,970	21,000	5,980	2,620	1,830
5	1,420	2,000	1,630	2,300	1,600	1,700	2,090	5,190	19,500	5,620	2,510	1,770
6	1,450	2,000	1,500	2,200	1,700	1,700	2,090	5,280	17,800	5,330	2,430	1,740
7	1,500	1,900	1,700	2,000	1,600	1,550	2,030	5,440	15,900	5,100	2,420	1,710
8	1,550	1,900	1,750	2,000	1,550	1,550	2,020	5,570	14,100	4,990	2,400	1,700
9	1,550	1,800	1,650	2,000	1,500	1,700	2,040	5,820	13,100	4,620	2,370	1,720
10	1,500	1,900	1,700	1,900	1,400	1,700	2,100	5,660	13,500	4,780	2,280	1,730
11	1,500	1,950	1,700	1,900	1,500	1,600	2,410	6,000	13,900	4,750	2,200	1,700
12	1,600	2,000	1,750	1,900	1,550	1,500	2,770	5,920	14,200	4,650	2,150	1,750
13	1,600	1,800	1,750	1,900	1,650	1,450	2,970	5,460	13,700	4,600	2,100	1,780
14	1,600	1,800	1,600	*1,850	1,600	1,600	3,140	5,070	13,200	4,730	2,040	1,760
15	1,600	1,650	1,300	1,830	1,550	1,700	3,460	4,850	*12,700	4,500	2,000	1,720
16	1,550	1,400	1,300	1,680	1,450	1,800	3,960	5,000	12,500	4,300	1,980	1,710
17	1,550	1,300	1,700	1,980	1,350	1,860	4,420	5,920	11,600	*4,120	1,950	1,690
18	1,550	1,450	1,900	1,940	1,400	2,030	4,650	7,690	10,100	3,950	1,860	1,670
19	1,500	1,900	1,900	1,720	1,500	2,490	4,660	9,900	9,070	3,780	1,850	1,660
20	1,500	2,200	1,900	1,770	1,450	2,950	5,140	11,800	8,900	3,640	1,810	1,620
21	1,600	2,600	2,000	1,770	1,550	3,770	5,790	13,700	9,610	3,560	1,740	1,620
22	1,600	2,700	3,100	1,850	1,600	3,540	6,450	15,700	8,920	3,460	1,730	1,610
23	1,650	2,300	4,800	1,860	1,600	4,330	6,890	18,100	6,160	3,400	1,730	1,640
24	1,700	2,050	5,400	1,800	1,600	4,730	6,970	19,900	7,910	3,500	1,740	1,660
25	1,700	2,050	3,600	1,510	1,700	4,540	6,490	22,300	7,790	3,220	1,740	1,690
26	1,700	2,050	3,200	1,470	1,700	4,020	6,260	24,400	7,570	3,160	1,770	1,700
27	1,700	2,050	3,000	1,420	*1,700	3,360	*6,070	23,500	7,290	3,110	2,120	1,710
28	1,720	2,000	2,800	1,620	1,600	2,740	5,790	22,900	7,170	3,080	*2,160	1,740
29	*1,750	2,000	2,400	1,500	1,700	2,510	5,640	21,600	7,170	3,040	2,140	1,800
30	1,800	1,950	2,200	1,400	---	2,460	5,300	20,900	7,210	3,070	2,100	1,820
31	1,900	---	2,000	1,450	---	2,520	---	*20,700	---	3,010	2,030	---
Total	49,210	58,100	68,590	56,900	44,530	74,200	120,600	343,960	379,770	135,230	66,350	52,040
Mean	1,567	1,937	2,213	1,835	1,536	2,394	4,020	11,100	12,600	4,362	2,140	1,735
Ac-ft	97,610	115,200	136,000	112,900	88,320	147,200	239,200	682,200	753,300	268,200	131,600	103,200
Calendar year 1955: Max	11,400			Min 1,120			Mean 2,450		Ac-ft 1,773,000			
Water year 1955-56: Max	24,400			Min 1,130			Mean 3,960		Ac-ft 2,875,000			

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Jan. 29 to Mar. 16. No gage-height record Oct. 1-28, Oct. 30 to Dec. 3, Dec. 6 to Jan. 13, Feb. 7-26, July 15, 16; discharge estimated on basis of recorded range in stage, weather records, and records for stations at Salmon and at Whitebird.

## 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.

Records available.--September 1928 to September 1956. 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.--28 years (1928-56), 235 cfs (170,100 acre-ft per year).

Extremes.--Maximum discharge during year, 2,980 cfs May 24 (gage height, 6.96 ft); minimum, 39 cfs Nov. 2 (gage height, 2.23 ft), but may have been less during period of ice effect.

1928-56: Maximum discharge, that of May 24, 1956; minimum discharge recorded, 31 cfs Apr. 14, 1945 (gage height, 2.12 ft).

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

Revisions.--WSP 738: Drainage area.

Rating tables, water year 1955-56, 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

2.3	48	2.3	52	4.0	565
2.5	80	2.5	84	5.0	1,120
2.8	140	2.8	144	6.0	1,960
3.0	190	3.0	195	7.0	3,020
3.5	350	3.5	360		
4.0	560				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	87	85	150	64	62	85	412	2,780	725	210	137
2	93	77	82	160	60	65	85	436	2,640	685	204	133
3	91	85	80	140	62	65	80	460	2,450	655	201	131
4	89	93	70	140	70	65	*84	484	2,250	606	198	131
5	96	94	65	130	75	62	79	508	1,990	570	195	129
6	93	73	80	120	72	58	77	560	1,700	547	210	126
7	94	80	80	125	70	62	79	596	1,500	529	207	126
8	94	77	75	115	70	70	79	650	1,500	508	192	126
9	93	80	75	105	65	68	81	710	1,660	496	187	122
10	96	120	75	110	70	62	93	755	1,840	480	187	122
11	112	98	75	110	70	62	106	715	1,860	464	179	120
12	104	72	85	*100	70	62	112	625	1,740	456	173	118
13	102	80	80	105	70	65	588	588	1,650	452	168	118
14	98	85	65	100	70	62	146	820	1,570	420	166	116
15	96	75	70	100	65	62	171	705	1,480	400	168	114
16	93	70	80	110	60	65	195	859	1,340	376	163	112
17	91	70	75	98	60	66	213	1,060	1,180	353	156	112
18	89	65	75	95	62	70	243	1,310	*1,090	339	154	110
19	96	100	75	94	62	70	300	1,620	1,110	322	149	110
20	96	160	80	87	62	72	360	1,940	1,220	311	146	110
21	91	150	100	84	62	75	432	2,150	1,130	*297	144	110
22	94	130	220	84	65	75	496	2,370	1,020	283	142	112
23	91	120	382	82	65	80	516	2,510	972	272	*142	112
24	85	110	314	80	65	90	512	2,830	996	262	142	110
25	*84	105	267	75	62	95	508	2,600	930	255	140	108
26	89	100	239	74	62	95	472	2,520	888	246	151	106
27	85	95	227	73	62	90	456	2,580	882	246	173	106
28	89	95	180	75	62	85	456	2,420	876	240	168	*120
29	82	90	170	75	62	85	428	2,400	864	243	156	118
30	110	90	160	72	--- --	85	412	*2,580	793	231	149	114
31	91	--- --	150	65	--- --	85	--- --	2,660	--- --	219	142	--- --
Total	2,901	2,826	3,936	3,133	1,896	2,235	7,480	43,233	43,901	12,488	5,262	3,539
Mean	93.6	94.2	127	101	65.4	72.1	249	1,395	1,463	403	170	118
Cfsm	0.678	0.685	0.920	0.732	0.474	0.522	1.80	10.1	10.6	2.92	1.23	0.855
In.	0.78	0.76	1.06	0.84	0.51	0.60	2.02	11.85	11.85	3.37	1.42	0.95
Ac-ft	5,750	5,610	7,810	6,210	3,760	4,430	14,840	85,750	87,080	24,770	10,440	7,020

Calendar year 1955: Max 1,530 Min 55 Mean 207 Cfsm 1.50 In. 20.34 Ac-ft 149,800  
 Water year 1955-56: Max 2,830 Min 58 Mean 363 Cfsm 2.63 In. 35.79 Ac-ft 263,500

Peak discharge (base, 930 cfs).--May 24 (12:30 a.m.) 2,980 cfs (6.96 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 10, Nov. 13 to Dec. 22, Dec. 28 to Jan. 16, Jan. 18, Jan. 24 to Mar. 20. No gage-height record Nov. 16 to Dec. 13, Jan. 1-11, Feb. 29 to Mar. 6, Mar. 9 to Apr. 3; discharge estimated on basis of weather records and records for Johnson Creek at Yellow Pine, Valley Creek at Stanley, and Bear Valley Creek near Cape Horn.



## 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.

Records available.--September 1921 to September 1928 (fragmentary), October 1928 to September 1956. 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.--28 years (1928-56), 289 cfs (209,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,860 cfs May 27 (gage height, 5.87 ft), from rating curve extended above 2,300 cfs by logarithmic plotting; minimum recorded, 64 cfs Nov. 2 (gage height, 1.14 ft), but may have been less during period of ice effect.

1921-56: Maximum discharge, that of May 27, 1956; 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.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 3

May 4 to Sept. 30

1.2	74	1.3	110	3.0	910
1.3	92	1.5	157	4.0	1,750
1.5	135	2.0	327	5.0	2,800
1.9	263	2.5	580	5.8	3,770
2.4	500				
3.0	875				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	121	115	220	95	100	130	708	3,260	692	200	140
2	104	108	110	230	90	105	130	766	3,140	653	194	134
3	102	150	105	220	95	105	130	786	2,970	640	194	132
4	98	119	100	220	110	105	*130	854	2,840	592	191	132
5	108	128	95	200	115	100	130	903	2,490	550	188	130
6	104	102	110	190	110	95	130	959	2,110	520	185	132
7	110	124	105	190	110	100	130	980	1,870	487	182	130
8	114	100	100	170	110	110	128	1,090	1,880	460	182	132
9	112	117	105	160	105	105	133	1,200	2,020	440	179	128
10	110	140	100	170	110	100	148	1,300	2,130	420	182	125
11	135	130	110	170	110	95	167	1,210	2,120	397	174	125
12	128	100	120	*160	110	95	185	994	1,980	384	168	125
13	128	105	105	160	110	100	201	896	1,880	415	163	123
14	119	110	90	150	110	100	240	938	*1,810	370	160	123
15	112	95	100	160	105	100	279	1,150	1,710	340	165	123
16	108	90	105	170	95	100	308	1,360	1,670	323	157	123
17	104	85	100	160	95	105	344	1,640	1,420	307	154	121
18	98	85	100	150	100	110	415	1,950	1,270	291	150	121
19	100	160	100	140	100	110	494	2,270	1,230	280	147	121
20	102	210	120	140	100	110	591	2,560	1,500	268	144	119
21	98	200	150	130	100	115	698	2,850	1,400	*265	142	119
22	100	180	350	130	105	115	786	2,990	1,130	257	140	119
23	100	165	600	130	105	120	812	3,230	1,050	247	*137	119
24	92	150	500	125	105	140	812	3,640	1,100	243	137	123
25	*96	145	420	120	100	150	812	3,290	1,010	243	134	123
26	106	140	370	115	100	150	760	3,220	917	233	147	121
27	104	130	350	115	100	140	727	3,670	882	236	165	121
28	108	125	300	115	100	130	779	3,560	854	235	177	*134
29	100	120	270	115	100	130	720	3,200	826	240	157	137
30	135	120	250	115	-----	130	694	3,080	757	230	150	130
31	133	-----	230	105	-----	130	-----	3,150	-----	213	144	-----
Total	3,372	3,834	5,885	4,845	3,000	3,500	12,133	60,194	51,226	11,469	5,089	3,785
Mean	109	128	190	156	103	113	404	1,942	1,708	370	164	126
Cfsm	0.606	0.711	1.06	0.867	0.572	0.628	2.24	10.8	9.49	2.06	0.911	0.700
In.	0.70	0.79	1.22	1.00	0.62	0.72	2.51	12.44	10.58	2.37	1.05	0.78
Ac-ft	6,690	7,600	11,670	9,610	5,950	6,940	24,070	119,400	101,600	22,750	10,090	7,510
Calendar year 1955: Max	1,470			Min 75	Mean 247	Cfsm 1.37	In. 18.60	Ac-ft 178,500				
Water year 1955-56: Max	3,670			Min 85	Mean 460	Cfsm 2.56	In. 34.78	Ac-ft 333,900				

Peak discharge (base, 1,200 cfs).--May 10 (7 to 9 p.m.) 1,330 cfs (3.55 ft); May 27 (11 a.m.) 3,860 cfs (5.87 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 10, 11, Nov. 13 to about Mar. 20. No gage-height record Dec. 26 to Jan. 11, Mar. 7 to Apr. 3; discharge estimated on basis of weather records and records for Valley Creek at Stanley, Middle Fork Salmon River near Cape Horn, Johnson Creek at Yellow Pine, and other nearby streams.

## Big Creek near Big Creek, Idaho

Location.--Lat 45°07', long 114°55', in NE $\frac{1}{4}$  sec. 36, T. 21 N., R. 12 E., on left bank three-quarters of a mile downstream from Cabin Creek,  $\frac{1}{2}$  miles southeast of Wallace Ranch, and 19 miles east of Big Creek Post Office.

Drainage area.--470 sq mi, approximately.

Records available.--September 1944 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 3,950 ft (from river-profile map). Prior to Oct. 22, 1948, staff gage at site a quarter of a mile downstream at different datum.

Average discharge.--12 years, 509 cfs (368,500 acre-ft per year).

Extremes.--Maximum discharge during year, 5,220 cfs May 24 (gage height, 7.39 ft); minimum, 48 cfs Dec. 14, result of discharge measurement, but may have been less during other period of ice effect.

1944-56: Maximum discharge, 5,800 cfs June 3, 1948 (gage height, 7.12 ft, from floodmark, former site and datum), from rating curve extended above 3,000 cfs by logarithmic plotting; minimum, that of Dec. 14, 1955.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. No regulation. Small diversions above station for irrigation.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 20 to May 19)

Oct. 1 to May 19

May 20 to Sept. 30

1.6	54	2.6	385	1.9	157	4.0	1,660
1.8	83	3.0	681	2.2	257	6.0	3,720
2.0	125	4.0	1,620	2.5	405	7.2	5,010
2.3	229	5.6	3,360	3.0	760		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	170	164	150	b240	b100	105	327	1,000	4,700	1,150	350	249
2	170	128	147	b240	b90	105	306	968	4,470	1,060	340	238
3	164	178	142	b210	b100	105	291	1,010	4,060	1,020	355	230
4	164	178	109	247	b115	105	275	1,080	3,730	*956	328	227
5	178	192	b95	221	b130	100	280	1,180	3,330	938	318	223
6	174	167	b170	188	b125	90	265	1,190	2,730	920	316	219
7	174	164	b150	184	b120	100	280	1,230	2,210	904	340	*216
8	174	153	104	200	b115	110	275	1,330	2,120	864	316	216
9	170	164	153	128	115	115	296	1,420	2,600	848	301	209
10	167	188	111	153	120	100	404	1,560	3,050	856	292	206
11	188	221	142	196	125	90	606	1,550	3,070	940	283	202
12	178	160	208	181	125	*b70	743	*1,400	2,760	808	279	209
13	*184	107	136	170	120	b95	824	2,260	2,590	776	266	209
14	181	174	*b65	145	115	b98	941	1,160	2,420	744	257	202
15	178	109	b170	160	110	b100	1,060	1,140	2,270	672	266	196
16	170	100	b180	181	100	b100	1,140	1,170	2,080	624	257	193
17	167	123	b150	174	110	b105	1,080	1,630	1,830	586	249	189
18	160	b170	b140	153	115	116	1,000	2,250	1,680	558	242	186
19	160	b240	b180	145	115	136	1,140	3,320	1,730	537	238	186
20	164	b290	b200	153	115	153	1,350	3,660	1,920	524	230	186
21	160	b260	b280	156	115	156	1,540	4,140	1,820	510	227	196
22	160	b220	b800	156	110	208	1,660	4,390	1,580	484	223	193
23	160	196	1,020	150	110	257	1,590	4,480	1,500	465	219	189
24	153	188	567	147	110	368	1,500	4,960	1,530	447	223	186
25	153	181	392	b125	110	560	1,460	4,290	1,530	435	223	185
26	153	178	356	b115	105	631	1,350	4,270	1,430	411	257	180
27	153	174	311	b140	105	500	1,230	4,730	1,420	400	423	183
28	153	167	257	b120	105	398	1,180	4,050	1,440	394	372	196
29	153	160	174	b125	105	356	1,120	3,800	1,450	417	306	193
30	170	147	b125	b125	-----	339	1,060	*4,020	1,300	394	283	186
31	178	-----	b190	b110	-----	350	-----	4,430	-----	372	261	-----
Total	5,181	5,231	7,294	5,138	3,255	6,221	26,574	78,448	70,350	20,914	8,816	6,076
Mean	167	174	235	166	112	201	886	2,531	2,345	675	284	203
Cfs/m	0.355	0.370	0.500	0.353	0.238	0.428	1.89	5.39	4.99	1.44	0.604	0.432
In.	0.41	0.41	0.58	0.41	0.26	0.49	2.10	6.21	5.57	1.65	0.70	0.48
Ac-ft	10,280	10,380	14,470	10,190	6,460	12,340	52,710	155,600	139,500	41,480	17,490	12,050

Calendar year 1955: Max 3,290 Min 65 Mean 446 Cfs/m 0.949 In. 12.88 Ac-ft 322,800  
Water year 1955-56: Max 4,960 Min 65 Mean 665 Cfs/m 1.41 In. 19.27 Ac-ft 483,000

Peak discharge (base, 2,000 cfs).--May 24 (7 a.m.) 5,220 cfs (7.39 ft); June 11 (2 a.m.) 3,440 cfs (5.64 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Feb. 9 to Mar. 11; discharge estimated on basis of weather records and records for Johnson Creek at Yellow Pine, Panther Creek near Shoup, and other nearby streams.

## 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 ½ miles southwest of Knox, and 21 miles northeast of Cascade.

Drainage area.--92 sq mi, approximately.

Records available.--September 1928 to September 1956.

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.--28 years, 144 cfs (104,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,620 cfs May 27 (gage height, 6.33 ft); minimum, 28 cfs Nov. 8 (gage height, 2.44 ft), but may have been less during period of ice effect.

1928-56: Maximum discharge, that of May 27, 1956; minimum recorded, 14 cfs Nov. 3, 1952 (gage height, 2.23 ft), but may have been less during period of ice effect.

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

Revisions (water years).--WSP 1043: 1943.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.5	34	4.0	397
2.7	56	4.5	615
3.0	107	5.0	875
3.5	227	6.2	1,540

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	44	54	125	55	53	111	413	1,420	273	73	49
2	40	40	52	120	62	53	105	409	1,340	260	71	46
3	38	46	50	110	68	53	101	424	1,240	254	69	46
4	38	54	48	115	70	53	103	494	1,150	227	68	46
5	45	58	37	110	68	50	109	529	974	216	67	45
6	42	45	50	105	64	45	107	511	836	*207	67	45
7	43	44	48	100	64	47	107	547	785	194	67	45
8	44	42	40	95	60	55	109	605	815	185	65	46
9	44	42	50	90	58	53	125	595	880	180	64	44
10	44	71	45	90	62	51	*156	670	925	175	64	42
11	55	54	50	85	64	46	189	680	880	165	62	42
12	*46	45	60	80	62	50	213	575	815	155	61	43
13	49	40	45	85	60	54	251	*516	785	150	*59	42
14	46	45	35	80	60	49	303	477	748	140	59	42
15	44	30	45	90	56	50	352	494	775	130	61	41
16	42	35	55	88	48	51	374	570	675	120	56	40
17	41	50	52	*83	57	53	367	695	570	115	55	38
18	40	55	50	80	58	55	401	853	538	110	54	38
19	44	90	55	75	56	59	461	1,050	538	105	53	*38
20	43	140	70	78	57	64	529	1,260	615	100	51	38
21	43	*130	140	76	57	66	605	1,350	498	97	50	41
22	44	88	457	74	55	74	640	1,420	452	93	50	41
23	42	73	511	74	55	88	630	1,450	432	90	49	41
24	40	66	309	71	54	119	610	1,480	473	88	48	40
25	38	62	221	56	54	145	590	1,370	405	86	49	38
26	45	61	186	60	54	151	547	1,420	378	84	55	38
27	44	59	166	70	53	136	542	1,530	367	83	61	38
28	42	58	142	60	*53	129	520	1,400	363	82	61	49
29	41	56	115	63	53	119	465	1,360	337	86	54	45
30	61	55	115	61	-----	117	432	1,330	299	81	53	42
31	50	-----	120	55	-----	117	-----	*1,390	-----	76	50	-----
Total	1,358	1,778	3,473	2,604	1,697	2,305	10,154	27,867	21,308	4,407	1,826	1,269
Mean	43.8	59.3	112	84.0	58.5	74.4	338	899	710	142	58.9	42.3
Cfsm	0.476	0.645	1.22	0.913	0.636	0.809	3.67	9.77	7.72	1.54	0.640	0.460
In.	0.55	0.72	1.40	1.05	0.69	0.93	4.10	11.26	8.61	1.78	0.74	0.51
Ac-ft	2,690	3,530	6,890	5,160	3,370	4,570	20,140	55,270	42,260	8,740	3,620	2,520

Calendar year 1955: Max 952 Min 27 Mean 126 Cfsm 1.37 In. 18.58 Ac-ft 91,200  
 Water year 1955-56: Max 1,530 Min 30 Mean 219 Cfsm 2.38 In. 32.34 Ac-ft 158,800

Peak discharge (base, 600 cfs).--Dec. 22 (12 p.m.) 726 cfs (4.72 ft); Apr. 21 (10 p.m.) 685 cfs (4.64 ft); May 11 (1 a.m.) 742 cfs (4.75 ft); May 27 (9 a.m.) 1,620 cfs (6.33 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 2, 12-21, 23, Dec. 2-21, Dec. 29 to Jan. 20, Jan. 24 to Feb. 27, Mar. 5-8, 10-18. No gage-height record Nov. 16-18, Jan. 4-16, Feb. 22-27, July 8 to Aug. 12; discharge estimated on basis of weather records, and records for Johnson Creek at Yellow Pine and other nearby streams.

## SALMON RIVER BASIN

## Johnson Creek at Yellow Pine, Idaho

Location.--Lat 44°58', long 115°30', in NE $\frac{1}{4}$  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.

Records available.--August 1928 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 4,657.70 ft above mean sea level, datum of 1929, unadjusted.

Average discharge.--28 years, 337 cfs (344,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,440 cfs May 27 (gage height, 7.64 ft); minimum, 41 cfs Nov. 16 (gage height, 0.92 ft).

1928-56: Maximum discharge, that of May 27, 1956; minimum, 21 cfs Nov. 30, 1954 (gage height, 0.66 ft).

Remarks.--Records excellent except those below 100 cfs, which are good. Small diversion from Johnson Creek basin to Deadwood River basin (see Remarks for Deadwood Reservoir near Lowman).

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

1.0	50	2.5	507
1.2	77	3.0	770
1.5	135	4.0	1,420
1.8	215	5.0	2,300
2.1	323	7.2	4,870

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77	86	106	194	100	96	147	843	4,250	327	137	120
2	76	76	100	185	110	96	145	881	3,940	397	188	116
3	74	89	100	172	120	94	145	897	3,580	873	185	112
4	72	98	94	177	122	94	147	981	3,270	792	180	112
5	80	104	*71	172	120	91	147	1,020	2,740	*737	175	110
6	79	84	100	162	114	80	142	1,100	2,280	704	175	110
7	80	87	96	157	114	84	149	1,140	2,060	660	175	108
8	84	80	80	152	106	98	149	1,250	2,280	623	169	110
9	84	84	98	142	104	94	154	1,260	2,620	597	164	104
10	86	116	86	149	112	91	177	1,400	2,820	576	164	100
11	94	145	98	147	114	82	*215	1,310	2,620	541	159	98
12	91	89	112	137	112	86	235	*1,120	2,380	507	152	102
13	94	72	86	147	108	*94	270	1,000	2,260	487	147	100
14	*92	89	64	137	106	84	332	993	2,130	453	*142	98
15	87	56	89	152	104	87	406	1,140	2,100	425	147	96
16	84	56	110	149	87	87	453	1,440	1,900	393	142	94
17	80	91	102	140	104	89	468	1,830	1,630	366	135	92
18	77	91	96	*135	106	91	522	2,300	1,540	344	133	*91
19	80	124	106	129	102	94	634	2,910	1,590	327	129	91
20	84	182	120	135	104	98	781	3,430	1,930	311	127	91
21	79	177	154	131	104	100	933	3,750	*1,610	300	122	94
22	77	147	307	151	100	106	1,060	4,060	1,420	280	120	94
23	77	131	357	131	100	112	1,100	4,100	1,350	266	116	94
24	76	124	288	127	98	129	1,100	4,210	1,490	255	116	92
25	76	120	252	102	98	152	1,120	3,730	1,330	248	114	91
26	77	118	245	106	98	159	1,040	3,990	1,240	238	124	89
27	79	114	232	127	96	154	981	4,860	1,230	232	162	89
28	80	110	215	108	96	142	999	3,980	1,220	228	169	96
29	77	110	175	114	96	149	921	3,730	1,150	238	145	100
30	92	108	177	110	-----	149	867	*3,770	1,020	225	133	98
31	89	-----	191	98	-----	154	-----	4,180	-----	206	127	-----
Total	2,534	3,158	4,507	4,355	3,055	3,316	15,939	72,605	62,970	14,256	4,633	2,994
Mean	81.7	105	145	140	105	107	531	2,342	2,099	460	149	99.8
Cfs/m	0.384	0.493	0.681	0.657	0.493	0.502	2.49	11.0	9.85	2.16	0.700	0.469
In.	0.44	0.55	0.79	0.76	0.53	0.58	2.78	12.68	10.98	2.49	0.81	0.52
Ac-ft	5,030	6,260	8,940	8,640	6,060	6,580	31,610	144,000	124,900	28,280	9,190	5,940

Calendar year 1955: Max 2,460 Min 50 Mean 289 Cfs/m 1.36 In. 18.44 Ac-ft 209,400  
 Water year 1955-56: Max 4,860 Min 56 Mean 531 Cfs/m 2.49 In. 33.92 Ac-ft 385,400

Peak discharge (base, 1,800 cfs).--May 27 (9 a.m.) 5,440 cfs (7.64 ft); June 10 (8:30 p.m.) 3,160 cfs (5.80 ft).

\* Discharge measurement made on this day.

## Salmon River near French Creek, Idaho

Location.--Lat 45°26', long 115°59', in sec. 8, T. 24 N., R. 4 E., on left bank 100 ft downstream from Fall Creek, 2½ miles northeast of French Creek Post Office, and 16 miles east of Riggins.

Drainage area.--12,270 sq mi, approximately.

Records available.--October 1944 to September 1956 (discontinued).

Gage.--Staff gage read once daily. Datum of gage is 1,908.92 ft above mean sea level, unadjusted. Since Jan. 31, 1952, supplementary staff gage 3 miles upstream.

Average discharge.--12 years, 10,520 cfs (7,616,000 acre-ft per year).

Extremes.--Maximum discharge during year, 88,600 cfs probably on May 24 (gage height, 34.85 ft. from floodmark); minimum daily, 2,600 cfs Feb. 2, 1944-56. Maximum discharge observed, that of May 24, 1956; minimum observed, 1,790 cfs Dec. 27, 1952 (gage height, -1.30 ft, supplementary gage).

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
1093	1947	May 9, 1947	73,200	30.7
1123	1948	May 29, 1948	82,800	33.50
1153	1949	May 19, 1949	64,700	27.86
1183	1950	June 21, 1950	59,900	26.40
1217	1951	May 28, 1951	60,300	26.50
1397	1955	June 13, 1955	59,200	26.18

Remarks.--Records good. Amount of water diverted above station for irrigation is a negligible percentage of total flow.

Revisions (water years).--Revised figures of discharge, in cubic feet per second, for the water years 1947-51, 1955, superseding those published in WSP 1093, 1123, 1153, 1183, 1217, 1397, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1947		1947-Con.		1948-Con.		1949-Con.		1951	
May 3	44,500	May 30	39,000	June 10	68,100	May 30	50,000	May 11	41,700
4	55,000	31	39,900	11	63,500	31	45,700	13	40,600
5	57,000			12	57,600			19	43,800
6	58,100	1948		13	54,500	1950		20	43,800
7	60,900	May 18	37,500	14	50,600	June 1	41,700	21	45,500
8	65,600	19	43,600	15	46,500	2	43,600	22	46,500
9	72,000	20	51,200	16	44,000	3	43,200	23	51,100
10	65,400	21	52,400	17	40,400	4	42,800	24	56,700
11	54,800	22	52,500			5	45,800	25	57,700
12	46,700	23	50,000	1949		6	50,600	26	56,100
13	42,900	24	48,600	May 11	41,000	7	51,400	27	56,100
14	40,900	25	52,700	12	48,000	8	49,500	28	60,500
15	39,000	26	61,000	13	51,900	9	43,300	29	59,000
16	38,000	27	68,900	14	55,800	13	42,200	30	54,500
17	38,100	28	76,100	15	58,800	15	43,100	31	48,300
18	38,600	29	82,100	16	64,700	16	47,000		
19	37,700	30	74,600	17	61,500	17	51,500	1955	
20	38,600	31	67,500	18	55,200	18	51,800	June 8	43,200
21	39,700	June 1	65,200	19	49,700	19	53,300	9	50,700
22	40,600	2	67,100	20	49,600	20	57,000	10	53,900
23	40,000	3	78,500	21	47,300	21	58,800	11	55,500
24	39,800	4	77,600	22	44,200	22	54,800	12	57,100
25	40,800	5	72,600	23	43,000	23	50,200	13	58,200
26	43,700	6	69,700	26	42,400	24	49,400	14	58,500
27	46,000	7	72,200	27	45,800	25	45,700	15	55,900
28	46,300	8	73,200	28	49,200	30	43,200	16	50,000
29	43,900	9	71,200	29	51,400			17	43,500

## Salmon River near French Creek, Idaho--Continued

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
May 1947.....	1,411,000	72,000	28,600	45,520	3.71	4.28	2,799,000
Water year 1946-47.....	4,131,340	72,000	3,000	11,480	.936	12.71	8,314,000
Calendar year 1947.....	4,124,360	72,000	3,000	11,300	.921	12.50	8,181,000
May 1948.....	1,069,170	82,100	9,520	34,490	2.81	3.24	2,121,000
June 1948.....	1,482,300	78,300	23,900	49,410	4.03	4.49	2,940,000
Water year 1947-48.....	4,270,230	82,100	2,600	11,670	.951	12.93	8,470,000
Calendar year 1948.....	4,207,910	82,100	2,330	11,500	.937	12.75	8,346,000
May 1949.....	1,262,400	64,700	18,400	40,720	3.32	3.83	2,504,000
Water year 1948-49.....	3,574,980	64,700	2,330	9,794	.798	10.84	7,091,000
Calendar year 1949.....	3,562,410	64,700	2,500	9,760	.795	10.80	7,066,000
June 1950.....	1,375,900	58,800	38,100	45,860	3.74	4.17	2,729,000
Water year 1949-50.....	3,989,420	58,800	2,400	10,930	.891	12.09	7,913,000
Calendar year 1950.....	4,145,450	58,800	2,400	11,360	.926	12.56	8,222,000
May 1951.....	1,225,700	60,300	16,100	39,540	3.22	3.72	2,431,000
Water year 1950-51.....	4,465,610	60,300	2,200	12,230	.997	13.55	8,857,000
Calendar year 1951.....	4,370,280	60,300	2,200	11,970	.976	13.26	8,668,000
June 1955.....	1,159,590	58,300	22,500	38,000	3.10	3.46	2,261,000
Water year 1954-55.....	3,127,590	58,300	2,050	8,569	.698	9.48	6,203,000

## Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,900	4,530	a4,700	5,570	b2,800	a4,150	7,840	22,600	a4,500	23,300	a8,200	a5,600
2	3,830	a4,400	4,620	5,680	a2,600	4,200	a7,400	22,100	79,700	a22,000	7,720	5,400
3	3,800	4,250	a4,500	5,860	b2,700	4,500	6,860	22,100	76,300	20,800	a7,500	a5,250
4	3,780	a4,500	*4,300	5,770	b3,000	a4,400	a6,700	22,500	73,600	a19,700	7,240	5,130
5	3,800	4,950	a4,000	5,580	a3,400	4,460	6,470	23,800	71,900	18,700	a7,200	a5,000
6	3,890	4,680	3,660	5,440	b3,700	a4,300	a6,450	24,000	60,300	a18,000	7,150	4,940
7	a3,900	4,520	3,950	5,290	a3,800	4,180	6,410	24,100	*52,300	17,300	a7,100	a4,800
8	3,920	a4,400	4,140	5,120	3,920	6,750	6,540	25,000	49,200	a16,700	6,990	4,740
9	a3,950	4,650	a3,800	4,910	a3,950	a3,800	a6,800	26,000	50,100	*16,100	a6,800	a4,750
10	3,980	4,610	b3,700	4,700	3,990	4,010	7,130	28,800	53,900	a15,500	6,670	4,720
11	a4,400	a5,300	a4,000	4,960	4,010	4,090	a9,000	32,000	54,800	15,200	a6,600	a4,700
12	4,390	5,270	4,140	4,590	3,960	a3,800	11,100	29,800	52,900	a15,000	6,520	4,690
13	a4,300	a4,600	4,170	4,560	a3,940	a3,500	a13,000	26,800	50,400	14,700	a6,300	a4,650
14	4,250	b4,000	b3,800	4,590	3,920	a3,600	14,100	24,600	48,300	a14,000	6,120	4,620
15	a4,250	a3,600	b3,200	4,530	a3,800	3,600	a16,000	24,400	46,500	13,500	a5,900	a4,580
16	4,240	b3,300	b3,000	4,560	3,750	a3,600	18,700	25,500	44,400	a13,000	*5,860	4,550
17	a4,100	b2,800	b3,400	*4,690	a3,700	a3,600	a20,000	30,800	40,100	12,100	a5,700	a4,500
18	3,930	b3,000	b3,800	4,720	3,700	a3,900	19,400	40,600	36,100	a11,700	5,550	4,460
19	a4,050	a3,300	b4,200	4,690	a3,600	a4,500	19,500	53,300	*34,300	11,300	5,410	a4,400
20	4,130	b4,500	4,690	4,660	3,580	a5,200	a23,000	64,900	35,300	a10,800	a5,300	4,380
21	a4,000	a6,000	a6,000	4,640	a3,650	5,860	28,000	71,400	35,600	10,400	5,150	a4,300
22	3,940	6,060	10,200	a4,600	3,760	7,650	34,100	76,400	33,800	a10,200	a5,100	4,260
23	a3,950	a5,800	16,100	4,530	4,060	8,890	a34,000	81,200	30,800	9,970	5,090	a4,250
24	4,020	a5,500	a14,000	4,420	4,400	a10,500	32,700	a37,000	29,800	a9,600	a5,100	4,240
25	a4,000	a5,200	a11,500	4,350	a4,300	13,300	a31,000	a25,000	29,300	9,360	5,340	a4,230
26	4,050	4,770	9,520	b3,700	a4,200	a15,000	*28,800	a22,000	27,800	a9,100	a5,700	4,220
27	a4,100	a5,200	8,750	b3,500	*4,080	12,500	26,800	a25,000	26,700	8,890	6,460	a4,300
28	4,180	5,100	8,210	b3,500	a4,100	a10,500	25,600	a22,000	26,400	a8,850	a7,000	4,400
29	a4,300	a5,000	7,500	b3,700	4,160	a8,200	24,100	76,300	25,700	8,840	6,620	a4,450
30	4,400	4,890	6,990	b3,700	---	*8,120	23,100	80,700	24,800	a8,800	a6,300	4,480
31	*4,600	---	a5,800	a3,100	---	a8,000	---	82,700	---	8,750	5,950	---
Total	126,330	138,870	184,420	144,190	108,530	189,450	520,600	*1,483.4	*1,385.6	422,160	195,700	158,970
Mean	4,075	4,629	5,949	4,651	3,742	6,111	17,350	47,850	46,190	13,620	6,513	4,632
Cfsm	0.332	0.377	0.485	0.379	0.305	0.498	1.41	3.90	3.76	1.11	0.515	0.378
In.	0.38	0.42	0.56	0.44	0.33	0.57	1.58	4.50	4.20	1.28	0.59	0.42
Ac-ft	250,600	275,400	365,800	286,000	215,300	375,800	*1,033	*2,942.3	*2,748.3	857,300	388,200	275,600
Calendar year 1955: Max	58,300	Min	2,550	Mean	8,896	Cfsm	0.725	In.	9.85	Ac-ft	6,440,000	
Water year 1955-56: Max	87,000	Min	2,600	Mean	13,770	Cfsm	1.12	In.	15.27	Ac-ft	9,994,000	

\* Discharge measurement made on this day.

\* Expressed in thousands.

a Doubtful or no gage-height record; discharge estimated on basis of weather records and records for station at Whitebird.

b Stage-discharge relation affected by ice.

## Mud Creek near Tamarack, Idaho

Location.--Lat 45°00', long 116°21', in sec. 9, T. 19 N., R. 1 E., on left bank 0.5 mile upstream from Little Mud Creek,  $3\frac{1}{4}$  miles northeast of Tamarack, and 5 miles upstream from mouth.

Drainage area.--15.8 sq mi.

Records available.--April 1937 to September 1939 (fragmentary), October 1939 to September 1948 (discharge measurements only), September 1945 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 3,990 ft (by barometer). Prior to Sept. 18, 1945, staff gage at site 40 ft downstream at datum 1.21 ft higher.

Average discharge.--11 years (1945-56), 19.3 cfs (13,970 acre-ft per year).

Extremes.--Maximum discharge during year, 393 cfs Dec. 22 (gage height, 5.09 ft), caused by temporary storage behind ice jam upstream; maximum gage height recorded, 5.41 ft Dec. 22 (backwater from ice); minimum discharge, 0.9 cfs Nov. 12; minimum gage height, 2.23 ft Sept. 15-20.  
1937-38, 1945-56: Maximum discharge, 395 cfs Apr. 27, 1952 (gage height, 5.00 ft); maximum gage height recorded, that of Dec. 22, 1955; minimum discharge, 0.2 cfs Nov. 19, 20, 1952.

Remarks.--Records good except those below 10 cfs, which are fair, and those for periods of ice effect, which are poor. No regulation or diversion.

Revisions (water years).--WSP 1153: 1948.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 23-27, Mar. 29-31)

Oct. 1 to Mar. 31

Apr. 1 to Sept. 30

2.4	1.8	3.1	46	2.2	0.9	2.8	25
2.5	3.9	3.5	100	2.3	2.4	3.0	45
2.6	7.2	4.0	189	2.4	4.7	3.5	112
2.7	12	4.5	288	2.5	7.7	4.0	202
2.9	28			2.6	12		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	3.2	5.4	20	6.0	5.5	64	82	14	5.0	2.4	1.4
2	1.8	2.5	5.0	17	8.0	5.8	82	78	14	5.3	2.4	1.4
3	1.8	2.3	4.5	15	5.8	6.0	*64	82	12	5.3	2.6	1.2
4	2.1	3.4	4.0	13	5.8	6.0	70	126	13	5.0	2.4	1.2
5	2.7	3.9	*4.0	12	5.5	5.5	71	150	13	4.7	2.2	1.2
6	2.1	2.7	4.5	11	5.2	5.5	69	152	12	4.5	2.4	1.2
7	2.3	2.3	4.5	10	4.8	5.8	67	158	10	4.2	2.6	1.2
8	2.1	2.0	4.5	9.5	4.7	6.0	70	163	9.7	4.0	2.4	1.2
9	2.1	1.8	4.5	9.0	5.0	6.0	84	159	8.9	3.8	2.0	1.2
10	3.4	2.5	4.5	9.0	4.7	5.5	106	158	8.5	3.8	2.0	1.2
11	3.9	2.3	4.2	8.5	4.5	5.0	128	167	8.1	3.6	1.8	1.4
12	2.7	2.1	4.5	8.8	4.7	5.0	167	159	7.7	3.6	1.7	1.4
13	2.3	2.0	4.3	9.0	4.5	5.0	178	143	7.1	3.3	1.6	1.4
14	2.3	2.0	4.0	9.0	4.5	5.0	190	115	7.1	3.3	1.6	1.4
15	2.3	1.8	4.0	9.0	4.5	5.0	182	91	13	3.6	1.6	1.4
16	2.3	1.8	4.0	8.2	4.2	5.0	171	76	14	3.1	1.6	1.2
17	2.3	2.4	4.3	*8.5	4.2	5.5	152	74	13	2.9	1.4	1.2
18	2.3	3.0	4.5	8.5	4.5	6.0	159	76	10	2.6	1.4	1.2
19	2.3	2.2	8.0	8.5	4.5	6.5	176	78	9.7	2.6	1.2	1.2
20	2.1	5.5	20	9.0	4.5	7.0	184	76	12	2.6	1.4	1.4
21	2.1	9.0	40	9.0	4.8	8.0	180	70	10	2.6	1.4	1.4
22	2.7	7.0	200	9.0	5.0	11	167	61	8.9	2.4	1.4	1.4
23	2.5	6.0	170	9.0	6.0	20	158	49	8.5	2.2	1.4	1.4
24	2.5	5.5	92	8.5	6.0	45	140	37	*8.1	*1.2	1.4	1.4
25	2.3	5.0	62	8.0	5.8	110	*131	*29	7.1	2.2	1.8	1.4
26	3.4	5.0	56	8.0	*5.5	121	117	26	6.5	2.2	4.5	1.4
27	2.9	5.1	59	7.8	5.5	94	108	32	6.2	2.4	3.6	1.6
28	2.7	5.2	*49	7.5	5.5	74	100	24	5.6	2.9	2.6	*1.7
29	2.9	5.5	28	7.0	5.5	70	91	20	5.3	2.6	2.0	1.7
30	*4.2	5.5	30	6.5	---	68	86	18	5.0	2.6	1.7	---
31	3.2	---	25	6.5	---	67	---	16	---	*2.4	1.6	---
Total	78.2	110.5	918.2	299.3	147.7	800.6	3,692	2,745	288.0	103.5	61.9	40.7
Mean	2.52	3.68	29.6	9.65	5.09	25.8	123	88.5	9.60	3.34	2.00	1.36
Cfs/m	0.159	0.233	1.87	0.611	0.322	1.63	7.78	5.60	0.608	0.211	0.127	0.086
In.	0.18	0.26	2.16	0.70	0.35	1.88	8.69	6.46	0.68	0.24	0.15	0.10
Ac-ft	155	219	1,820	594	293	1,590	7,320	5,440	571	205	123	81

Calendar year 1955: Max 200 Min 1.0 Mean 14.4 Cfs/m 0.911 In. 12.32 Ac-ft 10,390  
Water year 1955-56: Max 200 Min 1.2 Mean 25.4 Cfs/m 1.61 In. 21.85 Ac-ft 18,410

Peak discharge (base, 100 cfs).--Dec. 22 (4 p.m.) 393 cfs (5.09 ft); Mar. 25 (time and discharge unknown); Apr. 14 (6 p.m.) 224 cfs (4.11 ft); May 7 (10 p.m.) 171 cfs (3.84 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13 to Dec. 22, Dec. 28 to Jan. 3, Jan. 8-10, Jan. 12, Jan. 14 to Mar. 25.

## Salmon River at Whitebird, Idaho

Location.--Lat 45°45', long 116°20', in sec. 22, T. 28 N., R. 1 E., on left bank just upstream from Whitebird Creek, half a mile downstream from Canfield-Joseph highway bridge and 1 mile southwest of Whitebird. Records include flow of Whitebird Creek.

Drainage area.--13,550 sq mi, approximately, includes that of Whitebird Creek.

Records available.--August 1910 to September 1917, October 1919 to September 1956.

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.--44 years, 10,831 cfs (7,841,000 acre-ft per year).

Extremes.--Maximum discharge during year, 106,000 cfs May 24 (gage height, 33.05 ft); minimum, 2,830 cfs Feb. 3; minimum gage height, 11.79 ft Nov. 17.

1910-17, 1919-56: Maximum discharge, that of May 24, 1956; minimum, 1,580 cfs Dec. 11, 1932 (gage height, 10.33 ft), from rating curve extended below 2,200 cfs. Maximum stage known, about 37.5 ft, 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.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,340	5,210	5,650	6,560	3,180	4,610	10,600	24,000	98,000	24,900	8,650	6,120
2	4,310	5,020	5,520	6,960	2,920	4,850	10,100	22,800	97,400	23,300	8,280	5,880
3	4,270	4,840	5,400	7,040	3,060	4,860	9,380	22,700	92,400	22,600	8,010	5,670
4	4,290	4,840	5,170	6,890	3,460	5,120	8,900	24,100	87,200	21,500	7,790	5,460
5	4,990	5,540	4,920	7,040	3,930	5,170	8,560	26,900	80,500	20,000	7,610	5,360
6	4,430	5,710	4,470	7,060	4,270	4,990	8,370	27,800	70,800	19,200	7,440	5,270
7	4,410	5,350	4,260	6,830	4,430	4,570	8,240	28,600	61,800	18,500	7,420	5,170
8	4,430	5,100	4,830	6,460	4,610	4,310	8,100	30,700	56,800	17,800	7,480	5,100
9	4,520	4,860	4,680	6,180	4,520	4,320	8,140	33,200	57,700	17,200	7,230	5,040
10	4,740	5,120	4,490	5,840	4,580	4,480	8,700	35,700	61,600	16,700	7,040	4,950
11	5,120	6,180	4,740	5,650	4,310	4,610	10,600	37,100	63,200	16,500	6,890	4,920
12	5,060	6,180	4,660	5,720	4,270	4,270	13,300	35,000	60,600	16,100	6,680	4,810
13	5,010	5,380	5,140	5,820	4,540	4,080	15,400	30,900	57,000	15,700	6,480	4,840
14	5,010	4,700	4,830	5,690	4,650	4,100	16,800	27,900	54,200	15,700	6,320	4,920
15	4,970	4,140	3,750	5,760	4,660	4,200	18,900	26,600	52,800	14,900	6,200	4,840
16	4,850	3,590	3,400	*6,160	4,120	4,170	22,100	28,000	51,300	14,000	*6,140	4,740
17	4,680	3,110	3,930	6,100	3,930	4,220	23,500	34,400	46,300	13,300	6,080	4,660
18	4,570	3,340	4,700	6,080	3,920	4,540	22,900	45,600	41,300	12,600	5,900	4,610
19	4,480	4,470	4,990	5,980	3,750	5,210	23,300	61,300	38,600	12,100	5,740	4,540
20	4,500	6,240	5,710	5,610	3,980	6,180	26,000	76,000	38,800	11,600	5,610	4,480
21	4,480	8,080	7,610	5,460	4,240	7,310	30,600	84,400	39,600	11,200	5,500	4,480
22	4,430	8,350	14,000	5,540	4,630	9,290	35,400	91,200	37,000	10,900	5,380	4,560
23	4,470	7,830	24,600	5,590	5,160	10,400	38,500	*95,700	33,800	10,500	5,250	4,500
24	4,450	6,940	21,200	5,630	5,420	13,000	38,000	104,000	32,400	10,200	5,230	4,470
25	4,410	6,320	16,900	5,290	5,250	16,000	35,900	103,000	32,100	9,880	5,310	4,470
26	4,560	6,100	13,100	4,540	5,010	18,200	33,600	98,900	30,500	9,630	5,780	4,430
27	4,590	6,200	11,900	3,920	4,810	16,500	*31,400	103,000	29,400	9,360	6,340	4,450
28	4,650	6,100	11,000	4,050	*4,700	13,800	29,800	*99,000	28,900	9,170	7,970	4,570
29	4,700	5,920	9,390	4,220	4,610	11,700	28,100	93,600	28,400	9,170	7,440	*4,720
30	4,860	5,760	7,940	4,200	-----	*10,800	26,100	91,200	26,900	9,150	6,810	4,750
31	*5,190	-----	6,790	3,750	-----	10,600	-----	93,700	-----	9,000	6,480	-----
Total	143,150	166,500	239,660	177,720	124,720	230,260	609,290	*1,737	*1,587.1	452,360	206,480	146,780
Mean	4,618	5,550	7,731	5,733	4,301	7,428	20,310	56,030	52,900	14,590	6,661	4,893
Cfsm	0.341	0.410	0.571	0.423	0.317	0.548	1.50	4.14	3.90	1.08	0.492	0.361
In.	0.39	0.46	0.66	0.49	0.34	0.63	1.67	4.77	4.36	1.24	0.57	0.40
Ac-ft	283,900	330,200	475,400	352,500	247,400	456,700	*1,209	*3,445	*3,148	897,200	409,500	291,100
Calendar year 1955: Max				66,400	Min	2,860	Mean	10,280	Cfsm	0.759	In.	10.31
Water year 1955-56: Max				104,000	Min	2,920	Mean	15,900	Cfsm	1.17	In.	15.98
										Ac-ft		11,550,000

\* Discharge measurement made on this day.

† Expressed in thousands.



## Deer Creek near Winchester, Idaho

Location.--Lat 46°07', long 116°45', in SE<sup>1</sup> sec. 18, T. 32 N., R. 3 W., on right bank 300 ft downstream from proposed dam site, an eighth of a mile downstream from West Fork, 4½ miles upstream from East Fork, and 10 miles southwest of Winchester.

Drainage area.--14.5 sq mi.

Records available.--October 1951 to November 1956 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 4,380 ft (by barometer).

Extremes.--1955-56: Maximum discharge during water year, 209 cfs Apr. 16 (gage height, 3.75 ft), from rating curve extended above 110 cfs; maximum gage height recorded, 4.46 ft probably on Mar. 26 (backwater from ice); minimum discharge, 0.6 cfs Oct. 3, but may have been less during period of ice effect.

1956: Maximum daily discharge during period October to November, 3.5 cfs Nov. 6; minimum, 0.6 cfs Oct. 3-9 (gage height, 1.70 ft).

1951-56: Maximum discharge, that of Apr. 16, 1956; maximum gage height recorded, 5.03 ft Apr. 9, 1955 (backwater from ice); minimum discharge recorded, 0.2 cfs Sept. 23, Oct. 4, 1952 (gage height, 1.62 ft).

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

Discharge, in cubic feet per second, 1956											
Day	Oct.	Nov.	Day	Oct.	Nov.	Day	Oct.	Nov.	Day	Oct.	Nov.
1	0.7	1.2	9	0.6	2.1	17	0.8	2.5	25	1.1	2.0
2	.7	1.3	10	.9	2.0	18	1.8	2.2	26	1.3	2.1
3	.6	1.1	11	1.1	2.3	19	1.6	2.0	27	1.6	2.1
4	.6	1.4	12	1.1	2.4	20	1.1	2.3	28	1.5	1.9
5	.6	1.3	13	1.0	3.0	21	.9	2.3	29	1.4	1.9
6	.6	3.5	14	.8	3.0	22	.8	2.2	30	1.4	2.0
7	.6	2.9	15	.8	2.0	23	.9	2.1	31	1.3	-
8	.6	2.2	16	.8	2.3	24	1.0	2.0			
Total.....									30.6		
Mean.....									0.99		
Cubic feet per second per square mile.....									0.068		
Runoff in inches.....									0.08		
Runoff in acre-feet.....									61		

Note.--Stage-discharge relation affected by ice Oct. 22-25, 27-29, Oct. 31 to Nov. 1, Nov. 3-6, 8, 9, 12-15, 17-30.

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	4.0	2.8	8	2.5	2.3	43	*50	21	8.7	1.6	1.4
2	.7	3.1	2.7	8.5	3.0	2.4	42	46	20	8.7	1.6	1.4
3	.6	2.7	2.5	8	3.2	2.5	39	44	16	9.1	1.6	1.4
4	1.3	5.4	2.3	7	3.2	2.4	38	56	20	7.6	1.5	1.3
5	2.5	4.8	2.0	6	3.2	2.3	37	56	18	7.6	1.5	1.3
6	1.1	*4.7	2.0	5.5	3.0	2.2	37	52	14	6.9	1.5	1.4
7	.9	4.6	2.0	5	2.6	2.2	37	52	13	6.1	1.4	1.2
8	.8	3.5	2.1	4.5	2.5	2.3	62	11	5.4	1.3	1.2	
9	.8	4.0	2.1	4.3	2.5	2.2	53	66	10	4.8	1.3	1.1
10	4.9	5.5	2.1	4.0	2.4	2.2	86	75	8.7	*4.2	1.2	1.1
11	2.9	7.0	2.2	3.8	2.4	2.1	117	69	8.7	6.1	1.2	1.0
12	1.5	5.0	2.5	3.5	2.4	2.0	141	62	8.4	4.5	1.1	.9
13	1.2	3.5	3.0	3.4	2.4	2.2	161	50	7.6	4.2	1.1	.9
14	1.0	2.5	2.5	3.3	2.3	2.1	175	44	7.6	4.0	1.1	.8
15	1.0	2.0	2.3	3.3	2.0	2.1	193	38	33	3.7	1.3	.8
16	1.1	1.5	2.5	5.5	1.7	2.2	208	32	38	3.3	1.5	.8
17	1.0	2.0	*2.5	5.0	2.0	2.5	197	31	29	3.1	1.3	.8
18	1.0	3.0	2.5	4.5	2.1	3.5	180	26	*22	2.9	1.2	.8
19	1.0	3.5	3.5	4.0	2.2	4.5	176	25	23	2.7	1.1	.8
20	1.0	4.0	8.0	3.8	2.2	5.5	178	23	27	2.7	1.0	.9
21	1.0	3.5	20	3.7	2.2	7.0	178	21	23	2.7	1.0	1.1
22	1.1	3.0	50	3.7	2.3	10	180	18	20	2.5	1.0	1.0
23	1.1	2.5	40	3.5	2.4	25	176	20	18	2.3	1.0	1.0
24	.9	2.5	20	3.5	2.3	40	166	33	17	2.2	*1.0	.9
25	.9	2.5	17	3.0	2.2	65	141	24	15	2.0	1.1	.8
26	1.3	2.7	16	3.0	2.1	80	115	25	13	1.9	4.0	.8
27	1.3	3.0	18	3.0	2.1	65	100	*32	12	1.9	5.8	.9
28	1.3	3.0	13	3.0	2.2	*60	84	29	11	1.8	2.9	1.0
29	1.9	3.0	10	3.0	2.2	55	79	26	9.6	1.9	2.0	.9
30	3.5	2.8	9	2.5	---	50	59	24	9.1	1.8	1.8	*.8
31	2.0	---	8	2.5	---	47	---	21	---	1.6	1.5	---
Total	43.3	104.8	275.1	135.3	69.8	555.7	3,447	1,232	503.7	128.9	49.5	30.5
Mean	1.40	3.49	8.87	4.36	2.41	17.9	115	39.7	16.8	4.16	1.60	1.02
Cfsm	0.097	0.241	0.612	0.301	0.166	1.23	7.93	2.74	1.16	0.287	0.110	0.070
In.	0.11	0.27	0.71	0.35	0.18	1.43	8.84	3.16	1.29	0.33	0.13	0.08
Ac-ft	86	208	546	268	138	1,100	6,840	2,440	999	258	98	80

Calendar year 1955: Max 170 Min 0.3 Mean 11.4 Cfsm 0.786 In. 10.65 Ac-ft 8,240

Water year 1955-56: Max 208 Min 0.6 Mean 18.0 Cfsm 1.24 In. 16.98 Ac-ft 13,040

Peak discharge (base, 50 cfs).--Dec. 22 (time and discharge unknown); Mar. 26 (time and discharge unknown); Apr. 6 (9 a.m.) 64 cfs (2.82 ft); Apr. 16 (4 to 6 a.m.) 209 cfs (3.75 ft); May 4 (5 to 7 p.m.) 87 cfs (2.88 ft); May 10 (3 to 5 p.m.) 79 cfs (2.95 ft).

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 31, Nov. 1, Nov. 4 to Mar. 29. No gage-height record Dec. 28 to Jan. 8, Jan. 11-14, Jan. 20 to Mar. 27; discharge estimated on basis of weather records, rainfall-runoff relations, and records for Mud Creek near Tamarack, Weiser River near Tamarack, and South Fork Clearwater River near Elk City.

## Grande Ronde River near Hilgard, Oreg.

Location.--Lat 45°19', long 118°16', near center of sec. 11, T. 3 S., R. 36 E., on right bank half a mile upstream from lower reservoir site of Bureau of Reclamation, three-quarters of a mile upstream from Spring Creek, and 3 miles southwest of Hilgard.

Drainage area.--489 sq. mi.

Records available.--January 1938 to September 1956 (discontinued). Monthly discharge only prior to October 1945, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 3,058.05 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 16, 1946, at site 800 ft upstream at different datum.

Average discharge.--18 years (1938-56), 274 cfs (198,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,060 cfs May 8 (gage height, 6.48 ft); minimum, 11 cfs Nov. 2 (gage height, 0.75 ft).

1938-56: Maximum discharge, that of May 8, 1956; minimum, 6 cfs Aug. 10, 12-29, Sept. 1-4, 1940.

Remarks.--Records good except those for periods of ice effect or no gage-height record, and those above 2,000 cfs, which are fair. Several small diversions for irrigation above station. Since 1909, city of Ia Grande has diverted about 3 cfs for municipal use at Beaver Creek Reservoir (capacity, about 900 acre-ft).

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 20

Dec. 21 to Sept. 30

0.8	14	1.5	147	0.5	16	3.0	920
.9	22	2.0	330	.7	39	4.0	1,570
1.0	33	2.5	560	1.0	91	5.0	2,540
1.2	67			1.5	220	6.0	4,060
				2.0	410		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	*42	229	283	*b100	180	1,400	872	1,390	155	46	36
2	21	20	201	252	110	230	1,100	830	1,260	150	50	34
3	21	38	187	244	130	240	1,000	830	1,090	150	52	32
4	23	45	117	252	170	230	1,000	1,170	1,070	145	51	32
5	30	50	74	211	200	200	1,100	1,300	926	140	54	32
6	31	48	180	199	220	180	950	1,510	806	135	46	32
7	26	46	147	196	190	171	1,000	1,730	700	125	44	30
8	26	48	120	179	170	174	950	3,700	*620	118	*40	29
9	26	45	144	123	150	179	1,100	3,410	555	111	36	26
10	34	46	123	187	180	166	1,500	2,820	518	111	35	26
11	45	58	167	166	180	150	1,800	2,520	426	115	34	26
12	39	52	552	142	200	130	2,100	*2,080	334	111	32	26
13	38	b50	*430	168	210	140	2,200	1,660	302	109	32	26
14	38	b22	218	158	180	150	2,260	1,360	346	115	32	26
15	30	*b18	b200	354	150	150	2,290	1,200	536	102	34	25
16	26	*b30	b250	962	80	180	2,270	1,170	500	*93	31	24
17	26	b40	270	*800	120	220	1,960	1,270	422	85	30	24
18	25	b50	208	640	160	360	1,710	1,440	350	75	30	*24
19	25	b46	208	522	180	600	*1,700	1,570	378	70	29	25
20	25	b60	282	508	200	300	1,860	1,460	442	70	27	26
21	25	b55	*1,480	446	220	1,100	2,150	1,360	342	65	26	27
22	26	b50	3,030	430	240	1,400	2,360	1,270	306	65	26	27
23	25	b46	1,630	*422	240	1,700	2,210	1,470	290	60	26	27
24	24	b44	932	354	220	2,000	1,920	1,590	269	55	29	27
25	24	b50	710	b200	210	2,300	1,640	1,260	241	55	31	25
26	25	b100	685	b170	210	2,700	1,460	1,310	220	55	45	25
27	28	445	575	b200	200	2,100	1,380	1,900	202	50	95	27
28	28	332	434	b160	190	1,500	1,250	1,660	190	50	73	27
29	31	270	276	b170	180	1,500	1,110	1,470	176	48	52	27
30	36	232	b160	b130	-----	1,600	968	1,310	166	46	*45	27
31	52	-----	b200	b110	-----	1,700	-----	1,360	-----	46	39	-----
Total	698	2,446	14,479	9,338	5,190	24,530	47,698	49,862	15,373	2,890	1,252	827
Mean	29.0	81.5	467	301	179	791	1,590	1,608	512	92.9	40.4	27.6
Ac-ft	1,780	4,950	28,720	18,520	10,290	48,650	94,610	98,900	30,490	5,710	2,480	1,640

Calendar year 1955: Max 3,030 Min 13 Mean 227 Ac-ft 164,600

Water year 1955-56: Max 3,700 Min 18 Mean 478 Ac-ft 346,600

Peak discharge (base, 1,500 cfs).--Dec. 22 (12:30 a.m.) 3,720 cfs (5.81 ft); Mar. 25 (about 11 p.m.) 3,700 cfs (5.80 ft); Apr. 15 (1 to 2 a.m.) 2,460 cfs (4.93 ft); Apr. 22 (4 to 7 a.m.) 2,420 cfs (4.30 ft); May 8 (6 p.m.) 5,060 cfs (6.48 ft); May 23 (9 p.m.) 2,170 cfs (4.67 ft); May 27 (7 to 8 a.m.) 2,080 cfs (4.53 ft); June 1 (7:50 p.m.) 1,650 cfs (4.10 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Feb. 2 to Mar. 6, Mar. 12 to Apr. 13; discharge estimated on basis of recorded range in stage, weather records, and records for station at Ia Grande.

## Grande Ronde River at La Grande, Oreg.

Location.--Lat 45°21', long 118°08', in 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 1956. 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.--48 years (1903-15, 1918-23, 1925-56), 383 cfs (277,300 acre-ft per year).

Extremes.--Maximum discharge during year, 6,360 cfs May 8 (gage height, 8.17 ft); minimum, not determined; occurred during period of ice effect.

1903-15, 1918-23, 1925-56: Maximum discharge, 8,880 cfs Mar. 18, 1932 (gage height, 8.90 ft); minimum, 3.9 cfs Aug. 26, 1940 (gage height, 1.23 ft).

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Small diversions for irrigation above station. Since 1909, city of La Grande has diverted about 3 cfs for municipal use at Beaver Creek Reservoir (capacity, about 900 acre-ft).

Revisions (water years).--WSP 768: 1933. WSP 1397: 1904-11, 1913, 1915, 1919-20, 1932-23, 1926, 1929-31, 1936-37, 1939, 1942.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 6, 7, 10-15, Feb. 17 to Mar. 9, Mar. 14-17)

Oct. 1 to Mar. 26

Mar. 27 to Sept. 30

1.5	19	3.0	460	1.2	25	3.0	660
1.7	41	4.0	1,090	1.4	43	4.0	1,380
2.0	95	5.0	1,990	1.7	91	5.0	2,300
2.5	349	7.0	4,500	2.0	170	8.0	6,110
				2.5	390		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	*50	312	435	*b130	276	2,040	1,400	1,730	237	48	41
2	26	35	284	360	b150	374	1,680	1,320	1,600	225	51	39
3	25	35	256	300	b200	445	1,510	1,320	1,360	*221	53	38
4	26	53	202	288	b250	378	1,550	1,770	1,350	202	55	37
5	30	58	145	260	b300	316	1,600	1,990	1,160	194	59	36
6	36	60	256	240	352	294	1,420	2,220	1,020	180	59	36
7	31	56	205	236	324	*276	1,520	2,450	885	161	59	35
8	30	60	166	226	b250	272	1,490	*4,700	794	148	*52	33
9	30	53	193	166	b250	276	1,740	5,020	726	136	50	31
10	36	56	163	208	272	b250	2,250	3,980	672	131	46	31
11	48	67	226	205	268	b220	2,630	3,530	618	129	44	30
12	47	46	626	181	304	b200	3,280	2,850	535	129	43	30
13	40	b42	*704	236	316	b270	3,360	2,360	480	123	41	30
14	39	b40	329	219	272	226	2,440	1,970	490	134	38	30
15	34	*b22	342	767	256	226	3,400	1,750	a650	118	40	30
16	33	*b28	363	*1,680	b120	244	3,210	1,680	a700	*104	39	28
17	31	b40	342	1,270	208	329	2,630	1,780	a600	95	36	*28
18	30	b50	276	975	268	634	2,510	1,960	a550	87	34	29
19	30	b80	248	788	276	1,180	*2,520	2,120	a600	82	32	29
20	30	b75	312	734	296	1,370	2,790	1,990	a650	78	31	a50
21	30	b75	*1,840	650	320	1,770	3,150	1,850	a550	76	31	a32
22	31	b70	*4,030	620	430	2,310	3,350	1,710	a500	70	30	a32
23	31	b70	1,980	*608	475	3,620	*3,150	1,840	a460	67	30	a32
24	30	b80	1,300	510	358	*3,530	2,600	2,040	a440	62	30	a30
25	30	b100	947	b300	316	3,990	2,450	1,640	a420	61	31	a30
26	30	b150	905	b250	312	*4,240	2,200	1,830	a400	56	41	a30
27	30	845	807	b270	304	2,300	2,030	2,270	a380	56	82	a32
28	30	350	590	b220	296	2,230	1,940	2,000	335	55	83	a32
29	33	378	396	b230	276	2,230	1,740	1,810	266	55	56	a32
30	37	320	264	b180	-----	2,460	1,540	1,630	258	53	*47	a32
31	56	-----	396	b150	-----	2,540	-----	*1,690	-----	51	44	-----
Total	1,027	3,244	19,425	13,762	8,037	38,706	71,380	68,270	21,199	3,576	1,414	965
Mean	33.1	108	627	444	277	1,249	2,379	2,202	707	115	45.6	32.2
Ac-ft	2,040	6,430	38,530	27,300	15,940	76,770	141,600	135,440	42,050	7,090	2,900	1,910
Calendar year 1955: Max		4,030			Min 14		Mean 327		Ac-ft 236,900			
Water year 1955-56: Max		5,020			Min 22		Mean 666		Ac-ft 497,900			

Peak discharge (base, 1,900 cfs).--Dec. 22 (3 a.m.) 4,400 cfs (6.93 ft); Mar. 26 (1 a.m.) 5,370 cfs (7.58 ft); Mar. 30 (11 p.m.) 2,930 cfs (5.60 ft); Apr. 13 (3:30 a.m.) 3,820 cfs (6.35 ft); Apr. 22 (8:30 a.m.) 3,500 cfs (6.09 ft); May 8 (8 p.m.) 6,360 cfs (8.17 ft); May 23 (11:30 p.m.) 2,530 cfs (5.23 ft); May 27 (10:30 a.m.) 2,450 cfs (5.15 ft); June 1 (8:30 p.m.) 1,960 cfs (4.64 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for station near Hilgard. b Stage-discharge relation affected by ice.

Catherine Creek near Union, Oreg.

Location.--Lat 45°09'20", long 117°46'40", in SE $\frac{1}{4}$  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 1956. 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 (Oregon State Highway Department benchmark). Prior to Nov. 28, 1938, staff gages at several sites within  $\frac{1}{4}$  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.--33 years (1911-12, 1918-19, 1925-56), 119 cfs (86,150 acre-ft per year).

Extremes.--Maximum discharge during year, 1,060 cfs May 23 (gage height, 3.75 ft); minimum, not determined; occurred during period of ice effect.

1906-7, 1911-12, 1915, 1918-19, 1925-56: Maximum discharge, 1,740 cfs May 27, 1948 (gage height, 4.57 ft); minimum, 6.5 cfs Feb. 4, 1955 (gage height, 0.44 ft), result of freezeup.

Remarks.--Records excellent except those for periods of ice effect, which are fair.

Diversions above station for irrigation of about 130 acres; since 1937, some water diverted to Big Creek, in Powder River basin, for irrigation of up to 3,300 acres. No known regulation.

Revisions (water years).--WSP 1397: 1912-13, 1919, 1926, 1928-33, 1937, 1939, 1940(M), 1941-43, 1950.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 23

May 24 to Sept. 30

0.6	20	2.0	260	0.6	18	2.0	290
.9	47	2.5	420	.8	38	2.5	480
1.2	86	3.0	650	1.1	78	3.0	680
1.5	142	3.5	900	1.5	152	3.5	940

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	28	32	46	b80	b36	37	163	350	675	150	53	56	
2	28	*27	44	b75	b40	42	148	344	584	150	53	35	
3	27	32	43	b60	b44	45	142	323	520	*146	51	35	
4	29	34	40	55	b50	45	140	436	484	135	49	35	
5	34	39	b36	52	b50	45	140	460	400	129	48	34	
6	31	34	b38	50	*b55	44	136	452	353	125	48	32	
7	30	35	39	49	b50	50	134	456	320	118	46	32	
8	30	35	b38	47	b46	*43	130	432	317	112	*43	31	
9	29	38	41	45	b46	41	142	516	347	108	42	30	
10	35	83	b56	44	b44	39	132	516	362	105	39	30	
11	35	54	37	44	b44	b35	248	464	338	146	39	29	
12	32	b40	b40	45	b42	b31	314	410	311	110	37	30	
13	34	b34	b24	50	b38	b45	350	368	290	116	37	30	
14	32	b30	*b11	49	b34	b42	*396	347	305	108	36	29	
15	30	*b17	b25	131	b50	40	444	360	320	98	36	28	
16	30	b24	44	202	b19	39	440	420	290	*31	37	28	
17	28	b34	48	167	b26	43	392	536	254	84	35	*27	
18	28	b44	44	140	b34	63	402	685	239	80	34	26	
19	28	b55	51	120	b40	105	456	834	257	81	34	26	
20	27	b50	57	107	b46	128	558	864	257	80	34	26	
21	27	b46	96	94	b48	142	660	*840	233	80	32	27	
22	27	b44	181	91	b50	161	730	780	224	74	32	28	
23	27	b44	170	89	b55	183	725	846	218	68	31	27	
24	26	b46	126	b60	b50	250	*640	*322	206	66	32	27	
25	26	b50	105	*b40	b48	326	549	745	192	63	32	26	
26	28	b60	107	b50	b46	344	496	720	182	62	43	25	
27	29	b70	116	b47	b46	258	476	755	182	62	69	29	
28	30	*51	100	b44	b44	208	452	*660	195	62	46	31	
29	32	b48	b30	b40	b42	165	406	640	178	66	42	29	
30	46	46	b50	b50	-----	178	371	635	161	56	39	28	
31	34	-----	b70	b32	-----	174	-----	675	-----	53	*37	-----	
Total	937	1,274	1,993	2,229	1,243	3,409	10,972	17,851	9,164	2,984	1,266	886	
Mean	30.2	42.5	64.3	71.9	42.3	110	366	578	305	96.3	40.8	29.5	
Ac-ft	1,860	2,530	3,950	4,420	2,470	6,760	21,760	35,410	18,180	5,920	2,510	1,760	
Calendar year 1955: Max	530			Min	11			Mean	89.8			Ac-ft	65,000
Water year 1955-56: Max	322			Min	11			Mean	148			Ac-ft	107,500

Peak discharge (base, 500 cfs).--Apr. 22 (10 p.m.) 792 cfs (3.32 ft); May 4 (2 p.m.) 532 cfs (2.78 ft); May 21 (9 p.m.) 924 cfs (3.54 ft); May 23 (11 p.m.) 1,060 cfs (3.75 ft); May 26 (9:30 p.m.) 910 cfs (3.45 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## 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 an eighth of a mile upstream from bridge on State Highway 82, 1½ miles downstream from Willow Creek, and 3¼ miles south of Elgin.

Drainage area.--1,250 sq mi, approximately.

Records available.--August 1955 to September 1956.

Gage.--Water-stage recorder. Datum of gage is 2,660.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum discharge during year, 5,220 cfs May 12 (gage height, 11.78 ft); minimum, 34 cfs Oct. 1 (gage height, 0.88 ft).  
1955-56: Maximum discharge, that of May 12, 1956; minimum, 21 cfs Sept. 3-5, 1955 (gage height, 0.73 ft).

Flood in May 1948 reached a stage of 2,672.9 ft on Corps of Engineers' gage at bridge an eighth of a mile downstream (discharge, 5,690 cfs, discharge measurement). Floods in 1894 and 1917 were much higher, based on Corps of Engineers' flood profiles.

Remarks.--Records excellent. Many diversions for irrigation in valley above station.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.8	27	3.0	445
1.0	46	4.0	740
1.3	82	6.0	1,500
1.7	150	8.0	2,550
2.3	270	12.0	5,400

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	*108	503	758	b500	617	3,460	2,800	3,040	515	78	64
2	37	111	494	719	b460	791	3,170	2,570	3,000	479	78	58
3	36	105	470	710	b440	1,310	2,780	2,400	2,880	452	78	56
4	37	97	438	719	665	1,300	a2,500	2,320	2,720	430	74	54
5	42	115	338	728	698	1,110	a2,300	2,470	2,600	402	73	52
6	54	124	268	722	569	924	a2,400	2,650	2,420	372	72	55
7	49	131	350	671	560	815	a2,300	2,860	2,230	345	73	54
8	46	133	318	635	539	*731	a2,200	3,260	2,020	312	70	53
9	45	135	325	557	485	773	a2,100	3,900	1,820	288	68	52
10	49	126	328	515	440	779	a2,200	4,590	1,680	266	65	52
11	55	127	352	580	445	698	a2,500	5,070	1,540	260	62	50
12	53	146	468	580	500	626	2,950	*5,180	1,420	246	61	49
13	65	142	854	590	611	623	3,440	4,880	1,290	246	59	50
14	76	110	857	650	620	638	3,770	4,440	1,190	238	57	52
15	78	*b90	704	761	533	611	3,920	4,080	1,200	236	57	52
16	72	b80	536	1,780	b460	626	*4,030	3,750	1,270	224	57	50
17	68	86	450	2,250	503	701	4,120	3,450	1,270	*206	53	49
18	70	99	473	2,190	485	851	4,120	3,260	1,220	188	49	48
19	85	113	*500	2,060	512	1,280	4,000	3,220	1,150	172	43	48
20	96	140	644	1,890	500	1,640	3,940	3,250	1,130	154	43	46
21	88	190	1,080	1,700	542	1,890	3,950	3,230	1,100	137	45	44
22	81	222	2,020	1,540	647	2,220	4,100	3,160	1,010	127	44	43
23	77	218	*3,020	1,500	728	2,690	4,350	3,070	928	118	45	48
24	74	210	3,070	*1,480	688	3,310	4,470	3,090	854	108	45	48
25	73	208	2,500	1,240	632	3,850	4,360	*3,150	797	102	42	49
26	73	246	2,040	916	590	4,050	4,160	3,060	737	97	43	50
27	74	444	1,790	800	572	4,100	3,940	3,090	686	92	45	48
28	76	659	1,550	b750	560	*3,980	3,720	3,240	635	99	58	52
29	81	617	1,260	b650	572	3,750	3,470	3,300	590	97	78	57
30	90	542	996	b600	-----	3,550	3,140	3,260	554	88	*74	55
31	96	-----	821	b550	-----	3,500	-----	3,120	-----	82	68	-----
Total	2,036	5,874	29,817	31,751	16,054	54,294	101,880	105,180	44,981	7,178	1,857	1,538
Mean	65.7	196	962	1,024	554	1,751	3,395	3,393	1,499	232	59.9	51.3
Ac-ft	4,040	11,650	59,140	62,980	31,840	107,700	202,000	208,600	89,220	14,240	3,680	3,050
Calendar year 1955: Max	-	-	-	Min	-	Mean	-	Ac-ft	-	-	-	-
Water year 1955-56: Max	5,180	-	-	Min	35	Mean	1,100	Ac-ft	798,100	-	-	-

Peak discharge (base, 3,000 cfs).--Dec. 23 (9 to 12 p.m.) 3,260 cfs (9.08 ft); Mar. 27 (2 a.m.) 4,120 cfs (10.31 ft); Apr. 24 (9 a.m.) 4,490 cfs (10.84 ft); May 12 (9 a.m.) 5,220 cfs (11.78 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, and records for stations at La Grande and Rondon.

b Stage-discharge relation affected by ice.

## East Fork Wallowa River near Joseph, Oreg.

Location.--Lat 45°16', long 117°13', in SE¼ sec. 29, T. 3 S., R. 45 E., on left bank a quarter of a mile upstream from confluence with West Fork, 1 mile upstream from Wallowa Lake, and 6 miles south of Joseph.

Drainage area.--10 sq mi, approximately.

Records available.--July 1924 to September 1956. 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. benchmark). Prior to Apr. 8, 1950, staff gage at same site and datum.

Average discharge.--32 years, 20.9 cfs (15,130 acre-ft per year).

Extremes.--Maximum discharge observed during year, 119 cfs May 31; minimum daily, 9.8 cfs Feb. 11.  
1924-56: 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 except those for periods of ice effect or doubtful or no gage-height record for river station, which are fair. All records presented herein include flow in Wallowa Falls powerplant tailrace of Pacific Power & Light Co. The water is diverted at dam on East Fork Wallowa River into a conduit 1 mile upstream from powerhouse and discharged into West Fork a quarter of a mile downstream.

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 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	15	11	14	b11	12	11	20	a75	77	41	22
2	14	14	12	14	b12	12	11	21	a68	76	40	22
3	13	15	14	14	12	*12	11	22	69	71	39	22
4	13	17	b14	14	12	12	11	22	63	67	38	21
5	14	15	b13	13	12	12	11	22	57	66	36	21
6	14	15	*14	14	12	b12	b11	23	a58	*66	35	20
7	13	14	13	14	12	12	11	24	a58	68	34	20
8	14	14	15	15	11	11	11	24	a59	70	33	20
9	15	14	14	16	11	11	11	26	a62	73	32	19
10	32	b16	12	12	12	b11	12	26	a67	73	30	19
11	19	14	15	13	9.8	b11	*b13	25	a72	76	30	20
12	19	12	15	13	13	b11	b13	24	a67	76	29	19
13	18	b14	b13	14	11	11	14	23	a72	76	29	19
14	18	b14	b12	16	12	11	15	23	a82	73	28	19
15	16	b15	b13	14	b11	11	16	25	*106	71	29	19
16	16	b10	13	13	b11	11	17	a30	89	66	*28	19
17	14	b11	13	*14	b12	11	16	a37	77	63	28	19
18	14	b13	13	14	12	11	15	a41	69	61	27	18
19	14	b15	14	14	11	11	16	a50	a72	59	26	19
20	14	b16	15	14	12	11	19	a56	a77	58	26	19
21	15	12	21	13	10	11	22	a62	a72	57	25	19
22	14	13	*28	13	11	11	24	*84	a78	55	25	19
23	14	13	22	13	b12	11	25	72	a73	54	23	19
24	13	b15	20	12	b12	12	24	*90	a68	52	23	19
25	*13	b16	17	b12	b12	13	23	a93	a66	51	23	*19
26	14	11	17	b12	b12	12	23	a103	75	49	29	19
27	15	12	16	b12	12	12	22	a93	79	47	32	20
28	14	13	15	b12	12	b12	22	a88	82	46	26	19
29	15	14	b15	b12	12	12	22	a103	85	46	25	19
30	b17	15	b15	b12	---	12	20	a108	78	44	24	20
31	15	---	b14	b12	---	11	---	*a116	---	43	23	---
Total	477	417	468	414	336.8	356	492	1,578	2,173	1,930	916	586
Mean	15.4	13.9	15.2	13.4	11.6	11.5	16.4	50.9	72.4	62.3	29.5	19.6
Cfs/m	1.54	1.39	1.52	1.34	1.16	1.15	1.64	5.09	7.24	6.23	2.95	1.96
In.	1.77	1.55	1.74	1.54	1.25	1.32	1.83	5.87	8.08	7.18	3.41	2.19
Ac-ft	946	827	928	821	668	706	976	3,130	4,310	3,830	1,820	1,170
Calendar year 1955: Max	108			Min 9.9		Mean 20.7		Cfs/m 2.07	In. 28.04	Ac-ft 14,950		
Water year 1955-56: Max	118			Min 9.8		Mean 27.7		Cfs/m 2.77	In. 37.73	Ac-ft 20,130		

\* Discharge measurement made on this day.

a Doubtful or no river gage-height record; discharge estimated on basis of recorder graph, 2 discharge measurements, weather records, and records for Wallowa Falls powerplant tailrace near Joseph.

b River stage-discharge relation affected by ice.

## Diversions from Wallowa Lake, Oreg.

The following canals divert from Wallowa Lake:

Joseph powerplant tailrace diverts at Wallowa Lake Dam in NW $\frac{1}{4}$  sec. 5, T. 3 S., R. 45 E., for generation of power at Joseph. The diversion is measured at the powerplant in NE $\frac{1}{4}$  sec. 31, T. 2 S., R. 45 E., and is returned to Wallowa River at Joseph. Records published as presented herein October 1952 to September 1956 (discontinued; powerplant, out of operation after July 1956). Records published separately October 1950 to September 1952 in reports of Geological Survey, November 1929 to September 1941 in reports of State engineer and October 1941 to September 1950 in files of State engineer.

Silver Lake Canal diverts at Wallowa Lake Dam in NW $\frac{1}{4}$  sec. 5, T. 3 S., R. 45 E., for irrigation of 4,900 acres northeast of Joseph. Records published separately July to December 1905 (gauge heights and discharge measurements only), May to September 1915, December 1926 to September 1952, and as presented herein October 1952 to September 1956. Monthly runoff only for some periods, published in WSP 1317. Published as Silver Lake ditch near Joseph in 1905 and 1915.

Diversion, in acre-feet, water year October 1955 to September 1956		
Month	Joseph powerplant tailrace	Silver Lake Canal
October.....	1,420	237
November.....	1,520	234
December.....	1,630	188
Calendar year 1955.....	27,270	15,330
January.....	1,635	168
February.....	2,270	241
March.....	3,850	4.4
April.....	3,750	89
May.....	2,200	458
June.....	5,630	2,710
July.....	5,060	4,920
August.....	0	4,750
September.....	0	1,690
Water year 1955-56	28,980	15,690

## Wallowa Lake near Joseph, Oreg.

Location.--Lat 45°20'20", long 117°13'30" in NW $\frac{1}{4}$  sec. 5, T. 3 S., R. 45 E., on trash-rack structure near west end of Wallowa Lake Dam, three-quarters of a mile south-east of Joseph.

Drainage area.--52 sq mi, approximately.

Records available.--November 1903 to July 1906 (gauge heights only), January 1912 to March 1914, May to September 1915 (gauge heights and change in contents only), and October 1925 to September 1956. 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. Prior to Aug. 7, 1929, staff gages at several sites within 600 ft of present site at various datums.

Extremes.--Maximum contents during year, 45,660 acre-ft June 22 (gage height, 28.55 ft); minimum, 14,220 acre-ft Oct. 1 (gage height, 9.15 ft). 1925-56: Maximum contents, that of June 22, 1956; minimum, 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 ft (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 1955 to September 1956			
Date	Gage height (feet) <sup>†</sup>	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	9.15	14,220	-
Oct. 31.....	10.85	16,880	+2,660
Nov. 30.....	12.45	19,420	+2,540
Dec. 31.....	14.60	22,840	+3,420
Calendar year 1955.....	-	-	+5,010
Jan. 31.....	15.80	24,760	+1,920
Feb. 29.....	15.60	24,440	-320
Mar. 31.....	14.80	23,160	-1,280
Apr. 30.....	16.85	26,450	+3,290
May 31.....	24.60	39,100	+12,650
June 30.....	28.25	45,160	+6,060
July 31.....	25.00	39,780	-5,400
Aug. 31.....	19.35	30,430	-9,270
Sept. 30.....	18.30	28,790	-1,700
Water year 1955-56.....	-	-	+14,570

<sup>†</sup> Gage height at 7 a.m.

## Wallowa River at Joseph, Oreg.

Location.--Lat 45°20', long 117°14', in NW $\frac{1}{4}$  sec. 5, T. 3 S., R. 45 E., on left bank 1,000 ft downstream from Wallowa Lake Dam and three-quarters of a 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 1956. Monthly discharge only for some periods, published in WSP 1317. Published as "near Joseph" 1904-5, 1907-11, 1937-49, and as "below Wallowa Lake near Joseph" 1931-36.

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.--29 years (1927-56), 124 cfs (89,770 acre-ft per year), adjusted for storage and diversion.

Extremes.--Maximum discharge during year, 522 cfs July 29 (gage height, 3.69 ft); minimum, 2.1 cfs Mar. 6-8 (gage height, 0.92 ft).

1903-15, 1926-56: Maximum discharge observed, 850 cfs June 12, 13, 1912 (gage height, 3.60 ft, site and datum then in use); no flow at times.

Remarks.--Records good except those below 20 cfs, which are poor. Monthly discharges adjusted for storage in Wallowa Lake (see preceding page) and diversions from Wallowa Lake by Silver Lake Canal and Joseph powerplant (see p. 231). City of Joseph diverts less than 1 cfs from Wallowa Lake for municipal use.

Revisions (water years).--WSP 1937: 1906.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

0.9	1.3	1.2	14	2.5	205
1.0	4.0	1.5	42	3.0	325
1.1	8.0	2.0	114	3.6	495

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	24	6.5	6.5	6.5	15	6.5	13	345	370	417	84
2	12	24	6.5	6.5	6.5	5.7	6.5	20	387	310	414	82
3	12	20	6.5	6.5	6.5	7.0	6.5	24	372	368	378	93
4	12	9.5	6.5	7.0	6.5	8.5	6.5	20	375	302	350	98
5	12	8.5	6.5	6.5	6.5	8.5	7.0	21	375	260	300	96
6	12	8.5	*5.7	6.5	6.5	7.5	7.0	23	315	232	280	98
7	12	8.5	4.9	6.5	8.5	2.1	7.0	24	235	207	292	85
8	12	8.5	4.6	6.5	11	4.3	7.0	24	*223	203	280	78
9	12	*8.5	4.6	6.5	42	6.5	7.0	24	209	209	225	78
10	12	8.5	4.6	6.1	27	7.0	7.5	23	232	232	209	78
11	12	8.5	4.6	6.1	27	7.5	7.5	29	278	295	205	78
12	12	8.5	4.6	6.1	27	8.0	*7.5	35	305	328	211	76
13	12	7.5	4.6	6.1	27	8.0	7.5	35	328	345	205	76
14	12	7.0	4.6	6.1	*27	7.5	7.5	40	345	348	193	76
15	12	7.0	4.3	6.1	27	7.5	8.0	*46	365	338	201	75
16	12	7.0	4.3	6.1	27	7.5	8.0	55	384	322	191	75
17	12	7.0	4.0	6.1	27	7.0	8.0	65	330	308	189	75
18	12	7.0	4.0	6.1	26	7.0	8.5	72	290	292	174	75
19	12	7.0	3.4	6.1	21	7.0	9.0	71	275	280	159	75
20	*12	7.0	3.4	6.1	18	7.0	9.0	72	308	268	161	75
21	12	7.0	4.9	6.1	17	7.0	9.0	154	372	258	143	75
22	12	7.0	4.9	6.5	16	*6.1	9.0	225	429	280	135	74
23	12	6.5	6.5	6.5	17	4.3	9.0	282	435	315	127	74
24	23	6.5	6.5	6.5	17	6.5	9.0	308	423	340	127	*74
25	38	6.5	6.5	6.5	17	6.5	9.0	278	438	358	159	101
26	38	6.5	6.5	6.5	17	6.5	9.0	318	429	396	157	29
27	38	6.5	6.5	6.5	17	6.5	9.5	330	411	411	137	29
28	38	6.5	6.5	6.5	17	6.5	9.5	332	399	417	134	25
29	16	6.5	6.5	6.5	17	6.5	9.0	332	408	483	130	18
30	16	6.5	6.5	6.5	-----	6.5	9.0	335	390	456	130	18
31	20	-----	6.5	6.5	-----	6.5	-----	335	-----	417	95	-----
Total	498	268.0	167.0	197.2	533.5	215.5	240.0	3,965	10,410	9,948	6,508	2,145
Mean	16.1	8.93	5.39	6.36	18.4	6.95	8.00	128	347	321	210	71.5
Ac-ft	988	532	331	391	1,060	427	476	7,860	20,650	19,730	12,910	4,250

Adjusted for change in contents in Wallowa Lake and diversions by Silver Lake Canal and Joseph powerplant tailrace

Mean	86.4	81.0	90.6	66.8	56.5	48.8	128	377	589	396	136	71.3
Cfsm	1.66	1.56	1.74	1.28	1.09	0.938	2.46	7.25	11.3	7.62	2.62	1.37
In.	1.91	1.74	2.01	1.48	1.17	1.08	2.74	8.35	12.64	8.77	3.03	1.53
Ac-ft	5,310	4,820	5,570	4,110	3,250	3,000	7,610	23,170	35,050	24,330	8,390	4,240

## Observed

Calendar year 1955: Max	414	Min	1.8	Mean	58.7	Ac-ft	42,500
Water year 1955-56: Max	483	Min	2.1	Mean	95.9	Ac-ft	69,600

## Adjusted

Calendar year 1955: Mean	124	Cfsm	2.38	In.	32.49	Ac-ft	90,110
Water year 1955-56: Mean	177	Cfsm	3.40	In.	46.45	Ac-ft	128,800

\* Discharge measurement made on this day.



## Hurricane Creek near Joseph, Oreg.

Location.--Lat 45°20', long 117°18', in NE $\frac{1}{4}$  sec. 3, T. 3 S., R. 44 E., on left bank 350 ft upstream from intake of Moonshine ditch and  $3\frac{1}{2}$  miles southwest of Joseph.

Drainage area.--31 sq mi, approximately.

Records available.--April to September 1915, April 1924 to September 1956. 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 from present site at different datum.

Average discharge.--32 years (1924-56), 71.9 cfs (52,050 acre-ft per year).

Extremes.--Maximum discharge during year, 659 cfs May 31 (gage height, 3.61 ft); minimum, 13 cfs Mar. 3 (gage height, 1.60 ft).  
1915, 1924-56: Maximum discharge, 1,110 cfs June 9, 1948 (gage height, 3.55 ft); maximum gage height, 4.69 ft June 13, 1955; minimum discharge, 2.8 cfs Mar. 2, 1955.

Remarks.--Records fair except those above 400 cfs, which are poor. No diversion or regulation above station.

Revisions (water years).--WSP 1397: 1915, 1925-28.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-8, May 24 to June 5)

Oct. 1 to May 31				June 1 to Sept. 30			
1.7	20	2.5	175	1.9	29	2.5	140
2.0	51	3.0	425	2.0	39	3.0	400
2.2	85	3.5	830	2.2	67	3.5	830

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	29	34	34	33	25	30	105	456	235	108	56
2	25	28	33	34	33	26	29	105	421	220	96	55
3	26	30	32	34	33	22	29	105	407	198	87	54
4	26	32	31	34	33	25	29	108	380	194	85	52
5	26	31	*31	34	33	26	29	105	323	198	81	51
6	26	31	31	34	33	25	29	105	287	212	81	49
7	26	31	32	34	32	25	29	108	250	216	81	49
8	26	32	32	34	32	25	29	108	*293	220	79	48
9	30	*34	32	33	32	25	30	110	380	240	77	47
10	104	118	32	33	31	23	33	113	407	275	75	47
11	49	66	34	33	31	22	35	110	387	317	*75	47
12	45	50	35	33	31	21	*41	105	354	260	75	46
13	43	45	31	34	30	23	46	98	348	299	77	44
14	43	43	29	34	30	23	52	98	348	287	77	43
15	41	39	30	43	30	23	60	108	342	245	81	43
16	38	39	31	38	30	23	66	137	305	225	83	42
17	37	39	32	*36	30	23	64	183	270	216	79	40
18	36	39	32	35	30	24	64	265	287	216	77	39
19	34	51	33	35	32	29	72	300	*342	*212	73	40
20	*33	47	34	35	28	24	95	365	354	212	71	42
21	33	45	40	35	26	*24	119	432	287	207	69	40
22	31	44	62	35	27	24	140	*432	293	194	67	*40
23	29	41	51	35	26	25	147	*518	287	*172	67	39
24	28	39	45	33	26	26	*137	*425	275	172	67	*36
25	26	37	41	33	27	30	134	383	270	164	67	35
26	26	37	41	32	29	31	131	407	281	144	79	35
27	26	37	39	33	29	30	125	377	311	134	92	39
28	26	36	35	33	29	30	119	343	342	131	71	38
29	26	36	32	33	29	30	113	389	317	144	66	37
30	35	35	32	33	---	30	108	467	260	128	62	36
31	30	---	32	33	---	30	---	*525	---	116	58	---
Total	1,057	1,241	1,091	1,062	872	787	2,164	7,539	9,864	6,403	2,383	1,309
Mean	34.1	41.4	35.2	34.3	30.1	25.4	72.1	243	329	207	76.9	43.8
Cfs/m	1.10	1.34	1.14	1.11	0.971	0.819	2.33	7.84	10.6	6.68	2.48	1.41
In.	1.27	1.49	1.31	1.27	1.05	0.94	2.60	9.04	11.83	7.88	2.86	1.57
Ac-ft	2,100	2,460	2,160	2,110	1,730	1,560	4,290	14,950	19,560	12,700	4,750	2,600

Calendar year 1955: Max 675 Min 8.4 Mean 68.9 Cfs/m 2.22 In. 30.17 Ac-ft 49,870  
Water year 1955-56: Max 525 Min 21 Mean 97.7 Cfs/m 3.15 In. 42.91 Ac-ft 70,950

Peak discharge (base, 400 cfs).--May 24 (12:30 a.m.) 495 cfs (3.60 ft); May 31 (6 p.m.) 659 cfs (3.61 ft); June 9 (10 p.m.) 494 cfs (3.18 ft); July 13 (3 p.m.) 470 cfs (3.10 ft).

\* Discharge measurement made on this day.

## Lostine River near Lostine, Oreg.

Location.--Lat 45°26', long 117°25', 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 1956. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 3,650 ft (by barometer). Aug. 24, 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 from present site at datum about 1.5 ft higher than present datum. Oct. 1, 1929, to Dec. 15, 1953, water-stage recorder at site 85 ft downstream from present site at datum 1.00 ft higher than present datum.

Average discharge.--32 years (1912-13, 1925-56), 191 cfs (138,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,880 cfs June 1 (gage height, 6.59 ft); minimum, 27 cfs Mar. 15 (gage height, 0.67 ft).  
1912-15, 1925-56: 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 good except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 130 acres of which about 20 acres are below station. Flow slightly regulated since 1916 by Minam Lake, usable capacity about 1,000 acre-ft.

Revisions (water years).--WSP 1397: 1913, 1942.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 1

June 2 to Sept. 30

0.7	29	3.0	455	0.7	27	3.0	440
1.0	65	4.0	760	1.0	62	4.0	720
1.5	135	5.0	1,130	1.5	130	5.0	1,100
2.0	225	6.5	1,830	2.0	215	6.5	1,830

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	89	93	b105	a70	47	77	332	1,580	615	227	68
2	39	81	91	b100	a70	*50	74	322	1,500	591	205	65
3	39	88	b80	99	a74	48	73	325	1,130	550	183	62
4	38	99	b75	99	a78	42	73	352	1,020	525	163	61
5	47	103	*b65	92	a80	b40	72	348	1,340	535	152	58
6	42	96	b70	*88	a75	b40	72	340	1,630	570	144	57
7	44	96	b65	88	a70	b42	*73	340	1,800	606	139	54
8	41	93	a60	86	a75	b44	70	348	1,640	615	134	52
9	46	100	a62	b85	a80	45	73	360	*1,000	660	130	50
10	213	432	66	81	a80	42	86	375	1,220	755	128	50
11	120	277	82	79	a76	b40	112	350	1,180	1,000	122	48
12	106	b210	113	78	b72	b38	*151	312	1,040	762	116	*48
13	103	b170	b90	78	b69	b38	184	285	1,030	794	112	48
14	100	b140	b60	77	66	b38	219	279	996	702	108	46
15	95	b120	b50	134	62	b38	273	305	984	573	105	44
16	86	b110	a55	137	a60	40	303	408	772	515	103	42
17	81	b110	a60	b115	a60	b39	271	573	648	478	99	40
18	78	b120	66	b105	a58	*b41	265	795	654	462	95	39
19	*78	b135	78	b100	a58	b44	318	*986	814	*445	89	38
20	75	*b130	81	b95	*60	b44	405	al, 100	*968	440	85	39
21	72	122	122	b90	62	b44	519	al, 300	780	432	*82	43
22	70	114	259	b90	61	b50	591	*1,300	748	420	79	40
23	65	107	241	b85	56	60	588	1,420	752	405	78	39
24	62	103	188	b80	53	70	528	1,620	727	385	76	*38
25	60	100	156	b80	51	86	469	1,240	717	365	78	38
26	61	b100	148	b75	50	98	455	1,310	762	338	98	37
27	61	b100	141	b72	48	84	442	1,380	896	307	130	33
28	65	b100	b120	b70	48	78	415	1,040	996	285	99	48
29	69	100	b115	b70	47	78	388	1,120	904	273	84	44
30	124	96	b110	b65	---	78	352	1,350	714	263	79	44
31	92	-----	b110	b65	-----	79	-----	1,600	-----	253	74	-----
Total	2,311	3,841	3,172	2,763	1,869	1,645	8,011	23,515	30,734	15,899	3,594	1,423
Mean	74.5	128	102	89.1	64.4	53.1	267	759	1,024	513	116	47.4
Ac-ft	4,590	7,620	6,290	5,480	3,710	3,260	15,990	46,640	60,960	31,540	7,130	2,820

Calendar year 1955: Max 1,470 Min 13 Mean 173 Ac-ft 125,400  
Water year 1955-56: Max 1,800 Min 37 Mean 270 Ac-ft 195,900

Peak discharge (base, 1,100 cfs).--May 24 (2 to 4 a.m.) 1,840 cfs (6.51 ft); June 1 (1:30 a.m.) 1,980 cfs (6.59 ft); June 7 (3 p.m.) 1,860 cfs (6.55 ft); June 28 (10 p.m.) 1,100 cfs (5.00 ft); July 11 (3 a.m.) 1,170 cfs (5.13 ft).

\* 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 Bear Creek near Wallowa and Hurricane Creek near Joseph.

b Stage-discharge relation affected by ice.

## Bear Creek near Wallowa, Oreg.

Location.--Lat 45°32', long 117°33', in NE $\frac{1}{4}$  sec. 34, T. 1 N., R. 42 E., on right bank 30 ft downstream from unused bridge, 3 miles southwest of Wallowa, and 4 $\frac{1}{2}$  miles upstream from mouth.

Drainage area.--68 sq mi, approximately.

Records available.--April to September 1915, April 1924 to September 1956. 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 1 $\frac{1}{2}$  miles upstream from present site at different datum and upstream from intakes of two irrigation ditches having a combined capacity of about 3 cfs.

Average discharge.--32 years (1924-56), 111 cfs (80,360 acre-ft per year).

Extremes.--Maximum discharge during year, 1,330 cfs May 23 (gage height, 3.13 ft), from rating curve extended above 760 cfs by logarithmic plotting; minimum, 9.6 cfs Sept. 26, 27.

1915, 1924-56: Maximum discharge, 1,620 cfs Apr. 22, 1936 (gage height, 3.82 ft, from floodmarks), 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 or no gage-height record, which are poor. 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 the station.

Revisions (water years).--WSP 1397: 1915, 1927, 1929-30, 1932, 1936-40, 1945, 1949.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 23

May 24 to Sept. 30

0.7	9.0	2.0	235	0.8	6.0	2.0	230
.9	25	2.5	540	1.0	17	2.5	540
1.1	46	3.0	1,130	1.2	36	3.0	1,130
1.5	110			1.5	86		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	3d	68	b90	a60	b42	162	240	860	220	36	18
2	14	38	63	85	a62	b45	150	232	740	223	37	17
3	14	38	80	80	a65	b40	144	235	707	209	35	16
4	15	56	49	56	a68	b58	138	262	674	209	32	16
5	17	53	*b55	*72	a70	b35	136	262	516	206	31	16
6	15	52	b55	69	a66	b35	130	266	372	202	30	16
7	15	50	57	68	a64	b38	128	276	319	195	30	15
8	15	49	63	64	a60	b40	126	305	372	186	28	14
9	15	52	56	62	a65	b35	128	342	*540	186	26	14
10	47	148	46	b60	a70	b30	148	354	603	198	24	14
11	44	110	54	57	a68	b26	196	325	524	302	22	14
12	41	87	b75	56	a65	b25	*235	290	476	206	22	14
13	44	80	b60	56	a62	b24	271	*253	453	183	22	14
14	42	66	b50	54	a60	b23	305	240	468	156	21	13
15	40	a60	b40	96	a55	b24	342	258	508	132	21	13
16	36	a55	b40	b100	a50	*b25	372	336	425	*118	20	12
17	34	a50	b45	b95	a52	b30	315	468	366	105	*20	12
18	32	a55	b50	b90	a55	b50	295	652	348	96	19	12
19	*32	a70	b55	b65	a54	b60	320	718	418	*93	18	12
20	30	*b78	66	b60	*a52	114	404	788	484	88	17	13
21	30	b72	96	b78	b50	122	492	776	390	80	17	*14
22	29	68	220	b76	b50	134	540	*812	*366	72	16	12
23	28	64	232	b74	b50	152	540	1,020	366	63	16	11
24	27	60	199	b72	a48	196	476	1,050	336	60	16	*10
25	26	63	162	70	a46	225	411	824	334	55	16	10
26	26	70	144	b68	a45	235	372	836	319	50	21	9.6
27	25	78	132	b65	a44	202	348	776	354	47	30	12
28	27	75	118	b62	a42	178	320	524	372	46	25	12
29	27	74	103	b60	b40	165	285	886	319	52	22	10
30	50	70	b100	b60	-----	165	258	886	257	44	20	10
31	41	-----	b95	b55	-----	170	-----	964	-----	40	19	-----
Total	892	1,972	2,715	2,237	1,638	2,741	8,487	16,456	13,566	4,122	729	395.6
Mean	28.8	65.7	87.6	72.2	56.5	88.4	283	531	452	133	23.5	13.2
Ac-ft	1,770	3,910	5,390	4,440	3,250	5,440	16,830	32,640	26,910	8,180	1,450	785

Calendar year 1955: Max 1,300 Min 11 Mean 105 Ac-ft 76,000

Water year 1955-56: Max 1,050 Min 9.6 Mean 153 Ac-ft 111,000

Peak discharge (base, 600 cfs).--May 23 (12 p.m.), 1,330 cfs (3.13 ft); May 31 (9 p.m.), 1,130 cfs (3.00 ft); June 9 (10 p.m.), 696 cfs (2.66 ft).

\* 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 Lostine River near Lostine and Hurricane Creek near Joseph.

b Stage-discharge relation affected by ice.

## Grande Ronde River at Rondowa, Oreg.

Location.--Lat 45°44', long 117°47', in NW $\frac{1}{4}$  sec. 23, T. 3 N., R. 40 E., on right bank at Rondowa, 500 ft downstream from Wallowa River and at mile 81.4 (Geological Survey river-profile survey).

Drainage area.--2,555 sq mi.

Records available.--October 1926 to September 1956.

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.--30 years, 2,068 cfs (1,497,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,900 cfs May 24 (gage height, 7.57 ft); minimum, 496 cfs Oct. 3, 4.

1926-56: Maximum discharge, 19,900 cfs May 28, 1948 (gage height, 9.76 ft); minimum, 225 cfs Dec. 19, 1935.

Remarks.--Records excellent. 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 Imaha River basin for irrigation of about 6,500 acres in Wallowa Valley. Flow slightly regulated by Wallowa Lake (see p. 231) and small reservoirs.

Revisions (water years).--WSP 1093: 1928-29, 1932-33, 1936, 1938, 1939(M), 1943.

WSP 1397: 1927. Revised figures of discharge, in cubic feet per second, for a high-water period in the water year 1927, superseding those published in WSP 1317 and 1397, are given herewith:

1927	
Apr. 26.....	7,000
27.....	8,180
28.....	8,110
29.....	7,740
30.....	7,400

Month	Maximum	Minimum	Mean	Runoff in acre-feet
April 1927.....	8,180	2,200	3,647	217,200
Water year 1926-27.....	9,590	450	2,180	1,634,000
Calendar year 1927.....	9,590	450	2,630	1,903,000

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	516	768	1,700	2,070	2,120	1,570	6,520	6,150	11,300	2,910	924	756
2	509	710	1,600	2,000	2,120	2,710	5,950	5,700	*10,000	2,760	924	725
3	502	726	1,480	1,920	2,100	3,310	5,420	5,550	9,320	2,720	940	702
4	509	786	1,360	1,920	1,540	2,890	5,180	6,080	9,180	2,500	916	710
5	561	910	1,200	1,920	1,390	2,450	5,040	6,040	8,050	2,510	868	688
6	548	831	1,130	1,840	1,430	2,080	4,700	6,450	6,850	2,500	836	665
7	535	840	1,180	1,830	1,400	1,880	4,680	6,750	5,980	2,500	836	672
8	528	813	*1,100	1,780	1,300	1,840	4,540	6,020	5,750	2,470	804	658
9	535	*822	1,120	1,560	1,240	*1,880	4,680	6,880	6,400	2,450	796	637
10	834	1,190	1,070	1,560	1,260	1,790	5,220	9,450	7,150	2,590	780	630
11	1,010	1,400	1,280	1,540	1,250	1,600	6,250	9,550	6,750	3,430	748	623
12	813	1,100	2,560	1,500	1,560	1,470	7,300	9,080	6,000	3,000	718	623
13	795	1,000	2,510	1,610	1,660	1,550	7,900	8,420	5,820	2,830	685	623
14	768	910	1,800	1,640	1,570	1,490	8,320	7,720	5,520	3,000	672	623
15	742	734	1,480	2,670	1,350	1,450	8,700	7,580	5,850	2,590	658	609
16	702	650	1,460	5,440	1,060	1,500	8,850	7,450	5,580	2,310	672	602
17	670	786	1,370	5,300	1,110	1,760	8,400	7,920	4,980	2,130	651	588
18	656	850	1,350	4,660	1,110	2,430	8,120	8,920	4,600	1,960	623	560
19	663	1,040	1,440	4,220	1,150	3,420	8,300	10,100	4,800	1,800	591	553
20	663	1,190	1,800	*3,850	1,180	4,010	*8,800	10,700	5,400	1,690	585	560
21	656	1,130	5,040	3,520	1,770	4,780	9,600	10,800	4,800	1,580	560	574
22	642	1,080	10,400	3,330	2,190	5,780	10,300	10,900	4,480	1,460	567	567
23	628	1,040	8,120	3,340	1,810	7,320	10,400	11,300	4,420	1,350	574	574
24	621	1,010	6,320	3,120	1,720	8,900	9,950	12,200	4,240	1,260	553	567
25	607	1,170	5,120	2,530	1,610	9,550	9,350	10,600	4,050	1,210	560	560
26	614	1,770	4,620	2,070	1,550	9,600	8,800	10,600	3,760	*1,090	672	567
27	628	2,350	4,280	2,080	1,480	7,950	8,450	10,800	3,790	998	884	*546
28	635	2,130	3,630	1,800	1,450	7,150	7,950	10,600	3,920	998	940	581
29	656	1,900	2,930	2,100	1,460	6,980	7,350	10,400	3,740	1,040	836	574
30	804	1,730	2,280	2,170	-----	6,950	6,700	10,800	3,290	1,040	820	560
31	822	-----	2,140	2,400	-----	7,000	-----	11,200	-----	972	772	-----
Total	20,372	33,366	84,850	77,520	41,200	125,040	221,700	277,870	175,570	63,618	22,975	18,477
Mean	657	1,112	2,737	2,480	1,421	4,034	7,390	8,964	5,852	2,052	741	616
Ac-ft	40,410	66,180	168,300	153,800	81,720	248,000	439,700	551,100	348,200	126,200	45,570	36,550
Calendar year 1955: Max	10,400	Min	502	Mean	1,952	Ac-ft	1,414,000					
Water year 1955-56: Max	12,200	Min	502	Mean	3,176	Ac-ft	2,306,000					

Peak discharge (base, 5,000 cfs).--Dec. 22 (10 a.m.) 11,800 cfs (7.10 ft); Jan. 16 (7:30 p.m.) 6,280 cfs (4.91 ft); Mar. 26 (1 a.m.) 10,700 cfs (6.68 ft); Apr. 23 (3 a.m.) 10,600 cfs (6.63 ft); May 24 (3 a.m.) 12,900 cfs (7.57 ft); June 10 (3 a.m.) 7,420 cfs (5.37 ft).

\* Discharge measurement made on this day.

\* No gage-height record; discharge estimated on basis of weather records and records for station at Troy.

## 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 (Geological Survey river-profile survey).

Drainage area.--3,275 sq mi.

Records available.--August 1944 to September 1956. Monthly discharge only for some periods, 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.--12 years, 3,312 cfs (2,398,000 acre-ft per year).

Extremes.--Maximum discharge during year, 26,400 cfs Dec. 22 (gage height, 10.43 ft); minimum, 693 cfs Sept. 27, 28 (gage height, 2.19 ft).

1944-56: Maximum discharge observed, 30,000 cfs Dec. 15, 1946 (gage height, 11.20 ft, present datum); minimum, 434 cfs Nov. 29, 1952 (gage height, 1.71 ft), result of freezeup.

Remarks.--Records excellent. 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 Innaha River basin for irrigation of about 6,500 acres in Wallowa Valley. Flow slightly regulated by Wallowa Lake (see p. 231) and small reservoirs.

Revisions (water years).--WSP 1397: 1946(M), 1948-50.

Rating table, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 27 to Dec. 11, Apr. 22 to May 8)

2.2	700	6.0	7,220
2.6	1,500	8.0	14,000
4.0	2,840	10.0	24,000
5.0	4,630		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	724	1,140	2,440	3,190	1,870	2,280	8,910	8,430	14,100	3,890	1,220	990
2	716	1,080	2,530	3,050	1,880	3,600	8,190	*8,010	12,400	3,600	1,200	951
3	708	1,030	2,140	2,880	1,970	*4,770	7,600	7,830	11,500	3,700	1,240	915
4	716	1,130	1,950	2,860	2,030	4,280	7,390	8,520	11,200	3,350	1,220	915
5	843	1,390	1,770	2,840	2,050	3,610	7,280	9,270	10,100	3,320	1,150	915
6		1,310	1,600	2,720	2,130	3,160	6,800	9,120	8,970	3,300	1,120	879
7	807	1,280	*1,610	2,690	2,060	2,870	6,770	9,240	7,980	3,320	1,100	879
8	756	1,250	1,520	2,650	1,950	2,760	6,520	11,400	7,570	3,240	1,060	879
9	780	1,230	1,520	2,400	1,860	2,860	7,000	13,100	7,980	*3,160	*1,030	861
10	951	1,380	1,440	2,330	1,860	2,690	*8,160	13,200	8,750	3,270	980	843
11	1,460	2,060	1,630	2,260	1,860	2,440	9,750	13,200	8,550	4,120	960	825
12	1,170	1,560	3,400	2,230	2,080	2,260	11,000	12,200	7,830	3,940	915	816
13	1,080	1,360	3,830	2,270	2,470	2,350	12,000	11,100	7,340	3,530	888	816
14	1,050	1,280	3,060	2,400	2,350	2,230	13,200	10,100	7,220	3,810	861	798
15	1,010	1,010	2,420	2,920	2,130	2,170	13,900	9,690	7,510	3,350	807	798
16	960	915	2,310	6,690	1,630	2,210	14,100	9,720	7,660	3,040	834	798
17	924	1,070	2,060	7,350	1,720	2,540	12,800	10,300	7,110	2,800	825	780
18	879	1,180	1,970	*6,390	1,670	3,410	12,200	11,400	6,310	2,580	798	756
19	879	1,320	1,970	5,650	1,740	4,840	12,500	13,000	6,340	2,420	756	724
20	879	1,680	2,330	5,120	1,750	5,760	13,100	13,700	7,140	2,210	740	716
21	879	1,580	5,420	4,630	1,960	6,420	14,300	13,900	6,470	2,100	724	732
22	870	1,500	20,500	4,350	3,170	7,890	15,300	13,600	5,960	1,880	716	756
23	852	1,420	14,300	4,370	2,620	9,330	14,900	13,900	5,860	1,690	716	756
24	834	1,370	9,600	4,180	2,520	12,500	13,800	*15,600	5,600	1,800	724	756
25	*825	1,500	7,540	3,680	2,370	13,500	12,800	13,800	5,400	1,500	740	756
26	816	2,060	6,520	3,170	2,270	14,400	12,000	12,900	4,980	1,400	861	*740
27	943	3,170	6,090	2,980	2,230	11,000	11,500	15,500	4,980	1,320	1,070	708
28	879	2,820	5,280	2,720	2,130	9,450	10,700	13,700	5,120	1,280	1,310	716
29	924	2,650	*4,370	2,680	2,140	8,970	9,780	13,100	4,980	1,300	1,120	740
30	1,150	2,480	3,630	2,550	- - - - -	9,210	9,030	13,300	*4,410	1,370	1,080	724
31	1,270	- - - - -	3,300	2,100	- - - - -	9,450	- - - - -	13,700	- - - - -	1,300	1,020	- - - - -
Total	28,206	46,205	129,850	108,310	60,470	175,210	323,280	365,530	226,300	82,690	20,785	24,238
Mean	910	1,540	4,189	3,494	2,085	5,652	10,780	11,790	7,543	2,667	961	808
Ac-ft	55,950	91,650	257,860	214,800	119,900	347,500	641,200	725,000	448,900	164,000	59,080	48,080
Calendar year 1955: Max	20,500				Min 546		Mean 2,634		Ac-ft 1,907,000			
Water year 1955-56: Max	20,500				Min 708		Mean 4,372		Ac-ft 3,174,000			

Peak discharge (base, 7,000 cfs).--Dec. 22 (10 a.m.) 26,400 cfs (10.43 ft); Jan. 17 (1 a.m.) 8,010 cfs (6.27 ft); Mar. 26 (5 a.m.) 16,000 cfs (8.45 ft); Apr. 22 (6 a.m.) 15,500 cfs (8.43 ft); May 10 (6 p.m.) 13,500 cfs (7.93 ft); May 19 (3 p.m.) 16,700 cfs (8.64 ft).

\* Discharge measurement made on this day.

## Asotin Creek near Asotin, Wash.

Location.--Lat 46°19'30", long 117°12'30", in SE $\frac{1}{4}$  sec. 19, T. 10 N., R. 45 E., on left bank half a mile upstream from the Washington Water Power Co.'s diversion for water supply and irrigation, 5 miles upstream from George Creek, and 8 miles west of Asotin.

Drainage area.--156 sq mi.

Records available.--March to November 1904, April 1905 to February 1906, May to November 1906, August to September 1910, July to October 1911, August 1928 to September 1956. Published as "at Shelman's Ranch, near Asotin" 1904-5.

Gage.--Staff gage and crest-stage indicator; gage read twice daily. Altitude of gage is 1,380 ft (from topographic map). Prior to Jan. 11, 1934, staff gages within a quarter of a mile of present site at different datums.

Average discharge.--28 years (1928-56), 67.4 cfs (48,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,040 cfs Dec. 22 (gage height, 3.94 ft), from rating curve extended above 280 cfs on basis of slope-area determination of peak flow; minimum observed, 25 cfs Nov. 15; minimum gage height, 0.51 ft Feb. 20. 1904-6, 1910-11 1928-56: Maximum discharge observed, 1,180 cfs Apr. 15, 1904 (gage height, 4.3 ft, site and datum then in use); minimum observed, 16 cfs Jan. 5, 1937.

Remarks.--Records good except those for periods of ice effect, or shifting control, which are fair. Several diversions for irrigation and domestic use. No regulation.

Cooperation.--Gage-height record furnished by the Washington Water Power Co.

Revisions (water years).--WSP 1217: Drainage area. WSP 1317: 1931(M), 1935(M).

Rating tables, water year 1955-56, except periods of ice effect or shifting control (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 22		Dec. 22 to May 10		May 11 to Sept. 30	
0.6	24	0.5	34	2.2	38
0.8	43	0.7	64	2.4	60
1.1	82	1.0	119	2.7	110
1.5	155	1.5	238	3.0	172
2.0	275	2.0	380	3.5	305
3.0	565	3.0	710	4.0	470
4.0	960				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.		
1	36	38	55	90	40	172	179	161	275	70	47	41		
2	35	*36	55	86	40	134	158	167	266	67	49	41		
3	34	38	54	83	40	88	140	164	238	66	48	41		
4	35	40	53	83	40	81	*130	196	240	66	47	41		
5	36	43	50	74	45	74	127	214	208	66	45	40		
6														
7	36	42	*51	71	50	67	119	224	193	61	43	41		
8	35	42	50	69	47	64	117	230	181	59	*43	40		
9	36	42	50	69	42	67	115	350	161	58	42	41		
10	40	40	48	64	44	62	117	440	159	58	42	41		
	55	42	48	61	40	58	142	*470	157	58	42	40		
11														
12	45	42	50	58	40	50	196	*432	148	59	43	40		
13	40	38	69	54	61	51	227	404	136	56	40	40		
14	38	35	78	64	42	*53	249	352	122	56	41	39		
15	38	33	70	61	40	48	271	312	122	55	40	40		
	37	32	65	72	37	56	299	278	142	53	40	40		
16														
17	36	32	60	149	35	58	350	281	130	53	39	39		
18	36	35	55	149	35	81	315	340	118	50	40	38		
19	36	40	55	*136	103	271	370	370	110	49	40	*38		
20	36	54	60	119	35	167	*246	373	114	46	40	36		
21	36	50	72	115	37	176	282	362	*112	49	38	38		
22	36	53	223	107	111	201	307	367	104	54	38	38		
23	36	50	*720	95	54	260	366	*346	97	49	39	39		
24	36	50	582	90	47	276	416	352	97	48	39	38		
25	36	50	334	65	42	290	416	364	89	49	39	36		
26	35	54	226	72	40	313	365	336	86	47	38	39		
27														
28	36	56	184	62	40	321	333	340	81	47	56	39		
29	36	60	162	60	37	268	318	349	77	47	50	40		
30	36	59	142	55	40	206	290	316	73	46	46	40		
31	37	58	113	50	42	*184	254	308	73	48	43	39		
30	40	55	103	45	-----	172	211	305	70	47	43	40		
31	38	-----	92	40	-----	166	-----	290	-----	47	41	-----		
Total	1,158	1,339	4,029	2,468	1,278	4,387	7,346	9,833	4,179	1,686	1,321	1,187		
Mean	37.4	44.6	130	60.3	44.1	142	245	317	139	54.4	42.6	39.6		
Ac-ft	2,300	2,660	7,990	4,930	2,530	8,700	14,570	19,500	8,290	3,340	2,620	2,350		
Calendar year 1955: Max	720		Min		32		Mean		68.6		Ac-ft		49,670	
Water year 1955-56: Max	720		Min		32		Mean		110		Ac-ft		79,760	

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13-18, Dec. 14-19, Jan. 27 to Feb. 5, Feb. 16-19. Shifting-control method used Mar. 21 to June 4.

## 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.

Records available.--April 1911 to September 1912 (gage heights, or fragmentary discharge records only), October 1929 to September 1956. Monthly discharge only for some periods, 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.--27 years (1929-56), 3,631 cfs (2,629,000 acre-ft per year).

Extremes.--Maximum discharge during year, 41,200 cfs May 24 (gage height, 14.28 ft); minimum, 545 cfs Sept. 20 (gage height, 2.76 ft).

1929-56: 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 period of ice effect, which are good, and those for period of no gage-height record, which are fair. Small diversions from headwaters.

Revisions.--WSP 1043: Drainage area.

Rating tables, water year 1955-56, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 22

Dec. 23 to Sept. 30

2.9	666	2.7	500	6.0	5,870
3.0	748	3.0	730	7.0	8,770
3.5	1,220	3.5	1,210	9.0	16,100
4.0	1,810	4.0	1,810	11.0	25,000
5.0	3,360	4.5	2,580	14.0	39,800
6.0	5,440	5.0	3,510		
7.0	8,080				

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	715	1,190	*1,620	2,800	793	*1,170	4,040	10,500	26,500	4,500	1,260	920
2	699	*1,050	1,580	2,700	b940	1,500	3,780	9,870	24,500	4,260	1,200	847
3	682	1,010	1,480	2,500	b1,200	1,580	3,550	9,580	21,200	5,120	1,200	793
4	723	1,260	1,580	2,500	b1,400	1,480	3,330	10,100	20,700	4,780	1,180	775
5	1,100	1,970	1,180	2,500	b1,450	1,380	3,200	11,000	17,600	4,170	1,110	748
6	1,060	1,540	1,220	2,200	b1,450	1,230	2,890	11,700	14,300	4,020	1,100	730
7	916	1,300	1,420	2,100	1,360	1,190	3,020	13,200	12,200	3,740	1,130	722
8	916	1,200	1,260	2,100	1,300	1,300	2,890	15,600	12,300	3,510	1,110	706
9	944	1,240	1,230	2,000	1,180	1,230	3,180	16,500	14,000	3,330	1,040	682
10	1,070	3,940	1,250	1,900	1,190	1,170	4,170	18,000	14,800	3,230	990	666
11	1,210	4,290	1,310	1,900	1,220	1,110	6,060	16,700	14,200	3,230	950	635
12	1,130	2,710	1,940	1,800	1,330	1,030	7,350	14,300	12,500	*3,100	920	628
13	1,160	1,880	2,110	*1,740	1,290	1,100	8,270	12,500	*11,400	2,840	892	628
14	1,120	1,840	1,500	1,730	1,210	1,120	9,440	11,300	11,000	2,930	865	612
15	1,060	1,400	1,260	1,840	1,150	1,070	11,000	11,300	10,900	2,650	856	590
16	1,000	1,070	1,620	2,000	874	1,070	12,300	12,800	10,900	2,410	901	575
17	934	1,330	1,620	1,950	950	1,200	11,200	16,200	9,310	2,250	838	568
18	880	1,760	1,840	1,870	1,220	1,500	10,400	21,300	8,430	2,120	802	560
19	861	1,880	1,570	1,820	1,200	1,940	11,300	27,100	8,370	2,010	*775	552
20	843	2,070	1,730	1,780	1,160	2,220	13,400	32,500	9,610	1,910	748	552
21	834	1,910	2,370	1,740	1,150	2,510	16,200	33,800	8,400	1,840	730	635
22	843	1,730	8,000	1,720	1,190	3,020	19,100	35,000	7,140	1,760	706	722
23	852	1,580	9,500	1,800	1,230	3,820	20,400	32,000	6,720	1,650	690	658
24	817	1,540	7,500	1,760	1,180	*5,150	19,600	*37,900	7,380	1,580	690	612
25	791	1,540	5,200	1,820	1,150	6,630	17,200	29,600	6,370	1,500	722	590
26	808	1,860	4,800	1,280	1,150	7,520	16,000	26,400	6,190	1,440	874	575
27	834	2,150	4,300	1,500	1,130	6,140	15,200	27,000	5,950	1,390	1,210	568
28	889	1,890	3,700	1,580	1,120	4,900	*14,100	23,900	5,870	1,390	1,440	666
29	1,070	1,760	3,200	1,500	1,130	4,310	12,600	23,600	5,660	1,450	1,110	775
30	1,600	1,660	2,800	1,400	-----	4,040	11,300	25,900	4,950	1,400	1,150	766
31	1,560	-----	2,800	1,010	-----	4,200	-----	25,600	-----	1,320	1,080	-----
Total	29,921	53,550	83,970	58,640	34,287	78,830	296,670	618,650	349,950	82,830	30,249	20,956
Mean	965	1,785	2,709	1,892	1,133	2,543	9,899	19,980	11,680	2,672	976	669
Cfs/m	0.505	0.935	1.42	0.991	0.619	1.33	5.18	10.5	6.10	1.40	0.511	0.350
In.	0.58	1.04	1.63	1.14	0.67	1.53	5.78	12.05	6.81	1.61	0.59	0.39
Ac-ft	59,350	106,200	166,600	116,300	68,030	156,400	588,400	1,227,000	694,100	164,300	60,000	39,780

Calendar year 1955: Max 30,100 Min 463 Mean 4,094 Cfs/m 2.14 In. 29.08 Ac-ft 2,964,000  
 Water year 1955-56: Max 37,800 Min 552 Mean 4,748 Cfs/m 2.49 In. 33.82 Ac-ft 3,446,000

Peak discharge (base, 18,000 cfs).--Apr. 23 (3 a.m.) 21,200 cfs (10.17 ft); May 10 (5 a.m.) 18,400 cfs (9.54 ft); May 24 (8 a.m.) 41,200 cfs (14.28 ft).

\* Discharge measurement made on this day.

\* Stage-discharge relation affected by ice.

Note.--No gage-height record Dec. 22 to Jan. 12; discharge estimated on basis of weather records, recorded range in stage, and records for Lochsa River and other nearby streams.

## Lochsa River near Lowell, Idaho

Location.--Lat 46°09', long 115°35', in SW $\frac{1}{4}$ SE $\frac{1}{4}$  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.

Records available.--October 1910 to September 1912, October 1929 to September 1956. 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 gage at site 1 mile upstream at different datum.

Average discharge.--29 years (1910-12, 1929-56), 2,753 cfs (1,993,000 acre-ft per year).

Extremes.--Maximum discharge during year, 28,500 cfs May 24 (gage height, 12.12 ft); minimum, 362 cfs Sept. 20 (gage height, 1.77 ft).

1929-56: 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.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 22				Dec. 23 to Sept. 30			
1.9	480	4.0	3,030	1.7	320	5.0	4,890
2.0	560	5.0	4,790	2.0	515	6.0	7,170
2.5	1,000	6.0	6,990	2.5	940	8.0	12,900
3.0	1,560	7.0	9,590	3.0	1,500	10.0	20,000
				3.5	2,170	12.0	28,000
				4.0	2,960		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	512	950	*1,200	2,230	755	*940	2,730	8,050	19,900	3,330	990	622
2	504	*819	1,160	2,160	845	1,260	2,580	7,840	19,400	3,170	930	568
3	488	801	1,090	2,030	980	1,230	2,460	7,600	16,500	4,720	930	530
4	584	960	1,020	2,060	1,120	1,120	2,350	7,900	15,800	4,580	902	515
5	864	1,590	910	2,020	1,160	1,050	2,320	8,210	13,600	3,680	854	508
6	756	1,280	930	1,800	1,150	970	2,180	8,670	11,200	3,580	827	494
7	640	1,020	980	1,720	1,100	950	2,280	9,940	9,210	3,150	827	460
8	608	960	930	1,750	1,020	950	2,290	11,700	9,100	2,910	827	473
9	632	1,000	900	1,600	950	940	2,530	12,800	10,200	2,740	791	459
10	875	2,510	900	1,510	930	902	3,380	14,700	11,100	2,580	746	445
11	1,130	2,650	1,060	1,560	950	836	4,740	13,200	10,600	2,520	712	432
12	920	1,850	1,930	1,490	1,140	800	5,410	11,200	9,020	*2,560	678	426
13	882	1,320	1,740	*1,480	1,040	836	6,010	9,720	*8,180	2,280	654	419
14	837	1,280	1,290	1,480	970	827	6,980	8,840	7,870	2,260	630	412
15	756	1,010	1,200	1,550	902	827	8,100	9,080	8,130	2,090	638	400
16	712	873	1,420	1,600	764	836	9,050	10,700	8,490	1,920	712	393
17	672	1,010	1,360	1,590	892	921	8,050	13,600	6,490	1,790	678	380
18	632	1,230	1,300	1,490	940	1,120	7,600	17,400	6,590	1,670	606	374
19	608	1,450	1,280	1,440	950	1,360	8,340	20,800	6,340	1,590	575	374
20	584	1,570	1,500	1,420	912	1,500	9,920	23,700	7,220	1,510	*552	374
21	576	1,430	2,280	1,390	912	1,700	12,000	24,600	6,570	1,460	545	466
22	592	1,300	7,180	1,380	1,020	2,060	14,200	24,400	5,540	1,380	522	538
23	616	1,170	9,100	1,420	1,010	2,630	14,800	23,400	5,170	1,310	508	508
24	584	1,120	5,970	1,370	940	*3,060	14,800	*26,400	5,630	1,250	501	452
25	552	1,170	4,430	1,200	912	3,630	13,000	21,900	5,190	1,180	515	426
26	624	1,640	3,780	1,030	902	4,470	12,200	20,000	4,620	1,130	630	406
27	640	1,690	3,490	1,150	892	3,740	11,700	19,800	4,350	1,080	809	406
28	664	1,430	3,010	1,230	864	3,040	*10,700	17,300	4,250	1,040	854	459
29	828	1,530	2,600	1,200	893	2,740	9,550	19,000	4,050	1,040	712	487
30	1,370	1,250	2,280	1,100	---	2,680	18,000	---	3,640	1,030	782	622
31	1,240	---	2,220	854	---	2,930	---	19,100	---	1,010	738	---
Total	22,482	39,663	70,440	47,304	27,805	53,055	220,820	468,550	264,900	67,120	22,175	13,848
Mean	725	1,322	2,272	1,526	959	1,711	7,361	15,110	8,830	2,165	715	462
Cfsm	0.614	1.12	1.93	1.29	0.813	1.45	6.24	12.8	7.48	1.83	0.606	0.392
In.	0.71	1.25	2.22	1.49	0.88	1.67	8.96	14.77	8.35	2.12	0.70	0.44
Ac-ft	44,590	78,670	139,700	93,630	55,150	105,200	438,000	929,400	525,400	133,100	43,980	27,470
Calendar year 1955: Max	22,700				390	Mean 3,034	Cfsm 2.57	In. 34.91	Ac-ft 2,196,000			
Water year 1955-56: Max	26,400			Min 374		Mean 3,602	Cfsm 3.05	In. 41.56	Ac-ft 2,614,000			

Peak discharge (base, 12,000 cfs).--Dec. 22 (2 p.m.) 13,300 cfs (8.25 ft); Apr. 24 (2 a.m.) 15,500 cfs (8.78 ft); May 10 (2 p.m.) 15,000 cfs (8.65 ft); May 24 (10:30 a.m.) 28,500 cfs (12.12 ft).

\* Discharge measurement made on this day.



## South Fork Clearwater River near Elk City, Idaho

Location.--Lat 45°49', long 115°32', in NE<sup>1</sup>/<sub>4</sub> 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.

Records available.--September 1944 to September 1956.

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 and at datum 6.14 ft lower.

Average discharge.--12 years, 258 cfs (186,800 acre-ft per year).

Extremes.--Maximum discharge during year, about 2,200 cfs Apr. 23 or 24, during period of no gage-height record; minimum, 26 cfs Oct. 25 (gage height, 1.43 ft).  
1944-56: 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 1955-56, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 28 to May 23)

1.5	29	2.4	190	4.0	870
1.6	38	2.8	304	4.5	1,190
1.8	62	3.2	444	5.0	1,540
2.0	96	3.6	640	5.8	2,140

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	*76	85	120	70	68	352	1,060	882	195	70	58
2	44	58	82	120	75	72	310	1,010	858	195	65	52
3	41	78	*80	110	95	76	289	1,050	750	242	64	46
4	54	100	65	110	100	75	274	1,180	717	223	61	44
5	112	169	60	110	95	70	268	1,250	734	193	59	44
6	87	92	70	100	90	65	251	1,220	640	190	57	42
7	70	92	70	95	80	66	265	1,250	565	174	57	41
8	65	80	65	95	70	68	271	1,310	507	162	57	40
9	62	98	65	90	70	68	326	1,320	466	149	50	38
10	58	320	65	90	75	65	450	1,450	428	139	49	37
11	68	335	70	85	72	65	600	1,430	404	130	47	36
12	75	162	110	85	72	60	800	1,270	*379	125	45	35
13	82	90	100	85	72	65	900	1,200	355	*121	44	35
14	67	80	70	80	70	64	1,050	1,080	338	159	41	35
15	59	65	75	*95	64	63	1,150	1,060	375	134	42	34
16	54	50	85	160	50	62	1,300	1,110	484	118	45	33
17	50	60	85	150	55	70	1,200	1,230	400	110	*44	32
18	47	65	80	130	65	85	1,050	1,310	342	102	39	32
19	46	105	80	120	65	100	1,200	1,460	310	96	37	31
20	47	130	90	120	65	110	1,450	1,560	397	91	35	31
21	46	110	150	110	65	130	1,700	1,580	361	87	34	38
22	45	90	250	110	70	200	1,900	*1,550	310	82	34	40
23	50	85	300	110	72	280	2,100	1,500	274	76	32	36
24	46	85	250	100	68	400	2,100	1,640	304	73	32	34
25	42	85	180	80	65	*500	1,850	1,450	265	72	59	33
26	49	95	170	80	65	600	1,650	1,320	248	68	85	32
27	59	105	170	85	65	500	1,550	1,390	231	65	162	32
28	58	98	150	85	65	404	*1,430	1,180	217	80	167	45
29	73	94	120	85	*65	365	1,270	1,070	206	87	87	50
30	116	90	100	80	-----	355	1,160	982	195	96	85	46
31	114	-----	110	65	-----	375	-----	918	-----	76	68	-----
Total	1,932	3,262	3,482	3,140	2,070	5,546	30,466	39,390	12,942	3,910	1,853	1,162
Mean	62.3	109	112	101	71.4	179	1,016	1,271	431	126	59.8	38.7
Cfsm	0.239	0.418	0.429	0.387	0.274	0.686	3.89	4.87	1.85	0.483	0.229	0.149
In.	0.28	0.46	0.50	0.45	0.29	0.79	4.34	5.61	1.84	0.56	0.26	0.17
Ac-ft	3,830	6,470	6,910	6,230	4,110	11,000	60,430	78,130	25,870	7,760	3,680	2,300

Calendar year 1955: Max 1,900 Min 30 Mean 274 Cfsm 1.05 In. 14.26 Ac-ft 198,500  
Water year 1955-56: Max 2,100 Min 31 Mean 298 Cfsm 1.14 In. 15.55 Ac-ft 216,500

Peak discharge (base, 1,300 cfs).--Apr. 23 or 24 (time unknown) about 2,200 cfs; May 11 (5 to 6 a.m.) 1,490 cfs (5.03 ft); May 24 (10 a.m.) 1,730 cfs (5.36 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Apr. 10-27; discharge estimated on basis of weather records, records for station near Grangeville, and other nearby streams. Stage-discharge relation affected by ice Nov. 13 to Mar. 27.

## CLEARWATER RIVER BASIN

## 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.

Records available.--November 1910 to January 1911, March 1911 to July 1911, October 1911 to September 1916, April 1923 to September 1956. Monthly discharge only for some periods, published in WSP 1817.

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.--38 years (1911-16, 1923-56), 862 cfs (624,100 acre-ft per year).

Extremes.--Maximum discharge during year, 6,900 cfs May 24 (gage height, 9.01 ft, momentary release from powerplant pondage); maximum natural discharge, 6,770 cfs May 24 (gage height, 8.94 ft) occurred just after release; no flow part of day Aug. 15; minimum daily, 141 cfs Sept. 19, 20.

1910-16, 1923-56: Maximum discharge observed, 12,600 cfs May 29, 1948 (gage height, 12.50 ft); no flow part of day Aug. 27, 1947, Aug. 15, 1956; minimum daily, 29 cfs Nov. 23, 27, 29, 1952.

Remarks.--Records excellent except those below 200 cfs, which are good, and 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 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 23

Apr. 24 to Sept. 30

2.9	184	5.0	1,590	2.7	131	5.0	1,370
3.0	215	6.0	2,350	3.0	219	6.0	2,350
3.5	415	7.0	3,600	3.5	430	7.0	3,600
4.0	650	8.0	5,080	4.0	685	8.0	5,140
4.5	980	9.0	6,650	4.5	990	9.0	6,880

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	206	*328	388	560	b270	312	1,280	3,140	4,240	1,000	308	241
2	193	250	374	570	b300	336	1,160	2,980	3,950	976	291	212
3	184	269	*362	528	b350	357	1,080	3,010	3,540	1,100	304	202
4	215	332	296	523	b400	349	1,010	3,590	3,450	1,020	287	199
5	349	518	280	496	b410	332	958	4,100	3,330	920	287	180
6	328	402	312	464	b400	296	882	4,100	2,960	896	283	186
7	277	328	316	451	366	308	924	4,100	2,650	836	259	180
8	261	316	304	451	328	312	903	4,370	2,540	788	263	177
9	229	332	312	406	324	312	1,030	4,470	2,540	740	255	172
10	258	763	296	415	341	300	1,400	4,840	2,490	707	230	166
11	320	1,160	316	410	332	292	1,900	4,680	2,360	707	237	160
12	304	538	505	392	336	269	2,440	4,140	*2,150	658	209	157
13	324	312	460	397	332	300	2,740	3,710	1,990	*630	219	160
14	300	288	308	384	320	288	3,110	3,360	1,880	674	202	157
15	265	240	349	456	292	284	3,460	3,290	2,440	636	199	152
16	240	190	392	*758	226	288	3,900	3,490	2,690	560	223	147
17	226	277	384	704	b280	316	3,570	3,940	2,320	520	209	144
18	215	397	353	1945	b310	384	3,280	4,610	1,960	480	199	144
19	209	478	379	580	478	357	3,570	5,340	1,850	470	*183	141
20	218	575	410	560	308	523	4,180	5,870	2,010	440	177	141
21	209	496	625	541	304	585	4,960	5,960	1,880	421	177	163
22	218	428	1,160	528	328	826	5,580	5,820	1,630	394	172	169
23	240	379	1,400	523	332	1,020	6,060	*5,670	1,520	376	166	163
24	218	374	1,100	482	312	1,400	6,040	6,520	1,610	358	163	152
25	206	374	861	388	308	1,750	5,400	5,580	1,450	349	166	147
26	236	415	777	366	304	*2,200	4,820	5,190	1,320	300	329	144
27	265	464	819	420	304	1,820	*4,500	5,630	1,250	318	490	144
28	250	442	710	402	*304	1,460	4,180	4,710	1,200	344	540	189
29	284	428	541	424	308	1,340	3,770	4,440	1,130	372	349	*199
30	397	406	500	379	-----	1,280	3,420	4,240	1,050	362	295	193
31	438	-----	523	292	-----	1,380	-----	4,200	-----	340	271	-----
Total	8,082	12,497	16,112	14,895	9,337	21,697	91,547	139,000	67,360	18,702	7,942	5,081
Mean	261	417	520	480	322	700	3,052	4,484	2,245	603	256	169
Cfs/m	0.302	0.482	0.601	0.555	0.372	0.609	3.53	5.18	2.60	0.697	0.296	0.195
In.	0.35	0.54	0.69	0.64	0.40	0.93	3.94	5.98	2.90	0.80	0.34	0.22
Ac-ft	16,030	24,790	31,960	29,540	18,520	43,040	181,600	275,700	133,600	37,090	15,750	10,080
Calendar year 1955: Max	6,390	Min	130	Mean	1,016	Cfs/m	1.17	In.	15.95	Ac-ft	735,400	
Water year 1955-56: Max	6,520	Min	141	Mean	1,126	Cfs/m	1.30	In.	17.73	Ac-ft	817,700	

Peak discharge (base, 3,200 cfs).--Apr. 24 (8 a.m.) 6,380 cfs (8.72 ft); May 10 (11:30 p.m.) 4,950 cfs (7.88 ft); May 24 (2:30 p.m.) 6,770 cfs (8.94 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## 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.

Records available.--August 1910 to September 1956.

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.--46 years, 8,121 cfs (5,879,000 acre-ft per year).

Extremes.--Maximum discharge during year, 77,800 cfs May 24 (gage height, 16.59 ft); minimum, 1,180 cfs Sept. 19, 20 (gage height, 3.35 ft).  
1910-56: 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 excellent except those below 5,000 cfs, which are good. Some diurnal regulation at low stages caused by powerplant on South Fork.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 30

Dec. 1 to Sept. 30

3.5	1,400	3.3	1,130	7.0	10,100
4.0	2,150	3.6	1,460	8.0	13,700
5.0	4,060	4.0	2,020	9.0	18,100
6.0	6,820	4.5	2,890	11.0	30,400
7.0	9,820	5.0	3,940	13.0	45,900
		6.0	6,780	16.0	72,500

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,540	2,960	*4,010	6,160	1,920	3,000	10,600	22,800	52,400	9,920	2,680	1,990
2	1,480	2,430	3,780	6,250	1,940	*4,650	9,820	21,500	50,200	9,180	2,520	1,770
3	1,430	*2,240	3,530	5,770	2,520	5,770	9,140	20,800	43,500	10,900	2,450	1,680
4	1,490	2,460	3,240	6,070	3,450	4,670	8,680	22,300	41,700	11,600	2,440	1,550
5	2,180	3,910	2,740	5,950	3,320	3,920	8,410	24,800	37,300	9,820	2,320	1,520
6	2,540	3,930	2,630	5,180	3,280	3,360	7,730	25,400	30,100	9,140	g2,260	1,490
7	2,010	3,110	2,980	4,870	3,100	3,060	7,730	28,000	25,400	8,610	g2,300	1,470
8	1,880	2,810	2,800	4,870	2,930	3,160	7,730	33,000	24,400	8,020	2,260	1,450
9	1,840	2,750	2,650	4,510	2,660	3,140	8,050	35,100	26,800	7,570	2,200	1,420
10	2,150	5,530	2,660	4,160	2,630	2,930	9,890	39,400	29,000	7,220	g2,150	1,380
11	2,880	9,680	2,870	4,200	2,650	2,740	13,400	37,700	28,800	*7,060	g2,070	1,340
12	2,660	6,170	5,890	*4,080	3,080	2,500	16,400	32,100	*24,800	6,810	g1,920	1,320
13	2,480	4,190	5,800	4,080	3,200	2,610	18,300	28,000	22,100	6,470	g1,840	1,310
14	2,410	3,600	3,890	4,180	2,800	2,590	20,500	24,700	21,000	6,470	g1,790	1,300
15	2,250	3,090	2,850	4,650	2,570	2,560	23,900	24,200	21,800	6,130	g1,760	1,270
16	2,060	2,150	3,430	6,590	1,960	2,540	27,600	27,200	23,400	5,470	g1,630	1,230
17	1,930	2,370	3,710	8,280	2,020	2,890	25,800	33,400	20,600	4,980	g1,790	1,220
18	1,820	3,160	3,280	5,590	2,490	4,010	23,100	43,500	17,800	4,850	g1,720	1,200
19	1,730	3,740	3,300	5,100	2,610	5,560	24,500	54,000	17,000	4,360	g1,620	1,190
20	1,670	5,230	4,180	4,840	2,560	*6,720	28,800	63,000	18,800	4,130	*1,540	1,180
21	1,660	4,980	8,250	4,650	3,150	8,450	34,800	66,100	18,100	3,940	1,500	1,250
22	1,660	4,300	17,300	4,510	3,360	10,200	40,300	*65,400	15,300	3,760	1,460	1,460
23	1,740	3,770	24,600	5,070	3,280	11,400	44,100	62,800	14,200	3,530	1,440	1,490
24	1,670	3,500	18,400	4,810	3,060	13,200	43,700	71,600	14,800	3,340	1,440	1,360
25	1,590	3,620	12,300	4,130	2,890	15,500	38,600	61,400	14,600	3,180	1,470	1,280
26	1,670	4,530	11,000	3,410	2,850	*17,900	35,700	53,900	13,000	3,020	1,700	1,240
27	1,840	6,310	10,700	3,320	2,760	15,200	33,600	55,300	12,300	2,910	2,420	1,220
28	1,800	4,980	8,970	3,760	2,700	12,300	31,200	48,000	12,000	2,850	3,200	1,310
29	2,130	4,420	7,630	3,580	2,740	10,900	28,400	47,700	11,600	2,910	2,560	1,500
30	3,710	4,100	6,350	3,380	-----	10,500	*24,700	47,300	10,700	2,950	2,280	1,590
31	3,830	-----	6,950	2,590	-----	11,100	-----	49,100	-----	2,780	2,300	-----
Total	63,130	119,620	199,670	146,590	80,480	208,630	665,180	*1,389,5	713,500	183,480	63,230	41,920
Mean	2,036	3,994	6,441	4,729	2,775	6,736	22,170	40,950	23,780	5,919	2,040	1,397
Cfsm	0.420	0.824	1.33	0.975	0.572	1.39	4.57	8.44	4.90	1.22	0.421	0.288
In.	0.48	0.92	1.53	1.12	0.62	1.60	5.10	9.73	5.47	1.41	0.48	0.32
Ac-ft	125,200	237,700	396,000	290,800	159,600	414,200	*1,319	*2,518	*1,415	363,900	125,400	83,150

Calendar year 1955: Max 80,300 Min 1,030 Mean 8,707 Cfsm 1.80 In. 24.37 Ac-ft 6,303,000  
Water year 1955-56: Max 71,600 Min 1,180 Mean 10,260 Cfsm 2.12 In. 28.78 Ac-ft 7,448,000

Peak discharge (base, 28,200 cfs).--Apr. 23 (8 a.m.) 45,600 cfs (12.96 ft); May 10 (11 a.m.) 40,100 cfs (12.28 ft); May 24 (1 p.m.) 77,800 cfs (16.59 ft).

\* Discharge measurement made on this day.

† Expressed in thousands.

g Computed from graph based on once-daily staff-gage readings.

## CLEARWATER RIVER BASIN

## 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.

Records available.--September 1944 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 2,240 ft (from river-profile map).

Average discharge.--12 years, 2,934 cfs (2,124,000 acre-ft per year).

Extremes.--Maximum discharge during year, 22,600 cfs May 20 (gage height, 9.74 ft); minimum, 633 cfs probably on Feb. 15, when clock was stopped, and Sept. 20; minimum gage height, 2.67 ft probably Feb. 15, 1944-56. Maximum discharge, 27,400 cfs May 29, 1948 (gage height, 11.13 ft); minimum daily, 180 cfs Nov. 29, 1952.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. 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 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.6	570	4.0	2,610	6.0	8,220
3.0	980	4.5	3,720	8.0	15,600
3.5	1,680	5.0	5,070	10.0	23,500

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	740	1,160	1,310	2,630	b900	1,100	2,690	8,220	15,600	5,180	1,270	870
2	710	1,030	1,240	2,490	900	1,300	2,510	8,080	15,000	3,300	1,230	826
3	690	1,080	1,200	2,370	1,100	1,450	2,450	7,750	13,500	5,780	1,240	815
4	804	*1,520	1,140	2,470	1,250	1,350	2,410	8,050	12,700	4,510	1,190	804
5	1,240	2,280	1,030	2,350	1,350	1,250	2,350	8,390	11,200	3,740	1,160	782
6	958	1,570	b1,150	2,070	1,350	1,100	2,280	8,940	9,800	3,480	1,140	771
7	848	1,360	b1,200	2,070	1,200	1,100	2,450	10,200	8,590	3,250	1,180	760
8	826	1,240	1,130	2,050	1,150	1,150	2,410	11,900	8,220	3,050	1,130	750
9	881	1,530	1,160	1,920	1,150	1,100	2,550	13,000	8,700	2,900	1,080	750
10	2,020	3,300	1,100	1,920	1,150	1,100	3,580	14,000	9,220	2,760	1,030	720
11	1,800	2,720	1,290	1,820	1,200	1,000	5,220	13,000	8,870	2,860	1,020	710
12	1,260	2,070	2,990	1,710	1,250	1,000	5,660	11,200	7,810	*2,570	1,000	710
13	1,150	1,660	1,990	1,710	1,200	1,190	6,550	10,000	7,190	2,470	969	700
14	1,050	b1,500	1,340	*1,660	1,150	1,140	7,580	9,500	*6,900	2,530	947	690
15	969	b1,200	b1,300	1,710	1,050	992	8,700	10,100	7,290	2,260	947	680
16	914	b1,100	b1,550	1,920	850	969	9,390	11,700	7,420	2,110	969	670
17	881	b1,200	b1,600	1,880	900	1,090	8,290	13,800	6,460	1,990	925	660
18	848	b1,400	b1,400	1,570	1,050	1,240	7,980	16,100	5,900	1,920	892	651
19	826	b1,800	b1,300	1,550	1,100	1,440	8,940	18,500	5,750	1,830	881	642
20	804	1,920	b1,900	1,520	1,100	1,520	10,300	20,700	6,520	1,760	859	670
21	782	1,650	3,700	1,500	1,100	1,580	11,700	21,200	5,600	1,730	*848	826
22	837	1,520	10,800	1,500	1,150	1,980	13,400	20,300	5,010	1,650	826	837
23	826	1,400	10,500	1,540	1,150	2,470	13,900	19,300	4,750	1,570	815	720
24	771	1,370	6,610	1,460	1,100	2,840	13,700	*19,900	4,700	1,520	837	680
25	760	1,430	4,980	1,310	1,050	3,550	12,000	17,400	4,340	1,460	870	660
26	826	1,980	4,200	1,060	1,050	4,150	11,400	16,400	4,050	1,420	1,040	651
27	870	1,760	3,870	b1,300	1,050	3,250	11,300	15,700	3,900	1,370	1,220	690
28	1,000	1,540	3,320	b1,400	1,050	2,670	10,700	14,600	3,800	1,330	1,160	892
29	1,150	*1,430	2,860	b1,300	1,050	2,490	*9,500	14,700	3,600	1,370	1,000	870
30	1,960	1,360	2,490	b1,200	-----	2,530	8,590	14,600	3,360	1,510	1,150	1,000
31	1,460	-----	2,590	b1,000	-----	2,920	-----	15,400	-----	1,310	925	-----
Total	31,461	47,880	84,240	53,460	32,000	54,011	220,380	422,630	225,750	74,090	31,750	22,437
Mean	1,015	1,596	2,717	1,725	1,103	1,742	7,346	13,630	7,525	2,390	1,024	748
Cfsm	1.02	1.60	2.73	1.73	1.11	1.75	7.39	13.7	7.56	2.40	1.03	0.751
In.	1.17	1.79	3.15	2.00	1.19	2.02	8.23	15.78	8.43	2.77	1.19	0.84
Ac-ft	62,400	94,970	167,100	106,000	63,470	107,100	437,100	839,300	447,800	147,000	62,980	44,500

Calendar year 1955: Max 16,800 Min 450 Mean 2,815 Cfsm 2.83 In. 39.37 Ac-ft 2,039,000  
 Water year 1955-56: Max 21,200 Min 642 Mean 3,552 Cfsm 3.57 In. 48.56 Ac-ft 2,573,000

Peak discharge (base, 9,000 cfs).--Dec. 22 (9 p.m.) 14,400 cfs (7.68 ft); Apr. 22 (12 p.m.) 14,600 cfs (7.75 ft); May 9 (11 p.m.) 14,500 cfs (7.69 ft); May 20 (11 p.m.) 22,600 cfs (9.74 ft).  
 \* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Feb. 2 to Mar. 12; discharge estimated on basis of weather records, records for station at Ahsanka, and other nearby stations.

## North Fork Clearwater River near Ahsahka, Idaho

Location.--Lat 46°31', long 116°18', in SE $\frac{1}{4}$  sec. 26, T. 37 N., R. 1 E., on right bank at Bruce's Eddy,  $1\frac{1}{2}$  miles northeast of Ahsahka and 2 miles upstream from mouth.

Drainage area.--2,440 sq mi, approximately.

Records available.--August 1926 to September 1956.

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.--30 years, 5,632 cfs (4,077,000 acre-ft per year).

Extremes.--Maximum discharge during year, 42,800 cfs May 21; maximum gage height, 22.05 ft Dec. 23; minimum discharge, 1,310 cfs Sept. 20 (gage height, 2.99 ft). 1926-56: 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. No regulation or diversion above station.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 28, May 22-27)

3.0	1,320	11.0	12,400
4.0	2,120	13.0	16,600
5.0	3,150	16.0	24,000
7.0	5,730	19.0	32,800
9.0	8,820	22.0	42,500

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,540	3,110	3,760	6,460	a2,100	2,700	9,090	18,300	28,700	6,310	2,470	1,790
2	1,470	2,570	3,570	6,250	a2,100	*3,220	8,330	17,700	28,700	6,020	2,410	1,690
3	1,420	*2,400	3,360	5,880	a3,000	3,580	7,880	17,100	23,900	6,460	2,380	1,610
4	1,420	2,620	3,170	5,900	b3,800	3,370	7,910	17,400	22,300	6,920	2,380	1,590
5	2,200	5,620	2,930	6,260	b3,800	3,080	7,830	19,000	20,300	7,180	2,300	1,550
6	2,480	4,470	2,790	5,620	b3,700	2,810	7,430	19,100	17,700	6,660	2,220	1,530
7	1,880	3,580	2,970	5,280	b3,500	2,740	7,750	20,900	15,800	6,190	2,200	1,520
8	1,700	3,160	2,830	5,270	b3,200	2,880	7,910	25,800	14,600	5,840	2,220	1,520
9	2,040	3,030	2,700	4,890	b3,000	2,800	8,070	28,300	15,000	5,590	2,120	1,480
10	3,750	6,570	2,680	4,580	2,950	2,690	10,400	29,800	16,100	5,410	2,040	1,460
11	5,860	8,140	2,820	4,550	2,930	2,490	15,600	29,300	16,200	*5,970	1,970	1,440
12	3,460	5,770	8,920	*4,410	3,140	2,400	18,200	24,800	14,300	5,730	1,940	1,430
13	2,910	4,380	7,560	4,360	3,190	2,560	19,300	21,500	*13,100	5,060	1,900	1,420
14	2,550	3,970	4,720	4,370	2,980	2,800	21,500	19,800	12,500	5,060	1,850	1,400
15	2,300	b3,150	3,800	4,460	2,680	2,480	24,200	19,800	13,500	4,670	1,830	1,380
16	2,130	b2,300	4,240	6,020	2,010	2,490	25,900	22,400	14,400	4,300	1,850	1,360
17	1,990	b2,600	4,290	6,010	2,080	2,700	23,300	26,400	13,400	4,040	1,840	1,350
18	1,900	b3,000	3,790	5,310	2,610	3,170	21,900	31,000	11,600	3,840	1,770	1,330
19	1,830	b4,000	3,560	4,890	2,730	3,840	22,900	34,800	11,100	3,690	1,710	1,320
20	1,600	b5,100	4,900	4,680	2,710	4,470	25,400	39,600	11,400	3,540	1,670	1,320
21	1,740	4,190	8,120	4,510	2,700	5,020	29,000	40,600	11,100	3,510	*1,640	1,390
22	1,700	3,580	26,100	4,470	2,810	*7,270	32,400	38,500	9,720	3,330	1,610	1,610
23	1,750	3,510	37,600	4,750	2,850	9,110	33,200	36,600	9,160	3,150	1,580	1,560
24	1,710	3,230	19,800	4,710	2,710	10,100	32,600	37,200	8,790	3,030	1,550	1,420
25	1,630	3,550	14,100	4,370	2,630	12,100	28,300	33,700	8,460	2,900	1,620	1,360
26	1,670	6,190	11,400	3,750	2,610	14,600	26,000	*30,600	7,850	2,800	2,010	1,330
27	1,840	6,610	10,700	3,700	2,590	*12,100	25,800	29,900	7,560	2,700	2,510	1,340
28	1,940	4,860	9,240	3,970	2,540	9,500	24,600	28,500	7,460	2,610	2,640	1,670
29	2,520	*4,530	7,980	3,790	2,590	8,510	21,700	26,600	7,700	2,580	2,160	1,830
30	4,140	3,940	6,920	3,570	---	8,360	*19,400	26,100	6,700	2,590	2,180	1,850
31	4,400	---	6,520	a3,000	---	9,500	---	28,900	---	2,470	2,080	---
Total	71,710	123,730	235,840	150,060	82,140	165,240	573,800	835,800	416,420	144,150	62,650	44,830
Mean	2,313	4,124	7,608	4,841	2,832	5,330	19,130	26,960	13,880	4,650	2,021	1,494
Cfsm	0.948	1.69	3.12	1.98	1.16	2.18	7.84	11.0	5.69	1.91	0.828	0.612
In.	1.09	1.89	3.59	2.29	1.25	2.52	8.75	12.74	6.35	2.20	0.95	0.68
Ac-ft	142,200	245,400	467,800	297,800	162,990	327,700	1,136,000	1,656,000	826,000	285,900	124,300	88,920
Calendar year 1955: Max	30,100	Min	1,150	Mean	6,025	Cfsm	2.47	In.	33.52	Ac-ft	4,361,000	
Water year 1955-56: Max	40,600	Min	1,320	Mean	7,941	Cfsm	3.25	In.	44.30	Ac-ft	5,765,000	

Peak discharge (base, 18,000 cfs).--Dec. 23 (1:30 a.m.) 42,700 cfs (22.05 ft); Apr. 23 (7:30 a.m.) 34,700 cfs (19.62 ft); May 11 (5 a.m.) 30,900 cfs (18.38 ft); May 21 (9:30 a.m.) 42,800 cfs (22.00 ft).

\* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for other stations in Clearwater River basin.

b Stage-discharge relation affected by ice.

## Potlatch Creek 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.--460 sq mi, approximately.

Records available.--October 1945 to September 1956.

Gage.--Wire-weight gage read once daily. Datum of gage is 1,198.2 ft above mean sea level, unadjusted.

Average discharge.--11 years, 428 cfs (309,900 acre-ft per year).

Extremes.--Maximum discharge observed during year, 7,000 cfs Dec. 22 (gage height, 10.20 ft); minimum observed, 7.1 cfs Aug. 23, 25; minimum gage height observed, 4.37 ft Oct. 3, 4.

1945-56: Maximum discharge, 13,000 cfs Feb. 26, 1948 (gage height, 13.6 ft, from floodmarks), by slope-area determination of peak flow; minimum observed, 4.3 cfs Aug. 25, 1946; minimum gage height observed, 3.28 ft Oct. 12-16, 1945.

Remarks.--Records good except those for periods of ice effect, which are fair. No regulation or diversion.

Revisions (water years).--WSP 1093: 1946(M).

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	139	464	482	b180	402	1,970	578	142	56	15	23
2	19	101	*590	446	243	1,030	1,900	536	142	55	14	20
3	16	81	340	360	317	*1,350	1,780	512	134	55	14	17
4	16	92	262	355	412	1,010	1,920	530	176	65	16	16
5	29	*266	182	440	360	725	2,140	816	182	62	14	14
6	44	185	240	518	290	614	1,740	669	166	54	14	13
7	35	148	215	554	258	440	1,760	566	148	50	13	13
8	27	122	192	669	b230	396	1,850	830	128	45	12	14
9	45	106	148	464	b200	360	1,940	1,350	114	41	12	11
10	246	170	160	470	b190	290	2,100	1,070	101	*38	12	11
11	299	258	388	*402	192	243	2,850	1,260	92	38	10	11
12	134	160	3,800	355	236	192	2,880	926	81	44	10	10
13	76	114	1,440	458	312	270	2,900	795	76	40	9.6	9.9
14	58	b100	704	446	290	198	2,830	655	74	37	9.5	9.9
15	51	b85	548	662	215	218	2,950	548	*154	33	9.0	9.6
16	45	b80	488	3,600	192	229	2,910	488	464	33	8.4	9.6
17	41	b100	370	2,590	250	335	2,680	452	365	32	9.0	9.9
18	37	b160	540	1,550	258	634	2,110	412	222	28	9.0	9.6
19	36	b200	299	1,110	258	1,120	1,860	380	179	26	8.1	9.9
20	34	b250	560	926	262	2,050	1,910	345	182	28	8.1	10
21	31	b220	2,520	823	250	2,770	1,970	304	179	28	7.8	10
22	32	198	2,650	870	278	*5,500	2,020	258	145	30	*7.3	11
23	30	170	4,790	1,160	286	5,500	1,870	243	117	27	7.1	12
24	30	145	2,350	950	299	5,380	1,550	290	106	24	7.3	12
25	28	326	1,480	690	299	4,340	1,240	270	99	22	8.7	9.9
26	31	1,440	1,280	494	299	3,500	1,060	290	85	21	26	10
27	31	1,190	1,570	566	278	2,950	974	*345	76	20	42	10
28	40	870	1,150	412	265	2,280	870	250	72	18	56	16
29	52	739	690	424	286	2,150	767	215	64	18	42	29
30	166	512	418	312	---	2,550	*655	157	58	16	29	22
31	222	---	464	250	---	2,930	---	154	---	17	28	---
Total	2,005	8,727	34,872	23,808	7,686	51,936	57,936	16,494	4,323	1,101	487.7	393.3
Mean	64.7	291	1,125	768	265	1,675	1,931	532	144	35.5	15.7	13.1
Cfsm	0.141	0.633	2.45	1.67	0.576	3.64	4.20	1.16	0.313	0.077	0.034	0.028
In.	0.16	0.71	2.82	1.92	0.62	4.20	4.68	1.33	0.35	0.09	0.04	0.03
Ac-ft	3,990	17,310	69,170	47,220	15,240	103,000	114,900	32,720	8,570	2,180	967	780

Calendar year 1955: Max 6,650 Min 7.8 Mean 385 Cfsm 0.837 In. 11.37 Ac-ft 279,000  
 Water year 1955-56: Max 6,650 Min 7.1 Mean 573 Cfsm 1.25 In. 16.95 Ac-ft 416,000

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## Clearwater River at Spalding, Idaho

Location.--Lat 46°25', long 116°51', 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.

Records available.--March 1926 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 770.5 ft (estimated from datum of former gage). Prior to Sept. 21, 1928, staff gage at site 2,300 ft upstream at datum 772.49 ft above mean sea level (datum of 1929, supplementary adjustment of 1947). Wire-weight gage on highway bridge 2,300 ft upstream at same datum as former staff gage, used as supplementary gage.

Average discharge.--30 years, 15,023 cfs (10,880,000 acre-ft per year).

Extremes.--Maximum discharge during year, 121,000 cfs May 24 (gage height, 19.60 ft); minimum, 2,610 cfs Sept. 19, 20, 21 (gage height, 2.87 ft).

1926-56: 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.

Remarks.--Records excellent except those for periods of ice effect, which are good. Small diversions from tributaries; slight diurnal fluctuation at times caused by powerplant on South Fork.

Rating table, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 18 to June 8)

2.5	2,010	6.0	11,400	14.0	64,300
3.0	2,780	8.0	21,200	16.0	84,700
4.0	4,890	10.0	33,000	19.0	119,000
5.0	7,780	12.0	47,000		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,370	7,260	9,520	14,000	5,000	7,230	27,500	*44,500	83,200	16,800	5,400	4,240
2	3,170	5,840	9,090	14,000	5,000	10,000	24,700	41,900	80,000	15,600	5,220	3,810
3	3,040	5,170	8,470	13,300	6,600	*13,800	22,900	40,700	70,900	17,400	5,040	3,560
4	3,020	5,140	7,810	13,000	9,200	12,000	22,400	41,100	65,200	22,100	5,060	3,370
5	3,600	*8,340	6,980	14,200	9,000	10,600	22,400	47,300	60,300	18,000	4,920	3,290
6	5,450	10,200	6,460	13,000	8,800	9,190	20,200	47,800	50,100	16,200	4,700	3,230
7	4,540	7,910	6,760	12,100	8,000	8,240	20,200	50,800	42,900	15,200	4,650	3,170
8	3,920	6,750	6,700	12,100	7,600	8,210	20,800	62,000	39,400	14,200	4,650	3,150
9	3,810	6,290	6,350	11,400	7,000	8,210	20,800	69,700	40,900	13,400	4,580	3,110
10	5,370	8,750	6,170	10,400	6,600	7,680	24,800	74,900	44,500	*12,800	4,580	3,020
11	9,730	19,500	6,490	*10,200	6,600	7,070	33,800	76,000	45,200	12,800	4,180	2,980
12	7,480	14,400	16,800	10,100	7,600	6,550	41,600	64,600	40,600	13,000	4,070	2,910
13	5,980	10,100	18,700	10,000	8,000	6,730	44,400	55,400	36,600	11,800	3,960	2,890
14	5,480	8,140	12,100	10,200	7,500	6,700	48,700	48,500	*34,600	11,800	3,850	2,850
15	4,960	7,000	8,680	10,800	6,600	6,580	55,500	46,900	35,300	11,400	3,770	2,820
16	4,560	4,800	8,810	20,600	5,000	6,520	62,500	50,800	40,000	10,200	3,770	2,780
17	4,270	5,500	9,500	20,000	5,200	7,160	60,200	60,200	38,800	9,440	3,920	2,700
18	4,050	7,000	9,500	16,500	6,200	9,300	53,400	74,400	32,400	8,850	3,750	2,660
19	3,880	9,000	8,500	14,300	6,800	13,200	53,600	90,600	30,200	8,440	3,560	2,640
20	3,790	13,000	11,500	13,200	6,800	16,700	59,600	105,000	30,700	8,040	3,410	2,630
21	3,690	11,500	22,000	12,300	7,600	20,200	70,100	112,000	32,300	7,780	3,330	2,640
22	3,620	9,500	57,000	12,000	8,000	30,500	81,200	110,000	27,500	7,450	*3,250	2,980
23	3,660	8,500	76,000	12,800	8,000	*32,600	88,200	106,000	25,000	7,100	3,210	3,270
24	3,690	8,000	45,900	13,200	7,500	35,500	86,900	111,000	24,200	6,700	3,170	3,040
25	3,500	8,500	31,900	11,600	7,400	41,200	76,600	104,000	24,700	6,430	3,190	2,839
26	3,430	14,000	26,900	9,880	7,230	48,000	68,500	*87,800	22,300	6,170	3,620	2,760
27	3,850	18,100	28,200	9,090	7,010	39,000	65,100	87,600	20,800	5,870	4,700	2,700
28	4,070	15,400	21,800	9,480	6,790	30,400	61,400	77,300	20,200	5,730	5,730	2,890
29	4,630	11,200	18,200	9,260	6,820	27,200	54,700	75,700	19,700	5,640	5,640	3,350
30	6,670	*10,100	15,100	8,580	---	27,200	48,500	74,700	18,400	5,730	4,700	3,580
31	9,300	---	14,000	7,000	---	29,500	---	76,500	---	5,590	4,720	---
Total	143,580	282,900	539,890	378,590	205,450	542,970	*1,441.2	*2,215.5	*1,176.9	337,660	132,060	91,850
Mean	4,632	9,430	17,420	12,210	7,084	17,520	48,040	71,470	39,230	10,890	4,260	3,062
Cfs/m	0.484	0.985	1.82	1.28	0.740	1.83	5.02	7.47	4.10	1.14	0.445	0.320
In.	0.56	1.10	2.10	1.47	0.80	2.11	5.20	8.61	4.57	1.31	0.51	0.36
Ac-ft	284,800	561,100	*1,071	750,900	407,500	*1,077	*2,859	*4,394	*2,334	669,700	261,900	182,200

Calendar year 1955: Max 94,800 Min 2,400 Mean 16,190 Cfs/m 1.69 In. 22.98 Ac-ft 11,720,000  
Water year 1955-56: Max 112,000 Min 2,630 Mean 20,460 Cfs/m 2.14 In. 29.10 Ac-ft 14,850,000

Peak discharge (base, 50,000 cfs).--Dec. 23 (1 a.m.) 86,200 cfs (16.13 ft); Apr. 23 (10 to 11 a.m.) 91,700 cfs (16.61 ft); May 11 (8 a.m.) 78,500 cfs (15.41 ft); May 24 (7 p.m.) 121,000 cfs (19.60 ft).

\* Discharge measurement made on this day.

\* Expressed in thousands.

Note.--Stage-discharge relation affected by ice Nov. 15-26, Dec. 17-21, Jan. 31 to Feb. 25, Mar. 2-4.

## 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.--103,800 sq mi, approximately.

Records available.--October 1915 to September 1956 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, 1900-1916 (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 benchmark). Prior to Sept. 12, 1917, staff gage, and Sept. 12, 1917, to Sept. 30, 1923, Aug. 6, 1928, to Sept. 30, 1935, chain gage, at Riparia 66 miles downstream at different datum.

Extremes.--Maximum discharge during year, 392,100 cfs May 24 (gage height, 36.30 ft); minimum, 18,300 cfs Oct. 27; minimum gage height, 10.44 ft Aug. 22; minimum daily discharge, 20,400 cfs Oct. 5.

1909-56: Maximum discharge, 369,000 cfs May 29, 1948 (gage height, 40.36 ft, from high-water mark in well); minimum observed, 10,600 cfs Aug. 14, 18, 20, 24-28, 30, 31, Sept. 1, 2, 5, 1931, but may have been less during period of ice effect in January 1937.

Maximum stage known, 24.7 ft, Riparia site and datum, June 5, 1894, determined from floodmarks by U. S. Weather Bureau (discharge, 409,000 cfs).

Revisions.--Figures of observed maximum discharge for the water years 1931 and 1934 have been revised to momentary maximum discharge of 116,000 cfs Apr. 1, 1931 (gage height, 10.30 ft, from graph based on gage readings) and 164,000 cfs Dec. 23, 1933 (gage height, 13.20 ft, from graph based on gage readings), superseding figures published in WSP 723 and 768, respectively, and WSP 1317.

Remarks.--Records excellent. Over 2,840,000 acres are irrigated above station from numerous large irrigation projects. Regulation from many storage reservoirs upstream and fluctuations during low-water periods from powerplant on Clearwater River at Lewiston, Idaho. Records of chemical analyses and water temperatures for the water year 1956 are given in WSP 1453.

Revisions (water years).--WSP 463: 1916. WSP 933: 1937.

Rating tables, water year 1955-56 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 22

Dec. 23 to Sept. 30

11.0	20,000	20.0	76,400	11.0	20,600	25.0	128,000
15.0	39,200	24.0	118,400	15.0	39,200	30.0	194,000
				20.0	76,400	36.0	287,000

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22,000	28,700	30,600	48,800	31,400	39,100	91,500	124,200	258,000	67,000	28,300	26,300
2	21,500	*25,600	31,800	48,100	30,500	43,200	86,800	117,900	231,700	82,700	27,700	24,900
3	21,500	24,800	32,400	45,300	30,000	50,200	84,200	115,700	250,000	61,800	27,400	24,600
4	20,700	24,400	31,200	41,100	32,500	51,900	*83,000	114,800	235,000	65,500	27,700	23,700
5	20,400	26,000	29,000	40,100	34,000	50,500	83,100	127,000	222,800	58,200	27,400	23,300
6	23,200	30,700	27,300	42,200	34,000	47,900	79,300	131,000	199,500	54,000	26,900	23,400
7	23,100	29,000	*26,100	42,200	34,200	44,800	77,600	135,100	183,900	51,600	*26,200	23,000
8	21,900	28,500	25,800	42,500	30,800	42,100	76,700	148,100	168,800	49,800	26,500	22,700
9	21,800	26,200	26,100	41,100	30,800	42,500	75,200	165,200	163,400	48,600	26,100	22,700
10	23,300	27,100	26,700	36,500	30,800	42,000	79,600	172,000	171,500	47,800	25,500	23,100
11	27,500	38,700	26,900	34,400	31,400	41,900	93,000	177,600	175,400	46,200	25,100	22,900
12	27,600	35,100	35,000	36,100	34,600	41,000	106,900	164,200	168,900	47,300	25,200	21,800
13	26,500	31,200	41,400	36,900	37,200	40,500	115,600	150,100	157,000	44,900	25,000	22,600
14	26,400	27,700	34,900	34,400	36,500	39,700	123,800	136,400	143,100	44,400	24,200	22,400
15	26,100	25,500	30,600	34,400	37,400	38,900	131,800	128,100	135,700	43,500	23,800	22,800
16	26,600	22,100	29,600	51,000	34,400	39,700	143,900	129,200	145,600	40,200	23,800	23,700
17	27,300	21,500	29,500	64,100	32,300	41,300	150,800	141,300	142,700	38,400	24,000	23,600
18	23,600	24,000	29,400	60,600	33,000	43,600	141,700	164,800	128,500	36,700	24,100	23,000
19	21,800	25,400	29,600	*55,700	34,200	50,200	*136,500	197,100	116,500	35,200	24,100	22,400
20	21,700	28,300	30,800	53,300	35,000	57,600	144,300	232,600	117,400	34,200	23,000	*22,300
21	22,700	32,000	45,200	50,600	35,700	61,900	161,700	253,500	*114,000	33,200	22,400	22,400
22	21,700	35,500	116,400	48,900	35,700	80,100	179,300	281,700	107,300	32,800	21,400	22,800
23	22,100	32,600	162,000	47,800	42,400	90,200	192,200	260,100	102,200	32,200	21,300	23,400
24	23,600	31,400	145,900	50,300	45,700	103,500	191,500	271,200	100,900	31,200	22,000	23,800
25	23,000	31,400	119,800	47,500	46,300	115,900	177,900	277,100	100,100	30,400	23,000	23,500
26	21,700	34,000	93,300	44,800	40,800	134,200	165,000	252,900	92,400	29,900	23,600	22,600
27	21,200	40,400	81,700	41,200	39,600	124,400	157,200	255,000	85,100	29,400	23,800	22,500
28	22,700	36,500	72,200	40,200	37,400	108,500	149,600	254,200	80,500	28,800	25,800	23,600
29	23,300	35,800	64,000	40,500	36,400	98,600	139,600	*245,500	77,200	28,600	27,800	24,000
30	26,400	30,900	54,800	39,400	-----	93,100	129,800	238,300	73,100	29,000	26,600	24,700
31	28,900	-----	50,400	37,000	-----	94,400	-----	239,400	-----	28,700	26,700	-----
Total	732,800	886,800	*61,617.4	*1,377	*1,025	*1,993.2	*3,749.1	*45,781.6	*4,480.1	*1,312.2	776,200	698,500
Mean	23,640	29,560	52,170	44,420	35,340	64,300	125,000	186,500	149,300	42,330	25,040	23,280
Ac-ft	*1,453	*1,759	*3,208	*2,731	*2,033	*3,953	*7,436	*11,470	*8,886	*2,603	*1,540	*1,385

Calendar year 1955: Max 199,000 Min 17,500 Mean 45,490 Ac-ft 32,950,000  
 Water year 1955-56: Max 277,100 Min 20,400 Mean 66,750 Ac-ft 48,460,000

\* Discharge measurement made on this day.

\* Expressed in thousands.



## Palouse River near Colfax, Wash.

Location--Lat 46°55'30", long 117°19'10", in NW<sup>1</sup>SW<sup>1</sup> 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 1956.

Gage--Water-stage recorder. Altitude of gage is 2,010 ft (from topographic map).

Extremes--1955: Maximum discharge during period in September, 32 cfs Sept. 23 (gage height, 1.77 ft); minimum observed, 3.0 cfs Sept. 13 (gage height, 1.30 ft).

1955-56: Maximum discharge during water year, 4,790 cfs Dec. 22 (gage height, 7.60 ft), from slope-area determination of peak flow; minimum, 7.0 cfs Aug. 21 (gage height, 1.43 ft).

Remarks--Records good except those for periods of ice effect, doubtful or no gage-height record, which are poor. Small diversions for irrigation and domestic use above station. Slight regulation by millponds above station.

Rating table, period Sept. 13, 1955, to Sept. 30, 1956, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	3.0	1.7	25	2.7	234	5.0	1,640
1.4	5.8	1.9	49	3.5	450	6.0	2,660
1.5	10.5	2.2	108	4.0	840	7.0	3,910

## Discharge, in cubic feet per second, 1955

Day	Sept.	Day	Sept.	Day	Sept.	Day	Sept.	Day	Sept.	Day	Sept.
1	-	6	-	11	-	16	-	21	-	26	12.5
2	-	7	-	12	-	17	-	22	15.5	27	18.5
3	-	8	-	13	3.0	18	-	23	19	28	15.5
4	-	9	-	14	-	19	9.9	24	15.5	29	14
5	-	10	-	15	-	20	*13.5	25	17	30	16.5

Total	-
Mean	-
Runoff in acre-feet	-

\* Discharge measurement made on this day.

## Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	*126	175	386	230	687	1,610	545	175	82	14	19
2	13	93	158	355	220	1,450	1,360	477	131	*43	14	22
3	15	74	*143	390	220	1,330	*d1,170	446	129	61	11.5	17
4	14	68	117	812	230	777	1,090	459	145	38	9.9	15.5
5	17.5	66	90	d731	240	508	1,170	590	160	39	13	15.5
6	17	124	70	d634	250	410	1,120	596	178	61	*13.5	13
7	15	148	80	d618	260	363	990	540	153	52	14	13
8	15.5	117	72	d550	260	352	1,010	1,210	141	54	15.5	13
9	44	106	61	d468	260	344	950	2,040	131	47	14	13
10	74	162	59	d459	280	302	1,050	1,750	115	46	12.5	11
11	217	148	126	d482	310	237	1,390	1,430	110	40	11	11
12	243	190	974	d442	360	243	1,720	1,210	95	44	9.9	11
13	141	141	612	d508	470	*256	1,950	966	90	34	11	12.5
14	97	66	374	d464	340	234	2,000	750	90	33	12.5	11.5
15	66	30	300	d473	260	259	2,160	601	108	34	8.4	9.9
16	66	29	260	d1,570	230	316	2,280	518	240	27	9.4	10.5
17	37	29	220	*d2,110	220	518	2,150	477	398	31	8.4	*9.9
18	34	55	200	1,410	230	1,060	*1,710	472	253	26	9.9	15.5
19	51	196	220	1,000	250	d1,450	1,430	459	220	17	10.5	9.4
20	32	268	300	*896	400	*d1,800	1,440	438	196	17	9.4	8.4
21	29	298	1,180	847	740	d1,860	1,620	*406	185	22	7.4	10.5
22	26	319	*3,810	982	550	*d3,400	1,790	366	165	22	8.9	9.9
23	28	259	3,880	1,100	450	*d3,040	1,880	322	148	21	8.4	10.5
24	26	231	2,500	926	350	2,570	1,620	298	131	20	8.4	9.9
25	22	308	1,520	712	250	2,480	1,310	326	124	17.5	7.9	11.5
26	23	522	1,290	513	246	3,490	1,040	278	110	18.5	15	9.4
27	22	625	1,280	446	228	3,100	889	256	101	16.5	16.5	9.4
28	23	394	1,040	400	234	2,050	812	240	101	16.5	17.5	10.5
29	28	228	681	340	426	1,610	724	228	95	15.5	37	10.5
30	38	178	472	280	-----	*1,580	623	206	78	15.5	40	13
31	74	-----	398	250	-----	1,780	-----	183	-----	15	24	-----

Total	1,543.0	5,668	22,462	21,554	8,994	39,856	42,128	19,083	4,496	1,026.0	423.5	366.7
Mean	49.8	189	722	685	310	1,286	1,404	616	150	33.1	13.7	12.2
Ac-ft	3,060	11,240	44,550	42,750	17,840	79,050	83,560	37,850	8,920	2,040	840	727

Calendar year 1955: Max	-	Min	-	Mean	-	Ac-ft	-
Water year 1955-56: Max	3,880	Min	7.4	Mean	458	Ac-ft	332,400

Peak discharge (base, 2,000 cfs)--Dec. 12 (8:30 p.m.) 2,090 cfs (5.47 ft); Dec. 22 (1 a.m.) 4,790 cfs (7.60 ft); Jan. 16 (9 p.m.) 2,520 cfs (5.87 ft); Mar. 2 (8 p.m.) 2,190 cfs (5.57 ft); Mar. 22 (time unknown) about 3,500 cfs; Mar. 26 (3 a.m.) 3,800 cfs (6.92 ft); Apr. 16 (9 a.m.) 2,300 cfs (5.67 ft); May 8 (11:30 p.m.) 2,350 cfs (5.75 ft).

\* Discharge measurement made on this day.

d Doubtful gage-height record; discharge estimated on basis of recorder graph, weather records, and records for stations on nearby streams.

Note--Stage-discharge relation affected by ice Nov. 15-18, Dec. 16-18, Jan. 28 to Feb. 10, Feb. 15-18. No gage-height record Dec. 15-20, Feb. 6-25.

## Union Flat Creek near Colfax, Wash.

Location.--Lat 46°49'00", long 117°26'05", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 5, T. 15 N., R. 43 E., on right bank  $\frac{5}{2}$  miles southwest of Colfax.

Drainage area.--189 sq mi.

Records available.--July 1953 to September 1956.

Gage.--Water-stage recorder. Altitude of gage is 1,865 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,790 cfs Dec. 21 (gage height, 7.10 ft), from rating curve extended above 730 cfs by logarithmic plotting; minimum not determined; minimum daily, 0.5 cfs Oct. 1-5.

1953-56: Maximum discharge, that of Dec. 21, 1955; no flow Aug. 15 to Sept. 13, 1955.

Remarks.--Records fair. Small diversions above station for irrigation. No known regulation.

Rating tables, water year 1955-56, except periods of ice effect (gage height, in feet, and discharge in cubic feet per second)  
(Shifting-control method used Sept. 8-30)

Oct. 1 to Dec. 21						Dec. 21 to Sept. 30					
0.8	0.2	1.2	4.2	3.0	157	0.8	1.1	1.7	29	4.0	410
.9	0.6	1.4	10	4.0	352	.9	2.1	2.0	50	5.0	750
1.0	1.3	1.7	24	5.0	631	1.0	3.4	2.5	100	6.0	1,200
1.1	2.5	2.0	46	6.0	990	1.2	7.5	3.0	175	7.0	1,730
						1.4	14	3.5	275		

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	*3.8	45	44	30	311	195	24	11	6.1	1.5	2.6
2	.5	4.4	40	48	25	1,180	179	22	10.5	*5.9	1.7	2.1
3	.5	4.7	34	53	25	1,000	150	24	10	7.5	1.9	1.8
4	.5	5.2	30	144	25	323	139	36	9.6	7.0	2.3	1.7
5	.5	5.5	21	124	30	186	114	79	13	7.2	2.2	1.6
6	.7	7.4	*30	76	35	142	98	47	15	7.0	*1.9	1.6
7	1.0	6.8	23	76	35	121	105	39	14.5	6.3	1.7	1.6
8	2.5	6.3	18.5	79	35	175	108	132	14	6.1	1.6	1.5
9	7.8	5.2	26	46	40	212	90	199	13	5.4	1.4	1.4
10	9.4	32	23	56	50	124	84	124	12	4.8	1.3	1.4
11	6.8	15.5	66	62	61	105	75	121	11	4.6	1.4	1.3
12	5.0	4.7	456	71	292	*96	63	65	10	4.4	1.5	1.5
13	4.7	3.8	184	104	276	92	58	56	9.0	4.2	1.7	1.3
14	3.1	3.0	54	99	154	86	55	48	9.4	4.0	1.7	1.3
15	2.5	2.8	35	94	61	104	49	41	11.5	3.8	2.2	1.2
16	2.0	3.0	32	1,000	38	177	46	36	20	3.8	2.1	1.1
17	1.9	3.5	29	782	30	518	45	33	28	3.6	1.9	*1.1
18	1.8	5.0	32	*306	35	691	*44	28	24	3.4	1.6	1.1
19	1.9	40	51	172	40	990	41	25	20	3.1	1.9	1.1
20	2.0	39	69	153	46	*975	37	25	16.5	2.8	1.8	1.1
21	2.2	23	737	144	92	858	34	*22	15	3.1	1.8	1.1
22	1.9	17.5	1,060	186	158	1,330	31	20	13.5	3.1	1.6	1.1
23	1.8	14.5	504	323	100	786	29	17	12	2.8	1.8	1.1
24	1.9	15	122	161	90	549	29	16	11	2.3	1.5	1.3
25	1.9	49	85	100	76	528	30	17	9.7	2.2	1.6	1.3
26	1.9	175	116	75	70	850	28	16	9.1	1.8	3.0	1.3
27	1.9	163	199	58	68	365	29	15	9.5	1.7	4.2	1.6
28	2.2	67	84	45	82	*290	27	13.5	7.7	1.6	4.0	1.8
29	3.0	55	54	40	120	293	25	12.5	6.8	1.5	3.7	2.1
30	4.7	48	41	35	-----	296	25	12	6.3	1.5	3.6	2.6
31	4.0	-----	50	30	-----	347	-----	11.5	-----	1.5	2.7	-----
Total	83.0	828.3	4,350.5	4,784	2,189	14,082	2,061	1,376.5	381.6	124.1	64.8	44.5
Mean	2.68	27.6	140	154	75.5	454	68.7	44.4	12.7	4.00	2.09	1.48
Ac-ft	165	1,640	8,630	9,490	4,340	27,930	4,090	2,730	757	246	129	88

Calendar year 1955: Max 1,060 Min 0 Mean 42.1 Ac-ft 30,480  
Water year 1955-56: Max 1,330 Min 0.5 Mean 83.0 Ac-ft 60,240

Peak discharge (base, 400 cfs).--Dec. 12 (8 p.m.) 586 cfs (4.85 ft); Dec. 21 (10 p.m.) 1,790 cfs (7.10 ft); Jan. 16 (3:30 p.m.) 1,420 cfs (6.43 ft); Feb. 12 (8:45 p.m.) 1,460 cfs (6.52 ft); Feb. 22 (2 p.m.) 479 cfs (4.23 ft); Mar. 3 (5:30 a.m.) 1,680 cfs (6.92 ft); Mar. 8 (11 p.m.) 455 cfs (4.15 ft); Mar. 22 (1 p.m.) 1,530 cfs (6.66 ft); May 8 (10:30 p.m.) 458 cfs (4.16 ft).

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-5, May 21 to June 21; discharge estimated on basis of weather records and records for stations on nearby streams. Stage-discharge relation affected by ice Nov. 14-17, Jan. 28 to Feb. 10, Feb. 17-19.

## 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 State Highway 11B bridge 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 1956. Prior to 1904, sometimes published as "near Hooper".

Gage.--Water-stage recorder. Altitude of gage is 1,040 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 different datums. Feb. 8 to Mar. 28, 1951, staff gage at present site and datum.

Average discharge.--18 years (1897-99, 1900-1906, 1908-11, 1913-15, 1951-56), 622 cfs (450,300 acre-ft per year).

Extremes.--Maximum discharge during year, 15,200 cfs Dec. 22 (gage height, 14.01 ft); minimum, 22 cfs Aug. 26 (gage height, 3.45 ft). 1897-1916, 1951-56: 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.

Correction.--The date of the maximum discharge for water year 1906 was erroneously published in WSP 1317 as Mar. 21, 1906, instead of Feb. 21, 1906.

Remarks.--Records good except those for periods of ice effect, which are poor. No regulation. Diversions above station for irrigation, domestic and municipal use.

Revisions (water years).--WSP 1217: Drainage area. WSP 1287: 1897-1904, 1910(M), 1915-16(M). Revised monthly and yearly figures, in cubic feet per second, for water year 1910, superseding those published in WSP 292 and 1317 are given herewith:

Month	Maximum	Minimum	Mean	Runoff in acre-feet
January 1910.....	9,000	156	1,220	75,000
February.....	13,800	510	1,940	109,000
Water year 1909-10.....	27,800	0	1,050	762,000
Calendar year 1910.....	27,800	0	1,040	752,000

Discharge, in cubic feet per second, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	96	718	1,050	b650	2,650	3,280	970	354	178	44	62
2	38	149	746	968	b600	5,500	2,800	874	338	174	48	62
3	39	168	640	1,080	b620	6,340	2,430	790	322	*160	54	52
4	40	149	562	4,900	b700	3,840	2,180	762	299	123	51	44
5	42	*133	*458	3,410	922	2,790	2,060	826	293	128	47	42
6	43	131	373	2,410	958	2,090	2,050	1,070	293	119	43	43
7	43	135	364	2,060	946	1,840	1,870	952	310	108	38	40
8	48	208	370	1,890	862	1,660	1,830	934	304	122	34	39
9	62	190	408	1,680	790	1,860	1,790	2,810	284	120	35	38
10	84	176	370	1,400	762	1,620	1,680	2,480	279	119	*33	36
11	120	184	387	1,440	784	1,370	1,790	2,110	258	120	34	37
12	159	217	2,750	1,540	1,140	1,180	2,120	1,770	238	116	35	36
13	304	b170	4,170	1,480	1,790	1,180	2,420	1,460	224	105	38	33
14	214	b120	1,990	1,720	1,390	1,140	2,500	1,280	212	101	35	31
15	164	b90	1,130	1,410	b940	1,130	2,560	1,080	210	95	31	31
16	131	b75	868	2,430	b600	1,280	2,680	958	217	84	29	32
17	114	b73	718	6,170	b550	*1,860	2,740	844	316	76	29	31
18	112	75	610	3,890	b450	3,250	2,500	790	553	76	29	*36
19	96	120	504	2,840	b550	4,700	2,040	762	443	70	27	33
20	92	245	605	*2,260	645	5,080	1,830	735	364	73	29	31
21	79	319	2,390	2,340	2,980	4,810	1,860	686	325	74	30	34
22	84	322	12,400	2,440	3,450	6,160	2,020	630	304	69	27	36
23	82	299	8,730	2,950	2,000	*6,830	2,150	571	276	64	27	35
24	79	290	5,860	3,000	1,530	5,580	2,150	517	250	64	27	32
25	76	341	3,580	2,300	1,220	4,870	1,860	486	230	67	25	34
26	82	779	2,600	1,880	1,370	6,040	1,570	*504	210	60	23	33
27	75	1,820	3,360	1,490	1,210	6,400	1,360	490	197	54	28	35
28	75	1,540	2,700	1,260	1,300	4,810	1,230	446	186	49	38	37
29	79	1,040	2,050	b1,100	2,750	3,660	1,140	426	182	49	38	39
30	84	820	1,530	b900	-----	3,220	1,080	408	178	48	42	41
31	88	-----	1,200	b750	-----	3,400	-----	384	-----	44	50	-----
Total	2,871	10,474	65,131	66,498	34,259	108,140	61,540	29,805	8,449	2,909	1,097	1,147
Mean	92.6	349	2,101	2,145	1,181	3,488	2,051	961	282	83.8	35.4	38.2
Ac-ft	5,680	20,770	129,200	131,900	67,950	214,500	122,100	59,120	16,760	5,770	2,180	2,280
Calendar year 1955:	Max	12,400	12,400	Min	6.3	Mean	623	Ac-ft	451,000			
Water year 1955-56:	Max	12,400	12,400	Min	23	Mean	1,072	Ac-ft	778,200			

Peak discharge (base, 3,700 cfs).--Dec. 12 (7 p.m.) 5,920 cfs (10.71 ft); Dec. 22 (10 a.m.) 15,200 cfs (14.01 ft); Dec. 27 (12 m.) 4,020 cfs (9.59 ft); Jan. 4 (2:30 p.m.) 7,140 cfs (11.29 ft); Jan. 17 (7 a.m.) 7,540 cfs (11.46 ft); Feb. 21 (11:30 p.m.) 9,180 cfs (12.10 ft); Mar. 2 (1:30 p.m.) 7,900 cfs (11.61 ft); Mar. 22 (4 p.m.) 7,230 cfs (11.33 ft); Mar. 26 (5 p.m.) 8,300 cfs (11.77 ft); May 9 (12:30 p.m.) 3,880 cfs (9.49 ft).

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## PALOUSE RIVER BASIN

Williams Lake near Amber, Wash.

Location--Lat 47°19'25" N, long 117°41'55" W, in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 12, T. 21 N., R. 40 E., on the west shore at Bunker's Resort, 2 miles southeast of Amber.

Records available--September 1955 to September 1956.

Gage--Staff gage read once daily at various times. Altitude of gage is 2,050 ft (from topographic map).

Extremes--1955: Maximum gage height observed during September, 1.12 ft Sept. 1; minimum observed, 0.86 ft Sept. 24, 26.

1955-56: Maximum gage height observed, 4.89 ft Apr. 5-7; minimum observed, 0.81 ft Oct. 4, 7.

Remarks--Small diversions for irrigation above station. Minor regulation by fish screens at outlet.

Gage height, in feet, 1955

Day	Sept.	Day	Sept.	Day	Sept.	Day	Sept.	Day	Sept.	Day	Sept.
1	1.12	6	-	11	1.00	16	-	21	-	26	0.86
2	1.10	7	1.06	12	.98	17	0.92	22	0.87	27	-
3	-	8	-	13	.95	18	-	23	-	28	.87
4	1.08	9	1.04	14	-	19	.91	24	.86	29	.87
5	1.07	10	1.02	15	.93	20	.91	25	-	30	-

Gage height, in feet, water year October 1955 to September 1956

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.84	-	1.10	1.78	3.20	3.90	4.84	4.16	3.54	2.84	2.50	2.24
2	.82	0.95	-	1.80	3.26	4.03	4.88	4.12	3.54	2.83	2.50	2.20
3	-	.95	1.13	1.84	3.30	4.10	4.88	-	3.56	2.80	2.50	-
4	.81	-	1.14	2.02	3.34	4.10	4.88	4.08	3.58	2.80	2.50	2.18
5	-	.96	1.15	2.08	3.40	4.15	4.89	4.08	3.54	-	2.49	-
6	.82	.96	-	2.08	3.46	-	4.89	4.06	-	2.80	-	2.16
7	.81	.96	1.16	-	3.52	4.14	4.89	-	3.50	2.80	2.48	2.14
8	-	-	-	2.10	-	4.14	4.88	4.08	-	2.79	2.47	2.10
9	.93	.96	-	-	3.54	-	4.86	4.10	3.40	-	2.46	2.19
10	.94	.95	1.16	-	3.56	4.16	4.82	4.16	-	2.79	2.45	-
11	-	-	1.26	2.20	3.58	4.18	4.80	-	3.30	2.78	2.42	-
12	.94	.95	1.30	-	3.60	4.16	4.78	4.24	-	2.78	2.40	2.18
13	-	.94	1.30	2.28	3.62	4.16	4.74	4.20	3.24	2.78	-	2.16
14	.94	-	1.30	2.30	3.62	4.16	4.70	4.16	3.20	-	2.39	-
15	.94	.94	1.30	2.30	3.62	4.16	-	4.10	3.20	2.74	2.38	-
16	.94	-	-	2.42	-	4.18	4.62	4.04	3.20	2.74	2.36	-
17	.94	.94	1.30	-	3.64	4.18	4.59	4.00	3.16	2.70	2.34	2.03
18	.94	.96	-	2.50	3.66	4.20	4.56	-	3.14	2.70	-	-
19	-	.96	1.38	2.52	3.70	4.20	4.50	3.90	3.10	2.70	2.31	2.01
20	.94	-	1.40	2.56	3.74	4.21	4.50	-	-	2.70	-	1.98
21	-	.98	1.42	2.60	3.80	4.24	-	3.80	-	2.70	2.29	-
22	.93	.99	1.54	2.70	3.85	-	-	3.78	3.04	2.68	2.29	1.98
23	.92	-	2.76	2.76	3.86	4.30	4.46	3.74	3.00	2.66	2.28	1.97
24	-	1.00	1.62	2.84	-	-	4.38	-	-	2.66	-	1.96
25	.94	-	1.66	-	3.84	4.36	-	3.70	2.96	-	2.28	-
26	.94	1.00	-	-	3.84	4.44	4.30	3.64	2.94	2.64	2.28	1.96
27	.94	1.04	1.70	-	-	4.55	4.26	3.60	-	2.59	-	1.95
28	.94	1.06	-	3.10	3.82	4.60	-	-	-	2.58	2.26	-
29	.94	1.07	1.76	3.16	-	4.66	-	3.54	2.90	-	-	1.93
30	.94	-	-	-	-	-	4.18	3.54	2.89	2.54	2.26	-
31	.94	-	1.78	-	-	4.78	-	-	-	-	2.26	-

Measurements of streamflow in the Snake River basin made at points other than regular gaging stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. Measurements believed to have been made under base-flow conditions are identified by an asterisk (\*) to the left of the discharge figure. These measurements when correlated with the simultaneous discharge of a nearby stream where continuous records are available will give a picture of the low-flow potentiality of stream. The column headed, "Measured previously" shows the water years in which measurements were made at the same, or practically the same, site.

Determinations of peak flow at points other than regular gaging stations are given in a separate table on page 256.

Discharge measurements made at points other than gaging stations in the Snake River basin during the water year 1956

#### Henry's Fork basin, Idaho

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Teton River..	Henry's Fork..	On line between secs. 19 and 30, T. 3 N., R. 46 E., 100 ft downstream from Moose Creek, 200 ft upstream from String Canal, and $\frac{3}{4}$ miles southeast of Victor.	47.6	†1946-55	June 20 July 13 Aug. 1 14	266 180 *130 *101
Teton Creek..	Teton River..	$\frac{1}{2}$ miles upstream from Mill Creek, 1.6 miles west of Boy Scout camp, 4.2 miles east of Wyoming-Idaho State line, and $\frac{7}{8}$ miles northeast of Driggs.	33.8	†1946-55	Aug. 7	*79.2
Horseshoe Creek.	.....do.....	In sec. 27, T. 5 N., R. 44 E., 90 ft upstream from bridge on old railroad grade, 4 miles upstream from mouth, and $\frac{7}{8}$ miles west of Driggs.	11.7	†1946-52, 1954-55	June 14 July 17	29.8 *11.5

#### Bannock Creek basin, Idaho

Rattlesnake Creek.	Bannock Creek	NE $\frac{1}{4}$ sec. 26, T. 8 S., R. 33 E., 2 miles above mouth and 12 miles southwest of Pocatello.	a77	1955	Oct. 8 Nov. 9 Dec. 16 Jan. 15 Feb. 26 Apr. 9 28 May 23 June 18 July 18 Aug. 27	2.93 *3.41 *5.04 11.6 *8.14 15.1 20.6 7.14 4.09 2.94 2.79
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#### Rock Creek basin, Idaho

East Fork Rock Creek.	Rock Creek...	SE $\frac{1}{4}$ sec. 4, T. 10 S., R. 31 E., $\frac{3}{4}$ miles above mouth and $\frac{2}{3}$ miles east of Rockland.	21.2	1955	Oct. 8 Nov. 9 Dec. 16 Jan. 15 Feb. 27 Apr. 10 28 May 23 June 18 July 17 Aug. 27	4.90 *12.3 *13.0 17.7 *12.4 9.18 3.66 8.07 7.82 8.81 10.1
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#### Tributaries between Snake River at Milner and Rock Creek, Idaho

Devils Wash-bowl Springs.	SNAKE RIVER..	NE $\frac{1}{4}$ sec. 4, T. 10 S., R. 18 E., $\frac{1}{2}$ mile above Twin Falls of Snake River and plant of Idaho Power Co. and $\frac{3}{4}$ miles north of Kimberly.	-	1902, 1917, 1923-24, 1950-55	Apr. 2	*23.1
Devils Corral Spring (upper outlet).	.....do.....	NE $\frac{1}{4}$ sec. 32, T. 9 S., R. 18 E., on north side of Snake River, 100 ft above point where spring cascades down to river.	-	1902, 1923-24, 1939, 1950-55	Apr. 2	*44.2
Devils Corral Spring (lower outlet).	.....do.....	SE $\frac{1}{4}$ sec. 32, T. 9 S., R. 18 E., on north side of Snake River, $\frac{1}{8}$ mile above mouth of creek.	-	1902, 1923, 1950-55	Apr. 3	*7.77
Unnamed spring.	.....do.....	Near center of sec. 31, T. 9 S., R. 18 E., on north bank of Snake River, $\frac{1}{2}$ mile above Shoshone powerplant.	-	1950-55	Apr. 3	*1.68
Do.....	.....do.....	Outlet to river in NW $\frac{1}{4}$ sec. 31, T. 9 S., R. 18 E., on north bank of Snake River just above Shoshone Falls, on D. T. Heter's property.	-	1950-55	Apr. 3	*5.29
Do.....	.....do.....	SW $\frac{1}{4}$ sec. 34, T. 9 S., R. 17 E., on north side of Snake River, 200 yards below Rim to Rim Bridge and 2 miles north of Twin Falls.	-	1950-55	Apr. 3	*.82
Blue Lakes Outlet.	.....do.....	SW $\frac{1}{4}$ sec. 28, T. 9 S., R. 17 E., at point of entry to Snake River, 4 miles north of Twin Falls.	-	1902, 1913-14, 1917-47, 1950-55	Apr. 3	*b305

\* Base flow.

† Gaging station operated 1946-52.

a Approximately.

b Discharge represents actual net spring flow adjusted for diversions and surface flow.

## DISCHARGE MEASUREMENTS AT POINTS OTHER THAN GAGING STATIONS

Discharge measurements made at points other than gaging stations in the Snake River basin during the water year 1956--Continued

## Tributaries between Snake River at Milner and Rock Creek, Idaho--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Sunnybrook Spring.	SNAKE RIVER..	SE $\frac{1}{4}$ sec. 13, T. 9 S., R. 17 E., 3/8 mile above point of entry to river.	-	1950-55	Apr. 3	*15.1
Trail Springs (upper outlet).	.....do.....	SW $\frac{1}{4}$ sec. 14, T. 9 S., R. 16 E., 1 mile below Rock Creek and 6 miles northwest of Twin Falls.	-	1917, 1950-55	Apr. 10	*2.79
Crystal Springs.	.....do.....	Sec. 12, T. 9 S., R. 15 E., 6 1/2 miles above Devils Washboard Falls in Snake River and 7 miles northeast of Buhl.	-	1902, 1917, 1919, 1924-25, 1931, 1950-55	Apr. 5	*548
Niagara Springs.	.....do.....	E $\frac{1}{2}$ NE $\frac{1}{4}$ sec. 10, T. 9 S., R. 15 E., 4 1/2 miles above Devils Washboard Falls in Snake River and 6 miles northeast of Buhl.	-	1902, 1917-20, 1924, 1931, 1950-55	Apr. 4	*b294
Clear Lakes Outlet.	.....do.....	SW $\frac{1}{4}$ sec. 2, T. 9 S., R. 14 E., at Clear Lakes plant of Idaho Power Co., 4 1/2 miles north of Buhl.	-	1902, 1913-14, 1917, 1920, 1924, 1926-27, 1937, 1950-55	Apr. 5	*b527
Briggs Creek.	.....do.....	NW $\frac{1}{4}$ sec. 4, T. 9 S., R. 14 E., 2 miles below Clear Lakes Outlet and 5 1/2 miles northwest of Buhl.	-	1902, 1913, 1917-20, 1924-25, 1931, 1950-55	Apr. 6	*b111
Banbury Springs.	.....do.....	SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33, T. 8 S., R. 14 E., at footbridge over outlet to Snake River, 7 miles northwest of Buhl.	-	1902, 1913, 1917, 1919-20, 1924-25, 1950-55	Apr. 6	*b118
Unnamed spring.	.....do.....	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 8 S., R. 14 E., on east side Snake River, 0.35 mile above Blind Canyon Spring and 7 miles northwest of Buhl.	-	1950-55	Apr. 6	*5.10
Blind Canyon Spring.	.....do.....	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 8 S., R. 14 E., just upstream from Box Canyon and 7 1/2 miles northwest of Buhl.	-	1902, 1917, 1919, 1950-55	Apr. 6	*b12.7
Box Canyon Springs.	.....do.....	NW $\frac{1}{4}$ sec. 28, T. 9 S., R. 14 E., at point of entry to Snake River and 7 1/2 miles southwest of Wendell.	-		Apr. 6	852

## Salmon Falls Creek basin, Idaho

Salmon Falls Creek.	SNAKE RIVER..	NW $\frac{1}{4}$ sec. 6, T. 14 S., R. 15 E., 2 miles below dam of Salmon River Canal Co. and 8 miles northwest of Rogerson.	-	1912, 1946, 1953-55	Oct. 3 Dec. 19 Apr. 5 June 14 Aug. 23	5.54 5.82 7.48 14.8 9.10
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## Tributaries between Salmon Falls Creek and Malad River, Idaho

Sand Springs Creek.	SNAKE RIVER..	SE $\frac{1}{4}$ sec. 17, T. 8 S., R. 14 E., 100 ft upstream from Hy Berkowitz house and 7 miles southeast of Hagerman.	-	1902, 1912-13, 1917-21, 1924-25, 1931, 1954-55	Apr. 10 Aug. 21	*b95.5 *b114
Thousand Springs.	.....do.....	Springs enter Snake River between mile 154.05 on river profile near line between secs. 17 and 20, T. 8 S., R. 14 E., and mile 151.15 on river profile about 200 ft upstream from line between sec. 1, T. 8 S., R. 13 E., and sec. 6, T. 8 S., R. 14 E.	-	1920, 1950-55	Apr. 9 Aug. 20	*c1,330 *c1,190
Riley Creek..	.....do.....	SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 6, T. 8 S., R. 14 E., at Hagerman Hatchery of U. S. Fish and Wildlife Service, 100 yds below mouth of Lewis Creek, 100 ft below small unnamed spring entering from right and 5 miles southeast of Hagerman.	-	1950-55	Apr. 10	*70.4
Billingsly Creek.	.....do.....	Near line between secs. 31 and 32, T. 7 S., R. 14 E. (spring heads in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 32), at E. W. Bean Farm, 1 1/8 mile below head of creek and 3 1/4 miles southeast of Hagerman.	-	1950-55	Apr. 10	*b48.8

\* Base flow.

b- Discharge represents actual net spring flow adjusted for diversions and surface flow.

c Discharge obtained by measuring Snake River above and below spring outlets and adjusting for surface flow.

Discharge measurements made at points other than gaging stations in the Snake River basin during the water year 1956--Continued

## Tributaries between Salmon Falls Creek and Malad River, Idaho--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Billingsly Creek.	SNAKE RIVER..	SW $\frac{1}{4}$ sec. 11, T. 7 S., R. 13 E., at mouth $1\frac{1}{2}$ miles north of Hagerman.	-	-	Apr. 5	212
Birch Creek..	....do.....	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 34, T. 6 S., R. 13 E., on Bud Smith's property, $\frac{1}{2}$ mile south of Malad River and $2\frac{1}{2}$ miles north of Hagerman.	-	1950-55	Apr. 10	*b12,2

## Malad River basin, Idaho

Malad Springs	Malad River..	Springs head in SE $\frac{1}{4}$ sec. 24, T. 6 S., R. 13 E., and enter Snake River in NW $\frac{1}{4}$ sec. 34, T. 6 S., R. 13 E., 3 miles north of Hagerman.	-	1899, 1910-11, 1913, 1917, 1919, 1924, 1950-55	July 25	*b1,360
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## Tributaries between Malad River and Canyon Creek, Idaho

Clover Creek.	SNAKE RIVER..	SW $\frac{1}{4}$ sec. 15, T. 5 S., R. 12 E., just upstream from flow line of Saunders Reservoir, $3\frac{1}{2}$ miles upstream from Hog Creek, and 5 miles northwest of Bliss.	al50	*1938-43	Jan. 6	98.8
King Hill Creek.	....do.....	SW $\frac{1}{4}$ sec. 2, T. 5 S., R. 10 E., at road bridge on Worth Montgomery Ranch, $1\frac{1}{2}$ miles upstream from mouth and $1\frac{1}{2}$ miles northwest of King Hill.	83.6	*1913, *1938-41	Jan. 6	44.9
Little Canyon Creek.	....do.....	Sec. 18, T. 5 S., R. 10 E., at bridge on county road, 2 miles north of Glens Ferry.	52.4	*1909-13, *1938-43	Jan. 7	18.7

## Owyhee River basin

Owyhee River.	SNAKE RIVER..	Sec. 25, T. 13 S., R. 5 W., at Crutcher's crossing, Idaho.	-	-	June 17	*121
South Fork Owyhee River.	Owyhee River.	Sec. 35, T. 13 S., R. 5 W., 1 mile above East Fork and 3 miles southwest of Crutcher's crossing, Idaho.	-	-	June 17	296
Little Owyhee River (Louse Creek)	....do.....	Above Three Forks, Oreg., 0.5 mile above mouth.	-	-	June 18	d4.0
Owyhee River.	SNAKE RIVER..	Sec. 3, T. 35 S., R. 45 E., at Three Forks, Oreg., 1,000 ft above Middle Fork Owyhee River.	-	-	June 16	*261
North Fork Owyhee River.	Owyhee River.	Sec. 35, T. 34 S., R. 45 E., at Three Forks, Oreg., 300 ft above Middle Fork Owyhee River.	-	-	June 16	*50.0
Middle Fork Owyhee River.	North Fork Owyhee River.	Sec. 2, T. 35 S., R. 45 E., at Three Forks, Oreg., 1,000 ft above North Fork Owyhee River.	-	-	June 16	*8.90
Louse Creek..	Owyhee River.	Sec. 11, T. 33 S., R. 44 E., $\frac{1}{2}$ mile upstream from mouth, 20 miles southeast of Rome, Oreg.	-	-	June 18	*.40
Crooked Creek	....do.....	At former gaging station, 6 miles southwest of Rome, Oreg.	al,700	1946, 1949-55	Feb. 13 June 1 July 24	*24.6 *23.6 *24.0

## Boise River basin, Idaho

Middle Fork Boise River	Boise River..	Sec. 4, T. 4 N., R. 7 E., 1,000 ft upstream from confluence with North Fork Boise River, 1,000 ft upstream from Troutdale Ranger Station, and $4\frac{1}{2}$ miles northeast of Twin Springs.	382	*1946-50	Dec. 28	698
Cottonwood Creek.	....do.....	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 2, T. 3 N., R. 5 E., at flow line of Arrowrock Reservoir, just downstream from unnamed tributary, $\frac{1}{2}$ mile downstream from Ranger Creek and Cottonwood Ranger Station and $5\frac{1}{2}$ miles northeast of Arrowrock.	21.4	*1914-18, *1939-41	Dec. 28	33.1
Cat Creek....	Little Camas Creek.	SW $\frac{1}{4}$ sec. 11, T. 1 S., R. 9 E., 6 miles northeast of Bennett.	-	-	June 15	*5.43
Moore Creek..	Boise River..	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19, T. 6 N., R. 6 E., 1,000 ft upstream from Hoodoo Creek, 0.6 mile upstream from Granite Creek, and 2.4 miles northeast of Idaho City.	37.0	*1939-41	Dec. 29	50.6
Granite Creek	Moore Creek..	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T. 6 N., R. 6 E., $\frac{3}{8}$ mile upstream from mouth and $2\frac{1}{4}$ miles east of Idaho City.	4.8	*1939-41	Dec. 29	5.11

\* Base flow.

† Gaging station operated during this period.

a Approximately.

b Discharge represents actual net spring flow adjusted for diversions and surface flow.

d Estimated.

## DISCHARGE MEASUREMENTS AT POINTS OTHER THAN GAGING STATIONS

Discharge measurements made at points other than gaging stations in the Snake River basin during the water year 1956--Continued

Boise River basin, Idaho--Continued						
Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Moore Creek..	Boise River..	NW $\frac{1}{4}$ sec. 18, T. 5 N., R. 5 E., 1 $\frac{1}{2}$ miles upstream from Thorn Creek and $\frac{5}{2}$ miles southwest of Idaho City.	119	#1939-41	Dec. 29	144
Malheur River basin, Oreg.						
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.	a90	1936, 1938, 1941, 1944, 1946-55	Mar. 21	125
Payette River basin, Idaho						
Porter Creek.	Payette River	NE $\frac{1}{4}$ sec. 14, T. 7 N., R. 2 E., 0.6 mile upstream from mouth and 2 miles south of Gardena.	21.2	#1938-45	Dec. 28	23.5
Weiser River basin, Idaho						
Weiser River.	SNAKE RIVER..	Sec. 34, T. 18 N., R. 1 W., at Starkey Hot Springs, 200 ft upstream from Warm Springs Creek and 8 $\frac{1}{2}$ miles north of Council.	106	#1939-49	Dec. 29	239
Do.....	....do.....	Sec. 29, T. 16 N., R. 1 W., 0.7 mile downstream from Cottonwood Creek, 2 miles upstream from Middle Fork, and 3 $\frac{1}{2}$ miles southwest of Council.	390	#1937-50	Dec. 29	953
Middle Fork Weiser River.	Weiser River.	NW $\frac{1}{4}$ sec. 10, T. 15 N., R. 1 W., at old highway bridge 1 $\frac{1}{2}$ miles north of Mesa and 2 $\frac{1}{2}$ miles upstream from mouth.	86.5	#1911-12, #1937-49	Dec. 29	150
Rush Creek...	....do.....	SW $\frac{1}{4}$ sec. 2, T. 14 N., R. 3 W., in Cambridge, 200 ft upstream from Superior Street and $\frac{3}{8}$ mile upstream from mouth.	a32	#1938-43	Dec. 28	50.4
Little Weiser River.	....do.....	SW $\frac{1}{4}$ sec. 13, T. 14 N., R. 3 W., 2 miles southeast of Cambridge.	200		Jan. 6 Feb. 23	207 1,320
Monroe Creek.	....do.....	SE $\frac{1}{4}$ sec. 34, T. 12 N., R. 5 W., 0.5 mile upstream from Sheep Creek and 6 miles north of Weiser.	a32	#1945-49	Dec. 30	25.2
Powder River basin, Oreg.						
Powder River.	SNAKE RIVER..	At former gaging station near Haines.	572	1947-55	July 27	12.6
Wolf Creek...	Powder River.	At former gaging station near North Powder.	32.9	1946-55	July 18	4.44
Powder River.	SNAKE RIVER..	NE $\frac{1}{4}$ sec. 35, T. 9 S., R. 45 E., below highway bridge near Richland.	-		July 24	118
Imnaha River basin, Oreg.						
Imnaha River.	SNAKE RIVER..	At former gaging station above Gumbo Creek.	a98	1944-52, 1954	Oct. 19 Sept. 25	*71.3 *97.2
Grande Ronde River basin, Oreg.						
Indian Creek.	Grande Ronde River.	At former gaging station near Imbler.	a22	1946-50	Oct. 7	*6.20
Lookingglass Creek.	....do.....	At mouth, 4 miles west of Rondowa.	a95	1953-55	Sept. 27	*58.8
Minam River..	Wallowa River	NW $\frac{1}{4}$ sec. 17, T. 1 N., R. 41 E., 3.5 miles above mouth, 4 miles south of Minam.	a220	1953-55	Aug. 17	*161
Little Salmon River basin, Idaho						
Little Salmon River.	Salmon River.	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 15, T. 24 N., R. 1 E., $\frac{1}{2}$ mile upstream from mouth and $\frac{1}{2}$ mile southwest of Riggins.	576	#1951-55	Feb. 27 Mar. 31 May 17 28	466 1,460 2,920 5,300

\* Base flow.

‡ Gaging station operated during this period.

a Approximately.

The following table contains determinations of peak discharge made at crest stage by indirect methods or by current meter or computed from rating curve at points other than regular gaging stations.

Determination of peak discharge during water year October 1955 to September 1956

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Phillips Creek.	Grande Ronde River.	SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 1 N., R. 39 E., $\frac{1}{2}$ miles west of junction of Oregon Highway 204 and Wallowa Lake Highway in Elgin, Oreg.	a30		Mar. 22	498

a Approximately.



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