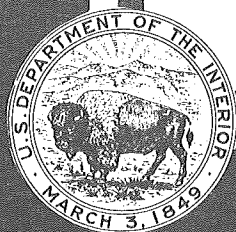


1962

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Volume 2: Northern Great Basin and Central Valley

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Prepared in cooperation with the State of California
and with other agencies

United States Department of the Interior
Geological Survey - Water Resources Division

SURFACE WATER RECORDS
OF CALIFORNIA
1962

Volume 2: Northern Great Basin and Central Valley

Prepared in cooperation with

State Department of Water Resources
Alameda County Water District
Calaveras County Water District
Montecito County Water District
Monterey County Flood Control and Water Conservation District
Santa Clara County Flood Control and Water Conservation District
Orange County Flood Control District
San Luis Obispo County Flood Control and Water Conservation District
Santa Barbara County Water Agency
Santa Cruz County Flood Control and Water Conservation District
San Benito County
City of Arcata
City of San Diego
City of Santa Barbara
East Bay Municipal Utility District
Georgetown Divide Public Utility District
Imperial Irrigation District
San Bernardino Valley Water Conservation District
Santa Maria Valley Water Conservation District
Ventura River Municipal Water District
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U.S. Navy
Bureau of Reclamation, U.S. Department of the Interior
Forest Service, U.S. Department of Agriculture
Soil Conservation Service, U.S. Department of Agriculture

Copies of this report may be obtained from
District Engineer, Surface Water Branch
U. S. Geological Survey
345 Middlefield Road
Menlo Park, California

CALENDAR FOR WATER YEAR 1962

OCTOBER 1961

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
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JANUARY 1962

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JUNE 1962

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JULY 1962

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AUGUST 1962

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SEPTEMBER 1962

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SURFACE WATER RECORDS OF CALIFORNIA, 1962

INTRODUCTION

The surface-water records for the 1962 water year for gaging stations, partial-record stations, and miscellaneous sites within the State of California are given in this report. For convenience there are also included records for a few pertinent gaging stations in bordering States. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey, under the direction of Walter Hofmann, district engineer, Surface Water Branch.

Through September 30, 1960, the records of discharge and stage of streams, and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Since 1951 there have been 20 volumes in the series; each volume covered an area whose boundaries coincided with those of certain natural drainage areas. The records in California were contained in parts 9, 10, and 11 of that series.

Beginning with the 1961 water year, streamflow records and related data are being released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these basic-data reports is limited and primarily for local needs. The records later will be published in Geological Survey water-supply papers at 5-year intervals. These 5-year water-supply papers will show daily discharge and will be compiled on the same geographical areas previously used for the annual series; however, some of the 14 parts of conterminous United States will be further subdivided.

COOPERATION

In California the work was done under cooperative agreements with:

State Department of Water Resources, W. E. Warne, Director.
Alameda County Water District, M. P. Whitfield, General Manager.

Calaveras County Water District, Paul E. Lewis, Secretary-Manager.

Montecito County Water District, Delbert D. Smith, General Manager.

Monterey County Flood Control and Water Conservation District, Foren Bunte, District Engineer.

Santa Clara County Flood Control and Water Conservation District, Donald K. Currilin, Manager-Counsel.

Orange County Flood Control District, H. G. Osborne, Chief Engineer.

San Luis Obispo County Flood Control and Water Conservation District, Robert H. Born, County Hydraulic Engineer.

Santa Barbara County Water Agency, C. W. Bradbury, Chairman.

Santa Cruz County Flood Control and Water Conservation District, Warren M. Harrison, Director of Public Works.

San Benito County, E. R. Hanna, County Surveyor.

City of Arcata, Philip Brown, City Manager.

City of San Diego, E. W. Blom, Assistant City Manager.

City of Santa Barbara Water Department, Clyde Richardson, Superintendent.

East Bay Municipal Utility District, John W. McFarland, General Manager.

Georgetown Divide Public Utility District, J. E. Christensen, Manager.

Imperial Irrigation District, R. F. Carter, General Manager.

San Bernardino Valley Water Conservation District, Edward F. Dibble, Engineer and Secretary.

Santa Maria Valley Water Conservation District, L. H. Adam, President.

Ventura River Municipal Water District, Leland G. Bennett, General Manager and Chief Engineer.

Assistance in the form of funds or services was given by the Corps of Engineers, U. S. Army; U. S. Navy; Bureau of Reclamation, U. S. Department of the Interior; and by the Soil Conservation Service and Forest Service, U. S. Department of Agriculture in collecting records published herein. The entire expense of the investigation of streamflow in the Tuolumne River basin made for the Hetch Hetchy project and of the flow of Alameda Creek near Niles was borne by the city and county of San Francisco.

The following organizations and individuals aided in collecting records: The Pacific Power and Light Co.; California Water and Telephone Co.; East Bay Municipal Utility District; The Irvine Ranch; Kings River Water Association; Los Angeles County Flood Control District; Pauba Ranch; Pacific Gas & Electric Co.; Placer County Water Agency; Sacramento Municipal Utility District; San Bernardino County Flood Control District; Southern California Edison Co.; United Water Conservation District; Ventura County Water Resources Division; and Helix, Madera, Merced, Modesto, Serrano and Carpenter, Turlock, Oakdale, Oroville-Wyandotte, South San Joaquin, Vista, and Woodbridge Irrigation Districts.

DEFINITION OF TERMS AND ABBREVIATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

DOWNSTREAM ORDER AND STATION NUMBERS

Stations are listed in the same downstream order used in the water-supply papers. Records are listed in a downstream direction along the main stem with all stations on a tributary entering above a main-stem station listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed 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 shows 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.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. The numbers have been assigned in the same downstream order used in the annual series of water-supply papers. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations, so that the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive.

The complete number for each station, such as 11-1208.00 includes the part number "11" and a six digit station number. In this report, the part number and only the essential digits of the station number are shown. For example, the complete number 11-1208.00 would appear as 11-1208, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

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. Records of stage are obtained from a water-stage recorder that gives a continuous chart of the fluctuations (for digital recorders, a tape punched at 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge

is determined by 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 in effect 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 required 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. For such stations, the rate of change in stage is used as a factor in determining discharge.

At some gaging stations 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.

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

The data in this report generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the 1962 water year is shown on page II to facilitate 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, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Records available" are given periods for which there are published records for the present station or for stations generally equivalent to the present one. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. The references to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U.S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height if it is significant. 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 nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

Skeleton rating tables are published for all stations except those for 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 generally are not published for canals, ditches, or springs.

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

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "Mean" gives the average flow in cubic feet per second during the month. Maximum daily and minimum daily discharges for the month are listed in the next two lines. Discharge for the month for three stations only is expressed in cubic feet per second per square mile (line headed "Cfsm"), in inches (line headed "In."), and in acre-feet (line headed "Ac-ft"). Discharge for the month for all other stations is expressed in acre-feet (line headed "Ac-ft"). For those stations equipped with a tipping-bucket rain gage, precipitation, in inches, is given for the month.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges 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 for 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 can be presented. Peak discharges are not published for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour time, for example 12:30 a.m. is 0030, 1:30 p.m. is 1330.

Footnotes to the table of daily discharge indicate periods for which discharge was computed or estimated by unusual or special methods because of no gage-height record, ice effect, or other conditions that reduce the degree of accuracy of the records. The footnotes are either reference footnotes, with corresponding symbols used in the table of daily discharge to indicate the days included, or general footnotes, introduced by the word "Note," in which the days included are stated.

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

For those stations equipped with a thermograph, a table of daily maximum and minimum water temperatures is included.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

Discharge at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. 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.

SUPPLEMENTAL DATA

Data collected at those partial-record stations which are not included in the California District report, Floods from Small Drainage Areas, published separately, and measurements made at miscellaneous sites are given at the end of this report. Data for partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements at miscellaneous sites are given in a third table. Occasionally, a

series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are given in special tables after the list of measurements at miscellaneous sites.

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the State through 1958 have been analyzed with an electronic computer to give: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year. At many gaging stations water samples are collected from the streams for the purpose of making chemical analyses; computing dissolved solids, suspended sediment loads, and particle-size distribution; or measuring water temperatures.

HYDROLOGIC CONDITIONS

The drought which had persisted in California for three years was abruptly ended by a series of severe storms in February and March. The heavy precipitation brought the runoff in the north coastal region to near-median levels. In the San Francisco Bay region runoff was about 110 percent of median and in the central coastal region 105 percent of median. In the south coastal area the runoff was about 180 percent of normal, ranging from about 300 percent of median in Ventura County to less than 50 percent in San Diego County. In the Central Valley runoff was close to median. Localized flooding and mud slides caused considerable damage in the Los Angeles area. All reservoirs except in the San Diego area were at near normal levels.

10-2890. Virginia Creek near Bridgeport, Calif.

Location.--Lat 38°11'30", long 119°12'30", near center of $\frac{1}{2}$ sec. 22, T.4 N., R.25 E., on right bank $1\frac{1}{2}$ miles downstream from Clearwater Creek, 3 miles upstream from mouth, and $4\frac{1}{2}$ miles southeast of Bridgeport.

Drainage area.--64 sq mi, approximately.

Records available.--October 1953 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 6,700 ft (from topographic map).

Average discharge.--9 years, 13.9 cfs (10,060 acre-ft per year).

Extremes.--Maximum discharge during year, 94 cfs Apr. 8 (gage height, 4.34 ft); minimum, 1.8 cfs Nov. 13. 1953-62: Maximum discharge, 1,300 cfs Dec. 23, 1955 (gage height, 8.40 ft), from rating curve extended above 170 cfs on basis of slope-area measurement of peak flow; minimum, 1.0 cfs Aug. 18, 1960 and July 28, 1961.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Flow partly regulated by Virginia Lakes and other lakes near headwaters. Diversions for irrigation of about 3,000 acres above station.

Rating tables, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 9				Apr. 9 to Sept. 30			
3.1	2.5	3.5	14	2.2	1.0	2.7	19
3.2	4.4	3.7	26	2.3	3.5	3.0	40
3.3	6.9	3.9	41	2.5	10	3.3	70

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.2	7.2	7.6	6.4	5.2	6.4	1.7	2.3	1.7	2.3	7.6	3.2
2	5.2	6.9	7.9	b 6.4	5.2	6.8	2.0	2.4	2.1	2.1	6.8	3.0
3	5.2	6.9	6.2	6.9	5.4	6.2	2.2	2.6	2.6	2.0	6.5	2.8
4	5.4	6.6	6.6	b 5.4	5.9	7.9	2.5	2.9	2.6	1.8	6.5	3.2
5	5.4	6.2	6.9	b 5.2	6.9	8.2	2.8	3.3	2.2	1.9	6.8	3.0
6	5.4	6.2	b 5.6	b 6.4	7.6	7.9	3.0	3.4	2.0	1.9	6.5	4.1
7	5.4	6.2	b 4.9	7.2	7.2	6.8	3.0	3.5	* 2.1	1.9	5.6	6.5
8	5.9	6.2	b 6.2	b 7.2	8.6	7.2	3.8	3.4	2.0	1.9	5.6	6.8
9	6.2	5.9	b 4.6	b 7.2	9.9	* 7.6	4.5	* 3.2	2.2	1.8	6.8	6.8
10	6.4	6.2	b 4.2	b 7.2	9.2	7.6	4.7	2.8	2.1	1.8	6.5	6.5
11	6.4	6.2	b 4.2	b 5.4	8.9	b 6.9	4.5	2.5	3.0	1.6	6.5	6.2
12	6.2	5.6	6.2	b 6.2	8.2	b 6.4	* 4.8	2.4	3.0	2.0	6.5	6.2
13	5.9	4.7	6.2	b 5.4	7.9	b 6.4	5.4	2.3	3.0	2.0	6.2	6.2
14	5.9	6.0	6.4	b 5.4	7.9	b 6.4	5.7	3.0	3.8	1.6	5.6	6.2
15	5.9	* 6.2	6.2	b 6.2	7.9	b 6.6	* 6.3	2.8	4.4	1.7	5.0	6.2
16	5.9	b 4.9	6.4	b 4.6	6.9	7.2	5.7	2.8	3.2	1.9	5.0	6.2
17	6.2	b 4.0	5.9	b 5.9	5.4	7.2	5.7	2.8	2.3	1.6	4.7	5.9
18	6.2	5.4	6.9	* 6.9	4.9	7.2	5.9	2.3	2.3	1.4	4.4	* 5.9
19	* 6.2	6.2	* 6.2	7.2	4.9	7.6	5.9	2.0	2.8	1.4	3.8	5.0
20	6.2	6.4	6.9	5.9	4.9	7.6	4.3	1.9	3.4	1.3	4.1	3.5
21	7.6	b 5.4	6.9	b 4.0	4.2	7.6	3.9	1.9	3.9	1.2	4.1	4.4
22	6.6	7.6	6.4	b 3.4	4.9	7.6	4.4	1.8	3.8	1.3	* 4.1	5.0
23	7.2	b 7.2	b 6.4	b 3.0	5.9	7.6	4.7	1.8	4.0	1.4	4.1	5.9
24	7.2	b 6.6	b 6.4	b 3.0	5.2	8.2	4.4	1.6	3.8	1.4	4.4	6.8
25	6.9	6.9	b 6.2	b 4.0	4.6	9.2	* 3.7	1.6	3.4	* 1.3	3.8	7.9
26	6.6	7.6	b 4.2	b 5.2	4.4	9.5	3.2	1.7	3.1	1.2	3.8	1.9
27	6.6	7.2	b 4.6	b 5.6	3.8	1.1	3.2	2.5	2.8	1.1	3.5	1.2
28	6.6	b 6.4	b 4.9	5.4	5.6	1.3	3.0	2.8	2.7	1.1	3.5	1.1
29	6.4	6.4	b 4.9	5.2	-----	1.4	2.4	2.1	2.6	9.3	3.5	1.0
30	6.9	b 6.6	b 5.2	5.2	-----	1.4	2.3	1.8	2.4	9.3	4.1	9.3
31	7.2	-----	b 5.9	4.9	-----	1.6	-----	1.8	-----	7.9	3.8	-----
Total	192.5	188.0	185.2	173.5	177.5	259.8	119.6	76.0	85.3	48.5	159.7	194.7
Mean	6.21	6.27	5.97	5.60	6.34	8.38	39.9	24.5	28.4	15.7	5.15	6.49
Ac-ft	382	373	367	344	352	515	2,370	1,510	1,690	963	317	386

Calendar year 1961: Max 20 Min 1.1 Mean 6.88 Ac-ft 4,980
Water year 1961-62: Max 63 Min 2.8 Mean 13.2 Ac-ft 9,570

Peak discharge (base, 50 cfs).--Apr. 8 (1700) 94 cfs (4.34 ft); June 15 (1300) 54 cfs (3.16 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Jan. 28 to Mar. 8.

WALKER LAKE BASIN

10-2895. Green Creek near Bridgeport, Calif.

Location.--Lat 38°10'25", long 119°14'00", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.29, T.4 N., R.25 E., on right bank 130 ft downstream from county road bridge and $\frac{5}{8}$ miles south of Bridgeport.

Drainage area.--19.4 sq mi.

Records available.--October 1953 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 6,850 ft (from topographic map).

Average discharge.--9 years, 26.6 cfs (19,260 acre-ft per year).

Extremes.--Maximum discharge during year, 163 cfs June 22 (gage height, 2.87 ft); maximum gage height, 4.09 ft Feb. 25 (backwater from ice); minimum daily discharge, 2.5 cfs Jan. 23, 24.

1953-62: Maximum discharge, 307 cfs Dec. 23, 1955, from rating curve extended above 220 cfs on basis of slope-area measurement of peak flow and logarithmic plotting; maximum gage height, that of Feb. 25, 1962; minimum daily discharge, that of Jan. 23, 24, 1962.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow regulated by West, Green, East, Summit, and other lakes.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

1.54	2.4	2.0	23
1.6	3.8	2.2	41
1.7	6.6	2.5	80
1.8	11	2.9	163

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	5.0	6.0	4.5	b 3.5	b 4.5	b 7.5	4.2	6.4	9.7	4.5	2.0
2	5.6	5.0	b 6.6	b 4.5	b 3.5	b 5.0	a 8.0	4.9	7.7	9.4	4.3	2.0
3	6.3	5.0	b 5.0	4.3	b 3.5	b 4.5	a 9.0	5.7	9.7	9.7	3.9	3.1
4	5.6	4.7	b 4.5	b 4.1	b 3.5	b 4.5	a 1.0	6.8	9.0	9.4	3.6	2.7
5	5.3	4.5		b 4.1	b 4.0	b 7.0	a 1.5	8.0	7.7	9.7	3.4	2.5
6	5.0	4.3		4.3	b 4.5	b 8.0	a 1.8	9.0	7.4	10.0	3.2	2.4
7	4.7	4.5		4.3	5.0	b 6.0	a 2.1	9.2	8.0	9.5	3.1	2.2
8	4.7	4.5		4.3	5.6	*b 7.0	a 2.4	9.0	8.3	9.4	3.0	2.2
9	4.5	4.3		4.3	9.2	b 6.0	a 3.0	* 8.7	9.2	9.0	3.0	2.1
10	4.5	4.5	b 3.5	4.3	8.3	b 6.0	a 3.5	7.6	11.4	8.5	3.0	2.0
11	4.3	4.3		b 3.6	7.0	b 6.5	a 3.3	6.6	12.0	7.7	2.8	1.8
12	4.3	4.1		b 3.8	7.4	b 5.0	a 3.5	6.1	12.0	7.4	2.6	1.7
13	4.3	b 3.4		b 3.6	7.9	b 4.5	a 4.0	5.7	11.8	6.6	2.5	1.6
14	4.3	b 3.8		a 3.5	7.9	b 4.5	* 4.4	5.2	11.6	6.1	2.4	1.6
15	4.3	* 4.3		a 3.5	b 8.3	b 5.0	4.5	4.8	10.1	6.4	2.5	1.5
16	4.3	b 4.1		a 3.5	b 7.0	b 6.0	4.4	4.6	8.9	6.4	4.9	1.5
17	4.3	b 3.8	b 4.0	a 3.5	b 5.0	b 6.5	4.5	4.4	8.7	6.1	5.1	1.4
18	4.3	b 4.3	b 4.3	*b 5.0	b 5.0	b 6.0	4.9	4.3	9.5	6.0	5.1	* 1.4
19	* 4.3	b 4.3	*b 4.4	b 5.0	b 5.5	b 6.0	5.2	4.2	12.5	6.0	4.8	1.4
20	4.1	b 4.5	b 4.5	b 4.0	b 4.0	b 6.5	4.3	4.1	13.4	5.8	4.5	1.3
21	6.2	b 4.1	5.0	b 3.0	b 4.0	b 6.5	3.9	4.0	14.3	5.8	4.2	1.2
22	6.6	b 4.7	5.0	b 3.0	b 4.0	7.0	4.1	3.9	14.8	6.0	* 3.8	1.1
23	6.3	6.3	4.7	b 2.5	b 4.5	b 5.6	5.0	4.3	12.7	6.1	3.6	9.6
24	6.0	5.6	4.7	b 2.5	b 4.5	b 5.8	5.6	4.0	12.3	5.7	3.3	8.7
25	5.6	5.3	4.7		b 3.5	b 6.5	5.6	4.0	10.8	* 5.2	3.1	9.2
26	5.0	5.6	4.7		b 4.0	b 7.0	5.0	3.9	10.3	5.1	3.0	1.8
27	5.0	6.0	4.5		b 3.0	b 7.2	5.0	4.1	10.7	5.2	2.9	1.8
28	4.5	b 4.5	b 4.3	b 3.5	b 3.5	b 7.0	5.0	4.1	11.0	5.1	2.7	1.5
29	4.3	6.0	b 4.5			b 7.2	4.4	4.1	10.8	5.0	2.5	1.3
30	4.5	5.0	b 4.3			b 7.0	4.2	4.6	10.7	4.9	2.3	1.1
31	5.0		b 4.3			b 7.0		5.6		4.6	2.2	
Total	153.6	140.3	132.0	117.5	146.6	188.8	1085.5	169.7	313.7	217.5	105.8	509.5
Mean	4.95	4.68	4.26	3.79	5.24	6.09	36.2	54.7	105	70.2	34.1	17.0
Ac-ft	305	278	262	233	291	374	2,150	3,370	6,220	4,310	2,100	1,010

Calendar year 1961: Max 76 Min 3.4 Mean 16.0 Ac-ft 11,600
Water year 1961-62: Max 148 Min 2.5 Mean 28.9 Ac-ft 20,900

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

WALKER LAKE BASIN

493

10-2903. Upper Twin Lake near Bridgeport, Calif.

Location.--Lat 38°09'10", long 119°21'30", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.6, T.3, N., R.24 E., on left bank, half a mile above outlet and 10 $\frac{1}{2}$ miles southwest of Bridgeport.

Drainage area.--30 sq mi, approximately.

Records available.--December 1961 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of U. S. Indian Irrigation Service.

Extremes.--Maximum contents during year, 2,730 acre-ft June 24 (elevation, 7,209.08 ft); minimum recorded, 898 acre-ft Dec. 19 (elevation, 7,203.20 ft).
No contents observed Oct. 17, 1961.

Remarks.--Contents regulated by dam at outlet.

Month-end elevations and contents, water year October 1961 to September 1962

Date	Elevation (feet)†	Contents (acre-ft)	Change in contents (acre-ft)
Dec. 31.	7,203.95	1,120	-
Calendar year 1961.	-	-	-
Jan. 31.	7,205.60	1,630	+510
Feb. 28.	7,206.79	2,000	+370
Mar. 31.	7,206.80	2,010	+10
Apr. 30.	7,207.73	2,300	+290
May 31.	7,207.98	2,380	+80
June 30.	7,208.80	2,650	+270
July 31.	7,207.89	2,350	-300
Aug. 31.	7,207.31	2,170	-180
Sept. 30.	7,207.20	2,130	-40
Water year 1961-62.	-	-	-

† Elevation at 12 p.m.

WALKER LAKE BASIN

10-2904, Lower Twin Lake near Bridgeport, Calif.

Location--Lat 38°09'40", long 119°20'40", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.32, T.4 N., R.24 E., on left bank, 0.4 mile below inlet, and 9 $\frac{1}{2}$ miles southwest of Bridgeport.

Drainage area--36 sq mi, approximately.

Records available--December 1961 to September 1962.

Gage--Water-stage recorder. Datum of gage is at mean sea level, datum of U. S. Indian Irrigation Service.

Extremes--Maximum contents observed during year, 5,040 acre-ft June 24, 25 (elevation, 7,202.41 ft); minimum recorded, 1,300 acre-ft, Dec. 20 (elevation, 7,193.24 ft).

Remarks--Contents regulated by dam at outlet and by Upper Twin Lake.

Month-end elevations and contents, water year October 1961 to September 1962

Date	Elevation (feet) [†]	Contents (acre-ft)	Change in contents (acre-ft)
Dec. 31.	7,193.36	1,340	-
Calendar year 1961.	-	-	-
Jan. 31.	7,193.91	1,560	+220
Feb. 28.	7,196.38	2,550	+990
Mar. 31.	7,198.41	3,360	+810
Apr. 30.	7,200.75	4,330	+970
May 31.	7,201.05	4,450	+120
June 30.	7,202.01	4,870	+420
July 31.	7,201.21	4,520	-350
Aug. 31.	7,196.26	2,500	-2,020
Sept. 30.	7,195.07	2,030	-470
Water year 1961-62.	-	-	-

[†] Elevation at 12 p.m.

10-2905, Robinson Creek at Twin Lakes outlet, near Bridgeport, Calif.

Location,--Lat 38°10'20", long 119°19'25", in SE $\frac{1}{4}$ sec. 28, T.4 N., R.24 E., on left bank a quarter of a mile downstream from Twin Lakes and 8 miles southwest of Bridgeport.

Drainage area,--34.7 sq mi.

Records available,--October 1953 to September 1962.

Gage,--Water-stage recorder. Altitude of gage is 7,050 ft (from topographic map).

Average discharge,--9 years, 52.5 cfs (38,010 acre-ft per year).

Extremes,--Maximum discharge during year, 307 cfs June 23, 24 (gage height, 3.90 ft); minimum daily, 0.2 cfs Dec. 9, 11, Jan. 26 to Feb. 6.

1953-62: Maximum discharge, 445 cfs June 29, 1956 (gage height, 4.35 ft); no flow for many days in some years.

Maximum discharge known, 660 cfs June 21, 1911 (gage height, 5.2 ft), at site $2\frac{1}{2}$ miles downstream.

Remarks,--Records excellent, except those for periods of ice effect, which are fair. Flow regulated by Twin Lakes.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

1.04	0.2	2.0	41
1.1	1.2	2.5	83
1.2	3.9	3.0	141
1.6	19	3.5	225
		4.0	343

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	3.0	0.4	0.8	0.2	b 1.2	1.2	67	8.4	216	103	92
2	1.7	3.0	.6	.8	.2	1.4	1.2	66	102	208	97	89
3	1.7	2.7	.4	.8	.2	1.4	1.2	69	126	201	91	90
4	1.7	2.7	.4	.8	.2	1.2	1.2	78	144	197	86	91
5	1.7	2.7	.6	.8	.2	1.2	1.2	92	145	195	80	51
6	1.6	2.7	.6	.8	.2	b 1.0	1.4	114	* 141	197	75	26
7	1.5	2.4	.6	.8	.3	b .8	1.6	133	140	201	72	26
8	1.5	2.4	.4	.8	1.0	1.0	1.6	147	144	199	68	24
9	1.4	2.4	b .2	.8	1.5	b 1.0	1.6	148	152	192	69	24
10	1.3	2.4	b .3	.8	2.8	*b 1.0	1.8	145	173	181	87	24
11	1.3	2.1	b .2	b .8	2.6	b 1.0	1.8	136	197	168	92	24
12	1.3	2.4	b .3	1.0	2.2	b .8	1.8	129	216	163	81	24
13	1.2	2.1	b .3	b .8	1.7	b .6	2.1	118	227	160	85	24
14	1.2	2.1	.6	b .6	1.0	b .6	2.1	110	236	152	85	25
15	1.2	* 2.1	.6	b .6	b 1.4	b .6	* 2.1	100	227	148	86	24
16	1.2	2.1	.8	b .6	b 1.0	.8	3.6	93	202	151	84	21
17	1.2	2.1	.8	*b .5	b 1.0	.8	6.0	88	178	148	100	21
18	1.2	2.1	.6	.8	b 1.0	.6	1.6	82	171	142	110	* 21
19	1.2	1.8	* .8	.8	b 1.0	.8	3.4	80	190	140	108	22
20	* 1.2	1.8	.8	b .8	1.0	.8	4.7	75	227	142	103	21
21	1.2	1.6	.8	b .6	1.2	1.0	5.5	70	261	138	98	21
22	1.1	1.4	.8	b .5	1.2	b 1.0	5.9	70	287	138	100	21
23	1.1	1.0	.8	b .5	1.2	b 1.0	6.0	70	302	141	* 100	21
24	1.1	.6	.8	.6	1.2	b 1.0	6.4	70	304	138	97	21
25	1.1	.4	.8	.3	b 1.2	.8	7.2	69	292	132	95	21
26	1.0	.4	.8	.2	1.2	1.0	7.8	69	273	126	94	21
27	1.0	.4	.8	.2	b 1.0	.8	7.9	70	257	* 122	94	21
28	8.2	.4	.8	.2	b 1.0	.8	7.5	70	248	120	96	21
29	8.6	.4	.8	.2	-----	1.0	7.0	68	238	115	97	21
30	5.9	.4	.8	.2	-----	1.2	6.8	68	227	111	96	21
31	3.0	-----	.8	.2	-----	1.2	-----	73	-----	109	94	-----
Total	381.7	54.1	19.1	19.0	136.1	29.4	810.5	2,837	6,111	4,891	2,823	974
Mean	12.3	1.80	0.62	0.61	4.86	0.95	27.0	91.5	204	158	91.1	32.5
Ac-ft	757	107	38	38	270	58	1,610	5,630	12,120	9,700	5,600	1,930

Calendar year 1961: Max 151 Min 0 Mean 33.6 Ac-ft 24,340
Water year 1961-62: Max 304 Min 0.2 Mean 52.3 Ac-ft 37,860

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

WALKER LAKE BASIN

10-2915, Buckeye Creek near Bridgeport, Calif.

Location.--Lat 38°14'20", long 119°19'30", in NE $\frac{1}{4}$ sec. 4, T. 4 N., R. 24 E., on right bank at Buckeye Hot Springs, 0.6 mile downstream from Eagle Creek, and $5\frac{1}{2}$ miles southwest of Bridgeport.

Drainage area.--45 sq mi, approximately.

Records available.--November 1910 to September 1914 (fragmentary), October 1953 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 6,900 ft (from topographic map). November 1910 to September 1914, staff gage at site half a mile downstream at different datum.

Average discharge.--10 years (1911-12, 1953-62), 53.2 cfs (38,520 acre-ft per year).

Extremes.--Maximum discharge during year, 388 cfs June 22 (gage height, 3.37 ft); minimum, 6.0 cfs Nov. 24.
1953-62: Maximum discharge, 700 cfs Dec. 23, 1955 (gage height, 4.00 ft), from rating curve extended above 360 cfs on basis of slope-area measurement of peak flow; minimum, 3.3 cfs Dec. 12, 1959, result of freezeup.
Flood of June 21, 1911, reached an observed stage of 4.8 ft (discharge not determined), site and datum then in use.

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

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

1.2	6.0	2.4	107
1.4	13	2.8	188
1.7	28	3.2	320
2.0	53		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	13	12	12	12	b 12	23	84	162	164	62	29
2	15	12	12	11	12	13	23	99	199	164	58	27
3	15	12	b 11	11	13	12	27	121	217	162	56	27
4	15	12	b 10	11	13	b 12	31	151	158	160	53	27
5	15	11	b 10	b 10	14	13	37	178	149	164	51	26
6	14	12	b 10	12	14	13	43	205	* 162	154	51	27
7	13	11	b 11	11	14	b 12	52	199	181	143	48	26
8	14	11	b 10	11	14	*b 12	60	202	194	139	47	26
9	14	12	b 9	11	13	b 12	70	* 183	232	134	55	25
10	15	11	b 10	11	14	13	69	162	262	124	49	24
11	14	11	b 8	b 10	13	13	64	132	255	119	45	24
12	14	11	b 9	b 11	13	13	77	124	248	119	43	23
13	14	b 14	b 9	b 9	12	b 10	90	105	245	110	41	23
14	13	*b 16	b 10	b 8	14	b 10	104	99	216	105	41	23
15	13	b 13	b 9	b 9	14	b 10	112	90	174	104	41	23
16	13	b 11	b 10	b 10	b 13	13	* 109	88	176	102	39	22
17	* 12	b 9	b 11	b 11	b 12	13	107	83	194	99	37	22
18	11	b 11	* 12	*b 13	b 13	13	114	85	232	99	37	* 22
19	11	b 12	12	12	b 13	13	112	85	272	96	37	22
20	11	b 13	12	b 11	b 11	13	88	81	287	91	36	22
21	15	b 10	11	b 9	b 11	13	87	77	294	88	35	22
22	13	b 10	11	b 7	b 11	12	96	84	302	94	34	22
23	13	b 13	11	b 7	13	b 11	117	97	287	99	* 34	22
24	13	b 11	11	b 8	b 13	b 12	128	88	262	94	34	22
25	13	11	11	b 9	b 10	15	117	88	235	84	34	22
26	13	11	11	11	b 9	16	110	85	222	81	34	35
27	13	11	b 11	11	b 8	20	109	81	213	* 78	33	26
28	12	11	b 10	11	b 10	19	97	76	199	76	32	24
29	11	11	b 11	11	-----	20	81	84	191	73	30	23
30	12	11	b 11	12	-----	20	78	110	178	69	30	23
31	13	-----	b 11	12	-----	20	-----	137	-----	65	29	-----
Total	413	348	327	323	346	423	2432	3563	6598	3453	1286	731
Mean	13.3	11.6	10.5	10.4	12.4	13.6	81.1	115	220	111	41.5	24.4
Ac-ft	819	690	649	641	686	839	4,820	7,070	13,090	6,850	2,550	1,450

Calendar year 1961: Max 196 Min 8 Mean 30.3 Ac-ft 21,970
Water year 1961-62: Max 302 Min 7 Mean 55.5 Ac-ft 40,150

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-6	0130	2.98	242	6-22	2330	3.37	388
6-9	2330	3.24	336				

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

WALKER LAKE BASIN

497

10-2920, Swager Creek near Bridgeport, Calif.

Location.--Lat 38°17'00", long 119°17'50", in SE 1/4 NW 1/4 sec. 23, T.5 N., R.24 E., on right bank three-quarters of a mile downstream from Yaney Canyon and 4 miles northwest of Bridgeport.

Drainage area.--53 sq mi, approximately.

Records available.--June 1911 to September 1915 (fragmentary), October 1953 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 6,620 ft (from topographic map). June 1911 to September 1915 staff gages at approximately same site at different datums.

Average discharge.--10 years (1911-12, 1953-62), 10.8 cfs (7,820 acre-ft per year).

Extremes.--Maximum discharge during year, 136 cfs Apr. 14, (gage height, 3.63 ft); maximum gage height, 3.82 ft Feb. 27 (back-water from ice); minimum discharge, 1.1 cfs Nov. 17.

1911-15, 1953-62: Maximum discharge, 585 cfs Dec. 23, 1955 (gage height, 6.24 ft), from rating curve extended above 175 cfs on basis of slope-area measurement of peak flow; minimum observed, 0.5 cfs Apr. 20, 1912.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Diversions for irrigation of about 1,000 acres above station.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

1.89	1.8	2.4	21
1.9	2.0	2.7	42
2.0	4.3	3.0	67
2.2	11	3.5	118

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	4.6	4.9	5.2	5.2	4.6	1.6	* 3.0	2.3	6.2	4.1	3.8
2	3.6	4.1	4.9	5.2	5.2	b 4.6	1.7	3.1	2.5	6.5	3.8	3.4
3	3.6	4.1	3.6	5.5	5.2	b 4.3	2.0	2.9	2.4	6.2	3.8	2.9
4	3.6	4.1	b 2.9	4.3	5.2	b 4.3	2.3	3.2	2.3	6.8	3.6	2.9
5	3.6	3.8	b 3.4	4.6	5.2	5.2	2.8	3.3	2.2	6.8	4.1	3.2
6	3.6	3.6	b 3.4	5.8	5.5	5.2	3.3	3.3	* 2.2	5.2	4.1	4.3
7	3.6	3.6	3.2	5.8	5.5	4.9	3.9	3.3	2.2	4.1	2.7	4.3
8	3.6	3.6	b 3.4	5.5	5.5	4.9	6.1	3.3	2.0	3.8	3.4	4.3
9	3.4	3.4	b 2.5	5.5	6.5	* 5.2	6.8	* 3.0	2.1	2.9	3.8	4.3
10	3.8	3.4	2.7	5.5	5.2	5.2	6.2	2.9	2.0	2.9	3.2	4.3
11	4.3	3.4	b 2.5	3.8	5.8	5.2	6.0	2.8	2.0	3.2	2.5	4.3
12	4.3	2.9	3.6	5.2	6.2	b 5.2	6.7	2.7	2.0	6.5	2.5	4.6
13	4.3	2.2	4.3	b 3.6	6.2	b 4.9	* 7.7	2.5	1.8	7.4	2.2	4.3
14	4.3	* 2.5	4.6	b 3.4	5.8	b 4.9	* 8.2	2.5	2.1	7.4	2.0	4.3
15	4.3	3.4	5.2	4.6	5.8	b 4.9	7.3	2.3	2.5	5.5	2.2	3.2
16	4.3	2.7	5.2	b 4.1	4.9	5.2	6.5	2.6	2.4	6.5	2.0	1.6
17	* 4.6	2.5	5.5	* b 3.8	b 4.6	5.2	6.0	2.3	1.9	7.4	2.2	2.2
18	4.6	2.7	* 5.5	5.2	4.9	5.5	6.1	2.0	1.8	6.8	2.7	2.2
19	4.9	3.4	5.5	5.5	4.9	5.8	5.5	1.7	1.2	6.8	3.4	2.7
20	5.2	3.8	5.8	b 3.2	b 4.6	5.8	4.1	1.8	9.6	6.5	3.2	* 2.7
21	5.5	3.4	5.5	b 2.5	b 4.3	5.8	3.8	1.8	1.1	5.8	4.3	2.5
22	4.3	4.1	5.2	b 2.5	b 4.1	5.5	4.4	1.8	1.2	6.8	3.4	2.7
23	4.6	4.6	4.9	b 2.5	5.2	b 5.2	4.4	1.8	1.3	7.4	* 3.2	2.5
24	4.6	4.6	5.2	b 2.5	b 4.9	b 5.8	4.2	1.8	1.2	7.1	2.9	2.9
25	4.9	4.9	4.9	b 4.9	b 3.8	6.8	4.0	1.8	9.9	* 7.8	2.0	5.2
26	4.9	4.9	4.6	5.2	b 4.6	7.4	3.9	2.3	1.0	7.1	2.7	8.5
27	4.6	4.6	4.3	5.2	b 2.5	8.8	3.8	2.8	9.9	3.8	3.4	7.4
28	4.1	3.8	4.3	5.2	b 3.6	1.0	3.5	2.7	9.6	3.4	3.4	7.1
29	3.6	3.4	4.6	5.2	-----	1.2	3.0	2.5	7.1	3.8	3.6	6.8
30	4.1	4.3	4.6	b 4.9	-----	1.2	3.0	2.5	6.5	3.8	3.6	6.5
31	4.9	-----	4.6	5.2	-----	1.4	-----	2.3	-----	4.1	3.6	-----
Total	131.2	110.4	135.3	141.1	140.9	194.3	138.8	78.6	509.6	176.3	97.6	122.1
Mean	4.23	3.68	4.36	4.55	5.03	6.27	46.3	25.4	17.0	5.69	3.15	4.07
Ac-ft	260	219	268	280	279	385	2,750	1,560	1,010	350	194	242

Calendar year 1961: Max 13 Min 1.1 Mean 3.66 Ac-ft 2,650
Water year 1961-62: Max 82 Min 1.8 Mean 10.8 Ac-ft 7,800

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-14	1650	3.63	136	5-27	1530	2.61	36
5-16	1400	2.57	35	6-16	0430	2.55	30

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record April 23-30.

WALKER LAKE BASIN

10-2925, Bridgeport Reservoir near Bridgeport, Calif.

Location,--Lat 38°19'30", long 119°12'50", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.34, T.6 N., R.25 E., at Bridgeport Dam on East Walker River, $\frac{1}{2}$ miles north of Bridgeport.

Drainage area,--362 sq mi.

Records available,--March 1926 to September 1962. Monthly contents only for some periods, published in WSP 1314.

Gage,--Float gage read once daily. Datum of gage is at mean sea level.

Extremes,--Maximum contents during year, 43,070 acre-ft July 3 (elevation, 6,460.18 ft); minimum contents 3,630 acre-ft Oct. 7. 1926-62: Maximum contents, 44,580 acre-ft June 12, 1938, June 25, 26, 1958 (elevation, 6,460.7 ft); no contents during fall of 1929, 1930, 1960.

Remarks,--Reservoir is formed by earth-fill, rock-faced dam. Storage began Dec. 8, 1923. Dam completed in November 1924. Capacity, 42,460 acre-ft between elevations 6,415 ft (approximate elevation of bottom of reservoir) and 6,460 ft (crest of spillway). Elevation of sill of outlet gate, 6,412 ft. No dead storage. Figures given herein represent total contents. Water is used for irrigation by Walker River Irrigation District.

Cooperation,--Elevations and capacity table furnished by Walker River Irrigation District.

Capacity table, (elevation, in feet, and contents, in acre-feet)

6,436	3,450	6,452	22,580
6,440	6,240	6,456	31,570
6,444	10,200	6,461	45,490
6,448	15,470		

Contents, in acre-feet, at 0800, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,690	4,180	6,720	9,600	12,440	17,580	22,290	32,080	31,210	42,920	36,500	24,240
2	3,690	4,250	6,860	9,700	12,500	17,660	22,580	31,700	31,450	42,920	35,960	23,830
3	3,690	4,310	6,940	9,820	12,570	17,660	22,890	31,570	31,700	43,070	35,570	23,520
4	3,690	4,380	7,080	9,920	12,630	17,750	23,310	31,450	31,950	42,920	35,040	23,200
5	3,720	4,450	7,170	9,980	12,770	17,830	23,720	31,330	32,330	42,920	34,770	22,890
6	3,690	4,510	7,260	10,090	12,830	18,090	24,450	31,330	32,710	42,760	34,240	22,680
7	3,630	4,580	7,360	10,140	12,900	18,350	25,210	31,450	32,840	42,760	33,980	22,380
8	3,660	4,640	7,410	10,260	13,040	18,520	26,090	31,450	32,840	42,760	33,480	22,090
9	3,660	4,710	7,500	10,380	13,310	18,690	27,320	31,330	32,840	42,610	33,090	21,800
10	3,690	4,820	7,550	10,440	13,790	18,870	28,700	31,210	32,970	42,310	32,710	21,400
11	3,720	4,890	7,650	10,550	14,210	19,060	29,640	31,210	33,220	42,170	32,330	21,110
12	3,750	4,970	7,740	10,670	14,580	19,150	30,240	31,090	33,480	41,880	32,080	20,820
13	3,750	5,040	7,790	10,790	14,730	19,240	30,610	30,850	33,860	41,880	31,820	20,530
14	3,750	5,110	7,890	10,850	14,950	19,240	31,090	30,730	34,110	41,880	31,450	20,070
15	3,780	5,180	7,980	10,850	15,320	19,420	31,570	30,610	35,040	41,580	31,090	19,800
16	3,810	5,260	8,080	10,910	15,550	19,520	31,820	30,490	35,700	41,440	30,610	19,420
17	3,810	5,370	8,080	11,030	15,790	19,610	32,330	30,490	36,230	41,290	30,240	19,150
18	3,840	5,400	8,130	11,080	16,030	19,800	32,460	30,490	36,630	41,150	29,760	18,870
19	3,870	5,520	8,230	11,140	16,190	19,980	32,590	30,490	37,040	40,850	29,280	18,610
20	3,900	5,600	8,390	11,260	16,420	20,160	32,710	30,360	37,590	40,560	28,930	18,180
21	3,900	5,720	8,590	11,380	16,500	20,250	32,710	30,240	38,430	40,120	28,470	18,180
22	3,930	5,800	8,690	11,440	16,660	20,440	32,590	30,240	39,260	39,690	28,120	17,920
23	3,960	5,880	8,740	11,570	16,900	20,530	32,710	30,360	39,830	39,400	27,660	17,750
24	3,990	5,960	8,900	11,630	17,060	20,620	32,710	30,240	40,120	39,260	27,200	17,580
25	4,020	6,080	9,000	11,760	17,230	20,720	32,200	30,120	40,420	39,120	26,860	17,230
26	4,020	6,200	9,100	11,820	17,400	20,820	32,710	30,120	40,710	38,840	26,420	17,400
27	4,050	6,330	9,210	11,940	17,490	21,110	32,590	30,240	41,290	38,570	26,090	17,490
28	4,050	6,420	9,270	12,000	17,580	21,310	32,710	30,610	41,730	38,150	25,650	17,580
29	4,080	6,500	9,320	12,130	-----	21,500	32,460	30,730	42,310	37,730	25,320	17,400
30	4,120	6,640	9,430	12,190	-----	21,700	32,200	30,850	42,610	37,460	24,880	17,320
31	4,150	-----	9,540	12,320	-----	21,990	-----	30,970	-----	37,040	24,560	-----
(†)	6,437.15	6,440.45	6,443.39	6,445.73	6,449.28	6,451.70	6,456.25	6,455.77	6,460.07	6,458.10	6,452.94	6,449.13
(‡)	+490	+2,490	+2,900	+2,780	+5,260	+4,410	+10,210	-1,230	+11,640	-5,570	-12,480	-7,240

Calendar year 1961. † +3,000

Water year 1961-62. ‡ +13,660

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

WALKER LAKE BASIN

499

10-2930, East Walker River near Bridgeport, Calif.

Location.--Lat 38°19'40", long 119°12'50", in SW 1/4 NE 1/4 sec. 34, T.6 N., R.25 E., on right bank 1,500 ft downstream from Bridgeport Reservoir, 5 miles north of Bridgeport, and 10 miles upstream from Sweetwater Creek.

Drainage area.--362 sq mi.

Records available.--July 1911 to September 1914 (gage heights only), October 1921 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 6,400 ft (from topographic map). Prior to Oct. 1, 1921, staff gage at site half a mile upstream at different datum. Oct. 1, 1921, to Feb. 21, 1924, water-stage recorder at site 1 mile downstream at different datum. Feb. 22, 1924, to Sept. 30, 1931, water-stage recorder and Oct. 1, 1931, to May 25, 1939, staff gage, at present site at datum 2.34 ft lower.

Average discharge.--39 years (1922-24, 1925-62), 129 cfs (93,390 acre-ft per year).

Extremes.--Maximum discharge during year, 487 cfs June 23 (gage height, 2.52 ft); minimum daily, 4.2 cfs Dec. 13-25, Jan. 4, 1921-62; Maximum discharge, 1,240 cfs Jan. 22, 1943; maximum gage height, 4.95 ft (top of surge); minimum daily discharge, 0.2 cfs Nov. 2-29, Dec. 1-22, 25-28, 1955, Jan. 17-25, 1956.

Remarks.--Records excellent except those for period of no gage-height record, which are fair. Diversions for irrigation of meadow pasture lands near Bridgeport. Flow regulated by Bridgeport Reservoir.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

0.1	2.5	.8	61
.2	5.0	1.0	96
.3	9.0	1.5	212
.4	15	2.0	360
.6	33	2.5	520

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.5	2.6	4.4	4.4	5.8	5.8	1.5	25.6	7.6	34.4	38.2	24.2
2	4.1	1.9	4.4	4.4	5.8	5.8	4.4	24.8	8.0	35.4	35.1	24.2
3	4.3	2.1	4.4	4.4	5.8	5.8	6.0	24.2	10.4	35.4	32.3	23.9
4	4.3	2.1	4.4	4.2	5.8	5.8	6.1	23.1	11.4	35.4	28.0	20.4
5	4.3	2.1	4.4	4.7	5.8	5.8	7.3	23.1	12.7	34.4	25.9	19.1
6	4.3	2.1	4.4	4.4	5.8	5.8	7.6	23.1	14.0	31.0	25.9	19.1
7	4.2	1.4	4.4	4.7	5.8	5.8	9.4	23.1	* 20.7	27.4	25.9	21.2
8	4.2	9.0	4.4	4.7	5.8	5.8	9.4	23.1	24.8	29.0	25.9	22.0
9	4.2	9.0	4.4	4.7	6.2	*	9.6	23.1	24.8	30.0	24.8	22.0
10	4.2	9.0	4.4	5.4	6.2	5.8	9.4	* 22.6	24.8	30.0	21.5	22.0
11	3.8	9.0	4.4	5.4	6.2	5.8	9.6	21.5	25.1	31.0	20.9	22.0
12	3.6	8.2	4.4	5.4	6.2	5.8	11.0	22.6	25.1	32.5	21.5	22.6
13	3.7	7.4	4.2	5.4	6.2	5.8	14.3	23.4	25.1	35.0	22.6	23.9
14	3.7	7.4	4.2	5.8	6.2	5.8	14.0	22.6	24.5	34.0	25.1	23.1
15	3.7	* 6.6	4.2	5.8	6.2	5.8	* 14.3	20.4	23.6	33.0	25.6	21.7
16	3.7	5.0	4.2	5.8	6.2	5.8	14.0	18.9	22.6	33.0	25.6	21.5
17	3.7	5.0	4.2	* 5.2	6.2	5.8	15.0	16.1	20.9	33.0	25.6	20.2
18	3.7	5.4	* 4.2	6.2	6.2	5.8	18.1	16.1	20.9	33.0	25.9	18.1
19	* 3.7	5.4	4.2	6.2	6.2	5.8	16.4	16.1	20.9	33.0	26.2	* 18.1
20	3.7	5.0	4.2	6.2	6.2	5.8	16.4	16.1	20.9	33.0	26.5	15.2
21	3.7	5.0	4.2	6.2	6.2	5.8	17.4	16.4	20.9	32.0	26.5	15.0
22	3.7	5.0	4.2	6.2	6.2	5.8	19.1	16.4	21.2	31.5	26.5	15.0
23	3.7	4.7	4.2	6.2	6.2	5.8	19.9	16.4	36.9	30.5	26.5	14.0
24	3.7	4.7	4.2	6.2	6.2	5.8	23.4	16.6	47.7	30.5	26.5	14.0
25	3.7	4.7	4.2	6.2	6.2	5.8	26.2	16.6	40.1	32.0	26.5	12.7
26	3.7	4.7	4.4	6.2	6.2	5.8	26.2	16.6	28.0	32.9	25.6	12.3
27	3.7	4.7	4.4	6.2	6.2	5.8	26.2	16.8	23.4	32.9	24.2	11.6
28	3.7	4.7	4.4	6.2	5.8	5.8	26.2	17.1	23.4	33.2	24.2	9.6
29	3.7	4.4	4.4	6.2	-----	5.8	26.2	14.5	24.8	33.2	24.2	9.2
30	3.7	4.4	4.4	6.2	-----	5.8	26.2	8.5	29.5	33.5	* 24.2	8.3
31	3.7	-----	4.4	6.2	-----	5.8	-----	7.8	-----	36.6	24.2	-----
Total	1,213	281.4	133.8	172.2	170.0	179.8	4,508	5,935	6,856	10,117	8,081	5,462
Mean	39.1	9.38	4.32	5.55	6.07	5.80	150	191	229	326	261	182
Ac-ft	2,410	558	265	342	337	357	8,940	11,770	13,600	20,070	16,030	10,830

Calendar year 1961: Max 191 Min 4.2 Mean 42.6 Ac-ft 30,850
 Water year 1961-62: Max 477 Min 4.2 Mean 118 Ac-ft 85,510

* Discharge measurement made on this day.

Note.--No gage-height record July 3-25.

WALKER LAKE BASIN

10-2935. East Walker River above Strosnider ditch, near Mason, Nev.

Location.--Lat 38°48'50", long 119°02'50", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.14, T.11 N., R.26 E., on right bank 0.8 mile upstream from head of Strosnider ditch, 12 miles southeast of Mason, and 13 $\frac{1}{2}$ miles southeast of Yerington.

Drainage area.--1,100 sq mi, approximately.

Records available.--January 1947 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4,574.10 ft above mean sea level, datum of 1929. Prior to Oct. 24, 1957, at site 400 ft upstream at datum 0.56 ft higher.

Average discharge.--15 years (1947-62), 125 cfs (90,500 acre-ft per year).

Extremes.--Maximum discharge during year, 468 cfs June 26 (gage height, 4.06 ft); minimum daily, 8 cfs Jan. 24, 1947-62: Maximum discharge, 1,640 cfs Dec. 24, 1955 (gage height, 6.87 ft, site and datum then in use), from rating curve extended above 1,100 cfs by logarithmic plotting; minimum, 3.1 cfs Mar. 21, 1948; minimum daily, 3.4 cfs Mar. 21-24, 1948, Apr. 5, 1961.

Remarks.--Records good except those for periods of ice effect and no gage-height record, which are fair. Diversions for irrigation above station. Flow regulated by Bridgeport Reservoir.

Rating tables, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 10-25)

Oct. 1 to Apr. 25

Apr. 26 to Sept. 30

0.5	4.0	1.0	40	1.5	64
.6	8.4	1.5	115	2.0	120
.7	14	2.0	202	3.0	273
.8	21			4.0	460

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	42	18	17	a 17	b 18	24	193	115	271	331	208
2	40	40	19	b 19	a 19	b 21	25	200	115	318	338	206
3	30	31	20	17	a 21	24	34	193	118	329	314	208
4	* 28	30	19	b 14	a 22	23	53	188	130	340	286	206
5	30	28	17	b 13	a 23	23	51	184	130	343	251	184
6	30	27	* 16	b 13	a 25	25	64	186	137	320	242	169
7	30	27	b 15	19	a 23	23	77	186	129	280	242	162
8	29	* 27	b 14	19	a 22	23	99	* 186	181	256	241	162
9	32	25	b 13	17	a 21	24	105	* 188	212	271	242	174
10	34	23	b 12	b * 15	a 23	24	104	* 182	217	287	227	175
11	37	22	b 11	b 14	a 26	23	99	175	225	286	203	* 175
12	34	20	b 10	b 13	a 29	22	97	164	219	302	193	176
13	31	19	b 11	b 12	a 31	22	102	172	222	340	193	180
14	34	18	b 12	b 12	* 34	21	133	186	236	325	193	184
15	34	18	b 13	b 11	33	21	143	188	* 287	316	* 204	178
16	36	19	b 14	b 12	33	22	145	182	273	322	212	166
17	37	b 19	b 15	b 14	30	23	134	175	256	320	214	166
18	39	b 18	b 17	b 16	28	22	* 143	145	227	325	212	159
19	40	b 18	18	b 19	28	22	143	138	227	331	212	149
20	42	19	17	b 15	28	22	145	138	232	336	216	146
21	39	23	17	b 11	27	* 23	129	145	248	331	209	136
22	40	20	17	b 10	25	21	133	143	244	298	209	130
23	40	18	16	a 9	24	20	136	136	248	277	206	130
24	40	20	17	a 8	25	19	143	133	359	* 270	201	129
25	40	19	17	a 9	24	19	172	133	454	270	201	132
26	40	19	17	a 10	b 21	19	178	136	387	287	203	137
27	40	18	17	a 11	b 18	19	182	164	286	298	198	129
28	42	19	16	a 13	b 17	20	193	192	242	316	196	120
29	39	19	b 14	a 15	-----	22	195	184	227	316	200	107
30	39	18	b 14	a 17	-----	24	200	168	234	316	198	101
31	40	-----	b 14	a 18	-----	25	-----	130	-----	311	200	-----
Total	1,125	683	477	432	697	679	3,581	5,213	6,817	9,508	6,987	4,784
Mean	36.3	22.8	15.4	13.9	24.9	21.9	119	168	227	307	225	159
Ac-ft	2,230	1,350	946	857	1,380	1,350	7,100	10,340	13,520	18,860	13,860	9,490

Calendar year 1961: Max 354 Min 3.4 Mean 37.7 Ac-ft 27,260
Water year 1961-62: Max 454 Min 8 Mean 112 Ac-ft 81,280

a No gage-height record.

b Stage-discharge relation affected by ice.

* Discharge measurement made on this day.

10-2952. West Walker River at Leavitt Meadows, near Coleville, Calif.

Location.--Lat 38°19'50", long 119°33'05", in NW¼NW¼ sec.34, T.6 N., R.22 E., on left bank at Leavitt Meadows Lodge, 500 ft upstream from Brownie Creek, 0.9 mile downstream from Leavitt Creek, and 16½ miles south of Coleville.

Drainage area.--73 sq mi, approximately.

Records available.--July 1945 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 7,111.32 ft above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1957, water-stage recorder 0.2 mile upstream at different datum.

Average discharge.--17 years (1945-62), 154 cfs (111,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,100 cfs June 19 (gage height, 4.93 ft); minimum, 4.0 cfs Jan. 20, result of freezeup. 1945-62: Maximum discharge, 2,810 cfs Nov. 21, 1950 (estimated on basis of records for West Walker River below Little Walker River, near Coleville, Calif.); minimum, 3.8 cfs Jan. 11, 1960, Jan. 8, 1961.

Remarks.--Records good except those for periods of ice effect, which are fair. No storage or regulation above station.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used April 11 to May 17, June 11-22)

1.1	7.0	2.0	50	3.5	375
1.5	20	2.5	103	4.0	600
1.7	30	3.0	195	5.0	1,080

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	14	14	12	10	16	41	348	704	582	132	29
2	14	14	b 15	b 11	b 10	b 22	50	447	835	582	118	28
3	14	14	b 14	12	b 10	b 19	58	568	810	586	110	27
4	14	14	b 14	b 11	b 10	b 21	74	694	614	586	103	26
5	13	13	b 14	b 11	b 11	b 22	96	810	* 564	582	94	26
6	13	13	b 11	b 12	15	b 21	123	825	627	555	93	26
7	13	13	b 12	b 12	15	*b 22	150	815	704	496	89	25
8	12	13	b 11	b 12	16	b 22	181	* 825	748	474	83	24
9	18	13	b 10	b 12	33	b 21	238	766	870	447	126	24
10	11	13	b 11	13	36	b 20	261	676	960	411	108	24
11	11	13	b 10	b 11	19	b 21	283	555	935	388	86	22
12	11	12	b 10	b 11	18	b 17	330	496	* 900	429	78	22
13	10	10	b 11	b 11	22	b 17	406	416	850	357	71	22
14	9.7	* 12	b 12	b 10	21	b 17	496	357	735	352	66	20
15	9.7	12	b 11	b 11	b 25	b 17	564	310	578	344	64	20
16	* 9.4	11	12	b 10	b 22	19	* 555	286	582	344	62	20
17	9.1	b 8.5	10	*b 11	b 20	b 17	537	265	686	310	59	* 20
18	9.1	b 11	*b 13	12	b 22	18	560	294	880	306	57	19
19	9.4	10	13	11	b 23	b 17	542	314	980	283	54	18
20	9.7	11	14	b 10	b 18	18	411	294	980	268	51	18
21	14	b 10	13	b 9	b 18	b 16	393	272	960	248	49	18
22	14	12	b 12	b 8	b 18	b 20	411	334	950	254	46	18
23	14	13	b 12	b 8	b 19	b 19	524	416	915	261	* 44	17
24	14	12	b 13	b 8	b 20	b 19	586	370	835	235	46	17
25	15	13	b 13	b 9	b 17	b 22	542	348	762	200	41	18
26	15	13	b 12	b 10	b 18	b 24	506	310	722	* 193	37	33
27	14	b 12	b 11	b 10	b 16	b 26	492	279	704	186	34	30
28	13	b 12	b 10	b 10	b 19	b 30	420	272	690	177	34	26
29	12	13	b 11	b 10	-----	b 34	339	366	668	168	32	23
30	13	13	b 11	b 10	-----	b 38	306	510	618	156	30	22
31	14	-----	b 10	b 10	-----	b 37	-----	627	-----	143	29	-----
Total	387.1	367.5	370	328	521	669	10,475	14,465	23,366	10,903	2,126	682
Mean	12.5	12.2	11.9	10.6	18.6	21.6	349	467	779	352	68.6	22.7
Ac-ft	768	729	734	651	1,030	1,330	20,780	28,690	46,350	21,630	4,220	1,350
Calendar year 1961: Max 614 Min 8.5 Mean 86.0 Ac-ft 62,300												
Water year 1961-62: Max 980 Min 8 Mean 177 Ac-ft 128,300												

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-15	2000	3.86	600	6-2	2400	4.79	985
4-23	2400	3.87	609	6-11	0200	4.86	1,060
5-5	2300	4.05	686	6-19	2300	4.93	1,100

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

WALKER LAKE BASIN

10-2955. Little Walker River near Bridgeport, Calif.

Location.--Lat 38°21'30", long 119°26'30", in NW¹/₄ sec. 22, T. 6 N., R. 23 E., on right bank three-quarters of a mile north of Sonora Junction, 1½ miles upstream from mouth, and 14 miles northwest of Bridgeport.

Drainage area.--63 sq mi, approximately.

Records available.--April to August 1910, October 1944 to September 1962. Prior to October 1958, published as East Fork West Walker River near Bridgeport.

Gage.--Water-stage recorder. Altitude of gage is 6,790 ft (from topographic map). April to August 1910, staff gage at site 1 mile upstream at different datum.

Average discharge.--18 years (1944-62) 48.1 cfs (34,820 acre-ft per year).

Extremes.--Maximum discharge during year, 315 cfs June 21 (gage height, 1.96 ft); minimum daily, 6.5 cfs Jan. 22, 23. 1910, 1944-62: Maximum discharge, 994 cfs Dec. 23, 1955, (gage height, 2.80 ft), from rating curve extended above 370 cfs on basis of slope-area measurements at gage heights 2.60 and 2.80 ft; maximum gage height recorded, 3.63 ft Jan. 3, 1945, (backwater from ice); minimum discharge recorded, 4.9 cfs Nov. 17, 1948, but may have been less during periods of ice effect.

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

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

0.3	5.5	0.9	33
.4	8.0	1.1	58
.5	11	1.4	118
.7	19	1.7	210
		2.0	345

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	13	11	12	11	9	20	77	109	142	51	23
2	13	13	11	10	11	11	21	85	140	145	48	22
3	13	13	10	11	12	10	21	93	145	142	44	22
4	13	12	9	11	12	10	25	109	118	140	42	21
5	13	11	9	11	13	11	29	129	* 113	137	41	21
6	13	11	9	11	13	11	34	140	123	129	42	20
7	13	11	10	11	13	10	38	134	134	123	41	20
8	13	11	9	11	13	10	45	* 134	142	113	40	20
9	11	11	8.5	11	12	11	54	123	172	109	52	20
10	13	11	9	10	13	12	63	111	200	104	43	20
11	13	11	7.5	10	12	12	60	100	200	95	38	19
12	13	10	8.5	11	12	10	68	95	* 192	102	36	19
13	13	10	8.5	11	11	9	91	85	189	93	34	19
14	13	* 15	9	8	12	9.5	* 113	83	182	89	33	18
15	13	13	8.5	8.5	13	* 13	* 118	81	175	87	32	18
16	* 13	11	9	9	12	12	113	79	163	89	31	17
17	13	10	10	* 10	11	12	106	72	154	85	31	* 17
18	13	11	11	13	12	12	109	70	192	83	31	17
19	13	12	13	11	11	12	104	65	230	79	31	17
20	13	13	* 13	10	10	12	83	65	246	73	27	17
21	15	9.5	13	7.0	10	12	79	60	250	73	24	17
22	13	9.5	12	6.5	10	10	85	63	259	73	24	17
23	13	11	12	6.5	11	9	102	66	250	81	23	17
24	14	10	12	7	10	11	109	63	234	81	* 23	17
25	14	10	12	8	9	12	102	63	214	72	25	18
26	14	10	12	9	8.5	14	91	66	200	* 66	26	27
27	14	10	10	10	7.5	16	91	77	192	65	24	20
28	12	10	11	10	8	18	85	73	175	61	24	18
29	12	10	12	10	-----	18	72	70	169	57	23	17
30	13	10	12	11	-----	18	70	81	154	55	23	17
31	14	-----	12	11	-----	18	-----	91	-----	54	23	-----
Total	406	333.0	323.5	306.5	313.0	374.5	220.1	270.3	541.6	289.7	1,030	572
Mean	13.1	11.1	10.4	9.89	11.2	12.1	73.4	87.2	181	93.5	33.2	19.1
Ac-ft	805	660	642	608	621	743	4,370	5,360	10,740	5,750	2,040	1,130
Calendar year 1961: Max	102	Min	7.5	Mean	23.0	Ac-ft	16,650					
Water year 1961-62: Max	259	Min	6.5	Mean	46.2	Ac-ft	33,470					

Peak discharge (base, 200 cfs).--June 10 (2200) 246 cfs (1.81 ft); June 21 (2200) 315 cfs (1.96 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 13, 14, Nov. 17 to Dec. 18, Jan. 21 to Apr. 13. Stage-discharge relation affected by ice Oct. 9, Oct. 28 to Nov. 12, Nov. 15, 16, Dec. 22 to Jan. 20.

WALKER LAKE BASIN

503

10-2960, West Walker River below Little Walker River, near Coleville, Calif.

Location.--Lat 38°22'45", long 119°27'00", in NW¼SE¼ sec.9, T.6 N., R.23 E., on left bank 100 ft downstream from Little Walker River, 200 ft upstream from bridge on U.S. Highway 395 and 13 miles southeast of Coleville.

Drainage area.--182 sq mi.

Records available.--April 1938 to September 1962. Prior to October 1958, published as "below East Fork".

Gage.--Water-stage recorder. Altitude of gage is 6,650 ft (from topographic map). Prior to Oct. 1, 1939, at site 125 ft downstream at datum 1.00 ft higher.

Average discharge.--24 years, 249 cfs (180,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,770 cfs June 19 (gage height 4.58 ft); minimum, 7.6 cfs Nov. 17.

1938-62: Maximum discharge, 6,220 cfs Nov. 20, 1950 (gage height, 8.10 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement of peak flow; minimum, 4.0 cfs Nov. 18, 1948, result of freezeup.
Maximum discharge recorded prior to 1938, 5,800 cfs Dec. 11, 1937, by slope-area measurement.

Remarks.--Records good except those for periods of ice effect, which are fair. Station is above diversions except a few small ranch ditches. Flow very slightly regulated by Poor Lake Reservoir (capacity unknown) 7 miles upstream.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3 0	* 3 2	3 3	3 7	*b 2 8	*b 2 9	9 9	4 0 3	8 5 0	7 3 4	* 2 0 8	7 5
2	* 2 9	3 1	3 2	* 3 6	b 2 9	b 3 3	* 1 0 5	* 4 9 1	1 0 5 0	* 7 4 9	1 9 1	7 3
3	2 7	3 1	b 2 7	3 6	b 3 0	b 3 7	1 1 2	6 3 4	1 1 2 0	* 7 3 9	1 7 7	7 2
4	2 6	3 0	b 2 7	b 3 0	b 3 1	b 3 3	1 3 4	8 0 1	7 9 1	7 2 9	1 6 6	7 2
5	2 6	2 8	b 2 7	b 3 4	3 3	5 0	1 5 9	9 3 4	7 3 4	7 3 9	1 5 7	6 7
6	2 5	2 6	b 2 7	b 3 2	3 5	4 8	1 8 6	1 0 5 0	8 0 6	6 9 3	1 5 9	6 6
7	2 4	2 8	b 2 8	b 3 2	3 7	b 4 4	2 3 2	1 0 0 0	9 1 0	6 2 9	1 5 1	6 6
8	2 5	2 9	b 2 7	b 3 2	3 6	b 4 5	2 8 4	* 1 0 5 0	9 9 8	6 0 0	1 4 0	6 6
9	2 6	2 9	b 2 3	b 3 1	8 9	b 4 5	3 7 4	9 5 8	1 2 3 0	5 5 5	1 9 8	6 3
10	2 7	2 9	b 2 3	b 3 1	6 3	b 4 6	4 0 7	8 5 0	1 3 6 0	5 1 2	1 8 1	5 4
11	2 6	2 8	b 2 2	b 3 0	4 8	b 4 8	4 0 3	6 8 8	1 2 8 0	4 7 4	1 5 3	6 1
12	2 6	2 6	b 2 3	b 2 8	4 9	b 4 2	4 7 0	6 1 4	1 2 2 0	5 1 2	1 3 4	6 1
13	2 6	2 2	b 2 3	b 2 6	5 0	b 4 0	5 6 0	5 1 2	* 1 1 7 0	4 5 0	1 2 0	6 0
14	2 5	2 7	b 2 5	b 2 3	5 7	b 4 3	* 6 9 8	4 6 2	1 0 7 0	4 3 4	1 1 2	5 8
15	2 4	2 9	b 2 3	b 2 4	4 8	b 4 3	7 8 5	4 1 5	8 6 0	4 3 0	1 0 8	5 8
16	2 4	2 6	b 2 7	b 2 3	b 4 0	5 1	7 7 5	3 8 8	8 1 7	4 3 8	1 0 6	5 8
17	2 4	2 2	3 0	b 2 5	b 3 5	5 1	7 4 4	3 4 8	8 9 4	4 0 0	9 9	5 8
18	2 4	2 7	3 1	3 0	b 3 6	5 0	7 4 9	3 5 9	1 2 6 0	3 9 2	9 7	5 6
19	2 4	2 8	3 9	2 8	b 3 7	b 5 0	7 5 4	3 7 4	1 5 6 0	3 7 0	9 5	5 6
20	2 5	2 8	4 3	b 2 3	b 2 5	5 3	5 8 2	3 6 6	1 5 8 0	3 4 4	9 2	5 3
21	3 2	2 8	4 0	b 2 0	b 2 5	5 1	5 2 9	3 3 4	1 5 6 0	3 3 0	8 3	5 4
22	2 9	b 2 6	b 3 8	b 2 0	b 2 5	5 0	5 5 5	3 7 0	1 5 4 0	3 4 1	8 1	5 6
23	3 1	b 2 7	b 3 8	b 1 9	b 2 7	b 4 5	6 7 8	4 7 8	1 4 9 0	3 5 5	8 8	5 6
24	3 2	2 8	b 3 8	b 1 8	b 2 8	b 4 8	7 4 9	4 4 6	1 3 2 0	3 3 4	9 2	5 4
25	3 2	3 1	b 3 7	b 2 0	b 2 3	6 6	7 1 8	4 2 6	1 1 4 0	3 0 0	8 8	5 7
26	3 1	3 2	b 3 5	b 2 0	b 2 5	6 8	6 4 8	4 0 7	1 0 4 0	2 8 1	8 5	8 6
27	3 0	2 9	b 3 4	b 2 1	b 2 0	7 2	6 2 9	3 9 6	1 0 0 0	2 7 2	8 1	7 3
28	2 8	2 8	b 3 3	b 2 2	b 2 3	8 0	5 6 0	3 8 8	9 4 0	2 5 7	7 6	6 0
29	2 7	2 5	b 3 3	b 2 3	-----	8 6	4 5 4	4 0 3	8 9 4	2 4 6	7 8	5 0
30	3 0	* 3 0	b 3 3	b 2 6	-----	8 6	4 0 7	* 5 7 8	8 0 6	2 3 2	* 7 6	4 8
31	3 1	-----	b 3 4	b 2 8	-----	9 3	-----	7 5 9	-----	2 1 9	7 6	-----
Total	8 4 6	8 4 0	9 5 3	8 2 8	1 0 3 2	1 6 2 6	1 4 5 3 9	1 7 6 8 2	3 3 2 9 0	1 4 0 9 0	3 7 4 8	1 8 4 7
Mean	27.3	28.0	30.7	26.7	36.9	52.5	485	570	1,110	455	121	61.6
Ac-ft	1,680	1,670	1,890	1,640	2,050	3,230	28,840	35,070	66,030	27,950	7,430	3,660

Calendar year 1961: Max 759 Min 22 Mean 124 Ac-ft 89,970
Water year 1961-62: Max 1,580 Min 18 Mean 250 Ac-ft 181,100

Peak discharge (base, 1,120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5- 6	0300	3.90	1,150	6- 9	2300	4.27	1,460
6- 3	0100	4.17	1,330	6-19	2300	4.58	1,770

* Discharge measurement made on this day.

b State-discharge relation affected by ice.

WALKER LAKE BASIN

10-2965. West Walker River near Coleville, Calif.

Location.--Lat 38°30'55", long 119°27'15", in NW¹/₄ sec. 28, T. 8 N., R. 23 E., on left bank a quarter of a mile downstream from Rock Creek and 5 miles southeast of Coleville.

Drainage area.--245 sq mi.

Records available.--October 1902 to July 1908 (published as West Fork of Walker River near Coleville 1903, 1905-8 and as Walker River (West Fork) near Coleville 1904), March 1909 to September 1910, June 1915 to March 1938, May 1957 to September 1962. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 5,520 ft (from topographic map). Prior to July 31, 1908, staff gage at site half a mile upstream at different datum. Mar. 1, 1909, to Aug. 31, 1910, staff gage, and June 18, 1915, to Aug. 15, 1919, water-stage recorder near present site at different datums. Aug. 16, 1919, to Mar. 31, 1938, water-stage recorder at site 1,000 ft upstream at different datum.

Average discharge.--33 years (1902-7, 1909-10, 1915-37, 1957-62), 269 cfs (194,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,500 cfs June 22 (gage height, 3.55 ft); minimum, 19 cfs Nov. 13, but may have been less during periods of ice effect.

1915-38, 1957-62: Maximum discharge, 6,500 cfs Dec. 11, 1937, from slope-area measurement of peak flow; minimum, 5 cfs Dec. 3, 1924, Aug. 27, 1931.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Station is above diversions except for a few small ranch ditches. Flow very slightly regulated by Poor Lake Reservoir (capacity unknown) 17 miles upstream.

Rating table, except periods of ice effect
(gage height, in feet, discharge, in cubic feet per second)

0.6	16	2.0	370
.8	39	2.5	650
1.1	87	3.0	1,020
1.5	185	3.5	1,450

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	* 3.8	* 4.0	* 4.0	* 3.2	* b 4.8	* 1.0.8	* 4.20	7.97	8.18	* 2.30	8.9
2	* 3.8	3.8	4.4	* 3.6	3.4	4.2	* 1.17	* 4.94	9.96	7.97	* 2.10	8.9
3	3.8	3.8	b 3.5	b 3.5	3.5	b 3.8	1.28	6.26	1,080	8.25	1.95	8.7
4	3.6	3.5	b 3.4	b 3.3	3.6	b 3.8	1.50	7.13	.811	7.97	1.85	8.7
5	3.5	3.2	b 3.3	b 3.2	3.8	5.9	1.85	9.32	7.13	8.18	1.75	8.5
6	3.5	3.4	b 3.3	3.9	4.0	6.0	2.25	1.020	7.76	7.76	1.80	8.2
7	3.2	3.5	b 3.4	3.8	4.2	b 4.8	2.77	9.56	8.92	6.92	1.70	8.2
8	3.4	3.4	b 3.3	3.5	4.1	5.7	3.22	1,000	9.40	6.44	1.60	8.0
9	3.4	3.4	b 2.9	3.6	9.8	b 5.2	4.00	9.40	1,080	6.02	2.18	7.8
10	3.6	3.4	b 2.9	3.8	7.3	b 5.1	4.25	8.32	1,220	5.42	2.00	6.8
11	3.5	3.4	b 2.6	b 3.0	5.5	b 4.8	4.20	6.64	1,230	5.00	1.75	7.3
12	3.5	b 3.1	b 2.7	b 2.9	5.4	b 4.5	4.55	5.96	1,200	5.12	1.55	7.3
13	3.5	b 2.6	b 2.7	b 2.7	6.8	b 4.2	5.24	5.00	* 1,160	4.94	1.40	7.3
14	3.4	b 2.9	b 3.0	b 2.6	7.7	b 4.2	6.14	4.55	1,070	4.55	1.30	7.2
15	3.2	3.2	b 2.8	b 2.7	7.7	b 4.3	7.13	4.20	8.60	4.45	1.25	7.2
16	3.2	3.2	b 2.9	b 2.6	6.0	b 4.8	6.9.9	4.05	8.18	4.60	1.25	7.2
17	3.1	b 2.6	b 3.0	2.8	b 5.9	4.8	6.71	3.70	8.84	4.30	1.20	7.0
18	3.1	b 3.0	3.1	3.4	b 6.0	5.1	6.78	3.80	1,120	4.15	1.15	6.8
19	3.1	b 3.2	3.8	3.2	6.8	5.0	6.92	3.90	1,300	4.00	1.15	6.7
20	3.1	3.4	4.4	2.8	b 5.6	5.1	5.24	3.80	1,370	3.75	1.10	6.7
21	3.6	3.0	4.2	2.5	b 5.4	4.8	4.65	3.54	1,380	3.54	1.05	6.7
22	3.5	b 2.8	3.8	b 2.5	b 5.1	5.0	4.94	3.90	1,370	3.46	1.00	6.8
23	3.6	b 3.1	3.6	b 2.4	b 5.6	b 4.2	6.08	4.65	1,350	3.54	1.10	6.8
24	3.9	3.4	3.8	2.3	b 4.9	b 4.5	7.06	4.40	1,270	3.54	1.20	6.7
25	3.9	3.5	3.8	2.4	b 4.5	6.0	6.78	4.30	1,160	3.20	1.20	7.0
26	3.8	3.6	3.9	2.4	b 4.0	6.5	6.14	4.20	1,060	3.00	1.05	1.04
27	3.8	3.6	3.6	2.5	b 3.5	6.8	6.02	4.15	1,040	2.90	1.00	1.02
28	3.5	3.4	b 3.5	2.6	b 4.0	7.7	5.42	3.90	1,000	2.75	.95	8.2
29	3.4	3.4	b 3.4	2.7	-----	8.7	4.45	4.25	9.64	2.65	.98	6.7
30	3.6	3.6	b 3.3	3.0	-----	9.1	4.10	* 5.48	8.84	2.50	* .93	6.2
31	3.8	-----	b 3.5	3.2	-----	9.5	-----	6.99	-----	2.40	.91	-----
Total	1,088	992	1,058	934	1,473	1,689	1,389.1	1,746.9	3,179.5	15,145	4,370.	2,291
Mean	35.1	33.1	34.1	30.1	52.6	54.5	463	564	1,060	489	141.	76.4
Ac-ft	2,160	1,970	2,100	1,850	2,920	3,350	27,550	34,650	63,060	30,040	8,670	4,540

Calendar year 1961: Max 730 Min 26 Mean 123 Ac-ft 89,050

Water year 1961-62: Max 1,380 Min 23 Mean 253 Ac-ft 182,860

Peak discharge (base, 1,120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-6	0300	3.13	1,120	6-10	0200-	3.37	1,330
6-3	0600	3.20	1,180		0500		
				6-22	0100-	3.55	1,500
					0400		

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Jan. 17-21, Jan. 24 to Feb. 12, July 25 to Aug. 29.

WALKER LAKE BASIN

505

10-2970. Topaz Reservoir near Topaz, Calif.

Location.--Lat 38°41'35", long 119°31'10", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.33, T.10 N., R.22 E., at outlet works of Topaz Reservoir, 5 $\frac{1}{2}$ miles north of Topaz.

Records available.--December 1921 to September 1962. Contents for end of the month only for December 1921 to September 1931, published in WSP 1734.

Gage.--Float and staff gages read once daily. Datum of gage is at mean sea level (levels by Walker River Irrigation District).

Extremes.--Maximum contents observed during year, 59,580 acre-ft July 1, 4 (elevation, 5,005.06 ft); minimum observed, 1,810 acre-ft Oct. 29 to Nov. 2.

1921-62: Maximum contents observed, 60,240 acre-ft June 30, 1941, (elevation, 5,005.35 ft); no contents observed Oct. 31, 1924, Sept. 22, 24-30, Oct. 1-15, 1960.

Remarks.--Topaz Reservoir, formerly known as Alkali Lake, was formed by the diversion of water from West Walker River through a feeder canal and the construction of an outlet tunnel through a low saddle in rim of lake. Storage began about December 1921. Usable capacity, 59,440 acre-ft between elevations 4,972.3 ft (lowest practical elevation for diversion through tunnel, bottom of outlet tunnel at elevation 4,970 ft) and 5,005 ft (3 ft below top of levee). Capacity of reservoir increased from about 45,000 acre-ft to 59,440 acre-ft in October 1937 by an earth-fill, rock-faced levee at south end. Figures given herein represent usable contents. Water is used for irrigation in Walker River Irrigation District.

Cooperation.--Elevations furnished by Walker River Irrigation District.

Capacity table, (elevation, in feet, and contents, in acre-feet)

4,973	1,080	4,980	12,130	4,995	38,100
4,974	2,620	4,985	20,390	5,000	48,350
4,977	7,320	4,990	28,970	5,006	61,750

Contents, in acre-feet, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2080	1810	4180	7420	10370	18620	24500	30320	34360	59580	47490	28320
2	2060	1810	4300	7510	10470	18800	24710	29970	35320	59550	46810	27780
3	2060	1880	4430	7610	10560	18950	24880	29720	36560	59550	46180	27280
4	2060	1910	4520	7730	10660	19130	25040	29720	37960	59580	45450	26760
5	2060	1970	4610	7830	10810	19300	25190	30020	38700	59550	44760	26260
6	2080	2030	4710	7930	10930	19550	25400	30640	39090	59480	44090	25760
7	2060	2090	4800	8020	11100	19840	25640	31350	39470	59390	43470	25260
8	2030	2160	4900	8120	11390	20010	25950	31990	39970	59120	42900	24740
9	1970	2230	4960	8230	11890	20240	26310	32620	40570	58940	42280	24210
10	1910	2310	5050	8340	12780	20440	26810	33140	41510	58200	41740	23720
11	1880	2400	5120	8430	13360	20590	27280	33430	42690	57660	41210	23200
12	1840	2480	5180	8510	14050	20750	27750	33450	43800	57110	40650	22660
13	1860	2560	5240	8590	14330	20900	28100	33290	44720	56800	40060	22180
14	1880	2620	5300	8670	14690	21070	28530	33050	45380	56640	39430	21680
15	1860	2700	5400	8750	15120	21240	29150	32870	46010	56410	38800	21250
16	1860	2810	5460	8820	15810	21410	29800	32770	46620	56120	38130	20830
17	1860	2880	5520	8910	16070	21580	30290	32780	47280	55850	37480	20440
18	1860	2990	5590	8990	16390	21740	30570	32730	47960	55540	36790	20110
19	1860	3050	5660	9070	16650	21910	30850	32730	49160	55220	36120	19750
20	1860	3130	5820	9360	16920	22080	31000	32750	50720	54860	35470	19420
21	1860	3270	6120	9460	17100	22250	30940	32730	52340	54370	34860	19080
22	1860	3360	6400	9520	17350	22420	30850	32690	53840	53910	34290	18770
23	1860	3440	6530	9580	17570	22640	30800	32690	55090	53460	33620	18500
24	1860	3520	6630	9630	17800	22810	30910	32750	56280	52930	32960	18270
25	1860	3610	6740	9710	17960	23000	31100	32730	57200	52320	32350	18050
26	1860	3690	6850	9810	18150	23190	31230	32660	57980	51610	31800	17880
27	1880	3770	6940	9890	18300	23390	31210	32640	58570	50890	31190	17750
28	1840	3860	7040	9980	18470	23600	31150	32840	59070	50180	30610	17630
29	1810	3940	7130	10080	-----	23800	31000	33000	59420	49510	30020	17530
30	1810	4050	7230	10180	-----	24030	30520	33180	59510	48820	29440	17420
31	1810	-----	7320	10270	-----	24260	-----	33620	-----	48130	28900	-----
(+)	4,973.48	4,974.92	4,977.00	4,978.85	4,983.85	4,987.28	4,990.88	4,992.61	5,005.03	4,999.90	4,989.96	4,983.22
(#)	-280	+2,240	+3,270	+2,950	+8,200	+5,790	+6,260	+3,100	+25,890	-11,380	-19,230	-11,480

Calendar year 1961. ‡ +660
 Water year 1961-62. ‡ +15,330

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

WALKER LAKE BASIN

10-2975. West Walker River at Hoye Bridge, near Wellington, Nev.

Location.--Lat 38°43'40", long 119°25'40", in NE¹SE¹ sec. 17, T.10 N., R.23 E., on left bank 20 ft upstream from Hoye Bridge, 2 miles upstream from head of Saroni Canal, and 4 miles southwest of Wellington.

Drainage area.--504 sq mi.

Records available.--April to August 1910 (published as West Walker River near Wellington), July 1920 to September 1923, March 1924 to September 1932, October 1957 to September 1962. Monthly discharge only for some periods published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 4,980 ft (from topographic map). April to August 1910 staff gage at same site at different datum. July 1, 1920, to Sept. 30, 1923, water-stage recorder at site 3 miles downstream (1 mile downstream from Saroni Canal) at different datum and supplemental staff gage on Saroni Canal 1 mile downstream from head. Mar. 1, 1924, to Sept. 30, 1932, water-stage recorder at same site at different datum.

Average discharge.--15 years (1920-23, 1925-32, 1957-62), 200 cfs (144,800 acre-ft per year).

Extremes.--Maximum discharge during year, 710 cfs June 13, 14 (gage height, 5.33 ft); minimum 5.5 cfs April 1. 1910, 1920-23, 1924-32, 1957-62: Maximum discharge, 2,180 cfs June 6, 1922; minimum observed, 4.8 cfs Jan. 5, 1961.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by off-channel storage in Topaz Reservoir since Jan. 30, 1922. Diversions for irrigation of about 10,500 acres above station. Records include releases from Topaz Reservoir and all return flow from Antelope Valley.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 8, Apr. 18 to May 20, Aug. 21 to Sept. 30)

1.0	5.0	2.0	47
1.1	7.0	2.5	95
1.2	9.3	3.0	167
1.4	16	4.0	374
1.7	28	5.3	710

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	23	17	15	b 13	b 12	7.6	510	251	636	466	301
2	31	22	17	b 14	b 13	12	23	520	281	614	430	290
3	32	17	17	14	14	b 12	36	512	337	617	379	285
4	30	17	17	b 14	13	9.8	45	512	360	614	397	277
5	* 30	17	17	b 14	13	9.6	46	542	402	611	362	277
6	30	16	* 17	b 14	13	10	47	563	470	592	349	277
7	30	15	17	15	13	9.8	48	576	517	600	314	281
8	30	* 15	17	15	15	9.6	58	576	560	653	305	285
9	30	15	b 17	15	66	9.6	73	579	600	665	314	290
10	30	15	b 16	15	* 67	9.1	77	582	603	680	312	* 285
11	29	15	b 15	b 14	65	8.8	91	* 587	* 622	653	301	281
12	25	15	b 16	b 14	40	8.6	122	579	656	614	301	285
13	26	16	b 16	b 14	* 28	8.3	204	563	686	537	316	285
14	30	17	b 17	b 14	23	8.1	212	550	692	485	353	281
15	31	18	b 17	b* 18	32	7.9	217	492	630	475	351	253
16	31	18	18	b 18	39	7.9	* 249	466	579	473	* 351	235
17	30	17	18	b 19	28	7.7	330	388	524	470	356	227
18	30	17	18	21	22	7.4	* 374	333	490	470	360	212
19	30	17	18	15	19	7.2	402	290	475	468	337	204
20	30	17	18	b 14	17	6.8	406	283	507	* 470	323	204
21	26	17	18	b 12	16	* 6.3	406	279	507	470	305	200
22	26	17	18	b 11	14	6.8	406	269	571	444	319	196
23	27	17	18	b 10	13	b 6.3	425	290	603	466	337	171
24	29	17	18	b 10	13	6.3	456	316	595	512	344	142
25	29	17	18	b 11	b 12	6.1	485	358	555	552	314	131
26	27	18	18	b 11	b 12	5.9	517	346	530	565	312	131
27	24	18	17	b 12	b 11	6.1	534	319	520	568	310	115
28	26	16	b 14	b 12	b 10	5.9	510	296	558	552	305	106
29	24	16	b 14	b 13	--	5.7	490	249	630	532	296	99
30	23	16	b 15	b 13	-----	5.7	494	245	653	510	294	99
31	23	-----	b 15	b 13	-----	5.7	-----	243	-----	482	296	-----
Total	882	508	523	434	654	2490	7790.61	3213	15964	17050	10409	6705
Mean	28.5	16.9	16.9	14.0	23.4	8.03	260	426	532	550	336	224
Ac-ft	1,750	1,010	1,040	861	1,300	494	15,450	26,210	31,660	33,820	20,650	13,300

Calendar year 1961: Max 492 Min 6.5 Mean 98.5 Ac-ft 71,330
Water year 1961-62: Max 692 Min 5.7 Mean 204 Ac-ft 147,500

Peak discharge (base 700 cfs)--June 13 (2215) 710 cfs (5.33 ft).

b Stage-discharge relation affected by ice.

* Discharge measurement made on this day.

HUMBOLDT-CARSON SINK BASIN

507

CARSON RIVER BASIN

10-3045. Silver Creek below Pennsylvania Creek, near Markleeville, Calif.

Location.--Lat 38°36'00", long 119°46'30", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 28, T.9 N., R.20 E., on left bank a quarter of a mile downstream from Pennsylvania Creek, 4 miles upstream from mouth, and $6\frac{1}{2}$ miles south of Markleeville.

Drainage area.--20 sq mi, approximately.

Records available.--October 1946 to September 1962. October and November 1946 monthly discharge only, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 6,500 ft (from topographic map). Prior to Aug. 3, 1954, at site 180 ft upstream at datum 3.20 ft higher. Aug. 3, 1954, to Sept. 16, 1957, at site 30 ft upstream at datum 1.00 ft higher.

Average discharge.--16 years (1946-62), 41.2 cfs (29,830 acre-ft per year).

Extremes.--Maximum discharge during year, 338 cfs May 5 (gage height, 3.42 ft); minimum, 0.6 cfs Nov. 13.

1946-62; Maximum discharge, 1,520 cfs Dec. 23, 1955 (gage height, 6.09 ft, site and datum then in use), from rating curve extended above 450 cfs on basis of slope-area measurement of peak flow; minimum, 0.6 cfs Dec. 5, 1959, Nov. 13, 1961.

Remarks.--Records good except those for periods of no gage-height record Jan. 27 to Mar. 25, which are poor. Flow partly regulated by three small reservoirs (total capacity, about 1,700 acre-ft).

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

0.8	1.2	1.8	28
.9	2.0	2.1	50
1.1	4.4	2.5	95
1.3	8.4	2.8	155
1.5	14	3.1	245

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		3.1	2.9	4.0	2.4	5.5	2.5	8.7	18.1	8.5	1.2	4.1
2		2.9	2.9	3.8	2.5	5.4	2.6	11.4	20.7	8.2	1.1	3.9
3		3.0	2.9	3.8	2.7	5.3	3.1	15.0	18.1	7.7	1.0	3.6
4	2.5	3.0	2.9	3.6	2.9	6.0	3.8	18.4	15.5	7.6	1.0	3.4
5		2.7	3.1	3.6	3.2	7.0	4.5	21.4	16.3	7.3	1.0	3.1
6		2.5	3.3	4.1	4.0	8.0	5.3	22.0	17.3	6.5	9.7	3.0
7		2.6	3.3	4.1	5.0	7.5	6.0	21.4	17.6	5.9	8.9	3.0
8	2.6	2.5	3.3	4.1	1.0	7.5	7.0	21.7	18.4	5.4	8.9	3.6
9	2.4	2.5	3.3	4.1	7.0	7.5	8.0	19.6	21.0	5.0	1.2	4.2
10	2.4	2.5	3.1	3.7	5.0	7.5	7.6	16.0	22.4	4.5	9.2	* 4.1
11	* 2.4	2.4	3.0	* 3.3	2.0	7.0	7.5	13.4	21.7	4.1	8.4	3.3
12	2.4	1.8	3.3	4.0	2.5	6.5	8.7	11.4	20.7	4.1	7.7	2.4
13	2.4	1.5	3.1	3.8	2.5	6.0	10.2	9.2	19.6	3.8	7.1	2.3
14	2.3	2.3	* 3.0	3.7	2.5	6.0	13.4	8.0	15.5	3.7	6.6	1.7
15	2.3	2.3	3.0	3.8	3.0	6.2	14.1	7.0	13.4	3.5	6.4	1.2
16	2.3	2.0	3.0	3.4	2.0	6.2	13.2	6.6	14.8	3.4	6.0	1.1
17	2.3	2.4	2.9	3.4	1.5	6.2	12.8	6.9	16.8	3.2	* 5.8	1.4
18	2.3	2.5	3.0	3.6	1.0	6.2	13.2	7.7	19.6	3.0	5.5	1.9
19	2.2	2.5	3.7	3.5	8.0	6.0	11.6	7.9	20.7	* 3.1	5.3	1.9
20	3.8	2.7	6.9	3.5	7.0	7.0	8.5	7.5	* 20.4	2.8	8.0	1.8
21	8.3	2.6	5.7	3.0	6.0	7.0	8.1	* 7.8	19.6	2.6	1.4	1.8
22	3.7	2.6	4.6	2.0	6.5	7.0	9.5	9.7	18.4	2.4	1.6	1.7
23	3.6	2.6	4.0	2.0	7.0	7.0	12.8	10.4	17.6	2.3	2.1	1.6
24	3.6	2.4	4.4	2.0	6.0	7.0	* 14.4	9.2	16.0	2.1	2.5	1.4
25	3.6	2.5	4.6	2.7	5.4	8.0	12.2	8.8	14.6	1.8	3.9	1.6
26	3.1	2.5	3.8	2.4	5.2	* 9.2	10.5	8.2	13.0	1.8	3.9	1.3
27	3.0	2.5	3.8	2.4	5.4	1.2	10.5	7.5	11.8	1.8	4.0	1.0
28	2.6	2.7	3.6	2.4	5.6	1.5	9.1	8.4	10.7	1.7	4.4	8.7
29	2.7	3.1	3.8	2.4	-----	1.9	7.6	12.2	10.4	1.5	4.4	5.7
30	2.8	2.7	3.8	2.4	-----	1.9	7.4	15.8	9.4	1.4	4.2	4.1
31	2.9	-----	3.8	2.4	-----	2.1	-----	16.5	-----	1.3	4.1	-----
Total	89.5	75.9	111.8	101.0	384.8	261.7	265.7	375.7	510.1	1,220	533.5	672.5
Mean	2.89	2.53	3.61	3.26	13.7	8.44	88.6	121	170	39.4	17.2	22.4
Ac-ft	178	151	222	200	763	519	5,270	4,450	10,120	2,420	1,330	1,330

Calendar year 1961: Max 136 Min 1.5 Mean 20.8 Ac-ft 15,050
 Water year 1961-62: Max 224 Min 1.5 Mean 41.0 Ac-ft 29,680

Peak discharge (base, 190 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-14	1915	3.02	196	6- 2	1830	3.36	313
5- 5	1900	3.42	338	6-19	1700	3.24	265

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-10, Jan. 27 to Mar. 25. Stage-discharge relation affected by ice Dec. 11, Jan. 13-17, 19-24.

CARSON RIVER BASIN

10-3082. East Fork Carson River below Markleeville Creek, near Markleeville, Calif.

Location.--Lat 38°42'50", long 119°45'50", in SW¹/₄NE¹/₄ sec.15, T.10 N., R.20 E., on right bank 0.5 mile downstream from Markleeville Creek and 1½ miles north-northeast of Markleeville.

Drainage area.--299 sq mi.

Records available.--August 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,400 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,250 cfs May 5 (gage height, 3.35 ft); minimum, 16 cfs Nov. 17. 1960-62: Maximum discharge that of May 5, 1962; minimum, that of Nov. 17, 1961.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. A few small diversions for irrigation above station. Flow slightly regulated by several small reservoirs (total capacity, about 5,000 acre-ft).

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

0.5	22	1.2	151
.6	30	1.5	272
.8	56	2.0	572
1.0	94	2.5	1,030
		3.1	1,800

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3 6	4 6	4 6	5 6	6 6	8 8	3 7 2	7 3 9	1,210	5 7 2	1 5 1	9 3
2	3 5	4 5	5 3	5 9	6 6	8 6	3 8 3	9 2 0	1,430	5 3 0	1 4 8	9 1
3	3 5	4 6	4 3	5 9	6 8	8 4	4 2 5	1,160	1,410	5 3 0	1 3 9	9 0
4	3 4	4 8	3 6	4 3	7 0	8 8	5 0 9	1,430	1,100	5 0 9	1 3 9	8 8
5	3 3	4 3	4 6	5 0	7 4	1 0 2	5 8 7	1,700	1,020	4 8 9	1 4 2	8 5
6	3 3	4 0	5 2	6 1	6 8	1 2 9	6 5 5	1,770	1,050	4 5 6	1 3 6	8 2
7	3 2	*4 2	4 2	5 3	8 0	1 0 7	7 3 9	1,650	1,120	4 2 5	1 2 9	8 2
8	3 5	4 3	5 3	4 9	9 0	1 1 0	8 4 0	1,760	1,150	3 9 5	* 1 1 7	9 7
9	3 5	4 2	5 3	4 8	5 6 1	1 1 0	9 6 4	1,610	1,300	3 6 0	1 2 4	9 6
10	3 7	4 1	5 0	4 8	*3 4 2	1 0 2	9 0 0	1,330	1,370	3 3 3	1 3 8	* 9 7
11	* 3 7	4 1	3 7	* 3 5	1 8 0	9 7	8 0 2	1,050	1,310	3 1 7	1 3 0	9 0
12	3 7	3 9	4 6	5 3	*1 3 2	9 2	8 8 0	9 3 1	1,280	3 3 8	1 2 2	7 7
13	3 7	3 2	*4 1	3 7	1 8 8	8 8	1,050	7 6 6	1,240	2 9 7	1 2 0	7 5
14	3 6	3 4	4 9	3 9	1 8 7	9 2	1,220	7 0 5	1,070	2 8 7	1 1 8	7 3
15	3 6	4 1	4 8	4 9	2 1 1	9 7	1,360	6 3 2	9 2 0	2 7 2	1 1 6	6 4
16	3 5	4 2	5 2	4 8	1 4 5	9 7	1,310	6 3 2	9 0 0	2 7 2	1 1 1	6 3
17	3 5	2 7	5 5	5 3	1 2 6	9 4	1,220	5 9 4	9 3 1	2 6 8	1 0 2	6 3
18	3 4	4 6	5 2	7 0	1 1 2	9 9	1,260	6 2 4	1,100	2 4 5	1 0 0	7 0
19	3 4	4 9	5 5	6 1	1 0 4	1 1 2	1,240	6 1 7	1,240	2 4 0	9 8	7 0
20	3 6	4 6	6 4	5 0	1 0 2	1 2 0	9 0 0	5 7 2	*1,260	*2 3 2	1 1 6	6 8
21	6 8	4 5	6 4	4 6	9 2	1 1 2	8 1 1	* 5 3 7	1,210	2 0 7	1 1 3	6 8
22	5 5	5 0	5 6	3 5	9 7	1 1 7	8 8 0	6 4 0	1,190	2 0 7	1 0 7	6 6
23	4 8	4 8	5 0	2 6	9 7	1 1 2	1,110	7 2 2	1,140	2 1 5	1 0 7	6 6
24	4 6	4 5	5 5	3 5	1 0 2	1 2 0	*1,280	6 6 4	9 9 7	2 1 5	1 0 6	6 4
25	4 6	4 5	5 5	4 5	8 8	1 6 9	1,180	6 2 4	9 0 0	1 9 5	1 0 8	7 0
26	4 6	4 8	5 2	6 0	7 0	1 9 1	9 7 5	6 1 7	8 1 1	1 8 3	1 0 7	1 2 0
27	4 8	4 5	4 9	6 8	6 0	* 2 2 7	1,020	6 1 7	7 5 7	1 7 6	1 0 2	8 1
28	4 6	4 0	4 5	6 6	7 5	2 7 7	9 3 1	6 5 5	7 1 3	1 8 3	9 9	7 0
29	4 2	4 6	5 8	6 6	— — —	3 0 7	7 2 2	8 3 0	6 7 2	1 7 3	9 6	6 8
30	4 2	4 3	6 1	6 6	— — —	3 0 7	6 7 2	1,020	6 1 7	1 6 5	9 5	6 8
31	4 5	— — —	6 6	6 6	— — —	3 2 8	— — —	1,130	— — —	1 5 8	9 5	— — —
Total	1,234	1,288	1,584	1,600	3,653	4,261	2,719	2,924	3,241	9,444	3,631	2,355
Mean	39.8	42.9	51.1	51.6	130	137	907	943	1,081	305	117	78.5
Ac-ft	2,450	2,550	3,140	3,170	7,250	8,450	53,940	58,010	64,300	18,730	7,200	4,670

Calendar year 1961: Max 820 Min 27 Mean 157 Ac-ft 113,300
Water year 1961-62: Max 1,770 Min 26 Mean 32.3 Ac-ft 233,860

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-15	2300	2.88	1,570	6- 2	2300	3.13	1,860
5- 5	2400	3.35	2,250				

* Discharge measurement made on this day.

Note.--No gage-height record Aug. 9 to Sept. 9.
Stage-discharge relation affected by ice Dec. 10-16,
Jan. 21 to Feb. 7, Feb. 26-28.

CARSON RIVER BASIN

509

10-3090, East Fork Carson River near Gardnerville, Nev.

Location.--Lat 38°50'50", long 119°42'10", in SW¹/₄NE¹/₄ sec.2, T.11 N., R.20 E., on left bank 2 miles east of Mud Lake Reservoir, 4½ miles downstream from Bryant Creek, and 7 miles southeast of Gardnerville.

Drainage area.--344 sq mi.

Records available.--January 1890 to December 1893, October 1900 to December 1906 (gage heights only August to December 1904 and July to December 1905), January 1908 to December 1910, June to October 1917, December 1924 to September 1928, June to September 1929, October 1935 to December 1937, May 1939 to September 1962. Monthly discharge only for some periods published in WSP 1314.

Gage.--Water-stage recorder. Datum of gage is 4,985.11 ft above mean sea level (levels by Bureau of Reclamation). Prior to May 19, 1939, staff gages at several sites within 2 miles of present site at various datums.

Average discharge.--36 years (1890-93, 1900-1903, 1908-10, 1925-28, 1935-37, 1939-62), 387 cfs (280,200 acre-ft per year).

Extremes.--Maximum discharge during year, 1,860 cfs May 6 (gage height, 3.92 ft); minimum, 17 cfs Jan. 14, result of freezeup. 1890-93, 1900-1906, 1908-10, 1917, 1924-28, 1929, 1935-37, 1939-62: Maximum discharge 17,600 cfs Dec. 23, 1955 (gage height, 11.88 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurements at gage heights 9.66 and 11.88 ft; minimum observed, 8 cfs Dec. 4-10, 19-23, 1904.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Station is above all diversions in Carson Valley. Diversions for irrigation above station. Flow slightly regulated by several small reservoirs (total capacity, about 5,000 acre-ft).

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

0.6	23	1.5	222
.7	35	2.0	430
.9	63	3.0	1,080
1.1	102	4.0	1,940

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4 2	5 1	5 0	6 2	b 7 0	9 4	3 9 8	7 5 1	1 1 4 0	6 1 2	1 5 2	9 8
2	4 0	4 8	5 8	4 7	b 7 0	8 7	4 1 2	9 0 2	1 2 9 0	5 7 0	1 4 9	9 6
3	4 0	4 8	5 1	5 4	b 7 2	7 7	4 5 0	1 0 7 0	1 3 5 0	5 6 4	1 3 8	9 4
4	4 0	5 0	4 2	4 5	b 7 4	8 3	5 3 4	1 2 6 0	1 0 9 0	5 3 4	1 3 3	9 4
5	4 0	4 8	* 4 3	4 5	b 7 9	1 0 2	6 2 4	1 4 6 0	1 0 2 0	5 2 8	1 4 1	8 9
6	4 0	4 4	4 7	6 0	7 2	1 7 1	6 8 6	1 5 6 0	1 0 4 0	4 8 6	1 3 3	8 7
7	3 8	* 4 4	b 4 2	5 6	8 5	1 2 7	7 7 0	1 4 4 0	1 0 9 0	4 4 5	1 2 4	8 5
8	4 2	4 7	b 4 2	5 2	9 4	1 2 4	8 4 6	1 5 1 0	* 1 1 0 0	4 1 6	1 1 7	8 5
9	4 4	4 5	b 4 0	5 1	6 1 6	1 2 7	9 6 5	1 4 5 0	1 2 0 0	* 3 8 4	1 3 5	9 4
10	* 4 4	4 5	b 4 2	5 6	4 8 2	1 1 0	* 9 1 6	* 1 2 6 0	1 2 7 0	3 6 2	1 4 9	* 9 4
11	4 5	4 5	b 3 5	4 2	2 4 7	1 0 4	8 3 2	1 0 4 0	1 2 3 0	3 3 2	1 3 5	8 5
12	4 7	4 3	b 4 2	* 5 2	1 6 1	1 0 0	8 8 1	9 6 5	1 2 1 0	3 4 9	1 2 4	7 4
13	4 5	3 8	b 5 4	4 7	* 1 5 4	9 2	1 0 0 0	8 0 4	1 1 8 0	3 2 7	1 2 4	7 0
14	4 4	3 4	b 5 7	b 2 4	2 5 1	9 6	1 1 4 0	7 5 8	1 0 7 5	3 0 2	1 2 4	6 8
15	4 4	4 7	b 5 5	b 3 5	3 0 2	1 0 4	1 2 5 0	6 7 3	9 6 5	2 8 2	1 2 2	6 2
16	4 2	4 8	b 6 1	b 3 8	1 8 7	1 0 4	1 2 1 0	6 9 9	9 3 7	2 9 4	1 1 7	5 8
17	4 2	b 3 4	b 6 3	b 5 8	1 5 5	1 0 0	1 1 2 0	6 3 6	9 5 8	2 8 2	1 0 7	5 7
18	4 2	b 3 4	4 8	7 4	1 3 8	1 0 4	1 1 4 0	6 7 3	1 0 4 0	2 6 6	1 0 4	6 0
19	4 0	b 4 3	5 4	6 7	1 2 4	1 2 0	1 1 6 0	6 6 6	1 1 5 0	2 4 7	1 0 2	6 2
20	4 0	5 2	6 3	b 5 4	1 1 2	* 1 3 5	9 1 6	6 3 6	1 1 7 0	2 4 4	1 1 2	6 3
21	6 0	b 4 8	7 2	b 3 5	1 0 2	1 2 2	8 0 4	5 8 2	1 1 4 0	2 2 2	1 2 0	6 2
22	7 2	4 7	6 0	b 2 9	1 0 4	1 3 3	8 5 3	6 6 0	1 1 0 0	2 1 5	1 1 2	6 0
23	5 6	5 4	5 4	b 2 3	1 0 7	1 1 0	1 0 2 0	7 9 0	1 0 8 0	2 1 5	1 1 0	5 8
24	5 4	5 0	5 6	b 2 9	1 1 0	1 3 3	1 1 6 0	7 1 8	9 9 3	2 2 6	1 1 0	5 8
25	5 2	5 0	5 7	b 4 8	b 8 3	1 9 0	1 1 2 0	6 9 2	9 2 3	2 0 8	1 1 2	5 8
26	5 2	5 2	5 7	b 6 3	b 7 9	2 2 6	9 5 8	6 8 0	8 5 3	1 9 0	1 1 2	9 8
27	5 2	5 0	4 7	b 6 5	b 6 7	2 5 8	9 7 2	6 6 6	7 9 7	1 8 1	1 0 7	8 3
28	5 4	4 4	4 7	b 7 0	b 7 4	3 2 7	9 3 7	6 9 2	7 5 1	1 9 0	1 0 4	6 5
29	5 0	5 1	4 7	b 7 0	-----	3 5 8	7 7 0	8 3 2	7 1 2	1 8 4	1 0 2	6 2
30	4 7	5 0	5 0	b 7 0	-----	3 4 9	6 9 9	1 0 0 0	6 6 0	* 1 7 1	1 0 0	6 2
31	5 0	-----	5 0	b 7 0	-----	3 4 9	-----	1 0 8 0	-----	1 5 8	-----	-----
Total	1,440	1,384	1,586	1,591	4,271	4,716	26,543	28,605	31,514	9,986	3,729	2,241
Mean	46.5	46.1	51.2	51.3	153	152	885	923	1,050	322	120	74.7
Ac-ft	2,860	2,750	3,150	3,160	8,470	9,350	52,650	56,740	62,510	19,810	7,400	4,440

Calendar year 1961: Max 804 Min 31 Mean 163 Ac-ft 118,200
Water year 1961-62: Max 1,560 Min 23 Mean 322 Ac-ft 233,300

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-16	0100	3.39	1,380	6-10	0230	3.46	1,440
5- 6	0100	3.92	1,860	6-20	0230	3.32	1,320
6- 3	0230	3.63	1,590				

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

CARSON RIVER BASIN

10-3100. West Fork Carson River at Woodfords, Calif.

Location.--Lat 38°46'10", long 119°49'55", in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.34, T.11 N., R.19 E., on left bank 0.3 mile downstream from bridge on State Highways 88 and 89, 0.6 mile southwest of Woodfords, and 3 3/4 miles downstream from Willow Creek.

Drainage area.--66 sq mi, approximately.

Records available.--October 1900 to May 1907, 1910-11 (fragmentary), October 1938 to September 1962. January 1890 to March 1892, June 1907 to September 1920 (except portions of 1910-11) at site 0.7 mile downstream; records not equivalent owing to diversions for irrigation. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 5,760 ft (from river-profile map). Prior to Oct. 1, 1938, staff gage at about the same site at different datum. Oct. 1, 1938, to Nov. 11, 1958, water-stage recorder at site 150 ft upstream at datum 2.04 ft higher.

Average discharge.--31 years (1900-1907, 1938-62), 114 cfs (82,530 acre-ft per year).

Extremes.--Maximum discharge during year, 677 cfs May 4 (gage height, 4.93 ft); minimum daily, 9 cfs Nov. 17, Jan. 22; minimum, about 5 cfs Dec. 28.

1900-1907, 1910-11, 1938-62: Maximum discharge, 4,810 cfs Dec. 23, 1955, (gage height, 8.86 ft), from rating curve extended above 1,000 cfs on basis of slope-area measurements at gage heights 8.35 and 8.86 ft; minimum (1900-1907, 1938-62), that of Dec. 28, 1961

Flood of Dec. 11, 1937, reached a stage of 11.0 ft (present datum), from floodmarks (discharge, 3,500 cfs by slope-area measurement).

Remarks.--Records good except those for periods of ice effect, which are fair. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs (total capacity, about 1,500 acre-ft).

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	17	14	b 13	16	16	37	360	324	103	49	40
2	14	15	16	b 14	17	b 16	39	428	345	98	47	37
3	13	15	15	b 15	17	17	43	478	342	94	46	21
4	12	15	15	14	17	18	51	512	292	90	44	18
5	12	14	* 13	15	17	19	67	537	261	88	40	17
6	12	13	b 13	17	17	19	85	526	261	83	28	17
7	12	* 14	b 12	18	18	b 18	104	502	276	78	25	16
8	13	14	b 11	18	18	18	131	537	* 270	75	29	15
9	14	14	b 11	b 17	29	18	179	488	279	* 72	34	15
10	* 15	13	b 10	b 16	24	18	* 195	* 414	298	69	* 33	* 23
11	20	13	b 10	b 12	22	b 17	208	351	286	65	33	38
12	24	13	15	* 19	* 22	b 17	234	315	270	71	34	39
13	22	11	15	b 14	23	b 17	282	261	255	64	35	38
14	17	13	15	b 16	22	b 18	* 351	249	234	61	52	37
15	13	15	14	b 17	22	b 17	411	243	200	58	53	38
16	12	13	14	b 17	20	17	411	246	184	57	52	36
17	12	b 9	13	b 18	20	17	402	226	195	59	50	21
18	12	b 11	13	17	20	18	405	231	217	67	46	20
19	12	b 13	16	15	19	18	384	231	226	66	38	20
20	13	15	b 19	b 12	19	* 18	300	217	223	75	22	20
21	30	15	b 17	b 11	b 18	18	306	214	211	69	21	19
22	23	15	b 16	b 9	b 17	19	360	243	203	51	21	19
23	10	15	b 15	b 11	18	18	428	270	192	42	25	19
24	17	14	b 13	b 12	b 16	18	481	231	172	41	25	24
25	17	14	b 14	b 14	b 15	21	478	214	151	44	22	36
26	17	16	b 12	b 15	b 14	23	399	200	133	43	18	38
27	18	13	b 13	16	b 14	25	408	203	122	42	31	36
28	18	12	b 11	16	15	29	378	231	115	42	38	34
29	17	12	b 12	17	---	32	289	270	112	39	39	34
30	15	10	b 13	17	---	32	300	303	109	39	41	28
31	15	---	b 14	17	---	34	---	318	---	49	41	---
Total	501	406	424	469	526	620	8,146	10,049	6,764	1,994	1,112	813
Mean	16.2	13.5	13.7	15.1	18.8	20.0	272	324	225	64.3	35.9	27.1
Ac-ft	994	805	841	930	1,040	1,230	16,160	19,930	13,420	3,960	2,210	1,610

Calendar year 1961: Max 182 Min 9 Mean 42.7 Ac-ft 30,950
 Water year 1961-62: Max 537 Min 9 Mean 87.2 Ac-ft 63,130

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-24	2030	4.64	581	5-4	2100	4.93	677

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

PYRAMID AND WINNEMUCCA LAKES BASIN

511

10-3366. Upper Truckee River near Meyers, Calif.

Location.--Lat 38°50'35", long 120°01'25", in SE $\frac{1}{4}$ sec.31, T.12 N., R.18 E., 0.1 mile east of State Highway 89 and 1.1 mile southwest of Meyers.

Drainage area.--33.1 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 6,325 ft (from topographic map).

Extremes.--Maximum discharge during year, 904 cfs May 5 (gage height, 7.71 ft), from rating curve extended above 400 cfs; minimum, 2.7 cfs October 7.
1960-62: Maximum discharge, that of May 5, 1962; minimum, 2.0 cfs Jan. 13, 1961.

Remarks.--No regulation. Some small diversions for domestic use above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	5.2	5.8	7.4	7.5	13	29	142	354	89	19	6.4
2	3.2	5.0	6.3	7.2	7.9	15	30	215	440	84	17	6.3
3	3.1	5.1	5.9	7.4	8.1	16	33	268	381	79	16	6.2
4	2.9	5.1	5.1	6.6	8.6	15	41	389	250	77	16	5.5
5	3.0	4.8	5.2	6.7	8.8	15	53	533	242	74	16	5.4
6	* 3.0	4.8	4.9	6.8	9.3	17	62	420	275	68	15	5.0
7	3.2	4.4	4.7	7.0	9.8	14	76	406	307	63	14	4.9
8	3.8	4.5	5.0	* 6.7	10	13	82	467	318	60	13	4.9
9	4.2	4.8	5.0	6.5	* 30	14	103	411	389	57	15	4.9
10	4.4	* 4.2	5.1	6.2	41	14	106	296	418	55	13	4.8
11	4.3	3.8	5.0	6.1	19	15	95	211	375	51	13	4.8
12	4.3	3.7	5.1	6.3	14	* 14	* 113	185	341	* 58	12	4.5
13	4.1	3.3	5.3	6.5	16	14	146	140	303	52	12	4.6
14	3.8	3.8	5.4	6.4	16	13	192	123	223	47	11	4.8
15	3.9	3.8	5.2	6.2	20	13	215	115	202	44	10	4.7
16	3.9	3.5	5.2	5.9	20	13	192	115	228	42	9.8	4.6
17	4.0	2.9	5.4	6.1	20	13	182	109	250	39	9.3	4.6
18	* 3.5	3.5	5.5	6.3	20	12	187	122	277	39	9.0	4.5
19	3.4	4.1	6.9	6.3	20	12	178	124	294	36	9.1	4.3
20	5.0	4.7	12	6.3	17	13	122	112	266	34	8.8	4.4
21	12	4.4	14	6.3	14	12	113	109	244	32	9.0	4.4
22	6.7	4.6	10	6.3	13	13	145	145	221	30	8.4	4.4
23	5.5	4.8	9.0	6.3	13	13	210	168	196	28	* 7.7	4.3
24	5.2	4.7	8.9	6.5	13	13	243	136	169	26	7.7	4.3
25	4.8	4.8	8.4	6.7	13	14	204	116	153	24	7.4	5.0
26	5.0	5.1	7.7	6.9	13	15	162	103	132	* 23	7.3	6.8
27	5.6	4.8	7.8	7.1	13	18	* 191	103	120	24	6.9	5.6
28	6.3	4.6	7.1	7.0	13	20	164	115	113	23	7.0	5.8
29	5.4	5.0	7.6	7.0	-	23	113	169	105	21	6.8	5.3
30	5.2	5.2	7.0	7.0	-----	23	109	250	97	21	6.5	5.3
31	5.0	-----	7.1	7.3	-----	25	-----	309	-----	20	6.6	-----
Total	141.2	133.0	208.6	205.3	428.0	467	3,891	6,626	7,683	1,420	339.3	151.3
Mean	4.55	4.43	6.73	6.62	15.3	15.1	130	214	256	45.8	10.9	5.04
Max	12	5.2	14	7.4	41	25	243	533	440	89	19	6.8
Min	2.9	2.9	4.7	5.9	7.5	12	29	103	97	20	6.5	4.3
Ac-ft	280	264	414	407	849	926	7,720	13,140	15,240	2,820	673	300

Calendar year 1961: Max 235 Min 2.5 Mean 26.4 Ac-ft 19,120

Water year 1961-62: Max 533 Min 2.9 Mean 59.4 Ac-ft 43,030

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 17, 18, Dec. 6, 7, 9, 11, 22-31, Jan. 2, 4-14, 16, 18-26, Feb. 9, 15-19, 25, 27, Mar. 2-4, 12-15, 22-24.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3366.6. Blackwood Creek near Tahoe City, Calif.

Location.--Lat 39°06'27", long 120°09'37", in NE¼ sec.36, T.15 N., R.16 E., on left bank just downstream from bridge on State Highway 89, 700 ft upstream from Lake Tahoe, and 4.6 miles south of Tahoe City.

Drainage area.--11.4 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 6,235 ft (from topographic map).

Extremes.--Maximum discharge during year, 244 cfs May 8 (gage height, 6.11 ft); minimum daily, 0.9 cfs Oct. 6.
1960-62: Maximum discharge, that of May 8, 1962; minimum, 0.4 cfs Aug. 14, 1961.

Remarks.--No known diversion or regulation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	3.1	3.6	3.8	5.1	13	21	94	133	50	6.5	2.1
2	1.4	3.0	3.2	3.8	5.1	14	* 24	123	147	45	5.9	1.9
3	1.2	2.9	2.5	4.2	5.3	13	29	152	139	41	5.3	1.9
4	1.1	2.8	2.5	4.0	5.3	12	37	178	117	39	4.7	1.7
5	1.0	2.7	2.7	4.0	* 5.5	13	46	183	106	38	4.3	1.7
6	.9	2.5	2.6	4.0	5.6	11	53	176	107	36	4.1	1.5
7	1.1	2.6	2.7	4.5	7.0	11	65	174	108	35	3.7	1.5
8	1.3	2.4	3.1	* 4.9	9.3	11	77	192	110	31	3.4	1.5
9	1.4	2.4	3.1	4.9	20	11	97	199	121	27	4.2	1.5
10	1.5	2.5	3.1	4.9	35	11	90	162	126	22	4.5	1.5
11	1.6	2.7	3.1	4.8	15	11	* 82	127	119	21	3.8	1.5
12	1.6	2.8	3.1	4.7	10	11	87	110	* 117	* 21	3.7	1.5
13	1.7	2.6	3.1	5.0	12	11	103	91	113	19	3.4	1.5
14	1.6	2.7	3.2	5.0	13	10	128	79	91	18	3.5	1.5
15	1.6	2.6	3.2	5.0	20	10	162	71	81	17	3.7	1.3
16	1.5	2.3	3.5	5.0	25	10	143	70	86	17	3.2	1.3
17	* 1.2	2.1	3.4	5.0	20	10	132	67	95	14	3.1	1.3
18	1.2	2.3	3.4	5.0	13	10	138	77	106	14	3.1	1.3
19	1.3	2.4	5.1	5.0	12	10	128	85	111	13	3.4	1.3
20	1.4	3.2	9.1	5.0	11	10	95	80	113	13	3.4	1.3
21	1.4	* 2.3	1.1	5.0	11	10	91	81	105	11	* 2.9	1.3
22	2.9	3.0	6.4	5.0	11	10	104	98	93	9.5	2.7	1.3
23	1.6	3.1	5.1	5.0	11	10	132	103	90	9.1	2.4	1.3
24	1.6	2.9	4.7	5.0	11	10	144	87	82	8.8	2.3	1.3
25	1.7	3.1	4.4	5.0	11	11	122	76	77	8.5	1.9	1.8
26	2.5	3.6	3.7	5.0	11	13	109	70	72	* 7.5	2.1	1.8
27	5.4	3.0	3.5	5.0	11	14	* 124	71	69	6.9	2.1	2.0
28	5.5	2.9	4.0	5.0	11	15	115	94	66	7.5	1.9	2.0
29	3.7	3.6	3.8	5.0	-	18	82	115	61	8.2	1.9	2.0
30	3.2	5.3	3.9	5.0	-----	18	79	129	54	7.5	2.0	2.0
31	3.1	-----	3.8	5.0	-----	19	-----	131	-----	7.0	1.9	-----
Total	84.9	85.4	123.6	147.5	342.2	371	2,839	3,545	3,015	622.5	105.0	47.4
Mean	2.74	2.85	3.99	4.76	12.2	12.0	94.6	114	100	20.1	3.39	1.58
Max	14	5.3	11	5.0	35	19	162	199	147	50	6.5	2.1
Min	0.9	2.1	2.5	3.8	5.1	10	21	67	54	6.9	1.9	1.3
Ac-ft	168	169	245	293	679	736	5,630	7,030	5,980	1,230	208	94
Calendar year 1961:	Max	125	Min	0.9	Mean	19.3	Ac-ft	13,980				
Water year 1961-62:	Max	199	Min	0.9	Mean	31.0	Ac-ft	22,460				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 10-13, Jan. 13 to Mar. 25. No gage-height record Sept. 7-30.

10-3367.8. Trout Creek near Tahoe Valley, Calif.

Location.--Lat 38°55'12", long 119°58'17", in SE $\frac{1}{4}$ sec.3, T.12 N., R.18 E., on left bank 15 ft downstream from Martin Ave. bridge, 500 ft upstream from Heavenly Valley Creek, and 1.8 miles east of Tahoe Valley.

Drainage area.--36.7 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 6,250 ft (from topographic map).

Extremes.--Maximum discharge during year, 90 cfs June 15 (gage height, 7.45 ft); minimum daily, 5.2 cfs Nov. 18. 1960-62: Maximum discharge, that of June 15, 1962; minimum, 2.6 cfs Sept. 11, 1961.

Remarks.--Minor diversion for local water supply.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	9.6	13	10	10	14	21	54	60	53	19	9.5
2	6.5	9.7	12	9.6	10	16	* 22	60	66	49	18	9.2
3	6.7	11	11	9.3	10	17	23	63	69	48	18	8.7
4	6.0	11	11	9.1	10	16	26	68	64	51	18	8.4
5	7.2	10	12	10	10	15	28	70	63	49	17	8.6
6	* 8.4	11	11	11	10	17	31	71	65	46	15	8.2
7	8.5	11	* 11	10	11	14	37	71	70	45	13	5.7
8	9.1	12	11	* 10	13	14	40	76	72	43	12	5.6
9	9.4	11	11	9.9	* 9	14	47	72	78	38	14	8.1
10	9.4	* 11	11	9.6	32	14	46	67	81	39	13	6.6
11	9.3	10	11	10	19	14	44	63	83	36	12	6.1
12	8.7	9.2	11	10	16	14	* 48	61	84	* 43	12	6.4
13	8.8	8.7	11	10	17	* 14	54	55	* 82	39	10	8.0
14	8.9	10	11	10	18	13	61	53	82	36	11	8.4
15	8.8	9.8	11	10	22	12	69	54	87	33	12	8.3
16	8.5	7.9	11	10	22	11	62	53	79	28	10	7.7
17	7.8	9.1	11	10	22	11	58	51	75	28	12	7.5
18	* 8.0	5.2	11	10	22	11	58	53	77	29	12	7.1
19	8.5	8.0	11	10	22	12	58	51	81	26	13	7.1
20	10	9.0	14	10	20	12	49	48	82	25	13	8.0
21	1.5	9.0	13	10	16	11	49	45	80	23	13	8.0
22	1.1	9.0	12	10	14	12	54	46	80	22	* 13	7.7
23	1.1	9.4	12	10	14	13	61	* 50	81	20	13	7.3
24	10	10	12	10	14	13	64	46	79	21	12	7.8
25	10	9.8	11	10	14	13	61	44	77	23	12	12
26	9.7	9.9	11	10	14	13	57	44	73	* 17	11	14
27	10	9.4	12	10	14	16	* 62	47	70	16	11	16
28	1.1	9.5	10	10	14	17	68	48	64	16	11	15
29	9.8	14	10	10	-	18	54	40	58	15	11	19
30	9.3	31	10	10	-----	18	52	55	56	15	10	19
31	9.9	-----	10	10	-----	18	-----	57	-----	16	10	-----
Total	282.3	315.2	350	308.5	450	437	1,464	1,745	2,218	988	401	279.0
Mean	9.11	10.5	11.3	10.0	16.1	14.1	48.8	56.3	73.9	31.9	12.9	9.30
Max	15	31	14	11	32	18	69	76	87	53	19	19
Min	6.0	5.2	10	9.1	10	11	21	44	56	15	10	5.6
Ac-ft	560	625	694	612	893	867	2,900	3,460	4,400	1,960	795	553

Calendar year 1961: Max 34 Min 4.7 Mean 13.8 Ac-ft 9,960

Water year 1961-62: Max 87 Min 5.2 Mean 25.3 Ac-ft 18,320

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 30, 31, Nov. 2, 6, 13, 14, 16-24, 27, 28, Dec. 4-18, Dec. 22 to Mar. 25 (no gage-height record Jan. 23 to Feb. 5, Feb. 14-19).

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3370. Lake Tahoe at Tahoe City, Calif.
(Formerly published as Lake Tahoe at Tahoe, Calif.)

Location.--Lat 39°10'04", long 120°08'23", in NE $\frac{1}{4}$ sec.7, T.15 N., R.17 E., at Tahoe City, on pier 1,000 ft east of dam at lake outlet.

Drainage area.--506 sq mi at lake outlet.

Records available.--April 1900 to September 1962. End of month elevations only for October 1943 to September 1957, published in WSP 1734. Prior to October 1961, published as "at Tahoe".

Gage.--Water-stage recorder. Datum of gage is 6,220.00 ft above mean sea level, datum of Bureau of Reclamation (6,219.01 ft, datum of 1929). Prior to Oct. 1, 1957, staff gages at several sites near outlet of lake at same datum. Oct. 1, 1957, to May 8, 1958, water-stage recorder on left wingwall of dam at outlet of lake at same datum.

Extremes.--Maximum elevation during year, 6,224.93 ft June 28; minimum, 6,222.57 ft Jan. 19.
1900-62: Maximum elevation, 6,231.26 ft July 14, 15, 17, 18, 1907; minimum, 6,221.74 ft Dec. 26, 1934.

Remarks.--Lake levels regulated by a 17-gate concrete dam at outlet of lake; storage began about 1874. Figures given herein represent usable contents. Usable capacity, 744,600 acre-ft between elevations 6,223 ft (natural rim of lake) and 6,229.1 ft (maximum permissible elevation by Federal Court decree). Water is used for domestic and recreational purposes in Lake Tahoe area and for irrigation and power in downstream areas. Lake elevations are referred to Bureau of Reclamation datum because that datum is used as the official reference point by all local, state, and federal agencies. One intermittent transmountain diversion from Echo Lake to South Fork American River for power and irrigation.

Capacity table, (elevation, in feet, and contents, in acre-feet)

6223	0
6224	121,400
6225	243,000

Elevation, in feet, at 2400 , water year October 1961 to September 1962												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.27	2.91	2.79	2.65	2.64	3.49	3.69	4.13	4.60	4.90	4.59	4.07
2	3.27	2.90	2.79	2.65	2.63	3.52	3.71	4.15	4.60	4.88	4.55	4.06
3	3.26	2.89	2.79	2.65	2.64	3.52	3.71	4.16	4.62	4.88	4.53	4.06
4	3.25	2.89	2.79	2.63	2.64	3.56	3.72	4.18	4.63	4.88	4.48	4.05
5	3.25	2.87	2.78	2.63	2.64	3.63	3.72	4.20	4.65	4.86	4.48	4.04
6	3.20	2.87	2.77	2.63	2.63	3.66	3.73	4.24	4.66	4.85	4.41	4.03
7	3.20	2.87	2.76	2.63	2.68	3.66	3.74	4.25	4.67	4.85	4.42	4.02
8	3.15	2.86	2.75	2.63	2.77	3.67	3.74	4.25	4.68	4.85	4.38	4.01
9	3.14	2.86	2.75	2.65	3.04	3.67	3.76	4.27	4.69	4.82	4.41	3.98
10	3.09	2.83	2.74	2.63	3.13	3.68	3.77	4.29	4.70	4.80	4.37	3.93
11	3.09	2.83	2.73	2.63	3.15	3.67	3.79	4.33	4.73	4.80	4.38	3.91
12	3.09	2.82	2.72	2.62	3.15	3.67	3.80	4.33	4.74	4.81	4.35	3.89
13	3.09	2.81	2.71	2.62	3.23	3.67	3.82	4.35	4.74	4.80	4.35	3.87
14	3.08	2.80	2.70	2.61	3.33	3.66	3.83	4.38	4.77	4.80	4.34	3.87
15	3.08	2.79	2.70	2.60	3.48	3.66	3.85	4.40	4.78	4.79	4.33	3.85
16	3.07	2.76	2.70	2.60	3.48	3.65	3.87	4.43	4.78	4.79	4.32	3.85
17	3.07	2.76	2.69	2.59	3.48	3.66	3.89	4.43	4.82	4.79	4.28	3.83
18	3.06	2.75	2.69	2.59	3.48	3.65	3.91	4.43	4.82	4.76	4.28	3.81
19	3.03	2.73	2.68	2.58	3.49	3.63	3.93	4.43	4.84	4.76	4.27	3.76
20	3.08	2.78	2.68	2.60	3.48	3.62	3.94	4.45	4.86	4.75	4.26	3.77
21	3.07	2.76	2.67	2.70	3.48	3.63	3.95	4.45	4.87	4.74	4.24	3.75
22	3.04	2.75	2.67	2.72	3.47	3.69	3.97	4.45	4.88	4.73	4.23	3.75
23	3.04	2.74	2.67	2.72	3.49	3.68	3.99	4.45	4.88	4.72	4.22	3.74
24	3.02	2.73	2.67	2.67	3.49	3.69	3.99	4.47	4.90	4.71	4.21	3.73
25	3.00	2.72	2.67	2.68	3.49	3.69	4.02	4.48	4.89	4.70	4.20	3.75
26	2.99	2.72	2.67	2.65	3.48	3.69	4.03	4.49	4.89	4.70	4.17	3.72
27	2.95	2.71	2.67	2.65	3.45	3.69	4.07	4.52	4.90	4.68	4.15	3.70
28	2.97	2.71	2.66	2.65	3.48	3.69	4.09	4.52	4.90	4.66	4.11	3.67
29	2.94	2.74	2.66	2.64	-----	3.69	4.11	4.55	4.90	4.64	4.11	3.65
30	2.92	2.78	2.66	2.64	-----	3.69	4.12	4.56	4.90	4.62	4.08	3.67
31	2.90	-----	2.66	2.64	-----	3.69	-----	4.58	-----	4.62	4.08	-----
(+)	0	0	0	0	58,280	83,780	136,000	192,000	230,800	196,800	131,200	81,340
(#)	-35,190	0	0	0	+58,280	+25,500	+52,220	+56,000	+38,800	-34,000	-65,600	-49,860

Calendar year 1961. † -104,400

Water year 1961-62. † +46,150

† Contents, in acre-feet, at end of month.

Change in contents, in acre-feet.

✓ Note.--Add 6,220 ft to obtain elevation above Bureau of Reclamation datum.

PYRAMID AND WINNEMUCCA LAKES BASIN

515

10-3375, Truckee River at Tahoe City, Calif.
(Formerly published as Truckee River at Tahoe)

Location.--Lat 39°10'00", long 120°08'40", in NE¹/₄ sec. 7, T.15 N., R.17 E., at Tahoe City, on left bank 510 ft downstream from dam at outlet of Lake Tahoe.

Drainage area.--507 sq mi.

Records available.--July 1895 to February 1896, March 1900 to September 1962. Monthly discharge only for some periods, published in WSP 1314 and 1734. Prior to October 1961, published as "at Tahoe".

Gage.--Water-stage recorder and concrete control. Datum of gage is 6,216.75 ft above mean sea level, datum of 1929. Prior to Nov. 12, 1912, staff gage at site 370 ft upstream at different datum. Nov. 12, 1912, to Sept. 30, 1937, staff gage and Oct. 1, 1937, to Aug. 21, 1957, water-stage recorder, at datum 2.26 ft higher and Aug. 22, 1957, to July 10, 1960, at datum 2.42 ft higher; all at site 270 ft upstream.

Average discharge.--62 years (1900-62), 243 cfs (175,900 acre-ft per year).

Extremes.--Maximum discharge during year, 463 cfs July 20 (gage height, 4.76 ft); no flow Nov. 29 to Feb. 8, Feb. 18 to Mar. 19, 1895-96, 1900-62; Maximum discharge, 1,870 cfs Apr. 5, 6, 1958 (gage height, 7.30 ft, site and datum then in use); maximum gage height, 7.34 ft Apr. 5, 1958, site and datum then in use (backwater from snow in channel); no flow for parts of many years.

Remarks.--Records good except those for periods of ice effect or backwater from beaver dam, which are fair. Flow regulated by Lake Tahoe (operating capacity, 744,600 acre-ft).

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	* 0.4			0	0	*	*		1.17	* 3.80	1.76
2	* 1.1	.3		*	0	0	*			* 1.84	3.70	1.75
3	9.9	.4			0	0				2.39	3.48	1.70
4	9.9	.2			0	0	c 8			2.37	3.31	1.67
5	8.7	.3			0	0				2.39	3.22	1.66
6	7.7	0			0	0			c 2.2	2.63	3.13	1.61
7	7.2	0			0	0				2.75	3.00	1.58
8	6.8	.1			0	0		c 2.5		3.02	2.89	1.52
9	4.0	.2			6	0				3.17	2.89	1.44
10	3.5	.2			1.0	0				3.28	2.85	1.38
11	3.3	0			2	0	c 1.0		2.1	3.50	2.85	1.29
12	3.3	.2			1	0			2.4	3.48	2.77	1.17
13	3.3	.1			2	0			2.4	3.40	2.75	1.13
14	3.3	0			4	0			2.8	3.60	2.67	1.11
15	3.1	0			6	0			2.8	3.58	2.65	1.11
16	* 3.1	0			7	0			2.8	3.58	2.59	1.09
17	2.9	0			2	0	c 7		2.4	3.58	2.53	1.06
18	2.7	0			0	0			2.4	3.58	2.49	1.01
19	2.5	0			0	0			2.4	3.58	2.41	.95
20	2.5	0			0	1.0			2.4	3.83	2.41	.89
21	2.5	.1			0	5.0			2.4	4.25	2.35	.85
22	2.3	.2			0	5.6	c 4		2.4	4.04	2.34	.85
23	2.1	.2			0	5.8		c 2.2	2.4	4.01	2.26	.81
24	2.1	.1			0	5.5			2.4	4.04	2.22	.81
25	1.7	.1			0	5.5			2.4	4.01	2.17	.80
26	1.4	.1			0	5.5			2.0	4.04	2.13	.79
27	1.1	.1			0	4.2	c 3		2.0	4.06	2.04	.72
28	1.3	.1			0	c 1.1			2.9	4.12	1.96	.64
29	1.2	0			-----	c 1.0		*	3.6	4.01	1.86	.64
30	.8	* 0			-----	c 9.5			6.8	3.98	* 1.84	.58
31	.6	-----			-----	c 8.0	-----		-----	3.88	1.79	-----
Total	126.8	3.4	0	0	4.0	419.5	20.2	72.7	195.5	1051.6	813.5	343.7
Mean	4.09	0.11	0	0	1.43	13.5	6.73	2.35	6.52	339	262	115
Ac-ft	252	6.7	0	0	79	832	401	144	388	20,860	16,140	6,820

Calendar year 1961: Max 269 Min 0 Mean 69.1 Ac-ft 50,060
Water year 1961-62: Max 425 Min 0 Mean 63.4 Ac-ft 45,920

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

c Backwater from beaver dam.

Note.--Stage-discharge relation affected by ice Dec. 1 to Mar. 21.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3385, Donner Creek at Donner Lake, near Truckee, Calif.

Location.--Lat 39°19'25", long 120°14'00", in SW 1/4 sec. 17, T.17 N., R.16 E., on left bank 10 ft downstream from bridge on Donner Memorial State Park road, 0.2 mile downstream from Donner Lake outlet, 0.7 mile upstream from Cold Creek, and 2½ miles west of Truckee.

Drainage area.--14.5 sq mi.

Records available.--November 1909 to August 1910, January 1929 to October 1935, January 1936 to March 1938, July to October 1938, January 1939 to February 1943, June 1943 to December 1953, May 1955 to December 1957, October 1958 to September 1962. Monthly discharge only prior to October 1958, published in WSP 1314 and 1734.

Gage.--Water-stage recorder. Altitude of gage is 5,930 ft (from topographic map). Nov. 1, 1909, to Aug. 31, 1910, staff gage at different datum. January 1929 to December 1957, water-stage recorder at same site at unknown datum.

Average discharge.--25 years, (1929-35, 1936-37, 1939-42, 1943-52, 1955-57, 1958-62), 29.2 cfs (21,140 acre-ft per year).

Extremes.--Maximum discharge during year, 234 cfs May 6 (gage height, 3.05 ft); maximum gage height, 4.15 ft Mar. 6 (backwater from ice); no flow Feb. 27 to Mar. 5.

1909-10, 1929-53, 1955-57, 1958-62: Maximum daily discharge, 700 cfs (estimated) Nov. 21, 1950; maximum gage height observed that of Mar. 6, 1962; no flow at times 1960-62.

Remarks.--Records excellent. Flow regulated by dam at outlet of Donner Lake (usable capacity, 9,500 acre-ft).

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

0.88	0	1.4	10
.9	.1	1.7	27
1.0	.6	2.0	53
1.1	1.5	2.5	121
1.2	3.5	3.1	239
1.3	6.3		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	* 4.1	4.3	9.6	* 1.1	0	2.6	* 8.7	12.4	2.1	* 1.0	0.2
2	* 1.5	4.1	5.2	* 9.6	1.1	0	* 2.8	8.4	11.9	* 1.9	1.0	.2
3	1.4	4.1	5.5	9.6	1.2	0	2.8	8.0	11.3	1.9	1.0	.2
4	1.3	3.8	6.3	9.6	1.2	0	3.3	12.6	10.5	1.9	1.0	5.7
5	1.2	4.1	6.7	9.6	1.2	* 0	4.8	19.0	9.0	1.9	1.0	9.2
6	1.1	4.9	6.7	9.3	1.2	8.2	4.8	22.1	6.9	1.9	.7	10.0
7	9.6	4.3	6.7	9.3	1.5	3.3	4.9	21.8	6.0	1.3	.6	10.2
8	8.5	3.5	6.7	9.3	1.9	3.2	5.0	21.4	5.7	1.2	.5	10.2
9	8.2	2.3	6.3	9.3	9.9	3.1	5.0	20.3	5.5	1.2	.4	10.2
10	7.4	2.5	4.9	9.3	3	2.9	4.8	18.1	5.4	1.2	.4	10.2
11	7.0	2.9	4.9	9.3	.2	2.9	4.9	13.0	5.4	2.1	.2	10.2
12	6.7	2.9	5.2	9.3	.2	2.8	5.2	9.0	5.4	1.7	.2	10.2
13	6.3	2.9	5.2	9.3	.2	2.8	5.2	6.0	5.4	8.9	.2	10.0
14	6.0	3.1	4.9	8.9	.2	2.8	5.1	4.7	5.4	8.9	.2	10.2
15	5.5	3.1	4.9	8.9	.2	2.8	5.3	4.7	4.9	8.2	.2	10.7
16	4.9	3.1	4.9	8.9	.2	2.8	5.6	4.6	4.4	5.2	.2	10.4
17	4.1	3.1	4.1	8.5	.2	2.8	7.4	5.2	4.4	2.5	.2	10.0
18	3.5	2.9	3.8	8.5	.2	2.7	12.3	7.4	4.4	2.3	.2	10.2
19	2.9	2.9	4.3	7.5	.2	2.7	14.3	9.0	4.4	1.9	.2	10.0
20	2.1	3.1	6.0	1.2	.2	2.6	13.6	9.3	4.4	1.7	.2	10.0
21	1.4	3.3	9.3	1.4	.2	2.6	12.6	9.2	4.1	1.7	.2	9.9
22	.9	3.3	1.0	1.4	.1	2.6	13.3	8.4	3.2	1.5	.1	9.4
23	1.0	3.3	1.0	1.3	.1	2.6	12.8	9.4	2.8	1.5	.1	8.9
24	.8	2.7	1.0	1.2	.2	2.5	8.7	10.0	2.7	1.5	.1	8.7
25	.6	2.1	1.0	1.2	.1	2.5	7.4	9.6	2.4	1.5	.4	9.3
26	.6	3.1	9.6	1.2	.1	2.5	7.4	8.7	1.7	1.3	.6	9.4
27	2.7	3.5	9.6	1.2	0	2.5	7.7	6.8	1.2	1.2	.4	9.2
28	4.9	3.8	9.6	1.2	0	2.5	10.7	5.4	9.0	1.1	.2	9.0
29	4.6	3.5	1.0	1.2	-----	2.5	13.8	6.6	3.8	1.1	.1	8.7
30	4.1	* 4.6	1.0	1.2	-----	2.6	12.3	* 10.5	2.5	1.0	* .1	7.7
31	4.1	-----	9.6	1.1	-----	2.6	-----	12.8	-----	1.0	.1	-----
Total	189.4	100.9	215.2	321.6	117.0	690.2	226.4	330.7	1,527.3	119.3	12.0	2,578.6
Mean	6.11	3.36	6.94	10.4	4.18	22.3	75.5	107	50.9	3.85	0.39	86.0
Ac-ft	376	200	427	638	232	1,370	4,490	6,560	3,030	237	24	5,110

Calendar year 1961: Max 105 Min 0.1 Mean 19.2 Ac-ft 13,950
 Water year 1961-62: Max 221 Min 0 Mean 31.3 Ac-ft 22,690

* Discharge measurement made on this day.

PYRAMID AND WINNEMUCCA LAKES BASIN

517

10-3394. Martis Creek near Truckee, Calif.

Location.--Lat 39°20'20", long 120°07'00", in SE¹/₄ NW¹/₄ sec. 8, T. 17 N., R. 17 E., on left bank three-quarters of a mile upstream from mouth and 3½ miles northeast of Truckee.

Drainage area.--40.4 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,700 ft (from topographic map).

Extremes.--Maximum discharge during year, 394 cfs Feb. 9 (gage height, 3.59 ft); minimum, 1.5 cfs Aug. 3, 8, but may have been less during periods of ice effect.
1958-62: Maximum discharge, 436 cfs Feb. 8, 1960 (gage height, 3.73 ft); minimum, 1.1 cfs July 19, 20, 1961.

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

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

0.8	0.7	1.3	11
.9	1.7	1.6	26
1.0	3.1	2.0	58
1.1	5.1	2.5	124
		3.0	220

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	4.4	7.0	b 4.0	b 4.0	b 1.0	5.0	4.9	1.4	3.0	2.5	2.0
2	2.6	b 4.2	8.2	b 4.0	b 4.0	b 1.5	5.6	5.1	1.4	2.8	2.2	2.0
3	2.8	4.4	7.3	b 4.4	b 4.0	b 1.3	6.4	5.3	1.3	2.8	2.3	2.0
4	2.5	4.4	5.9	b 4.0	b 4.5	b 1.1	8.0	5.4	1.2	2.8	2.2	2.0
5	2.5	4.2	5.4	b 4.0	b 5.1	1.4	9.0	5.3	1.2	2.8	2.6	2.1
6	2.4	b 4.0	b 4.2	b 4.4	b 5.4	2.0	10.0	5.2	1.1	2.8	2.2	2.1
7	2.5	b 4.2	b 3.8	b 5.4	b 8.6	1.8	11.0	5.0	9.9	2.6	2.1	2.1
8	2.6	4.7	b 3.8	b 5.4	b 1.5	1.8	12.0	5.1	8.9	2.5	1.8	2.1
9	2.8	4.7	b 3.3	b 5.4	18.5	1.1	13.5	4.9	7.9	2.6	3.0	2.2
10	3.0	4.7	b 3.3	b 5.4	12.7	1.0	13.0	4.4	7.9	2.8	2.6	2.2
11	2.8	4.7	b 3.0	b 4.4	4.5	1.0	* 12.4	3.8	7.6	2.8	2.5	2.2
12	3.0	4.2	b 3.0	b 5.1	3.2	8	12.8	3.5	7.3	* 4.9	2.4	2.4
13	3.0	b 4.0	b 3.5	b 3.8	3.7	6	12.5	3.1	7.0	4.2	2.2	* 2.4
14	3.6	b 4.2	b 3.6	b 3.6	5.8	8	13.9	3.6	7.3	3.5	2.1	2.2
15	3.5	b 4.4	b 3.8	b 4.0	6.1	1.2	13.8	3.7	* 8.9	3.1	* 2.1	2.2
16	3.5	b 4.2	b 4.9	*b 4.0	3.9	1.6	11.6	4.1	7.9	3.1	2.0	2.1
17	* 3.5	b 3.6	b 4.9	b 4.7	b 3.4	2.0	10.2	* 3.2	7.6	4.2	2.0	2.1
18	3.3	b 4.0	*b 5.1	b 5.1	b 2.0	2.2	9.7	2.9	7.3	5.1	2.0	2.1
19	3.1	b 4.4	b 6.1	5.6	b 1.7	2.0	9.1	2.6	6.7	3.3	2.1	2.2
20	6.0	b 4.7	b 1.3	b 5.1	b 1.3	2.2	7.5	2.5	6.1	3.1	2.1	2.4
21	6.5	*b 4.4	1.2	b 4.0	b 1.4	1.8	6.8	2.1	5.6	2.8	2.0	2.5
22	4.4	4.9	b 7.0	b 3.5	b 1.4	2.0	6.9	2.0	5.4	2.6	1.8	2.5
23	4.0	5.6	b 5.9	b 3.0	b 1.2	1.6	7.3	1.9	4.9	2.6	2.0	2.5
24	3.8	b 5.6	b 5.6	b 3.0	b 1.3	1.6	7.3	1.9	4.2	2.6	1.8	2.6
25	3.6	7.6	b 5.4	b 3.5	b 1.1	2.0	6.8	1.9	4.2	2.8	2.0	3.0
26	4.0	9.9	b 5.4	b 4.0	*b 1.0	2.4	5.9	1.8	4.0	2.5	1.7	3.3
27	5.4	6.4	b 5.4	b 4.0	b 5.0	3.0	7.5	2.3	3.8	3.0	1.6	3.1
28	6.4	b 4.9	b 4.7	b 4.0	b 6.0	3.5	8.2	2.3	3.3	3.3	1.7	3.1
29	4.4	b 4.7	b 4.2	b 4.0	-----	4.0	5.4	1.8	2.8	2.8	1.8	3.3
30	4.2	5.1	b 4.2	b 4.0	-----	4.5	4.8	1.6	2.8	2.5	2.0	3.1
31	4.2	-----	b 4.0	b 4.0	-----	4.5	-----	1.5	-----	2.6	2.0	-----
Total	11 5.5	14 4.4	16 6.9	13 2.8	8 3.6	59 3	273 9	1,04 7	22 5.3	9 4.9	6 5.9	7 2.1
Mean	3.73	4.81	5.38	4.28	28.7	19.1	91.3	33.8	7.51	3.06	2.13	2.40
Ac-ft	229	286	331	263	1,590	1,180	5,430	2,080	447	188	131	143

Calendar year 1961: Max 32 Min 1.3 Mean 6.49 Ac-ft 4,700
Water year 1961-62: Max 185 Min 1.6 Mean 17.0 Ac-ft 12,300

Peak discharge (base, 170 cfs).--Feb. 9 (1630) 394 cfs (3.59 ft); Apr. 12 (1800) 209 cfs (2.97 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Mar. 5 to Apr. 10.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3397. Prosser Creek at Hobart Mills, Calif.

Location.--Lat 39°24'00", long 120°12'00", in NE¹/₄ sec. 21, T.18 N., R.16 E., on left bank 0.8 mile west of Hobart Mills, 3 miles upstream from Alder Creek, and 5 miles north of Truckee.

Drainage area.--27.4 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,840 ft (from topographic map). *

Extremes.--Maximum discharge during year, 360 cfs Feb. 10 (gage height, 3.15 ft); maximum gage height, 4.82 ft Feb. 22 (backwater from ice); minimum discharge, 3.7 cfs Oct. 5.

1958-62: Maximum discharge, 521 cfs Feb. 8, 1960 (gage height, 3.77 ft); maximum gage height, that of Feb. 22, 1962; minimum discharge, 2.7 cfs Dec. 11, 1959.

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

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 29 to June 23)

0.9	4.0	1.5	35
1.0	7.0	2.0	102
1.1	11	2.5	203
1.3	21	3.0	322

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	8.9	1.3	1.2	1.0	1.0	8.8	17.7	19.4	7.4	1.4	6.6
2	4.0	8.5	1.4	1.2	1.1	1.4	9.7	21.6	20.5	7.2	1.3	6.6
3	4.0	8.1	1.2	1.1	1.1	1.4	10.7	24.4	20.1	6.7	1.2	6.3
4	4.2	8.1	1.2	1.1	1.1	1.0	13.0	27.8	16.6	6.7	1.2	6.3
5	4.5	8.1	1.1	1.0	1.0	1.2	15.6	28.7	15.2	6.7	1.2	6.3
6	4.5	7.8	1.1	1.0	1.0	1.4	17.3	26.8	15.6	6.5	1.2	6.6
7	4.5	8.1	1.0	9	1.4	1.4	19.6	26.6	16.0	5.8	1.1	6.3
8	4.5	8.5	1.0	9	2.0	1.2	22.1	28.0	16.0	5.4	1.1	6.3
9	4.5	8.9	8	9	4.0	1.2	24.4	27.3	17.3	5.2	1.3	6.3
10	4.7	9.3	6	9	14.8	1.1	23.7	21.6	17.9	4.6	1.2	6.6
11	5.2	1.0	5	9	8.6	1.0	22.5	18.1	16.2	4.3	1.1	6.6
12	6.6	9.2	6	8	4.6	8	22.7	16.0	15.6	5.3	9.7	* 6.3
13	6.6	8.0	8	8	3.7	8	25.1	13.9	14.7	4.6	8.9	6.6
14	6.3	7.5	1.0	1.0	3.5	9	28.5	13.0	* 13.5	4.1	8.5	5.2
15	5.9	7.0	1.1	1.2	3.5	1.0	31.0	11.8	11.5	3.7	* 8.1	5.6
16	5.6	6.4	1.0	1.2	3.1	1.2	* 28.3	13.5	13.9	3.4	7.8	5.2
17	6.6	6.0	9.3	* 1.4	3.1	1.4	27.3	* 12.0	15.2	3.2	7.4	5.2
18	5.9	6.4	9.7	1.5	3.1	1.4	27.3	13.5	16.0	* 3.4	6.6	5.2
19	* 5.2	7.2	1.1	1.3	2.8	1.3	26.8	14.3	16.4	3.0	6.6	5.0
20	1.6	7.8	* 2.6	1.1	2.7	1.0	22.1	12.8	15.4	2.7	7.4	5.0
21	3.2	8.4	2.5	1.0	2.7	1.0	21.0	12.6	14.7	2.6	7.8	5.0
22	1.1	* 8.5	2.4	9	2.3	9	23.0	15.2	14.1	2.4	6.6	5.2
23	8.9	8.9	2.2	8	2.3	8	26.3	17.3	13.3	2.2	6.3	5.0
24	7.4	8.9	2.0	5	2.1	9	27.3	14.5	11.6	2.1	5.9	5.0
25	7.0	9.7	1.8	5	1.6	1.0	24.9	12.2	10.6	1.9	6.3	5.9
26	9.9	1.3	1.6	6	1.0	2.0	22.3	11.3	9.7	2.0	6.3	7.4
27	1.7	1.1	1.5	7	5	2.8	24.4	11.3	8.9	2.4	5.9	6.3
28	1.9	9.7	1.4	7	6	* 3.9	21.4	15.2	8.8	2.0	5.6	6.3
29	1.1	1.0	1.4	8	-----	5.4	15.6	19.0	8.6	1.7	5.6	6.6
30	9.3	1.1	1.3	8	-----	6.6	15.6	19.2	8.2	1.6	5.9	6.3
31	8.9	-----	1.3	9	-----	7.7	-----	19.0	-----	1.6	5.9	-----
Total	344.0	258.9	407.0	296	80.3	56.1	6,483	5,562	4,315	1,224	272.1	179.1
Mean	11.1	8.63	13.1	9.55	28.7	18.1	216	179	144	39.5	8.78	5.97
Ac-ft	628	514	807	587	1,590	1,110	12,860	11,030	8,560	2,430	540	355

Calendar year 1961: Max 170 Min 3.0 Mean 35.1 Ac-ft 25,370
Water year 1961-62: Max 310 Min 4.0 Mean 56.7 Ac-ft 41,060

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1700	3.15	360	5-22	2330	2.62	203
4-15	2030	3.19	352	6-2	2000	2.82	249
5-4	2100	3.19	340				

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 5-21, Mar. 23-27, Aug. 16 to Sept. 13. Stage-discharge relation affected by ice Dec. 4-14, Dec. 20 to Feb. 9, Feb. 22 to Mar. 22.

PYRAMID AND WINNEMUCCA LAKES BASIN

519

10-3399. Alder Creek near Truckee, Calif.

Location.--Lat 39°22'10", long 120°10'50", in SE $\frac{1}{4}$ sec. 34, T.18 N., R.16 E., on right bank 2 miles upstream from mouth and $2\frac{1}{2}$ miles north of Truckee.

Drainage area.--7.36 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,800 ft (from topographic map).

Extremes.--Maximum discharge during year, 77 cfs Apr. 9 (gage height, 3.19 ft); minimum daily, 0.1 cfs Oct. 1 to Oct. 9, Aug. 27, 28.

1958-62: Maximum discharge, that of Apr. 9, 1962; no flow for some periods in most years.

Remarks.--Records good, except those for periods of ice effect, which are fair. No upstream diversions or regulation.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 9 to Sept. 30)

1.7	0.1	2.2	5.7
1.8	.5	2.4	12
1.9	1.1	2.6	22
2.0	2.1	2.9	45
2.1	3.6	3.2	80

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.9	0.9	1.0	1.0	2.7	3.6	4.1	1.2	2.0	0.9	0.3
2	.1	b .8	1.0	b .9	1.0	3.2	4.1	4.3	1.1	1.9	.9	.3
3	.1	.9	b .9	.9	1.1	2.8	4.6	4.4	1.1	1.8	.9	.4
4	.1	.8	b .8	b .9	1.3	2.1	5.1	4.4	1.1	1.8	1.0	.4
5	.1	b .7	b .8	b .9	1.4	2.1	6.1	4.4	9.9	1.6	.9	.5
6	.1	b .7	b .9	.9	1.6	4.0	5.7	4.3	9.2	1.6	.9	.6
7	.1	b .6	b .9	.9	1.8	3.8	6.3	4.2	8.2	1.6	.8	.5
8	.1	b .6	1.0	1.0	1.9	3.8	6.1	4.1	7.7	1.6	.8	.5
9	.1	b .6	b .8	b 1.1	b 9.6	4.0	6.0	4.0	7.1	1.5	1.1	.6
10	.2	.6	b .7	b 1.1	6.3	3.8	6.0	3.7	6.8	1.4	.8	.5
11	.2	.6	b .4	b .8	6.3	3.4	5.6	3.2	6.0	1.4	.7	.6
12	.3	b .6	b .5	b 1.0	* 6.3	3.2	5.9	2.9	6.3	1.9	.6	.6
13	.3	b .4	b .7	b .8	7.9	3.0	* 6.2	2.7	6.0	2.1	.6	* .6
14	.2	b .4	b .7	b .6	1.1	2.8	6.6	2.4	* 5.5	1.8	* .5	.6
15	.3	b .4	.8	b .7	1.1	2.7	7.2	2.3	5.5	1.7	.4	.6
16	.3	b .4	.7	*b .9	8.9	2.7	6.7	2.1	5.1	1.6	.4	.5
17	* .3	b .2	.7	b .9	7.4	2.6	6.1	2.1	4.9	1.5	.4	.4
18	.2	b .4	* .7	b 1.0	6.3	2.6	5.9	* 2.0	4.4	1.7	.4	.4
19	.2	.4	.8	b 1.1	5.3	2.8	5.5	1.8	4.2	1.5	.4	.4
20	1.5	b .5	1.6	b 2.7	4.6	3.4	4.8	1.6	3.8	1.3	.4	.5
21	3.3	*b .6	2.8	b 1.9	b 4.9	4.0	4.4	1.5	3.4	1.3	.4	.6
22	1.1	.6	b 2.0	b .8	b 3.6	4.6	4.6	1.5	3.3	1.2	.4	.5
23	.9	.7	b 1.6	b .6	b 2.2	4.6	5.1	1.4	3.2	1.1	.3	.6
24	.7	.6	b 1.4	b .7	b 2.1	5.1	* 5.3	1.4	3.2	1.1	.2	.5
25	.6	.7	b 1.4	b .7	b 2.0	6.3	5.3	* 1.3	2.8	1.0	.2	.8
26	.7	.9	b 1.1	b .8	b 1.8	8.5	4.9	1.3	2.7	* 1.1	.2	1.8
27	1.2	.8	b 1.0	.9	b 1.5	1.2	4.9	1.4	2.6	1.4	.1	1.0
28	1.6	b .7	b 1.0	1.0	b 1.8	1.7	5.0	1.3	2.4	1.2	.1	1.0
29	1.0	b .6	b .9	.9	-----	2.1	4.5	1.3	2.2	1.1	.2	1.0
30	.8	b .6	b .9	.9	-----	2.5	4.3	1.2	2.0	1.0	.2	.9
31	b .7	-----	b .8	.9	-----	2.9	-----	1.2	-----	1.0	.2	-----
Total	17.5	18.3	31.2	30.2	121.9	198.6	162.4	79.8	173.4	45.8	16.3	18.5
Mean	0.56	0.61	1.01	0.97	4.35	6.41	54.1	25.7	5.78	1.48	0.53	0.62
Ac-ft	35	36	62	60	242	394	3,220	1,580	344	91	32	37

Calendar year 1961: Max 21 Min 0 Mean 2.47 Ac-ft 1,780
Water year 1961-62: Max 72 Min 0.1 Mean 8.48 Ac-ft 6,130

Peak discharge (base, 25 cfs).--Feb. 9 (1330) 33 cfs (2.76 ft); Apr. 9 (2030) 77 cfs (3.19 ft).

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

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3405, Prosser Creek near Boca, Calif.

Location.--Lat 39°22'10", long 120°07'10", in SW 1/4 sec. 32, T.18 N., R.17 E., on left bank a quarter of a mile upstream from mouth and 2 miles southwest of Boca.

Drainage area.--53.5 sq mi.

Records available.--October 1902 to June 1903 (gage heights only), October 1942 to December 1950, June 1951 to September 1962. Records for April 1889 to November 1890, published in the 11th and 12th Annual Reports, Pt. 2, have been found to be unreliable and should not be used. Monthly discharge only for October 1942 to December 1950, published in WSP 1734.

Gage.--Water-stage recorder. Datum of gage is 5,572.66 ft above mean sea level (levels by Bureau of Reclamation). April 1889 to November 1890 and October 1902 to June 1903, staff gages at same site at different datums. October 1942 to December 1950, water-stage recorder at approximately same site at different datum. June 1951 to September 1956, water-stage recorder at present site at datum 2.00 ft higher.

Average discharge.--19 years (1942-50, 1951-62), 76.8 cfs (55,600 acre-ft per year).

Extremes.--Maximum discharge during year, 640 cfs Apr. 15 (gage height, 4.22 ft); maximum gage height, 6.06 ft Mar. 5 (backwater from ice); minimum discharge, 3.6 cfs Aug. 18, result of work on dam upstream.

1942-62: Maximum discharge, 4,560 cfs Dec. 23, 1955, (gage height, 10.13 ft, present datum), from rating curve extended above 910 cfs on basis of slope-area measurement of peak flow; maximum gage height, 11.0 ft, from floodmarks, (present datum) Nov. 20, 1950 (discharge, 4,320 cfs by slope-area measurement); minimum discharge, 0.4 cfs July 18, 1961, result of work on dam upstream.

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

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 29 to June 1)

1.2	3.8	1.7	33	3.0	235
1.3	7.0	2.0	64	3.5	385
1.5	18	2.5	137		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.1	1.1	1.3	2.1	a 2.2	2.1	14.7	22.1	19.3	7.6	1.4	6.7
2	5.1	1.1	1.7	2.2	a 2.3	2.5	16.8	25.5	20.2	7.2	1.3	6.7
3	5.1	1.0	1.5	2.2	a 2.4	2.3	18.5	29.7	21.7	6.8	1.2	6.4
4	5.1	1.0	1.2	2.2	a 2.4	2.2	21.9	35.7	17.8	6.5	1.0	6.4
5	5.1	1.0	1.2	2.1	a 2.4	2.3	25.5	38.8	15.8	6.5	1.2	6.7
6	5.1	9.5	1.2	2.1	a 2.4	2.7	28.2	35.7	15.8	6.2	1.2	*6.7
7	5.1	1.0	1.1	2.1	a 2.4	2.6	33.7	32.4	16.7	5.7	1.1	6.4
8	5.4	1.0	1.0	2.1	2.0	2.4	38.5	34.4	15.8	5.2	1.0	6.4
9	5.7	1.0	1.0	2.1	6.0	2.3	46.1	34.7	17.0	4.9	1.4	6.4
10	5.7	1.0	9	2.0	26.0	2.2	43.1	28.8	18.0	4.4	1.3	6.7
11	6.0	1.0	8	2.0	16.0	2.1	38.9	21.2	16.8	4.2	1.1	6.4
12	6.7	9.5	9	2.0	12.5	2.0	41.9	19.1	15.8	5.1	1.0	6.0
13	6.7	8.5	1.1	1.8	12.5	1.8	44.8	16.5	15.8	4.8	9.0	6.4
14	6.4	8.5	1.3	1.6	13.0	2.0	50.6	15.9	14.2	4.2	*8.0	6.4
15	6.4	1.0	1.3	1.5	13.4	2.5	58.0	14.2	*12.1	3.8	7.5	6.4
16	6.0	9.0	1.2	1.6	9.0	2.7	49.6	16.5	13.7	3.5	7.5	6.4
17	6.0	1.1	1.2	1.8	6.0	2.9	*43.1	*14.7	15.1	*3.4	7.0	6.0
18	*7.5	1.2	1.2	*1.9	4.5	2.9	41.5	14.9	15.6	3.4	6.4	6.0
19	6.4	1.2	1.6	1.9	3.5	3.1	40.4	15.2	16.1	3.0	6.4	5.7
20	8.5	1.2	*2.9	1.9	2.9	3.3	29.4	14.0	15.2	2.7	7.0	6.0
21	3.9	1.1	2.5	1.7	2.6	3.3	26.3	13.1	14.6	2.4	8.0	6.4
22	1.7	1.2	2.2	1.5	2.5	3.1	28.8	14.6	13.7	2.2	6.7	6.4
23	1.2	1.3	2.1	1.3	2.4	3.9	33.7	17.2	13.2	2.2	6.4	6.4
24	1.0	*1.3	1.8	1.2	2.2	3.8	36.8	15.2	12.0	2.0	6.0	6.4
25	8.5	1.3	1.7	1.4	2.1	4.2	32.4	12.7	10.9	1.9	6.0	6.4
26	1.0	1.6	1.6	a 1.6	1.9	4.9	28.2	12.0	10.0	1.9	6.4	9.5
27	1.7	1.5	1.6	a 1.8	*1.7	6.3	31.5	11.6	9.2	2.3	6.0	8.5
28	2.4	1.2	1.7	a 2.0	1.7	7.4	30.3	13.5	8.7	2.1	5.7	8.0
29	1.5	1.2	2.0	a 2.0	-----	9.1	21.2	17.4	8.5	1.8	5.7	8.5
30	1.2	1.2	2.0	a 2.1	-----	10.8	19.5	19.5	8.4	1.6	6.0	8.0
31	1.1	-----	2.1	a 2.1	-----	12.9	-----	19.1	-----	1.6	6.4	-----
Total	294.6	333.0	46.9	57.9	160.9	118.6	1013.9	646.0	437.7	121.1	270.1	201.7
Mean	9.50	11.1	15.1	18.7	57.5	38.3	338	208	146	39.1	8.71	6.72
Ac-ft	584	660	930	1,150	3,190	2,350	20,110	12,810	8,680	2,400	536	400

Calendar year 1961: Max 176 Min 2.7 Mean 38.4 Ac-ft 27,820
Water year 1961-62: Max 580 Min 5.1 Mean 74.3 Ac-ft 53,800

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-15	0200	4.22	640	5- 5	0200	3.85	461
4-27	2400	3.78	431				

* Discharge measurement made on this day.

a No gage-height record.

Note.--Stage-discharge relation affected by ice Nov. 13, 14, 16-19, 21, 22, Dec. 6 to Jan. 25, Feb. 8 to Mar. 16.

PYRAMID AND WINNEMUCCA LAKES BASIN

521

10-3420, Little Truckee River near Hobart Mills, Calif.

Location.--Lat 39°30'05", long 120°16'35", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.14, T.19 N., R.15 E., on right bank half a mile upstream from Independence Creek, and $7\frac{1}{2}$ miles northwest of Hobart Mills.

Drainage area.--36.6 sq mi.

Records available.--December 1946 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 6,290 ft (from topographic map).

Average discharge.--15 years (1947-62), 83.2 cfs (60,230 acre-ft per year).

Extremes.--Maximum discharge during year, 592 cfs May 8 (gage height, 3.78 ft); minimum, 1.8 cfs Sept. 11, but may have been less during September period of no gage-height record.

1946-62: Maximum discharge, 7,010 cfs Nov. 20, 1950 (gage height, 7.53 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; minimum, 1.1 cfs Aug. 19, 20, 23, 24, 1949.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. One transmountain diversion to Sierra Valley above station.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 10 to Sept. 12)

0.7	1.3	1.5	46
.8	2.8	2.0	107
.9	5.0	2.5	197
1.0	8.2	3.0	320
1.2	19	3.5	480
		4.0	700

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	5.6	5.3	b 5.0	8.0	7.0	2.5	22.4	29.9	4.9	3.2	3.0
2	2.8	5.6	5.9	b 5.3	1.0	1.0	2.7	28.1	31.7	4.0	3.2	2.8
3	2.8	5.6	5.6	b 5.6	1.0	1.2	3.1	34.7	32.5	3.2	3.2	2.8
4	2.8	5.6	b 5.3	b 5.3	1.2	8.0	3.5	43.0	27.6	2.5	3.2	2.6
5	3.0	5.6	b 5.3	b 5.0	1.5	1.0	4.1	48.8	23.6	2.0	3.0	2.4
6	3.0	4.7	b 5.0	b 5.3	1.8	1.3	5.0	46.0	23.3	1.5	2.8	2.2
7	3.0	4.7	b 5.0	b 5.6	2.0	1.2	6.2	42.6	24.1	1.2	2.8	2.2
8	3.2	5.0	b 4.7	b 5.9	3.0	1.2	7.4	50.4	24.6	1.0	2.8	2.4
9	3.2	5.0	b 4.4	b 6.2	4.0	9.0	10.0	50.8	26.6	1.0	3.0	2.4
10	3.2	5.0	b 4.0	b 6.0	5.0	8.0	11.0	41.2	28.1	9.0	2.6	2.2
11	3.6	4.7	b 3.0	5.6	4.5	8.0	* 11.0	31.5	25.3	5.6	2.8	2.0
12	3.6	4.7	b 3.0	6.0	4.0	b 7.0	11.9	27.3	23.3	* 6.5	2.8	* 2.0
13	3.6	4.4	b 3.4	4.0	4.6	b 6.0	13.7	20.1	21.5	5.9	2.8	2.0
14	3.6	4.4	b 3.4	3.4	5.0	b 7.0	17.2	19.1	* 18.9	5.6	2.8	2.0
15	3.6	4.4	b 3.7	3.7	4.0	b 8.0	24.8	16.5	16.3	5.3	2.8	2.0
16	4.0	4.2	b 3.7	3.6	3.4	1.2	27.3	17.6	17.2	5.6	* 2.6	2.0
17	5.0	b 3.6	b 4.2	3.6	2.0	* 1.2	27.8	16.3	18.9	5.9	2.6	2.0
18	5.0	b 3.8	4.4	* b 5.3	1.5	b 1.1	28.9	* 18.4	19.5	5.6	2.4	2.0
19	* 5.0	b 4.0	6.5	b 7.1	1.2	b 1.1	30.2	20.8	21.0	5.3	2.4	2.0
20	9.1	b 4.7	* 1.0	b 5.4	1.3	1.2	24.6	18.0	19.7	5.0	2.6	2.0
21	1.4	4.7	1.2	b 4.0	1.2	b 1.1	23.1	17.4	18.2	5.0	2.6	2.0
22	8.2	* 4.7	1.1	3.0	1.0	1.2	25.8	20.8	16.8	5.0	2.4	2.0
23	6.5	4.7	b 9.0	2.5	1.0	b 1.2	31.7	24.3	15.3	5.0	2.4	2.0
24	6.2	4.4	b 8.2	2.5	1.1	b 1.4	36.1	19.9	13.4	5.3	2.6	2.0
25	5.6	5.0	b 8.2	3.0	7.0	1.5	34.7	16.5	12.0	5.0	2.6	3.0
26	6.8	5.9	b 6.5	4.0	4.0	1.5	29.7	15.5	9.9	4.7	2.6	5.0
27	9.4	5.6	b 6.2	5.3	2.0	1.6	31.5	16.1	8.5	4.7	2.8	4.0
28	1.1	5.0	b 6.0	5.5	3.0	1.8	26.3	19.7	7.6	4.4	2.8	3.0
29	7.8	5.6	b 6.0	5.5	---	1.8	20.8	25.6	6.9	4.2	2.8	4.0
30	5.9	7.4	b 6.0	5.5	---	2.1	19.9	29.1	5.9	4.0	3.0	3.0
31	5.9	---	b 6.0	6.0	---	2.2	---	29.7	---	3.8	3.0	---
Total	163.2	148.3	180.9	149.7	587.0	369.0	552.5	8,482	5,881	329.4	86.0	75.0
Mean	5.26	4.94	5.84	4.83	21.0	11.9	184	274	196	10.6	2.77	2.50
Ac-ft	324	294	359	297	1,160	732	10,960	16,820	11,660	653	171	149

Calendar year 1961: Max 243 Min 1.8 Mean 30.3 Ac-ft 21,940

Water year 1961-62: Max 508 Min 2.0 Mean 60.2 Ac-ft 43,580

Peak discharge (base, 500 cfs)--May 8 (2300) 592 cfs (3.78 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Jan. 11-17, Jan. 22 to Mar. 11, Sept. 13-30.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3435, Sagehen Creek near Truckee, Calif.

Location.--Lat 39°25'50", long 120°14'10", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.7, T.18 N., R.16 E., on left bank 2.2 miles upstream from bridge on Stage Highway 89 and 7.5 miles north of Truckee.

Drainage area.--10.8 sq mi.

Records available.--October 1953 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,320 ft (from topographic map). Prior to Dec. 2, 1953, staff gage at site 100 ft upstream at different datum.

Average discharge.--9 years, 9.68 cfs (7,010 acre-ft per year).

Extremes.--Maximum discharge during year, 73 cfs Apr. 23 (gage height, 2.87 ft); minimum, 0.8 cfs Sept. 22, result of temporary regulation.

1953-62: Maximum discharge, 495 cfs Dec. 23, 1955 (gage height, 4.28 ft), from rating curve extended above 70 cfs on basis of slope-area measurement of peak flow; minimum, 0.6 cfs Aug. 8, 1960, Aug. 7, 1961, result of temporary regulation.

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

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.4	0.9	1.9	9.5
1.5	1.8	2.1	17
1.6	2.9	2.4	34
1.7	4.5	2.7	56

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	2.2	2.3	2.0	1.9	2.0	6.8	4.2	2.0	5.6	2.3	1.6
2	1.4	1.9	2.2	2.0	2.0	2.2	7.1	4.4	2.1	5.1	2.2	1.5
3	1.4	1.9	2.2	2.0	2.0	2.2	8.1	4.6	2.0	4.9	2.1	1.5
4	1.4	1.7	2.1	b 1.8	2.0	1.8	1.0	4.8	1.8	4.7	2.2	1.6
5	1.4	1.8	2.1	b 1.7	2.1	2.0	1.2	5.0	1.8	4.3	2.2	1.6
6	1.4	1.9	b 1.9	2.0	2.2	2.5	1.3	4.7	1.7	4.1	2.1	1.6
7	1.6	1.9	b 1.9	2.1	4.0	2.3	1.6	4.8	1.6	3.9	2.1	1.5
8	1.6	1.9	b 1.9	2.1	5.0	2.2	2.0	5.2	1.6	3.8	2.1	1.5
9	1.6	1.9	b 1.8	2.1	7.0	2.0	2.2	4.5	1.6	3.6	2.4	1.5
10	1.7	1.9	b 1.8	2.0	8.0	1.9	2.1	4.0	1.6	3.4	2.2	1.5
11	1.8	1.9	1.5	b 1.6	7.0	1.9	2.2	3.5	1.6	* 3.4	2.0	1.5
12	1.8	1.9	1.5	2.1	4.0	1.8	2.6	3.0	1.4	* 4.9	2.0	* 1.6
13	1.7	1.8	1.8	b 1.6	4.0	1.7	2.8	2.5	1.4	3.9	2.0	1.6
14	1.7	1.8	1.8	1.3	4.2	1.8	3.6	2.6	* 1.3	3.4	1.9	1.7
15	1.6	1.9	1.8	1.4	4.3	1.9	4.3	2.8	1.3	3.2	1.9	1.7
16	1.6	1.8	1.8	1.4	3.0	2.3	4.3	3.2	1.2	3.2	* 1.9	1.7
17	* 1.6	b 1.6	1.9	* b 1.6	2.5	2.4	4.4	* 2.4	1.1	3.8	1.9	1.6
18	1.6	1.8	2.0	2.0	2.2	2.5	4.4	* 2.6	1.1	3.9	1.9	1.6
19	1.6	1.9	* 2.3	2.0	2.3	2.5	4.2	2.3	1.1	3.3	1.9	1.6
20	3.1	2.0	2.8	b 2.0	2.3	2.3	3.7	2.1	1.1	3.0	2.0	1.7
21	3.1	1.9	3.6	b 1.9	2.3	2.2	3.9	2.1	1.1	2.9	2.0	1.7
22	2.0	* 2.0	2.4	1.7	2.0	2.2	4.6	2.2	1.0	2.8	1.9	1.7
23	1.9	2.0	2.3	1.5	2.0	2.0	5.3	2.3	9.5	2.6	1.9	1.7
24	1.8	2.0	2.2	1.5	2.2	3.5	* 5.5	2.0	8.7	2.8	1.8	1.6
25	1.8	2.2	2.2	1.6	2.0	3.5	4.9	1.8	7.8	2.8	1.6	1.7
26	2.4	2.4	2.1	1.7	1.7	4.0	4.5	1.8	7.3	2.6	1.6	1.9
27	2.8	2.2	2.1	1.8	1.5	4.4	5.1	1.8	6.8	2.6	1.6	1.8
28	2.6	2.1	2.1	1.9	1.6	* 4.7	4.5	2.0	6.3	2.6	1.6	1.9
29	2.3	2.1	b 1.9	1.9	--	4.9	4.0	2.0	6.1	2.5	1.6	1.8
30	2.0	2.2	b 1.7	1.9	--	5.4	3.7	2.0	5.8	2.4	1.6	1.7
31	2.5	--	b 1.7	1.9	--	5.8	--	2.0	--	2.4	1.6	--
Total	58.2	58.5	63.1	56.1	87.3	84.8	961.0	95.2	383.3	108.4	60.1	49.2
Mean	1.88	1.95	2.04	1.81	3.12	2.74	32.0	30.7	12.8	3.50	1.94	1.64
Ac-ft	115	116	125	111	173	168	1,910	1,890	760	215	119	98

Calendar year 1961: Max 16 Min 1.1 Mean 3.73 Ac-ft 2,700
 Water year 1961-62: Max 55 Min 1.3 Mean 8.01 Ac-ft 5,800

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-15	1730	2.71	57	about	unknown	2.87	68
4-23	1800	2.87	73	5-8			

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 29 to Nov. 5, Dec. 11-18, Jan. 14-16, Jan. 22 to Mar. 27, Apr. 29 to May 17.

10-3444. Little Truckee River above Boca Reservoir, near Boca, Calif.

Location.--Lat 39°26'10", long 120°05'00", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.3, T.18 N., R.17 E., on left bank 1 mile upstream from Boca Reservoir, $\frac{1}{2}$ miles upstream from Dry Creek, and $3\frac{1}{2}$ miles north of Boca.

Drainage area.--146 sq mi.

Records available.--June 1903 to October 1910, September 1939 to September 1962. Published as "at Pine Station" June 1903 to December 1907 and as "at Starr" January 1908 to October 1910. Monthly discharge only for some periods, published in WSP 1314 and 1734.

Gage.--Water-stage recorder and concrete control. Datum of gage is 5,618.67 ft above mean sea level (Bureau of Reclamation bench mark). June 1903 to October 1910, staff gages at different sites and datums.

Average discharge.--30 years (1903-10, 1939-62), 188 cfs (136,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,290 cfs Apr. 14 (gage height, 2.88 ft); minimum, 4.1 cfs Nov. 17.
1903-10, 1939-62: Maximum discharge, about 9,500 cfs Dec. 23, 1955 (computed from change in contents of Boca Reservoir); minimum recorded, 2.2 cfs Dec. 5, 1959.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Flow slightly regulated by Independence Lake (capacity, about 17,500 acre-ft) and one transmountain diversion to Sierra Valley.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)

0.3	3.5	1.0	70
.4	6.8	1.2	112
.6	18	1.5	209
.8	39	2.0	460
		2.6	940

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	16	17	9.5	13	12	320	390	360	63	9.8	8.2
2	9.8	15	17	9.5	16	14	345	448	375	53	9.2	8.7
3	9.8	14	17	9.5	16	15	390	496	400	47	9.2	6.8
4	9.8	14	16	9.5	18	14	448	541	360	40	9.2	7.3
5	9.8	14	16	9.5	23	16	508	583	300	29	11	8.2
6	9.8	14	15	9.5	28	18	562	598	286	28	10	7.8
7	9.8	14	15	9.5	30	18	614	555	291	23	9.8	7.3
8	9.8	14	14	9.5	39	17	694	590	291	21	8.7	8.2
9	10	14	13	9.5	62	14	726	606	305	21	* 12	8.7
10	10	14	12	9.0	74	12	* 678	541	325	21	12	* 8.2
11	11	14	10	8.0	67	11	662	418	310	18	10	8.2
12	11	14	11	8.6	63	12	694	375	286	20	10	8.2
13	11	13	11	9.0	72	12	702	300	276	21	9.8	8.2
14	11	13	11	6.0	74	13	831	286	249	17	8.7	8.2
15	11	14	12	8.0	55	14	920	267	* 209	16	8.2	8.2
16	11	13	14	10	45	17	822	286	205	16	7.3	8.2
17	11	9.2	16	12	39	19	742	272	222	* 17	6.4	8.2
18	* 12	11	17	* 13	33	21	710	262	235	24	6.8	8.7
19	12	15	* 17	12	33	22	694	276	249	19	6.4	7.3
20	14	16	17	11	25	24	576	244	240	16	7.8	6.8
21	25	15	16	10	24	26	520	231	218	14	7.8	8.2
22	21	16	16	8.2	22	25	548	249	201	13	7.8	8.7
23	17	16	16	7.0	20	34	606	300	186	13	7.8	8.2
24	16	* 16	15	7.5	19	40	646	* 286	161	13	7.8	9.2
25	15	16	15	8.0	17	67	614	258	142	14	7.8	10
26	16	18	14	8.5	14	81	520	235	123	13	7.8	13
27	19	17	12	9.0	10	103	548	244	103	13	7.8	12
28	23	16	11	9.5	11	128	520	267	87	13	7.8	11
29	20	16	10	10	-----	152	390	310	81	12	7.8	12
30	17	17	10	11	-----	213	370	355	72	13	8.0	11
31	16	-----	10	12	-----	300	-----	365	-----	10	8.0	-----
Total	418.6	438.2	433	292.8	962	1,484	17,920	11,434	7,148	671	268.5	263.9
Mean	13.5	14.6	14.0	9.45	34.4	47.9	597	369	238	21.6	8.66	8.80
Ac-ft	830	869	859	581	1,910	2,940	35,540	22,680	14,180	1,330	533	523

Calendar year 1961: Max 286 Min 5.0 Mean 51.1 Ac-ft 37,010
Water year 1961-62: Max 920 Min 6.0 Mean 114 Ac-ft 82,780

Peak discharge (base, 500 cfs).--Apr. 14 (1820) 1,290 cfs (2.88 ft); May 6 (0200) 670 cfs (2.28 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Aug. 21-31. Stage-discharge relation affected by ice Dec. 6 to Feb. 7, Feb. 16 to Mar. 24.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3444.9. Boca Reservoir at Boca, Calif.

Location.--Lat 39°23'20", long 120°05'40", in NE¼NW¼ sec.28, T.18 N., R.17 E., in control house at Boca Dam, 1,800 ft upstream from mouth of Little Truckee River and half a mile northwest of Boca.

Drainage area.--172 sq mi.

Records available.--December 1938 to September 1962. End of month contents only for December 1938 to September 1957, published in WSP 1734.

Gage.--Pressure gage with mercury column read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents during year, 41,000 acre-ft June 2 (elevation, 5,605.10 ft); minimum, 538 acre-ft Feb. 7 (elevation, 5,527.95 ft).
1939-62: Maximum contents, 41,440 acre-ft Dec. 23, 1955 (elevation, 5,605.55 ft); minimum, 37 acre-ft Mar. 4-9, 1955 (elevation, 5,521.65 ft).

Remarks.--Reservoir is formed by earth-fill, rock-faced dam. Storage began Dec. 8, 1938. Usable capacity, 40,900 acre-ft between elevations 5,521 (outlet sill) and 5,605 ft. Dead storage, 240 acre-ft. Figures given herein represent usable contents. Water is used for irrigation in the State of Nevada and for power development.

Cooperation.--Daily elevations furnished by Washoe County Conservation District. Capacity table and maximum elevations for Dec. 23, 1955, furnished by Bureau of Reclamation.

Capacity table, (elevation, in feet, contents, in acre-feet)

5,527	445	5,550	4,970	5,590	27,510
5,530	760	5,560	8,790	5,600	36,150
5,535	1,440	5,570	13,760	5,605.1	41,000
5,540	2,340	5,580	20,020		

Contents, in acre-feet, at 0800 , water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,290	2,520	1,860	1,340	648	2,570	2,700	3,959	4,095	4,026	3,988	2,870
2	3,250	2,480	1,840	1,340	626	2,620	3,280	3,968	4,100	4,017	3,964	2,820
3	3,220	2,450	1,830	1,300	605	2,650	3,940	3,993	4,095	4,012	3,949	2,767
4	3,230	2,420	1,820	1,280	584	2,650	4,780	4,041	4,095	4,012	3,935	2,715
5	3,230	2,400	1,800	1,260	564	2,650	5,820	4,090	4,095	4,012	3,916	2,675
6	3,240	2,380	1,790	1,240	543	2,690	6,980	4,070	4,095	4,017	3,896	2,635
7	3,220	2,360	1,770	1,240	538	2,650	8,460	4,085	4,095	4,017	3,872	2,596
8	3,180	2,330	1,740	1,220	548	2,580	10,350	4,090	4,095	4,012	3,844	2,565
9	3,130	2,310	1,720	1,200	569	2,520	12,300	4,090	4,095	4,012	3,811	2,530
10	3,080	2,290	1,680	1,180	891	2,450	14,270	4,075	4,095	4,007	3,782	2,499
11	3,030	2,270	1,650	1,150	1,120	2,370	16,100	4,085	4,095	4,007	3,754	2,460
12	3,000	2,240	1,610	1,140	1,280	2,290	17,970	4,080	4,095	4,007	3,726	2,434
13	2,980	2,210	1,600	1,120	1,370	2,210	19,980	4,075	4,095	4,007	3,698	2,396
14	2,930	2,180	1,560	1,100	1,560	2,130	21,850	4,075	4,095	4,007	3,666	2,350
15	2,890	2,140	1,550	1,070	1,740	2,050	24,340	4,075	4,095	4,007	3,624	2,317
16	2,850	2,100	1,530	1,040	1,890	1,990	26,630	4,075	4,095	4,007	3,587	2,280
17	2,820	2,070	1,510	1,020	2,020	1,940	28,410	4,075	4,095	4,007	3,546	2,244
18	2,780	2,030	1,480	986	2,150	1,890	29,780	4,075	4,095	4,007	3,505	2,204
19	2,750	2,000	1,470	967	2,270	1,840	30,910	4,075	4,095	4,007	3,464	2,157
20	2,730	1,990	1,470	960	2,330	1,820	31,860	4,075	4,095	4,007	3,428	2,112
21	2,690	1,950	1,480	941	2,380	1,790	32,600	4,075	4,095	4,007	3,388	2,064
22	2,680	1,950	1,480	910	2,420	1,760	33,350	4,075	4,095	4,002	3,352	2,016
23	2,670	1,950	1,480	879	2,450	1,700	34,150	4,075	4,095	3,998	3,312	1,970
24	2,650	1,940	1,480	854	2,510	1,680	36,100	4,075	4,095	3,998	3,264	1,933
25	2,620	1,910	1,470	818	2,520	1,650	36,520	4,075	4,095	3,998	3,225	1,879
26	2,600	1,910	1,460	783	2,520	1,630	37,540	4,075	4,085	3,998	3,177	1,830
27	2,580	1,890	1,440	760	2,530	1,670	38,250	4,075	4,070	3,998	3,134	1,781
28	2,580	1,880	1,430	737	2,540	1,820	39,060	4,075	4,066	3,993	3,083	1,732
29	2,560	1,860	1,410	714	-----	2,060	39,400	4,075	4,051	3,993	3,028	1,688
30	2,560	1,860	1,380	692	-----	2,210	39,540	4,075	4,036	3,993	2,978	1,641
31	2,540	-----	1,360	670	-----	2,370	-----	4,090	-----	3,993	2,915	-----
(+)	5,540.95	5,537.50	5,534.50	5,529.20	5,540.95	5,540.15	5,603.60	5,605.00	5,604.45	5,603.98	5,592.00	5,574.50
(#)	-790	-680	-500	-690	+1,870	-170	+37,170	+1,360	-540	-430	-10,780	-12,740

Calendar year 1961.# -8,060

Water year 1961-62.# +13,080

a No elevation record, contents interpolated.

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

10-3445. Little Truckee River at Boca, Calif.

Location.--Lat 39°23'10", long 120°05'40", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 28, T. 18 N., R. 17 E., on right bank 800 ft upstream from mouth and 1,000 ft. downstream from Boca Dam, and a third of a mile northwest of Boca.

Drainage area.--172 sq mi.

Records available.--April to October 1890 (monthly discharge only), January 1911 to September 1915, January 1939 to September 1962. Monthly discharge only for January 1939 to September 1957, published in WSP 1734.

Gage.--Water-stage recorder. Altitude of gage is 5,500 ft (from topographic map). Jan. 1, 1911, to Sept. 30, 1915, staff gage at site 650 ft downstream at different datum. January 1939 to September 1957, records computed from daily log of rated settings of needle valve in dam, and from computed flow over spillway.

Average discharge.--27 years (1911-15, 1939-62), 178 cfs (128,900 acre-ft per year).

Extremes.--Maximum discharge during year, 877 cfs May 5, 9 (gage height, 4.17 ft); minimum daily, 1.0 cfs Oct. 4, 5.

1890, 1911-15, 1939-62: Maximum discharge, 8,800 cfs Dec. 24, 1955, from records of Washoe County Water Conservation District; no flow for many days in most years.

Remarks.--Records good. Flow regulated by Boca Reservoir (capacity, 40,900 acre-ft), Independence Lake (capacity, about 17,500 acre-ft), and one transmountain diversion to Sierra Valley.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

0.3	0.9	1.4	60
.4	1.8	2.0	147
.5	3.2	2.5	247
.6	5.6	3.0	372
.7	9.0	3.5	537
.9	20	4.1	835

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	2.7	2.6	2.6	2.8	2.6	1.88	* 4.46	35.0	11.6	5.6	26.1
2	2.4	2.7	2.6	2.6	2.8	2.6	1.63	4.50	37.2	7.0	7.2	26.1
3	1.3	2.7	2.6	2.6	2.8	2.6	1.52	3.94	36.7	5.1	5.7	25.8
4	* 1.0	2.7	2.6	* 2.6	2.8	2.6	1.51	4.09	33.5	2.0	7.8	22.7
5	1.0	2.7	2.6	2.6	2.8	2.6	1.49	7.20	28.9	1.2	9.1	18.6
6	1.3	2.7	2.6	2.6	2.8	5.0	7.8	67.0	27.5	1.2	9.8	* 18.6
7	2.6	* 2.7	2.5	2.6	2.7	7.3	2.0	60.2	27.0	2.1	12.5	17.8
8	2.6	2.7	2.5	2.6	2.7	7.2	2.1	68.5	27.7	2.7	14.2	16.1
9	2.6	2.7	2.5	2.6	2.0	7.2	2.0	81.7	29.4	2.7	* 14.2	16.1
10	2.6	2.7	2.6	2.6	1.5	7.2	* 1.9	55.0	29.9	1.7	14.2	* 16.0
11	2.6	2.7	2.7	2.6	1.3	7.2	1.9	49.2	29.6	* 1.2	14.2	16.0
12	2.6	2.7	* 2.7	2.6	* 1.2	* 7.1	1.8	41.8	27.2	1.2	14.0	17.8
13	2.6	2.7	2.7	2.5	2.7	7.1	1.8	33.2	25.4	1.1	14.5	19.2
14	2.6	2.7	2.7	2.5	2.6	7.1	1.7	34.2	24.3	1.0	18.0	19.2
15	2.6	2.7	2.7	2.5	1.4	7.1	1.7	32.7	20.6	1.0	19.0	19.0
16	2.6	2.7	2.7	2.5	1.4	7.0	2.9	34.5	20.4	1.0	19.0	18.8
17	2.6	2.7	2.7	2.5	1.3	7.0	2.34	32.9	20.4	1.1	19.0	20.8
18	2.6	2.7	2.7	2.4	1.3	7.0	3.32	29.2	* 21.9	1.1	19.0	22.3
19	2.6	2.7	2.7	2.4	1.4	6.8	3.61	30.2	22.9	1.1	19.0	22.3
20	2.6	2.7	2.7	2.4	2.6	6.8	3.48	28.0	22.5	1.8	19.0	22.3
21	2.6	2.7	2.7	2.4	2.6	6.8	3.27	26.1	21.0	3.8	19.0	22.3
22	2.6	2.6	2.7	2.4	2.6	6.8	3.29	26.3	19.2	2.1	20.0	22.7
23	2.6	2.6	2.7	2.8	2.6	6.8	2.63	31.9	17.8	1.1	21.2	22.5
24	2.6	2.6	2.7	2.9	2.6	7.5	2.14	28.9	17.4	1.1	21.2	* 23.6
25	2.6	2.6	2.7	2.9	2.6	7.8	1.86	25.2	17.6	1.0	21.2	24.9
26	2.6	2.6	2.6	2.9	2.6	7.8	2.80	24.0	16.5	1.0	21.2	24.9
27	2.6	2.6	2.6	2.9	2.6	6.4	3.14	24.3	14.2	1.0	22.5	24.9
28	2.6	2.6	2.5	2.8	2.6	5.2	3.78	26.3	13.5	1.0	24.9	24.9
29	2.6	2.6	2.5	2.8	- - -	10.2	4.18	29.6	13.0	1.0	26.1	24.7
30	2.6	2.6	2.5	2.8	- - -	19.8	4.40	32.2	11.6	1.0	26.1	24.5
31	2.7	- - -	2.5	2.8	- - -	22.7	- - -	30.4	- - -	1.7	25.8	- - -
Total	727.0	801.1	814.4	813.3	575.8	224.9	535.09	1225.4	709.8	64.7	524.2	641.5
Mean	23.5	26.7	26.3	26.2	20.6	72.5	178	395	237	20.9	169	214
Ac-ft	1,440	1,590	1,610	1,610	1,140	4,460	10,610	24,310	14,080	1,280	10,400	12,720

Calendar year 1961: Max 302 Min 0.4 Mean 62.2 Ac-ft 45,050
 Water year 1961-62: Max 817 Min 1.0 Mean 118. Ac-ft 85,250

* Discharge measurement made on this day.

PYRAMID AND WINNEMUCCA LAKES BASIN

10-3460. Truckee River at Farad, Calif.

Location.--Lat 39°25'41", long 120°01'59", in NE $\frac{1}{4}$ sec. 12, T. 18 N., R. 17 E., on left bank 0.7 mile downstream from Farad powerplant, 2.5 miles north of Floriston, 3.4 miles downstream from Bronco Creek, and 3.5 miles upstream from California-Nevada State line.

Drainage area.--932 sq mi.

Records available.--March to October 1890 (monthly discharge only), September 1899 to September 1962. Published as "near Boca" March to October 1890, "at or near Nevada-California State line" September 1899 to August 1912, and as "at Iceland" August 1912 to December 1937. Monthly discharge only for January 1944 to July 1957, published in WSP 1734.

Gage.--Water-stage recorder. Datum of gage is 5,153.21 ft above mean sea level (Bureau of Reclamation bench mark). March to October 1890, staff gage at site about 7 miles upstream at different datum. Sept. 7, 1899, to May 31, 1909, staff gage at approximately same location at different datum. June 1, 1909, to July 31, 1912, staff gage at site about $2\frac{1}{2}$ miles downstream at different datum. Aug. 1, 1912, to Dec. 31, 1937, water-stage recorder at site 4.1 miles upstream at different datum. Jan. 1, 1938, to Aug. 27, 1957, water-stage recorder at approximately same location at different datum.

Average discharge.--63 years (1899-62), 781 cfs (565,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,420 cfs May 6 (gage height, 5.40 ft); minimum, 30 cfs Nov. 17.

1899-1962: Maximum discharge, 17,500 cfs Nov. 21, 1950, (gage height, 14.5 ft, present datum, from flood marks), from slope-area measurement of peak flow; minimum, 28 cfs Dec. 18, 1930.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by Lake Tahoe, Boca Reservoir, Donner and Independence Lakes, and by several powerplants.

Rating table, (gage height, in feet, and discharge, in cubic feet per second)

1.1	51	3.0	660
1.3	92	4.0	1,230
1.5	139	5.0	1,990
2.0	270	6.0	3,120
2.5	435		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	* 92	* 94	115	*b 114	154	670	* 1,310	1,220	488	* 516	502
2	* 94	88	113	* 99	b 118	* 125	* 685	1,420	1,310	* 493	529	498
3	83	85	106	b 110	125	142	725	1,500	1,330	547	488	498
4	62	85	94	b 90	125	139	810	1,680	1,170	520	498	506
5	59	83	94	b 92	127	156	932	2,090	1,050	498	498	506
6	* 60	83	90	b 101	129	210	962	2,050	1,010	498	493	520
7	88	85	b 88	b 99	149	248	986	1,880	1,020	502	498	511
8	85	85	b 82	b 101	154	250	1,110	2,040	998	516	506	493
9	81	85	b 80	b 95	365	256	1,260	2,180	1,050	529	511	488
10	79	83	b 78	b 96	454	242	1,210	1,770	1,100	511	502	475
11	77	81	b 76	b 72	288	242	1,110	1,460	1,050	534	488	471
12	77	77	b 80	b 69	239	234	1,150	1,270	992	588	484	480
13	74	68	b 86	b 58	250	224	1,260	1,060	950	529	480	484
14	74	77	b 90	b 64	288	228	1,400	1,010	865	538	506	480
15	72	81	94	b 58	306	231	1,620	938	770	524	516	484
16	72	74	88	b 78	212	234	1,510	980	770	511	511	475
17	70	b 65	88	b 96	207	231	1,570	938	816	511	506	480
18	70	b 67	85	113	182	234	* 1,680	904	870	506	498	488
19	70	81	90	106	179	245	1,740	962	909	493	493	480
20	72	88	117	76	179	250	1,500	926	876	488	502	475
21	189	81	205	b 75	166	245	1,360	870	826	556	493	475
22	125	83	159	b 70	156	250	1,420	909	780	534	493	475
23	97	85	142	b 70	159	268	1,480	1,060	730	511	506	467
24	88	83	132	b 70	156	309	* 1,480	992	670	502	498	471
25	83	88	127	b 80	149	334	1,360	887	630	502	493	493
26	81	94	120	b 80	137	358	1,290	838	588	502	488	502
27	94	104	117	b 85	b 126	386	1,360	810	538	502	488	484
28	125	88	106	b 85	b 155	393	1,580	887	488	516	506	467
29	110	90	106	b 90	---	435	1,350	1,050	498	498	511	459
30	97	90	106	b 95	---	560	1,290	* 1,170	463	493	* 506	447
31	92	---	106	b 100	---	635	---	1,180	---	484	502	---
Total	2,694	2,499	3,239	2,692	5,394	8,448	37,860	39,021	26,337	15,924	15,507	14,534
Mean	86.9	83.3	104	86.8	193	273	1,262	1,259	878	514	500	484
Ac-ft	5,340	4,960	6,420	5,340	10,700	16,760	75,090	77,400	52,240	31,580	30,760	28,830

Calendar year 1961: Max 745 Min 59 Mean 290 Ac-ft 209,900
 Water year 1961-62: Max 2,180 Min 58 Mean 477 Ac-ft 345,400

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-19	0100	4.88	1,880	5-6	0145	5.40	2,420
4-28	0400	4.77	1,800				

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

PYRAMID AND WINNEMUCCA LAKES BASIN

527

10-3480. Truckee River at Reno, Nev.

Location.--Lat 39°31'55", long 119°47'05", in NW 1/4 sec. 7, T.19 N., R.20 E., on left bank 400 ft downstream from Kietzke Lane bridge, half a mile east of Reno, and 5 miles upstream from Steamboat Creek.

Drainage area.--1,067 sq mi.

Records available.--July 1906 to September 1921, June 1925 to September 1926, January 1930 to December 1935, January to December 1943, January 1946 to September 1962. Monthly discharge only for some periods, published in WSP 1314 and 1734.

Gage.--Water-stage recorder. Datum of gage is 4,431.97 ft above mean sea level (levels by Corps of Engineers). July 1906 to September 1946, staff gage at site 1 mile upstream at different datum.

Average discharge.--36 years (1906-21, 1925-26, 1930-34, 1946-62), 652 cfs (472,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,060 cfs May 6 (gage height, 5.08 ft); minimum, 21 cfs Oct. 6.

1906-21, 1925-26, 1930-35, 1943, 1946-62: Maximum discharge, 20,800 cfs Dec. 23, 1955, from rating curve extended above 14,000 cfs; maximum gage height, 13.83 ft Nov. 21, 1950; no flow Sept. 12, 14-24, 26-30, 1926.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by Lake Tahoe, Boca Reservoir, Donner and Independence Lakes, and by several powerplants. Many diversions above station.

Rating table, except periods of ice effect
(gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 27 to July 11)

1.3	18	2.5	299
1.5	40	3.0	525
1.7	70	4.0	1,140
2.0	134	5.0	1,990

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	65	83	100	* 117	173	752	944	888	108	176	145
2	30	64	85	93	132	* 142	752	986	930	120	173	145
3	33	59	93	* 89	b 127	142	800	1,090	1,020	142	* 150	148
4	* 30	60	91	93	b 132	148	895	1,220	881	156	139	142
5	26	60	83	b 87	132	158	* 1,060	1,640	722	108	153	* 153
6	24	57	89	91	137	221	1,110	1,790	664	* 132	150	156
7	26	* 54	68	95	139	246	1,070	1,570	* 680	127	* 142	156
8	40	64	78	97	150	249	1,210	1,690	680	134	156	148
9	46	59	b 68	97	408	260	1,400	* 1,830	669	148	185	142
10	40	59	b 67	89	704	231	1,330	1,570	752	156	176	134
11	44	60	b 65	b 76	406	235	1,170	1,180	746	165	161	132
12	44	59	*b 67	87	283	224	1,160	944	669	266	156	132
13	41	56	b 85	b 74	332	211	1,270	770	642	252	134	142
14	40	53	93	b 83	370	221	1,360	669	600	191	132	132
15	33	60	89	b 76	490	221	1,600	669	495	188	170	120
16	29	57	80	b 81	287	221	1,490	782	428	167	167	127
17	30	50	83	b 80	256	217	1,440	782	452	179	164	127
18	30	51	89	97	217	217	1,570	692	505	176	156	137
19	34	70	89	89	182	235	1,670	722	560	150	148	142
20	43	76	95	b 89	176	246	1,430	692	550	156	142	148
21	48	76	145	b 62	173	246	1,160	590	490	161	158	142
22	108	72	161	b 58	167	249	1,190	570	485	179	148	139
23	59	78	132	b 52	170	231	1,270	716	388	150	164	142
24	50	74	120	b 55	179	295	1,280	692	320	145	156	134
25	48	65	115	b 75	b 153	344	1,110	570	276	160	148	150
26	46	80	128	b 80	b 142	362	965	530	235	153	139	170
27	64	81	104	b 85	b 105	406	993	505	208	150	137	176
28	64	85	104	b 95	b 120	452	1,290	550	142	150	142	170
29	87	78	104	b 110	---	456	1,040	658	124	158	161	164
30	72	85	102	b 110	---	585	965	818	110	139	173	167
31	67	---	b 97	124	---	710	---	848	---	167	156	---
Total	1,402	1,967	2,952	2,669	6,386	8,554	35,802	29,279	16,311	4,933	4,812	4,362
Mean	45.2	65.6	95.2	86.1	228	276	1,193	944	544	159	155	145
Ac-ft	2,780	3,900	5,860	5,290	12,670	16,970	71,010	58,070	32,350	9,780	9,540	8,650

Calendar year 1961: Max 505 Min 24 Mean 141 Ac-ft 102,100
Water year 1961-62: Max 1,830 Min 24 Mean 327 Ac-ft 236,900

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-19	0530	4.79	1,800	5-6	0530	5.08	2,060

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

HONEY LAKE BASIN

10,3565. Susan River at Susanville, Calif.

Location.--Lat 40°25'05", long 120°40'15", in NE¼ sec.31, T.30 N., R.12 E., on left bank 0.5 mile west of Susanville and 1.1 miles upstream from Piute Creek.

Drainage area.--192 sq mi.

Records available.--June 1900 to December 1905 (gage heights only August 1901 to January 1903), March to May 1913 (gage heights only), February 1917 to June 1921, October 1950 to September 1962. Published as "near Susanville" 1900-1905. Discharge records for August to December 1901 and January 1903, published in WSP 300, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 4,225.72 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1950, staff gages at several sites in vicinity of old powerplant about 0.9 mile upstream at various datums.

Average discharge.--18 years (1900-1901, 1903-5, 1917-20, 1950-62), 92.6 cfs (67,040 acre-ft per year).

Extremes.--Maximum discharge during year, 502 cfs Apr. 14 (gage height, 3.98 ft); minimum, 1.7 cfs Oct. 6, 7, Aug. 18.
1900-1905, 1913, 1917-21, 1950-62: Maximum discharge, 3,540 cfs Dec. 23, 1955 (gage height, 6.62 ft), from rating curve extended above 840 cfs on basis of slope-area measurement of peak flow; no flow Aug. 15, 1961.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Flow regulated by McCoy Flat and Hog Flat Reservoirs (combined capacity, 25,300 acre-ft). Diversions for irrigation of about 1,400 acres above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 14				Apr. 15 to Sept. 30	
0.6	1.5	2.0	57	0.6	2.0
.7	2.7	2.5	115	.7	3.4
.8	4.2	3.0	205	.9	7.4
1.0	8.5	3.5	330	1.2	16
1.3	18	4.0	510	1.6	31
1.6	31				

Note.--Same as preceding table above 1.6 ft.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	7.3	1.7	1.1	9.4	1.7	219	156	68	128	4.8	2.0
2	2.0	7.3	1.9	b 9.1	9.1	1.6	225	167	67	128	4.3	2.0
3	* 2.0	7.5	1.7	1.0	9.7	1.5	245	189	64	129	4.1	2.1
4	2.3	7.5	1.2	b 8.5	1.0	1.5	273	201	57	134	3.9	2.1
5	2.3	7.1	1.1	b 8.5	1.1	1.6	288	199	54	139	4.1	2.3
6	2.0	7.1	9.5	9.7	1.1	3.5	301	189	50	145	3.9	2.3
7	2.1	7.5	8.0	1.0	1.7	3.7	321	179	47	144	3.6	2.3
8	3.4	7.8	8.8	9.7	3.2	3.0	350	175	43	139	3.6	2.3
9	5.0	7.5	b 8.0	9.4	3.4	3.4	342	160	41	134	4.3	2.4
10	3.4	7.5	b 9.1	b 9.7	3.4	2.8	280	139	40	129	4.5	2.6
11	3.8	8.3	b 7.1	b 7.5	4.0	2.4	* 258	123	43	126	4.4	2.7
12	5.5	8.5	1.0	1.0	4.2	2.2	288	111	43	* 120	4.1	2.7
13	5.2	7.8	1.1	b 8.5	4.6	2.2	332	101	* 41	117	3.9	2.7
14	5.5	7.5	1.1	b 7.3	6.3	2.2	388	95	43	114	3.9	2.7
15	4.6	7.5	1.0	b 8.0	5.9	2.2	412	89	38	111	3.9	2.7
16	4.4	* 7.3	1.0	b 8.0	4.7	2.2	362	* 93	34	109	* 3.6	2.8
17	5.3	5.8	1.1	8.3	3.6	2.2	321	82	36	111	3.4	2.8
18	4.8	6.8	1.1	9.4	2.9	2.2	300	79	27	108	2.7	2.8
19	5.5	7.3	1.4	1.1	2.4	2.3	290	78	25	107	2.0	3.0
20	6.6	7.8	2.4	b 1.0	2.2	2.5	238	72	23	105	2.0	3.1
21	7.1	8.3	3.2	b 9.1	* 2.1	2.6	211	65	21	105	2.3	3.4
22	5.9	9.1	1.6	b 7.3	2.0	2.5	219	65	100	105	2.6	3.4
23	5.9	1.1	1.4	9.1	2.2	2.5	240	66	134	97	2.7	3.4
24	5.7	1.1	1.3	* 1.0	2.0	2.5	260	62	134	70	2.7	3.6
25	5.7	1.1	1.3	9.7	b 1.7	3.0	240	69	123	22	2.8	3.8
26	5.5	1.1	1.0	9.7	b 1.7	3.8	201	89	114	13	2.8	3.9
27	8.2	1.1	1.2	9.7	b 1.9	5.0	217	76	111	8.4	2.7	4.1
28	1.0	1.0	1.1	9.4	b 1.9	7.2	242	71	109	6.7	2.6	4.8
29	7.3	9.4	b 1.0	9.4	-	1.20	183	74	112	6.5	2.6	6.7
30	6.6	1.6	b 9.4	9.1	-----	1.70	158	71	128	6.1	2.7	5.2
31	7.3	-----	b 9.4	9.1	-----	1.90	-----	69	-----	5.2	2.4	-----
Total	152.9	256.5	388.3	285.2	740.2	1,240	8,204	3,454	1,970	2,921.9	103.9	92.7
Mean	4.93	8.55	12.5	9.20	26.4	40.0	273	111	65.7	94.3	3.35	3.09
Max	10	16	32	11	63	190	412	201	134	145	4.8	6.7
Min	2.0	5.8	8.0	7.3	9.1	15	158	62	21	5.2	2.0	2.0
Ac-ft	303	509	770	566	1,470	2,460	16,270	6,850	3,910	5,800	206	184

Calendar year 1961: Max 216 Min 0 Mean 37.8 Ac-ft 27,370

Water year 1961-62: Max 412 Min 2.0 Mean 54.3 Ac-ft 39,300

Peak discharge (base, 300 cfs)--Apr. 14 (2200) 502 cfs (3.98 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Mar. 15-31.

EAGLE LAKE BASIN

529

10-3578. Pine Creek near Susanville, Calif.

Location--Lat 40°39'49", long 120°48'33", in SE $\frac{1}{4}$ sec.2, T.32 N., R.10 E., on right bank 1.8 miles upstream from Eagle Lake and 18 miles northwest of Susanville.

Drainage area--225 sq mi.

Records available--October 1960 to September 1962.

Gage--Water-stage recorder. Altitude of gage is 5,185 ft (from topographic map).

Extremes--Maximum discharge during year, 509 cfs Apr. 10 (gage height, 4.62 ft); no flow for several months.
1960-62: Maximum discharge, that of Apr. 10, 1962; no flow for several months in each year.

Remarks--No storage or diversion except for minor stock ponds.

Cooperation--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	28	2.7			
2							0	22	1.3			
3							14	20	.4			
4							21	18	.1			
5	(*)						34	18	0			
6			(*)				49	19	0			
7		(*)					107	19	* 0			
8							171	19	0			
9							379	18	0			
10							421	* 14	0			
11							306	15	0			
12							* 199	14	0			
13							170	12	* 0			
14							165	10	0			
15				(*)			169	8.6	0			
16							182	8.6	0			
17							223	7.6	0			
18							252	8.9	0			
19							256	8.4	0			
20							241	7.5	0			
21							188	6.1	0		(*)	
22							148	5.9	0			
23							123	5.8	0			
24							120	3.9	0			
25							113	4.2	0			
26							103	7.7	0			
27							71	10	0			
28							55	12	0			
29							52	9.8	0			
30							42	7.1	0			
31								4.2				
Total	0	0	0	0	0	0	4,374	372.3	4.5	0	0	0
Mean	0	0	0	0	0	0	146	12.0	0.15	0	0	0
Max	0	0	0	0	0	0	421	28	2.7	0	0	0
Min	0	0	0	0	0	0	0	3.9	0	0	0	0
Ac-ft	0	0	0	0	0	0	8,680	738	8.9	0	0	0

Calendar year 1961: Max 81 Min 0 Mean 4.11 Ac-ft 2,980

Water year 1961-62: Max 421 Min 0 Mean 13.0 Ac-ft 9,430

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

HONEY LAKE BASIN

10-3585. Willow Creek near Susanville, Calif.

Location.--Lat 40°29', long 120°32', in NW¼ sec.5, T.30 N., R.13 E., on left bank 4 miles upstream from Peters Valley Creek and 8 miles northeast of Susanville.

Drainage area.--92.5 sq mi, excludes that of Eagle Lake basin.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4,836.27 ft above mean sea level, unadjusted.

Average discharge.--12 years, 30.5 cfs (22,080 acre-ft per year).

Extremes.--Maximum discharge during year, 216 cfs Feb. 9 (gage height, 3.86 ft); minimum, 9.4 cfs July 25.

1950-62: Maximum discharge, 712 cfs Dec. 23, 1955 (gage height, 5.36 ft), from rating curve extended above 420 cfs; minimum, 8.1 cfs Nov. 16, 1951.

Remarks.--Records good. Diversions for irrigation of about 5,200 acres above station. Some flow at times enters Willow Creek from Eagle Lake through abandoned tunnel.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.1	9.8	2.7	41
2.2	12	3.0	70
2.3	15	3.4	122
2.5	26	3.8	196

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	32	29	18	16	19	85	18	13	11	12	11
2	11	31	31	19	16	19	86	17	13	11	12	11
3	* 11	29	31	19	16	20	85	17	13	10	12	11
4	11	27	29	18	16	30	82	16	13	10	12	11
5	11	24	28	19	16	32	79	14	13	10	12	11
6	12	23	28	19	17	72	74	12	13	10	13	11
7	12	23	28	18	21	120	70	12	12	10	13	11
8	12	23	27	18	31	106	65	13	12	10	14	11
9	12	23	24	18	110	107	57	15	12	10	14	11
10	12	23	25	19	196	81	50	16	12	10	14	11
11	12	22	23	20	166	67	* 41	16	12	10	14	11
12	12	22	23	22	127	57	41	18	12	10	13	11
13	12	22	24	22	106	49	37	17	* 12	* 10	13	11
14	12	23	25	18	139	47	37	18	12	10	13	11
15	12	23	26	18	148	51	46	18	12	11	* 12	11
16	12	* 22	26	18	139	54	53	* 18	12	11	12	11
17	12	22	23	18	124	57	41	18	12	11	12	11
18	12	23	25	18	85	63	30	17	12	11	11	11
19	13	23	26	16	71	78	25	17	12	10	11	11
20	12	23	27	18	60	88	24	16	11	10	11	11
21	13	22	30	17	* 54	83	23	17	12	10	11	12
22	13	23	30	16	49	77	22	16	12	10	11	11
23	13	24	29	16	43	79	20	16	12	10	11	12
24	14	23	27	* 16	40	91	19	14	11	10	11	12
25	14	23	27	17	39	113	18	15	11	10	11	12
26	14	25	26	18	30	129	18	16	11	10	11	12
27	16	23	26	17	31	129	18	18	11	10	11	12
28	16	24	26	16	24	112	19	14	11	10	11	12
29	14	24	25	16	-	99	19	12	11	10	11	12
30	14	28	18	16	-----	87	18	12	11	11	11	12
31	23	-----	18	16	-----	85	-----	13	-----	12	11	-----
Total	400	722	810	554	1930	2301	1302	486	358	319	371	339
Mean	12.9	24.1	26.1	17.9	68.9	74.2	43.4	15.7	11.9	10.3	12.0	11.3
Max	23	32	31	22	196	129	86	18	13	12	14	12
Min	11	22	18	16	16	19	18	12	11	10	11	11
Ac-ft	793	1,430	1,610	1,100	3,830	4,560	2,580	964	710	633	736	672

Calendar year 1961: Max 44 Min 9.8 Mean 17.3 Ac-ft 12,550
 Water year 1961-62: Max 196 Min 10 Mean 27.1 Ac-ft 19,620

Peak discharge (base, 200 cfs).--Feb. 9 (2200) 216 cfs (3.86 ft); Feb. 16 (2000) 209 cfs (3.83 ft).

* Discharge measurement made on this day.

SURPRISE VALLEY BASIN

531

10-3602.3. Eagle Creek at Eagleville, Calif.

Location.--Lat 41°18'40", long 120°07'25", in NE¼ sec.26, T.40 N., R.16 E., on left bank 0.2 mile upstream from Highrock Creek and 0.6 mile southwest of Eagleville.

Drainage area.--15 sq mi, approximately.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is about 4,000 ft (from California base map).

Extremes.--Maximum discharge during year, 40 cfs May 28 (gage height, 2.94 ft); minimum, 0.4 cfs Oct. 27.

Remarks.--Some diversion above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.5	1.9	1.8	1.9	1.8	5.1	8.4	29	17	3.0	2.0
2	.9	1.6	1.9	1.8	1.9	1.8	5.3	13	31	16	2.9	2.0
3	.9	1.7	1.8	* 1.7	1.9	1.8	5.8	18	34	15	2.8	2.0
4	* .9	1.7	2.8	1.7	1.9	1.8	6.2	22	30	14	2.9	2.0
5	.9	2.4	* 1.6	1.7	1.9	1.8	6.6	22	26	13	2.8	2.0
6	.9	3.7	1.6	1.7	1.9	1.9	8.0	23	* 23	13	2.8	2.1
7	1.0	* 2.7	1.6	1.7	1.9	1.9	9.4	24	24	12	2.7	2.0
8	1.0	2.0	1.6	1.7	1.9	1.8	9.1	26	27	11	* 2.5	2.1
9	1.0	1.7	1.6	1.7	1.9	1.8	9.1	* 22	33	10	2.7	2.1
10	.9	1.8	1.6	1.7	1.9	1.8	7.7	18	37	9.5	2.8	2.1
11	1.1	1.7	1.6	1.7	1.9	1.8	* 8.2	15	37	* 8.8	2.9	2.1
12	1.2	1.4	1.6	1.8	1.9	1.8	11	14	36	8.1	2.9	* 2.1
13	1.0	1.8	1.6	1.8	1.9	1.8	11	12	37	7.6	2.7	2.1
14	1.0	2.2	1.6	1.8	1.9	* 1.8	12	9.4	36	6.9	2.5	2.1
15	.8	1.8	1.7	1.8	1.9	1.8	15	8.0	33	6.4	2.6	2.1
16	.9	1.8	1.7	1.8	2.0	2.0	13	7.1	31	6.1	2.5	2.1
17	.9	1.9	1.7	1.8	2.0	2.2	12	6.9	31	5.4	2.5	2.1
18	.9	2.0	1.7	1.8	1.9	2.3	13	7.7	32	4.8	2.5	1.9
19	.9	2.3	1.7	1.8	1.9	2.4	15	7.3	* 30	4.4	2.5	1.9
20	1.2	2.0	1.7	1.8	1.9	2.5	12	7.0	29	4.0	2.5	2.0
21	1.1	2.0	1.6	1.8	1.9	2.7	10	6.6	30	3.8	2.4	1.9
22	1.2	1.7	1.6	1.8	1.9	2.8	11	7.3	30	3.6	2.3	1.8
23	1.1	1.7	1.7	1.8	1.9	3.1	13	9.6	30	3.3	1.9	1.8
24	1.1	1.7	1.7	1.8	1.9	3.3	15	8.0	29	3.2	2.0	1.8
25	1.2	1.8	1.7	1.8	1.9	3.5	13	7.8	29	3.0	2.0	1.9
26	1.2	1.8	1.7	1.8	1.9	3.6	10	7.6	27	3.1	1.9	4.6
27	1.4	1.8	1.6	1.8	1.9	3.8	11	7.8	25	3.0	2.0	3.0
28	1.4	1.8	1.7	1.8	1.9	4.0	8.5	15	22	2.8	2.1	4.3
29	1.6	2.0	1.7	1.8	-	4.4	7.5	33	20	2.8	2.1	2.9
30	1.6	1.9	1.8	1.8	-----	4.6	7.3	30	18	2.9	2.1	2.2
31	1.6	-----	1.8	1.8	-----	4.9	-----	30	-----	3.1	2.1	-----
Total	33.8	57.9	53.2	54.9	53.4	79.3	300.8	453.5	886	227.6	76.9	67.1
Mean	1.09	1.93	1.72	1.77	1.91	2.56	10.0	14.6	29.5	7.34	2.48	2.24
Max	1.6	3.7	2.8	1.8	2.0	4.9	15	33	37	17	3.0	4.6
Min	0.8	1.4	1.6	1.7	1.9	1.8	5.1	6.6	18	2.8	1.9	1.8
Ac-ft	67	115	106	109	106	157	597	900	1,760	451	153	133

Calendar year 1961: Max - Min - Mean - Ac-ft -
 Water year 1961-62: Max 37 Min 0.8 Mean 6.42 Ac-ft 4,650

* Discharge measurement made on this day.

Note.--No gage-height record July 31 to Aug. 8. Stage-discharge relation affected by ice Nov. 5-8, 11-18, 21, 22, Dec. 6-27, Jan. 3 to Apr. 3.

UPPER ALKALI LAKE BASIN

10-3609. Bidwell Creek below Mill Creek, near Fort Bidwell, Calif.
(Formerly published as Bidwell Creek near Fort Bidwell, Calif.)

Location.--Lat 41°52'55", long 120°10'25", in SE $\frac{1}{4}$ sec.6, T.46 N., R.16 E., on right bank $\frac{1}{2}$ miles downstream from Mill Creek and 2.0 miles northwest of Fort Bidwell.

Drainage area.--50 sq mi, approximately.

Records available.--October 1960 to September 1962. Prior to October 1961, published as Bidwell Creek near Fort Bidwell, Calif.

Gage.--Water-stage recorder. Altitude of gage is 5,000 ft (from topographic map).

Extremes.--Maximum discharge during water year, 72 cfs Apr. 7 (gage height, 3.37 ft); minimum, 1.5 cfs Nov. 12.
1960-62: Maximum discharge, that of Apr. 7, 1962; minimum, 1.4 cfs Nov. 5, 1960.

Remarks.--Less than 2 cfs diverted upstream for irrigation. No storage above station.

Cooperation.--Records furnished by the California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	3.9	4.1	3.8	4.2	4.0	3.2	4.3	5.0	1.7	5.1	3.1
2	2.5	3.7	4.3	3.9	3.9	4.3	3.6	4.8	5.2	1.7	4.7	2.8
3	2.6	3.4	3.9	* 4.1	4.0	4.3	3.7	5.3	5.3	1.6	4.8	2.8
4	2.6	3.6	3.7	4.1	4.3	4.3	4.1	5.8	5.1	1.5	5.6	2.9
5	2.7	3.2	* 3.8	4.0	4.3	4.3	4.6	6.0	4.7	1.5	5.5	2.7
6	2.7	3.8	3.6	4.8	4.3	4.5	4.9	5.9	* 4.4	1.4	4.8	2.6
7	2.9	* 3.7	4.4	5.1	4.3	4.5	6.2	6.2	4.4	1.3	4.6	2.4
8	3.0	3.5	4.3	4.8	4.2	4.8	5.7	6.4	4.5	1.2	* 4.6	2.6
9	3.1	3.6	4.3	4.7	4.2	4.9	5.1	* 6.2	4.7	1.2	5.5	2.8
10	3.1	3.6	4.4	4.2	4.3	4.7	4.7	6.0	4.9	1.2	4.9	2.7
11	4.3	3.5	4.4	4.0	4.3	4.7	* 4.6	5.6	4.8	* 1.2	4.5	3.0
12	5.7	2.8	4.4	4.2	4.2	4.9	5.1	5.3	4.9	1.2	4.1	* 3.0
13	3.5	3.2	4.5	4.3	4.0	4.7	5.5	5.2	4.7	1.1	4.1	2.8
14	3.1	4.0	4.5	4.3	4.0	* 4.6	6.1	4.7	4.4	1.1	4.0	2.8
15	2.7	3.6	4.5	4.3	4.0	5.1	6.4	4.4	4.0	1.0	3.7	2.7
16	2.7	3.5	4.5	4.3	4.2	5.9	6.0	4.1	3.8	1.0	3.6	2.6
17	2.7	3.5	4.5	4.3	4.3	6.1	5.8	3.8	3.7	9.7	3.6	2.6
18	2.8	3.6	4.5	4.3	4.4	6.7	5.5	4.1	3.5	9.4	3.6	2.4
19	2.7	3.8	1.5	4.3	4.4	8.3	5.6	4.2	* 3.5	8.6	3.8	2.4
20	3.2	4.0	1.4	4.3	4.3	9.4	5.4	3.8	3.4	8.1	3.7	2.5
21	3.6	4.3	8.6	4.4	4.3	8.4	5.0	3.9	3.4	7.4	3.8	2.6
22	3.4	4.8	6.2	4.5	4.3	7.9	5.1	4.1	3.2	7.0	3.7	2.7
23	3.2	4.6	5.3	4.5	4.3	7.0	5.2	4.2	2.9	6.7	3.5	2.5
24	3.2	4.1	4.8	4.4	4.2	6.9	5.5	4.2	2.8	6.7	3.3	2.4
25	3.2	4.1	4.8	4.3	4.0	9.3	5.4	4.3	2.5	6.6	3.1	2.4
26	3.5	4.2	4.4	4.3	4.0	1.6	5.2	4.4	2.4	6.2	3.0	2.6
27	6.4	3.9	4.1	4.3	4.0	2.7	5.2	4.3	2.2	5.9	3.2	3.1
28	4.4	3.6	4.0	4.3	3.9	2.7	5.0	4.5	2.0	5.6	3.2	5.5
29	3.8	3.7	4.0	4.3	-	2.2	4.4	4.6	1.9	5.4	3.5	5.5
30	3.9	3.6	3.8	4.3	-----	2.2	4.1	4.8	1.8	5.8	3.3	3.3
31	3.9	-----	3.6	4.3	-----	2.7	-----	5.0	-----	5.3	3.3	-----
Total	1 03.7	1 12.4	1 59.2	1 34.0	1 17.1	2 85.5	1 51.9	1 50.4	1 14.0	3 13.4	1 25.7	8 66.8
Mean	3.35	3.75	5.14	4.32	4.18	9.21	50.6	48.5	38.0	10.1	4.05	2.89
Max	6.4	4.8	15	5.1	4.4	27	64	64	53	17	5.6	5.5
Min	2.5	2.8	3.6	3.8	3.9	4.0	32	38	18	5.3	3.0	2.4
Ac-ft	206	223	316	266	232	566	3,010	2,980	2,260	622	249	172

Calendar year 1961: Max 57 Min 2.4 Mean 12.4 Ac-ft 9,010
Water year 1961-62: Max 64 Min 2.4 Mean 15.3 Ac-ft 11,100

* Discharge measurement made on this day.

BUENA VISTA LAKE BASIN

533

11-1853. Golden Trout Creek near Cartago, Calif.

Location.--Lat 36°22'20", long 118°17'15", in NW¹/₄SW¹/₄ sec.10, T.18 S., R.34 E., on right bank 0.5 mile (corrected) upstream from Tunnel Ranger Station and 15 miles west of Cartago.

Drainage area.--23.6 sq mi (revised).

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 8,940 ft corrected (from topographic map).

Average discharge.--6 years, 13.4 cfs (9,700 acre-ft per year).

Extremes.--Maximum discharge during year, 96 cfs June 2 (gage height, 3.38 ft); maximum gage height, 3.94 ft Feb. 11 (backwater from ice); minimum discharge, 0.6 cfs Jan. 20, result of upstream ice jams.

1956-62: Maximum discharge, 182 cfs May 31, 1958 (gage height, 4.05 ft); maximum gage height, 5.24 ft Feb. 12, 1959; minimum discharge, 0.2 cfs Feb. 11, 1959.

Remarks.--Records excellent except those for periods of ice effect, which are fair. No storage or diversion above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 7				May 7 to Sept. 30	
1.6	1.3	2.2	12	2.1	10
1.7	2.1	2.5	25	2.3	17
1.8	3.2	2.9	50	2.6	32
2.0	6.8	3.3	85	2.9	54
				3.3	88

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	4.8		4.6	5.0	5.0	5.2	3.6	5.5	2.6	* 1.3	1.1
2	4.6	4.8		4.6	5.0	4.8	5.2	4.0	* 6.0	2.6	* 1.3	1.0
3	4.6	5.0		4.6	5.0	5.0	5.4	4.6	5.8	2.4	1.3	1.0
4	* 4.6	4.8		4.6	5.0	5.0	* 5.6	4.9	5.5	2.4	1.3	1.0
5	4.6	4.8	*	4.6	5.0	5.0	6.0	5.7	5.3	2.2	1.2	1.0
6	4.6	4.8		4.6	5.0	5.4	6.4	6.6	5.3	2.2	1.2	1.0
7	4.6	4.8		4.8	5.0	5.2	6.8	7.2	5.2	2.2	1.2	1.0
8	4.6	4.8		4.8	4.3	5.2	7.3	* 7.6	5.2	2.1	1.2	1.0
9	4.6	4.8		4.6	5.0	5.2	7.8	7.7	5.3	2.0	1.2	1.0
10	4.6	4.6		4.6	5.0	5.2	8.0	6.7	5.2	1.9	1.2	1.0
11	4.6	4.6		4.6	5.0	5.2	8.3	6.2	5.2	1.9	1.2	1.0
12	4.6	4.8		4.4	5.0	5.2	8.8	5.9	5.2	* 2.0	1.1	1.0
13	4.6	4.8		4.4	5.0	5.2	9.3	5.2	5.1	1.9	1.1	1.0
14	4.6	4.8		3.0	5.0	5.2	10	4.7	5.2	1.8	1.1	1.0
15	4.6	4.6		4.4	5.0	5.0	11	4.2	5.2	1.7	1.2	1.0
16	4.6	4.6	4.4	4.4	4.8	5.0	11	4.0	4.6	1.7	1.2	1.0
17	4.6	4.6		4.4	5.0	5.0	12	3.8	4.2	1.7	1.2	1.0
18	4.6	4.6		4.4	4.8	5.0	14	4.2	4.0	1.7	1.1	1.0
19	4.6	4.6		4.4	5.0	5.0	15	4.2	3.9	1.6	1.1	1.0
20	4.8	4.6		1.5	4.8	5.0	15	4.0	3.9	1.5	1.1	1.0
21	4.8			4.4	5.0	5.0	16	4.0	3.8	1.7	1.1	1.0
22	4.6			4.4	4.8	5.0	17	4.7	3.8	2.0	1.1	1.0
23	4.6			4.4	4.8	5.0	19	4.7	3.6	1.8	1.1	1.0
24	4.6			4.6	4.8	5.0	20	4.4	3.4	1.7	1.1	1.1
25	4.6	4.4		* 5.0	5.0	5.2	21	4.2	3.3	1.6	1.1	1.1
26	4.6			5.2	4.8	5.2	22	4.0	3.2	1.5	1.1	1.3
27	4.6			5.0	5.0	5.4	24	3.6	3.1	1.5	1.1	1.1
28	4.6			5.0	5.0	5.2	34	4.0	3.0	1.5	1.1	1.1
29	4.5			5.0		5.0	35	4.9	2.9	1.4	1.1	1.1
30	4.6			5.0		5.0	35	5.0	2.8	1.4	1.1	1.0
31	4.6			5.0		5.2		5.2		1.3	1.1	
Total	142.9	138.6	136.4	139.3	137.9	158.0	421.1	153.7	153.7	57.5	35.9	30.9
Mean	4.61	4.62	4.40	4.49	4.92	5.10	14.0	49.6	44.6	18.5	11.6	10.3
Max	4.8	5.0	-	5.2	5.0	5.4	35	77	60	26	13	13
Min	4.5	4.4	-	1.5	4.3	4.8	5.2	36	28	13	11	10
Ac-ft	283	275	271	276	274	313	835	3,050	2,650	1,140	712	613

Calendar year 1961: Max 11 Min 4.4 Mean 5.13 Ac-ft 3,710

Water year 1961-62: Max 77 Min 1.5 Mean 14.8 Ac-ft 10,690

Peak discharge (base, 50 cfs).--May 8 (2000) 94 cfs (3.36 ft); June 2 (1730) 96 cfs (3.38 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 29 to Nov. 1, Nov. 14, Nov. 16 to Dec. 31, Jan. 10-19, 21-25, Feb. 9-15.

11-1853.5. Kern River near Quaking Aspen Camp, Calif.

Location.--Lat 36°08'05", long 118°25'45", in SW 1/4 sec.32, T.20 A., R.33 E., on right bank 0.4 mile upstream from Little Kern River and 6.8 miles east of Quaking Aspen Camp.

Drainage area.--530 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4,693 ft above mean sea level (river-profile survey).

Extremes.--Maximum discharge during year, 3,070 cfs June 22 (gage height, 7.08 ft); minimum, 61 cfs Jan. 20.
1960-62: Maximum discharge, that of June 22, 1962; minimum, that of Jan. 20, 1962.

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

Fating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.0	71	4.0	695
2.4	143	5.0	1,270
3.0	300	6.0	2,030
3.5	470	7.0	2,980

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a82	93	116	112	137	158	368	966	1580	1510	506	208
2	a82	96	132	111	139	158	386	1070	*1880	1470	*490	203
3	*82	94	122	111	141	150	424	1260	2060	1520	478	198
4	80	98	124	111	143	154	*482	1570	1850	1520	449	196
5	80	96	*128	109	145	158	537	1900	1710	1520	424	190
6	78	93	130	111	150	170	591	2130	1810	1580	400	186
7	78	91	124	111	165	161	670	2160	2010	1560	379	181
8	78	91	122	112	252	165	735	*2140	2190	1520	365	179
9	82	89	120	114	390	170	805	*1990	2330	1440	351	176
10	83	89	116	114	435	161	840	1810	2530	1280	344	174
11	84	91	118	111	446	158	862	1560	2590	1160	334	172
12	84	91	107	111	393	156	936	1470	2490	1100	327	170
13	83	88	124	111	321	154	1010	1310	2480	972	321	167
14	82	86	122	91	291	156	1110	1190	2270	856	315	165
15	80	88	114	b105	*315	158	1170	1070	1810	889	321	163
16	80	88	111	b110	291	158	1070	1020	1520	*912	327	163
17	80	82	112	b110	258	158	1070	930	1630	878	321	161
18	80	80	114	b110	243	156	1140	906	1960	872	315	156
19	83	82	112	b110	235	156	1150	936	2320	820	303	154
20	86	98	112	94	216	156	1060	912	2530	755	285	152
21	86	96	112	84	200	154	972	850	2710	730	276	152
22	88	93	112	b100	198	161	966	862	2730	815	267	152
23	88	105	112	b110	206	161	1130	966	2620	830	261	150
24	88	109	112	*b120	198	167	1200	948	2280	800	255	150
25	88	122	112	b135	170	183	1220	936	2150	715	249	154
26	88	120	112	b150	176	216	1160	930	2150	680	243	179
27	91	116	111	b150	161	255	1150	867	2080	660	240	235
28	89	114	109	141	158	282	1150	810	1910	636	235	213
29	88	116	112	139	-	282	1050	862	1780	618	229	200
30	84	116	109	137	-----	300	960	1070	1640	582	224	188
31	88	-----	111	135	-----	324	-----	1260	-----	532	216	-----
Total	2,593	2,911	3,604	3,580	6,573	5,656	27,374	38,661	63,600	31,732	10,050	5,287
Mean	83.6	97.0	116	115	235	182	912	1,247	2,120	1,024	324	176
Max	91	122	132	150	446	324	1,220	2,160	2,730	1,580	506	235
Min	78	80	107	84	137	150	368	810	1,520	532	216	150
Ac-ft	5,140	5,770	7,150	7,100	13,040	11,220	54,300	76,680	126,100	62,940	19,930	10,490

Calendar year 1961: Max 588 Min 78 Mean 177 Ac-ft 128,000
Water year 1961-62: Max 2,730 Min 78 Mean 552 Ac-ft 399,900

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-7	0700	6.35	2,340	6-11	0700	6.90	2,880
6-3	0800	6.35	2,340	6-22	0700	7.08	3,070

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

11-1854. Little Kern River near Quaking Aspen Camp, Calif.

Location.--Lat 36°08'05", long 118°26'10", in SE¹/₄SE¹/₄ sec.31, T.20 S., R.33 E., on left bank 600 ft upstream from mouth and 5 miles east of Quaking Aspen Camp.

Drainage area.--132 sq mi (revised).

Records available.--August 1957 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4,695 ft above mean sea level (river-profile survey).

Average discharge.--5 years, 81.3 cfs (58,860 acre-ft per year).

Extremes.--Maximum discharge during year, 986 cfs Feb. 9 (gage height, 5.03 ft); minimum, 3.5 cfs Nov. 18.
1957-62: Maximum discharge, 1,100 cfs May 19, 1958 (gage height, 5.24 ft); minimum, that of Nov. 18, 1961.

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

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	3.0	2.6	106
1.7	6.0	3.0	195
1.8	10	3.5	330
1.9	16	4.0	500
2.1	32	4.5	710
2.3	56		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.4	8.8	1.4	1.6	2.9	b 33	222	400	354	138	32	16
2	6.4	8.8	2.1	1.4	30	b 33	228	422	* 394	136	* 31	16
3	* 6.0	8.8	1.9	1.4	31	b 33	250	453	397	129	29	15
4	6.0	8.4	1.6	b 14	32	b 33	* 273	520	354	121	29	15
5	6.0	8.0	* 1.4	b 14	33	b 35	306	588	339	116	28	14
6	6.0	8.0	1.4	1.4	33	39	351	608	348	114	28	14
7	6.4	7.6	b 14	1.5	46	40	397	588	357	106	27	14
8	6.4	7.6	b 14	1.6	126	40	446	* 592	366	99	27	14
9	7.2	7.6	b 14	1.7	322	39	472	* 516	375	92	26	14
10	7.6	7.6	b 14	b 17	282	35	456	468	381	85	26	14
11	8.0	7.6	1.4	b 16	270	35	456	411	369	76	24	14
12	8.0	7.6	b 13	b 16	175	34	476	390	351	74	24	14
13	7.6	7.2	b 13	b 16	112	36	492	348	336	71	22	14
14	7.2	7.6	1.4	b 12	102	39	512	321	312	68	22	14
15	7.2	7.6	1.3	b 14	123	41	512	294	270	65	22	14
16	7.2	8.0	b 12	b 15	99	44	484	285	252	* 64	22	14
17	7.2	6.0	1.2	b 16	73	47	496	265	252	60	21	14
18	7.2	6.8	b 13	b 16	66	50	524	265	268	58	20	13
19	7.2	8.0	1.3	b 16	62	50	520	268	273	55	20	13
20	7.6	1.2	1.3	b 15	58	51	468	265	276	52	19	13
21	7.6	8.0	1.3	b 12	50	48	432	250	276	51	19	13
22	8.0	1.3	1.4	b 16	48	55	450	255	268	50	19	13
23	7.6	1.6	1.4	b 20	46	55	472	279	252	50	19	13
24	7.6	1.5	1.4	* b 25	44	55	488	265	225	47	18	13
25	7.6	1.7	1.5	b 25	40	73	484	262	212	42	18	14
26	7.6	1.7	1.5	b 26	40	101	453	260	208	41	17	18
27	8.0	1.6	b 14	2.2	30	129	450	240	192	39	16	18
28	8.0	1.4	b 13	b 24	31	154	446	230	178	38	16	16
29	8.0	1.6	b 14	b 25	-	149	418	252	165	36	16	16
30	8.0	1.6	b 14	b 26	-----	175	394	300	149	34	16	16
31	8.0	-----	b 13	b 28	-----	205	-----	330	-----	33	16	-----
Total	224.8	307.6	43.7	55.2	243.3	198.6	1282.8	1119.0	874.9	224.0	68.9	43.3
Mean	7.25	10.3	14.1	17.8	86.9	64.1	428	361	292	72.3	22.2	14.4
Max	8.0	17	21	28	322	205	524	608	397	138	32	18
Min	6.0	6.0	12	12	29	34	222	230	149	33	16	13
Ac-ft	446	610	867	1,090	4,830	3,940	25,440	22,200	17,350	4,440	1,370	859

Calendar year 1961: Max 86 Min 4.0 Mean 22.4 Ac-ft 16,260
Water year 1961-62: Max 608 Min 6.0 Mean 115 Ac-ft 83,440

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0930	5.03	986	5-5	2400	4.43	678
4-15	2000	4.18	572				

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

BUENA VISTA LAKE BASIN

11-1856. Packsaddle Canyon Creek near Fairview, Calif.

Location.--Lat 35°56'40", long 118°28'30" in sec.12, T.23 S., R.32 E., on right bank 1.8 miles northeast of Fairview.

Drainage area.--4.05 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is about 3,600 ft (from topographic map).

Extremes.--Maximum discharge during year, 33 cfs Feb. 8 (gage height, 5.60 ft), from rating curve extended above 0.7 cfs on basis of indirect measurement of peak flow through culvert; no flow during several months.

1959-62: Maximum discharge, that of Feb. 8, 1962; no flow for several months in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.44	0	4.0	3.3
3.5	0.1	4.2	5.5
3.6	.4	4.5	10
3.7	1.0	5.0	19
3.8	1.8		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	0.9	1.9					
2			.2	0	0	.7	1.6					
3			.2	0	0	.7	1.5					
4			.2	0	0	.6	1.5					
5			.2	0	0	.6	1.5					
6			.1	0	0	1.0	1.5					
7			0	0	0	1.0	1.6					
8			* 0	0	* 1.4	1.0	1.7					
9			0	0	8.2	1.0	1.8					
10			0	0	13	.8	1.5					
11			0	0	14	.8	1.1					
12			0	0	7.4	*.7	.9					
13			0	0		.6	1.0					
14			0	0		.6	1.0					
15			0	0		.5	.9				(*)	
16	(*)		0	0	7	.5	.7			(*)		
17			0	0		.5	.5					
18			0	0		.5	.5					
19			* 0	0		.5	.5		(*)			(*)
20			0	1.5	8	.6	.4					
21		(*)	0	.6	7	.6	.3					
22			0	.4	6	.8	.2	(*)				
23			0	.2	4	1.0	.2					
24			0	.2	3	.9	.1					
25			0	* .2	2.5	1.0	.1					
26			0	.2	2.0	1.3	.1					
27			0	.1	1.5	1.8	0					
28			0	.1	1.0	2.3	0					
29			0	.1	-	2.4	0					
30			0	0	2.3	2.3	0					
31			0	0	2.0	2.0						
Total	0	0	0.9	3.6	14 0.6	30.5	24.6	0	0	0	0	0
Mean	0	0	0.03	0.12	5.02	0.98	0.82	0	0	0	0	0
Max	0	0	0.2	1.5	14	2.4	1.9	0	0	0	0	0
Min	0	0	0	0	0	0.5	0	0	0	0	0	0
Ac-ft	0	0	1.8	7.1	279	60	49	0	0	0	0	0
(†)	0	1.5	1.0	3.3	9.7	2.7	0.1	0.1	0	0	0	0

Calendar year 1961: Max 0.2 Min 0 Mean 0.002 Ac-ft 1.8

Water year 1961-62: Max 14 Min 0 Mean 0.55 Ac-ft 397

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

† Precipitation, in inches, during month. Total for water year 1961-62, 18.4 inches.

Note.--No gage-height record Dec. 6-8, Feb. 13 to Mar. 1.

11-1860. Kern River near Kernville, Calif.

Location.--Lat 35°56'00", long 118°29'10", in NE¼ sec.14, T.23 S., R.32 E., on left bank 3 miles upstream from Salmon Creek and 15 miles north of Kernville.

Drainage area.--848 sq mi (revised).

Records available.--January 1912 to September 1962. Records for water year 1912 incomplete, yearly estimates published in WSP 1315-A. Records of daily discharge include flow of Kern River No. 3 Canal. Prior to October 1953, records for canal published separately.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 3,542.3 ft above mean sea level (river profile survey). Prior to Apr. 1, 1913, at site 0.2 mile downstream at different datum. Apr. 1 to Sept. 14, 1913, staff gage and Sept. 15, 1913, to Feb. 20, 1922, water-stage recorder, at present site at datum 5.00 ft higher.

Average discharge.--51 years (1911-62), 693 cfs (501,700 acre-ft per year), combined flow of Kern River near Kernville and Kern River No. 3 Canal; median of yearly mean discharges, 610 cfs (442,000 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 2,700 cfs June 22 (gage height, 8.77 ft); minimum daily, 2.4 cfs Oct. 15. 1912-62: Maximum discharge, 27,200 cfs Dec. 23, 1955 (gage height, 17.55 ft), from rating curve extended above 6,000 cfs on basis of computed peak flow over dam (basic data for computation furnished by Southern California Edison Co.); no flow July 31 to Nov. 7, Nov. 12 to Dec. 7, 1924, Jan. 16 to Feb. 7, 1925, Jan. 21, 22, 1960.

Remarks.--Records good. Records of daily discharge presented herein include flow of Kern River No. 3 Canal which diverts 1 mile above station, from left bank of Kern River in sec.12, T.23 S., R.32 E., for power development; water is returned to river 12 miles below station.

Cooperation.--Water-stage-recorder graph and 56 discharge measurements for Kern River and water-stage-recorder graph and 20 discharge measurements for canal furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	114	163	153	214	314	842	*1,700	*1,800	1,680	593	*230
2	100	119	*200	151	216	315	863	1,840	2,180	*1,600	547	*221
3	97	120	187	149	*218	*298	*945	2,070	*2,510	1,620	562	217
4	*98	*120	174	147	222	308	1,020	2,400	2,300	1,620	528	213
5	99	120	171	*147	227	314	1,130	2,760	2,090	1,610	494	209
6	98	116	170	148	233	354	1,270	2,980	2,140	1,650	459	*207
7	99	115	167	151	313	338	1,430	2,950	2,360	1,650	*437	*203
8	100	114	161	155	833	338	1,590	2,860	2,570	1,600	*421	198
9	103	113	157	158	1,150	358	1,750	2,700	2,750	1,530	*407	*195
10	109	113	151	158	1,340	333	1,790	2,470	2,950	1,400	*399	*194
11	111	115	158	152	1,530	328	1,760	2,140	3,060	1,270	390	193
12	110	115	139	151	1,080	320	*1,850	1,980	*2,970	1,190	*375	193
13	108	114	151	164	765	318	1,920	1,810	*2,920	1,130	*367	190
14	105	113	159	126	716	326	2,000	1,650	2,730	997	361	188
15	102	113	155	131	821	334	2,070	1,500	2,260	963	*363	187
16	102	115	147	158	732	339	1,980	1,400	1,880	983	369	185
17	102	110	144	154	590	346	1,990	1,320	1,860	973	361	*184
18	102	105	146	153	519	353	2,120	1,280	2,150	*960	*354	180
19	102	109	151	164	525	352	2,170	1,270	2,520	*915	342	177
20	106	134	151	229	478	363	2,050	1,270	2,780	858	*327	176
21	108	134	151	130	429	350	1,870	1,200	2,960	812	*312	175
22	109	124	152	147	420	382	1,890	1,180	3,040	882	300	175
23	112	143	153	172	415	395	2,030	1,270	2,970	904	*293	174
24	111	147	154	172	405	395	2,150	1,280	2,630	*880	284	174
25	110	175	154	197	354	439	2,200	1,260	2,410	*806	*276	176
26	111	175	154	211	366	513	*2,050	1,250	2,390	*758	270	193
27	112	167	152	216	319	615	2,010	1,200	*2,290	740	*263	256
28	113	159	147	214	311	697	*2,030	1,140	2,100	716	*257	246
29	113	159	150	209	-	697	1,880	1,160	1,960	699	*250	228
30	110	167	148	209	-----	743	1,730	1,320	1,800	661	244	214
31	112	-----	149	212	-----	763	-----	1,520	-----	*624	237	-----
Total	3,275	3,857	4,866	5,188	13,741	12,638	52,380	54,130	73,330	34,681	11,442	5,951
Mean	106	129	157	167	562	408	1,746	1,746	2,444	1,119	369	198
Max	113	175	200	229	1,530	763	2,200	2,980	3,060	1,680	593	255
Min	97	105	139	126	214	298	842	1,140	1,800	624	237	174
Ac-ft	6,500	7,650	9,650	10,290	31,220	25,070	103,900	107,400	145,400	68,790	22,690	11,200
Calendar year 1961:	Max: 647	Min: 96	Mean: 218	Ac-ft: 158,100								
Water year 1961-62:	Max: 3,060	Min: 97	Mean: 760	Ac-ft: 550,400								

* Discharge measurement of river made on this day.

BUENA VISTA LAKE BASIN

11-1860. Kern River near Kernville, Calif.--Continued.

Records available.--Water temperatures: June 1961 to September 1962.

Extremes.--Maximum temperature during year, 74°F Aug. 1-3, 5, 6; minimum, 33°F Jan. 15, 16.

1961-62: Maximum temperature, 84°F June 25, July 11, 1961; minimum, that of Jan. 15, 16, 1962.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	67	57	47	44	43	41	41	39	46	39	48	38	49	46	51	46	55	52	59	56	74	59	67	57
2	65	57	50	44	45	43	44	38	46	39	45	40	50	46	51	48	54	51	60	57	74	59	69	58
3	64	57	51	44	46	43	44	38	48	40	49	40	49	46	53	49	54	51	60	57	74	59	69	57
4	65	56	52	46	46	40	43	38	48	40	50	41	49	45	53	50	51	48	61	57	73	58	68	56
5	63	56	52	45	44	39	42	37	47	41	45	44	50	45	53	49	51	49	62	59	74	60	67	55
6	64	55	51	43	44	39	42	37	46	42	45	43	51	46	52	48	52	50	62	59	74	59	68	56
7	62	54	51	45	42	37	45	39	44	44	48	41	51	46	51	48	53	52	62	59	73	57	69	57
8	57	52	50	43	41	36	45	39	44	40	51	42	51	46	51	48	53	52	62	59	73	58	70	57
9	58	49	48	43	40	36	45	39	40	38	49	44	51	47	50	47	53	52	62	59	66	60	69	58
10	57	48	49	43	38	34	44	39	40	39	47	43	51	46	50	47	53	52	61	58	65	59	68	57
11	56	48	48	43	38	35	42	37	41	40	48	43	51	46	48	45	53	51	61	57	66	60	67	55
12	58	49	48	42	36	34	37	36	43	41	51	42	51	46	48	46	53	52	60	58	67	60	66	54
13	63	53	48	42	37	34	39	36	42	40	52	43	51	47	49	46	53	52	60	55	68	60	67	56
14	64	55	47	43	36	36	38	34	44	41	52	44	52	47	49	45	52	48	63	58	68	62	66	54
15	65	56	47	41	39	35	38	33	44	43	53	45	52	46	48	45	50	47	63	59	68	63	67	55
16	65	57	46	42	39	35	37	33	43	40	53	46	51	46	49	46	54	50	63	59	68	62	69	57
17	64	57	45	40	40	36	39	34	47	40	54	46	51	47	50	44	56	53	62	59	69	62	69	57
18	64	56	43	38	41	37	39	34	46	43	49	47	51	48	53	49	58	56	62	59	67	61	70	58
19	63	57	42	37	42	37	41	36	44	39	56	47	51	47	53	50	58	57	63	59	66	59	67	55
20	62	55	41	37	44	39	41	38	46	40	54	50	49	44	53	49	57	57	63	58	66	59	64	53
21	60	55	42	37	44	39	38	36	48	41	57	48	50	45	51	47	57	57	64	59	66	59	65	53
22	59	52	41	36	44	39	36	35	49	43	53	47	52	47	54	49	57	57	65	61	67	59	66	54
23	57	49	43	37	44	38	40	35	49	42	55	46	52	48	54	51	57	56	65	61	67	59	67	56
24	56	48	40	38	44	38	40	34	45	43	57	47	52	48	53	50	56	55	65	60	68	60	70	59
25	55	48	40	37	44	38	41	35	46	44	59	48	51	47	52	49	59	56	65	60	68	60	70	61
26	52	50	43	37	44	38	42	36	43	42	59	50	50	47	52	49	59	58	65	59	70	61	72	64
27	56	48	44	38	43	38	44	37	46	38	60	50	50	47	49	47	58	56	67	60	70	61	67	60
28	57	50	44	38	41	38	44	37	47	38	50	48	50	48	53	47	59	56	67	61	70	60	65	57
29	53	47	43	40	42	38	44	38	-	-	51	47	49	45	57	52	60	57	66	60	68	58	66	56
30	49	45	42	41	42	36	45	38	-	-	51	47	49	45	57	54	58	56	67	59	66	56	67	57
31	47	44	-	-	40	37	46	38	-	-	50	46	-	-	56	52	-	-	71	59	66	57	-	-
Avg	60	52	46	41	42	38	41	37	45	41	52	45	51	46	52	48	55	53	63	59	69	60	68	57

Kern River No. 3 Canal near Kernville, Calif.

Records available.--Water temperatures: August to September 1962.

Extremes.--Maximum temperature during period August to September, 66°F Aug. 8, 27; minimum, 53°F Sept. 20-22.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Aug.		Sept.		Day	Aug.		Sept.	
	max	min	max	min		max	min	max	min
1	-	-	63	58	16	64	62	61	56
2	-	-	64	59	17	65	63	61	58
3	63	59	63	58	18	64	61	61	57
4	63	59	63	58	19	64	59	60	55
5	63	59	63	57	20	64	59	58	53
6	63	59	62	57	21	63	59	56	53
7	62	59	62	58	22	64	59	56	53
8	66	59	63	59	23	64	60	59	56
9	64	60	63	58	24	64	61	61	58
10	64	59	62	58	25	64	61	62	59
11	64	60	61	57	26	65	62	64	61
12	64	60	60	56	27	66	62	64	59
13	64	61	60	57	28	65	61	59	57
14	64	62	60	54	29	64	60	58	55
15	64	63	60	54	30	63	58	60	56
					31	63	58	-	-
Avg.	-	-	-	-		-	-	61	57

BUENA VISTA LAKE BASIN

539

11-1870. Kern River at Kernville, Calif.

Location.--Lat 35°45'15", long 118°25'25", in NE 1/4 sec. 15, T.25 S., R.33 E., on right bank 300 ft downstream from highway bridge at new town of Kernville, 1.1 miles upstream from Caldwell Creek, 8.9 miles upstream from Isabella Dam, and 41 miles northeast of Bakersfield.

Drainage area.--1,026 sq mi.

Records available.--January 1905 to December 1912, October 1953 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 2,621.57 ft above mean sea level (levels by Corps of Engineers). January 1905 to September 1912, staff gage at two sites 3 1/2 miles downstream at different datums.

Average discharge.--16 years, 834 cfs (603,800 acre-ft per year).

Extremes.--Maximum discharge during year, 3,880 cfs Feb. 8 (gage height, 8.68 ft); maximum gage height 8.73 ft June 22; minimum, 74 cfs Oct. 4.

1905-12, 1953-62: Maximum discharge, 29,400 cfs Dec. 23, 1955 (gage height, 16.20 ft in gage well, 16.8 ft outside, from flood-marks), from rating curve extended above 7,200 cfs on basis of slope-area measurement of peak flow; minimum, 74 cfs Oct. 27, 1954, Aug. 1, Oct. 4, 1961.

Maximum stage known since at least 1912, 18.4 ft Nov. 19, 1950 (discharge not determined).

Remarks.--Records excellent. Discharge measurements generally made twice a month. Slight regulation at times by operation of Kern River No. 3 Canal and powerplant. A few small diversions for irrigation above station. Gilbert irrigation ditch diverts up to 7 cfs around station during irrigation season.

Cooperation.--Fourteen discharge measurements furnished by the Southern California Edison Co.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	99	147	149	228	*382	992	1,790	1,900	1,660	584	231
2	87	103	204	151	228	382	1,020	1,900	2,300	1,580	534	226
3	87	105	204	149	221	354	1,080	2,140	2,630	1,610	538	214
4	84	105	178	149	*234	372	*1,200	2,510	2,390	1,620	506	209
5	*86	103	171	147	239	372	1,320	*2,960	2,160	1,610	482	207
6	86	102	169	*149	245	418	1,500	3,290	2,210	1,640	454	204
7	84	99	165	151	316	426	1,700	3,310	2,430	1,650	429	*212
8	86	97	157	153	1,550	426	1,940	3,220	2,650	1,600	*408	*200
9	90	96	157	155	1,800	450	*2,130	3,050	2,820	1,530	*334	197
10	91	96	149	157	1,910	410	2,120	2,770	3,050	1,390	373	190
11	96	97	159	151	2,030	403	2,030	2,300	*3,150	1,250	370	186
12	96	99	139	151	*1,410	*389	2,100	2,120	3,030	1,160	362	193
13	93	97	145	165	976	382	2,210	1,940	*2,960	1,090	348	186
14	90	97	157	133	852	389	2,320	1,760	2,750	943	345	184
15	87	97	153	131	902	392	2,450	1,600	2,280	925	*345	184
16	84	99	145	157	896	400	2,290	1,490	1,890	*949	*356	179
17	*84	96	142	153	742	406	*2,300	1,410	1,880	937	356	175
18	83	89	149	151	645	414	2,420	1,370	2,200	925	345	170
19	84	90	*147	163	685	414	2,490	1,340	*2,570	*889	334	*164
20	89	118	149	275	630	430	2,340	1,340	*2,870	832	317	161
21	90	*131	149	165	566	414	2,080	1,290	3,090	785	301	*164
22	93	113	151	163	544	450	2,070	1,250	3,150	816	298	161
23	94	131	151	180	535	490	2,230	*1,340	3,050	860	*289	159
24	94	135	149	183	526	482	2,390	1,340	2,580	*848	274	161
25	93	163	151	*207	466	530	2,400	1,320	2,440	800	269	164
26	93	169	153	228	466	620	2,220	1,300	2,390	730	260	175
27	96	155	151	231	403	705	2,180	1,270	2,290	715	260	231
28	97	145	145	231	386	802	2,190	1,190	*2,130	695	*255	234
29	99	138	145	221	-	830	*2,010	1,200	1,980	680	247	219
30	96	147	145	217	-----	857	1,820	1,370	1,840	656	242	204
31	97	-----	147	225	-----	*914	-----	*1,600	-----	624	234	-----
Total	2,799	3,411	4,823	5,391	20,631	15,105	59,542	58,080	75,060	33,999	11,069	5,744
Mean	90.3	114	156	174	737	487	1,985	1,874	2,502	1,097	357	191
Max	99	169	204	275	2,030	914	2,490	3,310	3,150	1,660	584	234
Min	83	89	139	131	221	354	992	1,190	1,840	624	234	159
Ac-ft	5,550	6,770	9,570	10,690	40,900	29,960	118,100	115,200	148,900	67,440	21,960	11,390

Calendar year 1961: Max 640 Min 80 Mean 213 Ac-ft 153,900

Water year 1961-62: Max 3,310 Min 83 Mean 810 Ac-ft 586,300

Peak discharge (base 2,000 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-8	2000	8.68	3,880	6-22	1200	8.73	3,550
5-7	1100	8.50	3,460				

BUENA VISTA LAKE BASIN

11-1870. Kern River at Kernville, Calif.--Continued.

Records available.--Water temperatures: June to September 1962.

Extremes.--Maximum temperature during period, 69°F Aug. 15-17, 26, 27; minimum, 54°F June 24.

Temperature (°F) of water, June to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1																	-	-	60	56	66	63	66	62
2																	-	-	63	58	66	63	66	63
3																	-	-	63	59	65	62	66	63
4																	-	-	64	60	64	61	65	62
5																	-	-	65	60	64	62	64	61
6																	-	-	65	61	64	62	64	61
7																	-	-	65	61	63	61	64	62
8																	-	-	65	61	64	61	65	62
9																	-	-	64	60	66	62	65	62
10																	-	-	64	59	66	63	65	62
11																	-	-	64	59	67	63	64	61
12																	-	-	64	61	67	63	63	60
13																	-	-	63	59	67	64	63	60
14																	-	-	65	60	68	65	63	59
15																	-	-	66	61	69	66	62	59
16																	-	-	66	62	69	66	63	61
17																	-	-	66	61	69	66	64	62
18																	-	-	66	61	68	65	64	62
19																	-	-	66	60	68	65	62	60
20																	58	55	65	61	67	64	62	59
21																	58	55	66	62	67	64	60	58
22																	58	55	67	63	67	64	60	58
23																	58	55	67	63	67	64	62	59
24																	57	54	67	62	68	65	64	61
25																	59	55	67	62	68	65	66	63
26																	61	57	66	62	69	66	65	63
27																	60	56	67	63	69	66	65	62
28																	60	55	67	64	68	65	63	59
29																	61	57	67	63	68	63	60	58
30																	60	56	66	62	66	62	62	58
31																			65	62	64	61		
Avg																	-	-	65	61	67	64	64	61

11-1875. Borel Canal below Isabella Dam, Calif.

Location.--Lat 35°38'30", long 118°28'10", in NE $\frac{1}{4}$ sec.30, T.26 S., R.33 E., on right bank 500 ft downstream from Isabella Dam and 3 miles upstream from point where canal crosses Erskine Creek.

Records available.--January 1910 to September 1914, October 1925 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as Kern River Power Co.'s Canal at or near Kernville 1910-14. Published as "at Tillie Creek" 1925-51.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 2,540 ft (from topographic map). Prior to Apr. 29, 1952, at site 4 miles upstream at different datum.

Average discharge.--41 years, 358 cfs (259,200 acre-ft per year).

Extremes.--1910-14, 1925-62: Maximum daily discharge, 63 $\frac{1}{2}$ cfs Mar. 13, 14, 1952; no flow at times.

Remarks.--Records excellent. Canal diverts from right bank of Kern River 5.5 miles upstream from Isabella Dam, and above South Fork. When capacity of Isabella Reservoir is above 110,000 acre-ft, the diversion is at the dam. Canal is used to supply Borel power-plant of Southern California Edison Co., 6 miles downstream from station, at which point water is returned to Kern River.

Cooperation.--Water-stage-recorder graph and 19 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	* 93	* 112	* 165	154	* 227	* 379	* 579	591	* 591	557	365	* 435
2	91	118	203	154	228	376	577	591	591	559	* 531	468
3	91	120	217	* 150	231	364	579	591	593	557	532	483
4	90	119	187	149	233	360	581	591	593	557	534	475
5	92	119	177	148	237	361	582	593	593	557	538	454
6	86	113	177	149	242	404	582	593	593	475	541	433
7	86	110	172	151	288	425	581	593	593	523	545	412
8	90	110	165	155	423	419	582	590	593	546	545	392
9	96	107	164	158	412	436	582	590	593	545	539	376
10	102	107	154	159	415	414	595	593	593	545	527	358
11	102	109	164	155	414	398	* 597	591	593	543	546	341
12	101	112	148	151	414	386	595	593	593	526	545	324
13	99	111	147	168	412	385	595	593	593	527	546	304
14	97	109	165	138	415	385	595	593	593	527	548	288
15	95	109	157	126	414	392	590	593	593	527	550	277
16	* 92	111	152	156	415	398	591	593	591	527	552	266
17	92	110	147	157	414	408	593	593	590	529	554	251
18	95	103	154	151	414	415	593	593	586	* 541	538	236
19	94	104	152	167	414	414	593	595	582	545	548	222
20	95	126	154	248	415	431	586	593	579	550	561	212
21	102	147	154	149	414	414	588	595	577	554	552	204
22	104	127	154	162	414	433	588	595	573	552	* 546	196
23	105	140	155	176	414	488	588	593	570	550	543	185
24	104	150	155	184	414	478	591	593	568	550	* 534	173
25	104	181	155	208	414	516	582	593	566	* 543	510	171
26	102	191	155	222	447	536	588	593	564	543	492	185
27	105	174	155	231	406	548	588	593	563	545	482	237
28	109	164	149	231	379	561	584	593	563	545	482	254
29	110	159	150	223	-	564	586	595	559	543	482	234
30	109	167	150	223	-----	572	* 586	595	* 555	536	451	222
31	109	-----	150	224	-----	573	-----	595	-----	* 532	420	-----
Total	3,042	3,839	5,003	5,377	10,379	13,633	17,617	18,379	17,477	16,756	16,179	9,068
Mean	98.1	128	161	173	371	440	587	593	583	541	522	302
Max	110	191	217	248	447	573	597	595	593	559	561	483
Min	86	103	147	126	227	360	577	590	555	475	365	171
Ac-ft	6,030	7,610	9,920	10,670	20,590	27,040	34,940	36,450	34,670	33,240	32,090	17,990

Calendar year 1961: Max 398 Min 0 Mean 171 Ac-ft 123,600
 Water year 1961-62: Max 597 Min 86 Mean 375 Ac-ft 271,200

* Discharge measurement made on this day.

BUENA VISTA LAKE BASIN

11-1875. Borel Canal below Isabella Dam, Calif.--Continued.

Records available.--Water temperatures: October 1958 to September 1962.

Extremes.--Maximum temperature during year, 77°F Aug. 1, 24, 25; minimum, 35°F Dec. 12, Jan. 16, 23-25.
1958-62: Maximum temperature, 80°F July 30, Aug. 1, 1959; minimum, 33°F Jan. 17, 18, 1960.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	63	62	47	45	45	42	42	39	44	40	42	37	51	49	54	50	61	59	67	63	77	70	73	70
2	63	62	48	45	46	44	43	40	44	40	43	39	50	48	56	53	63	59	68	63	75	72	72	70
3	63	61	48	45	46	44	43	39	44	40	43	39	50	48	56	53	61	60	67	65	73	70	71	70
4	62	60	49	46	46	42	42	38	45	41	44	40	51	48	58	55	61	61	70	65	70	69	73	70
5	63	60	49	47	45	40	44	38	45	41	44	42	52	49	57	55	62	60	69	65	70	70	73	69
6	62	61	49	46	43	39	44	38	44	41	44	42	52	50	56	54	62	59	68	65	71	70	73	69
7	61	57	49	47	43	39	44	41	43	42	45	40	53	50	56	53	64	59	70	65	71	70	69	69
8	57	54	49	46	42	38	44	40	44	42	46	41	53	51	56	54	66	61	68	66	73	70	69	69
9	54	53	48	46	41	37	45	40	44	42	45	43	53	51	58	52	67	62	69	68	73	71	72	69
10	54	53	48	46	39	37	45	40	43	42	43	39	52	50	58	58	62	61	68	67	73	70	72	69
11	55	53	47	46	38	36	43	38	44	42	45	39	52	49	59	58	62	59	70	67	73	70	70	69
12	56	53	47	46	38	35	42	37	45	43	46	41	53	51	59	58	63	59	70	66	74	70	69	69
13	58	55	47	44	38	36	41	40	45	43	48	43	53	51	58	57	61	59	68	65	75	70	71	68
14	60	58	46	44	38	37	41	36	46	43	47	43	54	52	58	57	61	60	71	65	76	71	69	68
15	62	60	46	44	40	37	38	36	47	45	48	44	53	52	58	57	60	60	70	68	75	71	68	63
16	62	61	46	44	40	38	38	35	46	41	49	46	53	49	57	57	60	59	74	69	75	72	69	63
17	63	61	45	42	41	37	39	36	44	41	50	46	54	51	59	57	64	60	75	69	73	71	70	64
18	63	60	43	41	41	39	39	36	43	41	47	45	54	52	61	57	68	62	75	70	73	71	69	64
19	61	59	42	40	42	38	40	37	42	38	49	45	53	52	57	57	71	64	76	70	75	73	68	63
20	61	59	42	41	43	39	40	38	41	38	48	46	52	48	57	57	69	64	74	70	75	72	66	61
21	59	57	41	39	44	40	39	37	43	40	49	45	51	48	58	57	68	62	76	70	75	72	65	59
22	57	55	40	38	44	39	39	36	44	41	49	46	54	50	60	57	69	62	74	71	72	71	65	59
23	56	52	41	38	43	39	39	35	44	41	47	42	55	52	58	58	69	62	74	70	75	71	66	59
24	53	51	42	39	43	39	39	35	42	41	49	44	55	53	58	58	69	62	73	69	77	71	68	60
25	53	51	41	41	43	39	39	35	41	39	51	46	54	52	58	58	67	60	74	69	77	72	69	63
26	52	51	42	38	43	39	40	36	41	38	51	48	53	50	58	58	64	60	75	71	74	72	69	64
27	52	50	43	39	43	39	41	37	41	37	51	48	54	51	58	58	69	62	75	71	72	71	67	62
28	52	51	44	40	42	38	42	38	41	37	50	49	54	52	59	58	69	65	76	72	71	71	63	60
29	51	49	44	40	43	37	42	38	-	-	51	48	52	49	59	58	67	64	75	71	71	70	63	58
30	49	47	44	41	41	37	43	38	-	-	52	49	52	49	59	58	68	64	75	71	71	70	64	58
31	48	45	-	-	41	37	44	39	-	-	51	49	-	-	60	58	-	-	75	70	73	70	-	-
Avg	58	56	45	43	42	39	41	38	44	41	47	44	53	50	58	56	65	61	72	68	73	71	69	65

BUENA VISTA LAKE BASIN

543

11-1882. South Fork Kern River near Olancho, Calif.

Location.--Lat 36°11'00", long 118°07'40", in NW 1/4 sec. 18, T.20 S., R.36 E., on left bank 50 ft upstream from small unnamed left bank tributary, 2.0 miles downstream from Snake Creek, and 9.7 miles southwest of Olancho.

Drainage area.--146 sq mi (revised).

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 7,840 ft corrected (from topographic map).

Average discharge.--6 years, 42.0 cfs (30,410 acre-ft per year).

Extremes.--Maximum discharge during year, 780 cfs Apr. 25 (gage height, 4.58 ft); maximum gage height recorded, 5.74 ft Apr. 9 (backwater from ice); minimum discharge, 0.2 cfs Oct. 1.
1956-62: Maximum discharge, 1,280 cfs May 10, 1958 (gage height, 5.50 ft); maximum gage height, 5.85 ft Apr. 18, 1958 (backwater from ice); minimum discharge, 0.1 cfs July 20 to Aug. 3, 1961.

Remarks.--Records good except those for periods of ice effect, which are poor. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3						6	460	131	43	17	9.7
2	.5						7	486	* 129	41	* 16	9.4
3	.6						8	502	131	40	15	9.4
4	* .9						* 9	530	129	38	15	9.4
5	1.2		*				10	510	125	37	15	9.4
6	1.6						30	490	123	35	14	9.4
7	1.9						50	438	121	34	14	9.4
8	1.8		2.2				80	* 414	118	33	13	9.4
9	1.9						90	* 372	115	31	13	9.4
10	1.9	2.5					140	344	111	30	13	9.4
11	2.0						200	302	107	29	13	9.4
12	2.5						270	290	104	* 29	13	9.7
13	2.5					3.0	380	268	101	31	12	9.7
14	2.4				3.0		482	253	101	30	12	9.7
15	2.4						578	226	117	29	12	10
16	2.4			2.7			615	231	121	28	13	10
17	2.3						645	231	105	27	13	10
18	2.4						685	233	93	26	12	10
19	2.5						670	197	86	24	12	9.7
20	2.8		2.5				620	178	80	23	12	10
21	2.8						600	162	75	23	11	10
22	2.7						615	161	72	27	11	10
23	2.3						650	159	67	37	11	11
24	2.4			*			680	148	64	32	11	11
25	2.5		2.2				665	145	60	28	11	12
26	2.5						582	152	56	23	10	17
27	2.5						562	166	52	22	10	17
28	2.5		2.7				586	157	50	21	9.7	14
29	2.4						510	145	47	19	9.4	13
30	2.5						452	138	44	18	9.4	13
31	2.5						133	133	17	17	9.4	
Total	64.4	71.7	74.4	83.7	84.0	102.0	114.77	862.1	2835	905	381.9	320.5
Mean	2.08	2.39	2.40	2.70	3.00	3.29	383	278	94.5	29.2	12.3	10.7
Max	2.8	-	-	-	-	-	685	530	131	43	17	17
Min	0.3	-	-	-	-	-	6	133	44	17	9.4	9.4
Ac-ft	128	142	148	166	167	202	22,760	17,100	5,620	1,800	757	636

Calendar year 1961: Max 30 Min 0.1 Mean 5.14 Ac-ft 3,720
Water year 1961-62: Max 685 Min 0.3 Mean 68.5 Ac-ft 49,630

Peak discharge (base, 150 cfs).--Apr. 25 (0100) 780 cfs (4.58 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 25-28, Oct. 31 to Apr. 13 (no gage-height record Feb. 22 to Apr. 3).

11-1895. South Fork Kern River near Onyx, Calif.

Location.--Lat 35°44', long 118°10', in SW $\frac{1}{4}$ sec.24, T.25 S., R.35 E., on left bank three-quarters of a mile north of State Highway 178, 1.4 miles upstream from Canebrake Creek, and 5 miles northeast of Onyx.

Drainage area.--530 sq mi.

Records available.--September 1911 to August 1914, January 1919 to September 1942, October 1947 to September 1962. Yearly estimate for water year 1927 (incomplete) and monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 2,900 ft (from topographic map). Sept. 12, 1911, to Aug. 31, 1914, staff gage and Jan. 23, 1919, to Apr. 17, 1936, water-stage recorder, at site 140 ft upstream at same datum.

Average discharge.--38 years (1911-13, 1919-25, 1926-27, 1929-42, 1946-62), 102 cfs (73,840 acre-ft per year); median of yearly mean discharges, 74 cfs (53,600 acre-ft per year).

Extremes.--Maximum discharge during year, 998 cfs Apr. 18 (gage height, 4.51 ft); minimum daily, 0.1 cfs, Oct. 1. 1911-14, 1919-42, 1947-62: Maximum discharge, 3,450 cfs Mar. 2, 1938 (gage height, 6.69 ft), from rating curve extended above 1,900 cfs, but may have been exceeded by flood of Jan. 25, 1914 (observed maximum gage height, 7.2 ft and rising, at site then in use); no flow for several days in 1929, 1934, 1960, and 1961.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Lowell and Thomas ditches divert above station for irrigation of about 160 acres below station; combined capacity, about 5 cfs.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.0	0	1.5	8.6	2.5	113
1.1	.3	1.6	13	3.0	235
1.2	1.2	1.8	24	3.5	415
1.3	2.9	2.0	42	4.0	670
1.4	5.3	2.2	65	4.5	990

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 0.1	4.6	15	16	22	a 60	185	582	195	50	11	2.1
2	.2	4.6	26	17	22	a 55	192	582	188	50	9.9	2.3
3	.2	4.3	25	16	21	a 50	205	598	190	50	9.0	2.9
4	.2	4.8	20	15	21	a 55	223	626	192	50	8.3	3.4
5	.4	5.3	17	15	21	a 60	244	642	185	48	12	3.4
6	.4	6.3	15	14	21	a 65	272	615	178	42	12	3.9
7	.4	7.0	14	15	24	a 65	314	582	172	37	8.3	3.9
8	.2	6.6	13	16	279	a 70	363	550	168	35	8.6	3.4
9	.2	6.0	13	15	470	a 70	* 433	505	162	32	7.6	4.1
10	.4	6.3	13	15	470	a 65	480	470	158	31	7.9	2.9
11	.6	7.3	12	14	* 760	a 65	485	428	155	30	8.3	1.6
12	.6	7.6	12	13	436	a 60	505	403	148	30	10	2.1
13	.6	8.3	14	14	232	* 58	555	387	142	30	8.6	2.5
14	.6	8.6	14	13	175	58	642	367	135	30	9.0	3.1
15	.6	9.0	15	13	168	59	760	343	144	28	6.6	3.6
16	* .7	8.6	15	14	148	61	820	324	162	* 28	5.1	4.3
17	.8	8.6	15	16	125	63	844	324	158	* 28	4.3	4.6
18	.7	9.4	14	16	108	64	* 899	314	140	26	4.3	3.4
19	.7	10	* 15	18	113	61	899	307	123	24	4.6	* 3.4
20	.8	12	16	41	108	60	838	282	* 108	22	4.6	5.1
21	1.2	* 13	16	28	99	58	832	259	100	22	* 4.8	5.1
22	1.6	12	16	22	92	64	790	* 247	95	23	5.1	5.6
23	1.3	12	16	19	97	75	808	241	90	24	4.6	6.3
24	1.3	12	16	15	92	75	857	232	87	25	3.9	5.3
25	1.5	17	16	* 20	81	82	871	220	82	27	3.6	4.6
26	1.5	18	16	21	79	95	796	220	73	23	3.4	4.3
27	1.6	16	16	23	68	113	730	241	65	22	4.1	5.1
28	1.6	15	16	22	65	142	730	244	59	20	3.9	7.3
29	2.7	14	15	21	-	155	688	223	57	18	4.3	8.3
30	3.6	14	15	21	-----	158	615	208	53	18	3.1	7.9
31	3.6	-----	15	21	-----	170	-----	202	-----	15	1.9	-----
Total	30.9	288.2	486	559	4,417	2,411	17,875	11,768	3,964	938	202.7	125.8
Mean	1.00	9.61	15.7	18.0	158	77.8	596	380	132	30.3	6.54	4.19
Max	3.6	18	26	41	760	170	899	642	195	50	12	8.3
Min	0.1	4.3	12	13	21	50	185	202	53	15	1.9	1.6
Ac-ft	61	572	964	1,110	8,760	4,780	35,450	23,340	7,800	1,860	402	250

Calendar year 1961: Max 36 Min 0 Mean 10.0 Ac-ft 7,230

Water year 1961-62: Max 899 Min 0.1 Mean 118 Ac-ft 85,410

Peak discharge (base, 180 cfs).--Feb. 11 (1200) 913 cfs (4.39 ft); Apr. 18 (1000) 998 cfs (4.51 ft).

* Discharge measurement made on this day.

a No gage-height record.

BUENA VISTA LAKE BASIN

545

11-1897. Kelso Creek near Weldon, Calif.

Location.--Lat 35°34'10", long 118°15'05", in NW¼ sec.20, T.27 S., R.35 E., on left bank 0.5 mile upstream from Woolstaff Creek and 7 miles southeast of Weldon.

Drainage area.--101 sq mi.

Records available.--August 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,180 ft (from topographic map).

Extremes.--Maximum discharge during year, 108 cfs Feb. 11 (gage height, 3.23 ft), from rating curve extended above 7 cfs on basis of slope-area measurement at gage height 6.00 ft; minimum, 0.5 cfs July 23.
1958-62: Maximum discharge, 1,180 cfs Aug. 23, 1961 (gage height, 6.00 ft), from rating curve extended above 7 cfs on basis of slope-area measurement of peak flow; minimum, that of July 23, 1962.

Remarks.--Records good except those for Feb. 9-12, which are poor. Small diversions for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 9-24)

1.55	0.6	2.7	13
1.6	0.8	3.0	26
1.8	1.8	3.3	55
2.1	4.0	3.6	95
2.4	7.0		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	1.0	1.1	1.2	1.1	1.2	2.6	0.8	1.1	0.9	1.0	1.1
2	1.0	1.0	1.2	1.2	1.2	1.2	2.3	.9	1.0	.9	.9	1.1
3	1.0	1.0	1.0	1.3	1.2	1.2	3.1	.9	1.1	.9	1.0	1.1
4	1.0	1.0	1.1	1.2	1.2	1.2	3.3	.9	1.1	.9	1.0	1.1
5	1.0	1.0	1.1	1.2	1.2	* 1.3	3.9	.9	1.0	.9	1.0	1.0
6	1.0	1.0	1.1	1.2	1.2	1.3	4.7	.9	1.0	.9	1.0	1.1
7	1.0	1.0	1.1	1.2	1.2	1.3	5.7	.9	.9	.8	1.1	1.1
8	1.0	1.0	1.2	1.2	4.1	1.3	6.1	.8	.9	1.0	1.0	1.1
9	1.0	1.0	1.2	1.2	1.9	1.3	4.9	.9	1.0	1.0	1.0	1.1
10	1.0	1.0	1.2	1.2	7.6	1.3	3.1	.9	.9	1.0	.8	1.0
11	1.0	1.0	1.2	1.2	6.0	1.2	2.2	.9	.9	.8	1.0	.9
12	1.0	1.0	1.2	1.2	* 1.7	1.2	1.9	.9	.9	.8	1.1	1.0
13	.9	1.0	1.2	1.1	2.7	1.2	1.9	1.0	.9	.9	1.2	1.0
14	.9	1.0	1.2	1.2	2.0	1.2	1.7	1.0	.9	1.0	1.1	1.0
15	.9	1.0	1.2	1.2	2.0	1.2	1.7	1.1	1.0	1.0	1.2	1.0
16	*.9	1.0	1.2	1.2	2.0	1.2	1.6	1.0	.9	1.0	.9	1.0
17	.9	1.0	1.2	1.2	2.0	1.2	1.3	1.0	.9	* 1.0	.9	1.0
18	.9	1.0	1.2	1.2	2.0	1.2	* 1.2	.9	.9	1.0	1.1	* 1.0
19	1.0	1.0	* 1.2	1.3	2.0	1.2	1.1	.9	.9	1.0	1.1	1.0
20	1.0	1.0	1.2	1.4	2.0	* 1.2	1.2	1.0	*.8	1.0	1.1	1.0
21	1.0	* 1.0	1.2	1.2	2.0	1.1	1.0	1.0	.9	.9	* 1.0	1.0
22	1.0	1.0	1.2	1.2	2.0	1.2	.9	* 1.1	.8	.9	1.0	1.0
23	1.0	1.0	1.2	1.2	2.0	1.1	.9	1.1	.8	.9	1.0	1.0
24	1.0	1.0	1.2	1.2	1.7	1.1	.9	1.2	.9	.9	1.1	1.0
25	.9	1.1	1.2	* 1.2	1.6	1.1	.9	1.2	.9	.9	1.0	1.1
26	1.0	1.1	1.2	1.2	1.4	1.6	.9	1.2	.9	1.0	1.1	1.1
27	1.0	1.0	1.2	1.1	1.4	2.1	.9	1.2	.8	1.0	1.1	1.1
28	1.0	1.0	1.2	1.0	1.4	2.6	.7	1.1	.8	1.0	1.0	1.1
29	1.0	1.2	1.2	1.1	-	2.7	.8	1.1	.9	1.0	1.0	1.1
30	1.0	1.0	1.2	1.1	-----	2.6	.8	1.1	.9	.9	1.0	1.1
31	1.0	-----	1.2	1.1	-----	2.5	-----	1.1	-----	1.0	1.0	-----
Total	30.3	30.4	36.5	36.9	146.2	44.3	64.2	30.9	27.6	29.1	31.8	31.3
Mean	0.98	1.01	1.18	1.19	5.22	1.43	2.14	1.00	0.92	0.94	1.03	1.04
Max	1.0	1.2	1.2	1.4	60	2.7	6.1	1.2	1.1	1.0	1.2	1.1
Min	0.9	1.0	1.0	1.0	1.1	1.1	0.7	0.8	0.8	0.8	0.8	0.9
Ac-ft	60	60	72	73	290	88	127	61	55	58	63	62
Calendar year 1961:	Max 28		Min 0.9		Mean 1.26		Ac-ft 916					
Water year 1961-62:	Max 60		Min 0.7		Mean 1.48		Ac-ft 1,070					

* Discharge measurement made on this day.

BUENA VISTA LAKE BASIN

11-1905. Isabella Reservoir near Isabella, Calif.

Location.--Lat 35°38'50", long 118°28'50", in SW $\frac{1}{4}$ sec.19, T.26 S., R.33 E., in main control tower near left abutment of main dam on Kern River, 1.5 miles north of new town of Isabella and 2.8 miles upstream from Erskine Creek.

Drainage area.--2,093 sq mi.

Records available.--October 1953 to September 1962.

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

Extremes.--Maximum contents during year, 173,700 acre-ft June 29 (elevation, 2,560.16 ft); minimum, 17,410 acre-ft Nov. 19 (elevation, 2,513.85 ft).

1953-62: Maximum contents, 455,200 acre-ft June 28, 1958 (elevation, 2,594.83 ft); minimum since appreciable storage was first attained, 4,330 acre-ft Apr. 21, 1955.

Remarks.--Reservoir is formed by earth-fill dam with side-hill spillway and auxiliary earth-fill dam, completed in 1954; regulation of discharge from reservoir began Apr. 15, 1954. Minor detention storage occurred during construction of dam prior to this date, the maximum being 1,750 acre-ft on Apr. 27, 1953. Usable capacity, 569,700 acre-ft between elevations 2,470.0 ft (invert of main outlet) and 2,605.5 ft (spillway crest) above mean sea level. Dead storage, 326 acre-ft, is not available for release. Surge flood control storage, 271,800 acre-ft between ungated spillway crest and elevation 2,627.0 ft (maximum design spillway flood pool). Figures given herein represent total contents. Water is released to Kern River through tunnel in left abutment of main dam and to Borel Canal (see p. 541) through concrete conduit in auxiliary dam.

Cooperation.--Record of contents furnished by Corps of Engineers and reviewed by Geological Survey.

Capacity table (elevation, in feet, and contents, in acre-feet)

2,510	13,090	2,550	118,500
2,520	26,430	2,560	172,700
2,530	47,320	2,570	239,000
2,540	77,330		

Contents, in acre-feet, at 2400 hrs. water year October 1961 to September 1962												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18,360	17,690	17,580	17,520	17,650	43,370	35,040	88,320	133,800	173,100	129,200	109,900
2	18,360	17,680	17,660	17,520	17,640	43,370	34,330	90,460	135,500	172,400	128,700	109,400
3	18,360	17,660	17,650	17,510	17,640	43,370	33,700	92,810	137,900	171,600	128,100	108,800
4	18,350	17,650	17,640	17,510	17,640	43,370	33,260	95,810	139,700	171,000	127,400	108,100
5	18,320	17,620	17,640	17,500	17,620	43,370	33,140	99,420	140,900	170,300	126,700	107,400
6	18,300	17,610	17,620	17,500	17,610	43,420	33,400	103,600	142,200	170,700	126,000	106,700
7	18,270	17,600	17,620	17,490	17,650	43,440	33,990	107,700	143,700	170,400	125,200	106,000
8	18,230	17,590	17,610	17,490	20,400	43,420	35,040	111,500	145,600	169,800	124,400	105,400
9	18,190	17,580	17,610	17,490	23,720	43,390	36,560	115,000	147,700	169,100	123,500	104,800
10	18,170	17,560	17,600	17,470	27,000	43,370	38,210	117,800	150,200	168,100	123,000	104,200
11	18,140	17,540	17,580	17,450	31,010	43,320	39,530	119,900	152,700	166,700	122,300	103,500
12	18,120	17,520	17,580	17,500	33,990	43,280	40,810	121,600	155,100	165,000	121,500	102,900
13	18,100	17,510	17,580	17,500	35,620	43,280	42,350	123,100	157,000	163,700	121,000	102,100
14	18,090	17,490	17,580	17,500	36,640	43,280	44,200	124,400	158,500	162,000	120,200	101,500
15	18,090	17,460	17,580	17,490	37,820	43,230	46,610	125,600	159,900	160,400	119,600	101,000
16	18,080	17,450	17,560	17,470	38,990	43,140	48,940	126,600	160,000	158,900	119,000	100,500
17	18,050	17,440	17,560	17,470	39,780	43,040	51,450	127,700	160,000	157,500	118,500	99,930
18	18,030	17,420	17,560	17,470	40,340	42,910	54,520	128,700	160,700	155,900	118,000	99,340
19	17,990	17,410	17,550	17,520	41,190	42,700	57,670	129,500	162,000	154,400	117,400	98,910
20	17,950	17,440	17,550	17,790	41,790	42,460	60,660	130,400	163,800	152,900	116,900	98,580
21	17,900	17,460	17,550	17,830	42,180	42,120	63,080	131,000	165,900	151,100	116,200	98,200
22	17,880	17,450	17,550	17,800	42,630	41,720	65,400	131,400	168,000	149,600	115,500	97,790
23	17,850	17,450	17,550	17,750	42,860	41,060	68,140	131,500	169,900	147,800	114,900	97,420
24	17,840	17,450	17,550	17,730	43,140	40,450	71,280	131,700	171,100	146,000	114,300	97,010
25	17,810	17,600	17,550	17,690	43,300	39,800	74,380	131,900	171,800	144,000	113,800	96,640
26	17,790	17,600	17,550	17,660	43,370	39,120	77,020	131,900	172,500	141,600	113,200	96,230
27	17,760	17,600	17,540	17,650	43,420	38,190	79,530	132,100	173,200	139,300	112,600	95,810
28	17,750	17,590	17,540	17,650	43,390	37,410	82,230	132,100	173,600	136,900	112,000	95,530
29	17,740	17,590	17,540	17,650	-	36,790	84,730	132,000	173,700	134,500	111,300	95,320
30	17,710	17,580	17,520	17,650	-----	36,180	86,610	132,200	173,600	132,200	110,800	95,110
31	17,700	-----	17,520	17,650	-----	35,620	-----	132,700	-----	129,800	110,400	-----
(†)	2,514.08	2,513.98	2,513.94	2,514.04	2,528.39	2,524.88	2,542.53	2,552.86	2,560.14	2,552.30	2,548.24	2,544.68
(*)	-660	-120	-60	+130	+25,740	-7,770	+50,990	+46,090	+40,900	-43,800	-19,400	-15,290
(††)	647	329	169	188	182	446	1,105	2,307	4,128	4,840	4,084	2,880

Calendar year 1961..... † -11,600

Water year 1961-62..... † +76,750

† Elevation, in feet, at end of month.

* Change in contents, in acre-feet.

†† Evaporation, in acre-feet, furnished by Corps of Engineers.

11-1910. Kern River below Isabella Dam, Calif.

Location.--Lat 35°38'30", long 118°28'55", in S $\frac{1}{2}$ NW $\frac{1}{4}$ sec.30, T.26 S., R.33 E., on right bank 200 ft downstream from highway bridge, 0.6 mile downstream from Isabella Dam, and 1.6 miles southwest of Isabella.

Drainage area.--2,094 sq mi.

Records available.--April 1945 to September 1962. Prior to October 1952, published as "below Isabella dam site."

Gage.--Water-stage recorder. Datum of gage is 2,435.07 ft above mean sea level (levels by Corps of Engineers). Prior to Mar. 12, 1952, water-stage recorder at site 0.6 mile upstream at different datum. Mar. 12, 1952, to July 26, 1953, staff gage at present site and datum.

Average discharge.--17 years, 746 cfs (540,100 acre-ft per year), adjusted for diversion since 1945 and for storage and evaporation since 1954.

Extremes.--Maximum discharge during year, 1,500 cfs June 24 (gage height, 8.63 ft); minimum, 1.4 cfs Feb. 24.

1945-53 (prior to regulation by Isabella Reservoir): Maximum discharge, 39,000 cfs Nov. 19, 1950 (gage height, 28.6 ft from floodmark, present site and datum), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; minimum, 2.1 cfs (regulated) Nov. 27, 1951.

1954-62: Maximum discharge, 4,260 cfs June 28, 1958 (gage height, 15.14 ft); no flow Oct. 29, 1954, Mar. 22, 1960.

Remarks.--Records excellent except those below 20 cfs, which are good. Flow regulated by Isabella Reservoir beginning Apr. 15, 1954 (see preceding page). Borel Canal (see p. 541) diverts above station. Diversion for irrigation of about 3,500 acres between head of Isabella Reservoir and upstream stations. An additional 6,500 acres in reservoir bottom can be irrigated when reservoir stage is low.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.3	0.8	3.6	40	5.5	240
2.4	2.1	4.0	63	6.0	354
2.6	5.5	4.5	103	7.0	665
2.9	12	5.0	158	9.0	1,670
3.2	22				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	8.8	15	21	16	25	38	753	753	862	1360	591	15	
2	8.6	16	22	17	24	26	834	737	866	1390	233	15	
3	11	16	21	19	20	22	866	777	911	1440	254	12	
4	11	16	21	19	20	22	* 866	816	975	1410	246	31	
5	16	16	19	19	24	28	834	875	1000	1410	226	64	
6	17	16	17	19	24	32	821	839	1060	1000	220	83	
7	17	16	17	19	21	32	875	826	1150	1220	220	106	
8	17	16	17	19	13	40	875	898	1190	1320	240	93	
9	17	16	17	19	4.6	54	880	911	1190	1310	240	107	
10	15	16	17	19	4.8	54	880	945	1200	1330	59	125	
11	13	16	17	19	5.0	47	955	945	1210	1350	129	156	
12	13	16	12	19	4.6	* 40	1090	857	1270	1340	165	177	
13	13	16	12	19	3.9	30	1090	798	1340	1280	131	194	
14	13	16	14	19	3.4	27	1080	737	1360	1240	98	188	
15	16	16	14	19	3.4	47	1050	677	1050	1200	81	172	
16	18	16	16	17	3.5	77	1040	612	1330	1160	51	174	
17	* 20	16	14	13	3.2	76	* 1030	567	1350	* 1140	24	186	
18	22	16	15	13	3.7	94	920	502	1380	1150	15	194	
19	22	17	* 14	13	4.4	115	898	484	* 1410	1120	15	* 124	
20	22	17	13	14	3.1	136	906	518	1440	1080	* 15	113	
21	22	17	13	56	2.4	184	906	541	1450	1080	27	133	
22	22	* 17	14	42	2.1	291	906	637	1480	1110	* 60	151	
23	18	17	14	44	2.0	386	866	* 741	1480	1190	36	180	
24	15	17	14	40	1.4	372	812	757	1490	1230	15	193	
25	15	17	14	37	1.6	386	866	757	1460	1270	15	193	
26	15	17	17	* 28	1.6	448	906	757	1460	1360	15	183	
27	15	17	19	20	16	654	880	749	1410	1390	15	128	
28	15	19	20	15	3.9	673	721	737	1380	1370	15	92	
29	15	21	18	17	-	630	753	749	1360	1360	15	98	
30	15	21	16	20	-----	654	790	808	1330	1330	15	104	
31	15	-----	16	22	-----	673	-----	862	-----	1290	15	-----	
Total	492.4	501	505	691	284.7	638.8	2694.9	2316.9	3784.4	3923.0	3496	3784	
Mean	15.9	16.7	16.3	22.3	10.2	206	898	747	1,261	1,265	113	126	
Max	22	21	22	56	39	673	1,090	945	1,490	1,440	591	194	
Min	8.6	15	12	13	1.4	22	721	484	862	1,000	15	12	
Ac-ft	977	994	1,000	1,370	565	12,670	53,450	45,960	75,060	77,810	6,930	7,510	
Meant	114	148	179	201	848	527	2,361	2,127	2,602	1,172	385	220	
Ac-ft†	6,990	8,810	11,030	12,360	47,080	32,390	140,500	130,800	154,800	72,090	23,700	13,090	
Calendar year 1961: Max	333			Min	1.6	Mean	62.0	Meant	231	Ac-ft	44,900	Ac-ft†	167,500
Water year 1961-62: Max	1,490			Min	1.4	Mean	393	Meant	903	Ac-ft	284,300	Ac-ft†	653,600

* Discharge measurement made on this day.

† Adjusted for change in storage, diversion and evaporation.

BUENA VISTA LAKE BASIN

11-1925. Kern River near Democrat Springs, Calif.

Location.--Lat 35°31'20", long 118°40'40", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.28 S., R.31 E., on left bank 1.0 mile southwest of Democrat Springs and 2.1 miles upstream from Cow Creek.

Drainage area.--2,258 sq mi (revised).

Records available.--July 1950 to September 1962. Prior to October 1954, records for Kern River and Kern River No. 1 conduit published separately.

Gage.--Water-stage recorder. Altitude of gage is 1,850 ft (from topographic map).

Average discharge.--12 years, 810 cfs (586,400 acre-ft per year), adjusted for storage.

Extremes (river only).--Maximum discharge, 1,670 cfs June 23 (gage height, 10.16 ft); minimum daily 1.5 cfs Dec. 5-14. 1950-62: Maximum discharge, 40,000 cfs Nov. 19, 1950 (gage height, 30.7 ft), from rating curve extended above 8,700 cfs on basis of computation of peak flow over dam (basic data for computation furnished by Southern California Edison Co.); minimum daily, 0.1 cfs Oct. 30 to Nov. 12, 1955.

Remarks.--Records fair. Records of daily discharge given herein include flow of Kern River No. 1 conduit which diverts from left bank of Kern River in sec.13, T.28 S., R.30 E., for power development; water is returned to river 7 miles below station. Flow regulated by Isabella Reservoir beginning in 1954 (see p. 546). Many diversions above station for irrigation.

Cooperation.--Water-stage-recorder graph and 14 discharge measurements for river and water-stage-recorder graph and 14 discharge measurements for conduit furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110	128	191	170	255	410	1,320	1,350	1,440	*1,910	1,100	433
2	102	134	207	174	*258	*370	*1,430	1,300	*1,440	1,930	760	470
3	*99	*140	256	173	256	422	1,480	1,340	1,460	1,980	*780	493
4	102	139	*222	*171	258	406	1,480	1,370	1,540	1,950	795	489
5	104	140	206	170	260	411	1,470	1,450	1,560	1,990	782	*513
6	106	137	198	168	269	449	1,410	1,450	1,610	1,880	772	516
7	103	129	196	172	279	510	1,480	1,380	1,720	1,480	764	521
8	105	132	188	174	534	495	1,500	1,480	1,760	1,820	779	496
9	110	128	182	177	634	512	1,500	1,470	1,760	1,860	770	481
10	119	126	180	180	527	525	1,510	1,520	1,770	1,870	668	478
11	120	128	176	178	670	491	1,560	1,530	1,780	1,880	597	487
12	122	130	182	174	576	463	1,720	1,480	1,820	1,860	714	483
13	118	133	156	193	515	448	1,720	1,380	1,880	1,810	710	489
14	112	128	174	180	480	433	1,710	1,370	1,950	1,770	661	478
15	112	128	181	146	479	437	1,680	1,260	1,710	1,720	653	441
16	113	130	173	166	470	492	1,620	1,230	1,780	1,690	631	430
17	113	133	168	178	465	508	1,670	1,150	1,940	1,670	596	424
18	119	127	167	170	455	515	1,560	1,110	1,950	1,690	568	425
19	120	123	179	174	475	540	1,500	1,040	1,980	1,660	553	418
20	119	132	171	235	520	582	1,500	1,090	2,000	1,630	575	293
21	122	174	170	281	490	595	1,510	1,100	2,020	1,630	574	336
22	128	156	172	208	470	682	1,510	1,160	2,060	1,660	593	337
23	131	150	171	224	460	891	1,510	1,300	2,060	1,750	611	357
24	124	168	172	235	460	868	1,420	1,330	2,050	1,780	553	364
25	122	196	173	238	460	875	1,430	1,330	2,040	1,820	530	361
26	121	220	173	258	465	943	1,500	1,330	2,010	1,910	512	366
27	120	203	178	260	490	1,150	*1,480	1,330	1,990	1,940	496	370
28	125	189	174	255	450	1,290	1,360	1,310	1,950	1,920	497	364
29	128	187	171	247	-	*1,210	1,280	1,320	1,930	1,900	496	332
30	130	188	170	248	-----	*1,230	1,380	1,350	1,910	1,860	486	328
31	125	-----	170	249	-----	1,270	-----	1,440	-----	1,830	435	-----
Total	3,604	4,456	5,647	6,226	12,380	20,423	45,200	41,050	54,870	56,050	20,011	12,773
Mean	116	149	182	201	442	659	1,507	1,324	1,829	1,808	646	426
Max	131	220	256	281	670	1,290	1,720	1,530	2,060	1,990	1,100	521
Min	99	123	156	146	255	370	1,280	1,040	1,440	1,480	435	293
Ac-ft	7,150	8,840	11,200	12,350	24,560	40,510	89,650	81,420	108,800	111,200	39,690	25,330

Calendar year 1961: Max 417 Min 99 Mean 234 Ac-ft 169,700
 Water year 1961-62: Max 2,060 Min 99 Mean 775 Ac-ft 560,700

* Discharge measurement of river made on this day.

Note.--No gage-height record at river station Feb. 13 to Mar. 2, July 7 to Aug. 3; at conduit station Oct. 1, 2.

BUENA VISTA LAKE BASIN

549

11-1930. Kern River below Kern Canyon powerhouse, Calif.

Location.--Lat 35°26'10", long 118°48'50", in NW 1/4 sec. 1, T.29 S., R.29 E., on left bank 1 mile downstream from Kern Canyon powerhouse, 1.3 miles upstream from Cottonwood Creek, and 11 miles northeast of Bakersfield.

Drainage area.--2,307 sq mi (revised).

Records available.--October 1893 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Prior to Oct. 1, 1953, published as "near Bakersfield."

Gage.--Water-stage recorder. Altitude of gage is 650 ft (from topographic map). Prior to Oct. 1, 1953, at site 11 miles downstream at different datum.

Average discharge.--69 years, 934 cfs (676,200 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 2,380 cfs June 14 (gage height, 9.67 ft); minimum daily, 103 cfs Oct. 3. 1893-1962: Maximum discharge, 36,000 cfs Nov. 19, 1950 (gage height, 14.2 ft, site and datum then in use); minimum daily, 74 cfs Sept. 19, 1948.

Remarks.--Records good. Flow regulated by Isabella Reservoir beginning in 1954 (see p. 546), and three powerplants; many diversions above station for irrigation.

Cooperation.--Water-stage-recorder graph furnished by Pacific Gas & Electric Co., in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

5.5	96	8.0	1,040
5.7	125	9.0	1,780
6.0	180	10.0	2,700
7.0	500		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	142	127	184	156	241	413	1390	1430	1510	2020	1550	436
2	110	132	195	162	244	347	1520	1370	1510	2070	730	456
3	103	134	249	162	244	444	1550	1420	1530	2100	820	488
4	104	132	215	164	241	403	1580	1440	1610	2080	820	496
5	107	134	198	162	247	406	1570	1510	1640	2090	802	512
6	106	134	189	158	255	436	1500	1520	1670	2050	784	520
7	104	128	189	162	267	516	1590	1450	1820	1410	778	528
8	105	125	180	166	375	492	1590	1540	1880	2020	802	512
9	110	124	172	170	705	496	1580	1540	1890	1990	796	488
10	115	122	172	170	540	621	1590	1590	1890	2020	760	484
11	120	122	164	166	645	504	1610	1600	1900	2020	567	488
12	120	121	176	164	640	476	1830	1580	1920	2040	695	496
13	120	125	146	182	520	* 460	1830	1450	1980	1970	720	500
14	115	125	164	174	484	452	1820	1450	2050	1930	665	496
15	113	122	174	139	472	* 448	1800	1330	1890	1890	650	464
16	112	124	164	153	472	472	1670	1310	1850	1850	635	448
17	* 112	124	160	170	468	516	1780	1220	2040	1810	599	440
18	115	125	158	162	456	524	* 1630	1200	2060	* 1760	576	432
19	113	119	170	162	476	549	1570	1110	2100	1780	549	413
20	121	122	* 162	220	524	581	1570	1150	* 2100	1710	563	* 291
21	110	170	162	279	496	603	1570	1160	2120	1720	567	326
22	128	* 151	166	195	476	655	1570	1230	2180	1720	* 576	329
23	130	142	162	210	464	922	1570	* 1360	2170	1810	608	357
24	127	158	164	230	464	928	1480	1400	2170	1860	567	361
25	121	184	164	227	464	916	1490	1400	2160	1900	540	357
26	122	212	164	* 238	468	1010	1560	1400	2150	1980	520	361
27	119	193	168	249	492	1190	1550	1400	2120	2040	496	368
28	122	180	164	241	444	1400	1470	1380	2060	2040	492	361
29	127	176	164	233		1310	1330	1380	2060	2000	492	322
30	127	178	160	230		1310	1450	1410	2020	1990	492	322
31	124		162	235		1370		1500		1920	456	
Total	3,624	4,265	5,381	5,891	12,284	21,170	47,610	43,230	58,050	59,590	20,667	12,852
Mean	117	142	174	190	439	683	1,587	1,395	1,935	1,922	667	428
Max	142	212	249	279	705	1,400	1,830	1,600	2,180	2,100	1,550	528
Min	103	119	146	139	241	347	1,330	1,110	1,510	1,410	456	291
Ac-ft	7,190	8,460	10,670	11,680	24,360	41,990	94,430	85,750	115,100	118,200	40,990	25,490
Calendar year 1961:	Max 410	Min 103	Mean 228	Ac-ft 164,900								
Water year 1961-62:	Max 2,180	Min 103	Mean 807	Ac-ft 584,300								

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 8-17.

11-1955. San Emigdio Creek at San Emigdio Ranchhouse, Calif.

Location.--Lat 34°58'54", long 119°11'03", in San Emigdio Grant, Kern County, on left bank 50 ft downstream from unnamed tributary, 0.8 mile upstream from San Emigdio ranchhouse headquarters, and 13 miles west of Wheeler Ridge.

Drainage area.--48.8 sq mi.

Records available.---March 1959 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,617.57 ft above mean sea level.

Extremes.--Maximum discharge during year, 60 cfs Feb. 19 (gage height, 9.2 ft, from flood marks), from rating curve extended above 2 cfs as explained below; minimum daily, 0.3 cfs Apr. 23, 24.
1959-62: Maximum discharge, 6,690 cfs Aug. 5, 1961 (gage height, 19.87 ft, from flood marks), from rating curve extended above 2 cfs on basis of slope-area measurements at gage heights 10.41 and 19.87 ft; minimum daily, that of Apr. 23, 24, 1962.
Maximum stage known since at least 1938 (from information by local residents), that of Aug. 5, 1961.

Remarks.---Records fair except those for periods of no gage-height record, which are poor. Small diversions for stock and domestic use.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.6	0.9	0.8	1.0	0.7		0.4	0.6	0.5	0.5	0.9
2	.6	.6	6.6	.8	1.0	.7		.4	.6	.5	.5	.9
3	.6	.6	2.2	.8	1.0	.7		.6	.6	.4	.5	.8
4	.6	.6	.5	.8	1.0	.7		.6	.6	.4	.5	.9
5	.6	.6	.5	.8	1.0	.8		.6	.6	.6	.5	.9
6	.6	.6	.5	.8	1.0	.9		.7	.5	.6	.5	1.0
7	.6	.6	.5	.8	1.2	.7		1.0	.5	.6	.5	1.1
8	.6	.6	.6	.8	2.2	*.7		.8	.5	.5	.5	1.2
9	.6	.6	.6	.8	2	.7	0.8	.8	.5	.5	.5	1.2
10	.6	.6	.6	.7	3	.7		1.2	.5	.5	.5	1.0
11	*.5	.7	.6	.7	4	.7		1.3	.5	.5	.5	1.0
12	.5	.7	.6	.7		.7		1.1	.5	*.5	.5	1.0
13	.5	.7	.6	.8		.7		1.0	.5	.4	.5	.7
14	.5	.7	.6	.8		.7		.9	.5	.4	.5	.5
15	.5	.7	.6	.8	.7	.7		1.2	.5	.4	.5	.5
16	.5	.7	.6	.8		.6		1.4	.5	.4	.5	.5
17	.5	.8	.8	.8		.6		1.7	.5	.4	.5	.6
18	.5	.8	*.6	.7		.6		1.8	*.7	.4	.5	.6
19	.6	.8	.6	.7	1.0	.7	*1.0	1.6	.7	.4	.5	.7
20	.8	*.7	.5	.6		.7	1.4	1.5	.8	.4	.5	*.8
21	.6	.9	.4	.7		1.5	1.0	1.4	.8	.4	.5	.9
22	.6	.7	.4	.7			.6	1.4	.8	.4	.5	.9
23	.6	.6	.4	.8	.7		.3	1.4	.9	.4	*.6	1.0
24	.6	.6	.5	*.8			.3	*1.3	1.0	.4	.7	1.1
25	.6	.8	.5	1.0			.8	1.4	1.0	.4	.7	.9
26	.7	.8	.6	1.1		.8	1.2	1.4	1.1	.4	.7	.9
27	.7	.8	.6	1.2	(*)		1.0	1.2	1.1	.4	.6	1.0
28	.8	.8	.5	1.0	.8		2.0	.7	.9	.4	.7	1.1
29	.7	.8	.6	1.0	-		1.4	.6	.8	.4	.7	1.0
30	.8	.8	.7	1.0	-		.6	.6	.6	.4	.8	.9
31	.6	-	.8	1.0	-		-	.6	-	.5	.8	-
Total	18.5	20.9	25.4	25.6	39.7	23.5	26.0	32.6	20.2	13.8	17.3	26.5
Mean	0.60	0.70	0.82	0.83	1.42	0.76	0.87	1.05	0.67	0.45	0.56	0.88
Max	0.8	0.9	6.6	1.2	-	-	2.0	1.8	1.1	0.6	0.8	1.2
Min	0.5	0.6	0.4	0.6	-	0.6	0.3	0.4	0.5	0.4	0.5	0.5
Ac-ft	37	41	50	51	79	47	52	65	40	27	34	53
Calendar year 1961:	Max	300	Min	0.4	Mean	1.56	Ac-ft	1,130				
Water year 1961-62:	Max	-	Min	0.3	Mean	0.79	Ac-ft	576				

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 9-27, Mar. 21 to Apr. 19.

BUENA VISTA LAKE BASIN

551

11-1964. Caliente Creek above Tehachapi Creek, near Caliente, Calif.

Location.--Lat 35°18'40", long 118°34'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.17, T.30 S., R.32 E., on right bank 0.5 mile upstream from Harper Canyon, 1.0 mile upstream from Oiler Canyon, and 3.6 miles northeast of Caliente.

Drainage area.--165 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,575 ft (from topographic map).

Extremes.--Maximum discharge during year, 149 cfs Feb. 11 (gage height, 3.38 ft), from rating curve extended above 51 cfs; no flow for several months.

Remarks.--Records good. Small diversions above station for stock and domestic use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 29 to Jan. 24, May 18-21, June 1 to July 18)

0.9	0	1.5	4.3
1.0	0.1	1.7	9.2
1.1	0.3	1.9	16
1.2	0.6	2.2	32
1.3	1.4	2.5	53
1.4	2.6	2.8	80

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.0	0.7	8.6	7.0	1.5	0.4	0.1		
2			* 0	1.0	.7	8.6	6.6	1.4	.4	.1		
3			0	1.0	.7	12	6.0	1.4	.3	.1		
4			0	.9	.7	11	5.6	1.3	.3	.1		
5			0	.9	.7	9.2	4.9	1.3	.3	0		
6			0	.8	.7	10	4.3	1.2	.3	0		
7			0	.7	*.8	17	4.1	1.2	.2	0		
8			0	.7	1.7	18	4.1	1.1	.2	0		
9			0	.6	2.3	19	3.7	1.0	.2	0		
10			0	.9	1.9	20	3.5	1.0	.2	0		
11	(*)		0	1.4	*.75	20	3.2	1.1	.1	0		
12			0	1.6	*.63	18	2.9	1.3	.1	0		
13			0	1.6	2.4	16	2.9	1.4	.1	0		
14			0	1.3	1.2	*.13	2.7	2.2	.1	0		
15			0	1.4	*.70	12	2.6	1.8	.1	0		
16			0	1.2	7.3	10	2.6	1.5	.1	0		
17			0	1.1	7.8	8.9	2.6	1.3	.1	0		
18			* 0	.7	5.6	8.3	*.22	1.0	*.1	**0		
19			.3	.7	8.3	7.8	2.0	.9	.1	0		(*)
20		(*)	1.0	1.9	*.21	7.3	2.3	.9	.1	0		
21			13.0	1.9	20	7.0	2.3	*.9	.1	0		
22			1.4	1.4	15	8.3	1.9	.7	.1	0		
23			1.4	1.2	12	16	1.7	.6	.1	0		
24			1.4	* 1.0	8.9	12	1.7	.6	.1	0	(*)	
25			1.5	.9	8.6	11	1.7	.6	.1	0		
26			1.5	.9	8.9	10	1.7	.6	.1	0		
27			1.6	.9	8.3	9.9	1.6	.7	0	0		
28		(*)	1.6	.8	8.3	9.5	1.7	.6	0	0		
29			1.5	.8	-	9.2	1.8	.5	0	0		
30			1.4	.8	-----	8.9	1.7	.4	.1	0		
31			1.3	.7	-----	7.8	-----	.4	-----	0		
Total	0	0	17.2	32.7	331.9	364.3	93.6	32.4	4.5	0.4	0	0
Mean	0	0	0.55	1.05	11.8	11.9	3.12	1.05	0.15	0.01	0	0
Max	0	0	16	1.9	75	20	7.0	2.2	0.4	0.1	0	0
Min	0	0	0	0.6	0.7	7.0	1.6	0.4	0	0	0	0
Ac-ft	0	0	34	65	658	723	186	64	8.9	0.8	0	0
Calendar year 1961: Max	-		Min	-	Mean	-	Ac-ft	-				
Water year 1961-62: Max	75		Min	0	Mean	2.40	Ac-ft	1,740				

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

** Field estimate made on this day.

TULARE LAKE BASIN

11.1970. Tulare Lake in Kings County, Calif.

Location.--Lat 36°03'10", long 119°49'35", on inside of levee at "Navy White House" 2.2 miles southwest of Chatom Ranch and 9.5 miles south of Stratford.

Records available.--March 1906 to September 1920 (incomplete), February 1937 to September 1962.

Gage.--Staff gage. Datum of gage is at mean sea level. March 1906 to September 1920 staff gages at various sites at different datums. February 1937 to September 1958 water-stage recorder or staff gage at various sites.

Extremes.--1906-62: Maximum elevation, 196.8 ft June 27, 28, 1941; lake dry or practically so for parts of 1906, 1914-16, 1919, 1937, 1946, 1950-53, 1955-56, 1958; lake dry for entire years 1920-22, 1924-36, 1947-49, 1954, 1957, 1959-62. Lake elevation of June 27, 28, 1941, was highest known since about 1890.

Remarks.--Lake has been dry since Aug. 11, 1958. Tulare Lake receives water from Kings, Kaweah, and Tule Rivers during high-water periods and occasionally from Kern River, Deer Creek, and several small intermittent streams. Its natural boundary has been greatly altered by construction of levees and other reclamation work. Elevation at lowest point of lakebed is now about 180 ft above mean sea level.

Cooperation.--Record furnished by Tulare Lake Basin Water Storage District.

TULARE LAKE BASIN

553

11-1972.50 Avenal Creek near Avenal, Calif.

Location.--Lat 35°51'15", long 120°07'35", in NW¹/₄ sec.10, T.24 S., R.17 E., on right bank 550 ft downstream from road ford, 0.4 mile downstream from unnamed tributary, and 10 miles south of town of Avenal.

Drainage area.--57.1 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 825 ft (from topographic map).

Extremes.--Maximum discharge during year, 400 cfs Feb. 9 (gage height, 4.10 ft), from rating curve extended above 90 cfs on basis of slope-area measurement of peak flow; no flow for several months.

Remarks.--Records good except those for period of no gage-height record, which are poor. Minor diversions for stock.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.22	0	1.9	26
1.3	.1	2.1	50
1.4	.9	2.4	101
1.5	3.6	3.0	203
1.6	7.2	3.5	292
1.7	11		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.7		0	*4.4	0.9	0.5				
2			1.7		0	4.4	.9	.4				
3			0		0	4.0	.9	.3				
4			0		0	3.6	.9	.3				
5			0		0	3.6	.9	.2				
6			0		*0	*4.9	.6	.1				(*)
7			0		0	2.1	.6	.1				
8			0		*a4	1.1	.6	.1				
9			0		*a265	7.2	.5	.1				
10	(*)		0		a170	5.4	.5	.1				
11			0		a100	4.0	.5	.2				
12			0		*a45	3.3	.4	.3	(*)	(*)		
13			(*)0		16	2.1	.3	.4				
14			0		53	1.8	.1	.6				
15			0		34	1.1	.2	.7				
16		(*)	0		62	.7	.3	.6				
17			0		30	.5	.4	.7				
18			0		41	.4	.5	.5				
19			0		101	.2	*.6	.4				
20			0		53	.1	.7	.3				
21			0	(*)	40	.2	.7	.4				
22		(*)	0		21	.1	.6	.4				
23			0		14	.3	.5	.2				
24			0		11	.3	.4	.2				
25			0		8.7	.9	.5	.2				
26			0		6.9	1.8	.5	.4				
27			0		5.4	1.3	.5	.6				
28			0		4.4	.9	.5	.7				
29			0		-	.9	.5	.5				
30			0		-	.9	.5	.6				
31			0		-	.9	.5	.1				
Total	0	0	2.4	0	1085.4	136.3	16.5	11.2	0	0	0	0
Mean	0	0	0.08	0	38.8	4.40	0.55	0.36	0	0	0	0
Max	0	0	1.7	0	265	49	0.9	0.7	0	0	0	0
Min	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Ac-ft	0	0	4.8	0	2,150	270	33	22	0	0	0	0

Calendar year 1961: Max Min Mean Ac-ft
 Water year 1961-62: Max 265 Min 0 Mean 3.43 Ac-ft 2,480

* Discharge measurement or observation of no flow made on this day.
 a No gage-height record.

TULARE LAKE BASIN

11-1978. Poso Creek near Oildale, Calif.

Location.--Lat 35°30'50", long 118°54'15", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.6, T.28 S., R.29 E., opposite mouth of Hillvale Canyon, on highway bridge 10 miles northeast of Oildale and 12 miles northeast of Bakersfield.

Drainage area.--230 sq mi.

Records available.--July 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 700 ft (from topographic map).

Extremes.--Maximum discharge during year, 125 cfs Feb. 20 (gage height, 3.84 ft); minimum, 1.4 cfs June 19.

1959-62: Maximum discharge, that of Feb. 20, 1962; minimum, 0.9 cfs July 26, 1961.

The flood of Apr. 4, 1958, reached a stage of 8.6 ft, from floodmarks (discharge, 2,750 cfs, furnished by Kern County Land Co.).

Remarks.--Records good except those for period of no gage-height record, which are fair. Oil-field waste comprises most of low flow.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 22, Feb. 21 to Mar. 13, May 19-28)

Oct. 1 to Feb. 20		Feb. 20 to Sept. 30	
1.5	2.2	1.4	1.9
1.7	4.4	1.6	4.1
2.0	9.0	1.9	8.4
2.4	19	2.2	15
2.8	36	2.5	24
3.2	61	3.0	48
3.7	108	3.5	86

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	3.9	4.3	5.4	6.0	3.4	4.4	1.3	5.4	2.8	2.7	3.7
2	3.0	3.8	5.0	5.5	6.0	3.3	4.3	1.3	4.7	2.5	2.7	4.1
3	3.0	3.8	4.7	5.4	5.8	3.6	4.1	1.2	4.0	3.1	2.6	4.1
4	2.8	3.9	4.4	5.4	5.8	3.7	4.0	1.2	3.8	3.0	2.7	4.0
5	2.6	3.7	4.4	5.5	5.8	3.5	3.8	1.1	3.7	2.9	2.9	4.1
6	3.0	3.7	4.6	5.7	6.0	3.8	3.7	1.0	3.7	4.0	2.9	4.2
7	3.3	3.7	4.6	5.7	6.0	6.2	3.6	9.2	3.4	2.7	2.9	3.4
8	3.5	3.8	4.6	5.7	6.7	7.4	3.5	8.6	3.4	2.7	2.9	2.9
9	3.2	3.8	4.7	5.5	6.2	6.3	3.3	9.1	3.3	2.8	2.8	2.8
10	3.1	3.9	4.7	5.5	7.1	5.8	3.2	8.7	3.3	2.7	2.8	2.8
11	*3.2	4.1	4.6	5.5	3.0	5.2	3.1	9.1	3.2	2.7	2.7	2.8
12	3.1	3.9	4.7	5.5	*4.8	4.7	3.0	9.2	3.3	2.7	2.7	2.8
13	2.3	3.8	4.7	5.7	3.0	4.4	2.9	1.0	3.3	2.7	2.7	2.9
14	2.4	3.8	4.8	5.5	2.0	*4.0	2.8	1.2	3.5	2.7	2.7	2.9
15	3.2	3.9	4.8	5.5	2.4	3.7	2.7	1.4	3.5	2.7	2.7	2.9
16	4.1	3.9	4.8	5.5	2.4	3.4	2.6	1.5	3.4	2.7	2.7	2.8
17	4.1	4.1	4.8	5.5	2.7	3.1	2.6	1.6	3.3	2.7	2.8	3.2
18	3.7	4.1	*5.0	5.7	2.3	2.9	2.5	1.4	*2.9	*2.7	2.8	3.4
19	3.6	4.1	5.2	5.8	4.8	2.6	*2.4	1.2	2.1	2.7	2.9	3.3
20	3.3	4.3	5.2	6.4	10.6	2.4	2.3	9.6	2.7	2.6	2.9	*3.5
21	3.1	4.1	5.1	6.1	6.8	2.4	2.2	8.4	2.7	2.7	2.9	3.1
22	2.9	*4.0	5.1	6.0	6.4	4.7	2.0	7.6	2.6	2.7	2.9	3.0
23	2.6	4.1	5.2	5.8	5.2	6.0	1.8	6.9	2.6	2.7	*2.9	2.9
24	2.2	4.1	5.4	*5.8	4.6	5.8	1.7	6.6	2.6	2.7	2.9	2.9
25	2.4	4.2	5.4	5.8	4.7	5.6	1.7	*6.5	2.6	2.7	2.9	2.9
26	3.3	3.1	5.2	6.0	4.5	5.4	1.8	6.6	2.6	2.7	2.9	2.3
27	3.9	4.1	5.4	6.0	3.9	5.2	1.8	7.5	2.7	2.7	2.7	2.6
28	3.9	4.4	5.4	6.0	3.5	5.1	1.7	8.1	2.6	2.7	2.6	2.8
29	3.9	4.6	5.5	6.0	-	4.9	1.6	8.2	2.7	2.7	2.9	3.1
30	3.9	4.4	5.5	6.0	-----	4.7	1.5	7.2	2.8	2.7	2.8	3.1
31	3.9	-----	5.5	6.0	-----	4.6	-----	5.9	-----	2.7	2.9	-----
Total	99.6	119.1	153.3	177.4	837.4	137.8	82.6	307.0	96.4	85.8	86.8	95.3
Mean	3.21	3.97	4.95	5.72	29.9	44.5	27.5	9.90	3.21	2.77	2.80	3.18
Max	4.1	4.6	5.5	6.4	106	74	44	16	5.4	4.0	2.9	4.2
Min	2.2	3.1	4.3	5.4	5.8	24	15	5.9	2.1	2.5	2.6	2.3
Ac-ft	198	236	304	352	1,660	2,730	1,640	609	191	170	172	189
Calendar year 1961: Max	7.1	Min	1.3	Mean	3.45	Ac-ft	2,500					
Water year 1961-62: Max	106	Min	2.1	Mean	11.7	Ac-ft	8,450					

* Discharge measurement made on this day.

Note.--No gage-height record Mar. 14 to Apr. 18.

11-2020. North Fork of Middle Fork Tule River, near Springville, Calif.

Location.--Lat 36°10'29", long 118°41'41", in sec.23, T.20 S., R.30 E. (unsurveyed), on right bank 1.2 miles upstream from mouth, 2.2 miles downstream from Hossack Creek, and 7.4 miles northeast of Springville.

Drainage area.--39.3 sq mi (revised).

Records available.--October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. January 1909 to December 1912 at site 2 miles upstream, records not equivalent. Prior to October 1954, records for river and conduit published separately.

Gage.--Water-stage recorder. Altitude of gage is 2,920 ft (from topographic map).

Average discharge.--23 years, 54.5 cfs (39,460 acre-ft per year), combined flow of North Fork of Middle Fork Tule River and Pacific Gas & Electric Co. conduit.

Extremes (river only).--Maximum discharge during year, 169 cfs Feb. 8 (gage height, 4.72 ft); minimum daily, 0.3 cfs Oct. 1, 2, Sept. 7, 8.

1939-62: Maximum discharge, 12,400 cfs Dec. 23, 1955 (gage height, 12.47 ft, from floodmarks), from rating curve extended above 100 cfs on basis of critical-depth determination; no flow Sept. 10, 11, 1955.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Records of daily discharge presented herein include flow of Pacific Gas & Electric Co. conduit which diverts 2.5 miles upstream from station; water is returned to North Fork of Middle Fork Tule River 1.1 miles downstream from station.

Cooperation.--Water-stage-recorder graph and nine discharge measurements for the river and water-stage-recorder graph and 10 discharge measurements for the conduit furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	9.0	12	11	21	27	87	106	93	40	20	14
2	8.2	9.1	19	11	21	27	88	109	95	39	18	13
3	8.3	9.0	17	11	21	26	87	117	96	38	18	13
4	8.3	9.0	13	11	20	27	94	125	90	36	18	14
5	*8.3	9.0	13	11	20	28	105	133	88	35	18	13
6	8.3	8.9	13	11	21	41	117	133	87	34	19	13
7	8.4	8.6	13	11	38	38	124	129	88	33	18	13
8	8.8	8.6	12	12	117	35	130	127	87	32	18	13
9	8.8	8.6	12	12	122	36	137	121	88	31	18	14
10	8.7	8.8	12	12	127	34	133	116	90	30	18	14
11	8.5	8.8	11	11	110	32	131	107	87	30	18	12
12	8.9	8.8	11	13	*88	30	135	107	85	29	18	14
13	8.6	8.8	11	14	63	29	141	98	82	30	16	*14
14	8.5	8.8	11	12	60	28	146	95	81	28	16	14
15	8.4	8.8	11	13	79	29	141	89	76	28	*16	13
16	8.7	8.9	11	12	70	30	136	87	70	27	16	13
17	7.2	9.1	11	12	55	29	137	85	66	26	16	12
18	11	9.1	11	12	47	30	139	85	64	25	16	12
19	8.7	9.1	*11	*14	52	*31	139	85	65	25	16	13
20	8.2	14	11	41	45	33	125	83	64	25	16	13
21	9.1	13	12	18	39	31	118	78	63	24	16	13
22	9.1	11	12	17	35	35	121	77	60	24	16	13
23	8.8	12	12	15	34	34	127	82	57	23	16	12
24	8.5	12	12	14	34	34	129	81	54	23	14	12
25	8.9	16	12	15	31	39	125	80	52	22	14	12
26	8.5	15	12	16	29	47	116	79	50	22	14	13
27	8.7	13	12	17	27	58	113	76	46	22	14	12
28	8.9	13	12	18	27	69	113	72	45	20	14	13
29	9.0	*13	11	19	-	64	108	75	43	20	14	13
30	9.0	13	11	20	-----	64	104	85	41	20	14	13
31	9.0	-----	11	21	-----	73	-----	*90	-----	20	14	-----
Total	268.5	313.8	375	457	1,453	1,168	3,646	3,012	2,153	861	507	390
Mean	8.66	10.5	12.1	14.7	51.9	37.7	122	97.2	71.8	27.8	16.4	13.0
Max	11	16	19	41	127	73	146	133	96	40	20	14
Min	7.2	8.6	11	11	20	26	87	72	41	20	14	12
Ac-ft	533	622	744	906	2,880	2,320	7,230	5,970	4,270	1,710	1,010	774
Calendar year 1961:	Max 53		Min 7.2		Mean 16.1		Ac-ft 11,660					
Water year 1961-62:	Max 146		Min 7.2		Mean 40.0		Ac-ft 28,970					

* Discharge measurement of river made on this day.

Note.--No gage-height record at river station July 26 to Aug. 15, Aug. 22-31.

TULARE LAKE BASIN

11-2031. North Fork Tule River at Springville, Calif.

Location.--Lat 36°08'22", long 118°48'15", in SE $\frac{1}{4}$ sec.35, T.20 S., R.29 E., on left bank 0.1 mile upstream from Middle Fork Tule River, three-quarters of a mile northeast of Springville, and 12.9 miles northeast of Porterville.

Drainage area.--97.9 sq mi.

Records available.--February 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,040 ft (from topographic map).

Average discharge.--5 years, 28.6 cfs (20,710 acre-ft per year).

Extremes.--Maximum discharge during year, 698 cfs Feb. 9 (gage height, 7.52 ft); no flow for many days.

1957-62: Maximum discharge, 2,070 cfs May 19, 1957 (gage height, 9.27 ft), from rating curve extended above 700 cfs; no flow for many days in 1958, 1960-62.

Remarks.--Numerous small diversions above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.4	0.7	1.5	1.4	52	115	50	20	1.6	1.5	0.4
2	0	.4	.4	1.5	1.4	55	121	52	22	1.8	1.3	.5
3	0	.4	4.0	1.4	13	* 55	109	55	26	* 1.4	1.1	.5
4	0	.1	2.6	* 1.1	12	48	* 115	* 62	25	1.0	.9	.3
5	0	.1	1.6	1.1	11	51	134	67	22	1.0	.5	* .3
6	0	.2	* 1.5	1.2	11	134	163	67	* 19	.9	.3	.3
7	0	.2	1.8	.9	* 26	140	191	65	18	.9	.2	.3
8	0	.2	1.1	.8	196	104	196	61	19	1.0	.2	.3
9	0	.2	1.0	.8	* 301	95	199	55	18	1.0	.3	.4
10	0	.2	.7	.8	* 579	81	172	52	18	.8	.4	.5
11	0	.2	.7	.7	466	71	151	48	18	.8	.3	.4
12	0	.2	.7	.8	* 349	63	* 152	50	16	.9	.5	.5
13	0	.2	.7	2.8	160	59	152	47	14	1.2	.3	.7
14	.1	.2	.7	2.4	145	55	154	48	14	1.1	.2	.9
15	.3	.2	.8	1.6	200	55	144	45	20	1.0	.3	.9
16	.1	.2	1.0	1.6	242	55	122	44	20	1.1	.6	.9
17	0	.2	1.0	1.5	178	53	110	41	15	1.1	.6	.8
18	.1	.2	1.1	1.4	123	51	* 109	41	13	1.0	.5	.6
19	0	.2	1.1	1.6	260	52	107	38	10	.6	.3	.7
20	0	.4	1.0	56	186	56	93	36	8.6	.5	.5	.6
21	.2	.2	1.2	28	119	53	79	32	7.3	.3	.3	.7
22	.3	.1	1.2	13	90	57	72	28	6.0	.2	.2	.4
23	.4	.1	1.9	8.4	74	64	75	26	5.0	.2	.2	.3
24	.4	.1	2.0	6.9	76	53	77	26	4.8	.2	.3	.2
25	.4	.4	1.9	6.4	69	57	75	26	4.2	.2	.3	.2
26	.2	.6	2.0	6.3	70	70	65	26	3.2	.2	.2	.4
27	.3	.5	2.0	6.8	59	94	58	29	2.7	.1	.3	.4
28	.2	.5	2.2	8.1	55	123	62	28	2.2	.8	.6	.8
29	.2	.6	2.0	11	-	115	61	24	1.9	1.4	.4	1.1
30	.3	.7	1.6	12	-----	99	55	22	1.7	1.5	.4	.9
31	.3	-----	1.5	13	-----	96	-----	20	-----	1.8	.7	-----
Total	3.7	8.4	43.7	201.4	4,098	2,266	3,488	1,311	394.6	27.6	14.7	16.2
Mean	0.12	0.28	1.41	6.50	146	73.1	116	42.3	13.2	0.89	0.47	0.54
Max	0.4	0.7	4.0	56	579	140	199	67	26	1.8	1.5	1.1
Min	0	0.1	0.4	0.7	11	48	55	20	1.7	0.1	0.2	0.2
Ac-ft	7.3	17	87	399	8,130	4,490	6,920	2,600	783	55	29	32

Calendar year 1961: Max 41 Min 0 Mean 3.99 Ac-ft 2,890
 Water year 1961-62: Max 579 Min 0 Mean 32.5 Ac-ft 23,550

* Discharge measurement made on this day.

TULARE LAKE BASIN

557

11-2032. Tule River near Springville, Calif.

Location.--Lat 36°05'41", long 118°50'09", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.15, T.21 S., R.29 E., on left bank 15 ft upstream from highway bridge, 2 miles southwest of Springville, and 4 miles downstream from North Fork.

Drainage area.--229 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 800 ft (from topographic map).

Average discharge.--5 years, 88.3 cfs (63,930 acre-ft per year).

Extremes.--Maximum discharge during year, 1,460 cfs Feb. 10 (gage height, 5.59 ft); minimum daily, 0.3 cfs Oct. 8.

1957-62: Maximum discharge, 3,400 cfs Apr. 3, 1958 (gage height, 6.70 ft); no flow for many days in 1961.

Flood in December 1955 reached a stage of 13.7 ft, from floodmarks (discharge, about 21,000 cfs).

Remarks.--Records excellent. Many small diversions above station for irrigation. Power is developed on Middle Fork and tributaries.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.6	0.1	3.6	101
2.7	.7	3.8	164
2.8	2.8	4.0	244
2.9	6.3	4.5	505
3.0	11	5.0	860
3.2	26	5.5	1,380
3.4	57		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	7.6	19	20	48	121	262	206	140	36	7.6	1.7
2	.4	7.6	38	20	50	121	276	219	150	36	5.5	2.5
3	.4	7.2	43	20	48	127	272	240	168	35	8.0	3.4
4	.4	6.7	31	20	48	124	276	272	150	32	9.0	2.8
5	.4	6.7	25	20	47	116	320	295	137	29	8.5	2.2
6	.4	6.3	24	20	47	308	375	305	130	26	7.2	1.7
7	.4	5.1	23	19	74	340	440	285	127	26	4.7	1.7
8	.3	4.3	22	19	47.1	244	463	281	124	24	4.0	2.0
9	.4	4.3	21	19	65.3	223	487	262	127	23	* 3.7	2.0
10	.4	4.7	20	18	127.0	194	440	244	124	* 22	3.7	1.7
11	1.0	5.1	20	16	95.9	172	* 406	210	124	20	4.0	1.5
12	1.5	5.5	20	17	73.2	150	406	219	116	18	4.3	* 1.3
13	2.0	5.9	20	29	365	137	418	198	110	19	5.9	1.3
14	1.7	6.7	19	24	330	130	434	191	* 107	18	3.1	1.3
15	2.0	6.7	19	22	401	127	428	175	116	18	3.1	4.7
16	1.7	7.2	19	20	505	121	385	168	107	17	2.5	5.5
17	1.7	7.6	19	20	390	118	370	* 157	96	18	2.0	4.0
18	.7	8.0	20	19	276	116	370	161	89	14	2.2	4.0
19	1.0	8.5	20	20	* 498	116	375	150	84	13	2.5	3.7
20	1.7	20	18	190	385	124	335	140	79	12	2.2	3.7
21	2.5	32	18	87	262	121	281	127	75	11	2.2	4.0
22	5.1	18	* 19	52	206	130	276	121	73	12	2.5	4.0
23	4.7	18	20	42	175	161	290	121	69	10	2.0	3.7
24	* 5.1	18	20	37	175	127	300	121	63	9.5	1.7	3.4
25	4.7	21	20	36	161	133	295	121	57	9.0	1.7	2.0
26	5.9	31	20	36	164	157	258	121	52	7.6	1.7	1.7
27	5.9	21	20	37	137	194	240	124	47	5.9	1.7	5.5
28	6.3	20	20	39	127	253	249	121	42	4.7	1.7	7.2
29	6.7	19	20	* 43	-	* 249	240	110	39	4.7	1.7	8.5
30	6.7	* 21	20	45	-----	223	210	118	36	6.3	1.5	8.0
31	6.7	-----	20	47	-----	223	-----	121	-----	6.7	2.2	-----
Total	79.4	360.7	677	1073	900.4	5200	10177	5704	2958	543.4	114.3	100.7
Mean	2.56	12.0	21.8	34.6	322	168	339	184	98.6	17.5	3.69	3.36
Max	6.7	32	43	190	1,270	340	487	305	168	36	9.0	8.5
Min	0.3	4.3	18	16	48	116	210	110	36	4.7	1.5	1.3
Ac-ft	157	715	1,340	2,130	17,860	10,310	20,190	11,310	5,870	1,080	227	200

Calendar year 1961: Max 116 Min 0 Mean 20.3 Ac-ft 14,700

Water year 1961-62: Max 1,270 Min 0.3 Mean 98.6 Ac-ft 71,390

Peak discharge (base, 1,000 cfs).--Feb. 10 (1900) 1,460 cfs (5.59 ft).

* Discharge measurement made on this day.

11-2045. South Fork Tule River near Success, Calif.

Location.--Lat 36°02'30", long 118°51'25", in NW 1/4 sec. 4, T.22 S., R.29 E., on left bank 0.5 miles upstream from Crew Creek, 4 miles southeast of Success, and 5 miles upstream from mouth.

Drainage area.--109 sq mi.

Records available.--June 1930 to November 1954, February 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 770 ft (from topographic map). Prior to June 26, 1951, at site 0.4 mile downstream at different datum.

Average discharge.--30 years, 39.1 cfs (28,310 acre-ft per year); median of yearly mean discharges, 28 cfs (20,300 acre-ft per year).

Extremes.--Maximum discharge during year, 343 cfs Feb. 8 (gage height, 5.44 ft); no flow for several months.

1930-1954, 1956-62: Maximum discharge, 7,100 cfs Nov. 19, 1950 (gage height, 8.35 ft, site and datum then in use; 11.36 ft, present site and datum), from rating curve extended above 3,100 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records good except those below 0.5 cfs and those for period of no gage-height record, which are fair. Diversions for irrigation of about 1,600 acres.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.7	0	3.5	14
2.8	.1	3.7	25
2.9	.4	4.0	50
3.0	.7	4.5	120
3.1	1.6	5.0	219
3.2	3.6	5.5	365
3.3	6.4		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		* 0	0.7	0.6	1.4	3.9	8.0	3.8	1.6	2.3		
2		0	5.3	.6	1.4	4.0	8.0	3.7	1.5	2.1		
3		0	1.4	.7	1.3	4.1	7.5	3.7	1.5	1.6		
4		0	6.4	.8	1.3	3.7	7.7	3.8	1.4	1.4		
5		0	2.5	.8	1.3	3.8	8.5	3.8	1.4	1.1		
6		0	1.5	.8	1.3	8.6	9.8	3.7	1.3	.8		
7		0	1.1	.9	2.7	8.7	10.9	3.6	1.2	.7		
8		0	1.0	.8	1.5	6.8	11.4	3.4	1.2	.5		
9		0	.9	.9	1.7	6.4	11.5	3.4	1.1	.4		
10		0	.9	.8	2.6	5.8	10.6	3.3	1.2	.3		
11		0	.9	.6	2.4	5.1	9.4	3.1	1.1	.3		(*)
12		0	.9	.8	1.9	4.5	* 9.1	3.4	1.1	.3		
13		0	.8	7.6	9.1	4.1	8.8	3.2	1.1	.5		
14		0	.6	3.1	9.1	3.9	8.8	3.4	* 1.2	.5		
15		0	.7	1.9	9.9	3.9	8.8	3.3	1.4	.5	(*)	
16		0	.8	1.3	1.1	3.9	8.0	3.3	1.3	.5		
17		0	.8	1.3	1.0	3.8	7.2	* 3.0	1.1	.4		
18		0	.8	1.2	7.3	3.8	6.9	3.0	8.8	.4		
19		0	.8	a 7	1.6	3.8	6.8	2.7	7.7	* .3		
20		0	.7	a 5.5	1.5	4.0	6.3	2.4	6.4	.5		
21		6.9	.7	a 2.5	8.5	3.9	5.5	2.3	5.8	.7		
22		1.8	* .7	a 1.5	6.9	4.6	5.4	2.1	5.5	.7		
23		.2	.6	a 1.2	5.5	6.1	5.2	2.0	5.0	.5		
24	(*)	.5	.6	a 1.1	6.1	4.7	5.2	2.0	4.7	.1		
25		.9	.6	a 1.1	5.4	5.2	5.2	1.9	4.4	0		
26		2.1	.6	a 1.1	* 5.2	6.1	4.7	2.0	3.9	0		
27		4.5	.6	a 1.1	4.3	* 7.2	4.5	2.1	3.4	0		
28		.6	.6	a 1.2	4.2	8.4	4.7	2.0	3.6	0		
29		.4	.6	* a 1.3	-	8.4	4.6	1.8	3.4	0		
30		* .4	.6	1.3	-	7.3	4.0	1.7	2.5	0		
31			.6	1.4	-	7.2	-	1.6	-	0		
Total	0	37.2	48.9	235.5	248.4	1,657	2,230	885	282.1	17.4	0	0
Mean	0	1.24	1.58	7.60	88.7	53.5	74.3	28.5	9.40	0.56	0	0
Max	0	21	14	.55	261	87	115	38	16	2.3	0	0
Min	0	0	0.6	0.6	13	37	40	16	2.5	0	0	0
Ac-ft	0	74	97	467	4,930	3,290	4,420	1,760	560	35	0	0

Calendar year 1961: Max 32 Min 0 Mean 3.45 Ac-ft 2,500

Water year 1961-62: Max 261 Min 0 Mean 21.6 Ac-ft 15,620

Peak discharge (base, 400 cfs).--No peak above base.

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

TULARE LAKE BASIN

559

11-2046.8. Pioneer ditch below Success Dam, Calif.

Location.--Lat 36°03'34", long 118°55'22", in NW¼ sec.35, T.21 S., R.28 E., 0.1 mile downstream from Success Dam and 5.5 miles east of Porterville.

Records available.--April 1959 to September 1962. Prior to October 1960, monthly diversions only, published with Tule River near Porterville.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 549.00 ft above mean sea level (levels by Corps of Engineers). Prior to Feb. 1, 1961, at site 0.5 mile downstream at different datum.

Extremes.--1960-62: Maximum daily discharge, 29 cfs Apr. 15, 16, 1961; no flow at times in most years.

Remarks.--Records good. Ditch receives water from Success Reservoir (usable capacity, 80,000 acre-ft).

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		* 0	14	11	21	10	0	14	13	15	15	13
2	(*)	0	16	11	20	22	0	15	13	15	14	13
3		0	18	12	18	22	0	15	13	15	15	13
4		0	17	12	18	22	0	15	13	15	15	13
5		0	15	11	17	22	0	14	13	14	16	13
6		0	13	11	17	18	0	14	13	14	16	13
7		0	12	12	17	11	0	14	13	14	14	13
8		0	11	12	18	19	0	14	14	14	13	13
9		0	10	12	13	25	0	14	15	14	*13	13
10		0	10	11	4.3	25	4.9	13	15	*13	13	13
11		0	10	10	0	25	9.8	13	14	12	13	16
12		0	10	9.6	0	25	* 9.8	14	13	13	13	16
13		0	10	16	0	14	12	14	13	13	14	*15
14		0	10	18	0	0	14	14	*12	13	13	15
15		0	9.8	16	0	0	14	14	11	13	13	15
16		0	9.4	14	0	0	14	14	11	11	13	15
17		0	9.4	13	0	0	11	*14	11	11	13	15
18		0	9.6	12	0	0	11	14	11	12	13	15
19		0	10	12	* 0	0	12	11	12	13	13	15
20		0	10	17	0	0	12	9.6	13	13	14	15
21		0	9.6	11	0	0	12	9.4	14	14	14	15
22		0	* 9.6	8.7	0	0	12	9.4	14	14	14	15
23		0	10	9.4	0	* 0	13	10	14	14	14	15
24	(*)	.6	11	7.7	0	0	14	12	14	14	14	15
25		6.4	11	11	0	0	15	13	14	14	14	15
26		14	10	15	0	0	16	13	14	14	14	15
27		15	10	15	0	0	16	13	13	14	14	14
28		12	11	16	0	0	16	13	12	14	14	14
29		12	11	*17	-	0	16	13	14	14	14	15
30		*13	11	18	-----	0	16	14	14	15	14	15
31		-----	11	19	-----	0	-----	14	-----	14	14	-----
Total	0	73.0	349.4	400.4	163.3	260	270.5	407.4	393	422	430	430
Mean	0	2.43	11.3	12.9	5.83	8.39	9.02	13.1	13.1	13.6	13.9	14.3
Max	0	15	18	19	21	25	16	15	15	15	16	16
Min	0	0	9.4	7.7	0	0	0	9.4	11	11	13	13
Ac-ft	0	145	693	794	324	516	537	808	780	837	853	853
Calendar year 1961: Max	29		Min	0	Mean	7.66	Ac-ft	5,550				
Water year 1961-62: Max	25		Min	0	Mean	9.86	Ac-ft	7,140				

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

TULARE LAKE BASIN

11-2047. Lake Success near Success, Calif.

Location.--Lat 36°03'40", long 118°55'18", in SE 1/4 sec. 35, T.21 S., R.28 E., in control tower near right abutment of Success Dam on Tule River, 5 miles east of Porterville.

Drainage area.--391 sq mi.

Records available.--November 1961 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929 (levels by Corps of Engineers).

Extremes.--Maximum contents since beginning of storage, 29,000 acre-ft June 4-21; maximum elevation, 617.52 ft June 7, 8.

Remarks.--Reservoir is formed by earth-fill dam and dike. Storage began November 1961. Usable capacity, 83,900 acre-ft, between elevations 559.0 ft (invert of outlet structure) and 652.5 ft (spillway crest). Spillway design flood pool elevation, 686.8 ft (capacity, 205,500 acre-ft). Dead storage negligible. Records including extremes represent usable contents at 2400 hrs.

Cooperation.--Record of contents furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-ft)

559	0	590	8,300
561	202	600	14,400
565	692	610	22,100
570	1,500	620	31,500
580	4,010		

Contents, in acre-feet, at 2400 hrs, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			41	42	80	542	6,950	23,600	28,700	28,200	20,300	11,200
2			59	41	81	615	7,500	23,900	28,800	28,000	19,800	11,100
3			67	43	80	658	8,020	24,100	28,900	27,900	19,400	11,000
4			59	43	78	635	8,570	24,500	29,000	27,800	18,900	11,000
5			54	42	78	641	9,200	24,900	29,000	27,700	18,400	11,000
6			49	41	75	1,050	10,000	25,300	29,000	27,700	17,900	10,900
7			47	42	103	1,500	10,900	25,800	29,000	27,700	17,500	10,900
8			46	43	450	1,730	11,900	26,200	29,000	27,600	17,000	10,900
9			45	42	772	1,870	12,900	26,600	29,000	27,600	16,600	10,900
10			44	40	1,530	1,940	13,800	27,000	29,000	27,500	16,300	10,700
11			43	39	2,080	1,960	14,600	27,300	29,000	27,400	16,000	10,400
12			43	44	2,860	1,950	15,400	27,600	29,000	27,300	15,700	10,100
13			42	56	2,680	1,960	16,200	27,900	29,000	27,100	15,400	9,860
14			42	54	2,230	2,030	17,100	28,200	29,000	27,000	15,100	9,650
15			41	49	1,790	2,150	17,900	28,300	29,000	26,800	14,900	9,550
16			41	47	1,530	2,260	18,500	28,500	29,000	26,600	14,600	9,460
17			41	47	1,080	2,350	18,900	28,600	29,000	26,300	14,300	9,390
18			43	45	425	2,420	19,300	28,700	29,000	26,000	14,100	9,310
19			43	48	714	2,540	19,800	28,800	29,000	25,700	13,800	9,230
20			41	206	685	2,730	20,100	28,900	29,000	25,400	13,500	9,140
21			41	133	618	2,900	20,400	28,800	29,000	25,100	13,300	9,060
22		0	42	94	595	3,100	20,700	28,800	28,900	24,800	13,100	8,980
23		6	42	82	552	3,400	21,000	28,700	28,900	24,400	12,900	8,890
24		28	42	73	557	3,600	21,500	28,600	28,900	24,000	12,700	8,820
25		37	42	72	538	3,820	21,900	28,600	28,900	23,500	12,500	8,760
26		48	41	70	544	4,120	22,300	28,600	28,900	23,000	12,300	8,700
27		43	41	71	512	4,490	22,600	28,500	28,900	22,600	12,100	8,620
28		40	42	72	509	5,000	22,900	28,600	28,800	22,100	11,900	8,550
29		42	42	76	-	5,500	23,200	28,600	28,600	21,700	11,700	8,480
30		42	42	79	-----	5,970	23,400	28,600	28,400	21,200	11,500	8,410
31		-----	42	79	-----	6,430	-----	28,700	-----	20,700	11,400	-----
(+)	-	559.43	559.43	559.80	563.62	586.19	611.48	617.14	616.84	608.31	595.33	590.20
(#)	-	+42	0	+36	+431	+5,920	+16,970	+5,300	-300	-7,700	-9,300	-2,990
(††)	-	4	7	8	12	53	318	521	772	868	638	421

Calendar year 1961..... -

Water year 1961-62..... + 48,410

† Elevation in feet, at end of month.

Change in contents, in acre-feet.

†† Evaporation, in acre-feet, furnished by Corps of Engineers.

TULARE LAKE BASIN

561

11-2049. Tule River below Success Dam, Calif.

Location.--Lat 36°03'23", long 118°55'22", in SW¹ sec.35, T.21 S., R.28 E., on right bank 1,000 ft downstream from Success Dam and 5 miles east of Porterville.

Drainage area.--393 sq mi.

Records available.--October 1953 to September 1962. Prior to October 1960, published as "at Worth Bridge, near Porterville."

Gage.--Water-stage recorder. Datum of gage is 536.00 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to October 1960 at site 0.5 mile downstream at different datum.

Average discharge.--9 years, 124 cfs (89,770 acre-ft per year), adjusted.

Extremes.--Maximum discharge during year, 1,390 cfs Feb. 10 (gage height, 7.63 ft); no flow Oct. 1 to Nov. 23.

1953-61 (prior to regulation by Success Reservoir): Maximum discharge, 27,000 cfs Dec. 23, 1955 (gage height, 21.65 ft, site and datum then in use), from rating curve extended above 1,400 cfs on basis of studies of upstream peaks; no flow at times in 1954-57, 1959-61.

1961-62: Maximum discharge, that of Feb. 10; minimum, no flow for several months in 1961-62.

Remarks.--Records good. Flow regulated by Success Reservoir beginning Nov. 23, 1961 (see preceding page). Pioneer ditch (see p. 559) diverts above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 31

Feb. 1 to Sept. 30

0.9	0	2.5	22	1.2	1.2	4.0	95
1.0	.2	3.0	40	1.4	2.5	4.5	146
1.1	.6	3.5	63	1.7	5.3	5.0	230
1.3	1.6	4.0	94	2.1	11	5.5	345
1.6	3.7	4.5	134	2.5	22	6.0	500
1.9	7.5	4.7	152	3.0	40	7.0	980
2.2	14			3.5	64		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		* 0	9.0	11	40	150	61	118	91	113	205	60
2	(*)	0	12	11	42	109	62	121	94	104	199	30
3		0	27	11	44	133	62	122	96	62	206	16
4		0	27	11	43	150	63	106	104	40	222	8.7
5		0	20	11	43	136	64	103	108	25	220	3.4
6		0	17	11	42	143	57	102	107	14	214	3.4
7		0	16	11	47	192	56	75	104	11	206	3.4
8		0	16	10	227	176	60	62	110	11	205	2.2
9		0	15	11	* 634	184	62	63	112	11	* 203	1.4
10		0	14	12	* 951	201	62	64	109	* 30	146	60
11		0	13	11	928	199	61	68	96	54	122	106
12		0	13	11	503	187	60	72	96	64	120	112
13		0	13	13	584	* 173	60	72	98	71	117	* 108
14		0	13	16	706	133	61	78	* 94	71	115	89
15		0	13	15	790	101	66	100	94	81	114	37
16		0	13	14	820	104	131	108	90	100	116	24
17		0	13	14	815	112	181	* 105	87	110	117	24
18		0	13	13	770	118	189	109	86	125	116	24
19		0	12	13	* 556	92	186	114	89	132	116	24
20		0	12	77	616	* 68	182	118	65	127	108	24
21		0	12	148	439	72	179	150	53	127	77	24
22		0	* 12	* 88	365	71	171	171	53	133	80	24
23		0	12	58	279	69	137	171	52	182	86	24
24	(*)	3.9	12	49	254	71	106	159	49	208	85	24
25		7.8	12	40	254	69	102	145	39	214	85	17
26		8.9	12	36	237	66	* 102	128	28	214	84	15
27		9.6	12	36	228	64	102	125	38	212	84	24
28		8.9	12	36	193	62	103	115	76	203	74	22
29		9.0	11	37	-	60	110	107	101	199	69	20
30		* 9.0	11	39	-----	60	117	100	113	208	69	20
31		-----	11	40	-----	60	-----	94	-----	214	62	-----
Total	0	57.1	430.0	914	11450	3585	3015	3345	2532	3470	4042	974.5
Mean	0	1.90	13.9	29.5	409	116	100	108	84.4	112	130	32.5
Max	0	9.6	27	148	951	201	189	171	113	214	222	112
Min	0	0	9.0	10	40	60	56	62	28	11	62	1.4
Ac-ft	0	113	853	1,810	22,720	7,110	5,980	6,630	5,020	6,880	8,020	1,930
Meant	0	5.11	25.2	43.1	423	221	400	216	105	14.4	3.43	3.60
Ac-ft†	0	304	1,550	2,650	23,490	13,600	23,800	13,260	6,270	885	211	214
Calendar year 1961:	Max	123	Min	0	Mean	15.6	Meant	23.3	Ac-ft	11,270	Ac-ft†	16,880
Water year 1961-62:	Max	951	Min	0	Mean	92.6	Meant	119	Ac-ft	67,070	Ac-ft†	86,230

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

† Adjusted for change in storage, evaporation, and diversion.

11-2065. Middle Fork Kaweah River near Potwisha Camp, Calif.

Location.--Lat 36°30'45", long 118°47'25", in NW $\frac{1}{4}$ sec.25, T.16 S., R.29 E., on right bank 0.7 mile southeast of Potwisha Camp and 0.9 mile upstream from confluence with Marble Fork Kaweah River.

Drainage area.--102 sq mi (revised).

Records available.--July 1949 to September 1962. Monthly discharge only for water years 1956, 1957, published in WSP 1735. Prior to October 1954, records for No. 3 conduit published separately.

Gage.--Water-stage recorder with thermograph attachment and concrete control. Altitude of gage is 2,100 ft (from topographic map). Prior to October 1955, at datum 0.70 ft higher.

Average discharge.--13 years, 158 cfs (114,400 acre-ft per year); median of yearly mean discharges, 138 cfs (99,900 acre-ft per year), combined flow of Middle Fork Kaweah and Middle Fork Kaweah River No. 3 conduit.

Extremes (river only).--Maximum discharge during year, 860 cfs May 5 (gage height, 6.98 ft); minimum daily, 0.5 cfs Jan. 22-27. 1949-52: Maximum discharge, 46,800 cfs Dec. 23, 1955 (gage height, 29.0 ft, from floodmarks), by slope-area measurement of peak flow; minimum daily, 0.1 cfs Nov. 12-15, 1949.

Remarks.--Records good. Records of daily discharge given herein include flow of Middle Fork No. 3 conduit which diverts from left bank of Middle Fork Kaweah River 0.5 mile upstream from station in NE $\frac{1}{4}$ sec.26, T.16 S., R.29 E. Flow from this conduit joins with that of Marble Fork Kaweah River No. 3 conduit, and the combined flow passes through Kaweah River No. 3 powerhouse of Southern California Edison Co.; water is returned to Kaweah River 2.7 miles downstream from confluence of Marble and Middle Forks.

Cooperation.--Water-stage recorder graph and 18 discharge measurements for river and water-stage-recorder graph and 15 discharge measurements for conduit furnished by Southern California Edison Co.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	12	30	27	61	85	232	435	573	280	76	24
2	9.8	12	60	26	62	84	238	510	674	281	74	23
3	9.8	12	47	**26	61	82	263	615	643	278	71	23
4	9.5	12	38	25	60	82	*293	713	513	*274	67	22
5	9.5	12	**38	25	62	91	341	771	*523	276	64	20
6	9.2	12	38	26	*60	*145	391	764	558	272	61	20
7	9.5	*11	38	27	103	124	445	747	596	260	58	*20
8	*9.5	11	37	31	331	116	488	710	621	246	55	20
9	9.9	11	33	32	465	118	515	*624	657	226	53	20
10	10	11	30	31	521	106	505	566	667	199	54	18
11	10	11	27	28	389	100	519	459	628	186	51	18
12	10	11	27	28	287	96	563	481	599	189	49	18
13	9.8	10	26	31	215	92	602	375	*553	152	46	18
14	9.8	10	25	26	213	92	628	340	470	145	45	17
15	9.5	10	24	34	278	92	596	303	346	150	44	18
16	9.5	10	23	33	237	91	571	290	333	154	43	18
17	9.5	9.7	23	30	186	88	613	*289	413	157	42	16
18	9.5	10	23	30	159	88	658	*308	497	150	41	16
19	9.5	10	23	33	167	92	642	*301	564	144	39	16
20	12	24	24	103	156	94	526	279	595	135	37	15
21	13	21	25	46	132	88	482	256	588	127	35	15
22	16	21	26	44	121	99	546	*275	543	129	34	15
23	12	24	27	42	112	99	616	316	*480	132	32	14
24	11	24	30	44	111	99	620	292	428	127	31	14
25	10	41	31	46	99	115	553	292	*425	114	30	14
26	10	36	30	48	96	137	458	288	419	108	30	50
27	12	28	28	50	88	168	455	262	*374	*102	29	27
28	12	28	28	53	86	187	443	238	348	98	27	25
29	12	32	27	56	-	180	392	278	326	95	26	25
30	12	32	27	56	-----	177	376	369	300	86	26	23
31	12	-----	27	60	-----	198	-----	439	-----	82	25	-----
Total	327.8	518.7	940	1,197	4,918	3,505	14,570	13,185	15,254	5,354	1,395	602
Mean	10.6	17.3	30.3	38.6	176	113	486	425	508	173	45.0	20.1
Max	16	41	60	103	521	198	658	771	674	281	76	50
Min	9.2	9.7	23	25	60	82	232	238	300	82	25	14
Ac-ft	650	1,030	1,860	2,370	9,750	6,950	28,900	26,150	30,260	10,620	2,770	1,190
Calendar year 1961:	Max 241	Min 9.2	Mean 58.8	Ac-ft 42,590								
Water year 1961-62:	Max 771	Min 9.2	Mean 169	Ac-ft 122,500								

* Discharge measurement of river made on this day.

** Field estimate of river made on this day.

Note.--No gage-height record at river station Aug. 20 to Sept. 5; at conduit station Jan. 24 to Feb. 7.

11-2065, Middle Fork Kaweah River near Potwisha Camp, Calif.--Continued.

Records available.--Water temperatures: October 1960 to September 1962.Extremes.--Maximum temperature recorded during year, 72°F Aug. 16, 18; minimum, 34°F Feb. 27, 28.

1960-62: Maximum temperature recorded, 75° July 11, 14, 16, 23, 28, Aug. 21, 1961; minimum, that of Feb. 27, 28, 1962.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	63	59	47	45	44	43	41	39	43	41	40	35	48	43	52	44	58	49	63	55	68	62	-	-
2	63	59	48	45	46	43	41	39	43	42	38	37	48	44	53	46	58	49	63	55	68	63	-	-
3	62	60	48	45	44	42	40	38	43	42	40	36	49	46	54	46	55	48	64	55	67	62	-	-
4	62	58	48	46	43	41	40	39	44	42	43	38	50	44	56	47	54	46	64	56	67	62	-	-
5	61	59	48	46	42	40	39	37	44	42	43	40	51	44	55	47	55	46	65	56	69	64	-	-
6	62	58	48	46	41	40	40	39	43	43	43	39	52	44	54	47	57	47	64	56	69	65	69	65
7	61	58	48	46	41	39	41	39	43	43	42	38	52	44	54	47	58	48	64	56	69	64	67	65
8	58	55	47	45	39	38	42	40	44	42	43	38	52	44	54	46	58	49	64	56	69	64	67	64
9	55	52	47	45	39	38	42	40	44	42	42	38	50	45	53	45	60	50	64	56	69	65	67	64
10	55	51	47	45	39	38	42	40	44	43	39	37	50	43	50	46	59	50	63	55	69	64	67	64
11	54	51	46	45	38	37	42	40	45	44	41	38	52	44	51	44	59	49	63	55	69	64	67	64
12	56	52	46	45	38	37	41	40	44	42	42	37	52	45	49	42	59	50	61	57	70	65	66	63
13	57	53	46	44	37	36	40	38	44	42	44	38	52	46	44	43	58	50	63	54	70	65	66	63
14	59	55	45	43	38	37	38	36	45	43	45	39	52	46	44	41	53	47	65	57	71	66	66	63
15	61	57	44	42	38	37	37	35	45	44	45	40	50	44	45	41	49	46	65	59	71	67	66	63
16	62	59	44	43	38	38	37	36	44	41	45	41	52	44	45	43	58	49	65	59	72	67	66	63
17	62	59	43	41	38	38	37	36	42	40	46	40	53	45	51	42	61	51	65	59	71	67	67	64
18	62	59	41	40	38	38	37	36	42	41	45	40	52	46	53	45	63	53	65	58	72	67	66	64
19	61	59	41	39	39	38	39	37	42	40	47	41	49	45	52	46	63	54	66	59	70	66	66	63
20	59	57	44	41	39	38	39	39	41	39	44	42	46	40	49	44	63	54	65	58	71	66	65	62
21	58	56	44	42	39	38	39	38	41	38	45	41	50	42	50	42	63	54	67	59	-	-	65	61
22	56	54	42	40	40	39	38	37	41	37	44	39	53	45	53	46	62	54	67	61	-	-	64	60
23	54	51	41	40	39	38	38	36	43	39	42	38	52	46	53	47	62	53	67	62	-	-	65	61
24	53	50	42	41	39	38	37	36	43	38	47	39	51	45	50	44	62	53	67	61	-	-	66	63
25	53	50	45	42	39	38	37	36	39	36	49	41	48	45	51	44	63	55	67	60	-	-	66	64
26	54	52	44	43	39	38	38	37	38	36	48	42	51	44	48	45	63	54	66	60	-	-	66	64
27	53	51	44	42	38	38	40	38	38	34	48	42	50	45	46	45	63	52	67	60	-	-	64	62
28	52	50	42	41	38	38	41	39	39	34	47	43	49	47	53	43	64	55	68	62	-	-	63	60
29	50	47	44	42	38	37	41	39	-	-	46	45	48	42	56	48	63	54	67	61	-	-	62	59
30	47	45	43	42	38	37	42	40	-	-	47	44	51	42	56	50	62	53	66	60	-	-	63	59
31	47	44	-	-	39	38	42	40	-	-	49	42	-	-	57	48	-	-	67	60	-	-	-	-
Avg	57	54	45	43	40	38	40	38	43	40	44	40	50	44	51	45	60	51	65	58	-	-	-	-

11-2080. Marble Fork Kaweah River at Potwisha Camp, Calif.

Location.--Lat 36°31'10", long 118°48'10", in SE $\frac{1}{4}$ sec.23, T.16 S., R.29 E., on left bank 0.1 mile north of Potwisha Camp and 0.3 mile upstream from confluence with Middle Fork Kaweah River.

Drainage area.--51.4 sq mi (revised).

Records available.--March 1950 to September 1962. Monthly discharge only for March 1950, published in WSP 1315-A. Prior to October 1954, records for river and conduit published separately.

Gage.--Water-stage recorder with thermograph attachment and concrete control. Altitude of gage is 2,150 ft (from topographic map).

Average discharge.--12 years, 91.3 cfs (66,100 acre-ft per year); median of yearly mean discharges, 80 cfs (57,900 acre-ft per year), combined flow of Marble Fork Kaweah River and Marble Fork Kaweah River No. 3 conduit.

Extremes (river only).--Maximum discharge during year, 748 cfs May 5 (gage height, 6.15 ft); minimum daily, 0.2 cfs Jan. 21-28, Aug. 30 to Sept. 3.

1950-62: Maximum discharge, 12,500 cfs Dec. 23, 1955 (gage height, 13.4 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; no flow Sept. 5-15, Oct. 24-28, 1953, Oct. 26-31, 1957.

Remarks.--Records fair. Records of daily discharge given herein include flow of Marble Fork Kaweah River No. 3 conduit which diverts from left bank of Marble Fork 0.3 mile above station; water is returned to Kaweah River 2.7 miles downstream from confluence of Marble and Middle Forks.

Cooperation.--Water-stage-recorder graph and 23 discharge measurements for river and water-stage-recorder graph and 15 discharge measurements for conduit furnished by Southern California Edison Co.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	2.7	9.7	12	24	34	114	333	442	177	32	6.4
2	1.7	2.7	17	11	26	34	116	400	495	184	31	6.4
3	1.7	2.7	13	11	27	33	137	484	447	180	28	6.2
4	1.7	2.7	14	11	27	34	* 155	559	364	178	26	5.8
5	1.7	2.5	* 12	12	* 28	36	189	600	* 389	* 181	26	5.9
6	1.7	2.5	12	12	27	* 44	223	590	407	170	23	* 5.6
7	1.7	* 2.3	12	13	34	44	257	570	* 434	157	21	5.4
8	* 1.7	2.2	12	13	111	42	294	543	434	142	19	5.4
9	1.8	2.2	12	16	299	40	314	* 477	457	126	19	5.2
10	2.0	2.3	11	16	219	38	310	402	462	111	20	5.1
11	2.0	2.3	11	14	167	36	329	330	434	104	18	4.8
12	2.1	2.5	10	14	110	35	360	330	412	108	16	4.8
13	2.0	2.5	10	14	85	34	394	259	* 373	77	16	4.9
14	1.9	2.5	10	9.7	86	34	411	229	302	85	15	4.9
15	1.7	2.5	9.8	13	95	35	387	198	221	94	14	5.0
16	1.7	2.8	9.2	12	82	35	367	192	232	90	14	4.8
17	1.7	2.7	9.5	* 10	68	34	419	* 200	293	87	14	4.6
18	1.7	2.8	9.2	10	60	36	455	215	342	80	13	* 4.5
19	1.7	3.0	9.2	12	60	37	429	* 226	377	75	12	4.4
20	1.9	6.4	10	24	57	37	337	210	394	69	12	4.3
21	2.2	5.7	10	13	48	36	329	* 180	380	60	11	4.3
22	2.9	4.9	11	17	44	38	386	* 206	354	68	11	4.3
23	2.7	6.3	12	15	42	37	445	* 253	* 310	66	11	4.1
24	2.5	5.8	13	12	43	37	450	234	274	58	11	4.1
25	2.3	8.1	13	12	39	46	388	234	* 277	50	9.9	4.1
26	2.2	12	13	12	39	58	328	219	268	47	10	10
27	2.2	8.8	13	13	35	73	326	190	* 240	* 42	9.0	12
28	2.3	8.8	13	15	35	83	323	169	220	40	8.3	8.1
29	2.5	10	12	18	-	77	296	216	205	39	7.7	7.5
30	2.5	10	12	19	-----	76	283	309	183	36	6.9	7.1
31	2.5	-----	12	22	-----	96	-----	367	-----	34	6.7	-----
Total	62.7	135.2	356.6	429.7	2,017	1,389	9,551	9,924	10,422	3,015	491.5	170.0
Mean	2.02	4.51	11.5	13.9	72.0	44.8	318	320	347	97.3	15.9	5.67
Max	2.9	12	17	24	299	96	455	600	495	184	32	12
Min	1.7	2.2	9.2	9.7	24	33	114	169	183	34	6.7	4.1
Ac-ft	124	268	707	852	4,000	2,760	18,940	19,680	20,670	5,980	975	337

Calendar year 1961: Max 138 Min 1.6 Mean 26.7 Ac-ft 19,360
 Water year 1961-62: Max 600 Min 1.7 Mean 104 Ac-ft 75,290

* Discharge measurement of river made on this day.

11-2080, Marble Fork Kaweah River at Potwisha Camp, Calif.--Continued.

Records available.--Water temperatures: January to May 1962.Extremes.--Maximum temperature during period, 54°F May 4, 5; minimum, 36°F Feb. 27, 28.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1							-	-	44	43	42	37	46	42	47	45								
2							-	-	45	43	41	40	46	42	49	46								
3							-	-	45	43	42	39	47	43	50	46								
4							-	-	45	43	43	40	48	42	54	46								
5							-	-	45	43	44	43	48	43	54	46								
6							-	-	44	44	44	41	49	42	53	46								
7							-	-	44	44	44	41	49	43	53	46								
8							-	-	44	40	46	39	49	42	51	45								
9							-	-	42	40	44	41	47	43	50	43								
10							-	-	41	40	41	39	48	42	-	-								
11							-	-	42	41	42	40	49	43	-	-								
12							-	-	44	41	43	40	49	44	-	-								
13							-	-	42	42	44	41	49	44	-	-								
14							-	-	44	42	47	42	49	44	-	-								
15							-	-	44	43	47	43	48	43	-	-								
16							-	-	42	40	47	44	50	43	-	-								
17							-	-	42	39	47	43	50	43	-	-								
18							40	39	42	40	46	44	50	44	-	-								
19							41	40	40	39	48	44	46	40	-	-								
20							42	41	42	39	47	45	45	39	-	-								
21							42	40	42	39	45	44	45	43	-	-								
22							42	40	42	40	45	42	47	45	-	-								
23							42	39	44	40	44	42	48	45	-	-								
24							41	38	42	40	49	42	48	45	-	-								
25							41	38	40	37	49	42	46	44	-	-								
26							43	40	39	37	48	41	46	43	-	-								
27							44	41	40	36	48	42	46	45	-	-								
28							44	42	40	36	45	42	46	46	-	-								
29							44	42	-	-	44	43	46	44	-	-								
30							44	42	-	-	45	42	46	44	-	-								
31							44	42	-	-	47	41	-	-	-	-								
Avg							-	-	43	40	45	42	48	43	-	-								

TULARE LAKE BASIN

11-2087.3. East Fork Kaweah River near Three Rivers, Calif.

Location.--Lat 36°27'05", long 118°47'15", in NW $\frac{1}{4}$ sec. 14, T.17 S., R.29 E., on left bank just downstream from diversion dam and 6.6 miles east of Three Rivers.

Drainage area.--85.8 sq mi.

Records available.--May 1952 to September 1955, October 1957 to September 1962.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 2,500 ft (from topographic map). May 15, 1952 to Sept. 30, 1955, at site 200 ft downstream at different datum.

Average discharge.--8 years, 87.7 cfs (63,490 acre-ft per year).

Extremes (river only).--Maximum and minimum discharges for the water years 1952-55, 1958-62 are contained in the following table:

Water year	Maximum			Minimum daily	
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)
1952†	May 27, 1952	1,270	†5.59	Sept. 29, 30, 1952	1.3
1953	Apr. 27, 1953	1,050	†5.19	Sept. 28-30, 1953	.1
1954	Jan. 24, 1954	630	†4.38	(a)	.1
1955	Feb. 16, 1955	1,090	†5.27	Nov. 22-30, 1954	.1
1958	May 22, 1958	1,070	6.52	(b)	.1
1959	Feb. 16, 1959	541	5.18	(c)	.1
1960	Feb. 1, 1960	855	5.95	(d)	.3
1961	May 17, 1961	231	4.63	(e)	.1
1962	May 5, 1962	755	5.70	Jan. 22, 1962	0

† Period May to September.

* Site and datum then in use.

a Occurred Oct. 1-7, 10, 21, Nov. 1-13, 16, 20-25, 29, 30, Dec. 2, 8-15, 1953, Jan. 15, 16, 18-23, 1954.

b Occurred Nov. 1, Dec. 13, 14, 1957.

c Occurred Oct. 3, 11, 12, 1958.

d Occurred Oct. 17, Dec. 24, 26, 1959, Jan. 6-8, 1960.

e Occurred Nov. 15, 1960, Mar. 8-10, 14, 1961.

1952-55, 1957-62: Maximum discharge, 1,270 cfs May 27, 1952 (gage height, 5.59 ft, site and datum then in use); no flow Jan. 22, 1962.

Remarks.--Records good. Records of daily discharge given herein include flow of East Fork Kaweah No. 1 conduit which diverts from left bank of river near diversion dam. Flow from this conduit passes through Hammond powerhouse of Southern California Edison Co.; water is returned to Middle Fork Kaweah River in sec. 8, T.17 S., R.29 E., 1.9 miles downstream from mouth of East Fork.

Cooperation.--Records furnished by Southern California Edison Co. and reviewed by Geological Survey.

Discharge, in cubic feet per second, May to September 1952

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								-	984	384	189	41
2								-	938	400	150	40
3								-	942	410	134	40
4								-	921	392	125	40
5								-	1,010	388	116	40
6								-	996	372	110	39
7								-	906	348	103	37
8								-	884	329	101	35
9								-	806	322	97	34
10								-	663	290	90	37
11								-	690	263	85	42
12								-	611	246	79	41
13								-	608	230	76	38
14								-	605	228	71	34
15								744	597	224	67	32
16								716	625	215	65	31
17								696	647	206	63	30
18								790	643	200	61	30
19								928	620	198	60	32
20								999	605	186	58	33
21								866	601	176	56	35
22								890	568	164	53	32
23								966	523	156	51	31
24								1,040	478	154	50	30
25								1,070	462	218	49	29
26								1,130	423	234	47	30
27								1,160	370	202	46	33
28								1,180	362	206	45	30
29								1,160	350	224	44	28
30								1,150	366	219	43	27
31								1,100		204	42	
Total								-	19,804	7,988	2,426	1,031
Mean								-	660	258	78.3	34.4
Max								-	1,010	410	189	42
Min								-	350	154	42	27
Ac-ft								-	39,280	15,840	4,810	2,040
Calendar year	Max	Min	Mean	Ac-ft								
Water year	Max	Min	Mean	Ac-ft								

11-2087.3. East Fork Kaweah River near Three Rivers, Calif.--Continued.

Discharge, in cubic feet per second, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	23	29	36	52	43	87	174	225	198	47	26
2	26	24	33	39	49	38	99	165	209	187	46	25
3	25	22	29	40	49	42	110	172	223	178	45	23
4	25	22	28	40	51	44	125	188	282	169	44	22
5	25	20	29	39	52	44	142	210	320	168	42	21
6	24	21	28	44	52	45	147	216	341	165	41	23
7	28	23	111	77	54	46	125	203	332	157	40	24
8	28	25	62	105	54	48	105	184	367	146	37	23
9	28	24	42	79	49	49	96	168	368	138	35	23
10	28	22	40	68	47	50	90	156	385	128	33	23
11	27	22	36	66	48	47	82	152	420	121	33	23
12	27	22	34	60	47	47	80	152	443	127	32	22
13	26	21	35	118	46	45	74	161	459	142	34	22
14	26	47	41	109	46	45	76	181	485	130	32	21
15	25	35	42	70	46	45	83	182	529	112	29	22
16	25	33	40	64	46	46	89	168	469	124	29	22
17	25	30	38	59	45	47	98	169	396	122	28	21
18	24	29	34	59	46	48	110	208	395	135	28	20
19	25	32	34	59	41	74	130	256	416	134	27	20
20	24	32	44	64	41	68	125	299	419	103	26	20
21	29	30	36	64	42	57	125	323	404	90	26	24
22	30	29	34	55	42	58	144	323	384	80	26	25
23	30	28	33	53	42	62	201	316	373	73	25	24
24	29	26	32	53	39	68	267	265	356	66	24	23
25	26	26	32	53	39	70	299	222	328	63	24	22
26	25	25	32	51	41	71	290	201	290	60	23	22
27	24	24	32	48	41	76	591	194	259	57	23	22
28	24	24	31	48	43	82	336	183	244	55	24	23
29	24	25	30	49	-	81	233	177	232	52	25	22
30	23	25	39	50	-----	73	199	187	212	50	26	21
31	22	-----	39	51	-----	76	-----	206	-----	48	27	-----
Total	803	791	1,179	1,870	1,290	1,735	4,758	6,361	10,565	3,578	981	674
Mean	25.9	26.4	38.0	60.3	46.1	56.0	159	205	352	115	31.6	22.5
Max	30	47	111	118	54	82	591	323	529	198	47	26
Min	22	20	28	36	39	38	74	152	209	48	23	20
Ac-ft	1,590	1,570	2,340	3,710	2,560	3,440	9,440	12,620	20,960	7,100	1,950	1,340
Calendar year 1952: Max -			Min -			Mean -			Ac-ft -			
Water year 1952-53: Max 591			Min 20			Mean 94.8			Ac-ft 68,620			

Discharge, in cubic feet per second, water year October 1954 to September 1955

[illegible]

Discharge, in cubic feet per second, water year October 1957 to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	20	20	25	36	71	166	213	805	416	97	35
2	21	30	20	25	36	60	137	274	720	401	92	35
3	20	32	19	24	54	57	334	338	678	393	87	34
4	19	28	19	24	74	53	184	432	675	396	79	33
5	18	28	30	24	58	53	143	528	643	399	74	32
6	17	25	24	24	46	60	131	577	619	397	72	32
7	17	25	25	24	43	56	122	608	606	378	76	37
8	16	26	25	24	43	55	112	654	578	346	78	38
9	15	25	26	23	40	50	117	687	607	311	71	33
10	14	25	25	32	38	48	124	686	628	275	64	31
11	16	26	24	26	37	47	142	636	616	260	62	31
12	19	25	23	25	52	47	158	510	548	251	63	31
13	21	25	22	24	51	50	177	434	542	229	61	31
14	27	34	22	24	45	54	200	443	598	207	61	31
15	24	29	45	24	43	144	221	538	644	190	66	29
16	21	25	96	24	43	251	244	660	721	172	111	27
17	19	23	92	24	43	213	284	752	745	154	61	27
18	19	24	46	23	43	142	322	892	784	135	43	26
19	19	28	37	22	74	116	350	959	740	129	49	25
20	27	27	36	22	57	170	428	973	706	125	51	25
21	23	25	34	21	51	179	471	960	688	125	48	24
22	21	23	32	21	50	230	442	967	714	125	47	24
23	22	23	29	23	50	159	333	959	738	120	46	71
24	21	23	28	92	80	140	247	912	697	110	44	41
25	21	24	29	73	265	120	214	857	620	106	43	38
26	23	24	29	129	112	112	218	838	568	106	42	39
27	28	23	28	60	88	108	227	832	550	106	42	36
28	29	22	28	45	78	96	227	813	530	107	41	33
29	24	22	28	41	88	215	88	820	486	104	38	31
30	22	20	27	44	-----	102	204	804	439	98	37	30
31	21	-----	26	37	-----	123	-----	833	-----	96	36	-----
Total	645	759	994	1,073	1,730	3,254	6,894	21,389	19,233	6,767	1,882	990
Mean	20.8	25.3	32.1	34.6	61.8	105	230	690	641	218	60.7	33.0
Max	29	34	96	129	265	251	471	973	805	416	111	71
Min	14	20	19	21	36	47	112	213	439	96	36	24
Ac-ft	1,280	1,510	1,970	2,130	3,430	6,450	13,670	42,420	38,150	13,420	3,730	1,960
Calendar year 1957: Max	-	-	-	-	-	-	-	-	-	-	-	-
Water year 1957-58: Max	973	973	973	14	14	180	180	130,100	130,100	130,100	130,100	130,100

571

Discharge, in cubic feet per second, water year October 1958 to September 1959

[illegible]

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

[illegible]

Discharge, in cubic feet per second, water year October 1960 to September 1961.

[illegible]

11-2087.3. East Fork Kaweah River near Three Rivers, Calif.--Continued.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	6.7	14	13	26	34	105	296	510	195	40	17
2	11	7.3	32	13	26	39	111	393	568	198	39	21
3	11	7.7	17	12	26	38	123	509	535	195	38	21
4	11	7.7	13	12	26	39	141	598	435	190	37	21
5	11	7.7	16	12	27	44	166	669	426	187	36	20
6	11	7.7	15	12	27	75	208	652	457	181	37	20
7	11	7.7	14	13	57	52	235	661	502	170	36	19
8	11	7.7	14	14	165	49	266	646	515	161	35	19
9	12	7.6	12	14	262	52	275	610	538	144	35	18
10	12	7.5	13	14	392	48	271	524	541	128	34	18
11	12	7.5	12	13	264	46	278	449	506	120	32	18
12	12	7.6	13	14	173	43	300	417	467	118	31	20
13	11	7.5	13	14	117	42	328	553	425	101	30	20
14	11	7.5	13	12	128	42	351	354	348	97	29	20
15	11	7.5	13	15	159	42	321	322	274	92	28	20
16	11	7.4	12	15	131	41	300	314	276	89	27	19
17	11	7.2	12	14	95	40	351	307	296	85	26	18
18	10	7.8	13	14	76	40	403	312	345	80	25	18
19	10	8.6	13	17	97	41	381	297	363	71	24	18
20	10	20	13	77	79	42	293	280	373	71	24	18
21	11	14	13	24	61	40	262	262	378	66	23	18
22	11	13	13	23	54	48	326	272	345	65	22	18
23	11	14	13	20	49	46	396	282	321	64	22	17
24	10	13	13	16	48	47	410	315	274	60	21	17
25	9.6	22	13	18	44	50	344	305	253	56	20	17
26	9.5	18	13	18	43	58	282	289	293	50	20	27
27	10	14	13	20	37	75	288	270	272	46	20	21
28	10	13	13	21	38	87	292	255	253	44	19	19
29	9.6	16	12	22	-	83	265	297	231	42	19	19
30	9.4	15	12	23	-----	83	245	354	208	42	18	18
31	7.8	-----	13	25	-----	95	-----	441	-----	41	18	-----
Total	3299	3159	428	564	2,727	1,601	8,317	12,505	11,528	3,249	865	574
Mean	10.6	10.5	13.8	18.2	97.4	51.6	277	403	384	105	27.9	19.1
Max	12	22	32	77	392	95	410	669	568	198	40	27
Min	7.8	6.7	12	12	26	34	105	255	208	41	18	17
Ac-ft	654	627	849	1,120	5,410	3,180	16,500	24,800	22,870	6,440	1,720	1,140

Calendar year 1961: Max 202 Min 6.7 Mean 39.6 Ac-ft 28,690
 Water year 1961-62: Max 669 Min 6.7 Mean 118 Ac-ft 85,310

TULARE LAKE BASIN

575

11-2099. Kaweah River at Three Rivers, Calif.

Location.--Lat 36°26'38", long 118°54'09", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.13, T.17 S., R.28 E., on right bank opposite schoolhouse in Three Rivers, 0.25 mile downstream from North Fork Kaweah River.

Drainage area.--418 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 809.62 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 6,180 cfs Feb. 9 (gage height, 8.12 ft), from rating curve extended above 2,200 cfs; minimum, 1 $\frac{1}{4}$ cfs Oct. 16.

1958-62: Maximum, that of Feb. 9, 1962; minimum, 1 $\frac{1}{4}$ cfs Sept. 9, 10, 1959, Oct. 16, 1962.

Flood of Dec. 23, 1955, reached a stage of 17.9 ft, from floodmarks.

Remarks.--Records good. Diversions for irrigation of about 200 acres above station. Power is developed on Middle and East Forks.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9, Mar. 6 to Sept. 30

Feb. 9 to Mar. 6

1.7	16	4.0	268	3.9	248
1.9	23	4.5	380	4.4	360
2.1	34	5.0	530	5.0	530
2.4	53	5.5	770	5.5	790
2.7	78	6.0	1,190	6.0	1,260
3.0	109	6.5	1,820	6.5	1,940
3.5	174	7.0	2,700	7.1	3,100

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	20	63	62	*137	*270	685	1,420	*1,650	660	140	44
2	19	24	127	62	141	286	*685	1,640	1,870	665	141	44
3	19	21	147	59	142	268	758	1,930	1,880	655	130	44
4	19	21	98	59	141	258	840	2,280	1,500	630	122	43
5	19	20	88	59	142	272	984	2,460	1,520	630	120	41
6	18	19	82	59	142	548	1,140	2,460	1,600	620	114	40
7	18	19	78	63	216	538	1,300	*2,360	1,690	582	107	41
8	18	19	74	71	746	450	1,420	2,250	1,740	550	*100	38
9	19	19	67	75	2,290	456	1,500	2,030	1,760	*504	98	38
10	19	19	63	74	2,920	402	*1,470	1,790	1,810	456	96	38
11	19	19	62	71	*2,300	373	1,460	1,530	1,710	420	93	36
12	19	19	57	69	1,520	339	1,580	1,540	1,620	420	89	*38
13	19	19	57	79	818	322	1,740	1,290	*1,540	357	85	38
14	18	18	55	64	818	304	1,840	1,180	1,310	334	81	38
15	17	19	53	70	970	304	1,790	1,050	1,000	346	78	38
16	*16	19	50	72	*1,000	302	1,640	1,020	944	341	77	37
17	16	19	52	67	718	284	1,790	960	1,090	334	74	35
18	16	18	51	65	580	282	1,950	1,020	1,240	316	72	34
19	16	19	52	67	778	284	*1,920	1,040	1,400	297	68	33
20	17	45	54	436	724	322	1,540	992	1,530	272	66	33
21	19	70	58	156	538	293	1,420	880	1,460	250	63	34
22	23	45	60	118	464	328	1,580	920	1,360	254	59	33
23	19	47	63	104	410	366	1,790	1,070	1,210	256	57	33
24	19	45	67	93	416	322	*1,840	1,020	1,070	240	56	32
25	19	58	69	99	360	357	1,690	1,020	1,030	214	52	32
26	18	95	68	99	348	426	1,440	992	1,020	200	51	63
27	20	67	67	104	292	504	1,460	904	912	184	49	66
28	20	59	*65	110	284	602	1,460	819	840	176	48	50
29	20	61	63	118	-	562	1,370	912	*770	168	47	49
30	18	*69	62	118	-----	524	*1,280	1,210	700	156	46	45
31	16	-----	61	130	-----	594	-----	1,410	-----	146	45	-----
Total	572	1,031	2,133	2,952	20,353	11,742	43,362	43,399	40,776	11,633	2,524	1,208
Mean	18.5	34.4	68.8	95.2	727	379	1,445	1,400	1,359	375	81.4	40.3
Max	23	95	147	436	2,920	602	1,840	2,460	1,880	665	141	66
Min	16	18	50	59	137	258	685	819	700	146	45	32
Ac-ft	1,130	2,040	4,230	5,860	40,370	23,290	86,010	86,080	80,880	23,070	5,010	2,400

Calendar year 1961: Max 594 Min 16 Mean 135 Ac-ft 98,070
 Water year 1961-62: Max 2,920 Min 16 Mean 498 Ac-ft 360,400

Peak discharge (base, 1,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2130	8.12	6,180	5-5	2300	7.14	3,140
4-18	2300	6.81	2,340	6-2	2330	6.80	2,540
4-23	2230	6.71	2,160	6-9	2300	6.65	2,270

* Discharge measurement made on this day.

TULARE LAKE BASIN

11-2101. South Fork Kaweah River at Three Rivers, Calif.

Location.--Lat 36°25'00", long 118°54'48", in SE $\frac{1}{4}$ sec.26, T.17 S., R.28 E., on right bank 200 ft upstream from unnamed tributary, 0.5 mile upstream from mouth, and 1.8 miles southwest of Three Rivers.

Drainage area.--86.7 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 807.22 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 618 cfs Feb. 10 (gage height, 3.71 ft); no flow for part of Oct. 10.
1958-62: Maximum discharge, that of Feb. 10, 1962; no flow at times in 1960, 1961, 1962.

Flood in December 1955 reached a stage of 9.5 ft, from floodmarks (discharge not determined).

Remarks.--Records good. Several small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

1.07	0.1	1.9	39
1.1	.2	2.1	63
1.2	.6	2.4	114
1.3	1.9	2.7	185
1.4	4.4	3.0	275
1.5	9.1	3.3	385
1.7	21	3.6	540

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	4.4	4.8	* 11	* 42	75	200	* 296	49	2.8	0.2
2	.1	.1	14	4.8	11	43	* 78	245	317	46	2.4	.2
3	.1	.1	15	5.3	11	43	75	296	303	42	2.4	.2
4	.1	.1	8.1	5.3	11	40	80	353	242	40	2.4	.2
5	.1	.1	6.6	5.3	11	42	92	394	236	37	2.4	.2
6	.1	.3	6.2	4.8	11	92	108	385	242	35	2.4	.2
7	.1	.5	6.2	4.4	21	99	129	373	257	30	2.2	.2
8	.1	.5	5.8	4.8	83	75	146	365	257	26	* 1.9	.2
9	.1	.6	5.8	5.3	197	83	158	328	260	* 23	1.7	.2
10	* .1	.6	5.3	5.3	498	70	148	282	260	21	1.7	.2
11	.1	.6	5.3	4.8	* 429	63	* 146	224	239	19	1.7	.2
12	.1	.7	5.3	5.8	259	56	153	224	218	18	1.6	.2
13	.1	.9	5.3	10	116	53	170	165	* 203	17	1.4	* .2
14	.1	1.2	4.8	7.6	123	49	185	143	182	16	1.2	.2
15	.1	1.2	4.8	6.6	165	48	185	123	143	15	1.0	.2
16	.1	1.4	4.8	6.6	150	48	168	118	129	14	.9	.2
17	.1	1.6	4.8	6.2	112	46	180	106	136	12	.8	.2
18	.1	1.6	4.8	5.8	86	44	203	121	143	11	.7	.2
19	.1	1.6	4.8	6.6	172	42	209	143	146	10	.6	.2
20	.1	3.1	4.8	51	152	44	185	141	143	9.1	.6	.2
21	.1	8.1	4.8	24	97	42	170	114	136	8.1	.6	.2
22	.1	4.4	4.8	15	76	49	197	138	125	7.1	.5	.2
23	.1	3.6	4.8	12	64	54	242	175	112	6.6	.5	.2
24	.1	4.0	4.8	11	62	47	* 263	160	99	5.8	.5	.2
25	.1	4.4	4.8	11	54	49	245	160	90	5.3	.5	.2
26	.1	7.6	5.3	10	51	56	197	158	86	4.8	.5	.2
27	.1	5.3	5.3	9.6	46	66	200	121	75	4.8	.4	.1
28	.1	4.4	* 5.3	9.6	42	78	212	108	* 66	4.4	.4	.2
29	.1	4.4	5.3	10	-	78	197	160	60	4.0	.3	.2
30	.1	* 5.3	4.8	11	-----	70	* 175	236	55	3.6	.3	.2
31	.1	-----	4.8	11	-----	69	-----	269	-----	3.1	.3	-----
Total	3.1	68.4	181.7	295.3	312.1	178.0	4,971	6,528	5,256	5,477	37.6	5.9
Mean	0.10	2.28	5.86	9.53	111	57.4	166	211	175	17.7	1.21	0.20
Max	0.1	8.1	15	51	490	99	263	394	317	49	2.8	0.2
Min	0.1	0.1	4.4	4.4	11	40	75	106	55	3.1	0.3	0.1
Ac-ft	6.1	136	360	586	6,230	3,530	9,860	12,950	10,430	1,090	75	12
Calendar year 1961:	Max	97	Min	0.1	Mean	14.4	Ac-ft	10,230				
Water year 1961-62:	Max	490	Min	0.1	Mean	62.5	Ac-ft	45,260				

Peak discharge (base, 500 cfs).--Feb. 10 (1800) 618 cfs (3.71 ft).

* Discharge measurement made on this day.

11-2108.5 Lemnecove ditch below Terminus Dam, Calif.

Location.--Lat 36°24'55", long 119°00'22", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.17 S., R.27 E., 250 ft downstream from outlet tunnel of Terminus Dam, and 2.4 miles northeast of Lemnecove.

Records available.--June to September 1962.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 546.3 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum daily discharge during period, 8.2 cfs Aug. 4, Sept. 13; no flow June 1-3, 23.

Remarks.--Records excellent. Ditch receives water from Terminus Reservoir (see p. 578) for irrigation. Up to 3 cfs is diverted at times into Doffelmeyer ditch 200 ft upstream for irrigation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									*0	7.7	8.0	8.0
2									0	*7.7	7.7	8.0
3									0	7.7	7.9	8.0
4									*3.6	7.7	8.2	8.0
5									*7.7	7.7	8.1	8.0
6									7.4	7.7	8.0	8.0
7									7.2	7.7	*8.0	8.0
8									7.5	7.7	8.0	8.0
9									7.6	7.7	8.1	8.0
10									7.4	7.7	8.1	8.0
11									7.5	7.7	8.1	8.0
12									*7.6	7.6	8.1	8.0
13									*7.6	7.5	8.1	*8.2
14									7.6	7.4	8.1	8.0
15									7.6	7.4	8.1	8.0
16									7.6	7.4	8.1	8.0
17									7.6	7.5	7.9	8.0
18									7.6	7.6	8.0	7.7
19									7.6	7.9	8.0	7.9
20									7.2	*8.0	8.0	7.7
21									7.0	7.9	7.9	7.7
22									*2.0	7.6	8.0	7.6
23									0	7.6	8.0	7.6
24									3.3	7.9	8.0	7.6
25									6.9	8.0	8.1	7.6
26									*6.9	8.0	8.1	7.6
27									7.1	7.9	8.0	8.0
28									*7.2	8.0	8.0	8.0
29					-				7.5	8.0	8.0	8.0
30					-----				7.7	8.1	8.0	8.0
31		-----			-----				-----	8.0	8.0	-----
Total									179.5	240.0	248.7	237.2
Mean									5.98	7.74	8.02	7.91
Max									7.7	8.1	8.2	8.2
Min									0	7.4	7.7	7.6
Ac-ft									356	476	493	470

Calendar year 1961: Max Min Mean Ac-ft
 Water year 1961-62: Max - Min - Mean - Ac-ft -

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

TULARE LAKE BASIN

11-2109. Terminus Reservoir near Lemoncove, Calif.

Location.--Lat 36°24'53", long 119°00'07", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.25, T.17 S., R.27 E., in control tower near left abutment of Terminus Dam on Kaweah River, 2.1 miles northeast of Lemoncove.

Drainage area.--560 sq mi.

Records available.--October 1961 to September 1962. Fragmentary prior to March 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to May 22, 1962, staff gage at same site and datum.

Extremes.--Maximum contents during year, 4,890 acre-ft, May 20 (elevation, 559.2 ft); minimum, 202 acre-ft for several days in October. (elevation, 521.2 ft).

Remarks.--Reservoir is formed by earthfill dam and earthfill auxiliary dam. Usable capacity, 149,400 acre-ft between elevations 520.0 ft (invert of outlet structure) and 694.0 ft (spillway crest). Dead storage negligible. Spillway design flood pool elevation, 745.1 ft (capacity, 266,000 ac- ft. Records including extremes represent total contents at 2400 hours.

Cooperation.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

Contents, in acre-feet, at 2400 hrs, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	205	205	252	242	298	374	587	953	4,600	4,160	2,890	2,830
2	205	208		242	298	374	575	1,110	4,580	4,520	2,910	2,820
3	202	208		242		370	581	1,310	4,140	4,390	2,920	2,820
4	202		271	242	298	365	747	1,560	3,800	4,100	2,930	2,820
5	202	208	298	242	302	365	872	1,860	4,140	4,030	2,930	2,810
6	202	208	259		306	379	905	2,160	4,330	4,010	2,920	2,800
7		205	256	242	356	481	988	2,230	4,280	3,980	2,910	2,800
8		205	252	249	541	486	1,100	2,350	4,180	3,910	2,900	2,800
9	202	205	249	249	1,430	451	1,130	2,630	4,200	3,830	2,910	2,800
10	205	205		249	1,820	435	1,160	2,900	4,150	3,800	2,900	2,790
11	205	205	242	249	1,130	426	1,320	3,210	4,070	3,740	2,900	2,790
12	205	205	242	249	782	421	1,340	3,500	4,050	3,670	2,890	2,790
13	205	205	242		679	412	1,240	3,870	4,070	3,530	2,890	2,790
14		205		249	616	397	1,130	4,110	4,080	3,390	2,890	2,790
15		205		249	706	397	1,100	4,340	4,020	3,300	2,890	2,790
16	202	205	238	249	610	397	1,120	4,530	4,160	3,190	2,880	2,790
17	202	205		249		397	1,260	4,640	4,440	3,150	2,880	2,780
18	202		235	245	604	383	1,810	4,740	4,480	3,190	2,870	2,780
19			235		641	379	3,850	4,870	4,410	3,210	2,870	2,770
20		221	238		575	383	3,830	4,890	4,360	3,200	2,870	2,760
21			242		471	388	2,250	4,380	4,290	3,150	2,850	2,760
22			238			379	1,400	4,170	4,210	3,100	2,840	2,760
23		231	245	282	402	416	1,280	4,260	4,130	3,060	2,840	2,760
24	208	249		278	388	416	1,210	4,270	4,110	3,050	2,850	2,750
25	205			275		471	1,050	4,380	4,110	3,030	2,850	2,750
26	205	259	245	275	388	421	988	4,440	4,050	2,990	2,850	2,770
27	205	252	245	278	383	446	937	4,310	3,920	2,960	2,840	2,840
28	205	238	245	278	379	497	880	4,160	3,940	2,920	2,840	2,860
29	205	245	245	286		486	857	4,270	4,110	2,900	2,830	2,870
30	205	249	242	286		497	872	4,530	4,180	2,900	2,830	2,880
31	205	-----	242	294	-----	530	-----	4,490	-----	2,900	2,830	-----
(+)	521.3	522.6	522.4	523.6	525.9	528.8	534.0	557.56	556.19	549.77	549.39	549.67
(+)	0.0	+44	-7	+52	+85	+151	+342	+3,620	-310	-1,280	-70	+50
(+)	-	-	-	-	-	9	41	95	157	171	144	118

Calendar year 1961.....

Water year 1961-62..... * +2,680

† Elevation, in feet, at end of month.

‡ Change, in contents, in acre-feet.

†† Evaporation, in acre-feet, furnished by Corps of Engineers (no record prior to March 1962).

Note.--Contents computed from once-daily staff gage readings Oct. 1 to May 21.

TULARE LAKE BASIN

579

11-2109.3. Foothill ditch below Terminus Dam, Calif.

Location.--Lat 36°24'48", long 119°00'47", in NE $\frac{1}{4}$, sec.35, T.17 S., R.27 E., 0.7 mile downstream from Terminus Dam and 2.1 miles northeast of Lemonecove.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 492.8 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 50 cfs Feb. 10 (gage height, 1.84 ft); minimum, 1.0 cfs Feb. 6, 7.

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

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.7	6.2	3.0	6.2	1.1	1.8	1.9	* 1.8	2.0	2.0	2.2	2.2
2	9.5	1.1	3.3	8.7	1.1	1.9	1.9	1.8	2.1	2.1	2.1	2.2
3	9.6	1.8	4.1	9.4	1.2	1.9	1.9	1.9	2.1	2.4	2.1	2.2
4	8.5	1.9	4.0	8.4	1.8	1.9	2.0	2.0	2.1	2.5	2.1	2.2
5	9.5	2.0	3.6	8.7	2.4	1.9	1.9	2.0	2.1	2.5	2.1	2.2
6	9.5	2.0	* 3.2	9.4	1.6	2.0	* 2.0	1.9	2.2	2.5	2.2	2.2
7	9.5	1.6	3.0	1.0	2.0	2.0	2.0	1.9	2.2	2.4	* 2.2	2.2
8	9.4	1.5	3.0	1.1	3.5	* 2.0	2.0	1.9	* 2.2	2.4	2.2	2.2
9	9.6	1.4	3.1	7.9	4.2	2.0	2.0	1.9	2.3	2.4	2.2	2.2
10	9.7	1.6	3.4	* 3.5	4.9	2.0	1.9	1.8	2.3	2.4	2.2	2.2
11	9.7	1.6	4.0	1.7	3.7	1.9	1.9	1.8	2.3	2.4	2.2	2.2
12	9.7	1.7	4.7	1.6	2.4	1.9	1.9	1.8	* 2.3	2.4	2.1	2.1
13	9.4	1.8	5.4	1.6	2.2	1.9	1.9	1.7	2.3	2.4	2.1	* 2.2
14	9.7	1.5	5.6	1.6	2.1	1.8	1.9	1.8	2.3	2.3	2.0	2.2
15	9.7	1.5	6.4	1.6	2.2	1.8	1.9	1.9	2.2	2.4	2.1	2.3
16	9.7	1.5	6.7	1.6	2.2	1.8	1.9	1.9	2.2	2.4	2.1	2.3
17	9.2	* 1.6	6.7	1.6	2.1	1.8	1.9	1.8	2.2	2.3	2.1	2.3
18	8.3	1.6	3.9	1.7	2.1	1.8	1.9	1.8	2.2	2.3	2.2	2.3
19	8.5	1.7	2.2	1.7	2.1	1.8	1.9	1.8	2.3	2.3	2.2	2.3
20	8.1	2.1	2.4	2.0	2.1	1.8	1.9	1.8	2.3	* 2.2	2.3	2.4
21	8.9	1.2	2.5	1.7	* 2.1	1.8	1.9	1.8	2.3	2.2	2.4	2.4
22	9.1	5.2	2.6	1.6	2.0	1.8	1.9	1.8	* 2.3	2.2	2.4	2.4
23	9.4	4.1	2.5	1.5	1.9	1.8	1.8	1.8	2.2	2.2	2.3	2.4
24	8.9	4.1	2.6	1.4	1.9	1.8	1.8	1.8	2.2	2.1	2.3	2.4
25	7.6	4.0	2.8	1.6	1.9	1.8	1.8	1.8	2.2	2.1	2.3	2.4
26	7.6	4.1	3.3	1.8	1.9	1.9	1.8	1.8	2.2	2.1	2.3	2.4
27	6.1	3.8	3.3	2.1	1.9	1.8	1.8	1.8	2.2	2.1	2.3	2.4
28	5.8	3.0	3.4	2.4	1.9	1.8	1.8	1.8	* 2.1	2.1	2.3	2.5
29	6.8	3.0	3.8	3.0	-	1.9	1.8	* 1.8	2.1	2.2	2.3	2.5
30	6.8	3.0	4.1	3.0	-----	1.9	1.8	1.8	2.0	2.2	2.2	2.5
31	7.0	-----	4.7	3.1	-----	1.9	-----	1.8	-----	2.1	2.2	-----
Total	270.5	367.5	117.3	123.1	542.2	57.9	56.7	56.8	66.0	70.6	68.3	68.9
Mean	8.73	12.2	3.78	3.97	19.4	18.7	18.9	18.3	22.0	22.8	22.0	23.0
Max	9.7	21	6.7	11	49	20	20	20	23	25	24	25
Min	5.8	3.0	2.2	1.4	1.1	1.8	1.8	1.7	2.0	2.0	2.0	2.1
Ac-ft	537	729	233	244	1,080	1,150	1,120	1,130	1,310	1,400	1,350	1,370

Calendar year 1961: Max - Min - Mean - Ac-ft -
 Water year 1961-62: Max 49 Min 1.1 Mean 16.1 Ac-ft 11,650

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-31, Jan. 22-28, Mar. 28 to Apr. 3, Apr. 15-29, May 5-8.

TULARE LAKE BASIN

11-2109.5. Kaweah River below Terminus Dam, Calif.

Location.--Lat 36°24'51", long 119°00'42", in SE 1/4 sec. 26, T.17 S., R.27 E., 0.6 mile downstream from Terminus Dam, and 2.2 miles northeast of Lemoncove.

Drainage area.--561 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 496.00 ft above mean sea level, datum of 1929 (levels of Corps of Engineers).

Extremes.--Maximum discharge during year, 3,500 cfs Feb. 10 (gage height, 7.26 ft); no flow Oct. 1 to Nov. 20, Sept. 21-26.

Remarks.--Records good. Flow regulated by Terminus Reservoir (see p. 578). Lemoncove ditch (see p. 577) diverts water from Terminus Reservoir for irrigation. Foothill ditch (see p. 579) diverts water from the gage pool for irrigation. Doffelmyer ditch diverts up to 3 cfs above the station for irrigation; at times some of this water is returned to the river above the station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

-0.05	0	1.6	120
.0	1.5	2.0	173
.1	4.6	3.0	355
.2	8.4	4.0	680
.3	13	5.0	1,210
.4	19	6.0	2,020
.8	44	7.0	3,140
1.2	77	7.2	3,420

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	69	65	159	335	734	*1,450	*1,700	684	126	14
2		0	90	66	169	331	770	1,660	2,000	494	104	14
3		0	195	64	173	346	815	1,900	2,240	721	97	13
4		0	142	62	173	316	825	*2,260	1,770	820	98	*13
5		0	106	61	170	316	962	2,470	1,380	694	97	12
6		0	*92	60	174	489	*1,270	2,430	1,530	648	94	11
7		0	87	62	174	734	1,360	*2,520	1,800	608	88	8.4
8		0	82	67	429	*576	1,520	2,340	*1,840	593	79	7.2
9		0	77	73	1,460	530	*1,640	2,110	1,840	551	70	7.2
10		0	71	*77	3,420	502	1,570	1,760	1,920	469	73	7.6
11		0	67	76	3,170	451	1,530	1,450	1,840	439	72	5.6
12		0	63	73	2,040	416	1,790	1,320	*1,700	439	64	3.9
13		0	61	84	1,290	392	1,900	1,360	1,590	439	57	6.8
14		0	59	86	1,010	374	1,960	1,170	1,410	411	52	*3.6
15		0	57	74	1,070	365	2,010	965	1,140	392	50	3.9
16		0	48	77	1,230	365	1,810	940	920	395	*49	4.2
17		0	53	75	970	353	1,820	950	982	357	45	3.0
18		0	53	72	730	342	1,870	988	1,220	292	43	1.8
19		0	53	72	965	337	916	1,010	1,410	281	40	1.5
20		0	53	287	*988	355	*1,860	1,010	1,440	*282	36	.3
21		44	57	353	*748	362	2,620	1,180	1,440	279	35	0
22		59	59	179	593	346	1,950	1,060	1,360	279	32	0
23		45	60	137	502	445	*1,980	1,100	1,220	279	27	0
24		45	64	116	469	389	*2,060	1,100	1,050	246	*21	0
25		45	68	115	448	387	1,960	1,000	1,050	227	18	0
26		76	70	114	416	439	1,670	1,010	1,110	227	20	0
27		86	70	115	382	502	1,620	1,010	1,050	209	20	1.5
28		65	69	121	348	640	1,600	940	*890	201	17	5.0
29		60	68	130	-	644	1,590	976	738	184	17	5.3
30		69	65	138	-----	600	1,410	1,130	725	148	14	6.4
31	0	-----	65	145	-----	632	-----	1,440	-----	141	13	-----
Total	0	594	2,293	3,296	23,870	13,611	47,392	44,009	42,305	12,429	1,668	160.2
Mean	0	19.8	74.0	106	852	439	1,580	1,420	1,410	401	53.8	5.3
Max	0	86	195	353	3,420	734	2,620	2,520	2,240	820	126	14
Min	0	0	48	60	159	316	734	940	725	141	13	0
Ac-ft	0	1,180	4,550	6,540	47,350	27,000	94,000	87,290	83,910	24,650	3,310	318
Meant	8.73	32.8	77.7	111	874	460	1,610	1,500	1,440	413	85.1	39.2
Ac-ft†	537	1,950	4,780	6,840	48,520	28,310	95,500	92,140	85,420	25,420	5,230	2,330
Calendar year 1961:	Max	-	Min	-	Mean	-	Ac-ft	-	Meant	-	Ac-ft†	-
Water year 1961-62:	Max	3,420	Min	0	Mean	525	Ac-ft	380,100	Meant	548	Ac-ft†	397,000

* Discharge measurement made on this day.

† Adjusted for diversions to Lemoncove Ditch and Foothill Ditch, storage and evaporation from Terminus Reservoir.

Note.--Records not adjusted for evaporation from Terminus Reservoir prior to March 1962.

TULARE LAKE BASIN

581

11-2113. Dry Creek near Lemoncove, Calif.

Location.--Lat 36°25'30", long 119°01'20", in NW¼NW¼ sec.26, T.17 S., R.27 E., on left bank 400 ft downstream from Pogue Canyon, 1.3 miles upstream from mouth, and 2.8 miles north of Lemoncove.

Drainage area.--80.4 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 515 ft (from topographic map).

Extremes.--Maximum discharge during year, 732 cfs Feb. 11 (gage height, 4.37 ft); no flow for most of time.

1959-62: Maximum discharge, that of Feb. 11, 1962; no flow for most of each year.

Revisions.--The maximum discharge for the water year 1960 has been revised to 206 cfs Feb. 2, 1960 (gage height, 3.29 ft), superseding figure published in WSP 1715.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.22	0	3.0	114
2.3	1.0	3.5	290
2.4	6.4	4.0	530
2.6	30	4.5	810
2.8	66		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	* 0	36	33	*11	2.8		(*)	
2				0	0	35	33	9.6	2.3			
3				0	0	41	32	7.4	1.9			
4				0	0	35	30	7.4	1.9			
5				0	0	33	30	6.4	1.6			
6				0	0	99	*30	5.5	1.2			
7				0	.7	155	30	5.5	1.0			
8				0	16	98	29	5.5	.8			
9				0	157	86	28	3.4	.6	(*)		
10				0	*477	77	26	3.4	.2			
11				0	*604	62	22	3.4	.1			
12				0	396	*58	20	4.0	0			
13				0	136	50	19	9.6	0			
14				0	128	44	18	7.4	0			
15				0	114	41	17	12	.4			
16	(*)			0	185	40	18	9.6	1.6			
17				0	142	36	17	9.6	1.2			
18				0	101	35	16	6.4	.5			
19				0	192	35	16	4.0	0			
20				18	196	43	16	3.4	0			
21				25	125	43	16	3.4	0			
22				4.7	*91	41	13	3.4	0			
23				1.0	73	62	12	3.4	0			
24				.2	64	43	11	3.4	0			
25				0	60	40	11	3.4	0			
26				0	54	38	11	3.4	0			
27				0	44	38	11	3.4	0			
28				0	40	40	12	6.4	0			
29			(*)	0	-	38	16	3.4	0			
30				0	-----	35	12	3.4	0			
31				0	-----	33	-----	*3.4	-----		(*)	-----
Total	0	0	0	48.9	3,395.7	1,590	605	174.9	18.1	0	0	0
Mean	0	0	0	1.58	121	51.3	20.2	5.64	0.60	0	0	0
Max	0	0	0	25	604	155	33	12	2.8	0	0	0
Min	0	0	0	0	0	33	11	3.4	0	0	0	0
Ac-ft	0	0	0	97	6,740	3,150	1,200	347	36	0	0	0
Calendar year 1961: Max	7.4		Min 0		Mean 0.19	Ac-ft 135						
Water year 1961-62: Max	604		Min 0		Mean 16.0	Ac-ft 11,570						

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	1900-2000	2.85	77	3-7	0200	3.31	214
2-11	0500	4.37	732	3-23	0200	2.87	81
2-20	0600	3.40	250				

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

TULARE LAKE BASIN

11-2135. Kings River above North Fork, Calif.

Location.--Lat 36°51'45", long 119°07'25", in NE $\frac{1}{4}$ sec.27, T.12 S., R.26 E., on left bank at Rogers Crossing, 0.9 mile upstream from North Fork and 2.9 miles south of Balch Camp.

Drainage area.--956 sq mi.

Records available.--October 1926 to December 1928, October 1931 to September 1962. Monthly figures only for some periods published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 1,003.5 ft above mean sea level (river-profile survey). March 1927 to December 1928, at site 0.5 mile downstream at different datum.

Average discharge.--33 years, 1,383 cfs (1,001,000 acre-ft per year).

Extremes.--Maximum discharge during year, 8,940 cfs June 22 (gage height, 6.48 ft); minimum, 91 cfs Oct. 17, 18.

1926-28, 1931-62: Maximum discharge, 59,100 cfs Dec. 23, 1955 (gage height, 16.26 ft), from rating curve extended above 8,000 cfs on basis of slope-area measurement of peak flow; minimum, 79 cfs Oct. 13, 1934, Dec. 15, 1959.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 3-26, 30)

0.5	83	3.0	1,150
.7	116	3.5	1,640
1.0	173	4.0	2,290
1.5	313	4.5	3,100
2.0	530	5.5	5,540
2.5	800	6.5	9,020

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	123	212	191	293	595	1,320	3,320	5,450	3,720	1,170	339
2	107	129	374	191	299	600	1,350	3,920	6,260	3,830	1,140	320
3	107	129	390	188	303	560	1,500	4,760	6,680	3,920	1,070	313
4	106	129	313	188	306	560	1,680	5,940	5,420	3,810	986	303
5	104	129	310	186	317	580	1,930	6,720	5,210	3,830	924	293
6	102	125	296	184	320	1,110	2,220	7,380	5,600	3,990	884	282
7	101	121	282	193	462	898	2,530	7,090	6,130	3,870	820	273
8	101	120	264	205	881	832	2,840	* 6,920	6,480	3,740	776	267
9	102	118	245	208	3,180	826	3,180	6,160	6,850	3,380	746	260
10	102	116	226	205	3,720	752	* 3,280	5,360	7,380	3,120	734	254
11	104	116	218	200	* 3,990	740	3,300	4,350	7,340	2,800	696	248
12	104	116	205	193	2,720	690	3,500	4,230	6,850	2,640	663	242
13	102	114	215	202	1,870	663	3,740	3,440	6,620	2,150	646	245
14	99	111	210	191	1,760	652	4,130	2,280	5,970	1,970	630	245
15	94	113	202	167	1,840	646	4,250	2,700	4,400	2,120	636	245
16	93	111	195	184	1,860	636	3,940	2,670	3,650	2,250	646	245
17	93	109	191	180	1,490	620	4,200	2,420	4,010	2,180	630	245
18	93	104	191	184	1,230	620	4,630	2,500	5,160	2,140	620	245
19	93	104	188	200	1,240	630	4,740	2,720	6,160	2,040	590	245
20	94	146	188	366	1,160	674	4,250	2,720	6,890	1,890	560	245
21	104	161	188	223	979	630	3,650	2,410	7,160	1,830	520	245
22	130	129	188	248	917	685	3,990	2,560	7,200	2,050	495	245
23	121	157	188	286	820	685	4,500	3,160	6,850	2,070	476	245
24	118	171	195	289	806	674	4,820	2,840	6,000	1,830	458	245
25	116	192	195	296	724	729	4,740	2,800	5,660	1,660	435	245
26	* 114	273	198	289	724	852	* 4,300	2,750	5,630	1,660	426	* 284
27	123	215	195	286	* 641	* 972	4,300	2,500	* 5,390	1,600	* 418	399
28	129	202	* 191	286	630	1,100	4,010	* 2,260	4,760	1,540	404	339
29	127	* 205	191	* 282	-	1,080	3,520	2,590	4,520	1,500	390	310
30	118	220	191	286	-----	1,100	3,160	3,570	4,130	1,360	378	293
31	118	-----	191	289	-----	1,210	-----	4,420	-----	* 1,230	362	-----
Total	3,332	4,308	7,026	7,066	35,482	23,601	103,500	119,460	175,810	77,720	20,329	8,204
Mean	107	144	227	228	1,267	761	3,450	3,854	5,860	2,507	656	273
Max	130	273	390	366	3,990	1,210	4,820	7,380	7,380	3,990	1,170	399
Min	93	104	188	167	293	560	1,320	2,260	4,010	1,230	362	242
Ac-ft	6,610	8,540	13,940	14,020	70,380	46,810	205,300	236,900	348,700	154,200	40,320	16,270

Calendar year 1961: Max 2,420 Min 93 Mean 511 Ac-ft 370,300

Water year 1961-62: Max 7,380 Min 93 Mean 1,605 Ac-ft 1,162,000

Peak discharge (base, 6,300 cfs).--May 6 (0130) 8,370 cfs (6.33 ft); June 22 (0230) 8,940 cfs (6.48 ft).

* Discharge measurement made on this day.

11-2140. North Fork Kings River below Meadow Brook, Calif.

Location---Lat 37°04'53", long 118°51'43", in NE $\frac{1}{4}$ sec.12, T.10 S., R.28 E., on left bank 800 ft downstream from Nichols Canyon, 0.6 mile downstream from Meadow Brook, 3.9 miles west of Blackcap Mountain, 5.9 miles east of Courtright Dam, and 23 miles southeast of town of Huntington Lake.

Drainage area---37.7 sq mi.

Records available---October 1921 to September 1935, October 1956 to September 1962. Monthly discharge only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Records for Jan. 1-23, 1922, and Dec. 1-21, 1934, published in WSP 551 and 766, respectively, have been found to be unreliable and should not be used.

Gage---Water-stage recorder. Datum of gage is 8,144.66 ft above mean sea level, unadjusted (levels by Pacific Gas & Electric Co.).

Average discharge---20 years, 62.9 cfs (45,540 acre-ft per year).

Extremes---Maximum discharge during year, 759 cfs June 9 (gage height, 4.67 ft); minimum, 1.4 cfs Oct. 15-19, Sept. 19-24.

1921-35, 1956-62: Maximum discharge, 1,230 cfs May 22, 1958 (gage height, 5.21 ft); minimum recorded, 0.3 cfs Sept. 12-14, 1924.

Flood of Dec. 23, 1955, reached a stage of 5.85 ft, from floodmarks (discharge, 2,000 cfs).

Remarks---Records excellent except those for periods of ice effect, which are fair. No regulation or diversion.

Cooperation---Water-stage-recorder graph and seven discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.6	1.3	2.6	56
1.7	2.2	3.0	105
1.8	4.0	3.5	208
2.0	12	4.0	385
2.3	32	4.5	645

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	3.1	1.3	6.1	1.4	1.5	4.6	208	485	253	3.4	4.3
2	1.9	3.3	1.6	5.8	1.4	1.5	4.5	274	547	253	3.2	3.5
3	*1.8	3.5	2.1	5.8	1.4	1.5	4.8	385	500	246	3.0	3.3
4	1.7	3.8	3.0	5.8	1.4	1.5	5.5	480	394	235	2.7	3.1
5	1.6	3.5	2.3	5.4	1.5	1.6	7.5	525	408	235	2.4	2.7
6	1.6	3.1	1.9	5.8	1.5	1.6	9.5	536	*475	227	2.2	2.6
7	1.6	*3.1	1.6	6.5	1.6	1.6	12.5	510	500	213	1.9	2.3
8	1.6	2.9	1.5	8.0	1.6	1.7	14.2	490	515	201	1.8	2.2
9	1.6	2.7	1.4	8.4	2.6	1.7	16.2	430	569	175	1.6	2.1
10	1.7	2.6	1.3	8.0	3.5	1.6	16.4	329	574	152	1.6	1.9
11	1.7	2.6	1.3	6.8	3.5	1.5	16.9	260	536	131	1.5	1.8
12	1.7	2.3	1.3	6.1	3.5	1.4	18.6	230	515	138	1.3	1.8
13	1.6	2.1	1.2	6.1	3.5	1.3	21.1	184	475	109	1.2	1.8
14	1.5	2.4	1.1	5.8	3.5	1.3	22.7	162	385	99	1.2	1.7
15	1.5	2.2	9.0	5.5	3.5	1.3	21.3	138	267	98	1.1	1.7
16	1.5	1.9	7.5	5.5	3.4	1.3	20.3	140	256	101	1.2	1.7
17	1.4	1.6	7.0	5.5	3.2	1.3	23.9	138	361	*98	1.2	1.7
18	1.4	1.7	6.8	5.5	3.0	1.3	26.0	152	455	89	1.1	1.6
19	1.4	1.7	6.5	5.2	2.8	1.3	24.6	177	510	84	1.0	1.5
20	1.5	1.7	6.5	5.0	2.5	1.3	20.6	166	515	75	9.3	1.4
21	3.6	2.1	6.5	5.4	2.3	1.3	20.6	154	515	70	8.4	1.4
22	4.3	2.9	6.8	6.0	2.1	1.4	26.0	201	515	74	*8.0	1.4
23	3.5	4.0	7.6	6.5	1.9	1.5	31.7	227	485	75	8.0	1.4
24	3.8	5.8	8.4	7.0	1.8	1.5	32.5	201	417	65	6.8	1.4
25	3.8	6.1	8.4	8.0	1.7	2.0	27.7	208	399	58	6.5	1.6
26	3.8	9.3	7.2	8.5	1.6	2.1	*24.9	189	399	56	6.1	2.2
27	3.8	1.2	6.8	9.5	1.5	2.3	24.9	184	353	54	5.8	1.0
28	4.0	1.3	6.5	1.0	*1.5	2.5	20.1	154	321	50	5.4	7.2
29	2.6	1.3	6.5	1.2	-	2.7	25.6	203	302	46	5.1	6.5
30	2.9	1.3	6.5	*1.3	-----	3.0	16.9	298	263	42	4.8	5.8
31	3.1	-----	6.8	1.4	-----	3.8	-----	399	-----	38	4.5	-----
Total	71.7	133.0	350.3	222.5	64.9	53.2	5,626	8,332	13,211	3,840	424.7	103.4
Mean	2.31	4.43	1.13	7.18	2.32	1.72	188	269	440	124	13.7	3.45
Max	4.3	1.3	3.0	1.4	3.5	3.8	32.5	536	574	253	3.4	2.2
Min	1.4	1.6	6.5	5.0	1.4	1.3	4.5	138	256	38	4.5	1.4
Ac-ft	14.2	26.4	69.5	44.1	1,290	1,060	11,160	16,530	26,200	7,620	84.2	20.5

Calendar year 1961: Max 239 Min 1.4 Mean 36.4 Ac-ft 26,320
 Water year 1961-62: Max 574 Min 1.4 Mean 91.8 Ac-ft 66,450

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-5	2000	4.54	671	6-19	1900	4.53	664
6-9	2000	4.67	759				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 9-17, Jan. 14-27, Jan. 29 to Mar. 4, Mar. 6-18, 23, 24, 26-29, Apr. 3-5.

TULARE LAKE BASIN

11-2142. Fleming Creek near Blackcap Mountain, Calif.

Location.--Lat 37°05'55", long 118°51'40", in SE¹/₄ sec. 36, T.9 S., R.28 E., on left bank 0.9 mile upstream from mouth, 4.2 miles west of Blackcap Mountain, and 23 miles southeast of town of Huntington Lake.

Drainage area.--15.0 sq mi.

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 8,590 ft (from topographic map).

Average discharge.--6 years, 29.1 cfs (21,070 acre-ft per year).

Extremes.--Maximum discharge during year, 304 cfs June 2 (gage height, 2.44 ft); maximum gage height, 5.28 ft Feb. 14 (ice jam); minimum discharge, 0.2 cfs Sept. 19-25.

1956-62: Maximum discharge, 452 cfs June 23, 1958 (gage height, 2.61 ft), from rating curve extended above 160 cfs; maximum gage height, that of Feb. 14, 1962; no flow Sept. 5-11, 1959, Aug. 21 to Oct. 1, 1960.

Flood of Dec. 23, 1955, reached a stage of 3.5 ft, from floodmarks (discharge, 800 cfs, from rating curve extended above 160 cfs),

Remarks.--Records good except those for periods of ice effect, which are fair. No regulation or diversion.

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

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

0.4	0	1.1	36
.5	.4	1.5	83
.6	1.6	1.9	157
.7	5.6	2.4	290
.8	12		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	1.6	3.5	3.3	5.5	2.2	7	83	205	99	12	0.8
2	.5	1.6	4		5.5		8.3	114	233	97	10	.8
3	*.5	1.6	5		6		13	155	203	86	9.7	.7
4	.4	1.4	7	3	7		16	203	188	76	8.3	.7
5	.4	1.2	8		7		21	220	190	76	6.9	.6
6	.4	1.1			7	2.1	28	228	* 198	72	6.9	.6
7	.4	* 1.1	5	4	8		39	218	210	63	5.7	.5
8	.4	1.1		4.5	10		42	210	233	55	5.1	.5
9	.4	1.1		5	15		48	188	242	43	4.5	.5
10	.4	1.1	4	4.5	20	2	50	146	245	37	4.0	.4
11	.4	1.1		4	18	2	52	120	233	33	4.0	.4
12	.4	1.0		3.8	18	2	61	102	225	36	3.1	.4
13	.4	1.0	3.5		18	1.9	73	76	208	32	3.1	.4
14	.4	1.0		3.5	16	1.9	88	63	180	29	2.8	.4
15	.4	.9			16	1.6	82	53	118	28	2.5	.4
16	.4	.8	3.2	3.2	15	1.4	72	52	120	28	2.5	.4
17	.4	.8			15	1.4	86	48	157	28	2.5	.3
18	.4	.7			14	1.4	102	55	200	* 26	2.5	.3
19	.4	.7	3	3	12	1.4	97	67	215	25	2.2	.2
20	.4	.8			11	1.2	80	63	213	24	2.2	.2
21	1.1	1.0	3.5		10	1.1	76	63	223	22	1.9	.2
22	1.2	1.3	3.5	3.5	8	1.1	101	96	230	22	1.6	.2
23	1.2	1.7	4	4	5	1.1	124	109	208	24	* 1.6	.2
24	1.2	2.0	5	4	4	1.3	127	96	190	22	1.4	.2
25	1.6	2.5	4.5	4.5	3	1.7	111	94	180	22	1.2	.3
26	1.6	2.5	4		2.5	2.1	* 109	83	171	20	1.2	2.2
27	1.6	2.5		4.5	2.3	2.5	108	67	153	17	1.1	1.6
28	1.6	2.7			2.2	3	77	63	135	16	1.1	1.2
29	1.6	3.0	3.5			4	65	89	122	15	.9	1.1
30	1.4	3.5		(*) 5		5	63	124	104	14	.9	1.1
31	1.6					6		173		13	.8	
Total	24.0	44.4	126.2	117.3	281.0	66.1	2,026.3	3,521	5,732	1,200	114.2	17.8
Mean	0.77	1.48	4.07	3.78	10.0	2.13	67.6	114	191	38.7	3.68	0.59
Max	1.6	3.5	8	-	20	6	127	228	245	99	12	2.2
Min	0.4	0.7	-	-	2.2	1.1	7	48	104	13	0.8	0.2
Ac-ft	48	88	250	233	557	131	4,020	6,980	11,370	2,380	227	35

Calendar year 1961: Max 111 Min 0.1 Mean 14.8 Ac-ft 10,740
 Water year 1961-62: Max 245 Min 0.2 Mean 36.4 Ac-ft 26,320

Peak discharge (base, 110 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-23	1900	1.85	146	6-2	1830	2.44	304
5-5	2100	2.33	269	6-9	2100	2.43	300
5-22	1830	1.85	146	6-21	2000	2.43	300

* Discharge measurement made on this day.
 Note.--Stage-discharge relation affected by ice Nov. 7-15, Nov. 17 to Mar. 13, Mar. 22 to Apr. 1, Apr. 9, 10.

11-2144. Post Corral Creek near Blackcap Mountain, Calif.

Location.--Lat 37°06'25", long 118°53'45", in NW¼ sec.35, T.9 S., R.28 E., on right bank 1.6 miles upstream from mouth, 6.2 miles west of Blackcap Mountain, and 20 miles southeast of town of Huntington Lake.

Drainage area.--27.9 sq mi.

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 8,145 ft (from river-profile map).

Average discharge.--6 years, 52.6 cfs (38,080 acre-ft per year).

Extremes.--Maximum discharge during year, 944 cfs June 2, 9 (gage height, 4.18 ft), from rating curve extended above 390 cfs; maximum gage height, 5.72 ft Apr. 2 (ice jam); minimum discharge, 0.1 cfs Nov. 20.

1956-62: Maximum discharge, 1,270 cfs June 4, 1957 (gage height, 4.57 ft), from rating curve extended above 390 cfs; maximum gage height, 8.01 ft Apr. 16, 1958 (ice jam); no flow Dec. 30, 1959, to Jan. 1, 1960.

Flood of Dec. 23, 1955, reached a stage of 4.7 ft, from floodmarks (discharge, 1,400 cfs, from rating curve extended above 390 cfs).

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

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.9	0.1	2.5	147
1.0	1.1	3.0	290
1.1	3.6	3.5	510
1.5	22	4.0	810
2.0	64		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	1.0	3	2.0	6.5		17	203	508	125	3.3	0.6
2	.4	1.0	3.5		7		20	283	591	130	3.0	.6
3	*.4	1.0	4		7		30	383	500	103	2.8	.6
4	.4	1.0	5	1.9	7	5	40	515	410	103	2.6	.6
5	.4	1.0	6		8		50	562	*424	93	2.6	.6
6	.4	1.0	5.5		8		60	566	458	83	2.3	.6
7	.4	*1.0	5	2.0	8		80	546	474	75	2.0	.6
8	.3	.8	4.8	2.3	8	5.5	100	508	509	62	2.0	.6
9	.3	.8	4.3	2.6	10	5.5	120	446	581	51	2.0	.6
10	.3	.8	4.0	2.5	16	5.5	130	345	569	44	2.0	.6
11	.3	.8	3.8	2.2	15	5.2	140	297	513	39	2.0	.6
12	.3	.8	3.5	2.0	14	5.2	170	246	483	47	1.8	.6
13	.4	.8	3.3	2.0	14	5.2	190	179	394	43	1.8	.6
14	.4	.7	3.0	2.0	14	5.5	210	154	297	37	1.6	.6
15	.4	.7	2.8	1.9	13	5.5	200	132	205	32	1.3	.6
16	.3	.6	2.6	1.8	13	5.2	180	119	241	31	1.1	.4
17	.3	.4	2.3	1.8	13	5.2	220	121	350	*28	1.1	.4
18	.3	.4	2.0	1.8	13	4.9	240	136	379	21	1.0	.4
19	.3	.3	2.0	1.7	12	5.2	210	154	411	22	1.0	.4
20	.3	.2	2.0	1.6	11	4.9	190	143	403	15	1.0	.3
21	1.3	.3	2.0	1.7	10	4.9	190	145	406	12	.8	.3
22	1.6	.7	2.1	1.8	8.8	4.9	234	209	388	12	*.8	.3
23	1.1	.8	2.4	2.0	8	4.9	283	243	326	10	.8	.2
24	1.0	1.0	2.6	2.1	7	5.2	311	217	279	8.3	.8	.2
25	1.1	1.3	2.9	2.3	6	6	276	225	264	6.8	.7	.3
26	1.3	1.6	2.3	2.6	5.5	7	*234	200	244	6.1	.7	2.1
27	1.8	1.8	2.1	2.8	5	9	225	145	197	4.9	.7	1.0
28	1.6	2.1	2.0	3.3	5	11	176	147	182	4.6	.7	.7
29	1.0	2.4	2.0	4.5	-	12	152	215	165	4.3	.6	.7
30	.8	2.8	2.0	*6.5	-----	14	157	334	136	4.0	.6	.6
31	1.0	-----	2.0	6.5	-----	16	-----	489	-----	3.6	.6	-----
Total	20.8	29.9	96.8	75.8	272.8	198.4	4,835	8,607	11,287	1,260.6	46.1	17.3
Mean	0.67	1.00	3.12	2.45	9.74	6.40	161	278	376	40.7	1.49	0.58
Max	1.8	2.8	6	6.5	16	16	311	566	591	130	3.3	2.1
Min	0.3	0.2	2.0	1.6	5	4.9	17	119	136	3.6	0.6	0.2
Ac-ft	41	59	192	150	541	394	9,590	17,070	22,390	2,500	91	34

Calendar year 1961: Max 156 Min 0.2 Mean 19.5 Ac-ft 14,110
 Water year 1961-62: Max 591 Min 0.2 Mean 73.3 Ac-ft 53,050

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-5	1930	3.93	764	6-9	1830	4.18	944
6-2	1900	4.18	944	6-22	1930	3.87	726

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 29 to Jan. 24, Jan. 28 to Feb. 21, Feb. 23 to Mar. 7, Mar. 25 to Apr. 21.

TULARE LAKE BASIN

11-2146. Helms Creek below Courtright Dam, Calif.

Location.--Lat 37°04'40", long 118°58'05"; in NW¹/₄ sec. 7, T.10 S., R.28 E., on left bank 500 ft downstream from Courtright Dam, 2.5 miles upstream from North Fork Kings River, and 17 miles southeast of town of Huntington Lake.

Drainage area.--39.7 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder and broad-crested weir with V-notch. Altitude of gage is 7,840 ft (from Pacific Gas & Electric Co. survey).

Extremes.--Maximum discharge during year, 35 cfs Oct. 23 (gage height, 2.85 ft); minimum daily, 1.3 cfs Nov. 20, 21.
1958-62: Maximum discharge, 767 cfs June 2, 1961 (gage height, 6.52 ft); minimum daily, 0.9 cfs Oct. 30 to Nov. 6, 1958.

Remarks.--Records excellent except those for periods of indefinite stage-discharge relation, no gage-height record, and ice effect, which are poor. Flow regulated since Oct. 17, 1958, by Courtright Reservoir (see p. 587). No diversions.

Cooperation.--Water-stage-recorder graph and five discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table, except periods of indefinite stage-discharge relation and ice effect,
(gage height, in feet, and discharge, in cubic feet per second)

0.9	1.1	1.8	8.0
1.0	1.5	2.1	12
1.2	2.5	2.4	18
1.5	4.8		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	e 2.5	e 6.9	3.6	4.2				12	14	12	12	13
2	e 2.5	2.4	3.2	4.2			5.5	12	15	12	12	13
3	e 2.4	2.6	3.1	4.2				12	15	12	12	13
4	e 2.4	2.7	3.6	4.7				13	15	12	12	13
5	e 2.4	2.5	3.8	4.3			5.5	13	15	12	12	13
6	e 2.4	2.3	3.9	4.4			5.6	13	15	12	12	13
7	e 2.3	2.3	3.9	4.6	a 6.5		6.0	13	15	12	13	13
8	e 2.3	2.4	4.3	5.0			6.4	13	14	12	12	13
9	e 2.3	2.4	4.4	5.2			6.6	13	12	12	12	13
10	e 2.3	2.3	4.3	5.0			6.7	13	12	12	12	13
11	e 2.2	2.4	4.0	4.9			7.6	14	* 12	12	13	13
12	e 2.2	2.2	3.9	5.2			7.9	14	12	12	13	13
13	e 2.2	2.0	3.9	4.5			8.3	13	12	12	13	13
14	2.2	2.2	3.9	4.4	a 6		8.7	13	12	12	13	14
15	2.2	2.4	3.9	4.4	5.7	5	9.0	13	12	12	13	14
16	2.2	2.3	3.8	4.4			9.3	13	12	12	13	14
17	* 2.2	1.9	3.9	a 5			10	13	12	12	13	14
18	2.2	2.0	4.0	a 5			11	13	12	12	13	14
19	e 2.2	2.1	4.1	a 5	5.5		11	14	12	* 12	13	14
20	e 2.2	1.3	4.1	a 5.5			11	14	12	12	13	* 14
21	e 2.2	1.3	4.2	a 5.5			12	14	12	12	* 13	14
22	e 2.2	2.2	4.2	a 5.5			12	14	12	12	13	14
23	e 1.3	4.4	4.2	a 6			12	14	12	12	13	14
24	8.3	3.6	4.4	(*)			12	14	12	12	13	14
25	e 2.9	3.5	4.4		5		12	14	12	12	13	14
26	e 4.4	3.3	4.2				12	13	12	12	13	14
27	3.6	3.6	4.2	a 6.5			12	14	12	12	13	14
28	3.3	3.8	4.4				11	13	12	12	13	14
29	2.9	3.6	4.3		-		11	14	12	12	13	14
30	e 3.3	3.6	4.4				11	14	12	12	13	14
31	e 2.5		4.2				11	14	12	12	13	14
Total	94.4	82.5	124.7	163.1	164.2	155	269.6	413	382	372	394	407
Mean	3.05	2.75	4.02	5.26	5.86	5.00	8.99	13.3	12.7	12.0	12.7	13.6
Max	13	6.9	4.4	-	-	-	12	14	15	12	13	14
Min	2.2	1.3	3.1	4.2	-	-	-	12	12	12	12	13
Ac-ft	187	164	247	324	326	307	535	819	758	738	781	807
Calendar year 1961: Max	704	Min	1.3	Mean	91.0	Ac-ft	65,910					
Water year 1961-62: Max	15	Min	1.3	Mean	8.28	Ac-ft	5,990					

* Discharge measurement made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.

Note.--Stage-discharge relation affected by ice Feb. 16 to Apr. 4.

Reservoirs in Tulare Lake basin, Calif.

11-2145.5. Courtright Reservoir.--Lat 37°04'40", long 118°58'05", in NW $\frac{1}{4}$ sec.7, T.10 S., R.28 E., at left end of dam on Helms Creek, 2.5 miles upstream from mouth, 4.6 miles east of Nelson Mountain, and 9.7 miles west of Blackcap Mountain. Drainage area, 39.7 sq mi. Records available, October 1958 to September 1962. Gage, water-stage recorder attached to surface follower. Datum of gage is at mean sea level (levels by Pacific Gas & Electric Co.). Maximum contents during year, 64,600 acre-ft July 14-24; maximum elevation, 8,139.80 ft July 18; no contents Oct. 1-21, Oct. 23 to Mar. 31 (elevation, 7,900 ft), reservoir drained for repairs to dam. Maximum contents during period 1958-62, that of July 14-24, 1962; no contents June 26 to Oct. 21, 1961, Oct. 23, 1961, to Mar. 31, 1962.

Reservoir is formed by rock-fill dam completed in 1958. Usable capacity, 129,900 acre-ft between elevations 7,902 ft (invert of tunnel) and 8,188 ft (crest of dam). Dead storage negligible. Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

11-2148. Wishon Reservoir.--Lat 37°00'20", long 118°58'00", in NW $\frac{1}{4}$ sec.6, T.11 S., R.28 E., on right end of dam on North Fork Kings River, 1.2 miles north of Cliff Camp, 1.3 miles upstream from Cliff Camp gaging station, and 20 miles southeast of town of Big Creek. Drainage area, 177 sq mi. Records available, December 1957 to September 1962. Gage, water-stage recorder attached to surface follower. Datum of gage is at mean sea level (levels by Pacific Gas & Electric Co.). Maximum contents during year, 128,900 acre-ft June 12 (elevation, 6,550.25 ft); minimum, 32,010 acre-ft Apr. 5 (elevation, 6,426.82 ft). Maximum contents during period 1957-62, 129,700 acre-ft July 29, 1958 (elevation, 6,551.1 ft); no contents Sept. 21 to Nov. 21, 1960.

Reservoir is formed by rock-fill dam completed in 1957. Capacity, 128,600 acre-ft between elevations 6,317 (bottom of slide gates) and 6,550 ft (operating crest of spillway gates). Dead storage negligible. Water is diverted to Haas powerhouse for power. Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Month-end elevation and contents, water year October 1961 to September 1962

Date	Elevation (feet) [†]	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet) [†]	Contents (acre-feet)	Change in contents (acre-feet)
Courtright Reservoir			Wishon Reservoir			
Sept. 30.....	7,900	0	-	6,474.1	61,800	-
Oct. 31.....	7,900	0	0	6,469.6	58,500	-3,300
Nov. 30.....	7,900	0	0	6,464.1	54,600	-3,900
Dec. 31.....	7,900	0	0	6,456.5	49,600	-5,000
Calendar year 1961	-	-	-45,000	-	-	+47,170
Jan. 31.....	7,900	0	0	6,457.9	50,500	+900
Feb. 28.....	7,900	0	0	6,469.9	58,700	+8,200
Mar. 31.....	7,900	0	0	6,430.5	34,000	-24,700
Apr. 30.....	8,067.2	14,700	+14,700	6,473.6	61,400	+27,400
May 31.....	8,116.3	43,200	+28,500	6,524.2	103,600	+42,200
June 30.....	8,138.8	63,600	+20,400	6,549.6	128,200	+24,600
July 31.....	8,139.6	64,400	+800	6,529.1	108,200	-20,000
Aug. 31.....	8,138.5	63,300	-1,100	6,490.4	74,400	-33,800
Sept. 30.....	8,137.4	62,200	-1,100	6,449.5	45,200	-29,200
Water year 1961-62	-	-	+62,200	-	-	-16,600

[†] Elevation at 2400.

11-2150. North Fork Kings River near Cliff Camp, Calif.

Location.--Lat 36°59'38", long 118°58'50", in NE¼NW¼ sec.12, T.11 S., R.27 E., on right bank at Cliff Camp Bridge, 1 mile northwest of Cliff Camp, 1.2 miles downstream from Wishon Dam, and 2 miles downstream from Woodchuck Creek.

Drainage area.--181 sq mi.

Records available.--August 1921 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 6,143.95 ft above mean sea level, adjustment of 1912 (levels by San Joaquin Light and Power Corp). Prior to Nov. 24, 1922, at site 1 mile upstream at different datum.

Average discharge.--41 years, 354 cfs (256,300 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 2,810 cfs June 27 (gage height, 9.72 ft); minimum daily, 7.3 cfs Oct. 31, Nov. 1. 1921-57 (prior to regulation by Wishon Reservoir): Maximum discharge, 14,000 cfs Dec. 11, 1937 (gage height, 18.0 ft, from floodmarks), from rating curve extended above 4,200 cfs on basis of velocity-area studies; minimum, 0.6 cfs Dec. 30, 1930. 1957-62: Maximum discharge, 4,880 cfs May 28, 1958 (gage height, 11.75 ft); minimum daily, 0.8 cfs Dec. 14, 1957.

Remarks.--Records good. Flow regulated by Wishon Reservoir since Dec. 5, 1957, and Courtright Reservoir since Oct. 17, 1958 (see preceding page). Water diverted for power from Wishon Reservoir by tunnel to Haas powerhouse since Dec. 10, 1958.

Cooperation.--Water-stage-recorder graph and seven discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.5	4.5	3.5	57	5.0	330
2.7	8.0	4.0	124	6.0	625
2.9	13	4.5	216	7.0	1,020
3.2	30				

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.2	7.3	8.4	8.0	11	8.4	28	28	16	15	15	15
2	8.0	7.5	9.0	8.2	11	8.4	32	29	17	15	15	15
3	8.0	8.0	8.4	8.2	11	8.0	36	31	16	15	15	15
4	8.0	8.0	8.2	8.2	11	8.2	41	31	16	15	15	15
5	8.0	7.8	8.4	8.0	11	9.2	47	30	16	14	15	15
6	8.0	*7.8	8.4	8.2	11	13	50	28	15	14	15	15
7	7.8	7.8	8.2	8.4	12	10	56	25	15	14	15	15
8	7.8	7.8	8.0	8.4	46	9.2	60	23	15	14	15	15
9	7.8	7.8	8.0	8.4	173	9.2	53	21	15	15	15	15
10	7.8	7.8	7.8	8.2	30	8.4	49	18	16	15	15	15
11	7.8	7.8	8.0	8.0	24	8.2	49	17	245	15	15	15
12	7.8	7.8	7.8	8.0	18	8.0	52	18	* 836	15	15	15
13	7.8	7.8	7.6	8.0	14	8.0	57	15	852	15	15	15
14	7.8	7.8	7.6	7.8	15	8.4	57	16	644	15	15	15
15	7.8	7.8	7.6	7.8	19	8.8	47	15	213	15	15	15
16	8.0	7.8	7.5	7.6	14	9.0	46	19	17	15	15	15
17	8.0	7.8	7.5	7.6	12	9.0	47	18	17	16	15	15
18	*8.0	7.8	7.5	7.6	11	9.6	49	16	403	16	15	15
19	8.0	7.8	7.6	8.2	11	11	39	15	597	*16	15	15
20	8.0	9.0	8.0	8.6	10	11	32	14	859	16	*15	*15
21	8.6	8.2	8.0	8.6	9.4	9.6	33	13	534	16	16	15
22	8.0	8.2	8.2	8.4	9.4	9.6	38	13	618	16	16	15
23	8.0	8.2	8.4	8.2	9.4	9.0	41	13	720	15	16	15
24	7.8	8.2	8.4	8.2	9.6	9.4	40	13	696	15	16	15
25	7.8	9.0	8.4	*8.4	9.2	13	32	12	202	15	16	15
26	7.8	8.6	8.4	8.6	8.8	16	31	12	15	15	16	16
27	7.6	8.4	8.2	9.4	8.6	20	30	12	607	15	16	15
28	7.5	8.2	8.2	9.6	8.4	19	43	12	*16	15	16	15
29	7.5	8.4	8.0	9.8	-----	19	30	14	14	15	16	15
30	7.5	8.2	8.0	10	-----	24	27	16	15	15	15	15
31	7.3	-----	8.0	11	-----	28	-----	16	-----	15	15	-----
TOTAL	243.8	240.4	249.7	261.6	547.8	359.6	1,272	573	8,277	467	474	451
MEAN	7.86	8.01	8.05	8.44	19.6	11.6	42.4	18.5	276	15.1	15.3	15.0
MAX	8.6	9.0	9.0	11	173	28	60	31	859	16	16	16
MIN	7.3	7.3	7.5	7.6	8.4	8.0	27	12	14	14	15	15
AC-FT	484	477	495	519	1,090	713	2,520	1,140	16,420	926	940	895

CALENDAR YEAR 1961: MAX 24 MIN 6.0 MEAN 8.21 AC-FT 5,940
 WATER YEAR 1961-62: MAX 859 MIN 7.3 MEAN 36.8 AC-FT 26,620

* Discharge measurement made on this day.

11-2158. Teakettle Creek at site No. 3, near Patterson Mountain, Calif.

Location.--Lat 36°57'40", long 119°01'35", in NE¼ sec.21, T.11 S., R.27 E., 1.6 miles east of Patterson Mountain, 1.8 miles upstream from mouth, and 2.9 miles north of Black Rock Reservoir.

Drainage area.--0.86 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,705.4 ft above mean sea level (levels by U. S. Forest Service). Prior to Oct. 1, 1961, at datum 4.00 ft lower.

Extremes.--Maximum discharge during year, 10.2 cfs Feb. 9 (gage height, 1.765 ft); minimum daily, 0.09 cfs Oct. 4-6, 16-18.
1957-62: Maximum discharge, 18.4 cfs Feb. 16, 1958 (gage height, 6.24 ft, datum then in use); minimum daily, 0.08 cfs Sept. 6, 12-15, 1961.

Remarks.--Records excellent. No diversion or regulation above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield.

Cooperation.--Records furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.11	0.13	0.19	0.21	0.27	0.39	0.93	4.48	4.14	1.46	0.66	0.38
2	.10	.14	.20	.22	.28	.39	1.08	4.79	4.33	1.42	.65	.38
3	.10	.13	.20	.22	.29	.38	1.32	5.45	4.19	1.38	.65	.37
4	.09	.13	.22	.22	.30	.39	1.54	6.38	3.92	1.32	.65	.37
5	.09	.12	.22	.22	.30	.40	1.79	6.71	3.73	1.28	.65	.36
6	.09	.12	.20	.24	.29	.41	2.00	6.94	3.69	1.23	.64	.36
7	.10	.12	.19	.32	.29	.40	2.40	6.91	3.65	1.20	.61	.35
8	.10	.12	.19	.31	1.19	.38	2.75	6.70	3.60	1.16	a .60	.35
9	.10	.12	.19	.26	4.82	.39	3.01	6.28	3.53	1.14	a .60	.34
10	.10	.12	.18	.26	1.64	.38	3.08	5.78	3.43	1.11	a .58	.34
11	.10	.12	.18	.24	1.01	.37	3.17	5.61	3.30	1.08	a .56	.34
12	.10	.12	.18	.22	.82	.36	3.37	5.01	3.18	1.15	.54	.34
13	.10	.12	.18	.23	.68	.36	3.83	4.41	3.05	1.11	.52	.34
14	.10	.11	.18	.20	.68	.36	4.12	4.00	3.05	1.06	.51	.34
15	.10	.11	.18	.20	.67	.36	3.95	3.63	2.85	1.02	.50	.33
16	.09	.12	.18	.20	.61	.36	4.05	3.43	2.70	.98	.49	.32
17	.09	.12	.18	.20	.55	.36	4.26	3.61	2.58	.96	.49	.32
18	.09	.13	.18	.20	.52	.36	4.50	3.49	2.49	.94	.48	.31
19	.10	.13	.18	.18	.51	.39	4.16	3.55	2.36	.91	.47	.30
20	.10	.11	.18	.24	.48	.40	3.82	3.28	2.25	.88	.46	.30
21	.23	.19	.19	.23	.46	.38	3.86	3.39	2.18	.85	.46	.30
22	.14	.20	.19	.22	.44	.39	4.16	3.64	2.08	.84	.45	.30
23	.12	.19	.21	.22	.43	.37	4.43	3.52	1.97	.82	.45	.30
24	.11	.18	.21	.22	.43	.42	4.72	3.53	1.89	.79	.43	.30
25	.11	.20	.22	.22	.41	.49	4.29	3.46	1.82	.77	.42	.29
26	.12	.22	.21	.22	.40	.54	4.33	3.20	1.74	.75	.41	.33
27	.12	.22	.21	.23	.40	.62	4.14	3.11	1.66	.73	.41	.34
28	.13	.20	.20	.24	.40	.65	4.70	3.29	1.59	.72	.40	.33
29	.13	.19	.20	.24	-	.64	4.30	3.67	1.54	.71	.40	.31
30	.13	.19	.20	.25	-----	.70	4.29	3.89	1.50	.70	.40	
31	.13	-----	.20	.26	-----	.85	-----	4.04	-----	.64	.38	-----
Total	3.42	4.42	6.02	7.14	19.57	13.64	102.35	139.18	83.99	31.11	15.92	10.10
Mean	0.110	0.147	0.194	0.230	0.699	0.440	3.41	4.49	2.80	1.00	0.514	0.337
Max	0.23	0.22	0.22	0.32	4.82	0.85	4.72	6.94	4.33	1.46	0.66	0.46
Min	0.09	0.11	0.18	0.18	0.27	0.36	0.93	3.11	1.50	0.64	0.38	0.29
Ac-ft	6.8	8.8	11.9	14.2	38.8	27.1	203	276	167	61.7	31.6	20.0

Calendar year 1961: Max 1.51 Min 0.08 Mean 0.311 Ac-ft 225
Water year 1961-62: Max 6.94 Min 0.09 Mean 1.20 Ac-ft 867

a No gage-height record.

TULARE LAKE BASIN

11-2158.1. Teakettle Creek tributary No. 7 near Patterson Mountain, Calif.

Location.--Lat 36°57'45", long 119°01'20", in NW¹/₄ NW¹/₄ sec.22, T.11 S., R.27 E., 0.3 mile upstream from junction with Teakettle Creek, 1.9 miles east of Patterson Mountain, and 3.0 miles north of Black Rock Reservoir.

Drainage area.--0.09 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder and sharp-crested 90° V-notch weir. Altitude of gage is 6,800 ft (from topographic map). Prior to Oct. 1, 1961, at datum 4.00 ft lower.

Extremes.--Maximum discharge during year, 4.31 cfs Feb. 9 (gage height, 1.248 ft); minimum daily, 0.01 cfs for many days.
1957-62: Maximum discharge, 5.01 cfs Dec. 16, 1957 (gage height, 5.33 ft, datum then in use); minimum daily, 0.01 cfs for many days in each year.

Remarks.--Records excellent. No regulation or diversion above station. Flow bypassing weir, measured at 0.008 cfs, May 10, is not included in daily figures. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improving water yields.

Cooperation.--Records furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.01	0.01	0.01	0.01	0.02	0.09	0.35	0.83	0.37	0.10	0.04	0.02
2	.01	.01	.01	.01	.02	.09	.38	.90	.36	.10	.04	.02
3	.01	.01	.01	.01	.02	.09	.42	.99	.34	.09	.04	.02
4	.01	.01	.01	.01	.02	.09	.56	1.04	.32	.09	.04	.02
5	.01	.01	.01	.01	.02	.10	.74	1.03	.30	.09	.04	.02
6	.01	.01	.01	.01	.02	.11	.82	.98	.28	.08	.04	.02
7	.01	.01	.01	.01	.02	.10	1.00	.92	.27	.08	.04	.02
8	.01	.01	.01	.01	.11	.10	1.09	.86	.25	.08	a .03	.02
9	.01	.01	.01	.01	1.96	.10	1.07	.78	.23	.08	a .04	.02
10	.01	.01	.01	.01	.47	.10	1.02	.70	.22	.08	.04	.02
11	.01	.01	.01	.01	.26	.10	1.10	.64	.21	.07	.03	.02
12	.01	.01	.01	.01	.20	.09	1.23	.60	.20	.07	.03	.02
13	.01	.01	.01	.02	.17	.09	1.38	.55	.19	.07	.03	.02
14	.01	.01	.01	.02	.18	.09	1.42	.51	.20	.07	.03	.02
15	.01	.01	.01	.01	.18	.09	1.22	.48	.21	.07	.03	.02
16	.01	.01	.01	.01	.15	.09	1.24	.46	.20	.06	.03	.02
17	.01	.01	.01	.01	.14	.09	1.34	.55	.18	.06	.03	.02
18	.01	.01	.01	.01	.13	.09	1.37	.56	.17	.06	.03	.02
19	.01	.01	.01	.02	.13	.10	1.12	.53	.15	.06	.03	.02
20	.01	.01	.01	.02	.12	.10	.95	.48	.14	.06	.03	.02
21	.01	.01	.01	.02	.11	.10	1.02	.45	.14	.05	.03	.02
22	.01	.01	.01	.02	.11	.10	1.18	.45	.13	.05	.03	.02
23	.01	.01	.01	.01	.10	.10	1.33	.44	.13	.05	.03	.02
24	.01	.01	.01	.01	.10	.10	1.31	.43	.13	.05	.03	.02
25	.01	.01	.01	.01	.10	.12	1.08	.41	.12	.05	.02	.02
26	.01	.01	.01	.01	.10	.15	1.03	.40	.12	.04	.02	.02
27	.01	.01	.01	.01	.10	.18	1.01	.40	.11	.04	.02	.02
28	.01	.01	.01	.01	.10	.22	1.13	.40	.11	.04	.02	.02
29	.01	.01	.01	.01	-	.22	.81	.40	.10	.04	.02	.02
30	.01	.01	.01	.02	-----	.22	.77	.40	.10	.04	.02	.02
31	.01	-----	.01	.02	-----	.32	-----	.38	-----	.04	.02	-----
Total	0.31	0.30	0.31	0.39	5.16	3.73	30.49	18.95	5.98	2.01	0.95	0.60
Mean	0.010	0.010	0.010	0.013	0.184	0.120	1.02	0.611	0.199	0.065	0.031	0.020
Max	0.01	0.01	0.01	0.02	1.96	0.32	1.42	1.04	0.37	0.10	0.04	0.02
Min	0.01	0.01	0.01	0.01	0.02	0.09	0.35	0.38	0.10	0.04	0.02	0.02
Ac-ft	0.6	0.6	0.6	0.8	10.2	7.4	60.5	37.6	11.9	4.0	1.9	1.2
Calendar year 1961: Max	0.17	Min	0.01	Mean	0.029	Ac-ft	20.8					
Water year 1961-62: Max	1.96	Min	0.01	Mean	0.190	Ac-ft	137					

a No gage-height record.

11-2158.2. Teakettle Creek tributary No. 2 near Patterson Mountain, Calif.

Location.--Lat 36°57'35", long 119°02'00", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.21, T.11 S., R.27 E., 0.8 mile upstream from junction with Teakettle Creek, 1.2 miles east of Patterson Mountain, and 2.8 miles north of Black Rock Reservoir.

Drainage area.--0.85 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder, sharp-crested 90° V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,905.4 ft above mean sea level (levels by U. S. Forest Service). Prior to Oct. 1, 1961, at datum 2.00 ft lower.

Extremes.--Maximum discharge during year, 6.64 cfs May 7 (gage height, 1.485 ft); minimum daily, 0.05 cfs Nov. 20.

1957-62: Maximum discharge, 13.6 cfs May 30, 1958 (gage height, 3.98 ft, datum then in use); minimum, 0.04 cfs Dec. 5, 1957, Sept. 12, 1961.

Remarks.--Records excellent. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods managing forest and other lands for improved water yields.

Cooperation.--Records furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.08	0.09	0.13	0.14	0.18	0.24	0.61	3.00	4.25	1.86	0.64	0.36
2	.07	.10	.13	.15	.18	.24	.65	3.21	5.42	1.79	.68	.35
3	.07	.09	.14	.15	.18	.24	.78	3.71	5.24	1.72	.67	.34
4	.06	.09	.14	.16	.18	.24	.93	4.34	4.86	1.64	.67	.34
5	.06	.09	.14	.17	.19	.25	1.10	4.92	4.72	1.58	.66	.34
6	.06	.08	.14	.18	.19	.25	1.30	5.33	4.82	1.51	.64	.33
7	.07	.08	.13	.20	.18	.25	1.56	5.46	4.95	1.44	.61	.33
8	.07	.08	.13	.20	.67	.24	1.77	5.49	5.05	1.39	.61	.32
9	.07	.08	.13	.18	3.50	.24	1.93	5.25	5.13	1.34	.61	.32
10	.07	.08	.13	.16	1.25	.24	1.86	4.96	5.05	1.30	.58	.31
11	.07	.08	.14	.15	.63	.23	1.84	4.95	4.84	1.26	.56	.31
12	.06	.08	.12	.13	.49	.23	2.00	4.46	4.68	1.32	.55	.31
13	.06	.08	.12	.15	.40	.23	2.29	3.92	4.49	1.24	.53	.31
14	.06	.08	.12	.16	.40	.23	2.50	3.56	4.25	1.18	.51	.30
15	.06	.08	.12	.14	.38	.23	2.39	3.26	3.90	1.13	.50	.29
16	.06	.08	.12	.15	.36	.23	2.49	3.07	3.78	1.09	.49	.29
17	.06	.08	.12	.14	.32	.23	2.66	3.18	3.70	1.05	.48	.28
18	.06	.09	.12	.14	.31	.24	2.77	3.11	3.67	1.02	.48	.28
19	.06	.09	.13	.12	.30	.25	2.60	3.18	3.59	1.00	.47	.27
20	.06	.05	.13	.16	.28	.26	2.33	2.98	3.42	.96	.46	.27
21	.18	.14	.13	.15	.27	.25	2.40	3.07	3.24	.92	.45	.27
22	.10	.16	.13	.14	.27	.25	2.62	3.36	3.04	.90	.44	.26
23	.09	.13	.14	.14	.26	.24	2.93	3.27	2.84	.87	.44	.26
24	.08	.12	.14	.14	.27	.28	3.06	3.43	2.67	.86	.42	.26
25	.08	.13	.14	.14	.26	.33	2.77	3.42	2.52	.83	.41	.26
26	.08	.15	.14	.14	.25	.37	2.77	3.16	2.37	.81	.40	.38
27	.09	.14	.14	.15	.25	.43	2.66	3.00	2.23	.78	.39	.29
28	.10	.14	.14	.15	.24	.46	2.99	3.23	2.12	.77	.39	.28
29	.09	.13	.14	.16	-	.42	2.81	3.81	2.02	.75	.38	.28
30	.09	.13	.14	.16	-----	.46	2.80	4.22	1.93	.74	.38	.26
31	.09	-----	.14	.17	-----	.57	-----	4.59	-----	.72	.36	-----
Total	2.36	3.02	4.10	4.77	12.64	8.85	64.17	119.90	114.79	35.77	15.86	9.05
Mean	0.076	0.101	0.132	0.154	0.451	0.285	2.14	3.87	3.83	1.15	0.512	0.302
Max	0.18	0.16	0.14	0.20	3.50	0.57	3.06	5.49	5.42	1.86	0.68	0.38
Min	0.06	0.05	0.12	0.12	0.18	0.23	0.61	2.98	1.93	0.72	0.36	0.26
Ac-ft	4.7	6.0	8.1	9.5	25.1	17.6	127	238	228	70.9	31.5	18.0

Calendar year 1961: Max 1.05 Min 0.05 Mean 0.247 Ac-ft 179

Water year 1961-62: Max 5.49 Min 0.05 Mean 1.08 Ac-ft 784

TULARE LAKE BASIN

11-2158.3. Teakettle Creek tributary No. 2A near Patterson Mountain, Calif.

Location.--Lat 36°57'25", long 119°01'50", in NW 1/4 sec. 21, T.11 S., R.27 E., 0.1 mile upstream from junction with Teakettle Creek tributary No. 2, 1.3 miles east of Patterson Mountain, and 2.6 miles north of Black Rock Reservoir.

Drainage area.--0.27 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder and 90° sharp-crested V-notch weir. Datum of gage is 6,924 ft above mean sea level (levels by U. S. Forest Service). Prior to Oct. 1, 1961, at datum 4.00 ft lower.

Extremes.--Maximum discharge during year, 2.70 cfs Feb. 9, May 5 (gage height, 1.034 ft); minimum daily, 0.01 cfs for many days. 1957-62: Maximum discharge, 5.54 cfs May 22, 1958 (gage height, 5.38 ft, datum then in use); minimum daily, 0.01 cfs for many days in 1960-62.

Remarks.--Records excellent except those for periods of no gage-height record, which are good. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield.

Cooperation.--Records furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.01	0.02	0.03	0.03	0.06	0.09	0.27	1.33	1.32	0.48	0.19	0.10
2	.01	.02	.03	.04	.06	.09	.32	1.42	1.36	.46	.19	.10
3	.01	.02	.03	.04	.06	.09	.40	1.62	1.30	.46	.19	.10
4	.01	.02	.04	.04	.06	.09	.47	1.85	1.21	.44	.19	.10
5	.01	.02	.04	.04	.06	.09	.57	1.91	1.19	.42	.19	.09
6	.01	.02	.03	.04	.06	.10	.64	1.99	1.20	.42	.18	.09
7	.01	.02	.03	.05	.06	.09	.76	1.99	1.19	.40	.17	.09
8	.01	.02	.03	.05	.12	.09	.87	1.92	1.18	.38	.17	.09
9	.01	.02	.03	.05	1.02	.09	.92	1.82	1.16	.37	.17	.09
10	.01	.01	.03	.05	.54	.09	.91	1.67	1.13	.36	.16	.08
11	.01	.01	.03	.05	.23	.08	.93	1.64	1.08	.35	.16	.08
12	.01	.01	.03	.04	.18	.08	1.02	1.45	1.04	.39	.15	.08
13	.01	.01	.03	.04	.15	.08	1.14	1.29	1.00	.35	.14	.08
14	.01	.01	.03	.04	.16	.08	1.19	1.21	1.03	.33	.14	.08
15	.01	.01	.03	.04	.17	.08	1.09	1.11	.95	.32	.13	.08
16	.01	.01	.03	.04	.14	.08	1.15	1.06	.90	.31	.13	.08
17	.01	.01	.03	.04	.13	.08	1.22	1.17	.86	.30	.14	.08
18	.01	.01	.03	.04	.12	.08	1.25	1.13	.80	.29	.13	.07
19	.01	.01	.03	.04	.12	.08	1.08	1.17	.77	.28	.13	.07
20	.01	.02	.03	.05	.12	.09	1.01	1.06	.77	.27	.13	.07
21	.05	.02	.03	.05	.11	.09	1.09	1.10	.71	.26	.13	.07
22	.02	.03	.03	.05	.10	.09	1.20	1.19	.69	.25	.13	.07
23	.02	.03	.03	.05	.10	.09	1.34	1.15	.65	.24	.12	.07
24	.02	.02	.03	.05	.10	.09	1.36	1.16	.62	.24	.12	.07
25	.02	.03	.03	.05	.10	.11	1.13	1.08	.60	.23	.11	.07
26	.02	.04	.03	.05	.10	.13	1.20	.99	.58	.22	.11	.16
27	.02	.04	.03	.05	.09	.16	1.16	.98	.56	.22	.11	.09
28	.02	.03	.03	.05	.09	.17	1.46	1.10	.53	.21	.11	.09
29	.02	.03	.03	.05	-	.17	1.13	1.22	.52	.21	.11	.08
30	.02	.03	.03	.06	-----	.18	1.24	1.27	.50	.20	.11	.08
31	.02	-----	.03	.06	-----	.24	-----	1.30	-----	.20	.10	-----
Total	0.45	0.60	0.95	1.42	4.41	3.24	29.58	42.35	27.40	9.86	4.44	2.55
Mean	0.015	0.020	0.031	0.046	0.158	0.105	0.986	1.37	0.913	0.318	0.143	0.085
Max	0.05	0.04	0.04	0.06	1.02	0.24	1.46	1.99	1.36	0.48	0.19	0.16
Min	0.01	0.01	0.03	0.03	0.06	0.08	0.27	0.98	0.50	0.20	0.10	0.07
Ac-ft	0.9	1.2	1.9	2.8	8.7	6.4	58.7	84.0	54.3	19.6	8.8	5.1

Calendar year 1961: Max 0.47 Min 0.01 Mean 0.063 Ac-ft 45.5
 Water year 1961-62: Max 1.99 Min 0.01 Mean 0.349 Ac-ft 252

Note.--No gage-height record Dec. 24 to Jan. 8, Jan. 21 to Feb. 9, Aug. 10, 11.

11-2158.4. Teakettle Creek tributary No. 1 near Patterson Mountain, Calif.

Location.--Lat 36°57'00", long 119°01'10", in NW 1/4 sec. 27, T.11 S., R.27 E., 0.2 mile upstream from confluence with Teakettle Creek, 2.1 miles north of Black Rock Reservoir, and 2.2 miles east of Patterson Mountain.

Drainage area.--0.77 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cippolletti weir. Datum of gage is 6,407.7 ft (correction) above mean sea level (levels by U. S. Forest Service).

Extremes.--Maximum discharge during year, 9.60 cfs Feb. 9 (gage height, 1.723 ft); minimum daily, 0.08 cfs Oct. 3-6, 14-18, Nov. 20. 1957-62: Maximum discharge, 13.7 cfs May 22, 1958 (gage height, 5.99 ft, datum then in use); minimum daily, 0.06 cfs Sept. 12, 13, 1961.

Remarks.--Records excellent. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield.

Cooperation.--Records furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.13	0.18	0.16	0.19	0.39	0.81	4.07	4.34	1.45	0.60	0.32
2	.09	.13	.18	.16	.19	.37	.90	4.39	4.55	1.40	.60	.32
3	.08	.13	.19	.16	.19	.40	1.08	4.82	4.34	1.36	.59	.31
4	.08	.12	.21	.16	.19	.40	1.26	5.69	4.04	1.31	.59	.31
5	.08	.12	.20	.16	.19	.42	1.64	6.14	3.87	1.27	.59	.30
6	.08	.11	.19	.17	.20	.44	1.72	6.51	3.84	1.22	.59	.30
7	.09	.11	.19	.19	.24	.44	2.05	6.61	3.79	1.18	.54	.30
8	.09	.11	.17	.21	1.12	.40	2.41	6.53	3.73	1.15	.54	.30
9	.10	.11	.17	.20	4.89	.40	2.62	6.13	3.65	1.12	.55	.29
10	.10	.11	.18	.19	1.66	.39	2.62	5.71	3.53	1.10	.54	.28
11	.10	.11	.17	.18	1.18	.38	2.69	5.52	3.35	1.06	.51	.28
12	.10	.11	.17	.17	.93	.37	2.92	5.01	3.21	1.12	.49	.28
13	.09	.11	.16	.18	.75	.37	3.33	4.47	3.08	1.08	.47	.28
14	.08	.11	.16	.18	.77	.37	3.57	4.13	3.16	1.02	.46	.27
15	.08	.10	.16	.17	.85	.39	3.43	3.79	2.97	.99	.45	.27
16	.08	.11	.16	.16	.70	.38	3.48	3.65	2.83	.95	.43	.26
17	.08	.11	.16	.16	.63	.38	3.65	3.74	2.66	.92	.43	.26
18	.08	.12	.16	.16	.57	.38	3.86	3.69	2.53	.90	.42	.25
19	.09	.12	.16	.14	.57	.39	3.63	3.76	2.38	.88	.41	.25
20	.09	.08	.16	.15	.53	.40	3.24	3.49	2.25	.83	.41	.25
21	.23	.17	.16	.21	.48	.40	3.31	3.47	2.14	.81	.40	.24
22	.14	.23	.16	.19	.46	.38	3.60	3.79	2.04	.79	.40	.24
23	.12	.19	.16	.18	.46	.41	3.99	3.67	1.95	.77	.39	.24
24	.11	.17	.16	.18	.46	.39	4.15	3.66	1.86	.74	.37	.23
25	.11	.31	.16	.18	.43	.43	3.76	3.51	1.79	.71	.36	.23
26	.11	.25	.16	.18	.42	.49	3.70	3.30	1.71	.69	.36	.36
27	.12	.20	.16	.18	.41	.56	3.65	3.25	1.63	.67	.35	.30
28	.13	.19	.16	.18	.40	.63	4.41	3.48	1.57	.66	.34	.31
29	.13	.18	.16	.18	-	.62	3.95	3.86	1.52	.65	.34	.30
30	.13	.17	.16	.18	-----	.62	3.86	4.11	1.48	.64	.34	.30
31	.13	-----	.16	.18	-----	.72	-----	4.21	-----	.63	.33	-----
Total	3.22	4.32	5.24	5.43	20.06	13.51	89.29	138.16	85.79	30.07	14.19	8.43
Mean	0.104	0.144	0.169	0.175	0.716	0.436	2.98	4.46	2.86	0.970	0.458	0.281
Max	0.23	0.31	0.21	0.21	4.89	0.72	4.41	6.61	4.55	1.45	0.60	0.36
Min	0.08	0.08	0.16	0.14	0.19	0.37	0.81	3.25	1.48	0.63	0.33	0.23
Ac-ft	6.4	8.6	10.4	10.8	39.8	26.8	177	274	170	59.6	28.1	16.7

Calendar year 1961: Max 1.33 Min 0.06 Mean 0.269 Ac-ft 195
 Water year 1961-62: Max 6.61 Min 0.08 Mean 1.14 Ac-ft 828

TULARE LAKE BASIN

11-2165. North Fork Kings River above Dinkey Creek, Calif.

Location.--Lat 36°54'10", long 119°07'15", in NW¼ sec.10, T.12 S., R.26 E., on left bank 100 ft downstream from bridge at Balch Camp, 200 ft upstream from Dinkey Creek, and 9.3 miles east of Trimmer.

Drainage area.--250 sq mi.

Records available.--October 1919 to September 1930, March 1960 to September 1962. Records for water year 1920 incomplete, yearly estimate and monthly discharge only for some months, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 1,240 ft (from river-profile map). October 1919 to Sept. 30, 1930, at datum 1.00 ft higher.

Average discharge.--11 years (1919-30), 387 cfs (280,200 acre-ft per year), prior to storage and diversion.

Extremes.--Maximum discharge during year, 2,460 cfs June 27 (gage height, 6.58 ft), from rating curve extended above 890 cfs; minimum daily, 7.1 cfs Mar. 29.

1919-30 (prior to regulation by Wishon and Courtright Reservoirs): Maximum discharge, 6,080 cfs June 4, 1922 (gage height, 13.18 ft, present datum); minimum, about 4 cfs Aug. 29 to Sept. 1, 1924.

1960-62: Maximum discharge that of June 27, 1962; minimum daily, that of Mar. 29, 1962.

Remarks.--Records good except those for period of backwater from Dinkey Creek, which are fair. Flow regulated by Courtright and Wishon Reservoirs (see p. 587), Black Rock Reservoir (capacity, 1,000 acre-ft), Balch afterbay (capacity, 125 acre-ft), and Haas and Balch powerplants. Diversion from Balch afterbay to Kings River powerhouse began Mar. 1, 1962.

Cooperation.--Water-stage-recorder graph and eight discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.1	5.6	2.0	53	4.0	590
1.3	10	2.4	101	5.0	1,100
1.5	18	2.9	200	6.0	1,880
1.7	28	3.5	385		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	*182	241	20	84	33	11	31	38	22	21	15
2	161	217	171	20	45	115	11	34	42	22	19	15
3	314	193	48	14	38	42	12	46	38	21	17	16
4	178	15	275	11	47	30	13	59	34	20	17	16
5	169	16	*164	10	49	22	15	65	32	19	18	17
6	109	212	21	10	46	27	29	63	268	52	17	17
7	15	70	220	11	140	20	27	59	333	24	17	17
8	14	144	381	14	356	17	28	57	340	24	17	17
9	14	100	21	16	1,090	16	29	481	350	24	19	17
10	14	31	19	16	1,240	14	28	385	346	24	20	15
11	14	17	421	16	886	12	27	329	382	24	21	16
12	14	12	390	26	394	c10	189	340	1,060	23	22	16
13	14	12	469	53	248	c9.5	35	273	1,080	22	22	17
14	15	13	472	20	227	9.0	33	243	925	19	22	16
15	16	13	454	35	326	c9.0	28	213	544	22	22	17
16	*22	14	23	19	369	c9.0	27	234	218	*22	22	17
17	15	14	19	18	219	c9.0	34	237	228	22	22	15
18	21	17	59	133	99	c8.0	42	27	429	22	22	14
19	15	15	18	56	70	c8.0	38	22	840	21	21	*13
20	14	185	43	86	74	c9.0	28	22	1,070	22	19	17
21	14	28	140	125	176	9.5	29	21	755	22	18	16
22	14	40	237	134	235	15	34	22	780	23	18	16
23	95	21	29	*23	34	13	38	24	885	22	18	16
24	69	20	18	22	46	c12	41	24	855	22	*17	16
25	155	31	17	24	42	c10	304	23	508	*23	16	16
26	91	31	42	22	32	c9	285	21	149	23	16	16
27	121	143	36	24	27	c8.5	315	21	488	23	16	14
28	21	394	15	24	*43	*8.0	378	21	94	24	16	17
29	14	365	14	56	-	7.1	319	21	22	23	15	17
30	83	205	15	41	-----	7.3	173	25	24	23	15	16
31	36	-----	20	57	-----	8.5	-----	27	-----	22	14	-----
Total	1,877	2,770	4,512	1,156	6,682	536.4	2,600	3,470	13,157	721	576	480
Mean	60.5	92.3	146	37.3	239	17.3	86.7	112	439	23.3	18.6	16.0
Max	314	394	472	134	1,240	115	378	481	1,080	52	22	17
Min	14	12	14	10	27	7.1	11	21	22	19	14	13
Ac-ft	3,720	5,490	8,950	2,290	13,300	1,060	5,160	6,880	26,100	1,430	1,140	952

Calendar year 1961: Max 678 Min 7.3 Mean 160 Ac-ft 115,700
 Water year 1961-62: Max 1,240 Min 7.1 Mean 106 Ac-ft 76,440

* Discharge measurement made on this day.

c Backwater from Dinkey Creek.

SAN JOAQUIN RIVER BASIN

595

11-2168. Rock Creek at Dinkey Creek, Calif.

Location.--Lat 37°05'25", long 119°09'40", in SE 1/4 sec. 5, T.10 S., R.26 E., on right bank 0.4 mile northwest of town of Dinkey Creek and 0.5 mile upstream from mouth.

Drainage area.--7.6 sq mi.

Records available.--July 1960 to September 1962.

Gage.--Water-stage recorder and low-flow concrete control. Altitude of gage is 6,150 ft (from topographic map).

Extremes.--Maximum discharge during year, 776 cfs Feb. 9 (gage height, 6.69 ft), from rating curve extended above 140 cfs; no flow Oct. 1-9, 25.

1960-62: Maximum discharge, that of Feb. 9, 1962; no flow at times in each year.

Remarks.--Records good. No diversions or regulation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 14 to Apr. 13)

1.8	0	3.0	14
1.9	.2	3.2	21
2.0	.4	3.6	42
2.1	.6	4.0	72
2.2	1.0	4.5	127
2.4	2.2	5.0	210
2.6	4.7	5.5	330
2.8	8.2		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	0.4	1.4	4.3	8.0	43	101	64	62	1.0	0.3
2	0	*.1	.4	1.4	4.4	8.2	47	113	63	5.8	.9	.3
3	0	.1	.5	1.6	4.7	8.0	* 54	133	55	5.4	.9	.3
4	0	.1	.5	1.8	4.8	8.2	60	153	47	5.0	.9	.2
5	0	.1	.6	1.8	5.2	8.7	70	162	44	4.7	.9	.2
6	0	.1	.6	2.1	4.6	8.2	78	148	43	4.4	.9	.2
7	0	.1	.6	4.7	4.3	9.1	88	141	43	4.2	.8	.2
8	0	.1	.6	5.3	10	8.4	96	138	41	4.0	.8	.2
9	0	.1	.6	5.2	251	8.0	101	123	40	3.9	.8	.2
10	.1	.1	.6	4.4	96	7.6	96	104	37	3.8	.8	.2
11	.1	.1	.6	3.4	44	7.4	94	96	34	3.5	.7	.2
12	.1	.1	.6	2.6	30	7.2	104	81	32	4.3	.6	.2
13	.2	.1	.6	2.0	22	7.4	* 115	59	29	4.0	.6	.2
14	.1	.1	.6	1.6	20	7.8	113	52	30	3.7	.6	.2
15	.2	.1	.6	1.6	19	7.8	104	44	26	2.9	.6	.2
16	.1	.1	.6	1.4	17	7.8	104	44	24	2.7	.5	.2
17	.1	.1	.6	1.4	15	7.6	110	53	22	* 2.6	.5	.2
18	.1	.1	.6	1.2	13	8.0	110	57	21	2.4	.5	.2
19	.1	.1	.7	1.3	12	8.9	94	62	20	2.2	.4	.2
20	.1	.2	.8	1.4	11	9.4	76	55	18	2.1	.4	.2
21	.4	.2	1.1	1.4	10	9.1	84	52	* 17	2.0	.4	.2
22	.2	.3	1.2	1.4	10	9.6	101	65	16	1.8	.4	.2
23	.1	.3	1.3	1.5	10	9.8	110	67	14	1.7	.4	.2
24	.1	.3	1.5	1.6	9.8	9.8	113	62	13	1.6	.4	.2
25	0	.3	1.6	* 1.6	9.1	14	95	55	11	1.4	.3	.2
26	.1	.4	1.5	1.6	8.7	17	91	47	10	1.4	.3	.4
27	.1	.4	1.5	1.9	8.0	20	86	43	8.9	1.3	.3	.3
28	.1	.4	1.4	2.8	8.2	24	126	47	8.0	1.2	.3	.2
29	.1	.4	1.4	3.4	-	24	95	61	7.2	1.2	.3	.2
30	.1	.4	1.4	3.5	-----	33	89	67	6.4	1.1	.3	.2
31	.1	-----	1.5	4.3	-----	40	-----	* 66	-----	1.0	.3	-----
Total	2.7	5.5	27.1	72.6	666.1	372.0	2,747	2,551	844.5	93.5	17.8	6.6
Mean	0.09	0.18	0.87	2.34	23.8	12.0	91.6	82.3	28.2	3.02	0.57	0.22
Max	0.4	0.4	1.6	5.3	251	40	126	162	64	6.2	1.0	0.4
Min	0	0.1	0.4	1.2	4.3	7.2	43	43	6.4	1.0	0.3	0.2
Ac-ft	5.4	11	54	144	1,320	738	5,450	5,060	1,680	185	35	13

Calendar year 1961: Max 50 Min 0 Mean 5.30 Ac-ft 3,840

Water year 1961-62: Max 251 Min 0 Mean 20.3 Ac-ft 14,700

Peak discharge (base, 70 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1030	6.69	776	5-4	1700	5.35	292
4-13	1900	4.85	181				

11-2184. North Fork Kings River below Dinkey Creek, Calif.

Location.--Lat 36°52'50", long 119°07'40", in NW¼ sec.22, T.12 S., R.26 E., on right bank 1.1 miles upstream from mouth, 1.7 miles south of Balch Camp, 2.1 miles downstream from Dinkey Creek, and 9 miles east of Trimmer.

Drainage area.--387 sq mi.

Records available.--March 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,035 ft (from river-profile map).

Extremes.--Maximum discharge during year, 4,880 cfs Feb. 9 (gage height, 9.80 ft); minimum daily, 18 cfs Oct. 20, Nov. 12, 13, 1960-62; Maximum discharge that of Feb. 9, 1962; minimum daily, that of Oct. 20, Nov. 12, 13, 1961.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Courtright and Wishon Reservoirs (see p. 587), Black Rock Reservoir (capacity, 1,000 acre-ft), Balch afterbay (capacity, 125 acre-ft), and Haas and Balch powerplants. Diversion from Balch afterbay to Kings River powerhouse began Mar. 1, 1962.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by Pacific Gas & Electric Co. in cooperation with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.6	18	4.0	550
1.0	35	5.0	940
1.5	65	6.0	1,460
2.0	115	7.0	2,150
3.0	280	8.0	3,000

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	25	191	269	47	147	148	380	920	990	236	55	28
2	168	229	259	47	188	229	380	1,080	1,070	224	52	28
3	339	194	97	42	102	156	451	1,250	1,030	212	50	29
4	172	33	288	38	129	135	535	1,450	840	196	47	29
5	180	24	224	39	127	139	636	1,560	820	184	43	29
6	105	183	*49	38	197	264	732	1,550	1,090	205	49	29
7	23	96	245	45	250	202	838	1,480	1,210	166	46	28
8	19	156	389	59	546	173	939	1,420	1,230	152	45	28
9	19	93	55	63	2,560	170	997	1,750	1,230	142	44	28
10	19	43	40	59	2,440	152	962	1,520	1,220	134	47	27
11	19	27	412	53	1,960	143	940	1,350	1,200	127	46	26
12	19	18	420	64	976	131	1,170	1,320	1,330	123	46	27
13	20	18	431	79	555	130	1,140	1,030	1,800	128	45	27
14	21	19	502	45	538	128	1,190	900	1,580	116	44	27
15	19	20	452	62	734	130	1,160	788	a1,100	109	43	27
16	* 25	20	57	43	710	130	1,080	816	a860	*104	42	27
17	21	21	39	41	500	126	1,170	832	a850	100	42	25
18	26	23	87	165	341	128	1,250	624	a1,100	95	41	27
19	20	23	38	96	317	137	1,160	620	a1,450	90	41	*21
20	18	222	68	170	324	160	836	600	a1,600	87	37	27
21	19	54	155	159	352	136	861	526	a1,250	82	35	26
22	27	61	261	175	396	161	1,040	612	a1,200	79	35	27
23	111	40	62	*57	185	149	1,160	*720	a1,300	76	34	26
24	84	37	49	53	197	146	1,200	660	a1,300	73	*34	26
25	156	46	49	55	175	173	*1,350	648	a950	*71	32	25
26	113	79	82	55	167	208	1,270	596	a550	69	31	27
27	134	154	85	58	145	240	1,280	535	*a810	67	30	31
28	33	398	44	63	158	*280	1,430	511	387	65	29	30
29	22	375	39	98	-----	264	1,210	660	272	63	29	29
30	89	260	41	110	-----	274	965	828	256	61	28	29
31	48	-----	45	124	-----	328	-----	916	-----	59	28	-----
TOTAL	2,113	3,157	5,333	2,302	15,416	5,470	29,712	30,072	32,375	3,695	1,255	820
MEAN	68.2	105	172	74.3	551	176	990	970	1,079	119	40.5	27.3
MAX	339	398	502	175	2,560	328	1,430	1,750	1,830	236	55	31
MIN	18	18	38	38	102	126	380	511	256	59	28	21
AC-FT	4,190	6,260	10,580	4,570	30,580	10,850	53,930	59,650	64,210	7,330	2,490	1,630
CALENDAR YEAR 1961: MAX	685			MIN 18		MEAN 231		AC-FT 167,000				
WATER YEAR 1961-62: MAX	2,560			MIN 18		MEAN 361		AC-FT 261,300				

* Discharge measurement made on this day.

a No gage-height record.

TULARE LAKE BASIN

597

11-2185. Kings River below North Fork, Calif.

Location.--Lat 36°52'30", long 119°08'30", in NE¼ sec.21, T.12 S., R.26 E., on right bank 0.8 mile downstream from North Fork, 2.4 miles southwest of Balch Camp, and 8.5 miles southeast of Trimmer.

Drainage area.--1,350 sq mi, approximately.

Records available.--October 1951 to September 1962. Prior to January 1952 monthly discharge only, published in WSP-1735.

Gage.--Water-stage recorder. Datum of gage is 942.42 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--11 years, 1,965 cfs (1,423,000 acre-ft per year), adjusted for storage and diversion.

Extremes.--Maximum discharge during year, 10,700 cfs Feb. 9 (gage height, 9.49 ft); minimum, 114 cfs Oct. 18, 19, 20.

1951-62: Maximum discharge, 85,200 cfs Dec. 23, 1955 (gage height, 23.08 ft), from rating curve extended above 18,000 cfs on basis of slope-area measurement of peak flow; minimum, 99 cfs Dec. 15, 1959.

Flood of Nov. 19, 1950, reached a stage of 21.6 ft, from floodmarks (discharge, 74,200 cfs).

Remarks.--Records excellent. Flow regulated by Courtright and Wishon Reservoirs (see p. 587). Beginning Mar. 1, 1962, records include flow diverted to Kings River powerplant. This station measures inflow to Pine Flat Reservoir.

Cooperation.--Thirteen discharge measurements furnished by Kings River Water Association. Records of diversion to Kings River powerplant furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	141	277	462	243	450	779	2,590	5,160	7,080	4,690	1,970	908
2	249	345	642	246	421	1,040	2,760	5,950	7,810	4,900	1,890	858
3	443	324	502	234	409	948	2,980	6,970	8,210	4,900	1,850	885
4	275	165	597	231	438	784	2,920	8,360	* 7,070	4,740	1,680	935
5	287	148	553	228	448	866	3,490	9,130	7,030	4,970	1,560	906
6	210	290	353	228	448	1,790	3,950	9,640	7,710	4,900	1,630	947
7	131	215	524	240	700	1,510	4,030	9,300	8,310	4,780	1,480	923
8	121	271	660	272	1,430	2,000	4,580	* 9,080	8,680	4,640	1,490	887
9	123	203	327	279	5,860	1,980	5,200	8,720	9,030	4,390	1,520	809
10	123	157	272	272	* 6,480	1,730	* 5,420	7,880	9,400	4,040	1,430	866
11	* 125	146	613	259	6,320	1,290	5,250	6,730	9,350	3,630	1,350	714
12	125	133	646	* 257	3,850	1,060	5,460	6,640	9,530	3,420	1,290	* 790
13	123	131	642	296	2,490	1,750	* 5,910	5,460	* 9,370	2,990	1,320	864
14	121	127	* 721	240	2,360	1,200	6,350	4,960	8,620	2,780	1,260	839
15	119	131	664	232	2,660	1,740	6,450	4,430	6,600	2,880	1,310	813
16	117	131	290	231	* 2,650	* 1,660	6,010	4,420	5,480	3,070	* 1,290	822
17	121	* 131	234	228	2,070	1,710	6,390	* 4,200	5,820	2,970	1,270	792
18	117	125	284	348	1,660	1,700	6,920	4,060	7,180	2,920	1,250	642
19	121	127	231	295	1,650	1,720	6,990	4,270	7,610	* 2,770	1,130	927
20	115	348	254	560	1,550	1,400	6,050	4,290	9,340	2,700	1,160	791
21	121	230	333	389	1,410	1,550	5,530	3,880	9,320	2,560	1,160	819
22	155	184	462	419	1,300	1,810	6,070	4,120	9,320	2,780	1,080	790
23	230	195	270	357	1,050	1,800	6,810	4,840	9,070	2,820	1,150	711
24	204	208	250	353	1,050	1,780	7,180	4,350	8,300	2,590	1,150	825
25	272	228	253	365	926	1,860	6,930	3,940	7,570	2,440	1,080	802
26	223	357	283	349	912	2,020	* 6,660	3,830	* 7,200	2,470	1,010	* 719
27	257	359	280	349	798	2,200	6,710	3,510	7,160	2,410	1,070	622
28	159	* 634	* 243	353	792	2,050	6,450	* 3,290	6,170	2,350	1,060	994
29	150	562	234	385	-----	1,880	5,700	3,720	5,340	2,260	1,050	318
30	192	499	234	* 403	-----	2,090	5,100	4,900	4,990	2,170	976	293
31	159	-----	240	418	-----	2,360	-----	5,920	-----	* 2,040	990	-----
Total	5,429	7,381	12,553	9,559	52,582	50,057	162,840	75,950	233,670	103,970	40,906	23,811
Mean	175	246	405	308	1,878	1,615	5,428	5,676	7,789	3,354	1,320	794
Max	443	634	721	560	6,480	2,360	7,180	9,640	9,530	4,970	1,970	947
Min	115	125	231	228	409	779	2,590	3,290	4,990	2,040	990	293
Ac-ft	10,770	14,640	24,900	18,960	104,300	99,290	323,000	349,000	463,500	206,200	81,140	47,230
Meant†	121	180	324	323	2,226	1,213	6,136	6,826	8,547	3,038	752	286
Ac-ft†	7,470	10,740	19,900	19,860	112,500	74,590	365,100	419,700	508,600	186,800	46,240	17,030
Calendar year 1961:	Max	2,890	Min	115	Mean	746	Ac-ft	540,300	Meant†	749	Ac-ft†	542,500
Water year 1961-62:	Max	9,640	Min	115	Mean	2,407	Ac-ft	1,743,000	Meant†	2,471	Ac-ft†	1,789,000

* Discharge measurement made on this day.

† Adjusted for change in contents in Wishon and Courtright Reservoirs.

TULARE LAKE BASIN

11-2200. Big Creek above Pine Flat Reservoir, Calif.

Location.--Lat 36°55'05", long 119°14'45", in NE $\frac{1}{4}$ sec.4, T.12 S., R.25 E., on right bank 2.4 miles upstream from mouth and 2.7 miles northeast of Trimmer.

Drainage area.--69.2 sq mi.

Records available.--October 1953 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 962.04 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--9 years, 40.9 cfs (29,610 acre-ft per year).

Extremes.--Maximum discharge during year, 2,340 cfs Feb. 9 (gage height, 6.10 ft); no flow Oct. 1 to Nov. 6.

1953-62: Maximum discharge, 10,400 cfs Dec. 23, 1955 (gage height, 9.21 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement of peak flow; no flow at times in 1955, 1959-62.

Remarks.--Records good. This station measures inflow to Pine Flat Reservoir. No regulation or diversion above station.

Cooperation.--Ten discharge measurements furnished by Kings River Water Association.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.72	0	1.3	6.9	3.5	326
.8	.2	1.5	15	4.0	520
.9	.6	1.7	24	4.5	790
1.0	1.3	2.0	45	5.0	1,140
1.1	2.4	2.5	94	5.5	1,600
1.2	4.2	3.0	174		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		* 0	5.2	3.6	15	58	105	61	29	11	3.2	0.5
2	(*)	0	72	3.6	14	66	104	63	27	11	3.2	.5
3		0	37	3.6	14	62	104	63	26	11	2.6	.4
4		0	16	3.6	13	60	104	64	* 26	10	2.6	.4
5		0	11	3.8	12	62	112	63	24	9.8	3.0	.4
6		* 0	9.0	3.6	12	316	116	60	23	9.8	3.2	.4
7		.5	7.2	3.6	36	178	123	53	22	9.0	3.2	.4
8		.8	6.3	4.2	206	128	126	51	21	8.2	2.8	.4
9	(*)	.8	5.7	4.6	1070	122	122	49	20	7.9	2.4	.5
10		.8	5.2	4.4	*1260	100	114	47	20	7.6	2.2	.5
11		.8	4.6	4.2	1350	93	107	43	18	7.9	2.2	.5
12		.8	4.2	* 4.0	596	83	107	46	18	8.2	2.0	.5
13		.8	4.2	4.6	220	79	114	44	*18	9.8	1.8	.5
14		.9	* 4.2	4.4	204	76	114	46	20	9.0	1.6	.5
15		.9	4.0	3.8	372	75	* 109	45	26	8.2	1.3	.6
16		.9	3.8	3.6	* 420	* 73	101	63	24	7.6	1.1	.5
17		* .9	3.6	3.6	236	70	99	* 53	22	7.2	.9	.5
18		.9	3.6	3.6	158	72	100	53	19	6.6	.9	.5
19		1.0	3.6	4.4	* 198	74	96	46	18	* 6.3	.8	.4
20		4.7	3.6	70	172	95	82	43	16	6.0	.8	.5
21		10	3.6	29	122	82	75	39	15	5.7	.8	.5
22		3.6	3.8	18	101	125	76	36	15	5.2	.7	.6
23		2.4	4.0	16	87	124	76	36	14	4.6	.7	.6
24		2.4	4.0	14	88	104	75	35	13	4.4	.6	.5
25		3.0	4.2	14	76	102	72	34	13	4.4	.6	.5
26	(*)	13	4.2	13	76	105	* 64	34	13	4.0	.6	.6
27		9.0	4.2	14	64	* 107	65	39	* 13	3.6	* .5	* .9
28		* 4.9	* 4.0	15	61	112	82	* 40	13	3.6	.5	1.6
29		4.9	3.8	* 15	-	104	76	34	11	3.2	.4	1.4
30		4.4	3.6	14	-----	98	62	32	11	* 3.2	.4	1.6
31		-----	3.6	15	-----	96	-----	30	-----	3.2	.4	-----
Total	0	73.1	257.0	321.8	725.3	3101	2882	1445	568	217.2	48.0	18.2
Mean	0	2.44	8.29	10.4	259	100	96.1	46.6	18.9	7.01	1.55	0.61
Max	0	13	72	70	1,350	316	126	64	29	11	3.2	1.6
Min	0	0	3.6	3.6	12	58	62	30	11	3.2	0.4	0.4
Ac-ft	0	145	510	638	14,390	6,150	5,720	2,870	1,130	431	95	36

Calendar year 1961: Max 72 Min 0 Mean 5.33 Ac-ft 3,860

Water year 1961-62: Max 1,350 Min 0 Mean 44.3 Ac-ft 32,120

Peak discharge (base, 500 cfs).--Feb. 9 (1900) 2,340 cfs (6.10 ft); Feb. 15 (0900) 555 cfs (4.07 ft).

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

11-2205. Sycamore Creek above Pine Flat Reservoir, Calif.

Location.--Lat 36°55'15", long 119°18'30", in NW¼ sec.1, T.12 S., R.24 E., on right bank 0.1 mile downstream from Little Dry Creek, 1.7 miles northwest of Trimmer, and 4.8 miles upstream from mouth.

Drainage area.--56.5 sq mi.

Records available.--April 1953 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,141.96 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--9 years, 19.3 cfs (13,970 acre-ft per year).

Extremes.--Maximum discharge during year, 1,500 cfs Feb. 10 (gage height, 5.40 ft); no flow for several months.
1953-62: Maximum discharge, 6,760 cfs Dec. 24, 1955 (gage height, 9.78 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement of peak flow; no flow for several months each year.

Remarks.--Records good. This station measures inflow to Pine Flat Reservoir. No regulation or diversion above station.

Cooperation.--Seven discharge measurements furnished by Kings River Water Association.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 9 to Mar. 6)

0.61	0	1.5	68
.7	.3	2.0	162
.8	1.3	2.7	352
.9	4.6	3.5	650
1.0	10	4.5	1,170
1.2	28		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)	* 0	0.3	1.7	2.4	2.1	6.6	2.0			
2	(*)		4.1	.3	1.5	4.3	2.0	6.1	1.7	(*)	(*)	
3			2.0	.3	1.3	3.6	1.9	5.6	1.7			
4			1.7	.3	1.1	2.9	1.8	5.0	* 1.7			
5			.4	.3	1.1	2.6	1.7	4.1	1.5			
6			.2	.3	1.0	4.55	1.6	4.6	1.5			
7			.2	.3	1.8	15.6	1.6	4.6	1.5			
8			.2	.3	.91	9.1	1.6	3.6	1.5			
9			.2	.3	* 6.35	9.3	1.5	3.2	1.1			
10			.2	.3	* 1.110	7.1	1.4	3.6	1.0			(*)
11			.2	.3	1.060	6.8	1.3	4.1	1.0			
12			.2	*.3	3.09	6.0	1.2	5.0	.8			
13			.2	.4	.98	5.6	1.1	5.6	.7			
14			.2	.3	.92	5.2	1.1	6.1	.7			
15			.2	.3	2.32	4.6	* 1.0	6.1	1.5			
16			.2	.3	* 4.92	* 4.3	1.0	9.0	2.2			
17			.2	.3	1.17	3.8	9.5	* 7.2	2.5			
18			.2	.3	.76	3.6	9.5	5.6	1.5			
19			.3	.4	* 1.18	3.4	9.0	4.6	.8			
20			.3	1.46	.96	4.5	9	4.1	.4		(*)	
21			.3	.22	.53	4.0	8.5	4.1	.3			
22			.3	1.1	.39	7.7	8	3.6	.2			
23			.3	7.2	.32	5.4	7.8	3.2	.1			
24			.3	5.0	.33	3.8	7.8	2.8	.1			
25			.3	4.1	.31	3.3	* 7.8	2.8	0			
26			.3	.32	.42	* 3.0	7.2	2.8	0			
27			*.3	.32	.31	.28	7.2	4.1	* 0			(*)
28		(*)	.3	.36	.26	.26	9.0	* 5.6	0		(*)	
29			.3	* 3.2	-	.24	7.8	4.1	0			
30			.3	2.8	-----	.23	6.6	2.8	0			
31			.3	2.2	-----	.21	-----	2.2	-----		(*)	-----
Total	0	0	69.6	219.4	4.838.7	1.896	353.7	142.5	28.0	0	0	0
Mean	0	0	2.25	7.08	173	61.2	11.8	4.60	0.93	0	0	0
Max	0	0	4.1	146	1,110	455	21	9.0	2.5	0	0	0
Min	0	0	0	0.3	1.0	21	6.6	2.2	0	0	0	0
Ac-ft	0	0	138	435	9,600	3,760	702	283	56	0	0	0

Calendar year 1961: Max 4.1 Min 0 Mean 1.15 Ac-ft 830

Water year 1961-62: Max 1,110 Min 0 Mean 20.7 Ac-ft 14,970

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	† 0900	† 3.54	668	2-16	0800	4.74	1,080
2-10	0900	5.40	1,500	3-6	0630	3.98	880

† About

‡ From high-water mark

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

TULARE LAKE BASIN

11-2210. Pine Flat Reservoir near Piedra, Calif.

Location.--Lat 36°49'55", long 119°19'25", in NE¼ sec.2, T.13 S., R.24 E., near center of Pine Flat Dam on Kings River, 1.9 miles upstream from Mill Creek, 3.5 miles northeast of Piedra, and 16 miles northeast of Sanger.

Drainage area.--1,542 sq mi.

Records available.--October 1951 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Apr. 8, 1952, non-recording mercury gage on dam at same datum.

Extremes.--Maximum contents during year, 657,900 acre-ft June 25 (elevation, 886.71 ft); minimum, 109,100 acre-ft Oct. 4 (elevation, 717.66 ft).

1951-62: Maximum contents, 1,000,300 acre-ft June 28, 1958 (elevation, 951.31 ft); minimum, less than 13 acre-ft during many months in 1951-54.

Remarks.--Reservoir is formed by gravity-type concrete dam; regulation of discharge from reservoir began Dec. 4, 1951. Capacity, 1,013,400 acre-ft between elevation 565.5 ft (bottom of lower tier of river outlets) and 953.5 ft (top of spillway gates) above mean sea level. Reservoir is used for flood control and conservation storage. Water is released down Kings River to diversion dam of Kings River Water Association. Figures given herein represent total contents, all of which is available for release.

Cooperation.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

Capacity table (elevation, in feet, and contents, in acre-ft)

715	104,400	800	316,200
720	113,400	820	383,600
740	154,000	840	457,800
760	201,400	860	538,800
780	255,400	880	673,400

Contents, in acre-feet, at 2400 hrs., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	109,700	14,400	12,780	15,230	16,700	30,910	35,650	53,040	59,340	64,200	46,140	318,500
2	109,200	15,000	12,970	15,260	16,700	31,050	35,880	53,300	59,710	63,740	45,520	315,400
3	109,200	15,500	13,090	15,290	16,840	31,180	36,160	54,070	60,140	63,320	44,910	312,300
4	109,100	15,900	13,200	15,320	16,900	31,270	36,460	54,830	60,300	62,900	44,320	309,500
5	109,500	16,100	13,330	15,340	16,980	31,350	36,840	55,740	60,450	62,510	43,710	306,700
6	109,700	16,400	13,400	15,360	17,050	31,840	37,290	56,790	60,650	62,120	43,140	304,000
7	109,800	16,900	13,490	15,390	17,190	32,280	37,760	57,740	61,000	61,710	42,560	301,000
8	109,800	17,300	13,620	15,410	17,530	32,650	38,310	58,550	61,390	61,250	41,970	298,000
9	109,700	17,600	13,700	15,450	17,900	33,000	38,920	59,240	61,830	60,740	41,380	294,900
10	109,600	17,900	13,750	15,480	18,160	33,290	39,510	59,750	62,330	60,180	40,900	291,900
11	109,700	18,100	13,850	15,520	18,140	33,520	40,090	60,030	62,790	59,500	40,520	288,700
12	109,800	18,200	13,970	15,540	18,190	33,630	40,640	60,360	63,000	58,820	40,120	285,600
13	110,000	18,400	14,100	15,580	18,410	33,870	41,220	60,500	63,700	58,080	39,710	282,600
14	110,100	18,600	14,240	15,610	18,530	33,920	41,900	60,590	64,070	57,300	39,260	279,500
15	110,200	18,700	14,380	15,640	18,680	34,050	42,640	60,610	63,960	56,530	38,800	276,400
16	110,300	18,900	14,450	15,670	18,860	34,130	43,240	60,650	63,650	55,810	38,390	273,800
17	110,500	19,000	14,490	15,690	18,900	34,230	43,910	60,650	63,430	55,090	37,960	271,000
18	110,600	19,200	14,540	15,730	18,820	34,320	44,650	60,610	63,470	54,340	37,550	268,000
19	110,700	19,300	14,580	15,790	18,890	34,410	45,360	60,610	63,810	53,570	37,120	265,800
20	110,800	20,000	14,620	15,960	18,710	34,420	45,900	60,600	64,290	52,830	36,710	263,500
21	111,000	20,600	14,670	16,030	19,060	34,440	46,400	60,470	64,750	52,060	36,280	261,300
22	111,200	20,900	14,760	16,110	19,380	34,530	46,960	60,360	65,200	51,370	35,850	259,200
23	111,500	21,200	14,830	16,170	19,630	34,610	47,670	60,360	65,570	50,860	35,430	257,400
24	111,700	21,600	14,870	16,240	19,910	34,690	48,500	60,250	65,760	50,440	35,020	255,800
25	112,100	22,100	14,920	16,290	20,140	34,770	49,340	60,070	65,790	49,970	34,640	254,500
26	112,500	22,800	14,960	16,340	20,380	34,880	50,100	59,880	65,730	49,500	34,230	253,200
27	112,900	23,300	15,010	16,390	20,580	35,030	50,860	59,620	65,680	49,010	33,830	251,600
28	113,200	24,600	15,060	16,440	20,770	35,140	51,620	59,290	65,450	48,480	33,430	251,000
29	113,400	25,800	15,110	16,500	-----	35,220	52,240	59,040	65,100	47,930	33,000	249,100
30	113,700	26,800	15,150	16,560	-----	35,310	52,650	58,990	64,690	47,360	32,580	247,400
31	113,900	-----	15,190	16,620	-----	35,460	-----	59,120	-----	46,750	32,160	-----
(+)	720.26	726.98	739.02	745.43	797.34	811.66	857.07	872.11	884.36	842.50	801.68	777.17
(#)	+3,700	+12,900	+25,100	+14,300	+46,900	+46,900	+171,900	+64,700	+55,700	-179,400	-145,900	-74,200
(++)	808	360	165	170	215	583	1,285	1,873	2,813	3,344	2,698	1,846

Calendar year 1961..... # -120,000

Water year 1961-62..... # +137,200

+ Elevation, in feet, at end of month.

Change in contents, in acre-feet.

++ Evaporation, in acre-feet, furnished by Corps of Engineers.

11-2215. Kings River below Pine Flat Dam, Calif.

Location.--Lat 36°49'50", long 119°20'05", in NW¼ sec.2, T.13 S., R.24 E., on right bank 3,200 ft downstream from Pine Flat Dam and 2.9 miles northeast of Piedra.

Drainage area.--1,542 sq mi.

Records available.--October 1953 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 556.97 ft above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1956, at site 0.2 mile downstream at datum 3.48 ft lower.

Average discharge.--9 years, 1,929 cfs (1,397,000 acre-ft per year), adjusted for storage and evaporation.

Extremes.--Maximum discharge during year, 7,460 cfs June 25 (gage height, 7.65 ft); minimum, 1.1 cfs Feb. 26, 27. 1953-62: Maximum discharge, 12,700 cfs May 3, 1958 (gage height, 9.35 ft); minimum, that of Feb. 26, 27, 1962.

Remarks.--Records excellent. Flow completely regulated by Pine Flat Reservoir (see preceding page) and Wishon and Courtright Reservoirs (see p. 587).

Cooperation.--Ten discharge measurements furnished by Kings River Water Association.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 30				July 1-31		Aug. 1 to Sept. 30	
0.07	1.1	2.0	252	6.5	4,650	4.0	1,150
.1	2.0	3.0	580	7.0	5,730	5.0	2,120
.2	6.4	4.0	1,170	8.0	8,310	6.0	3,660
.3	12	5.0	2,130			7.0	5,760
.5	28	6.0	3,640				
.7	48	7.0	5,680				
1.0	86	8.0	8,300				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	383	47	35	34	114	213	1,710	3,020	5,800	7,050	4,980	2,410
2	409	48	38	80	110	386	1,630	3,320	*5,800	7,080	4,960	2,410
3	409	48	35	106	110	366	1,590	3,950	6,040	6,920	4,910	2,370
4	279	48	35	121	110	474	1,570	4,460	6,140	6,790	4,620	2,300
5	*130	48	35	120	110	584	1,590	4,540	*6,140	6,790	4,600	2,290
6	128	48	35	120	110	359	1,670	4,540	6,090	6,740	4,500	2,250
7	127	48	35	120	112	289	1,790	4,560	6,560	6,770	4,400	2,340
8	127	48	35	120	100	437	1,880	5,130	*6,740	6,820	4,420	2,320
9	127	48	36	120	32	489	2,210	5,260	6,870	6,820	4,380	2,330
10	127	49	36	110	6.9	497	2,380	5,240	7,080	6,820	3,860	2,330
11	89	50	36	112	11	571	2,370	5,170	7,150	6,850	3,200	2,330
12	45	50	36	112	6.4	598	2,660	4,800	7,180	6,770	3,200	*2,320
13	46	50	36	110	4.4	661	2,920	4,660	7,180	6,690	3,390	2,330
14	46	50	34	110	3.6	1,100	2,840	4,420	7,180	6,620	3,500	2,330
15	46	50	34	*110	2.4	1,140	2,740	4,260	7,130	6,590	3,550	2,320
16	46	50	34	110	4.0	1,210	2,880	4,220	7,000	6,570	3,340	2,100
17	46	*50	34	110	4.0	1,270	2,930	4,120	6,870	6,520	3,340	2,160
18	46	49	34	110	3.6	1,290	3,090	*4,160	6,870	6,550	3,300	2,100
19	47	49	34	112	*2.8	1,310	3,250	4,240	6,890	*6,590	3,250	1,980
20	47	50	34	99	2.8	1,500	3,200	4,300	7,130	6,380	3,220	1,910
21	47	50	*34	77	2.0	*1,540	2,880	4,380	*7,180	6,350	3,230	1,850
22	47	35	34	97	2.0	1,680	3,100	4,600	7,210	6,140	3,200	1,780
23	47	33	34	108	1.7	1,510	2,980	4,740	7,350	5,420	3,160	1,570
24	46	33	34	110	1.7	1,520	2,810	4,820	7,350	4,710	3,110	1,560
25	47	33	34	110	1.4	1,520	*2,630	4,780	7,430	4,750	2,970	1,370
26	*48	34	34	110	1.1	*1,530	2,650	4,820	*7,400	4,750	3,030	1,360
27	48	34	*34	114	1.1	1,550	2,650	4,870	7,290	4,830	3,020	*1,360
28	48	*34	34	114	9.3	1,560	2,530	4,890	7,260	4,960	*2,970	1,300
29	48	34	34	*114		1,630	2,530	*4,890	7,080	4,960	3,080	1,250
30	47	34	34	114	-----	1,640	2,940	5,060	*7,130	*4,960	3,080	1,150
31	46	-----	34	115	-----	1,690	-----	5,130	-----	5,030	3,050	-----
Total	3,269	1,332	1,075	3,329	980.2	3,211.4	7,460.0	14,135.0	20,652.0	19,159.0	11,282.0	5,978.0
Mean	105	44.4	34.7	107	35.0	1,036	2,487	4,560	6,884	6,180	3,639	1,993
Max.	409	50	38	121	114	1,690	3,250	5,260	7,430	7,080	4,980	2,410
Min.	45	34	34	34	1.1	213	1,570	3,020	5,800	4,710	2,970	1,150
Ac-ft	6,480	2,640	2,130	6,600	1,940	63,700	148,000	280,400	409,600	380,000	223,800	118,600
†Mean	125	202	364	357	2,735	1,406	6,105	6,793	8,625	3,001	743	270
†Ac-ft	7,690	12,000	22,360	21,970	151,900	86,480	363,300	417,700	513,200	184,500	45,700	16,050
Calendar year 1961:	Max	5,500	Min	3.4	Mean	910	†Mean	766	Ac-ft	658,900	†Ac-ft	554,700
Water year 1961-62:	Max	7,430	Min	1.1	Mean	2,271	†Mean	2,546	Ac-ft	1,644,000	†Ac-ft	1,843,000

* Discharge measurement made on this day.

† Adjusted for change in storage in Wishon, Courtright, and Pine Flat Reservoirs, and evaporation from Pine Flat Reservoir.

TULARE LAKE BASIN

11-2217. Mill Creek near Piedra, Calif.

Location.--Lat 36°49'05", long 119°20'25", in NE 1/4 sec. 10, T.13 S., R.24 E., on left bank 150 ft upstream from road bridge, 0.7 mile upstream from mouth, and 2.3 miles east of Piedra.

Drainage area.--120 sq mi.

Records available.--October 1957 to September 1962 in reports of Geological Survey. November 1938 to September 1957 in reports of Kings River Water Association.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 550 ft (from topographic map). Prior to July 14, 1958, at site 150 ft upstream at same datum.

Average discharge.--5 years, 28.1 cfs (20,340 acre-ft per year).

Extremes.--Maximum discharge during year, 2,160 cfs Feb. 11 (gage height, 5.94 ft); no flow Oct. 1 to Jan. 19, June 28 to Sept. 30. 1957-62: Maximum discharge, 5,000 cfs Mar. 22, 1958 (gage height, 7.29 ft), from rating curve extended above 760 cfs; no flow for several months in each year.

Remarks.--Records good. No regulation. Small diversions for irrigation above station.

Cooperation.--Nine discharge measurements furnished by Kings River Water Association.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 12-14, 16-17, 19-21)

Oct. 1 to Feb. 28			Mar. 1 to Sept. 30		
2.26	0	3.3	118	2.3	0
2.3	.4	3.6	220	2.4	2.0
2.4	1.8	4.0	400	2.5	5.0
2.5	5.5	4.5	710	2.6	10
2.6	12	5.0	1,100	2.7	18
2.8	31	6.0	2,240		
3.0	58				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	* 5.5	82	72	22	7.0			
2	(*)	(*)	(*)	* 0	5.0	82	72	22	6.5	(*)	(*)	
3				0	4.5	87	68	22	6.0			
4				0	4.5	74	64	22	5.0			
5				0	4.1	* 72	62	21	5.0			
6				0	3.7	329	60	20	5.0			
7				0	6.5	* 350	57	18	4.7			
8				0	24	218	57	17	4.1			
9				0	* 601	221	54	18	3.5			
10				0	* 1,220	173	53	17	3.2			
11				0	* 1,790	141	49	17	2.9			
12				0	* 844	121	47	16	2.6			
13				0	310	107	44	16	2.6			
14				0	280	96	41	16	2.9			
15				0	* 236	89	40	17	3.8			
16				0	561	85	38	17	5.0			
17				0	330	79	35	17	4.4			
18				0	208	77	34	* 16	3.5			
19				0	* 405	75	32	14	2.9			
20				25	445	79	28	12	2.0			
21				31	284	85	27	12	1.6			
22				* 15	204	91	26	10	1.4			
23				9.4	160	136	23	9.5	.8			
24				7.5	160	98	22	9.0	.2			
25				6.5	144	90	* 21	9.5	.1			
26	(*)			5.5	* 147	* 87	21	9.5	* .1			(*)
27			(*)	5.0	116	89	21	12	.1			
28		(*)		5.0	100	89	21	13	0		(*)	
29				* 5.0	-	87	21	12	* 0			
30				5.0	-----	82	22	9.0	0			
31				5.0	-----	77	-----	8.5	-----		(*)	-----
Total	0	0	0	124.9	8,602.8	3,648	1,232	471.0	86.9	0	0	0
Mean	0	0	0	4.03	307	118	41.1	15.2	2.89	0	0	0
Max	0	0	0	31	1,790	329	72	22	7.0	0	0	0
Min	0	0	0	0	3.7	72	21	8.5	0	0	0	0
Ac-ft	0	0	0	248	17,060	7,240	2,440	934	172	0	0	0

Calendar year 1961: Max 23 Min 0 Mean 1.38 Ac-ft 1,000
Water year 1961-62: Max 1,790 Min 0 Mean 38.8 Ac-ft 28,090

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-11	0600	5.94	2,160	3-6	1730	4.49	584
2-16	1100	4.84	812	3-9	1330	3.95	298
2-20	0800	4.51	591				

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

11-2245. Los Gatos Creek above Nunez Canyon, near Coalinga, Calif.

Location.--Lat 36°12'55", long 120°28'10", in NE 1/4 sec. 5, T.20 S., R.14 E., on right bank 50 ft downstream from highway bridge, 1.1 miles upstream from Nunez Canyon, 3.0 miles downstream from White Creek, and 8 miles northwest of Coalinga.

Drainage area.--95.5 sq mi.

Records available.--May 1945 to September 1962. Prior to October 1949 monthly discharge only, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 1,100 ft (from topographic map). Prior to Aug. 2, 1959, at site 100 ft downstream at same datum.

Average discharge.--17 years, 2.96 cfs (2,140 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

Extremes.--Maximum discharge during year, 2,560 cfs Feb. 9 (gage height, 7.25 ft), from rating curve extended above 110 cfs on basis of contracted-opening measurement of peak flow; no flow for several months.

1949-62: Maximum discharge, that of Feb. 9, 1962, and 2,560 cfs Apr. 3, 1958 (gage height, 6.51 ft), from rating curve extended above 180 cfs on basis of contracted-opening measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. Minor diversions for irrigation and stock ponds.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 9-15)

Oct. 1 to Feb. 9				Feb. 9 to Sept. 30			
2.5	0	3.0	10	2.9	0	3.6	34
2.6	.5	3.1	15	3.0	.4	3.8	66
2.7	1.8	3.2	21	3.1	1.7	4.1	140
2.8	4.0	3.4	36	3.2	4.0	4.5	265
2.9	6.9	3.7	72	3.3	8.0	5.0	480
				3.4	14		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	5.9		0	* 8.0	3.4	1.2	0.1			
2		0	* 6.0		0	8.6	3.4	1.2	.1			
3		0	* 5.5		0	7.5	3.1	1.2	.1			
4		0	.5		0	6.6	2.9	1.1	.1			
5		0	0		0	6.6	2.5	1.0	.1			
6		0	0		* 0	5.9	2.3	1.0	.1			(*)
7		0	0		0	* 2.1	2.1	.9	.1			
8		0	0		1.2	1.4	2.1	.7	.1			
9		0	0		* 3.7	1.2	1.9	.7	0			
10	(*)	0	0		1.6	1.1	1.7	.9	0			
11		0	0		1.6	1.0	1.7	1.0	0			
12		0	0		2.4	9.2	1.7	1.0	* 0			
13		0	0		6.2	8.6	1.7	1.0	0	(*)		
14		0	0		* 3.0	8.0	1.6	1.0	0			
15		0	0		1.2	8.0	1.6	1.1	0			
16		* 0	0		4.7	8.0	1.7	1.1	0			
17		0	0		2.3	7.1	1.6	.9	0			
18		0	0		1.8	7.1	1.4	.6	0			
19		0	0		6.1	5.8	* 1.4	.5	0			
20		.9	0		3.7	5.8	1.7	.6	0			
21		0	0		* 3.2	6.6	1.7	.5	0			
22		0	0		2.4	7.1	1.4	.4	0			
23		0	0		1.9	7.5	1.2	.3	0			
24		0	0		1.5	5.8	1.1	.3	0			
25		0	0		1.3	7.1	1.2	.4	0			
26		0	0		1.3	4.6	1.2	.4	0			
27		0	0		1.0	4.3	1.2	.5	0			
28		0	0		8.6	4.0	1.2	.4	0			
29		0	0		-	4.0	1.4	.4	0			
30		0	0		-----	4.0	1.4	.3	0			
31		-----	0		-----	3.7	-----	.2	-----			
Total	0	0.9	71.9	0	1.2	1.8	2.9	0.6	5.4	5	0	0
Mean	0	0.03	2.32	0	43.3	9.37	1.82	0.74	0.03	0	0	0
Max	0	0.9	60	0	371	59	3.4	1.2	0.1	0	0	0
Min	0	0	0	0	0	3.7	1.1	0.2	0	0	0	0
Ac-ft	0	1.8	143	0	2,400	576	168	45	1.6	0	0	0

Calendar year 1961: Max 60 Min 0 Mean 0.21 Ac-ft 149

Water year 1961-62: Max 371 Min 0 Mean 4.53 Ac-ft 3,280

Peak discharge (base, 40 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-2	0100	3.97	124	2-15	0630	4.75	365
2-9	0830	7.25	2,560	3-6	0400	4.14	152

11-2260, North Fork San Joaquin River below Iron Creek, Calif.

Location.--Lat 37°36'50", long 119°14'00", in SE $\frac{1}{4}$ sec. 4, T.4 S., R.25 E., on right bank 0.8 mile downstream from Iron Creek and 27 miles northeast of town of Bass Lake.

Drainage area.--38.0 sq mi.

Records available.--October 1920 to September 1928 (fragmentary prior to July 1921), October 1951 to September 1958 (no winter records), October 1958 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 6,800 ft (from topographic map). Prior to May 22, 1922, staff gages at approximately same site at different datums.

Average discharge.--11 years (1921-28, 1958-62), 104 cfs (75,290 acre-ft per year).

Extremes.--Maximum discharge during year, 1,500 cfs June 21, 22 (gage height, 7.00 ft); minimum, 1.3 cfs Nov. 17.

1920-28, 1951-62: Maximum discharge recorded, 3,860 cfs July 24, 1956 (gage height, 8.15 ft), from rating curve extended above 1,100 cfs; minimum, 0.4 cfs Nov. 13, 1955.

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

Cooperation.--Water-stage-recorder graph and seven discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

3.5	3.4	5.0	138
3.6	6.0	5.5	285
4.0	21	6.0	535
4.2	33	6.6	1,030
4.5	60		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	14	27	16	25		86	199	686	470	150	24
2	12	13	b 31	16	28		83	301	849	517	132	24
3	*10	15	b 38	17	29		92	458	621	487	116	24
4	*10	14	43	16	32		118	649	410	499	104	23
5	9.4	13	34	16	31		145	702	*475	574	102	22
6	8.7	12	29	25			166	642	600	505	102	21
7	8.1	12	25	34			199	587	678	493	*84	22
8	7.5	12	22	27	b 35		234	568	718	453	78	21
9	7.5	11	20	25			260	481	849	385	128	21
10	7.8	11	18				247	370	858	348	89	21
11	7.2	10	16				230	274	795	*313	78	*21
12	6.9	9.4	16	b 16		a 20	282	264	750	334	78	19
13	6.0	6.9	15		b 30		334	174	656	260	76	17
14	5.5	7.2	14				356	138	505	274	76	16
15	5.2	7.2	14				330	122	334	289	80	16
16	5.0	5.8	14				309	122	334	271	79	15
17	4.7	5.0	14				343	134	523	271	74	15
18	4.4	5.2	14	b 11	b 26		380	150	742	250	64	14
19	4.4	5.0	14				301	152	867	250	57	14
20	4.7	4.4	15				193	124	950	240	54	12
21	16	17	16		21		205	126	950	243	49	11
22	18	18	17		21		285	193	930	254	46	10
23	19	16	20	b 16	20		385	240	849	285	46	9.7
24	22	14	22		20		380	182	718	227	46	10
25	23	14	21		20		293	161	718	208	45	11
26	19	23	19	14	19	a 40	257	140	678	214	42	48
27	15	24	18	14	a 19		268	124	594	208	40	40
28	14	21	18	17	a 20		193	150	568	199	35	26
29	11	19	19	19	-	60	138	278	548	174	30	19
30	12	23	19	22	-----	69	436	499	152	26	26	16
31	14	-----	18	24	-----	76	-----	554	-----	152	24	-----
Total	331.0	382.1	640	538	760	865	7,237	9,195	20,252	9,799	2,230	582.7
Mean	10.7	12.7	20.6	17.4	27.1	27.9	241	297	675	316	71.9	19.4
Max	23	24	43	34	-	76	385	702	950	574	150	48
Min	4.4	4.4	14	-	19	-	83	122	334	152	24	9.7
Ac-ft	657	758	1,270	1,070	1,510	1,720	14,350	18,240	40,170	19,440	4,420	1,160

Calendar year 1961: Max 330 Min 4.4 Mean 58.4 Ac-ft 42,290
 Water year 1961-62: Max 950 Min 4.4 Mean 145 Ac-ft 104,800

* Discharge measurement made on this day.

a No gage-height record.

b Stage-discharge relation affected by ice.

SAN JOAQUIN RIVER BASIN

605

11-2265. San Joaquin River at Miller Crossing, Calif.

Location.--Lat 37°30'35", long 119°11'50", in NE $\frac{1}{4}$ sec. 11, T.5 S., R.25 E., on right bank 2.4 miles downstream from North Fork San Joaquin River, 4.6 miles east of Clover Meadow ranger station, and 23 miles northeast of town of Bass Lake.

Drainage area.--254 sq mi.

Records available.--October 1921 to September 1928, October 1951 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as Middle Fork San Joaquin River at Miller Bridge.

Gage.--Water-stage recorder. Altitude of gage is 4,570 ft (from topographic map). Prior to Mar. 24, 1922, staff gage at same site and datum.

Average discharge.--18 years, 566 cfs (409,800 acre-ft per year).

Extremes.--Maximum discharge during year, 4,290 cfs June 9 (gage height, 16.15 ft); minimum, 19 cfs Nov. 17.

1921-28, 1951-62: Maximum discharge, 16,600 cfs Dec. 23, 1955 (gage height, 21.28 ft), from rating curve extended above 5,100 cfs on basis of contracted-opening measurement of peak flow; minimum, that of Nov. 17, 1961.

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

Cooperation.--Water-stage-recorder graph and seven discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

8.9	32	12.0	590
9.3	54	13.0	1,090
9.5	67	14.0	1,810
10.0	119	15.0	2,810
10.5	194	16.0	4,080
11.0	290		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	67	69	125	107	158	192	622	1,280	2,690	1,900	562	143
2	61	66	132	101	167	189	634	1,600	3,270	1,930	527	140
3	57	71	150	101	173	181	690	2,090	3,090	1,920	484	139
4	53	70	175	101	180	186	835	2,740	2,320	1,870	454	134
5	*52	65	154	94	188	208	1,010	3,100	2,310	1,960	418	129
6	*50	61	143	114	184	232	1,130	3,130	*2,610	1,900	424	126
7	47	60	126	170	223	225	1,290	3,010	2,880	1,770	382	123
8	46	61	a 120	153	274	225	1,460	2,940	3,010	1,700	349	122
9	45	59	a 110	139	1,280	223	1,620	2,640	3,460	*1,540	*430	118
10	47	59	a 100	129	552	212	1,570	2,220	3,560	1,410	397	118
11	46	58	a 93	105	448	208	1,410	1,800	3,330	1,300	343	115
12	44	53	a 90	106	472	194	1,550	1,720	3,210	1,320	330	112
13	43	44	a 88	104	502	191	1,760	1,350	2,990	1,100	318	*106
14	40	50	a 86	80	481	194	1,900	1,170	2,590	1,090	308	102
15	39	50	a 84	a 80	508	198	1,810	1,040	2,040	1,110	312	99
16	38	48	a 84	a 78	418	199	1,690	1,060	1,890	1,100	312	95
17	38	33	a 84	a 75	403	196	1,760	1,020	2,150	1,050	305	92
18	38	40	a 87	a 70	373	207	1,940	1,100	2,760	1,020	286	90
19	37	40	90	a 75	328	223	1,820	1,080	3,230	970	266	87
20	38	46	94	84	298	221	1,370	988	3,480	934	252	84
21	96	38	98	a 88	272	214	1,360	928	3,550	905	242	81
22	80	70	100	a 92	262	221	1,570	1,160	3,500	970	230	80
23	82	95	111	a 95	256	210	1,880	1,370	3,330	982	221	76
24	81	88	118	a 100	238	234	2,040	1,210	3,030	865	216	75
25	91	94	119	a 110	217	302	1,820	1,170	2,820	775	210	76
26	85	105	118	a 115	212	376	1,630	1,110	2,700	775	203	199
27	73	105	107	122	198	439	1,640	1,000	2,500	750	194	194
28	72	99	105	136	198	472	1,580	1,010	2,310	706	184	153
29	53	101	105	141		541	1,220	1,370	2,210	670	172	130
30	59	104	106	144	-----	566	1,140	1,820	2,040	614	158	115
31	69	-----	106	154	-----	586	-----	2,280	-----	580	147	-----
Total	1,767	2,002	3,408	3,363	9,463	8,265	43,751	51,506	84,860	37,486	9,636	3,453
Mean	57.0	66.7	110	108	338	267	1,458	1,661	2,829	1,209	311	115
Max	96	105	175	170	1,280	586	2,040	3,130	3,560	1,960	562	199
Min	37	33	84	70	158	181	622	928	1,890	580	147	75
Ac-ft	3,500	3,970	6,760	6,670	18,770	16,390	86,780	102,200	168,300	74,350	19,110	6,850

Calendar year 1961: Max 1,390 Min 33 Mean 278 Ac-ft 201,000
 Water year 1961-62: Max 3,560 Min 33 Mean 709 Ac-ft 513,600

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1400	14.58	2,360	6-2	2200	16.13	4,260
4-14	2200	14.57	2,350	6-9	2100	16.15	4,290
4-23	2130	14.60	2,380	6-21	2100	16.10	4,220
5-5	2130	15.85	3,880				

* Discharge measurement made on this day.
 a No gage-height record.

SAN JOAQUIN RIVER BASIN

11-2285. Granite Creek near Cattle Mountain, Calif.

Location.--Lat 37°31'35", long 119°15'30", in NE $\frac{1}{4}$ sec.5, T.5 S., R.25 E., on right bank 0.7 mile downstream from confluence of East and West Forks of Granite Creek, 1.6 miles northwest of Cattle Mountain, and 21 miles northeast of town of Bass Lake.

Drainage area.--47.8 sq mi.

Records available.--October 1921 to September 1928, May 1952 to September 1962 (no winter records). Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 6,800 ft (from topographic map). Prior to May 14, 1922, staff gage at same site at different datum.

Average discharge.--7 years (1921-28), 110 cfs (79,640 acre-ft per year).

Extremes.--Maximum discharge recorded during year, 1,400 cfs June 2 (gage height, 8.18 ft); minimum daily, 0.2 cfs Oct. 8, 9, 17-20. 1921-28, 1952-62: Maximum discharge recorded, 2,210 cfs June 27, 1922 (gage height, 8.83 ft); no flow at times in 1924, 1926.

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

Cooperation.--Water-stage-recorder graph and seven discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

3.8	0	4.3	6.6	6.0	170
3.9	.3	4.5	13	6.5	280
4.0	1.0	4.7	22	7.0	460
4.1	2.2	5.0	42	7.5	740
4.2	4.0	5.5	96	8.0	1,210

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	2.6						379	856	289	18	1.7
2	*.1	2.4						530	950	295	16	1.7
3	.5	2.6						719	733	268	14	1.6
4	.5	2.4					a 190	892	566	268	12	1.5
5	.4	2.2						970	616	277	11	1.5
6	.4	2.2						856	712	227	9.9	1.5
7	.3	*2.0						812	780	206	8.7	1.5
8	.2	2.0						804	820	185	*7.5	1.5
9	.2	2.0					340	698	892	156	9.0	1.5
10	.3	2.0					347	588	820	135	9.3	1.4
11	.4	2.0					337	478	740	*123	7.5	1.4
12	.4	1.8					399	407	*719	160	6.1	1.2
13	.4	1.6					464	283	640	177	5.3	*1.4
14	.3	1.5					496	236	566	134	4.5	1.2
15	.3	1.5					500	195	391	112	3.8	1.2
16	.3	1.5					460	198	433	99	3.6	1.1
17	.2	1.0					515	210	616	92	3.3	1.1
18	.2	1.0					545	241	740	86	3.1	1.0
19	.2	1.1					460	250	820	77	2.9	.9
20	.2	1.2					298	248	780	70	2.6	.9
21	3.1	2.9					344	256	698	60	2.4	.9
22	3.3	2.6					505	399	684	63	2.1	.9
23	2.6	3.8					599	478	594	56	2.0	.9
24	3.8						604	358	535	61	2.1	.9
25	6.9						505	310	520	44	2.1	.9
26	6.3	b 5					446	283	*482	38	2.1	9.6
27	5.0						446	245	420	34	2.0	4.8
28	4.0						340	256	372	30	2.0	2.4
29	3.6				-		262	469	354	27	2.0	2.0
30	3.1						277	677	316	23	1.8	1.7
31	2.4						772			20	1.8	
Total	51.5	80.9	-	-	-	-	11,009	14,497	19,165	3,892	180.5	51.8
Mean	1.66	2.70	-	-	-	-	367	468	639	126	5.82	1.73
Max	6.9	-	-	-	-	-	604	970	950	295	18	9.6
Min	0.2	1.0	-	-	-	-	-	195	316	20	1.8	0.9
Ac-ft	102	160	-	-	-	-	21,840	28,750	38,010	7,720	358	103

Calendar year 1961: Max Min Mean Ac-ft
Water year 1961-62: Max Min Mean Ac-ft

* Discharge measurement made on this day.

a No gage-height record.

b Stage-discharge relation affected by ice.

SAN JOAQUIN RIVER BASIN

607

11-2295. Ward tunnel at intake, Calif.

Location.--Lat 37°16', long 118°58', in NW¼ sec.1, T.8 S., R.27 E., in gatehouse at entrance to tunnel.

Records available.--April 1925 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1936, published as Florence Lake tunnel at intake.

Gage.--Water-stage recorder, concrete control, and Venturi meter. Datum of gage is 7,213.89 ft above mean sea level (levels by Southern California Edison Co.).

Average discharge.--37 years, 269 cfs (194,700 acre-ft per year).

Extremes.--1925-62: Maximum daily discharge, 1,990 cfs Apr. 30, 1926; no flow at times.

Remarks.--Records excellent except those for period of no gage-height record, which are good. Ward tunnel diverts from Florence Lake, a reservoir on South Fork San Joaquin River, to Huntington Lake for use in Big Creek powerplants.

Cooperation.--Water-stage-recorder graph, four discharge measurements, and rating table for Venturi meter furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	25	46	33	49	44	226	502	824	1,040	584	364
2	103	27	50	33	50	.6	225	593	792	898	593	363
3	44	28	55	33	52	.5	229	693	770	904	593	361
4	30	31	63	31	52	.5	282	894	773	958	591	448
5	24	27	66	30	52	.5	*335	914	759	1,070	613	510
6	25	*25	64	30	52	78	376	1,020	724	1,170	535	504
7	22	24	59	34	53	170	437	1,020	736	1,200	502	500
8	20	24	55	36	58	158	316	1,010	734	1,200	502	497
9	*20	22	48	36	140	152	548	1,030	734	1,200	500	493
10	19	23	45	34	175	144	574	1,020	742	1,130	498	489
11	21	22	41	30	128	133	554	1,010	730	968	497	486
12	21	21	41	30	164	125	600	986	708	900	495	484
13	20	18	42	30	203	134	659	941	726	838	493	482
14	18	18	41	27	243	96	716	1,000	742	801	489	477
15	18	20	39	29	257	88	745	974	747	800	488	473
16	15	18	37	30	236	86	673	840	747	801	488	470
17	18	13	37	29	232	82	680	646	747	800	486	466
18	16	11	36	28	214	80	714	540	754	801	486	462
19	7.3	13	35	29	187	80	790	495	766	730	484	459
20	21	16	35	30	166	80	704	484	778	702	412	457
21	27	15	35	29	145	79	617	446	794	700	378	455
22	28	16	35	34	134	79	637	459	806	700	378	471
23	28	31	35	45	122	76	752	*572	952	766	376	512
24	27	36	36	58	112	86	852	a 590	1,000	802	375	504
25	26	40	36	59	98	112	839	a 580	1,020	800	373	525
26	30	43	36	53	100	138	718	a 560	1,060	618	373	536
27	25	45	36	48	92	160	687	a 510	1,140	504	371	530
28	23	46	35	47	91	178	648	a 450	1,200	523	370	525
29	21	44	34	46	-	170	572	508	1,200	574	370	517
30	17	44	33	47	-----	184	495	635	1,200	572	368	508
31	20	-----	33	49	-----	199	-----	826	-----	598	366	-----
Total	799.3	786	1,319	1,137	3,657	3,193.1	17,200	22,748	25,405	26,068	14,427	14,328
Mean	25.8	26.2	42.5	36.7	131	103	573	734	847	841	465	478
Max	103	46	66	59	257	199	852	1,030	1,200	1,200	613	536
Min	7.3	11	33	27	49	0.5	225	446	708	504	366	361
Ac-ft	1,590	1,560	2,620	2,260	7,250	6,330	34,120	45,120	50,390	51,710	28,620	28,420
Calendar year 1961:	Max 633	Min 0.3	Mean 155	Ac-ft 112,100								
Water year 1961-62:	Max 1,200	Min 0.5	Mean 359	Ac-ft 260,000								

* Discharge measurement made on this day.

a No gage-height record.

SAN JOAQUIN RIVER BASIN

11-2296. Florence Lake near Big Creek, Calif.

Location.--Lat 37°16', long 118°58', in NW¹ sec.1, T.8 S., R.27 E., in gatehouse of Ward tunnel intake, near dam on South Fork San Joaquin River, 16 miles northeast of town of Big Creek.

Drainage area.--171 sq mi.

Records available.--November 1925 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

Extremes.--Maximum contents during year, 60,200 acre-ft July 12 (elevation, 7,323.07 ft); minimum, 228 acre-ft Nov. 18 (elevation, 7,224.36 ft).
1925-62: Maximum contents, 66,000 acre-ft July 3, 1932 (elevation, 7,329.14 ft); no available contents Oct. 2-4, 1926, Nov. 30 to Dec. 2, 1927.

Note.--Prior to 1960 maximum and minimum daily contents were published.

Remarks.--Lake is formed by multiple-arch concrete dam; storage began in April 1925. Usable capacity, 64,400 acre-ft between elevations 7,220.9 (throat of Venturi tube in Ward tunnel intake) and 7,327.5 ft (top of spillway drum gates) above mean sea level. Additional storage of 168 acre-ft is not available for diversion. Water is diverted through Ward tunnel to Huntington Lake and used for power development in Big Creek plants. Figures given herein represent usable contents.

Cooperation.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)

7,224	201	7,260	11,600
7,225	281	7,270	17,800
7,230	887	7,280	24,600
7,235	1,770	7,290	32,000
7,240	2,980	7,300	39,900
7,245	4,670	7,310	48,300
7,250	6,650	7,324	61,100

Contents, in acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	474	260	277	265	286	457	492	907	3,050	55,700	58,900	42,000
2	303	260	276	264	286	654	478	1,110	5,090	56,600	58,500	41,500
3	267	264	266	264	286	833	533	1,530	6,690	57,500	58,000	40,800
4	259	261	260	263	286	1,020	613	2,110	7,570	58,200	57,500	40,100
5	260	257	262	263	286	1,230	678	2,990	8,640	58,900	56,800	39,200
6	258	254	264	266	289	1,250	748	4,100	10,200	59,400	56,300	38,300
7	256	253	268	270	291	1,050	818	4,980	12,100	59,800	55,900	37,400
8	253	251	272	270	299	946	913	5,680	14,400	60,100	55,300	36,500
9	250	252	282	270	511	838	966	5,790	17,000	60,100	54,800	35,600
10	253	250	279	267	384	730	947	5,700	19,800	60,100	54,300	34,800
11	254	249	274	264	382	633	969	5,240	22,400	60,100	53,700	33,900
12	253	245	277	264	440	538	1,050	4,690	24,800	60,200	53,100	33,000
13	252	242	275	263	473	383	1,150	3,920	27,100	59,900	52,500	32,200
14	252	246	274	263	545	358	1,260	3,000	28,800	59,800	51,900	31,300
15	249	244	272	265	532	351	1,190	2,020	29,600	59,700	51,400	30,400
16	250	242	269	263	504	346	1,130	1,340	30,000	59,700	50,800	29,600
17	249	234	269	263	496	343	1,200	982	31,100	59,600	50,200	28,700
18	248	235	268	263	462	343	1,320	863	32,900	59,600	49,600	27,800
19	263	239	268	264	427	343	1,260	830	35,500	59,500	49,000	27,000
20	264	244	268	263	409	343	1,080	806	38,300	59,500	48,500	26,100
21	263	237	268	265	398	343	1,010	767	41,300	59,500	48,000	25,200
22	258	256	268	275	389	343	1,140	857	44,400	59,700	47,500	24,300
23	258	269	268	292	379	343	1,330	980	47,000	59,800	47,000	23,400
24	260	272	268	297	366	361	1,400	947	48,800	59,500	46,500	22,400
25	265	276	268	294	365	384	1,260	903	50,600	59,200	46,000	21,400
26	263	278	268	289	360	405	1,140	856	52,300	59,100	45,400	20,500
27	256	281	267	287	355	437	1,110	802	53,500	59,300	44,900	19,700
28	258	280	266	287	353	422	1,020	775	54,300	59,500	44,300	18,800
29	245	278	266	287	-	440	886	932	54,900	59,500	43,800	17,900
30	248	278	265	286	-----	445	828	1,300	55,200	59,400	43,200	16,900
31	255	-----	265	286	-----	487	-----	1,950	-----	59,200	42,600	-----
(+)	7,224.68	7,224.97	7,224.81	7,225.05	7,225.73	7,226.93	7,229.58	7,235.81	7,317.67	7,322.02	7,303.37	7,268.75
(#)	-255	+23	-13	+21	+67	+134	+341	+1,120	+53,250	+4,000	-16,600	-25,700

Calendar year 1961..... +23
Water year 1961-62..... +16,390

+ Elevation, in feet, at end of month.

Change in contents, in acre-feet.

11-2300. South Fork San Joaquin River near Florence Lake, Calif.

Location.--Lat 37°16'20", long 118°57'50", in SE $\frac{1}{4}$ sec. 36, T.7 S., R.27 E., on left bank just downstream from spillway of Florence Lake Dam and 6 miles upstream from Bear Creek.

Drainage area.--171 sq mi.

Records available.--October 1921 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1925, published as "near Lake Florence."

Gage.--Water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 7,200 ft (from topographic map).

Average discharge.--41 years, 304 cfs (220,100 acre-ft per year), combined flow of South Fork San Joaquin River and Ward tunnel at intake.

Extremes.--Maximum discharge during year, 13 cfs July 24 (gage height, 9.31 ft); minimum daily, 3.2 cfs Nov. 2-9, Feb. 27 to Mar. 1. 1921-62: Maximum discharge, 4,320 cfs June 6, 1940 (gage height, 15.38 ft); no flow at times.

Remarks.--Records good. Flow regulated by Florence Lake beginning in 1925 (see preceding page) and by diversion into Ward tunnel (see p. 607).

Cooperation.--Water-stage-recorder graph and four discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage-height, in feet, and discharge, in cubic feet per second)

8.4	3.2
8.5	4.0
8.8	7.0
9.0	9.2

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.0	3.8	3.4	3.4	3.4	3.2	3.7	3.7	3.9	8.3	8.1	7.1
2	4.0	3.2	3.5	3.4	3.4	3.4	3.7	3.7	4.1	8.3	8.1	7.0
3	3.9	3.2	3.4	3.4	3.4	3.5	3.8	3.8	4.4	8.3	8.1	7.0
4	3.8	3.2	3.4	3.4	3.4	3.5	3.8	3.8	4.5	8.3	7.9	7.0
5	3.8	3.2	3.4	3.4	3.4	3.6	3.8	3.9	4.5	*8.3	7.9	7.0
6	3.8	3.2	3.4	3.5	3.4	3.5	3.8	4.1	4.5	8.4	7.9	6.8
7	3.8	3.2	3.4	3.5	3.4	3.6	3.8	4.2	4.6	8.4	7.8	7.0
8	3.8	3.2	3.4	3.4	3.5	3.6	4.0	4.3	4.7	8.4	7.8	6.8
9	*3.8	3.2	3.4	3.4	5.0	3.5	4.1	*4.3	4.8	8.4	7.8	6.8
10	3.8	3.3	3.4	3.4	3.6	3.5	4.0	4.3	5.0	8.4	7.7	6.7
11	3.8	3.3	3.4	3.4	3.5	3.4	4.0	4.3	5.1	8.4	7.8	6.7
12	3.8	3.3	3.4	3.4	3.5	3.4	4.1	4.3	5.6	8.5	7.7	6.6
13	3.8	3.3	3.4	3.4	3.5	3.4	4.1	4.3	6.6	8.4	7.5	6.6
14	3.8	3.3	3.4	3.4	3.5	3.4	4.2	4.2	6.8	8.4	7.5	6.6
15	3.8	3.3	3.4	3.4	3.5	3.4	4.0	4.1	6.8	8.3	7.5	6.6
16	3.8	3.3	3.4	3.4	3.5	3.4	4.0	3.8	7.0	8.4	7.4	6.5
17	3.8	3.3	3.4	3.4	3.5	3.4	4.0	3.8	7.0	8.3	7.4	6.3
18	3.8	3.3	3.4	3.4	3.4	3.4	3.9	3.7	7.0	8.3	7.3	6.3
19	3.8	3.3	3.4	3.4	3.4	3.4	3.9	3.7	7.1	8.3	7.2	6.3
20	3.8	3.4	3.4	3.3	3.4	3.4	3.8	3.7	7.2	8.3	7.1	6.4
21	3.9	3.4	3.4	3.4	4.0	3.4	3.8	3.7	7.3	8.4	7.1	6.3
22	3.9	3.4	3.4	3.4	3.4	3.4	3.8	3.7	7.5	8.3	7.1	6.3
23	3.8	3.4	3.4	3.4	3.4	3.4	3.8	3.7	7.6	8.3	7.1	6.2
24	4.0	3.5	3.4	3.3	3.4	3.4	3.8	3.7	7.7	8.4	7.1	6.1
25	4.0	3.5	3.4	3.4	3.3	3.5	3.8	3.7	7.8	8.3	7.1	6.1
26	4.0	3.5	3.4	3.4	3.4	3.6	3.8	3.7	8.6	8.2	7.1	6.3
27	4.0	3.4	3.4	3.4	3.2	3.6	3.8	3.8	8.7	8.2	7.1	5.9
28	4.0	3.4	3.4	3.4	3.2	3.6	3.8	3.7	8.7	8.2	7.1	5.9
29	4.0	3.4	3.4	3.4	-----	3.7	3.7	3.7	8.7	8.2	7.1	5.9
30	4.0	3.4	3.4	3.4	-----	3.7	3.7	3.8	8.3	8.2	7.1	5.6
31	4.0	-----	3.4	3.4	-----	3.7	-----	3.8	-----	8.2	7.0	-----
TOTAL	120.1	100.1	105.5	105.4	97.9	107.9	116.3	121.0	192.1	258.0	231.5	194.9
MEAN	3.87	3.34	3.40	3.40	3.50	3.48	3.88	3.90	6.40	8.32	7.47	6.50
MAX	4.0	3.8	3.5	3.5	5.0	3.7	4.2	4.3	6.7	8.5	8.1	7.1
MIN	3.8	3.2	3.4	3.3	3.2	3.2	3.7	3.7	3.9	8.2	7.0	5.6
AC-FT	238	199	209	209	194	214	231	240	381	512	459	387

CALENDAR YEAR 1961: MAX 6.7 MIN 2.8 MEAN 3.93 AC-FT 2,850
 WATER YEAR 1961-62: MAX 8.7 MIN 3.2 MEAN 4.80 AC-FT 3,470

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2305. Bear Creek near Lake Thomas A. Edison, Calif.

Location.--Lat 37°20'20", long 118°58'20", in SW $\frac{1}{4}$ sec.12, T.7 S., R.27 E. (unsurveyed), on right bank 0.2 mile upstream from diversion dam, 1.7 miles upstream from mouth, 2.1 miles south of Lake Thomas A. Edison, and 2.4 miles northeast of Mono Hot Springs.

Drainage area.--53.5 sq mi.

Records available.--October 1921 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermilion Valley."

Gage.--Water-stage recorder. Datum of gage is 7366.94 ft above mean sea level (levels by Southern California Edison Co.).

Average discharge.--41 years, 86.7 cfs (62,800 acre-ft per year).

Extremes.--Maximum discharge during year, 788 cfs June 21 (gage height, 5.78 ft); minimum daily, 4.9 cfs Nov. 18.

1921-62: Maximum discharge, 1,680 cfs July 26, 1956 (gage height, 7.12 ft); minimum recorded, 1.2 cfs Sept. 29 to Oct. 5, 1924.

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

Cooperation.--Water-stage-recorder graph and 15 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

3.0	4.0	4.0	100
3.1	7.0	4.5	205
3.2	11	5.0	385
3.4	25	6.0	920
3.8	71		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	* 12	17	12	16	19	57	* 138	357	365	125	25
2	13	12	17	12	17	19	57	182	417	385	* 116	24
3	12	12	20	* 11	18	19	* 71	260	417	394	105	23
4	12	11	23	11	18	20	85	337	325	373	94	22
5	11	11	21	11	18	20	97	377	337	399	87	22
6	10	9.8	* 22	11	18	21	105	399	* 399	403	84	21
7	9.4	9.4	22	13	* 18	26	120	373	445	381	77	19
8	8.6	9.0	19	14	20	* 29	136	353	495	373	72	19
9	8.2	9.0	17	14	34	25	149	295	555	345	70	18
10	8.6	9.0	16	13	29	24	147	242	560	313	66	18
11	* 8.6	9.0	14	11	31	23	145	187	525	277	63	17
12	8.2	8.2	14	10	34	22	169	174	505	* 260	61	17
13	7.8	8.2	14	11	65	22	189	140	465	197	59	* 16
14	7.4	8.6	13	10	68	21	202	130	399	184	59	16
15	7.4	8.2	13	11	61	21	187	127	325	200	62	15
16	7.4	6.7	12	10	48	20	172	125	274	229	63	14
17	7.4	5.8	12	10	46	19	200	120	298	217	61	13
18	7.0	4.9	12	9.8	46	19	220	121	403	211	58	12
19	7.0	5.5	12	10	43	19	208	116	495	192	53	* 11
20	7.4	6.7	12	11	33	19	160	111	560	189	50	11
21	11	6.4	12	14	29	19	151	99	590	205	46	11
22	11	9.0	12	17	27	18	184	118	* 615	232	45	11
23	11	13	13	19	26	20	226	140	595	205	43	11
24	12	17	14	16	24	22	232	120	545	179	41	11
25	13	16	14	15	22	30	192	120	525	165	38	11
26	12	15	13	14	20	37	153	105	520	177	37	32
27	9.8	17	13	14	19	42	157	100	* 490	172	36	34
28	11	16	12	14	18	44	134	120	445	167	34	26
29	6.1	16	12	14	-	41	118	151	421	157	31	23
30	7.4	16	12	15	-----	41	114	214	394	142	29	22
31	13	-----	12	16	-----	50	-----	295	-----	130	27	-----
Total	300.7	317.4	461	393.8	866	791	4,537	5,889	13,696	7,818	1,892	545
Mean	9.70	10.6	14.9	12.7	30.9	25.5	151	190	457	252	61.0	18.2
Max	15	17	23	19	68	50	232	399	615	403	125	34
Min	6.1	4.9	12	9.8	16	18	57	99	274	130	27	11
Ac-ft	596	630	914	781	1,720	1,570	9,000	11,680	27,170	15,510	3,750	1,080

Calendar year 1961: Max 313 Min 4.9 Mean 45.8 Ac-ft 33,140

Water year 1961-62: Max 615 Min 4.9 Mean 103 Ac-ft 74,400

Peak discharge (base, 440 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-5	2100	5.26	510	6-21	2130	5.78	788
6-9	2100	5.64	704				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Oct. 29, 30, Nov. 17 to Apr. 1.

SAN JOAQUIN RIVER BASIN

611

11-2310. Lake Thomas A. Edison near Big Creek, Calif.

Location.--Lat 37°22'10", long 118°59'15", in sec.26, T.6 S., R.27 E., (unsurveyed), in outlet works of dam on Mono Creek at lower end of Vermillion Valley, 18.1 miles northeast of town of Big Creek.

Drainage area.--88.9 sq mi.

Records available.--October 1954 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

Extremes.--Maximum contents during year, 118,600 acre-ft Aug. 6 (elevation, 7,639.03 ft); minimum, 10,700 acre-ft Apr. 5 (elevation, 7,561.55 ft).

1954-62: Maximum contents, 125,900 acre-ft Aug. 18, 1958 (elevation, 7,642.95 ft); minimum since appreciable storage was attained, that of Apr. 5, 1962.

Note.--Prior to 1960, maximum and minimum daily contents were published.

Remarks.--Lake is formed by earth-fill dam; dam completed and storage began on Oct. 12, 1954. Usable capacity, 125,000 acre-ft between elevations 7,508.9 (invert of outlet works) and 7,642.5 ft (top of gates in service spillway) above mean sea level. Water is released for diversion to Ward tunnel via Mono Creek diversion works. Figures given herein represent usable contents.

Cooperation.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-ft)

7,561	10,300	7,590	40,500
7,565	13,600	7,600	53,800
7,570	18,100	7,620	85,000
7,580	28,500	7,640	120,400

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49.4	47.1	30.7	21.8	21.4	23.1	12.0	27.3	51.2	96.3	117.5	111.6
2	49.4	46.4	30.5	21.6	21.4	22.7	11.6	28.0	52.6	97.6	117.8	111.1
3	49.4	45.7	30.1	21.4	21.5	22.2	11.3	28.9	54.1	98.7	118.1	110.7
4	49.4	45.0	29.8	21.2	21.5	21.5	10.9	30.1	55.3	99.8	118.3	110.5
5	49.4	44.3	29.5	21.1	21.6	20.7	10.8	31.3	56.4	101.0	118.5	110.3
6	49.4	43.6	29.1	21.1	21.6	20.1	11.1	32.7	57.8	102.1	118.6	110.1
7	49.4	42.9	28.8	21.0	21.8	19.4	11.5	34.1	59.3	103.2	118.4	110.0
8	49.4	42.2	28.4	20.9	22.0	18.7	11.9	35.4	60.8	104.2	118.3	109.8
9	49.3	41.5	28.1	20.8	22.3	18.1	12.4	36.6	62.6	105.2	118.2	109.6
10	49.1	40.8	27.7	20.7	22.5	17.5	12.9	37.6	64.4	106.1	118.0	109.5
11	48.9	40.0	27.4	20.6	22.7	17.0	13.4	38.5	66.2	106.9	117.9	109.3
12	48.8	39.2	27.0	20.5	22.8	16.6	14.0	39.4	67.9	107.5	117.7	109.1
13	48.6	38.4	26.7	20.6	23.1	16.3	14.6	40.1	69.5	108.1	117.5	108.9
14	48.5	37.7	26.4	20.6	23.2	16.0	15.3	40.7	71.0	108.7	117.3	108.8
15	48.3	36.9	26.0	20.7	23.4	15.7	16.0	41.4	72.2	109.2	117.1	108.6
16	48.1	36.2	25.7	20.7	23.6	15.5	16.7	42.0	73.2	109.9	116.9	108.4
17	48.0	35.5	25.3	20.7	23.7	15.2	17.4	42.5	74.3	110.5	116.7	108.3
18	47.7	35.1	25.0	20.7	23.9	15.0	18.2	43.0	75.6	111.0	116.4	108.1
19	47.4	34.7	24.7	20.9	24.0	14.7	19.0	43.5	77.1	111.6	116.2	107.9
20	47.4	34.5	24.3	21.0	24.1	14.4	19.7	44.0	78.8	112.1	115.9	107.7
21	47.4	34.1	24.0	21.0	24.2	14.2	20.4	44.4	80.7	112.7	115.7	107.6
22	47.4	33.7	23.7	21.0	24.2	14.0	21.1	44.9	82.6	113.3	115.4	107.4
23	47.4	33.4	23.5	21.1	24.3	13.7	21.9	45.4	84.5	113.9	115.1	107.3
24	47.4	33.0	23.3	21.1	24.4	13.4	22.7	45.9	86.3	114.3	114.7	107.1
25	47.4	32.7	23.1	21.2	24.5	13.2	23.5	46.4	88.1	114.8	114.4	107.0
26	47.4	32.4	22.9	21.2	24.5	12.9	24.3	46.9	89.7	115.2	114.0	107.0
27	47.4	32.0	22.7	21.2	24.3	12.8	25.0	47.5	91.2	115.7	113.6	106.9
28	47.5	31.6	22.5	21.3	23.7	12.9	25.6	47.9	92.6	116.1	113.2	106.8
29	47.4	31.3	22.3	21.3	-	13.0	26.2	48.5	93.9	116.5	112.8	106.6
30	47.4	31.0	22.1	21.3	-----	12.8	26.7	49.2	95.1	116.9	112.4	106.5
31	47.4	-----	22.0	21.4	-----	12.4	-----	50.1	-----	117.2	111.9	-----
(†)	7.595.35	7.582.17	7.573.87	7.573.28	7.575.54	7.563.60	7.578.37	7.597.34	7.625.87	7.638.24	7.635.35	7.632.34
(‡)	-2.000	-16.400	-9.000	-600	+2.300	-11.300	+14.300	+23.400	+45.000	+22.100	-5.300	-5.400

Calendar year 1961..... † -1.000

Water year 1961-62..... ‡ +57.100

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2315. Mono Creek below Lake Thomas A. Edison, Calif.

Location.--Lat 37°21'40", long 118°59'25", in SW $\frac{1}{4}$ sec. 35, T.6 S., R.27 E. (unsurveyed), on left bank 0.6 mile upstream from diversion dam, 1 mile downstream from Lake Thomas A. Edison, and 1.9 miles northeast of Mono Hot Springs.

Drainage area.--92.0 sq mi.

Records available.--October 1921 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermilion Valley."

Gage.--Water-stage recorder. Altitude of gage is 7,400 ft (from topographic map).

Average discharge.--41 years, 147 cfs (106,400 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 505 cfs Feb. 27 (gage height, 6.60 ft); minimum daily, 9.4 cfs June 7.
1921-62: Maximum discharge, 1,760 cfs June 2, 1938 (gage height, 8.62 ft); minimum daily, 0.3 cfs Nov. 11, 12, 1954.

Remarks.--Records good. Flow regulated by Lake Thomas A. Edison beginning Oct. 12, 1954 (see preceding page). No diversion.

Cooperation.--Water-stage-recorder graph and 12 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

4.8	5.5	5.5	96
4.9	10	5.9	208
5.0	18	6.2	325
5.2	40	6.5	470

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	156	201	125	13	321	269	*21	10	13	14	234
2	11	*361	201	125	13	247	269	21	10	13	*14	234
3	11	361	201	125	13	306	*269	19	9.9	13	15	234
4	11	361	201	*125	13	380	265	20	9.9	14	15	171
5	11	357	*198	77	13	405	179	18	9.9	14	15	106
6	11	357	198	49	*14	415	9.9	17	*9.9	14	103	106
7	11	357	198	76	14	415	11	17	9.4	14	149	106
8	11	357	198	76	14	415	13	16	16	14	143	106
9	55	352	198	76	16	352	13	14	13	*14	143	108
10	*87	357	198	76	15	305	13	13	13	15	152	108
11	87	375	198	36	14	301	14	13	13	15	155	106
12	87	375	198	14	14	238	16	13	13	15	155	103
13	87	375	198	14	14	*169	16	13	13	15	175	*101
14	87	380	198	14	14	169	18	12	13	15	149	101
15	87	380	198	15	14	169	18	12	13	14	185	101
16	96	380	198	15	14	169	20	12	13	14	158	101
17	106	325	198	15	14	169	21	12	13	14	163	101
18	149	205	195	15	14	169	22	12	13	15	185	101
19	119	198	195	15	14	166	22	12	13	15	182	101
20	16	198	195	15	14	166	20	11	13	15	178	101
21	16	198	195	15	14	166	21	11	13	15	178	101
22	16	198	161	15	14	166	22	10	13	15	178	101
23	16	198	130	15	14	166	23	10	13	15	188	101
24	16	198	125	15	14	161	23	10	13	15	223	101
25	16	198	125	14	14	161	21	10	13	15	223	101
26	16	198	125	14	14	161	21	10	13	15	223	101
27	16	198	125	14	192	76	22	11	13	14	223	101
28	16	198	125	14	343	12	22	11	13	14	227	101
29	16	198	125	14	-----	11	21	11	13	14	230	101
30	16	201	125	14	-----	181	21	11	13	14	230	101
31	16	-----	125	13	-----	273	-----	10	-----	14	230	-----
TOTAL	1,327	8,550	5,449	1,255	897	6,980	1,714.9	413	371.0	445	4,801	3,540
MEAN	42.8	285	176	40.5	32.0	225	57.2	13.3	12.4	14.4	195	118
MAX	149	380	201	125	343	415	269	21	16	15	230	234
MIN	11	156	125	13	13	11	9.9	10	9.4	13	14	101
AC-FT	2,630	16,960	10,810	2,490	1,780	13,840	3,400	819	736	883	9,520	7,020

Calendar year 1961: Max 380 Min 9.9 Mean 69.9 Ac-ft 50,650
Water year 1961-62: Max 415 Min 9.4 Mean 97.9 Ac-ft 70,890

* Discharge measurement made on this day.

11-2325. Jackass Creek near Jackass Meadow, Calif.

Location.--Lat 37°29'20", long 119°18'10", in SW $\frac{1}{4}$ sec.13, T.5 S., R.24 E., on left bank 1.6 miles east of Jackass Meadow, 10 miles upstream from West Fork, and 18 miles northeast of town of Bass Lake.

Drainage area.--12.8 sq mi.

Records available.--October 1921 to September 1928, November 1951 to September 1962 (no winter records). Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 6,900 ft (from topographic map). Prior to May 5, 1922, staff gage at same site and datum.

Average discharge.--7 years (1921-28), 20.7 cfs (14,990 acre-ft per year).

Extremes.--Maximum discharge recorded during year, 296 cfs May 5 (gage height, 8.74 ft); no flow for many days.

1921-28, 1951-62: Maximum discharge recorded, 786 cfs Dec. 23, 1955 (gage height, 11.37 ft); no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are fair. No storage or diversion.

Cooperation.--Water-stage-recorder graph and three discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 30

Apr. 18 to Sept. 30

4.95	0	4.9	0	5.8	17
5.0	.1	5.0	.1	6.0	24
5.1	.7	5.1	.9	6.4	43
5.2	1.8	5.2	2.3	6.8	69
5.3	3.2	5.3	3.9	7.4	121
		5.4	5.9	8.3	232
		5.6	11		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0					-	125	144	22	0.9	0.1
2	*0	0					-	155	160	20	.8	.1
3	0	0					-	185	136	18	.7	.1
4	0	0					-	212	*109	17	.6	.1
5	0	0					-	220	106	16	.4	.1
6	0	0					-	209	115	14	.3	.1
7	0	*0					-	203	119	13	.2	.1
8	0	0					-	197	119	12	*.2	.1
9	0	0					-	181	121	10	.4	.1
10	0	0					-	149	112	*9.2	.5	.1
11	0	0					-	134	102	8.2	.3	.1
12	0	0					-	115	95	11	.1	0
13	0	0					-	87	86	15	.1	*0
14	0	0					-	74	102	10	.1	0
15	0	0					-	63	80	8.2	.1	0
16	0	0					-	66	68	7.0	.1	0
17	0	0					-	76	68	6.7	.1	0
18	0	0					-	171	78	72	.5	.1
19	0	0					-	145	80	71	.5	.1
20	0	0					-	106	75	68	.4	.1
21	.1	0					-	114	77	63	.3	.1
22	0						-	133	98	58	.3	.1
23	0						-	154	107	51	.3	.1
24	0						-	155	86	44	.2	.1
25	0						-	145	76	40	.2	.1
26	*0	a2					-	139	71	37	.2	.1
27	0						-	131	70	32	.1	.2
28	0						-	141	75	28	.1	.1
29	0						-	112	97	25	.1	.1
30	0						-	102	119	24	.1	.1
31	0						-	134	134	1.1	.1	.1
Total	0.1	18	-	-	-	-	-	3,694	2,455	257.5	7.3	2.4
Mean	0.003	0.6	-	-	-	-	-	119	81.8	8.31	0.24	0.08
Max	0.1	-	-	-	-	-	-	220	160	22	0.9	0.8
Min	0	0	-	-	-	-	-	63	24	1.1	0.1	0
Ac-ft	0.2	36	-	-	-	-	-	7,330	4,870	511	14	4.8
Calendar year 1961: Max			Min		Mean		Ac-ft					
Water year 1961-62: Max			Min		Mean		Ac-ft					

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

a No gage-height record.

SAN JOAQUIN RIVER BASIN

11-2345. Chiquito Creek near Arnold Meadow, Calif.

Location.--Lat 37°24'45", long 119°22'50", in NE¹/₄ sec.18, T.6 S., R.24 E., on right bank 0.5 mile downstream from Beasore Creek, 0.6 mile southwest of Arnold Meadow, and 12 miles northeast of town of Bass Lake.

Drainage area.--59.6 sq mi.

Records available.--September 1921 to September 1928, November 1951 to September 1962 (no winter records 1952-54, 1956). Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 4,800 ft (from topographic map). Prior to Apr. 30, 1922, staff gage at same site and datum.

Average discharge.--14 years (1921-28, 1954-55, 1956-62), 79.3 cfs (57,410 acre-ft per year).

Extremes.--Maximum discharge during year, 818 cfs May 5 (gage height, 7.74 ft); minimum, 2.1 cfs Oct. 7.

1921-28, 1951-62: Maximum discharge, 8,630 cfs Dec. 23, 1955 (gage height, 16.38 ft); minimum, 1.2 cfs Sept. 7, 9, 1961.

Remarks.--Records good. No storage or diversion.

Cooperation.--Water-stage-recorder graph and 12 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Jan. 14, Apr. 5)

4.5	1.0	5.2	50
4.6	3.4	5.5	100
4.7	6.8	6.0	206
4.8	11	7.0	515
4.9	19	8.0	940
5.0	27		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.1	4.6	13	15	28	33	147	404	377	115	22	7.2
2	*2.8	4.6	16	14	30	33	156	466	407	111	21	6.8
3	2.6	5.0	13	15	31	33	175	547	380	104	20	6.8
4	2.3	4.6	12	15	31	33	201	627	323	102	19	6.8
5	2.3	4.6	13	14	33	34	240	655	317	95	18	6.8
6	2.3	4.3	13	16	32	44	281	635	326	86	16	*6.8
7	2.3	*4.0	13	19	41	40	323	623	*332	77	*16	6.4
8	2.3	3.4	14	21	53	37	356	607	332	72	16	6.4
9	2.8	3.4	11	21	209	37	386	559	344	*64	17	6.4
10	3.1	3.4	9.8	21	182	36	*386	*491	335	61	16	6.0
11	3.4	3.4	8.9	*19	143	35	380	442	314	58	15	6.0
12	3.4	3.7	*9.4	18	104	35	395	404	296	72	13	6.0
13	3.1	3.4	9.4	17	98	36	435	335	272	68	13	6.0
14	3.1	3.7	8.9	14	98	37	459	302	302	58	12	6.0
15	2.8	3.7	8.9	16	104	37	456	269	254	52	12	6.0
16	2.8	4.0	8.9	16	79	37	*438	284	227	49	11	6.0
17	2.8	4.0	8.4	16	65	37	456	281	232	46	11	5.6
18	2.8	4.3	8.4	15	59	38	477	290	249	42	11	5.6
19	2.8	4.3	9.4	14	55	42	449	284	254	42	10	5.3
20	2.8	6.4	10	17	50	44	356	272	243	40	10	5.3
21	5.0	6.4	11	23	46	42	371	263	232	36	9.4	5.3
22	8.4	7.6	11	24	45	44	431	290	219	35	9.4	5.3
23	5.3	8.0	13	24	44	40	*477	326	201	33	8.9	5.3
24	5.0	7.6	14	24	44	42	480	302	182	32	8.4	5.3
25	4.3	8.9	16	24	42	53	442	278	171	31	8.0	5.0
26	4.3	14	15	24	38	67	424	263	160	29	8.0	9.4
27	4.3	11	14	25	35	80	421	249	150	28	7.6	11
28	4.3	9.4	14	25	33	91	435	246	137	25	7.2	7.2
29	4.6	8.9	15	26	-----	100	380	281	129	25	7.2	6.8
30	4.6	10	16	26	-----	117	365	338	121	24	7.2	6.8
31	4.6	-----	15	28	-----	137	-----	368	-----	23	7.2	-----
TOTAL	110.4	174.6	372.4	606	1,852	1,551	11,178	11,981	7,818	1,735	387.5	191.6
MEAN	3.56	5.82	12.0	19.5	66.1	50.0	373	386	261	56.0	12.5	6.39
MAX	8.4	14	16	28	209	137	480	655	407	115	22	11
MIN	2.3	3.4	8.4	14	28	33	147	246	121	23	7.2	5.0
AC-FT	219	346	739	1,200	3,670	3,080	22,170	23,760	15,510	3,440	769	380

CALENDAR YEAR 1961: MAX 182 MIN 1.6 MEAN 30.4
WATER YEAR 1961-62: MAX 655 MIN 2.3 MEAN 104

AC-FT 22,010
AC-FT 75,280

Peak discharge (base, 500 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-14	2300	7.13	567	5-5	2000	7.74	818
4-23	2230	7.18	587				

11-2347. Mammoth Pool Reservoir near Big Creek, Calif.

Location.--Lat 37°19'45", long 119°19'15", in SW 1/4 sec. 11, T.7 S., R.24 E., in gatehouse of power tunnel intake near dam on San Joaquin River, 10 miles northwest of town of Big Creek.

Drainage area.--1,002 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

Extremes.--Maximum contents during year, 123,100 acre-ft May 6 (elevation, 3,332.82 ft); minimum, 4,720 acre-ft Mar. 31 (elevation, 3,140.68 ft).

1959-62: Maximum contents, that of May 6, 1962; minimum since appreciable storage was attained, that of Mar. 31, 1962.

Remarks.--Reservoir is formed by an earth-filled dam; storage began Oct. 8, 1959. Usable capacity, 119,900 acre-ft between elevations 3,100.00 (invert of power tunnel) and 3,330.00 ft (crest of spillway) above mean sea level. Additional storage of 2,780 acre-ft is not available for release. Water is diverted through tunnel for power development; water is returned to river 8.5 miles downstream from dam. Figures given herein represent usable contents.

Cooperation.--Records of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)

3,140	4,600	3,220	31,100
3,150	6,400	3,240	42,800
3,160	8,620	3,270	64,000
3,170	11,200	3,300	89,800
3,180	14,100	3,333	123,300
3,200	21,400		

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24.1	19.3	20.1	19.8	26.9	20.2	4.94	11.38	122.3	120.7	110.6	68.4
2	23.6	19.4	20.0	20.1	27.5	19.6	5.16	11.76	122.7	120.7	109.4	67.3
3	23.3	19.5	20.1	20.4	28.0	18.7	5.72	12.21	122.1	120.6	108.0	66.1
4	22.9	19.4	20.4	20.6	28.4	17.6	7.04	12.28	121.7	120.6	106.5	64.9
5	22.5	19.3	20.6	20.8	28.4	15.8	9.25	12.30	121.7	120.6	104.8	63.8
6	22.2	19.3	20.5	21.1	28.8	14.4	11.8	12.28	122.0	120.5	103.3	62.9
7	22.1	19.3	20.5	21.5	28.7	12.6	15.2	12.28	122.1	120.4	101.7	62.1
8	22.2	19.4	20.3	21.8	30.2	10.7	19.0	12.26	122.3	120.2	99.9	61.1
9	22.0	19.5	20.3	22.2	41.1	9.57	23.5	12.24	122.6	119.9	98.3	60.2
10	21.7	19.6	20.3	22.6	46.4	10.7	28.1	12.19	122.5	119.4	96.9	59.3
11	21.3	19.8	20.2	22.8	49.4	11.5	31.8	12.16	122.3	118.5	95.9	58.5
12	21.0	19.9	20.2	22.8	49.2	9.74	36.0	12.14	122.2	118.5	94.7	57.7
13	20.5	20.0	20.2	22.9	48.6	7.42	41.0	12.10	121.9	118.7	93.4	56.8
14	20.2	20.1	20.2	23.2	47.8	6.28	46.6	12.07	121.7	118.7	92.2	55.9
15	19.8	20.3	20.1	23.3	48.4	6.46	51.8	12.05	121.3	118.5	90.9	55.1
16	19.2	20.1	20.1	23.5	47.7	7.04	56.3	12.06	121.2	118.4	89.6	54.1
17	19.2	20.1	19.8	23.4	46.3	8.10	61.0	12.06	121.6	118.3	88.2	53.2
18	18.9	20.1	19.5	23.5	44.6	8.58	66.5	12.06	121.9	118.2	87.0	52.3
19	18.5	20.1	19.1	23.6	42.7	8.59	71.6	12.07	122.3	118.0	85.7	51.3
20	18.6	19.2	18.8	24.0	40.5	8.48	74.4	12.06	122.3	117.8	84.4	50.4
21	18.8	19.1	18.5	24.2	38.1	7.84	77.1	12.04	122.3	117.7	83.0	49.5
22	19.1	19.2	18.4	23.6	35.7	7.45	80.7	12.09	122.3	118.0	81.5	48.6
23	19.3	19.5	18.7	23.8	33.3	6.37	85.7	12.11	122.0	118.1	80.0	47.6
24	19.5	19.7	19.0	23.9	31.4	5.68	91.1	12.08	121.8	117.7	78.5	46.7
25	19.3	20.1	19.4	24.3	29.3	5.61	95.7	12.07	121.7	117.0	77.0	45.7
26	19.0	20.5	19.5	24.7	26.6	5.91	99.4	12.06	121.5	116.3	75.5	45.0
27	19.0	20.7	19.5	25.1	23.9	4.95	103.3	12.04	121.3	115.6	74.1	44.3
28	19.0	20.8	19.5	25.6	21.2	4.98	107.3	12.04	121.1	115.0	73.1	43.3
29	19.1	20.7	19.4	26.1	-	4.99	109.6	12.11	121.0	114.1	71.8	42.2
30	19.0	20.2	19.4	26.6	-----	4.80	111.3	12.17	120.8	113.0	70.7	41.3
31	19.1	-----	19.5	26.5	-----	4.74	-----	12.20	-----	111.8	69.5	-----
(+)	3194.50	3197.01	3195.47	3211.04	3199.48	3140.81	3321.91	3331.84	3330.82	3322.38	3276.87	3237.63
(#)	-4.900	+1.100	-7.00	+7.000	-5.300	-16.460	+106.560	+10.700	-1.200	-9.000	-42.300	-28.200

Calendar year 1961..... +5.500

Water year 1961-62..... +17.300

+ Elevation, in feet, at end of month.

Change in contents, in acre-feet.

11-2347.6. San Joaquin River above Shakeflat Creek, near Big Creek, Calif.

Location.--Lat 37°19'05", long 119°19'40", in SW $\frac{1}{4}$ sec. 14, T.7 S., R.24 E., on right bank 1,500 ft upstream from Shakeflat Creek, 4,900 ft downstream from Mammoth Pool dam, and 10 miles northwest of town of Big Creek.

Drainage area.--1,003 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,865.50 ft above mean sea level (levels by Southern California Edison Co.).

Extremes.--1959-60: Maximum discharge during year, 1,060 cfs (gage height, 6.88 ft); minimum daily, 0.3 cfs Dec. 5.
1960-61: Maximum discharge during year, 1,160 cfs Dec. 12 (gage height, 7.07 ft); minimum daily, 9.4 cfs Nov. 2.
1961-62: Maximum discharge during year, 5,780 cfs May 6 (gage height, 11.90 ft); minimum daily, 9.7 cfs Nov. 22.

Remarks.--Records good above 50 cfs and fair below. Flow regulated by Mammoth Pool Reservoir (see preceding page). Flow partly regulated by Florence Lake (see p. 608), Lake Thomas A. Edison (see p. 611) and diversions through Ward tunnel (see p. 607) and through Mono-Bear conduit to Ward tunnel.

Cooperation.--Water-stage-recorder graph and 166 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.6	0.2	2.1	5.3	3.5	100	7.0	1,120
1.7	.6	2.2	7.8	4.0	170	8.0	1,670
1.8	1.3	2.4	15	4.5	265	10.0	3,370
1.9	2.2	2.7	31	5.0	385	12.0	5,920
2.0	3.5	3.0	52	6.0	700		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1959 TO SEPTEMBER 1960

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	288	1.3	0.9	3.9	24	11	10	14	*12	*13	*13	*13
2	300	1.3	.4	3.9	*25	11	9.7	14	12	12	13	12
3	283	1.3	.4	3.9	*24	11	9.7	*14	12	11	*13	12
4	263	1.0	.8	3.9	23	11	9.4	14	12	9.7	*13	12
5	249	1.0	.3	3.9	18	11	9.7	14	12	11	*13	12
6	231	1.0	.5	*5.3	12	11	10	14	12	13	13	12
7	219	1.0	.7	*11	12	12	10	14	12	13	13	12
8	65	.7	3.2	12	23	*12	10	14	14	13	13	12
9	.7	.7	3.2	12	25	11	10	14	*16	13	13	12
10	*1.3	.9	3.2	14	19	11	11	15	16	13	13	12
11	*1.3	.9	*3.7	15	14	11	11	15	13	*13	13	12
12	.7	*.9	3.7	*14	14	*11	11	15	12	13	13	12
13	*.4	*.6	3.7	13	13	13	11	15	*12	13	*13	12
14	*.3	.6	3.7	13	13	11	11	15	12	*13	13	*12
15	*.4	.6	*3.7	13	13	11	*11	16	12	*14	13	12
16	*.8	.6	3.7	13	*13	11	11	*13	*12	18	13	*12
17	1.1	.6	*3.7	13	12	14	13	9.1	12	18	13	12
18	*1.4	.6	3.7	*13	13	10	*16	*9.7	12	17	13	12
19	*.6	.6	*3.7	*13	12	10	16	*11	12	18	13	12
20	.6	.6	3.7	*13	12	9.7	14	*12	12	16	13	12
21	.6	.6	3.7	*14	12	9.4	*40	13	15	*15	*13	13
22	.6	.6	3.9	16	12	9.4	14	13	13	*14	13	13
23	.6	.7	3.9	14	*12	*9.1	14	13	12	14	*13	13
24	.6	.7	4.6	15	12	9.1	14	*13	*12	14	13	13
25	.6	*.5	4.8	20	12	9.1	*14	12	11	14	13	13
26	.6	.5	3.9	17	12	9.4	*15	12	11	14	*15	13
27	.6	.6	3.9	*15	12	15	22	*12	*14	14	13	13
28	*2.6	1.2	3.9	11	12	14	16	12	16	14	13	13
29	2.2	1.3	3.9	*8.1	12	10	15	12	12	*14	13	13
30	*2.0	1.2	3.9	8.4	-----	10	14	12	12	13	13	13
31	1.3	-----	3.9	8.1	-----	*10	-----	12	-----	13	13	-----
TOTAL	1,919.9	24.7	94.9	353.4	442	338.2	402.5	407.8	379	427.7	405	371
MEAN	61.9	0.82	3.06	11.4	15.2	10.9	13.4	13.2	12.6	13.8	13.1	12.4
MAX	300	1.3	4.8	20	25	15	40	16	16	18	15	13
MIN	0.3	0.5	0.3	3.9	12	9.1	9.4	9.1	11	9.7	13	12
AC-FT	3,810	49	188	701	877	671	798	809	752	848	803	736

CALENDAR YEAR 1960: MAX - MIN - MEAN - AC-FT -
WATER YEAR 1959-60: MAX 300 MIN 0.3 MEAN 15.2 AC-FT 11,040

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1 to Nov. 23, Dec. 16.

11-2347.6. San Joaquin River above Shakeflat Creek, near Big Creek, Calif.--Continued.

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	*13	11	25	14	14	*12	13	13	*12	10	*15	*14
2	14	*9.4	23	14	14	12	13	*13	12	10	15	14
3	14	10	17	*14	14	12	13	13	12	12	15	14
4	14	10	15	14	14	12	13	13	12	11	15	14
5	14	10	14	14	14	13	13	13	12	11	15	14
6	14	11	14	14	14	13	12	14	12	11	14	12
7	14	10	13	14	*14	12	12	13	12	11	14	14
8	14	9.7	13	14	14	12	12	13	12	11	14	14
9	14	10	*13	14	14	12	12	13	12	11	13	14
10	11	*11	12	14	13	12	*12	13	12	11	14	14
11	9.7	11	12	14	17	12	12	*13	12	11	14	14
12	*13	19	60	14	14	12	13	13	12	11	15	14
13	13	16	12	14	13	12	12	13	12	*11	15	14
14	13	14	*13	14	13	12	12	13	12	*11	15	14
15	13	12	13	14	*13	14	11	13	12	11	15	14
16	13	11	13	14	13	13	11	13	12	11	15	*15
17	12	11	13	14	12	11	13	*13	12	12	15	14
18	12	11	13	14	*11	*12	*14	13	12	*13	15	14
19	12	10	13	14	11	12	14	13	12	13	15	14
20	12	9.7	13	*14	11	12	14	13	12	14	15	14
21	12	9.7	13	14	11	12	14	13	12	14	15	14
22	12	9.7	14	14	11	12	*15	13	12	14	15	14
23	12	11	13	14	11	13	13	13	12	14	15	14
24	12	13	14	14	12	16	13	13	*12	14	14	14
25	*12	13	14	14	12	15	13	13	12	14	*14	14
26	12	14	14	20	12	13	13	12	11	14	14	14
27	12	14	14	14	12	13	13	*12	11	*14	14	14
28	12	13	*14	14	12	13	13	12	11	14	14	14
29	12	14	14	14	-----	13	13	12	11	15	14	14
30	12	14	*14	14	-----	13	13	12	10	15	14	14
31	12	-----	14	14	-----	13	-----	13	-----	15	14	-----
TOTAL	390.7	352.2	486	440	360	390	384	399	354	384	450	419
MEAN	12.6	11.7	15.7	14.2	12.9	12.6	12.8	12.9	11.8	12.4	14.5	14.0
MAX	14	19	60	20	17	16	15	14	12	15	15	15
MIN	9.7	9.4	12	14	11	11	11	12	10	10	13	12
AC-FT	775	699	964	873	714	774	762	791	702	762	893	831

CALENDAR YEAR 1960: MAX 60 MIN 3.9 MEAN 13.0 AC-FT 9,430
 WATER YEAR 1960-61: MAX 60 MIN 9.4 MEAN 13.2 AC-FT 9,540

* Discharge measurement made on this day.

11-2347.6. San Joaquin River above Shakeflat Creek, near Big Creek, Calif.--Continued.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	13	14	12	11	13	15	* 59	*2,820	692	* 27	28
2	14	* 12	18	* 12	11	15	15	59	3,590	* 587	32	28
3	14	12	11	12	11	13	15	689	3,850	624	30	27
4	14	12	10	12	11	13	15	* 3,830	2,330	521	* 29	27
5	14	11	* 10	12	11	13	15	4,620	2,060	554	29	* 27
6	14	11	10	12	11	25	* 23	4,800	2,360	* 581	29	27
7	14	11	15	12	* 15	18	32	* 4,260	2,860	388	28	28
8	14	* 11	13	12	26	16	33	4,100	3,080	265	28	28
9	14	11	12	12	71	17	* 33	3,700	3,510	117	28	28
10	14	11	12	11	57	16	33	* 3,000	3,820	* 60	28	28
11	14	11	11	12	54	15	34	2,110	* 3,510	60	28	28
12	* 14	11	11	13	32	15	34	1,940	3,170	60	28	28
13	13	11	13	12	30	15	41	1,160	* 2,960	60	28	28
14	14	11	15	11	28	14	54	748	2,560	39	28	28
15	14	11	15	11	44	* 14	55	* 425	1,600	29	28	28
16	14	11	13	11	35	14	56	378	1,250	27	28	27
17	14	11	12	11	25	14	78	373	1,360	30	28	27
18	14	11	12	11	23	14	86	* 455	2,180	* 29	28	27
19	14	11	12	12	22	14	87	419	2,820	29	27	27
20	14	13	11	25	20	15	88	422	3,190	29	27	27
21	14	11	* 11	14	17	14	88	* 233	* 3,340	29	27	27
22	14	9.7	11	12	16	18	89	382	3,270	29	27	27
23	14	15	12	11	15	15	89	1,040	3,100	* 29	27	27
24	14	* 15	12	11	15	14	* 89	* 836	2,610	29	27	27
25	14	16	12	11	15	14	72	* 599	* 2,130	29	27	28
26	14	13	12	11	14	14	45	482	1,950	29	27	30
27	14	12	12	11	14	14	* 25	279	1,660	27	27	29
28	14	12	12	11	13	14	33	166	* 1,350	26	* 27	29
29	14	13	12	11	-	15	45	* 513	* 1,100	26	27	28
30	14	13	12	11	-----	15	59	1,430	944	26	27	28
31	14	-----	11	11	-----	15	-----	* 2,270	-----	26	28	-----
Total	433	356.7	379	373	667	465	1,476	45,777	76,334	5,086	864	831
Mean	14.0	11.9	12.2	12.0	23.8	15.0	49.2	1,477	2,544	164	27.9	27.7
Max	14	16	18	25	71	25	89	4,800	3,850	692	32	30
Min	13	9.7	10	11	11	13	15	59	944	26	27	27
Ac-ft	859	708	752	740	1,320	922	2,930	90,800	151,400	10,090	1,710	1,650

Calendar year 1961: Max 20 Min 9.7 Mean 13.0 Ac-ft 9,420
 Water year 1961-62: Max 4,800 Min 9.7 Mean 364 Ac-ft 263,900

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 30 to Feb. 7.

11-2350. San Joaquin River above Big Creek, Calif.

Location.--Lat 37°14'15", long 119°19'50", in NE¼ sec.15, T.8 S., R.24 E., on left bank 0.8 mile upstream from Ross Creek and 2.3 miles upstream from Big Creek.

Drainage area.--1,050 sq mi.

Records available.--September 1912 to September 1915, March 1922 to September 1962. Published as "near Shaver" 1912-15.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 2,400 ft (from topographic map). Prior to 1922, at site 2.2 miles downstream at different datum.

Average discharge.--34 years (1925-59, period since diversion began through Ward tunnel and prior to regulation by Mammoth Pool Reservoir), 1,330 cfs (962,900 acre-ft per year).

Extremes.--Maximum discharge during year, 5,500 cfs May 6 (gage height, 13.22 ft); minimum daily, 13 cfs Nov. 9-11, 15-17.

1912-15, 1922-62: Maximum discharge, 63,000 cfs Dec. 23, 1955 (gage height, 24.75 ft), from rating curve extended above 14,000 cfs on basis of computation of peak flow over dam; minimum daily, 3.9 cfs Nov. 28-30, 1959.

Remarks.--Records good except those for periods of no gage-height record and those below 200 cfs, which are fair. Flow partly regulated by Florence Lake (see p. 608) and diversions through Ward tunnel (see p. 607) beginning in 1925, Lake Thomas A. Edison beginning in 1954 (see p. 611), and Mammoth Pool Reservoir beginning in 1960 (see p. 615).

Cooperation.--Water-stage-recorder graph and 14 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 12-21)

4.3	12	6.0	134	10.0	1,800
4.4	15	6.5	213	11.0	2,650
4.6	23	7.0	331	12.0	3,760
5.0	45	8.0	675	13.0	5,140
5.5	84	9.0	1,130		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	16	24	15	22	31	77	109	*2,800	751	33	31
2	17	15	82	16	21	36	75	115	3,530	643	39	31
3	17	14	38	15	21	33	76	*484	3,860	667	*42	31
4	17	14	24	15	20	33	*85	3,760	2,350	552	35	31
5	17	14	21	15	20	39	105	4,530	2,090	567	35	31
6	17	*14	19	15	*20	65	116	4,760	2,350	623	35	31
7	17	14	18	17	62	61	141	4,320	2,840	432	35	31
8	17	14	21	*16	189	59	150	4,240	3,050	315	34	31
9	17	13	17	16	985	58	150	3,870	3,460	*164	35	31
10	18	13	16	15	823	58	141	*3,240	3,770	79	34	31
11	18	13	*16	15	731	57	129	2,180	3,470	74	34	31
12	18	14	16	16	221	56	127	2,040	3,140	75	33	31
13	18	14	16	17	168	56	140	1,290	2,940	75	33	31
14	17	14	17	15	182	*56	155	845	2,550	70	33	*31
15	18	13	20	15	396	56	150	503	1,700	41	33	31
16	18	13	20	15	261	55	140	423	1,330	38	33	31
17	*18	13	17	15	153	57	146	*429	1,410	40	33	31
18	18	14	16	15	106	56	171	489	2,170	38	32	30
19	18	14	17	19	97	58	166	457	2,770	38	32	30
20	18	31	17	67	79	65	143	468	3,170	38	32	30
21	23	24	16	29	65	60	142	299	3,280	38	32	30
22	19	16	16	24	62	70	145	366	3,210	38	32	30
23	19	16	16	22	45	76	150	1,070	3,060	38	32	30
24	18	20	16	21	36	65	154	922	2,560	37	31	30
25	18	26	16	21	34	68	142	667	2,130	37	31	30
26	17	33	16	22	33	73	106	527	1,970	37	31	35
27	17	20	16	23	33	78	84	346	1,730	35	31	32
28	17	17	15	23	31	79	115	224	1,370	33	31	32
29	17	18	15	23	-	77	96	447	1,160	33	31	32
30	16	22	15	22	-----	83	103	1,450	868	33	31	32
31	16	-----	15	22	-----	77	-----	2,280	-----	33	31	-----
Total	546	506	624	616	4,916	1,851	3,820	47,150	76,088	5,712	1,029	930
Mean	17.6	16.9	20.1	19.9	176	59.7	127	1,521	2,536	184	33.2	31.0
Max	23	33	82	67	985	83	171	4,760	3,860	751	42	35
Min	16	13	15	15	20	31	75	109	868	33	31	30
Ac-ft	1,080	1,000	1,240	1,220	9,750	3,670	7,580	93,520	150,900	11,330	2,040	1,840

Calendar year 1961: Max 82 Min 13 Mean 19.5 Ac-ft 14,120
Water year 1961-62: Max 4,760 Min 13 Mean 39.4 Ac-ft 285,200

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 8 to Mar. 14, July 25 to Aug. 3.

11-2350. San Joaquin River above Big Creek, Calif.--Continued.

Records available.--Water temperatures: January 1961 to September 1962.

Extremes.--Maximum temperature recorded during year, 73°F Aug. 16; minimum recorded, 43°F Nov. 18, 19, Jan. 20, 23-25.

1961-62: Maximum temperature recorded, 82°F June 21, 23, July 10, 14, 17, 19, Aug. 7, 8, 1962; minimum recorded, 42°F Jan. 6-9, 1961.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	67	59	50	48	52	47	46	45	46	45											-	-	69	62
2	66	59	50	47	47	46	46	45	46	45											-	-	70	63
3	65	59	51	48	54	47	45	45	46	46											-	-	69	63
4	66	60	52	49	54	46	45	45	47	46											70	64	69	63
5	64	60	52	49	46	46	45	44	47	46											71	65	69	62
6	65	59	51	48	47	46	45	45	47	47											71	64	69	63
7	63	58	51	47	46	45	46	45	50	46											71	64	69	63
8	58	54	51	48	46	45	46	45	-	-											71	64	69	63
9	57	52	51	48	45	45	46	46	-	-											72	67	69	63
10	57	52	51	48	45	45	46	46	-	-											71	66	69	63
11	57	52	50	48	45	44	46	45	-	-											71	65	69	63
12	59	55	50	48	44	44	45	45	-	-											72	66	68	62
13	62	58	49	47	44	44	45	45	-	-											72	66	68	62
14	63	58	49	47	44	44	45	44	-	-											72	65	67	61
15	63	59	49	47	44	44	45	44	-	-											72	66	67	61
16	65	60	49	47	44	44	45	44	-	-											73	67	67	61
17	63	60	47	44	45	44	45	44	-	-											72	66	68	62
18	63	58	46	43	45	45	45	44	-	-											72	65	67	61
19	62	58	45	43	46	45	45	44	-	-											72	65	66	60
20	60	56	48	45	46	46	44	43	-	-											72	64	66	60
21	60	57	50	46	46	46	50	44	-	-											71	64	65	59
22	57	54	48	47	46	45	50	44	-	-											71	64	65	59
23	56	52	48	47	46	45	44	43	-	-											71	65	65	59
24	55	52	48	47	46	45	43	43	-	-											71	64	66	61
25	55	53	48	48	46	45	44	43	-	-											72	65	67	62
26	56	54	53	48	45	45	44	44	-	-											72	65	67	64
27	55	52	49	49	45	45	44	44	-	-											72	65	67	62
28	56	50	50	48	45	45	45	44	-	-											71	64	65	61
29	52	49	49	48	45	45	46	45	-	-											69	61	64	60
30	51	49	48	48	45	45	46	45	-----	-----											68	61	65	60
31	51	49	-----	-----	45	45	46	45	-----	-----											69	62	-----	-----
Avg	60	55	49	47	46	45	45	44	-	-											-	-	67	62

SAN JOAQUIN RIVER BASIN

621

11-2355. Ward tunnel at outlet, Calif.

Location.--Lat 37°15'15", long 119°09'35", in SW $\frac{1}{4}$ sec.5, T.8 S., R.26 E., at tunnel outlet at east end of Huntington Lake, 6 miles northeast of Big Creek.

Records available.--October 1927 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder until May 23, 1956, none thereafter. Datum of gage was 6,999.00 ft above mean sea level (levels by Southern California Edison Co.).

Average discharge.--35 years, 456 cfs (330,100 acre-ft per year).

Extremes.--1927-62: Maximum daily discharge, 2,080 cfs June 21, 1935; no flow, Sept. 18, 20, 29, Oct. 8, 1961.

Remarks.--Records good. Daily discharge computed as the sum of Ward tunnel at intake, Mono-Bear conduit, Camp Creek conduit, and corrected for change in contents of Portal Forebay. Tunnel diverts from Florence Lake to Huntington Lake, receives diversions from Bear and Mono Creeks and at times from several other small tributaries of South Fork San Joaquin River. See record for Ward tunnel at intake, page 607.

Cooperation.--Discharge of Camp Creek conduit and contents of Portal Forebay furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	224	259	158	79	453	557	691	1,280	1,450	707	622
2	132	407	274	170	81	556	839	1,310	1,320	706	620	
3	84	366	277	175	84	302	574	1,050	1,280	1,340	731	617
4	62	353	270	167	91	401	638	1,510	1,180	1,370	709	640
5	39	395	298	92	76	528	617	1,400	1,180	1,510	723	637
6	44	392	296	133	92	515	498	1,520	1,210	1,610	714	630
7	40	390	280	94	93	612	575	1,490	1,270	1,610	702	624
8	0	447	256	120	93	608	473	1,490	1,330	1,600	717	621
9	96	390	281	126	184	520	719	1,420	1,400	1,570	722	618
10	126	324	259	130	155	428	743	1,440	1,410	1,470	716	614
11	122	406	253	50	208	408	713	1,270	1,350	1,270	715	608
12	114	404	248	55	263	386	805	1,230	1,310	1,190	719	603
13	114	401	249	56	301	433	889	1,130	1,280	983	718	598
14	116	407	268	52	281	270	975	1,180	1,220	972	705	593
15	105	408	228	64	383	291	979	1,140	1,140	1,020	716	588
16	122	405	253	48	276	276	896	833	1,080	1,050	713	584
17	134	401	247	55	311	281	929	804	1,120	1,040	714	579
18	166	248	249	69	269	269	997	701	1,240	1,030	719	574
19	132	211	247	54	256	256	1,070	666	1,350	940	727	570
20	30	240	237	56	203	266	917	629	1,430	911	630	568
21	27	207	242	58	194	270	823	589	1,470	924	601	566
22	54	217	196	66	176	259	875	629	1,500	951	600	582
23	34	249	184	80	163	268	1,050	770	1,630	999	606	623
24	49	257	181	90	151	270	1,210	761	1,610	990	638	615
25	61	266	175	96	129	294	1,110	759	1,610	983	633	636
26	49	262	174	74	129	320	922	704	1,640	812	632	669
27	50	256	169	76	316	285	927	651	1,690	726	629	664
28	49	261	178	76	408	229	794	611	1,650	722	630	651
29	49	264	153	74	-	229	754	717	1,670	731	630	640
30	46	257	170	69	-----	310	654	930	1,650	729	626	630
31	40	-----	182	78	-----	523	-----	1,380	-----	743	622	-----
Total	2,342	9,715	7,233	2,761	5,445	10,841	24,239	30,934	41,490	34,566	21,070	18,384
Mean	75.5	324	233	89.1	194	350	808	998	1,383	1,115	680	613
Max	166	447	298	175	408	612	1,210	1,520	1,690	1,610	731	669
Min	0	207	153	48	76	81	473	589	1,080	722	600	566
Ac-ft	4,650	19,270	14,350	5,480	10,800	21,500	48,080	61,360	82,290	68,560	41,790	36,460

Calendar year 1961: Max 712 Min 0 Mean 275 Ac-ft 198,800
 Water year 1961-62: Max 1,690 Min 0 Mean 573 Ac-ft 414,600

SAN JOAQUIN RIVER BASIN

11-2360. Huntington Lake near Big Creek, Calif.

Location.--Lat 37°14', long 119°13', in SW 1/4 sec. 14, T.8 S., R.25 E., in gate tower of dam 1 on Big Creek, 2 miles northeast of town of Big Creek.

Drainage area.--79.0 sq mi.

Records available.--April 1913 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.). Prior to June 19, 1920, staff gage at same site and datum.

Extremes.--Maximum contents during year, 88,900 acre-ft Aug. 6 (elevation, 6,949.82 ft); minimum, 21,500 acre-ft Mar. 30 (elevation, 6,888.02 ft).

1913-62: Maximum contents, 90,500 acre-ft May 31, 1926 (elevation, 6,950.92 ft); minimum, 2,100 acre-ft Nov. 6, 1937 (elevation, 6,838.53 ft).

Note.--Prior to 1960, maximum and minimum daily contents were published.

Remarks.--Lake is formed by four dams; storage began Apr. 11, 1913. Dams were raised in 1914 and again in 1917. Usable capacity, 89,200 acre-ft between elevations 6,819.9 (invert of outlet tunnel No. 1) and 6,950 ft (spillway crest at dam 1) above mean sea level. Additional storage of 600 acre-ft is not available for release. Huntington-Shaver conduit has diverted water from Huntington Lake to Shaver Lake since Apr. 21, 1928 (see p. 626). Water is used for power development in Big Creek plants. Figures given herein represent usable contents.

Cooperation.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)

6,888	21,500	6,920	50,800
6,890	22,900	6,930	62,600
6,900	30,900	6,940	75,300
6,910	40,200	6,950	89,200

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57.7	44.8	54.0	44.5	39.8	40.9	21.9	29.8	37.6	83.5	87.3	88.1
2	57.3	45.2	54.3	44.3	39.5	39.8	22.1	30.1	39.3	84.0	87.5	88.0
3	56.9	45.6	54.4	44.3	39.4	39.1	22.4	31.1	40.8	84.5	87.7	88.0
4	56.4	45.8	54.1	44.3	39.5	38.6	22.9	33.0	42.0	85.0	87.9	88.0
5	55.8	46.4	53.1	44.4	39.6	38.5	23.4	34.7	43.6	85.8	88.1	88.0
6	55.3	46.8	52.0	44.6	39.7	38.4	23.6	36.7	45.3	86.3	87.7	88.0
7	55.0	47.2	50.9	44.8	39.9	38.4	24.6	38.8	47.3	86.6	86.9	87.9
8	54.8	47.9	49.7	45.1	40.2	38.3	24.9	40.7	49.6	87.0	86.1	88.0
9	54.5	48.4	48.7	45.4	41.0	39.2	25.2	42.3	51.7	87.2	85.9	88.0
10	54.2	48.7	47.6	45.7	41.5	37.9	25.4	43.4	53.6	87.2	86.1	88.0
11	54.0	49.3	46.8	45.8	42.1	37.5	25.6	44.1	55.3	87.2	86.4	87.9
12	53.8	49.9	46.5	45.9	42.7	37.1	25.9	44.5	56.7	87.4	86.6	87.8
13	53.4	50.4	46.3	46.1	43.4	36.7	26.5	44.4	57.8	87.5	86.8	87.7
14	52.9	51.0	46.1	46.2	44.0	35.6	27.2	44.0	58.8	87.4	87.0	87.6
15	52.4	51.4	45.9	46.0	44.9	33.9	27.6	43.6	59.4	87.3	87.2	87.5
16	51.3	51.7	45.7	45.6	45.5	32.5	27.7	42.5	59.9	87.2	87.4	87.4
17	49.8	52.1	45.6	45.0	46.1	32.1	28.1	41.3	60.4	87.0	87.6	87.3
18	48.8	52.3	45.5	44.5	46.6	31.6	28.5	40.0	61.1	86.9	87.8	87.2
19	48.5	52.5	45.3	44.4	46.7	30.4	29.0	38.7	61.9	86.7	88.0	87.0
20	47.9	52.6	45.1	44.0	46.0	28.9	29.0	37.4	62.8	86.4	88.0	86.8
21	47.9	52.6	45.0	43.8	45.3	27.5	28.9	35.9	63.6	86.2	88.0	86.7
22	47.9	52.5	44.6	43.2	44.6	26.3	29.0	35.2	65.2	86.0	88.0	86.5
23	47.7	52.9	44.7	42.6	43.9	25.2	29.6	35.2	67.6	86.0	87.9	86.5
24	47.3	53.1	45.0	42.3	43.2	24.2	30.6	35.1	70.0	85.9	88.0	86.5
25	46.7	53.3	45.2	41.7	42.3	23.5	31.2	35.0	72.4	85.8	88.0	86.5
26	46.2	53.6	45.0	41.3	41.9	23.0	31.3	34.6	74.8	85.9	88.0	86.6
27	45.7	53.7	44.7	41.1	41.5	23.2	31.4	34.1	77.2	86.1	88.0	86.6
28	45.4	53.8	44.4	41.1	41.3	22.4	31.2	33.6	79.8	86.4	88.1	86.6
29	45.4	53.9	44.1	40.8	-	21.9	30.7	33.5	81.5	86.6	88.1	86.7
30	45.0	53.9	44.1	40.6	-----	21.5	30.1	34.3	82.7	86.8	88.1	86.7
31	44.8	-----	44.2	40.1	-----	21.7	-----	36.0	-----	87.1	88.1	-----
(+)	6,914.43	6,922.73	6,913.93	6,909.91	6,911.10	6,888.30	6,899.15	6,905.65	6,945.44	6,948.52	6,949.23	6,948.25
(#)	-13.000	+9.100	-9.700	-4.100	+1.200	-19.600	+8.400	+5.900	+46.700	+4.400	+1.000	-1.400

Calendar year 1961..... + 1300

Water year 1961-62..... +28900

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

623

11-2370. Big Creek below Huntington Lake, Calif.

Location.--Lat 37°13'10", long 119°12'50", in NW¼ sec.23, T.8 S., R.25 E., on right bank 1,200 ft upstream from Grouse Creek and 1 mile downstream from Huntington Lake.

Drainage area.--80.0 sq mi.

Records available.--June 1925 to September 1962.

Gage.--Water-stage recorder with thermograph attachment, Parshall flume, and concrete control. Altitude of gage is 6,600 ft (from topographic map). Prior to Oct. 1, 1942, at datum 1.00 ft lower and from Oct. 1, 1942, to Sept. 30, 1948, at datum 1.00 ft higher.

Extremes.--Maximum discharge during year, 13 cfs Feb. 9 (gage height, 2.81 ft); minimum daily, 0.9 cfs for several days.

1925-62: Maximum discharge, 2,040 cfs June 23, 1925 (gage height, 11.3 ft, present datum), siphon spillways operating at Huntington Lake; minimum daily recorded, 0.1 cfs Jan. 18-21, Aug. 21 to Sept. 24, Oct. 7-18, Dec. 5-16, 1931.

Remarks.--Records good. Flow regulated by Huntington Lake beginning in 1913 (see preceding page). During most of year flow is diverted for power development at Big Creek powerhouse No. 1.

Cooperation.--Water-stage-recorder graph and one discharge measurement furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.3	0.4	2.2	3.6
1.5	1.0	2.4	4.6
2.0	2.8	2.7	7.8

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.1	2.0	**2.3	0.9	1.0	1.0	1.6	3.7	2.2	2.9	2.2	2.4
2	2.1	2.0	2.4	.9	**1.0	1.0	**1.8	3.8	2.2	2.8	2.3	2.4
3	2.2	2.0	2.4	** .9	1.0	1.0	1.9	4.0	2.2	2.8	** 2.3	2.4
4	2.1	2.1	2.5	1.0	1.0	1.0	2.1	4.2	2.2	2.8	2.3	2.4
5	2.1	2.2	2.4	1.0	1.0	1.1	2.4	4.2	2.2	2.8	2.3	2.4
6	2.2	**2.2	2.4	1.0	1.0	1.1	2.7	4.2	2.6	** 2.8	2.3	2.4
7	2.2	2.2	2.4	1.0	1.1	1.1	3.1	4.1	2.6	2.8	2.3	2.4
8	2.2	2.2	2.3	1.0	1.5	1.1	3.4	3.9	2.7	2.8	2.3	2.4
9	2.2	2.2	2.3	1.0	6.5	1.1	3.4	3.8	2.7	2.9	2.2	2.4
10	2.2	2.3	2.3	1.0	2.5	1.0	3.3	3.7	2.8	2.7	2.2	2.4
11	**2.2	2.3	2.2	1.0	1.9	1.0	3.3	*3.5	2.8	2.3	2.2	2.4
12	2.2	2.3	2.2	1.0	1.6	1.0	3.4	3.5	2.8	2.4	2.2	2.4
13	2.2	2.3	2.2	1.0	1.5	1.0	3.7	3.3	2.8	2.3	2.2	2.4
14	2.2	2.2	2.2	1.0	1.4	1.0	3.9	3.2	**3.1	2.3	2.3	2.4
15	2.2	2.2	2.2	1.0	1.5	1.0	3.8	3.1	3.0	2.3	2.3	2.4
16	2.2	2.2	2.0	.9	1.4	1.0	3.8	3.1	3.0	2.3	2.3	2.2
17	2.1	2.2	1.0	.9	1.3	1.0	3.9	3.1	2.9	2.2	2.3	**2.3
18	2.1	2.2	.9	.9	1.3	1.0	3.9	2.9	2.9	2.2	2.4	2.3
19	2.1	2.2	.9	.9	1.3	1.0	3.7	2.8	2.8	2.2	2.4	2.3
20	2.1	2.2	1.0	1.0	1.2	1.0	3.4	2.7	2.8	2.2	2.4	2.4
21	2.3	2.2	1.0	.9	1.2	1.0	3.4	2.6	2.8	2.2	2.4	2.4
22	2.2	2.0	1.0	.9	1.2	1.0	3.6	2.6	2.8	2.2	2.4	2.4
23	2.2	2.0	1.0	.9	1.1	.9	3.9	2.5	2.8	2.2	2.4	2.4
24	2.2	2.0	1.0	.9	1.2	.9	4.0	2.4	2.8	2.2	2.4	2.4
25	2.1	2.1	1.0	.9	1.1	1.0	3.8	2.4	2.8	2.2	2.4	2.5
26	2.2	2.1	1.0	.9	1.1	1.1	3.7	2.4	2.8	2.2	2.4	2.7
27	2.1	2.1	1.0	1.0	1.1	1.2	3.6	2.4	2.9	2.2	2.4	2.4
28	2.1	2.2	.9	.9	1.1	1.3	4.5	2.3	2.9	2.2	2.4	2.4
29	2.1	2.2	.9	1.0	-----	1.2	4.0	2.3	3.0	2.3	2.4	2.4
30	1.9	2.2	.9	1.0	-----	1.2	3.8	2.2	2.9	2.3	2.4	2.4
31	2.0	-----	.9	1.0	-----	1.5	-----	2.2	-----	2.3	2.4	-----
TOTAL	66.6	64.8	51.1	29.6	41.1	32.8	100.8	97.1	81.8	75.3	72.1	71.9
MEAN	2.15	2.16	1.65	0.95	1.47	1.06	3.36	3.13	2.73	2.43	2.33	2.40
MAX	2.3	2.3	2.5	1.0	6.5	1.5	4.5	4.2	3.1	2.9	2.4	2.7
MIN	1.9	2.0	0.9	0.9	1.0	0.9	1.6	2.2	2.2	2.2	2.2	2.2
AC-FT	132	129	101	59	82	65	200	193	162	149	143	143

CALENDAR YEAR 1961: MAX 2.6 MIN 0.6 MEAN 1.79 AC-FT 1,290
 WATER YEAR 1961-62: MAX 6.5 MIN 0.9 MEAN 2.15 AC-FT 1,560

* Discharge measurement made on this day.

** Discharge determined by Parshall flume on this day.

11-2370. Big Creek below Huntington Lake, Calif.--Continued.

Records available.--Water temperatures: July 1961 to September 1962.

Extremes.--Maximum temperature during year, 58°F Aug. 13-17; minimum, 33°F Jan. 20-28, Feb. 9-12, 27, Mar. 3, 6, 7.
 1961-62: Maximum temperature, 62°F Aug. 20-25, 1961; minimum, that of Jan. 20-28, Feb. 9-12, 27, Mar. 3, 6, 7, 1962.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	56	53	46	44	41	39	37	36	35	34	34	34	38	37	43	37	53	45	54	47	56	51	57	52
2	55	52	46	44	39	37	37	36	35	35	34	34	39	37	43	38	54	46	54	48	56	51	57	53
3	56	53	47	44	40	39	37	36	35	35	34	34	39	38	45	38	51	46	54	48	57	51	57	52
4	55	52	47	44	40	39	37	36	35	35	34	34	40	38	45	38	52	45	54	48	56	52	56	52
5	55	53	46	44	40	39	37	36	36	35	35	35	39	38	46	38	53	45	55	49	57	52	56	52
6	54	51	46	43	40	39	37	36	35	35	35	33	39	37	46	39	54	46	54	48	56	52	57	52
7	54	51	46	44	39	38	38	37	36	35	34	33	40	38	47	40	55	47	54	48	56	52	56	52
8	51	48	46	43	39	39	38	37	35	34	34	34	40	38	48	40	56	48	54	48	56	52	56	52
9	50	47	45	43	39	38	38	37	35	33	34	34	40	38	48	40	56	49	54	48	56	54	57	53
10	51	47	45	43	39	38	37	36	34	33	34	34	40	38	44	41	56	49	54	48	57	51	56	52
11	52	48	45	43	38	37	37	36	34	33	34	34	40	38	43	39	56	48	54	48	57	52	56	52
12	53	49	44	43	39	38	36	35	35	33	34	34	40	38	41	38	56	48	52	49	57	52	56	52
13	54	51	44	42	38	38	35	35	35	35	35	34	41	38	40	39	55	49	53	47	58	52	56	52
14	54	51	45	43	39	38	35	34	35	35	35	35	41	38	40	38	51	46	54	48	58	53	55	51
15	54	52	44	43	38	38	35	34	35	34	36	35	40	38	40	38	47	46	55	49	58	54	55	51
16	55	52	44	42	38	37	35	34	34	34	36	35	41	38	40	38	50	47	55	50	58	54	56	52
17	54	52	42	40	38	38	35	34	35	34	36	35	41	37	46	38	55	47	55	50	58	54	56	52
18	54	51	42	40	38	37	34	34	35	35	37	36	40	38	44	39	56	49	55	50	57	53	56	52
19	54	52	43	41	38	37	34	34	35	35	37	36	38	37	45	40	56	50	55	50	57	52	56	51
20	53	50	43	37	38	37	34	33	35	35	36	36	40	36	42	39	56	50	55	50	57	53	55	51
21	52	50	41	39	37	36	33	33	35	35	37	36	41	37	46	39	56	49	56	51	57	52	55	51
22	50	48	42	41	37	36	33	33	35	35	36	34	42	37	49	40	55	49	57	52	57	52	56	52
23	50	47	42	41	37	36	33	33	35	35	35	34	42	38	45	42	55	49	57	52	57	53	56	52
24	51	48	42	41	37	36	33	33	35	34	36	35	42	38	45	41	55	48	57	52	57	52	57	53
25	51	48	42	39	37	36	33	33	34	34	38	36	40	38	45	41	55	48	57	52	57	52	57	54
26	51	49	42	39	37	36	33	33	34	34	38	37	43	38	45	42	55	48	57	52	57	53	56	53
27	50	47	42	41	37	36	34	33	34	33	38	37	40	38	42	41	55	48	57	52	57	53	55	52
28	49	46	41	40	36	36	34	33	34	34	38	37	41	39	48	41	55	48	57	52	56	52	55	52
29	46	44	41	40	36	35	34	34	-	-	38	38	41	36	51	43	55	49	57	52	56	51	55	52
30	46	44	41	40	36	35	34	34	-	-	39	37	42	37	52	44	54	47	56	52	56	51	56	52
31	46	44	-	-	36	36	34	34	-	-	39	37	-	-	52	46	-	-	56	51	56	52	-	-
Avg	52	49	44	42	38	37	35	35	35	34	36	35	40	38	45	40	54	48	55	50	57	52	56	52

11-2375. Pitman Creek below Tamarack Creek, Calif.

Location.--Lat 37°11'55", long 119°12'45", in NW 1/4 sec. 35, T.8 S., R.25 E., on right bank 0.8 mile downstream from confluence of Tamarack Creek and South Fork Tamarack Creek, 1.4 miles upstream from mouth, and 1.9 miles east of town of Big Creek.

Drainage area.--22.7 sq mi.

Records available.--October 1927 to September 1962. Records for water year 1928 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 7,005 ft (from Southern California Edison Co. contour map). Prior to Sept. 29, 1940, at site 10 ft downstream on left bank at same datum.

Average discharge.--35 years, 37.4 cfs (27,080 acre-ft per year).

Extremes.--Maximum discharge during year, 574 cfs May 5 (gage height, 6.68 ft); minimum daily, 0.2 cfs at times.

1927-62: Maximum discharge, 3,670 cfs Dec. 23, 1955 (gage height, 11.20 ft), from rating curve extended above 350 cfs on basis of slope-area measurement at gage height 10.77 ft; no flow Oct. 15-18, 1931.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No diversion above station; practically all flow diverted below station to Huntington-Shaver conduit.

Cooperation.--Water-stage-recorder graph and nine discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.9	0.2	2.6	2.5	3.4	18	5.0	186
2.0	.4	2.8	3.4	3.7	39	5.5	274
2.2	1.0	3.0	4.5	4.0	65	6.0	390
2.4	1.7	3.2	9.0	4.5	119	7.0	700

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.3	0.4				15	227	281	a 46	3.7	0.5
2	.2	.3	.4				18	266	296	a 42	3.4	.5
3	.2	.3	.4		0.2		25	318	256	a 38	* 3.2	.5
4	.2	.3	.4				33	380	211	a 37	3.1	.5
5	.2	.3	.3				43	412	208	a 33	3.1	.4
6	.2	* .3	.3				50	408	* 214	a 29	2.9	.4
7	.2	.3	.3		3		56	390	225	a 25	2.6	.4
8	.2	.3			6		88	380	227	a 23	2.4	.4
9	.2	.3			10		101	* 360	225	a 20	2.4	.4
10	.2	.3			9		120	311	213	a 19	2.4	* .4
11	** .2	.3	.3		9		124	283	199	a 17	2.1	.4
12	.2	.3			9	1	136	236	186	a 20	1.8	.4
13	.2	.3			9		* 147	176	168	a 19	1.7	.4
14	.2	.3			8		176	148	153	a 15	1.5	.4
15	.2	.3		0.2	7		172	131	126	a 13	1.3	.4
16	.2	.3			6		* 175	127	127	a 12	1.2	.4
17	.2	.3			5		200	133	133	11	1.1	.4
18	.2	.3			4		213	150	136	10	1.1	.3
19	.2	.3			3		193	167	138	* 9.4	1.0	.3
20	.2	.3			2		152	160	132	8.6	.9	.3
21	.3	.3			1		168	* 147	123	7.6	.8	.3
22	.3	.4			1		213	186	111	6.9	.8	.3
23	.3	.4	.2		1		248	206	99	6.9	.8	.3
24	.3	.4			1	2	258	193	86	6.2	.7	.3
25	.3	.4			1	5	238	180	78	5.5	.7	.4
26	.3	.5			1	7	* 223	160	70	5.2	.7	3.2
27	.3	.5			1	8	211	132	* a 65	5.0	.7	.8
28	.4	.5			1	9	227	144	a 58	4.9	.7	.7
29	.3	.5			-	10	208	199	a 54	4.7	.7	.6
30	.3	.4			-	11	199	246	a 50	4.3	* .6	.5
31	.3				-	12	-	264	-	4.1	.6	-
Total	8.2	9.7	8.1	6.2	99.2	87	4,430	7,220	4,648	508.3	50.7	15.5
Mean	0.26	0.32	0.26	0.2	3.54	2.8	148	233	155	16.4	1.64	0.52
Max	0.9	0.5	-	-	-	-	258	412	296	46	3.7	3.2
Min	0.2	0.2	-	-	-	-	15	127	50	4.1	0.6	0.3
Ac-ft	16	19	16	12	197	173	8,790	14,320	9,220	1,010	101	31

Calendar year 1961: Max 103 Min - Mean 13.4 Ac-ft 9,720

Water year 1961-62: Max 412 Min - Mean 46.8 Ac-ft 33,900

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-23	2000	5.66	309	5-22	2000	5.50	266
5-5	1800	6.68	574	6-2	1830	6.08	400

* Discharge measurement made on this day.

** Field estimate made on this day.

a No gage-height record.

Note.--Stage-discharge relation affected by ice Dec. 3 to Apr. 19 (no gage-height record Dec. 8 to Mar. 31).

SAN JOAQUIN RIVER BASIN

11-2390. Huntington-Shaver conduit at outlet, Calif.

Location.--Lat 37°10', long 119°14', in NW $\frac{1}{4}$ sec.15, T.9 S., R.25 E., on left bank at tunnel outlet and 4 miles south of town of Big Creek.

Records available.--October 1928 to September 1962. Monthly discharge only for October 1928, published in WSP 1315-A.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,680 ft (from topographic map).

Average discharge.--34 years, 210 cfs (152,000 acre-ft per year).

Extremes.--1928-62: Maximum daily discharge, 1,780 cfs June 3, 4, 1938; minimum daily, 0.9 cfs Sept. 8-11, 1955.

Remarks.--Records good. Conduit diverts from Huntington Lake to Shaver Lake, with additions from Pitman Creek and seepage en route.

Cooperation.--Water-stage-recorder graph and 19 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	3.8	4.0	1.3	1.8	630	18	1.150	1.140	676	33	31
2	2.8	3.8	4.0	1.3	54	745	21	1.180	1.200	676	33	31
3	2.8	3.8	4.1	1.3	54	689	28	1.270	1.210	676	* 33	31
4	2.8	3.8	3.26	1.3	54	689	36	1.450	1.060	675	33	31
5	2.8	3.8	576	1.3	54	685	*47	1.550	833	675	33	31
6	2.8	3.8	551	1.3	54	a 673	58	1.560	*837	872	341	31
7	2.8	* 3.5	543	1.3	54	a 678	74	1.560	860	990	543	31
8	2.8	3.3	* 535	* 1.3	54	a 681	321	1.560	856	990	538	31
9	2.8	3.3	527	1.2	58	a 680	504	1.550	855	988	232	31
10	2.8	3.3	517	1.2	59	a 677	543	1.540	864	988	32	* 31
11	* 2.5	3.3	a 229	1.2	61	a 662	577	1.520	875	790	32	31
12	2.5	3.3	a 25	1.2	63	a 660	615	1.500	940	624	31	31
13	2.5	3.3	a 12	1.2	63	a 641	680	1.470	971	624	* 31	31
14	2.5	3.3	a 1.2	1.2	64	a 630	790	1.450	962	621	31	31
15	2.5	3.3	a 1.2	1.2	64	* 599	846	1.440	939	617	31	31
16	* 294	3.3	a 1.2	1.2	62	563	868	1.430	945	615	31	31
17	576	3.3	a 1.2	1.2	66	541	902	1.440	957	615	31	31
18	341	3.3	1.2	1.2	67	528	980	1.440	961	613	31	31
19	* 21	3.3	1.2	1.2	292	514	1.000	1.450	976	* 548	31	31
20	12	12	1.2	1.2	* 586	477	975	1.430	985	509	31	31
21	2.8	23	1.2	1.2	579	426	985	1.400	984	508	31	30
22	2.8	48	1.2	1.2	572	364	1.030	1.150	504	506	31	30
23	2.8	82	1.2	1.2	568	289	1.100	1.010	123	506	31	30
24	2.8	82	1.2	1.2	561	211	1.190	1.000	112	506	31	30
25	2.8	82	1.3	1.2	559	152	1.240	982	104	504	31	30
26	2.8	83	1.3	1.2	559	120	* 1.260	961	98	234	31	32
27	2.8	61	1.3	1.2	559	125	1.250	918	* 91	* 35	31	31
28	3.8	40	1.3	1.2	559	103	1.260	919	84	35	31	31
29	3.8	* 40	1.3	1.2	-	41	1.220	* 965	430	34	31	30
30	3.8	40	1.3	1.2	-----	11	1.160	1.020	676	34	31	30
31	3.8	-----	1.3	1.2	-----	14	-----	1.070	-----	34	31	-----
Total	1,319.5	658.9	3,984.3	38.0	6,417	14,498	21,578	40,335	22,432	17,318	2,503	924
Mean	42.6	22.0	129	1.23	229	468	719	1,301	748	559	80.7	30.8
Max	576	83	576	1.3	586	745	1,260	1,560	1,210	990	543	32
Min	2.5	3.3	1.2	1.2	18	11	18	918	84	34	31	30
Ac-ft	2,620	1,310	7,900	75	12,730	28,760	42,800	80,000	44,490	34,350	4,960	1,830

Calendar year 1961: Max 576 Min 1.2 Mean 45.9 Ac-ft 33,220
 Water year 1961-62: Max 1,560 Min 1.2 Mean 36.2 Ac-ft 261,800

* Discharge measurement made on this day.
 a No gage-height record

11-2395. Shaver Lake near Big Creek, Calif.

Location.--Lat 37°09', long 119°18', in SE $\frac{1}{4}$ sec.13, T.9 S., R.24 E., near center of dam on Stevenson Creek, 6 miles southwest of town of Big Creek.

Drainage area.--29.1 sq mi.

Records available.--November 1909 to September 1962. Prior to January 1927, monthly contents only, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.). Prior to Jan. 11, 1927, gage on rock-filled dam a short distance upstream at different datum.

Extremes.--Maximum contents during year, 131,900 acre-ft July 18, 19; maximum elevation, 5,368.44 ft July 19; minimum contents, 9,560 acre-ft Oct. 16 (elevation, 5,280.67 ft).

1909-62: Maximum contents, 135,900 acre-ft July 5, 1946 (elevation, 5,370.25 ft); minimum, 26 acre-ft Jan. 29, 1927, during period of construction.

Note.--Prior to 1960, maximum and minimum daily contents were published.

Remarks.--Storage began prior to 1905. Lake formed by rock-fill dam (usable capacity, 5,500 acre-ft). Water diverted by Fresno Flume and Lumber Co.'s flumes Nos. 1 and 2 beginning prior to 1907 and discontinued July 7, 1920. Present lake formed by concrete-arch dam; dam completed Nov. 18, 1927. Usable capacity of present lake, 135,300 acre-ft between elevations 5,255 (trashrack foundation) and 5,370 ft (crest of spillway) above mean sea level. Water is received from Pitman Creek (since Feb. 22, 1928) and Huntington Lake (since Apr. 21, 1928) through Huntington-Shaver conduit and released for power development in Big Creek plants. Figures given herein represent usable contents.

Cooperation.--Record of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)

5,280	9,190	5,310	34,500	5,335	68,600
5,285	12,100	5,315	40,400	5,345	85,400
5,290	15,600	5,320	46,800	5,355	104,200
5,295	19,500	5,325	53,600	5,365	124,600
5,300	24,000	5,330	60,900	5,370	135,300
5,305	29,000				

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11.3	10.1	11.8	20.1	13.6	17.9	20.3	45.5	97.3	121.7	124.6	102.8
2	11.3	10.2	12.0	20.1	13.7	18.3	19.6	47.0	98.9	123.0	123.5	102.0
3	11.3	10.1	12.0	20.1	13.9	19.0	19.0	48.8	100.2	124.3	122.5	101.1
4	11.1	10.0	12.7	20.1	13.9	19.5	18.5	50.9	101.3	125.6	121.5	100.4
5	10.8	9.97	13.9	20.1	13.9	19.9	18.0	53.2	102.0	126.3	120.6	99.6
6	10.7	9.96	15.0	20.1	13.8	20.2	17.6	55.5	102.6	127.3	120.1	98.7
7	10.7	9.96	16.1	20.0	13.7	20.4	17.1	57.8	103.2	128.1	120.1	97.9
8	10.7	9.97	17.2	19.7	14.0	20.6	17.1	60.1	104.0	129.0	120.1	97.2
9	10.7	9.98	18.2	19.2	16.3	21.0	17.5	62.3	105.2	129.8	119.5	96.5
10	10.7	9.98	19.3	18.8	17.9	22.0	17.9	64.4	106.5	130.8	118.5	95.7
11	10.7	9.99	19.8	18.3	19.4	23.0	18.4	66.5	107.6	131.3	117.4	94.9
12	10.7	10.0	19.9	17.7	19.6	23.2	19.0	68.5	108.4	131.5	116.5	94.0
13	10.4	10.0	20.0	17.3	19.7	23.3	19.8	70.5	109.3	131.4	115.5	93.2
14	10.2	10.0	20.0	17.2	19.9	23.5	20.8	72.4	110.2	131.5	114.5	92.4
15	9.75	10.0	20.0	16.8	20.7	23.7	21.8	74.3	111.1	131.5	113.9	91.5
16	9.78	10.0	20.0	16.7	20.5	24.0	23.1	76.3	111.9	131.7	113.3	90.7
17	10.8	10.0	20.0	16.2	19.5	24.9	24.3	78.1	112.8	131.8	112.7	89.9
18	11.3	10.0	20.0	15.9	18.6	25.9	25.8	80.0	113.7	131.9	112.2	89.1
19	11.1	10.1	20.0	15.5	18.1	25.9	27.2	81.9	114.5	131.9	111.5	88.3
20	11.0	10.2	20.0	15.3	18.2	25.9	28.5	83.7	115.4	131.8	110.9	87.5
21	11.0	10.2	20.0	15.1	18.2	25.8	29.7	85.4	116.3	131.7	110.4	86.6
22	11.0	10.3	20.0	14.5	18.2	25.6	31.0	86.8	116.9	131.6	109.8	85.8
23	11.0	10.5	20.0	14.1	18.1	25.2	32.5	87.9	117.2	131.4	109.2	85.0
24	11.0	10.7	20.0	13.9	18.2	24.7	34.2	88.9	117.4	131.4	108.5	84.2
25	10.8	11.0	20.0	13.7	18.1	24.1	35.8	89.9	117.6	131.3	107.9	83.5
26	10.6	11.2	20.0	13.7	18.1	23.5	37.5	91.0	117.8	130.6	107.3	82.7
27	10.4	11.4	20.0	13.7	18.0	23.0	39.2	92.0	118.0	129.6	106.7	81.9
28	10.3	11.4	20.1	13.7	17.8	22.7	40.9	92.8	118.2	128.6	106.0	81.1
29	10.2	11.5	20.1	13.6	-	22.3	42.5	93.8	119.0	127.7	105.2	80.3
30	10.1	11.6	20.1	13.6	-----	21.4	44.0	94.9	120.3	126.6	104.4	79.5
31	10.1	-----	20.1	13.5	-----	20.8	-----	96.1	-----	125.6	103.6	-----
(+)	5,281.69	5,284.17	5,295.63	5,287.08	5,292.91	5,296.52	5,317.83	5,350.78	5,362.97	5,365.47	5,354.67	5,341.63
(#)	-1,200	+1,500	+8,500	-6,600	+4,300	+3,000	+23,200	+52,100	+24,200	+5,300	-22,000	-24,100

Calendar year 1961..... † +6,900

Water year 1961-62..... † +68,200

† Elevation, in feet, at end of month.

Change in contents, in acre-feet.

11-2420. San Joaquin River above Willow Creek, near Auberry, Calif.

Location.--Lat 37°08'40", long 119°27'00", in SW $\frac{1}{4}$ sec.15, T.9 S., R.23 E., on right bank 1,000 ft downstream from diversion dam, 0.4 mile upstream from Willow Creek, and 4.2 miles northeast of Auberry.

Drainage area.--1,299 sq mi.

Records available.--March 1951 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,175.54 ft above mean sea level (levels by Southern California Edison Co.).

Average discharge.--11 years, 416 cfs (301,200 acre-ft per year).

Extremes.--Maximum discharge during year, 5,240 cfs May 6 (gage height, 14.46 ft); minimum daily, 3.3 cfs Mar. 14, Apr. 10-15.

1951-62: Maximum discharge, 73,200 cfs Dec. 23, 1955 (gage height, 54.2 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of computed flow over dam; no flow Sept. 25, 1951.

Remarks.--Records fair. Flow regulated by 9 powerplants and 6 reservoirs with combined capacity of about 559,900 acre-ft. Conduit to powerhouse No. 4 diverts 1,000 ft above station.

Cooperation.--Water-stage-recorder graph and 23 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 5 to Apr. 19)

2.7	3.1	3.6	14	6.0	223
2.8	3.8	3.8	20	7.0	415
2.9	4.6	4.0	26	8.0	730
3.0	5.5	4.5	48	10.0	1,860
3.2	7.6	5.0	85	12.0	3,200
3.4	10	5.5	144	14.0	4,850

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	21	20	20	19	3.7	3.5	20	2,720	172	*22	23
2	21	21	12	20	18	3.7	3.5	*20	3,400	19	23	23
3	22	21	13	20	18	3.6	*3.5	20	3,930	*17	20	24
4	22	21	19	20	18	3.5	3.5	1,030	2,370	17	22	23
5	22	21	20	20	18	3.5	3.4	4,370	2,100	17	23	23
6	22	21	20	20	18	*3.7	3.5	4,650	2,190	362	23	23
7	22	*21	20	20	13	3.5	4.3	*4,090	2,820	337	23	23
8	22	21	21	*20	7.2	3.5	3.7	4,120	2,690	189	23	23
9	*22	21	21	20	5.9	3.6	3.5	3,690	3,100	21	23	23
10	22	21	21	19	4.9	3.6	3.3	3,240	3,530	21	23	23
11	22	21	21	19	5.1	3.5	3.3	2,960	*3,260	20	23	*24
12	22	21	*21	19	4.4	3.5	3.3	2,020	3,140	18	23	24
13	22	21	21	20	*4.4	3.4	3.3	1,230	2,980	18	23	24
14	22	21	21	20	4.3	3.3	3.3	766	2,460	18	23	24
15	22	21	22	20	4.3	3.7	3.3	*489	1,840	18	25	23
16	21	21	22	21	4.4	3.7	3.4	407	1,370	19	24	23
17	20	21	21	21	4.0	3.6	3.5	323	1,200	19	22	23
18	22	21	20	21	4.0	3.5	3.5	*353	2,140	21	22	23
19	21	21	20	21	4.0	3.5	3.5	458	2,560	20	23	24
20	21	22	20	11	4.1	3.7	12	306	3,100	*19	24	24
21	21	22	20	14	*4.1	3.6	20	287	*3,330	19	24	23
22	21	21	20	14	4.6	3.5	20	223	2,730	19	24	23
23	21	22	20	16	4.6	3.5	20	929	2,470	20	24	23
24	21	21	20	19	*4.7	3.5	20	825	1,990	20	24	23
25	21	21	20	19	4.2	3.5	20	629	1,660	21	24	22
26	21	19	20	19	4.1	3.5	20	373	*1,450	21	24	24
27	21	19	*20	19	4.0	3.5	20	196	1,120	21	24	24
28	21	20	20	19	3.9	3.5	20	231	735	21	23	24
29	21	20	20	19	-----	3.5	20	246	485	21	23	24
30	21	20	20	19	-----	3.5	20	1,360	359	21	23	24
31	21	-----	20	19	-----	3.5	-----	*2,280	-----	22	23	-----
TOTAL	664	626	616	588	217.2	109.9	278.1	42,141	69,229	1,588	717	701
MEAN	21.4	20.9	19.9	19.0	7.76	3.55	9.27	1,359	2,308	51.2	23.1	23.4
MAX	22	22	22	21	19	3.7	20	4,650	3,930	362	25	24
MIN	20	19	12	11	3.9	3.3	3.3	20	359	17	20	22
AC-FT	1,320	1,240	1,220	1,170	431	218	552	83,590	137,300	3,150	1,420	1,390

CALENDAR YEAR 1961: MAX 23 MIN 6.4 MEAN 18.0 AC-FT 13,040
WATER YEAR 1961-62: MAX 4,650 MIN 3.3 MEAN 322 AC-FT 233,000

* Discharge measurement made on this day.

11-2434. Bass Lake near Bass Lake, Calif.

Location.--Lat 37°17'36", long 119°31'40", in NE $\frac{1}{4}$ sec.26, T.7 S., R.22 E., at outlet tower at dam on North Fork Willow Creek, 2.2 miles southeast of town of Bass Lake, and 5 miles north of town of North Fork.

Drainage area.--50.5 sq mi.

Records available.--January 1912 to September 1962. Bass Lake was formerly called Crane Valley Reservoir.

Gage.--Water-stage recorder. Datum of gage is mean sea level (levels by Pacific Gas & Electric Co.).

Extremes.--Maximum contents during year, 45,410 acre-ft June 21 to July 1 (elevation, 3,376.40 ft); minimum, 20,260 acre-ft Jan. 3 (elevation, 3,350.80 ft).

1911-62: Maximum contents, 45,960 acre-ft June 17, 1923 (elevation, 3,376.8 ft); minimum, 35 acre-ft Nov. 19, 1953 (elevation, 3,270.2 ft).

Remarks.--Reservoir formed by earth- and rock-fill dam; completed in 1901 and raised in 1910. Since 1910 usable contents 45,100 acre-ft between elevations, 3,280.22 (invert of outlet conduit No. 3) and 3,376.40 ft (top of spillway gates) above mean sea level. Additional storage of 300 acre-ft not available for release. Water is released through Crane Valley powerhouse below dam for use in three small powerhouses before being discharged into Kerckhoff Reservoir at Wishon powerhouse. Water diverted from South Fork Willow Creek via Browns Creek ditch into Bass Lake near left end of dam. Madera Irrigation District has water rights to divert up to 50 cfs from North Fork Willow Creek through Sequel ditch into Nelder Creek (Fresno River basin) during October and March to July each year. Chilkoot ditch can divert up to 7 cfs from Chilkoot Creek into North Fork Willow Creek just upstream from diversion dam from Oct. 1 to Aug. 1 each water year if available. Records, including extremes, show contents at 2400.

Cooperation.--Records of contents furnished by Pacific Gas & Electric Co.

Month-end contents, in acre-feet, water year October 1961 to September 1962

Date	Contents
Sept. 30.....	25,600
Oct. 31.....	22,500
Nov. 30.....	22,500
Dec. 31.....	20,500
Jan. 31.....	20,700
Feb. 28.....	28,600
Mar. 31.....	25,600
Apr. 30.....	30,900
May 31.....	41,200
June 30.....	45,400
July 31.....	40,200
Aug. 31.....	31,300
Sept. 30.....	25,200

11-2435. Pacific Gas & Electric Co. conduit No. 3 near Bass Lake, Calif.

Location.--Lat 37°17'25", long 119°31'45", in SE $\frac{1}{4}$ sec.26, T.7 S., R.22 E., on left bank 1,000 ft downstream from Crane Valley powerhouse and dam and 2.5 miles southeast of town of Bass Lake.

Records available.--October 1940 to September 1962. Prior to October 1954, published as "near Crane Valley Reservoir."

Gage.--Water-stage recorder and concrete flume. Altitude of gage is 3,300 ft (from topographic map).

Average discharge.--22 years, 65.2 cfs (47,200 acre-ft per year).

Extremes.--1940-62: Maximum daily discharge, 166 cfs Aug. 28, 1956; no flow at times.

Remarks.--Records excellent except those for period of indefinite stage-discharge relation, which are fair. Conduit diverts from Bass Lake in sec.26, T.7 S., R.22 E. Water passes through Crane Valley powerhouse, then to powerhouse No. 3, and is stored temporarily at Manzanita Lake on North Fork Willow Creek; flow then diverted to powerhouses No. 2 and No. 1A before it enters San Joaquin River at Kerckhoff Reservoir through Wishon powerhouse No. 1.

Cooperation.--Water-stage-recorder graph and seven discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.7	0.5	0.5	0.8	0.5	153	156	7.2	0.8	7.5	156	159
2	103	31	6.7	103	6.9	153	156	7.8	8.3	147	156	159
3	102	20	.4	26	.5	153	156	.5	.8	128	130	158
4	102	.5	83	6.8	6.9	153	156	7.2	8.3	.8	.8	158
5	102	3.5	102	.5	.7	128	156	.4	.8	123	7.5	158
6	102	1.1	102	6.9	7.1	152	156	8.5	7.6	108	161	157
7	.3	5.0	103	.5	1.0	153	156	.4	3.5	1.2	160	157
8	6.6	.4	103	6.9	1.0	153	156	7.5	3.1	14	158	156
9	101	13	.4	.4	1.0	153	156	.4	5.0	138	158	156
10	101	13	6.8	6.9	1.1	154	156	7.3	1.0	153	157	98
11	106	.5	101	.7	1.1	154	156	.9	8.0	153	158	156
12	105	6.9	.4	51	37	154	156	7.6	.8	153	160	155
13	*100	.5	6.6	.7	143	154	156	4.1	7.6	128	160	154
14	.5	6.9	51	7.1	153	155	156	.8	.7	1.1	160	*153
15	6.7	.5	103	.8	153	156	156	9.8	55	6.5	161	109
16	95	7.1	.8	7.0	153	*156	156	.5	76	153	162	.8
17	102	.5	7.1	.4	153	156	156	7.2	110	153	162	64
18	102	6.9	102	*108	153	156	156	*.4	28	153	163	109
19	24	.4	102	12	153	156	156	7.7	.4	147	164	108
20	24	6.9	104	1.8	153	156	156	.5	94	121	165	64
21	.6	.3	95	21	153	156	156	7.7	54	.8	165	64
22	6.9	6.7	98	73	153	156	156	.5	130	7.1	165	64
23	.5	.3	.4	101	153	156	71	7.7	67	117	161	2.3
24	6.8	.3	6.7	.6	152	156	.5	.5	.6	153	161	64
25	.4	.3	1.8	6.7	140	156	7.9	7.6	47	153	159	64
26	6.8	6.9	102	.7	153	156	.5	.9	.6	153	159	64
27	.4	.5	102	6.9	151	156	2.2	8.0	54	*121	159	63
28	7.1	70	102	.8	152	156	4.9	1.0	54	.7	159	62
29	2.7	70	101	7.1	-	156	9.5	8.1	54	13	158	7.4
30	.6	*78	.8	.7	-----	156	3.6	.8	.6	156	158	.5
31	6.2	-----	7.0	7.0	-----	156	-----	8.2	-----	156	159	-----
Total	1,430.8	358.4	1,702.4	573.7	2,485.8	4,774	3,532.1	137.7	881.5	3,019.7	4,622.3	3,044.0
Mean	46.2	11.9	54.9	18.5	88.8	154	118	4.44	29.4	97.4	149	101
Max	106	78	104	108	153	156	156	9.8	130	156	165	159
Min	0.3	0.3	0.4	0.4	0.5	128	0.5	0.4	0.4	0.7	0.8	0.5
Ac-ft	2,840	711	3,380	1,140	4,930	9,470	7,010	273	1,750	5,990	9,170	6,040

Calendar year 1961: Max 106 Min 0.1 Mean 19.7 Ac-ft 14,290
 Water year 1961-62: Max 165 Min 0.3 Mean 72.8 Ac-ft 52,700

* Discharge measurement made on this day.

Note.--Stage-discharge relation indefinite Mar. 19 to Apr. 23.

SAN JOAQUIN RIVER BASIN

631

11-2465. Willow Creek at mouth, near Auberry, Calif.

Location.--Lat 37°09'10", long 119°27'30", in NE¼ sec.16, T.9 S., R.23 E., on left bank 40 ft upstream from bridge, 0.4 mile upstream from mouth, 1.3 miles downstream from Whiskey Creek, and 4.3 miles northeast of Auberry.

Drainage area.--130 sq mi.

Records available.--January 1952 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 1,174.69 ft above mean sea level (levels by Southern California Edison Co.).

Average discharge.--10 years, 43.3 cfs (31,350 acre-ft per year).

Extremes.--Maximum discharge during year, 1,490 cfs Feb. 9 (gage height, 10.56 ft); no flow Oct. 1 to Nov. 19.

1952-62: Maximum discharge, 12,000 cfs Dec. 23, 1955 (gage height, 28.5 ft, from floodmarks), estimated on basis of rate of inflow into Bass Lake; no flow at times in 1955, 1959-62.

Remarks.--Records fair. Flow regulated by Bass Lake (see p. 629) and diversion into Pacific Gas & Electric Co. conduit No. 1.

Cooperation.--Water-stage-recorder graph and 25 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.5	0	4.4	5.3	6.5	138
3.7	.1	4.7	10	7.0	216
3.8	.2	5.0	18	8.0	435
3.9	.4	5.5	43	9.0	770
4.0	1.1	6.0	81	11.0	1,680
4.2	2.8				

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	2.2	1.8	5.2	32	55	61	23	5.3	*0.9	0.1
2		0	18	1.8	5.0	39	62	82	22	5.5	.8	.1
3		0	9.2	1.8	5.0	47	*65	67	21	5.3	.8	.1
4		0	4.3	1.8	4.9	34	79	76	20	5.2	.8	.1
5		0	3.1	1.9	5.0	36	114	82	19	*4.7	.8	.1
6		0	2.8	1.8	5.2	222	162	76	18	4.3	.9	.1
7		*0	2.5	1.9	11	*213	198	*65	17	4.0	1.0	.1
8		0	2.4	*2.4	*34	109	211	57	*16	3.5	1.1	.1
9		0	2.3	2.9	837	94	229	51	15	3.4	1.1	.2
10		0	1.8	3.2	1,260	74	196	48	14	3.4	1.0	.2
11		0	1.7	2.8	1,110	67	212	45	13	3.3	1.0	*.2
12		0	*1.5	2.6	*357	62	207	43	13	3.8	1.0	.2
13		0	1.8	2.8	*126	48	247	39	12	4.4	1.0	.2
14		0	1.7	2.6	*155	41	276	39	14	3.9	1.0	.2
15		0	1.7	2.1	*367	38	265	37	17	3.4	.8	.2
16		0	1.5	2.2	409	35	232	*42	16	3.2	.8	.2
17		0	1.5	2.1	160	33	236	41	15	3.0	.7	.2
18		0	1.6	2.0	99	32	243	39	13	2.8	.7	.2
19		0	1.8	2.3	93	32	241	36	11	2.8	.6	.2
20		.2	1.8	*25	97	38	*162	35	10	2.7	*.6	.1
21		1.7	1.8	10	70	33	132	33	10	2.4	.5	.1
22		*1.1	1.9	10	57	47	156	31	9.4	2.0	.4	.1
23		.5	1.9	5.6	41	*60	159	31	9.1	1.8	.3	.1
24		.6	1.8	4.9	45	39	116	29	8.3	1.8	.3	.1
25		*1.2	1.9	*4.6	47	37	96	29	7.8	1.7	.3	.1
26		3.5	1.9	4.4	39	38	77	29	8.0	1.6	.3	.1
27		3.3	*1.9	4.4	33	40	78	31	7.8	1.5	.2	.1
28		2.2	1.9	4.7	32	44	114	30	7.3	1.4	.2	.1
29		1.8	1.9	5.2	-----	41	79	28	6.9	1.2	.1	.1
30		1.9	1.8	5.2	-----	39	62	25	6.6	1.1	.1	.1
31		-----	1.8	5.2	-----	39	-----	24	-----	1.0	.1	-----
TOTAL	0	18.0	85.7	132.0	5,509.3	1,783	4,761	1,361	400.2	95.4	20.2	4.1
MEAN	0	0.60	2.76	4.26	197	57.5	159	43.9	13.3	3.08	0.65	0.14
MAX	0	3.5	18	25	1,260	222	276	82	23	5.5	1.1	0.2
MIN	0	0	1.5	1.8	4.9	32	55	24	6.6	1.0	0.1	0.1
AC-FT	0	36	170	262	10,930	3,540	9,440	2,700	794	189	40	8.1

CALENDAR YEAR 1961: MAX 32 MIN 0 MEAN 4.19 AC-FT 3,030
WATER YEAR 1961-62: MAX 1,260 MIN 0 MEAN 38.8 AC-FT 28,110

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

SAN JOAQUIN RIVER BASIN

11-2465. Willow Creek at mouth, near Auberry, Calif.--Continued.

Records available.--Water temperatures: December 1960 to September 1962.

Extremes.--Maximum temperature during year, 85°F Aug. 27, minimum, 37°F Jan. 24, 25, Feb. 27.

1960-62: Maximum temperature recorded, 88°F June 23, 24, 26, 27, 1961; minimum, 36°F Jan. 3, 4, 1961.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1			-	-	48	47	44	43	45	43	42	38	53	49	55	50	66	58	74	66	81	71	81	69
2			-	-	48	46	45	43	45	43	42	42	54	50	55	52	68	60	74	66	81	71	80	70
3			-	-	46	44	45	43	46	44	44	40	55	50	58	52	66	60	73	66	80	70	80	70
4			-	-	46	44	45	44	46	44	45	41	56	52	60	55	64	56	74	66	80	70	79	70
5			-	-	46	44	45	44	46	44	47	45	56	51	60	55	64	56	75	68	80	70	79	69
6			-	-	47	46	46	44	46	45	47	44	56	50	59	55	66	57	75	67	79	70	80	70
7			-	-	46	44	46	44	47	46	46	42	56	50	60	55	67	58	75	67	79	69	80	71
8			-	-	45	44	45	44	47	47	47	43	56	50	59	53	70	60	75	67	79	69	79	69
9			-	-	44	43	44	42	47	45	46	43	55	51	57	52	71	62	75	67	81	72	80	69
10			-	-	44	43	44	42	46	45	44	41	56	50	55	53	71	62	75	67	80	70	81	70
11			-	-	43	41	44	42	46	46	44	42	56	50	54	50	70	62	75	67	81	69	80	70
12			-	-	43	41	43	42	47	45	46	41	56	50	53	50	70	62	73	69	81	70	80	69
13			-	-	42	41	44	42	47	46	47	42	57	50	49	48	70	62	74	67	81	70	79	68
14			-	-	42	41	43	40	47	47	47	44	56	50	49	49	65	59	75	68	83	71	79	68
15			-	-	42	41	43	41	47	47	48	44	55	50	49	48	59	58	75	68	83	72	80	68
16			-	-	42	41	42	40	47	44	48	47	56	50	51	49	62	57	76	69	84	73	80	68
17			-	-	44	42	42	40	47	44	49	45	56	50	55	48	69	58	76	69	83	72	80	68
18			-	-	44	43	42	40	45	44	50	45	56	52	56	51	73	63	77	69	82	71	79	68
19			-	-	45	44	42	41	45	44	50	47	55	49	58	52	75	65	77	69	82	70	77	66
20			-	-	45	44	43	42	44	44	50	48	50	46	54	50	75	66	78	70	83	71	75	66
21			45	44	45	43	42	39	45	42	49	45	55	48	54	48	75	66	78	70	83	71	74	65
22			47	45	45	44	40	39	45	44	49	46	57	50	58	51	74	66	80	71	82	71	75	65
23			47	45	45	43	40	38	46	44	49	44	58	51	59	54	74	66	81	72	82	71	75	66
24			47	46	45	43	39	37	46	42	51	46	55	52	56	51	74	65	80	72	83	71	75	67
25			47	47	44	43	39	37	42	40	53	47	54	50	54	48	74	66	80	71	84	72	78	69
26			48	47	44	43	40	38	40	39	53	49	53	48	53	51	73	65	80	70	84	72	78	70
27			47	45	44	42	42	40	40	37	53	49	53	50	51	50	74	65	81	71	85	72	76	69
28			47	46	43	42	42	40	41	38	52	49	55	52	57	50	74	66	81	71	83	71	73	67
29			47	46	43	42	43	41	-	-	52	51	52	47	62	53	74	66	80	71	80	68	74	65
30			47	46	44	42	44	41	-	-	52	48	53	48	64	57	74	66	80	70	78	68	75	66
31			-	-	43	41	45	43	-	-	54	49	-	-	65	57	-	-	81	70	80	68	-	-
Avg			-	-	44	43	43	41	45	44	48	45	55	50	56	52	70	62	77	69	82	71	78	68

11-2470. San Joaquin River below Kerckhoff powerhouse, Calif.

Location.--Lat 37°04'45", long 119°33'35", in NW¼ sec.10, T.10 S., R.22 E., on left bank 1.1 miles downstream from Kerckhoff powerhouse and 1.4 miles upstream from Big Sandy Creek.

Drainage area.--1,480 sq mi.

Records available.--April 1910 to September 1914, December 1936 to December 1937, December 1942 to September 1962. Published as "near North Fork" 1910-14.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 563.4 ft above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1914, at site 11 miles upstream at different datum.

Average discharge.--23 years (1910-14, 1943-62), 2,289 cfs (1,657,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,600 cfs May 6 (gage height, 22.20 ft); minimum daily, 132 cfs Nov. 5. 1910-14, 1936-37, 1942-62: Maximum discharge, 92,200 cfs Dec. 23, 1955 (gage height, 51.0 ft, from floodmarks), from rating curve extended above 20,000 cfs on basis of records for San Joaquin River above Willow Creek, near Auberry and Willow Creek at mouth, near Auberry; minimum daily, 71 cfs Nov. 7, 1949.

Remarks.--Records good. Flow regulated by 12 powerplants and 8 reservoirs with total usable capacity of about 609,300 acre-ft. Earliest storage began in 1901 at Bass Lake (see p. 629). See records for Florence, Lake Thomas A. Edison, Mammoth Pool Reservoir, Huntington, and Shaver Lakes, given elsewhere in this report. Backwater from Millerton Lake has affected record at times since November 1947, when spillway gates were installed at Friant Dam. No backwater effect in this water year.

Cooperation.--Water-stage-recorder graph, telemark readings, and 12 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Rating table (gage-height, in feet, and discharge, in cubic feet per second)

6.0	120	12.0	1,600
7.0	224	14.0	2,720
8.0	380	18.0	5,910
10.0	870	21.0	9,040

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	184	210	450	327	988	2,190	3,380	3,450	5,960	3,530	2,640	1,950
2	334	*268	832	485	613	1,930	*3,340	*3,440	6,320	3,470	*2,620	1,950
3	273	163	1,200	321	711	1,860	3,410	3,500	7,110	3,530	2,610	1,870
4	301	173	857	*320	805	1,740	3,420	3,950	*5,840	3,380	2,660	1,970
5	244	132	605	328	*882	1,720	3,430	7,610	5,320	*3,470	2,320	1,890
6	261	180	591	262	811	*3,730	3,520	7,990	5,370	3,630	2,510	1,950
7	215	207	544	296	1,040	3,440	3,540	7,480	5,960	3,760	2,620	1,860
8	213	194	510	360	1,340	3,200	3,580	7,420	6,000	3,550	2,600	1,860
9	*252	218	419	385	2,330	2,460	3,590	6,980	6,180	3,650	2,600	1,880
10	199	172	273	402	5,420	1,770	3,600	6,540	6,610	3,500	2,580	1,860
11	281	156	*385	420	5,490	1,760	3,600	5,520	6,380	3,520	2,330	1,860
12	206	190	380	521	4,310	2,060	3,590	5,370	6,340	3,280	2,180	1,880
13	328	175	345	483	3,700	2,860	3,600	4,830	6,090	2,850	2,370	1,900
14	231	251	*459	223	3,760	2,650	3,680	4,170	5,680	2,620	2,290	*1,980
15	369	188	748	355	4,040	1,800	3,620	3,910	5,280	2,660	2,130	1,920
16	804	188	553	266	4,270	1,740	3,650	3,840	4,870	2,750	2,070	1,820
17	234	315	659	350	3,830	1,660	3,640	3,740	4,570	2,720	2,170	1,770
18	274	154	686	403	3,660	947	3,650	3,780	5,340	2,640	2,070	1,830
19	236	224	823	582	3,640	*1,330	3,650	3,770	5,680	2,620	2,080	1,920
20	189	930	759	921	3,630	1,320	3,640	3,770	6,290	2,600	2,010	1,850
21	242	308	861	653	3,560	2,250	3,590	3,700	6,480	2,370	2,080	1,850
22	230	287	730	955	3,490	2,430	3,600	3,650	6,070	2,160	2,070	1,820
23	247	237	364	802	3,470	2,820	3,580	4,210	5,910	2,330	2,060	1,860
24	186	301	238	722	3,470	2,930	3,520	4,270	5,140	2,640	2,090	1,790
25	217	553	358	507	3,460	2,620	3,480	4,030	4,960	2,550	2,070	1,810
26	380	571	397	515	3,420	2,470	3,450	3,770	4,720	2,600	2,080	1,650
27	279	443	448	520	3,410	3,400	3,420	3,630	4,550	2,570	2,070	1,970
28	268	406	471	443	3,380	2,850	3,480	3,630	*4,230	2,340	1,880	2,100
29	176	359	526	452	-	2,850	3,530	3,520	3,970	2,390	2,020	1,810
30	288	567	485	451	-----	3,260	3,430	4,400	3,720	2,600	2,020	1,800
31	163	-----	296	759	-----	3,350	-----	5,350	-----	2,580	1,890	-----
Total	8,304	8,720	17,252	14,789	82,930	73,397	106,210	145,220	166,940	90,860	69,790	56,230
Mean	268	291	557	477	2,962	2,368	3,540	4,685	5,565	2,931	2,251	1,878
Max	804	930	1,200	955	5,490	3,730	3,680	7,990	7,110	3,760	2,660	2,100
Min	163	132	238	223	613	947	3,340	3,440	3,720	2,160	1,880	1,650
Ac-ft	16,470	17,300	34,220	29,330	164,500	145,600	210,700	288,000	331,100	180,200	138,400	111,700

Calendar year 1961: Max 1,760 Min 132 Mean 837 Ac-ft 606,200
 Water year 1961-62: Max 7,990 Min 132 Mean 2,303 Ac-ft 1,668,000

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2470. San Joaquin River below Kerckhoff powerhouse, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature during year, 65°F Sept. 26-28, minimum, 42°F Feb. 28 to Mar. 5, Mar. 14.

1960-62: Maximum temperature, 73°F Aug. 22, 1961, minimum, 38°F Jan. 16-24, 1961.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	64	62	55	54	53	52	48	48	45	44	43	42	46	46	48	47	51	50	56	56	56	56	61	60
2	64	62	56	55	53	52	48	47	45	44	42	42	46	46	48	48	53	51	56	56	57	56	61	60
3	64	62	56	56	52	51	47	47	44	44	43	42	46	46	48	48	53	52	56	56	57	56	61	60
4	64	63	56	56	51	51	47	47	45	44	43	42	46	46	48	48	53	52	56	56	57	56	61	60
5	64	62	56	55	51	51	47	46	46	45	44	42	46	46	50	48	53	52	56	55	57	56	61	60
6	64	63	55	55	51	50	47	46	46	45	44	44	47	46	51	50	53	52	56	55	57	56	61	61
7	63	62	55	54	51	50	46	46	46	45	44	44	48	47	51	50	53	52	56	55	57	57	62	61
8	63	62	54	54	50	50	46	46	46	45	44	44	48	47	51	50	54	52	56	55	57	57	62	61
9	62	60	54	54	50	49	46	45	47	45	44	43	48	48	51	50	54	52	56	55	57	57	62	62
10	61	59	54	54	49	48	46	45	47	47	43	43	48	48	50	50	54	53	56	55	57	57	62	62
11	60	59	54	54	49	48	46	46	47	47	43	43	48	48	50	50	55	53	55	54	58	57	62	62
12	59	58	54	54	50	49	46	45	48	46	44	43	49	48	50	50	55	53	55	55	58	57	62	62
13	59	58	54	54	49	49	46	46	46	46	44	43	48	48	50	50	55	53	55	55	58	58	62	62
14	59	58	54	53	49	49	46	46	47	46	43	42	48	48	50	50	54	53	55	55	59	58	63	62
15	60	59	53	53	49	49	46	46	47	46	43	43	48	48	50	50	53	53	55	55	59	58	63	63
16	59	58	53	53	49	49	46	46	47	46	43	43	48	47	50	50	53	53	55	54	60	58	63	63
17	61	59	53	52	49	48	46	46	47	46	43	43	48	47	50	49	53	52	55	55	60	59	63	63
18	61	59	52	52	49	48	46	46	46	45	46	43	48	47	50	49	54	52	55	54	60	59	64	63
19	60	59	52	52	49	48	46	46	45	45	46	44	48	47	50	50	55	52	55	55	60	59	64	63
20	60	59	53	52	49	48	46	45	46	45	46	44	48	47	50	49	56	53	55	54	60	59	63	63
21	60	60	52	52	48	48	46	46	45	44	46	44	47	47	49	49	56	54	55	54	60	59	63	63
22	60	59	52	52	48	48	46	45	45	44	45	45	47	47	49	49	56	54	56	55	60	59	63	63
23	59	58	52	52	49	48	46	46	45	44	45	44	48	47	49	49	56	55	56	55	60	59	63	63
24	59	58	52	52	48	48	46	45	44	44	45	45	48	47	50	49	57	55	56	55	60	60	64	63
25	58	58	53	52	48	48	45	44	44	43	45	45	48	47	50	49	57	55	56	55	60	60	64	63
26	58	58	54	52	48	48	44	44	44	43	45	45	47	47	49	49	56	55	56	55	60	60	65	64
27	58	57	52	52	48	48	44	44	44	43	46	45	47	47	49	49	56	55	56	55	60	60	65	64
28	58	57	53	52	48	48	44	44	44	42	46	45	47	47	49	49	57	55	56	55	60	60	65	64
29	57	56	52	52	48	48	44	44	-	-	45	45	47	47	49	49	57	56	56	56	61	60	64	63
30	56	55	53	52	48	48	44	44	-	-	45	45	48	47	50	49	56	56	56	56	61	60	63	63
31	56	55	-	-	48	48	44	44	-	-	46	45	-	-	51	50	-	-	56	56	61	60	-	-
Avg	60	59	54	53	49	49	46	46	46	45	44	44	47	47	50	49	55	53	56	55	59	58	63	62

SAN JOAQUIN RIVER BASIN

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11-2495. Friant-Madera Canal at Friant, Calif.

Location.--Lat 37°00'10", long 119°42'20", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.5, T.11 S., R.21 E., at Friant Dam, 0.9 mile northeast of Friant.Records available.--October 1943 to September 1962. Prior to October 1954, published as Madera Canal near Friant.Gage.--Discharge computed on basis of valve openings in dam and head on valves. Prior to Oct. 1, 1948, water-stage recorder at several sites at various datums. Oct. 1, 1948, to Sept. 30, 1949, water-stage recorder at site 8.8 miles downstream.Average discharge.--19 years, 227 cfs (164,300 acre-ft per year).Extremes.--1943-62: Maximum daily discharge, 1,116 cfs July 10, 1962; no flow for several months in each year.Remarks.--Canal diverts from Millerton Lake at right end of Friant Dam for irrigation between San Joaquin and Fresno Rivers.Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0			0		0	484	510	612	1026	1079	947
2	0			0		0	482	548	586	1012	1081	882
3	0			0		0	480	572	571	1037	1087	846
4	0			0		0	477	571	576	1069	1089	830
5	0			0		0	475	557	604	1080	1089	814
6	0			0		0	506	552	646	1078	1080	797
7	0			0		0	544	563	711	1095	1072	*781
8	0			0		0	562	552	739	1106	1056	766
9	0			0		0	570	*549	771	1103	*1064	751
10	0			0		0	533	556	800	1116	1050	736
11	0			0		0	512	529	864	*1115	1032	739
12	0			21		0	509	496	958	1105	1016	581
13	0			0		54	507	488	*1005	1100	1002	311
14	0			0		104	505	385	*1024	1095	1024	307
15	0			0		104	502	324	984	1090	1049	304
16	0			0		104	500	325	918	1085	1052	302
17	0			0		103	533	326	903	1088	1053	300
18	0			0		103	552	392	904	1088	1045	264
19	50			0		102	549	420	906	1091	1012	*245
20	0			0		102	523	457	983	1090	969	*246
21	0			0		101	504	477	*1035	1091	966	247
22	0			0		170	462	449	1046	1090	989	248
23	0			0		284	442	430	1055	1091	988	299
24	0			0		283	483	431	1056	1089	973	325
25	0			0		282	503	410	*1057	1090	958	327
26	0			0		280	*500	430	1057	1087	957	120
27	0			0		312	497	447	1044	1080	964	0
28	0			0		344	509	448	1042	1074	955	0
29	0			0		392	517	528	1047	1078	978	0
30	0			0		451	514	591	1045	1088	980	0
31	0			0		486		*609		1087	981	
Total	50	0	0	21	0	4,161	15,236	14,922	26,549	33,614	31,690	13,315
Mean	1.61	0	0	0.68	0	134	508	481	885	1,084	1,022	444
Max	50	0	0	21	0	486	570	609	1,057	1,116	1,089	947
Min	0	0	0	0	0	0	442	324	571	1,012	955	0
Ac-ft	99	0	0	42	0	8,250	30,220	29,600	52,660	66,670	62,860	26,410

Calendar year 1961: Max 1,067 Min 0 Mean 142 Ac-ft 102,700
 Water year 1961-62: Max 1,116 Min 0 Mean 382 Ac-ft 276,800

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2500. Friant-Kern Canal at Friant, Calif.

Location.--Lat 36°59'53", long 119°42'11", in SE 1/4 sec. 5, T.11 S., R.21 E., at Friant Dam, 0.9 mile northeast of Friant.

Records available.--March 1949 to September 1962.

Gage.--Discharge computed on basis of valve openings in dam and head on valves. Prior to July 8, 1949, staff gages at various sites and datums. July 8, 1949, to Sept. 30, 1949, water-stage recorder at site 0.25 mile downstream.

Average discharge.--13 years, 1,066 cfs (771,800 acre-feet per year).

Extremes.--1949-62: Maximum daily discharge, 4,564 cfs Apr. 17, 1962; no flow for several months in most years.

Remarks.--Canal diverts from Millerton Lake at left end of Friant Dam for irrigation in upper San Joaquin Valley.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	469	336		0	126	86	4,525	4,521	2,465	3,263	3,686	2,959
2	510	253		171	0	261	4,520	4,325	2,322	3,426	3,642	2,893
3	516	203		0	0	274	4,494	3,603	2,350	3,453	3,486	2,905
4	511	234		0	0	465	4,494	2,851	2,508	3,475	3,302	2,885
5	505	262		0	1,126	654	4,519	2,341	2,599	3,471	3,422	2,829
6	473	272		0	1,494	669	4,422	2,344	2,785	3,392	3,686	* 2,833
7	445	* 280		0	750	610	4,119	2,394	2,865	3,338	3,688	* 2,629
8	460	302		0	1,69	658	4,112	2,021	2,891	3,511	3,685	2,412
9	467	320		0	266	745	4,104	2,111	2,962	3,679	3,600	2,471
10	462	295		0	159	904	4,267	2,170	3,210	3,762	3,410	* 2,466
11	457	249		0	0	1,022	4,545	2,213	* 3,420	3,796	3,247	* 2,315
12	435	247		0	0	1,667	4,535	2,186	3,521	3,720	3,367	* 2,376
13	404	245		0	0	1,980	4,553	2,170	3,535	3,552	3,651	* 2,421
14	355	233		0	34	2,121	4,526	2,203	3,453	3,359	3,684	* 2,256
15	362	234		0	346	2,513	4,523	2,163	3,141	3,371	3,761	* 1,963
16	399	216		0	204	3,175	4,556	2,173	3,006	3,463	3,707	* 1,845
17	* 411	134		0	209	3,768	4,564	2,182	3,085	* 3,443	3,552	* 1,676
18	408	84		0	221	3,770	4,563	2,103	3,281	3,511	3,426	* 1,568
19	404	84		0	230	4,137	4,551	2,036	3,461	3,538	3,482	* 1,544
20	379	86		0	238	* 4,325	* 4,536	2,132	3,594	3,442	* 3,555	* 1,384
21	309	* 41		0	342	4,421	4,547	* 2,275	3,666	3,303	3,591	* 1,186
22	324	0		0	429	* 4,468	4,539	2,303	3,620	3,390	3,622	* 1,062
23	346	0		0	433	4,505	4,530	2,293	3,475	3,555	3,604	* 1,039
24	342	0		0	586	4,499	4,527	2,316	3,506	3,657	3,446	* 1,094
25	329	0		0	836	4,504	4,532	2,217	3,648	3,737	3,220	* 1,102
26	299	0		0	858	4,508	4,535	2,153	3,614	3,712	3,244	* 1,111
27	266	0		0	562	* 4,524	4,514	2,227	3,535	3,561	3,452	1,047
28	252	0		0	44	4,523	4,504	2,320	3,460	3,407	3,468	941
29	281	0		0	-	4,517	4,511	2,368	3,345	3,530	3,412	871
30	319	0		0	-----	4,525	* 4,517	2,431	3,224	3,671	3,443	911
31	352	-----		0	-----	4,525	-----	2,570	-----	3,700	3,267	-----
Total	12,251	4,610	0	1,71	9,662	8,323	134,284	75,715	95,547	109,188	108,808	56,994
Mean	395	154	0	5.52	345	2,688	4,476	2,442	3,185	3,522	3,510	1,900
Max	516	336	0	171	1,494	4,525	4,564	4,521	3,666	3,796	3,761	2,959
Min	252	0	0	0	0	86	4,104	2,021	2,322	3,263	3,220	871
Ac-ft	24,300	9,140	0	339	19,160	165,300	266,300	150,200	189,500	216,600	215,800	113,000
Calendar year 1961:	Max	2,230	Min	0	Mean	620	Ac-ft	449,000				
Water year 1961-62:	Max	4,564	Min	0	Mean	1,892	Ac-ft	1,370,000				

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

637

11-2501. Millerton Lake at Friant, Calif.

Location.--37°00'00", long 119°42'10", in SW $\frac{1}{4}$ sec.5, T.11 S., R.21 E., near center of Friant Dam on San Joaquin River, immediately upstream from Cottonwood Creek, and 0.9 mile northeast of Friant.

Drainage area.--1,633 sq mi.

Records available.--October 1941 to September 1962. Month-end contents only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to May 29, 1944, staff gages on left bank at same datum.

Extremes.--Maximum contents during year, 442,500 acre-ft June 25 (elevation, 561.35 ft); minimum, 134,900 acre-ft Sept 18, 19 (elevation, 468.39 ft).

1951-62: Maximum contents, 525,400 June 23, 1958 (elevation, 578.99 ft); minimum since initial season of normal operation, 42,700 acre-ft Nov. 8, 1949 (elevation, 406.6 ft).

Remarks.--Reservoir is formed by gravity-type concrete dam with spillway near center, completed in December 1942. Control valves installed in February 1944, and spillway gates installed in November 1947. Usable capacity, 503,200 acre-ft between elevations 375.4 ft (invert of river outlet) and 578.0 ft (top of drum-type spillway gates) above mean sea level. Not available for release, 17,400 acre-ft. Millerton Lake is one of the storage units in Central Valley project. Records including extremes, show total contents at 2400 hrs.

Cooperation.--Records of contents furnished by Bureau of Reclamation.

Capacity table (elevation, in feet, and contents, in acre-ft)

468	134,100	500	215,600	540	353,000
470	138,400	510	246,300	550	393,400
480	161,700	520	279,400	570	482,200
490	187,500	530	314,900		

Contents, in thousands of acre-feet, at 2400 hrs, water year October 1961 to September 1962.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158.5	145.2	150.6	180.1	206.2	374.5	348.3	258.4	365.5	435.4	316.5	172.4
2	157.8	145.2	152.3	180.5	207.4	378.2	344.8	255.4	372.0	433.0	312.0	168.7
3	157.1	144.9	154.5	181.1	208.7	381.6	341.7	253.7	380.0	430.5	307.7	165.0
4	156.4	144.6	156.3	181.6	210.1	384.2	338.5	254.3	385.2	427.6	303.8	161.8
5	155.8	144.2	157.1	182.1	209.5	386.6	335.4	263.5	388.9	424.8	299.2	158.6
6	155.2	143.8	158.2	182.5	208.0	394.3	332.5	273.8	392.4	422.5	294.5	155.4
7	154.4	143.4	159.1	183.0	208.5	401.0	330.2	283.0	396.8	420.6	290.0	152.5
8	153.8	143.1	160.2	183.6	210.8	406.5	327.8	292.7	401.1	417.9	285.5	149.8
9	153.1	142.7	160.8	184.2	216.0	410.4	325.4	301.4	405.5	415.0	281.2	147.2
10	152.5	142.3	161.2	185.0	231.9	412.5	323.0	308.8	410.3	411.7	277.3	144.6
11	151.9	141.9	161.8	185.6	248.5	414.3	320.0	314.1	414.3	408.3	273.2	142.1
12	151.3	141.6	162.5	186.5	258.6	415.4	317.0	319.2	417.7	404.8	268.6	139.9
13	151.0	141.3	163.0	187.2	266.6	417.2	314.0	323.1	420.5	400.8	263.8	138.3
14	150.6	141.2	163.7	187.5	274.8	418.2	311.2	325.8	422.5	396.8	258.8	137.2
15	150.3	140.9	165.0	188.1	283.9	416.7	308.3	328.3	424.4	392.8	253.5	136.3
16	151.1	140.7	166.0	188.5	293.7	413.8	305.3	330.5	425.5	388.9	248.1	135.7
17	150.6	140.9	167.2	189.0	301.5	409.5	302.2	332.6	426.1	384.8	243.1	135.1
18	150.1	140.9	168.4	189.6	308.6	403.9	299.1	334.7	427.9	380.6	238.1	134.9
19	149.5	141.0	169.8	190.8	315.8	398.3	296.1	336.7	430.2	376.2	233.3	134.9
20	149.0	142.6	171.2	192.6	322.6	392.4	293.1	338.6	433.2	372.2	228.1	135.3
21	148.7	143.1	172.5	194.1	329.1	388.2	290.1	339.9	436.5	367.8	223.1	135.8
22	148.3	143.5	174.0	195.9	335.2	384.2	287.2	341.1	439.1	362.9	218.0	136.7
23	148.0	143.9	174.6	197.4	341.3	380.5	284.3	343.7	441.6	358.0	213.0	137.4
24	147.5	144.3	174.9	198.4	347.2	377.0	281.2	346.3	442.4	353.5	208.3	137.8
25	147.1	145.2	175.4	199.3	352.4	372.9	278.0	348.6	442.5	348.6	204.1	138.4
26	147.0	146.2	176.1	200.0	357.8	368.6	274.7	350.5	442.1	344.0	199.9	138.9
27	146.9	147.1	176.8	200.8	363.5	365.8	271.3	352.0	441.6	339.6	195.1	140.5
28	146.8	147.9	177.6	201.5	370.2	361.9	268.1	353.3	440.3	335.0	190.2	142.7
29	146.4	148.5	178.4	202.3	-	358.0	265.1	354.1	439.1	330.4	185.5	144.5
30	146.2	149.6	179.2	203.1	-----	354.6	261.7	356.3	437.5	325.7	180.8	146.0
31	145.7	-----	179.7	204.4	-----	351.4	-----	360.1	-----	321.1	176.3	-----
(+)	473.24	474.92	487.08	496.11	544.34	539.60	514.76	541.81	560.23	531.67	485.70	473.37
(#)	-13.5	+3.9	+30.1	+24.7	+165.8	-18.8	-89.7	+98.4	+77.4	-116.4	-144.8	-30.3
(++)	1,290	640	150	220	370	1,160	1,860	2,580	4,230	4,580	3,110	1,580

Calendar year 1961 + -54.8
 Water year 1961-62 + -13.2

+ Elevation, in feet, at end of month.

Change in contents, in thousands of acre-feet.

++ Evaporation, in acre-feet, furnished by Bureau of Reclamation.

SAN JOAQUIN RIVER BASIN

11-2510. San Joaquin River below Friant, Calif.

Location.--Lat 36°59'04", long 119°43'24", in SW¹/₄ sec. 7, T.11 S., R.21 E., on left bank 0.5 mile west of Friant, 1.5 miles downstream from Cottonwood Creek, 2 miles downstream from Friant Dam, and at mile 268.1.

Drainage area.--1,675 sq mi.

Records available.--October 1907 to September 1962. Published as "near Pollasky" October 1907 to December 1908 and as "near Friant" January 1909 to September 1938. Monthly discharge only for October 1907 to November 1908, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 294.00 ft above mean sea level (levels by Bureau of Reclamation). Oct. 18, 1907, to Nov. 9, 1913, staff gage at site 4.5 miles upstream at different datum. Nov. 10, 1913, to Sept. 30, 1938, water-stage recorder at site 2.5 miles upstream at different datum.

Average discharge.--55 years, 2,304 cfs (1,668,000 acre-ft per year), including diversions to Friant-Madera Canal, 1944-62, Friant-Kern Canal, 1949-62, and adjusted for change in contents in and evaporation from Millerton Lake 1941-62.

Extremes.--Maximum discharge during year, 764 cfs Feb. 11 (gage height, 3.91 ft); minimum, 37 cfs Mar. 31.

1907-41 (prior to regulation by Millerton Lake): Maximum discharge, 77,200 cfs Dec. 11, 1937 (gage height, 23.8 ft, site and datum then in use); minimum, 38 cfs (regulated) July 29, 1940.

1941-62: Maximum discharge, 11,200 cfs Jan. 23, 1943 (partially regulated, prior to installation of outlet gate), and 8,000 cfs Apr. 14, May 13, 1952 (fully regulated); minimum, 5.5 cfs Oct. 20, 1941.

Remarks.--Records good. Flow regulated by Millerton Lake beginning in 1944 (see p. 637) and by other reservoirs described in Remarks for San Joaquin River below Kerckhoff powerhouse. Uncontrolled pondage in Millerton Lake began in September 1941. Diversion for irrigation through Friant-Madera and Friant-Kern Canals (see p. 635, 636).

Cooperation.--Twelve discharge measurements furnished by Bureau of Reclamation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 6 to Apr. 5)

1.6	36	3.0	310
1.7	44	3.5	525
2.0	75	4.0	840
2.5	164		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	76	59	67	52	64	38	113	115	157	162	132
2	115	76	61	67	52	80	52	108	142	157	162	132
3	108	76	59	67	52	78	71	108	146	166	162	130
4	102	80	58	65	53	64	71	106	142	171	160	120
5	96	88	58	62	53	63	73	106	132	171	160	118
6	96	90	58	58	53	147	71	106	130	171	160	118
7	96	96	58	58	55	131	70	106	132	171	160	118
8	96	96	58	58	55	88	68	106	142	169	157	118
9	93	96	58	58	65	83	69	106	162	169	157	118
10	93	96	58	58	235	73	76	111	169	166	157	118
11	94	96	57	58	580	71	76	117	*166	164	155	118
12	94	96	58	58	310	69	75	118	166	162	153	117
13	93	93	60	59	186	64	75	118	166	*157	153	104
14	93	87	63	58	176	61	76	108	166	155	151	104
15	93	88	63	57	281	59	82	101	162	155	149	104
16	93	88	63	55	254	57	82	*101	153	155	*149	104
17	94	88	63	67	157	55	87	101	155	155	146	104
18	94	88	63	59	128	52	91	101	153	155	144	104
19	94	88	64	60	136	48	90	101	155	155	144	104
20	96	85	64	61	115	45	93	101	157	155	144	104
21	96	78	*64	62	91	45	99	102	157	160	142	104
22	96	69	64	62	82	50	98	102	155	166	142	104
23	*94	63	63	58	78	70	96	94	155	166	142	104
24	91	60	64	53	84	46	98	85	155	166	140	104
25	87	48	65	52	84	42	*98	85	149	164	140	104
26	88	52	67	52	104	42	104	87	151	164	140	98
27	83	*60	65	52	*75	*41	122	87	157	164	140	*91
28	76	60	65	52	*67	41	124	87	*157	162	136	*91
29	76	60	*65	52	-	41	124	90	155	162	134	91
30	76	*59	65	*52	-----	*40	*120	106	155	*164	134	91
31	*76	-----	65	*52	-----	38	-----	*106	-----	164	*134	-----
Total	2,892	2,376	1,915	1,809	3,713	1,948	2,569	3,174	4,557	5,038	4,609	3,271
Mean	93.3	79.2	61.8	58.4	133	62.8	85.6	102	152	163	149	109
Max.	120	96	67	67	580	147	124	118	169	171	162	132
Min.	76	48	57	52	52	38	38	85	115	155	134	91
Ac-ft	5,740	4,710	3,800	3,590	7,360	3,860	5,100	6,300	9,040	9,990	9,140	6,490
Meant	292	309	554	470	3,470	2,599	3,593	4,659	5,593	2,950	2,376	1,970
Ac-ft†	17,930	18,390	34,050	28,890	192,700	159,800	213,800	287,100	332,800	181,400	146,100	117,200
Calendar year 1961:	Max	388	Min	32	Mean	125	Meant	841	Ac-ft	90,720	Ac-ft†	608,800
Water year 1961-62:	Max	580	Min	38	Mean	104	Meant	2,390	Ac-ft	75,120	Ac-ft†	1,730,000

* Discharge measurement made on this day.

† Adjusted for change in storage, diversions and evaporation.

11-2555. Panoche Creek below Silver Creek, near Panoche, Calif.

Location.--Lat 36°37'08", long 120°40'22", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.16, T.15 S., R.12 E., on right bank 1.1 miles downstream from Silver Creek, 9 miles east of Panoche, and 18 miles southwest of Mendota.

Drainage area.--299 sq mi.

Records available.--October 1949 to September 1953, October 1958 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 558.26 ft above mean sea level, datum of 1929.

Average discharge.--8 years, 2.46 cfs (1,780 acre-ft per year).

Extremes.--Maximum discharge during year, 1,330 cfs Feb. 9 (gage height, 4.53 ft); no flow for several months.

1949-53, 1958-62: Maximum discharge, 3,160 cfs Jan. 12, 1952 (gage height, 7.05 ft from floodmarks), from rating curve extended above 870 cfs on basis of slope-area measurement at gage height 6.25 ft; no flow for several months in each year.

The flood of Apr. 2, 1958, reached a stage of 7.01 ft (discharge, 5,090 cfs, by slope-area measurement of peak flow).

Remarks.--Records fair. Some very small dams for stock use.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	0.8	0.5	0.3				
2				0	0	.7	.5	.3				
3				0	0	.5	.5	.3				
4				0	0	.5	.5	.4	(**)			
5				0	0	.4	.5	.3				
6				0	0	186	.5	.3				
7				0	0	55	.4	.3				
8				0	0	14	.4	.3				
9				0	370	11	.4	2				
10				0	325	10	** .3	2				
11				** 0	198	9.4	a .3	.1				(*)
12	(*)			0	* 32	8.5	a .4	.1				
13				** 0	5.2	6.7	.4	.1				
14		(*)		0	4.4	4.4	.4	.1				
15				0	375	3.6	.4	.1				
16				0	75	3.2	.4	** .1				
17				0	29	3.6	.4	.1				
18				0	8.5	3.6	.4	.1				
19				0	* 8.8	3.6	.4	.1				
20				0	11	3.6	.4	0				
21				.1	9.7	3.2	.4	0				
22				.1	4.4	2.8	.5	0				
23				0	2.8	2.4	.4	0				
24				0	2.4	2.1	.4	0				
25				0	2.4	1.7	.4	0				
26				0	1.9	1.5	.5	0				
27				0	1.3	1.3	.3	0				
28				0	1.1	1.1	.3	0				
29				0	-	.9	.3	0				
30				0	-----	.8	.4	0		(*)		
31				0	-----	.7	-----	0				
Total	0	0	0	0.2	1.4	67.9	347.6	12.3	3.8	0	0	0
Mean	0	0	0	0.01	52.4	11.2	0.41	0.12	0	0	0	0
Max	0	0	0	0.1	375	186	0.5	0.4	0	0	0	0
Min	0	0	0	0	0	0.4	0.3	0	0	0	0	0
Ac-ft	0	0	0	0.4	2,910	689	24	7.5	0	0	0	0

Calendar year 1961: Max 0.4 Min 0 Mean 0.005 Ac-ft 4.0
 Water year 1961-62: Max 375 Min 0 Mean 5.02 Ac-ft 3,630

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	2100	4.53	1,330	3- 6	1000	3.26	415
2-15	0800	4.46	1,260				

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

** Field estimate made on this day.

a No gage-height record.

SAN JOAQUIN RIVER BASIN

11-2555.5. Little Panoche Creek tributary No. 1 near Panoche, Calif.

Location.--Lat 36°43'05", long 120°51'50", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.14 S., R.10 E., on right bank 1.0 mile north of Mercy Hot Springs and 8.7 miles north of Panoche.

Drainage area.--0.33 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,080 ft (from topographic map).

Extremes.--Maximum discharge during year, 58 cfs (including overflow) Jan. 19 (gage height, 7.16 ft in gage well, 7.49 ft from crest-stage gage), an estimate based on field survey of peak flow through culvert; no flow for most of year.
1958-62: Maximum discharge, that of Jan. 19, 1962; no flow for most of each year.

Remarks.--Records fair. No regulation or diversions above station.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Nov. 20.....	0.1	Jan. 24.....	0.1
25.....	.1	Feb. 9.....	1.8
Dec. 1.....	.2	10.....	.1
2.....	.3	11.....	.1
Jan. 19.....	1.8	20.....	.2

Monthly precipitation, in inches, water year October 1961 to September 1962

November	1.6	February	4.2
December	1.1	March	.9
January	1.7		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
November 1961.....	0.2	0.1	0	0.007	0.4
December.....	.5	.3	0	.02	1.0
Calendar year 1961.....	.7	.3	0	.002	1.4
January 1962.....	1.9	1.8	0	.06	3.8
February.....	2.2	1.8	0	.08	4.4
Water year 1961-62.....	4.8	1.8	0	.01	9.5

Note.--Flow occurred only on days listed above. Observations of no flow generally made once a month. Total rainfall for water year 1961-62, 9.5 inches.

SAN JOAQUIN RIVER BASIN

641

11-2571. Miami Creek near Oakhurst, Calif.

Location.--Lat 37°23'37", long 119°39'12", in NE $\frac{1}{4}$ sec.22, T.6 S., R.21 E., on left bank 200 ft downstream from county road and 4.6 miles north of Oakhurst.

Drainage area.--10.6 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

Extremes.--Maximum discharge during year, 251 cfs Feb. 10 (gage height, 6.03 ft); no flow for many days.
1960-62: Maximum discharge, that of Feb. 10, 1962; no flow for many days in each year.

Remarks.--No known diversion upstream.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.4	3.8	0.9	2.9	7.4	16	* 9.0	4.6	1.9	0.6	1.9
2	0	* .3	1.1	1.0	3.1	*7.6	16	8.4	4.3	1.8	.6	2.2
3	0	.2	4.1	*1.1	3.1	7.6	*16	8.4	3.6	1.8	*.6	.5
4	0	.2	2.7	1.0	3.2	7.4	17	8.2	2.9	*5.4	1.3	.4
5	0	.3	*2.0	1.1	3.4	8.2	19	7.9	3.3	2.1	.9	.3
6	0	.2	1.3	1.2	3.7	14	20	7.7	3.4	2.1	.9	.1
7	0	.2	1.3	1.2	1.1	12	21	7.2	3.1	2.1	.9	* 0
8	0	.1	1.2	1.3	*2.3	11	21	6.5	*3.0	1.9	.8	0
9	0	.2	1.2	1.3	*8.9	11	20	6.5	2.7	1.9	.9	0
10	0	.2	1.1	1.3	19.3	9.2	19	6.4	3.2	1.6	.8	0
11	.1	.2	1.3	1.3	13.8	9.3	18	6.6	5.4	1.5	.7	0
12	.2	.3	1.1	1.3	4.7	8.8	18	6.6	5.4	1.6	.7	0
13	.2	1.0	1.1	1.4	*3.7	8.8	19	6.3	5.3	2.2	.7	0
14	.1	2.8	1.1	1.2	3.8	8.9	18	6.5	5.6	2.0	.6	0
15	.1	1.4	1.1	1.3	6.2	9.2	17	6.6	5.9	1.8	.5	1.0
16	.1	.6	1.1	1.3	4.4	9.3	16	8.2	5.8	1.6	.5	1.3
17	.1	.3	1.1	1.3	2.8	9.0	15	7.3	5.7	1.4	.5	1.0
18	*.1	.3	1.1	1.3	2.2	9.4	15	6.6	4.3	1.3	.5	.7
19	.1	.3	1.2	1.4	1.9	9.8	15	5.9	2.8	1.4	.5	.5
20	.1	* 1.3	1.1	1.5	1.6	11	13	5.6	2.5	1.2	.5	.4
21	.4	.6	1.1	1.7	1.3	10	12	5.1	2.1	1.1	.4	.3
22	.4	.7	1.1	1.8	1.2	12	12	5.1	2.2	.9	.4	.3
23	.3	.7	1.1	1.8	1.1	11	11	3.9	2.0	.9	.4	.3
24	.3	.6	1.1	1.9	1.1	11	11	3.8	2.0	.9	.4	.3
25	.4	1.4	1.1	1.9	9.5	12	11	4.2	1.9	.9	.4	.3
26	.4	3.8	1.2	1.9	9.2	13	10	5.0	2.0	.8	.3	.4
27	.4	1.6	1.1	2.1	8.7	14	10	5.4	1.8	.7	1.3	.5
28	.5	1.1	1.0	2.4	8.0	15	14	5.3	1.9	.7	1.2	.5
29	.5	1.1	1.1	2.4	-	15	11	4.9	2.0	.7	1.1	.5
30	.5	2.4	1.0	2.5	-----	15	9.7	4.6	1.9	.7	1.1	.4
31	.5	-----	.9	2.6	-----	15	-----	4.3	-----	.7	2.1	-----
Total	5.8	24.8	52.8	47.7	86.8	331.9	460.7	194.0	102.6	47.6	23.1	14.1
Mean	0.19	0.83	1.70	1.54	31.0	10.7	15.4	6.26	3.42	1.54	0.75	0.47
Max	0.5	3.8	11	2.6	193	15	21	9.0	5.9	5.4	2.1	2.2
Min	0	0.1	0.9	0.9	2.9	7.4	9.7	3.8	1.8	0.7	0.3	0
Ac-ft	12	49	105	95	1,720	658	914	385	204	94	46	28
Calendar year 1961:	Max	11	Min	0	Mean	1.58	Ac-ft	1,150				
Water year 1961-62:	Max	193	Min	0	Mean	5.96	Ac-ft	4,310				

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2575. Fresno River near Knowles, Calif.

Location.--Lat 37°14'15", long 119°46'25", in NW $\frac{1}{4}$ sec.15, T.8 S., R.20 E., on left bank at Fresno Crossing, 0.1 mile downstream from Bean Gulch and 6 miles northeast of Knowles.

Drainage area.--132 sq mi.

Records available.--September 1911 to December 1913, November 1915 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,086.4 ft above mean sea level (river-profile survey). Prior to June 13, 1930, staff gage 10 ft upstream and June 13, 1930, to Jan. 13, 1931, water-stage recorder at site 40 ft upstream at datum about 0.34 ft lower.

Average discharge.--47 years (1911-12, 1916-62), 75.9 cfs (54,950 acre-ft per year); median of yearly mean discharges, 64 cfs (46,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,640 cfs Feb. 10 (gage height, 5.29 ft); no flow Oct. 1-9.

1911-13, 1915-62: Maximum discharge, 13,300 cfs Dec. 23, 1955 (gage height, 11.52 ft), from rating curve extended above 2,400 cfs on basis of slope-area measurement of peak flow; no flow at times in some years.

Remarks.--Records good except those for period of no gage-height record, which are fair. Diversions for irrigation of about 160 acres above station. Diversions into Fresno River basin above station up to 50 cfs at times since 1897 from San Joaquin River basin and up to 50 cfs at times since about 1888 from Merced River basin, for irrigation downstream from station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.6	0	1.0	3.3	1.4	34	2.5	437
0.7	.1	1.1	6.4	1.6	82	3.0	695
0.8	.5	1.2	11	1.8	145	4.0	1,380
0.9	1.6	1.3	20	2.0	220	5.0	2,320

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	5.1	14	8.5	18	125	149	91	100	47	10	0.8
2	0	5.4	77	8.5	18	159	142	88	97	43	9.5	.9
3	0	5.4	52	8.5	18	142	142	115	97	41	8.5	1.0
4	0	5.7	22	8.5	17	135	145	122	97	38	8.5	1.1
5	0	5.1	17	8.5	17	200	152	115	94	36	9.0	.9
6	0	3.9	15	9.0	18	500	152	112	91	34	9.5	.8
7	0	3.9	13	9.0	34	550	152	109	91	31	9.5	.8
8	0	3.6	12	9.5	95	300	149	122	91	30	* 9.5	.7
9	0	3.3	11	10	753	250	149	125	91	28	8.0	1.0
10	.2	3.3	10	10	2,120	220	138	122	88	27	5.7	1.1
11	*.5	3.3	9.5	9.5	*2,060	200	138	122	85	25	4.2	.9
12	1.2	3.6	9.5	9.5	872	180	135	115	85	25	2.2	.7
13	2.0	3.3	10	11	479	163	132	119	82	31	1.6	.7
14	2.2	3.6	9.5	11	516	152	132	122	88	28	1.1	1.1
15	2.0	3.6	9.5	8.5	872	145	128	119	94	25	.5	1.3
16	1.7	3.6	9.0	9.5	960	135	122	* 122	94	24	.5	1.3
17	1.6	3.6	9.0	10	600	128	119	115	88	22	.2	1.4
18	1.2	3.6	9.5	11	370	122	119	109	85	19	.1	1.2
19	1.2	3.9	9.5	12	350	119	119	109	79	19	.1	1.2
20	1.3	9.5	9.5	52	300	135	119	106	77	19	.1	.8
21	1.6	19	10	33	*200	132	109	103	74	18	.1	*.8
22	2.0	9.0	10	20	177	184	106	103	72	17	.1	.9
23	*4.6	7.6	10	17	*167	216	103	103	66	15	.5	.8
24	4.5	* 8.0	10	16	170	159	*106	106	64	14	.5	.7
25	3.9	9.0	10	17	152	145	106	103	61	14	.8	.5
26	3.3	18	10	18	145	142	106	100	61	13	1.0	.8
27	3.3	21	*9.5	17	*132	*145	103	103	*59	13	.9	.7
28	3.6	13	9.0	17	132	149	122	103	56	12	.8	.8
29	4.2	11	8.5	17	-	145	115	100	54	11	.6	.7
30	5.7	13	8.0	17	-----	145	103	100	49	11	.6	1.1
31	5.1	-----	7.6	17	-----	142	-----	100	-----	10	.5	-----
Total	56.9	214.9	440.1	440.0	11,762	5,764	3,812	3,403	2,410	740	104.7	27.5
Mean	1.84	7.16	14.2	14.2	420	186	127	110	80.3	23.9	3.38	0.92
Max	5.7	21	77	52	2,120	550	152	125	100	47	10	1.4
Min	0	3.3	7.6	8.5	17	119	103	88	49	10	0.1	0.5
Ac-ft	113	426	873	873	23,330	11,430	7,560	6,750	4,780	1,470	208	55

Calendar year 1961: Max 77 Min 0 Mean 18.0 Ac-ft 13,050
 Water year 1961-62: Max 2,120 Min 0 Mean 79.9 Ac-ft 57,870

Peak discharge (base, 590 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1400	5.29	2,640	3-7	Unknown	2.87	673
2-16	0700	3.71	1,160				

* Discharge measurement made on this day.

Note.-- No gage-height record Feb. 16-21, Mar. 5-12.

11-2580. Fresno River near Daulton, Calif.

Location.--Lat 37°05'50", long 119°53'20", in NW $\frac{1}{4}$ sec. 3, T.10 S., R.19 E., on left bank 0.5 mile downstream from Willow Creek and 5.3 miles southeast of Daulton.

Drainage area.--259 sq mi.

Records available.--October 1941 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 385 ft (from topographic map). Prior to Sept. 27, 1946, at site 300 ft downstream and Sept. 27, 1946, to Sept. 28, 1949, at present site, at datum 2.37 ft higher.

Average discharge.--21 years, 96.0 cfs (69,500 acre-ft per year); median of yearly mean discharges, 63 cfs (46,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,340 cfs Feb. 11 (gage height, 6.80 ft); no flow Oct. 1 to Nov. 6, Aug. 17 to Sept. 30. 1941-62: Maximum discharge, 17,500 cfs Dec. 23, 1955 (gage height, 11.64 ft), from rating curve extended above 6,400 cfs; no flow at times.

Remarks.--Records good. No diversion for irrigation between this station and station near Knowles. Some regulation at low flow by mining operations above station. See Remarks for station near Knowles.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	18	12	32	213	201	77	114	45	5.6	
2		0	39	14	33	228	201	74	114	40	6.6	
3		0	82	14	32	330	194	84	117	38	6.6	
4		0	45	15	32	228	187	100	110	36	5.6	
5		0	33	15	32	201	183	100	103	31	7.1	
6		0	27	16	32	848	187	103	100	30	7.6	
7		.4	24	16	39	985	191	103	103	28	7.6	
8		1.0	22	16	75	622	187	110	103	27	*7.6	
9		1.2	21	18	911	550	180	124	107	24	7.6	
10		1.2	20	18	* 3,570	456	173	117	107	23	7.1	
11		1.1	19	16	* 4,430	428	166	124	107	23	6.2	
12		1.2	18	18	2,120	406	153	117	107	22	4.8	
13		1.4	15	18	957	338	148	117	107	22	3.2	
14		1.4	15	18	1,110	308	143	120	110	24	3.3	
15		1.6	15	16	1,830	283	144	120	120	22	1.5	
16		3.0	13	12	1,770	267	138	*120	124	20	.4	
17		3.0	14	13	1,130	251	131	134	120	18	0	
18		3.2	15	13	754	232	124	120	114	17	0	
19		2.2	16	16	712	220	124	114	110	16	0	
20		5.0	16	*54	658	216	127	114	100	14	0	
21		20	15	72	470	243	120	107	100	14	0	(*)
22		20	14	48	374	232	110	103	93	13	0	
23		9.8	14	39	* 317	462	100	114	80	11	0	
24		* 7.8	16	34	352	287	*100	117	77	10	0	
25		12	15	31	338	243	93	114	77	8.8	0	
26		18	13	31	361	232	90	107	70	3.0	0	
27		27	* 12	30	296	* 220	80	114	* 64	7.6	0	
28		22	13	31	* 235	216	90	117	60	7.6	0	
29		15	14	31	-	213	120	114	58	7.6	0	
30		*15	14	30	-----	209	100	114	56	7.1	0	
31		-----	13	32	-----	201	-----	114	-----	7.1	* 0	-----
Total	0	191.5	641	757	23,002	10,368	4,295	3,427	2,932	6,215	89.4	0
Mean	0	6.38	20.7	24.4	822	334	143	111	97.7	20.1	2.88	0
Max	0	27	82	72	4,430	985	201	134	124	45	7.6	0
Min	0	0	12	12	32	201	80	74	56	7.1	0	0
Ac-ft	0	380	1,270	1,500	45,620	20,560	8,520	6,800	5,820	1,230	177	0

Calendar year 1961: Max 82 Min 0 Mean 18.8 Ac-ft 13,630
 Water year 1961-62: Max 4,430 Min 0 Mean 127 Ac-ft 91,880

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-11	0200	6.80	5,340	3- 7	0100	3.59	1,320
2-15	1100	4.72	2,320	3-23	0400	2.56	646

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

SAN JOAQUIN RIVER BASIN

11-2588. East Fork Chowchilla River near Ahwahnee, Calif.

Location.--Lat 37°20'10", long 119°48'55", in NW 1/4 sec. 8, T.7 S., R.20 E., on right bank 1.1 miles upstream from mouth and 5.5 miles west of Ahwahnee.

Drainage area.--57.7 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 980 ft (from topographic map).

Average discharge.--5 years, 23.3 cfs (16,870 acre-ft per year).

Extremes.--Maximum discharge during year, 2,620 cfs Feb. 9 (gage height, 9.09 ft); no flow for many days.
1957-62: Maximum discharge, 3,290 cfs Apr. 3, 1958 (gage height, 9.88 ft); no flow for many days in 1959-62.

Remarks.--No known diversions upstream.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	6.2	1.9	5.7	75	56	23	8.1	1.7	0.1	0
2		0	78	2.0	5.7	188	53	22	7.9	1.6	0	0
3		0	25	2.1	5.4	214	51	20	7.4	1.6	.1	0
4		0	*8.7	2.1	4.6	190	50	19	7.3	1.3	.1	0
5		0	6.6	2.0	4.0	191	51	19	7.1	1.2	.1	0
6		0	5.1	1.6	*4.5	*383	51	18	6.6	1.1	.1	0
7		0	4.0	1.6	23	202	52	17	6.5	1.0	.1	0
8		0	3.5	1.6	*6.6	148	50	15	6.1	.8	.1	0
9		0	3.2	*1.7	*8.45	134	48	14	6.1	.7	.1	0
10		0	3.0	1.7	*1.250	114	46	14	5.3	.8	.1	0
11		0	3.0	1.7	902	116	43	15	5.0	.7	.1	0
12		.1	3.0	1.7	301	103	41	14	4.8	.8	0	0
13		.2	2.7	2.0	249	92	39	15	4.4	1.0	0	0
14		*.2	2.4	2.1	237	87	37	17	5.1	1.0	0	0
15		.2	2.4	2.0	*689	82	36	16	7.1	.9	0	0
16		.2	2.6	1.9	508	77	34	*19	7.4	.8	0	0
17		.3	2.5	1.9	228	70	31	17	6.0	.7	0	0
18		.2	2.3	1.9	163	66	31	15	4.9	*.7	0	0
19		.2	2.6	3.4	147	62	*29	14	3.9	.6	0	0
20		*1.8	2.6	39	131	68	35	14	*3.4	.4	0	0
21		5.8	2.6	15	113	58	31	12	3.0	.4	0	.1
22		2.9	2.6	8.8	103	*88	28	10	2.7	.4	0	0
23		1.6	2.2	*6.5	92	83	26	9.8	2.6	.3	0	0
24		1.5	2.0	5.3	94	64	23	9.7	2.5	.2	0	0
25		2.0	1.9	5.5	89	61	23	9.9	2.2	.2	0	0
26		6.4	2.0	5.1	87	63	24	10	2.0	.1	0	0
27		5.0	1.9	5.4	78	65	24	13	2.0	.1	0	0
28		2.7	1.9	5.3	77	64	37	14	2.0	.1	0	0
29		2.3	2.0	5.3	-	62	29	12	1.8	.1	0	0
30		3.3	2.1	5.4	-----	59	25	10	1.6	.1	0	0
31		-----	1.9	5.4	-----	54	-----	8.8	-----	.1	0	-----
Total	0	36.9	192.5	148.9	6501.9	3383	1134	456.2	142.8	21.5	1.0	0.1
Mean	0	1.23	6.21	4.80	232	109	37.8	14.7	4.76	0.69	0.03	0.003
Max	0	6.4	78	39	1,250	383	56	23	8.1	1.7	0.1	0.1
Min	0	0	1.9	1.6	4.0	54	23	8.8	1.6	0.1	0	0
Ac-ft	0	73	382	295	12,900	6,710	2,250	905	283	43	2.0	0.2
Calendar year 1961: Max 78 Min 0 Mean 3.91 Ac-ft 2,830												
Water year 1961-62: Max 1,250 Min 0 Mean 32.9 Ac-ft 23,840												

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

645

11-2589. West Fork Chowchilla River near Mariposa, Calif.

Location.--Lat 37°25'15", long 119°52'25", in SW 1/4 sec. 10, T.6 S., R.19 E., on left bank 15 ft downstream from bridge on Indian Peak Road, 0.5 mile downstream from Humbug Creek, and 6.7 miles southeast of Mariposa.

Drainage area.--33.6 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,680 ft (from topographic map).

Average discharge.--5 years, 12.5 cfs (9,050 acre-ft per year).

Extremes.--Maximum discharge during year, 1,570 cfs Feb. 9 (gage height, 7.16 ft); no flow for many days.

1957-62: Maximum discharge, 3,590 cfs Apr. 3, 1958 (gage height, 8.67 ft); no flow for many days in each year.

Remarks.--No known diversions upstream.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.1	0.2	0.9	32	21	6.7	2.3	0.1		
2			2.8	.2	.8	83	20	6.5	2.2	.1		
3	(*)		2.6	.2	.8	68	18	6.5	2.1	* 0	(*)	
4			1.0	.3	.8	51	16	6.2	1.8	0		
5			.6	.2	.7	46	15	* 5.7	1.8	0		(*)
6			.4	.2	.7	*320	*15	5.4	1.7	0		
7			.3	.2	2.9	173	15	5.2	*1.6	0		
8			.2	.2	*44	104	14	5.0	1.5	0		
9			.2	*.2	*621	90	14	4.6	1.2	0		
10			.2	.2	*932	72	12	5.0	1.1	0		
11			.2	.2	537	70	11	5.4	1.0	0		
12			.2	.2	*143	62	11	5.0	.9	.1		
13			.2	.3	134	55	10	5.2	.9	0		
14			.2	.3	131	48	9.5	5.9	1.1	0		
15			.2	.3	383	42	9.1	6.2	1.4	0		
16			.2	.3	254	43	9.1	6.3	1.4	0		
17			.2	.3	103	38	8.4	5.8	1.1	0		
18	(*)		.3	.3	71	33	8.1	4.9	.9	0		
19			.3	.6	80	31	8.9	4.5	.6	0		
20		(*)	.3	23	71	33	11	4.0	.5	0		
21			.3	4.7	55	31	8.8	3.8	.4	0		
22			.3	2.3	44	51	8.1	3.7	.4	0		
23			.3	*1.7	38	49	7.5	3.4	.4	0		
24			.2	1.5	44	38	6.9	3.2	.3	0		
25			.2	1.1	42	35	7.1	3.4	.3	0		
26			.2	1.0	46	32	7.3	3.3	.2	0		
27			*.2	1.0	39	28	7.4	4.5	.2	0		
28			.2	1.0	33	26	12	4.3	.2	0		
29			.2	1.0	-	25	8.7	3.3	.1	0		
30			.2	1.0	-----	23	7.5	2.8	.1	0		
31			.2	.9	-----	21	-----	2.5	-----	0		
Total	0	0	13.2	45.1	3852.6	1853	337.4	148.2	29.7	0.3	0	0
Mean	0	0	0.43	1.45	138	59.8	11.2	4.78	0.99	0.01	0	0
Max	0	0	2.8	23	932	320	21	6.7	2.3	0.1	0	0
Min	0	0	0.1	0.2	0.7	21	6.9	2.5	0.1	0	0	0
Ac-ft	0	0	26	89	7,640	3,680	669	294	59	0.6	0	0

Calendar year 1961: Max 11 Min 0 Mean 0.76 Ac-ft 551
 Water year 1961-62: Max 932 Min 0 Mean 17.2 Ac-ft 12,460

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2589.20. Middle Fork Chowchilla River near Nipinnawasssee, Calif.

Location.--Lat 37°23'00", long 119°50'12", in SW 1/4 sec.25, T.6 S., R.19 E., on right bank 3.4 miles upstream from West Fork and 6 miles west of Nipinnawasssee.

Drainage area.--12.3 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,520 ft (from topographic map).

Extremes.--Maximum discharge during year, 925 cfs Feb. 9 (gage height, 8.15 ft); no flow for several months.
1958-62: Maximum discharge, that of Feb. 9, 1962; no flow for several months in each year.

Remarks.--Small diversion above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.1	0.4	1.4	9.1	4.2	2.0	0.1		
2			1.0	.1	.3	* 4.9	8.9	4.4	1.7	.1		
3	(*)	(*)	4.6	.1	.3	3.5	8.8	4.1	1.9	* .1		
4			* 1.2	.1	.2	2.3	8.6	* 3.8	1.6	.1		
5			.6	.1	.2	2.0	8.4	3.7	1.8	0		(*)
6			.4	.1	.2	* 13.6	* 8.3	3.4	1.4	0		
7			.2	.1	1.2	6.5	8.6	3.3	* 1.1	0		
8			.3	.1	* 1.5	3.2	8.2	3.3	1.0	0		
9			.2	.1	3.49	2.6	8.1	3.3	1.2	0		
10			.2	.1	* 51.3	2.1	7.9	3.1	1.2	0		
11			.1	.1	3.90	2.2	7.6	3.2	.9	0		
12			.1	.1	* 9.2	2.2	7.0	3.2	.9	0		
13			.1	.1	7.3	1.8	6.4	3.4	.8	.1		
14			.1	.1	7.1	1.5	6.4	3.5	.9	0		
15			.1	.1	* 2.59	1.4	6.1	3.8	1.2	0		
16			.1	.1	1.57	1.3	6.0	3.8	1.1	0		
17			.1	.1	4.7	1.2	5.6	4.1	1.1	0		
18	(*)		.1	.1	2.6	1.1	5.4	3.5	1.0	* 0		
19			.2	.3	3.1	1.1	5.5	3.3	.7	0		
20			.1	7.8	2.6	1.0	6.8	2.9	.5	0		
21			.1	3.6	2.0	1.0	5.6	3.0	.5	0		
22			.1	* 1.7	1.6	1.9	5.3	2.9	.4	0		
23			.1	* 1.0	1.4	2.2	4.9	2.6	.3	0		
24			.1	.7	1.6	1.5	4.6	2.8	.3	0		
25			.1	.7	1.5	1.2	4.6	2.7	.3	0		
26			.1	.6	1.7	1.1	4.6	2.8	.2	0		
27			* .1	.6	1.4	1.0	4.4	3.0	.2	0		
28			.1	.6	1.3	1.0	7.3	3.4	.2	0		
29			.1	.6	-	9.7	5.8	2.8	.2	0		
30			.1	.5	-----	9.5	4.1	2.3	.1	0		
31		-----	.1	.4	-----	9.3	-----	2.3	-----	0		
Total	0	0	19.9	20.9	2,176.8	706.5	198.9	101.9	26.7	0.5	0	0
Mean	0	0	0.64	0.67	77.7	22.8	6.63	3.29	0.89	0.02	0	0
Max	0	0	10	7.8	513	136	9.1	4.4	2.0	0.1	0	0
Min	0	0	0	0.1	0.2	9.3	4.1	2.3	0.1	0	0	0
Ac-ft	0	0	39	41	4,320	1,400	395	202	53	1.0	0	0
Calendar year 1961: Max	15	Min	0	Mean	0.70	Ac-ft	509					
Water year 1961-62: Max	513	Min	0	Mean	8.91	Ac-ft	6,450					

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

SAN JOAQUIN RIVER BASIN

647

11-2590. Chowchilla River at Buchanan damsite, Calif.

Location.--Lat 37°13'00", long 119°59'00", in SE¹/₄ sec.22, T.8 S., R.18 E., on right bank 1.9 miles upstream from Raynor Creek and 4.3 miles west of Raymond.

Drainage area.--238 sq mi.

Records available.--October 1921 to September 1923, October 1930 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 407.30 ft above mean sea level, adjustment of 1912 (levels by Merced Irrigation District). October 1921 to September 1923 at site 2.5 miles upstream at different datum.

Average discharge.--34 years (1921-23, 1930-62), 97.4 cfs (70,510 acre-ft per year); median of yearly mean discharges, 72 cfs (52,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,400 cfs Feb. 9 (gage height, 10.28 ft); no flow for many days.

1921-23, 1930-62: Maximum discharge, 30,000 cfs Dec. 23, 1955 (gage height, 16.50 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurement at gage height 15.06 ft; no flow for part of each year except 1937-38, 1940-43.

Remarks.--Records good. No storage or large diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.0	0	1.7	5.0	4.0	304
1.1	.1	1.8	7.5	5.0	672
1.2	.4	1.9	11	6.0	1,190
1.3	.7	2.1	21	7.0	1,900
1.4	1.2	2.5	54	8.0	2,790
1.5	2.0	3.0	112	9.5	4,940
1.6	3.2	3.5	189		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.3	3.2	9.8	162	116	42	15	1.0		
2			16	3.2	9.4	200	113	40	13	.9		
3			62	3.2	9.1	370	107	38	12	.6		
4			24	3.2	8.4	216	103	36	12	.5		
5			14	3.2	8.1	193	99	34	11	.4		
6			9.8	3.2	7.8	776	97	31	10	2		
7			7.5	3.2	12	958	95	30	9.8	.1		
8			6.2	3.2	54	476	93	27	9.4	.1	(*)	
9			5.4	3.2	2,000	377	91	26	8.7	.1		
10			4.8	3.2	4,620	310	86	25	8.1	0		
11			4.2	3.0	*4,130	282	81	26	7.5	0		
12			4.0	3.5	1,460	274	76	26	6.7	0		
13			3.8	4.4	698	231	72	26	6.7	*0		
14			3.7	3.7	1,200	210	68	28	7.0	0		
15			3.5	3.7	2,320	193	66	30	7.5	0		
16			3.4	3.7	2,000	184	63	*31	9.8	0		
17			3.4	3.5	919	175	61	34	10	0		
18			3.4	3.5	538	162	57	30	8.7	0		
19			3.5	4.4	505	154	56	27	7.0	0		
20			3.5	4.0	513	152	60	24	5.7	0		(*)
21			3.5	7.0	*369	158	61	23	4.8	0		
22			3.5	32	288	176	54	22	4.0	0		
23			3.4	20	245	304	50	20	3.5	0		
24		(*)	3.4	15	243	187	*49	19	2.9	0		
25			3.2	13	236	166	45	19	2.4	0		
26			3.2	12	236	154	45	19	2.2	0		
27	(*)		3.2	11	204	147	44	20	1.9	0		
28			3.2	10	174	141	50	23	1.7	0		
29			*3.2	10	-	136	58	22	1.4	0		
30			3.2	10	-----	*129	48	20	1.2	0		
31			3.2	10	-----	122	-----	20	-----	0		
Total	0	0	222.6	318.4	23,016.6	7,875	2,164	838	211.6	3.9	0	0
Mean	0	0	7.18	10.3	822	254	72.1	27.0	7.05	0.13	0	0
Max	0	0	62	70	4,620	958	116	42	15	1.0	0	0
Min	0	0	0.3	3.0	7.8	122	44	19	1.2	0	0	0
Ac-ft	0	0	442	632	45,650	15,620	4,290	1,660	420	7.7	0	0

Calendar year 1961: Max 62 Min 0 Mean 6.45 Ac-ft 4,660

Water year 1961-62: Max 4,620 Min 0 Mean 94.9 Ac-ft 68,720

Peak discharge (base, 770 cfs)

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

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2100	10.28	6,400	3-7	0300	6.50	1,520
2-15	0900	8.64	3,600				

SAN JOAQUIN RIVER BASIN

11-2602. Bear Creek near Cathay, Calif.

Location.--Lat 37°28'40", long 120°06'45", in SE $\frac{1}{4}$ sec.21, T.5 S., R.17 E., on downstream side of bridge, 0.9 mile upstream from Raster Gulch, and 3.7 miles north of Cathay School.

Drainage area.--24.6 sq mi.

Records available.--January 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,210 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,260 cfs Feb. 9 (gage height, 8.46 ft); no flow for many days.

1958-62: Maximum discharge, 2,570 cfs Apr. 3, 1958 (gage height, 9.36 ft), from rating curve extended above 1,200 cfs; no flow for many days in each year.

Remarks.--No known diversion or regulation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.3	1.2	1.2	4.7	0.8				
2			3.4	.3	1.1	* 9.9	4.3	.7				
3		(*)	3.6	.3	1.3	6.5	3.9	.6				
4			1.3	.3	1.2	3.2	3.6	.6				
5			.9	.2	.9	2.4	3.3	.5				
6			.7	.2	*.8	4.23	3.2	.5				
7			*.5	.2	1.6	1.36	2.9	.5				
8			.4	.2	* 7.1	5.7	2.4	.5				
9			.3	.2	7.51	3.6	2.4	.4				
10			.2	.2	* 8.21	2.4	2.3	.4				
11			.3	.1	6.08	1.9	2.0	.4				
12			.5	.2	1.27	1.6	2.0	.4				
13			.5	.3	* 1.79	1.3	1.8	.3				
14			.5	.2	1.74	1.1	1.5	.3				
15			.5	.1	5.41	9.8	1.3	*.3				
16			.5	.2	3.64	9.0	1.2	.4				
17			.5	.3	10.6	7.9	1.1	.4				
18	(*)		.5	.3	5.8	7.1	1.0	.3				
19			.6	.5	1.35	6.4	* 1.0	.3				
20			.5	1.6	2.09	6.9	1.3	.3				
21			.6	1.8	7.4	7.6	1.3	.4				
22			.6	* 7.5	4.1	* 8.4	1.1	.4				
23			.5	5.7	2.6	2.2	1.0	.3				
24			.5	4.7	2.5	1.4	.9	.2				
25			.5	3.6	2.2	1.1	.9	.3				
26			.4	3.0	2.2	8.8	.8	.3				
27			.5	2.3	1.8	7.7	.8	.3				
28			.4	1.9	1.4	6.8	1.2	.2				
29			.4	1.7	-	6.2	1.3	.2				
30			.5	1.5	-----	5.5	1.0	.1				
31			.4	1.5	-----	5.0	-----	0	-----			-----
Total	0	0	21.5	72.0	4,394.1	1,117.1	57.5	11.6	0	0	0	0
Mean	0	0	0.69	2.32	157	36.0	1.92	0.37	0	0	0	0
Max	0	0	3.6	18	821	423	4.7	0.8	0	0	0	0
Min	0	0	0	0.1	0.8	5.0	0.8	0	0	0	0	0
Ac-ft	0	0	43	143	8,720	2,220	114	23	0	0	0	0

Calendar year 1961: Max 15 Min 0 Mean 0.57 Ac-ft 411
 Water year 1961-62: Max 821 Min 0 Mean 15.5 Ac-ft 11,260

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

SAN JOAQUIN RIVER BASIN

649

11-2604.8. Mariposa Creek near Cathay, Calif.

Location.--Lat 37°23'55", long 120°00'10", in SW 1/4 sec. 21, T.6 S., R.18 E., on downstream side of bridge on White Rock Road, 0.3 mile downstream from China Gulch and 5.6 miles east of Cathay School.

Drainage area.--66.0 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,230 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,840 cfs Feb. 9 (gage height, 10.39 ft); no flow for many days.

1958-62: Maximum discharge, that of Feb. 9, 1962; no flow for many days in each year.

Flood of Apr. 3, 1958, reached a stage of 11.62 ft (discharge, 4,530 cfs, from rating extended above 2,100 cfs).

Remarks.--Probably minor diversions for irrigation upstream from station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.7	4.0	49	18	5.5	1.6	0.1		
2			20	.7	3.9	120	17	4.9	1.4	0		
3		(*)	18	.7	3.6	126	16	4.5	1.2	0		
4			4.9	.7	3.4	83	15	4.3	1.0	0		
5			2.6	.6	3.3	71	14	4.0	1.0	0		
6			1.9	.6	3.0	700	14	3.8	1.0	0		
7			* 1.6	.6	1.1	378	13	3.7	.8	0		
8			1.5	.7	* 1.50	184	13	3.4	.9	0		
9			1.4	.7	* 1.490	133	12	3.2	.7	0		
10			1.3	.7	1.750	99	11	3.3	.6	0		
11			1.1	.6	* 1.280	85	10	3.6	.6	0		
12			.9	.8	3.18	72	9.9	3.6	.5	0		
13			.9	1.1	* 3.56	62	9.7	3.8	.4	0		
14			.9	.9	3.81	54	8.8	3.9	.5	0		
15			.8	.8	1.020	47	8.3	* 4.1	.6	0		
16			.9	.8	6.69	45	8.2	4.3	.6	0		
17			.9	.8	2.71	38	7.8	4.0	.6	0		
18			.8	.7	1.59	35	7.4	3.6	.7	* 0		
19			.9	1.1	2.00	30	* 7.5	3.2	.5	0		
20			.9	1.01	2.63	31	8.5	3.0	* .4	0		
21			.9	3.1	1.44	31	7.7	2.7	.3	0		
22			.9	* 1.5	1.07	* 3.7	7.1	2.5	.2	0		
23			.9	1.0	.84	40	6.5	2.4	.1	0		
24			.8	7.9	.87	29	6.1	2.3	.1	0		
25			.7	6.6	7.3	2.7	6.2	2.2	.1	0		
26			.7	5.9	7.4	2.5	5.9	2.4	.1	0		
27			.7	5.1	6.4	2.5	6.4	2.6	.1	0		
28			.8	4.6	5.5	2.3	8.0	2.7	0	0		
29			.7	4.3	-	2.1	6.6	2.5	0	0		
30			.7	4.0	-----	1.9	5.8	2.2	0	0		
31			.7	3.5	-----	1.8	-----	1.9	-----	0		
Total	0	0	70.7	213.2	9027.2	2737	295.4	104.1	16.6	0.1	0	0
Mean	0	0	2.28	6.88	322	88.3	9.85	3.36	0.55	0.003	0	0
Max	0	0	20	101	1,750	700	18	5.5	1.6	0.1	0	0
Min	0	0	0	0.6	3.0	18	5.8	1.9	0	0	0	0
Ac-ft	0	0	140	423	17,910	5,430	586	206	33	0.2	0	0

Calendar year 1961: Max 20 Min 0 Mean 1.55 Ac-ft 1,120
 Water year 1961-62: Max 1,750 Min 0 Mean 34.1 Ac-ft 24,730

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

SAN JOAQUIN RIVER BASIN

11-2610. Salt Slough near Los Banos, Calif.

Location--Lat 37°09'35", long 120°48'45", in Sanjon de Santa Rita Grant on left bank at San Luis Ranch, 600 yards downstream from confluence with Mud Slough, and 7.0 miles north of Los Banos, Merced County.

Records available--October 1940 to September 1962. Monthly discharge only for October to December 1940, published in WSP 1315-A.

Gage--Water-stage recorder. Datum of gage is 70.60 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge--22 years, 218 cfs (157,800 acre-ft per year).

Extremes--Maximum discharge during year, 220 cfs Feb. 20 (gage height, 4.65 ft); minimum daily, 4.0 cfs Oct. 27.
1941-62: Maximum daily discharge, 2,420 cfs Mar. 9, 1941; minimum daily, that of Oct. 27, 1962.

Remarks--Records good. Flow regulated by irrigation operations above station. Salt Slough is a continuation of Pick Anderson Slough system.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	2.5	5.7	3.4	8.0	16.0	16.4	8.2	7.8	3.9	8.0	6.7
2	4.8	2.2	6.4	4.0	7.9	15.1	15.9	8.4	7.4	4.4	7.1	7.6
3	4.6	1.6	6.6	4.6	8.0	14.9	15.0	9.0	7.3	4.9	5.7	8.6
4	4.5	1.4	6.6	4.6	7.9	14.7	12.9	8.7	*7.2	5.3	4.9	9.6
5	5.3	1.4	6.7	4.6	7.9	14.4	9.8	7.2	7.8	4.7	4.8	10.3
6	5.3	1.4	6.8	4.6	7.4	14.7	10.0	7.2	9.0	4.8	5.3	10.0
7	5.0	1.3	*6.8	4.4	7.7	14.7	10.3	7.4	9.7	5.4	5.7	10.5
8	4.4	3.4	6.5	4.3	8.0	14.5	11.5	7.0	10.6	6.0	5.8	11.2
9	3.4	8.4	6.2	5.3	10.9	13.9	12.4	7.0	9.2	7.8	6.1	11.3
10	3.2	9.8	6.0	5.3	15.6	13.7	*11.3	8.4	7.4	10.3	6.5	11.4
11	3.5	1.2	5.9	*5.1	*16.2	13.6	9.9	8.8	6.8	9.7	6.7	*9.3
12	*2.9	1.3	5.8	5.9	16.7	13.5	9.3	8.4	6.8	9.4	6.7	8.8
13	1.8	1.8	5.8	8.2	15.9	*13.3	11.1	9.0	7.0	9.7	7.6	10.4
14	2.2	*2.0	6.0	8.2	15.3	12.6	11.8	9.2	8.8	10.1	7.1	9.2
15	1.6	2.1	7.5	7.7	16.7	12.4	11.7	8.2	9.9	9.3	6.6	7.9
16	1.3	2.1	8.4	7.1	18.2	12.0	11.4	*8.5	10.4	9.6	5.6	7.1
17	9.8	2.0	8.7	6.8	19.5	13.5	10.5	8.9	10.4	9.3	6.4	7.6
18	5.7	1.9	8.7	6.7	19.9	14.0	11.4	9.0	10.7	8.5	7.6	7.9
19	4.6	1.8	8.3	6.8	21.1	13.9	11.2	9.7	11.6	*7.5	7.2	7.9
20	4.6	2.4	7.4	7.2	21.8	13.2	10.6	10.0	10.2	6.9	6.9	7.7
21	5.2	3.8	6.7	7.9	20.7	13.4	10.1	10.0	8.8	6.4	7.4	7.5
22	5.2	5.2	6.6	8.0	19.8	13.4	10.6	9.7	7.7	8.1	7.0	8.0
23	4.6	5.0	6.2	7.8	19.0	13.2	10.8	9.2	7.7	9.0	7.0	8.4
24	4.6	4.4	6.4	7.5	18.3	13.3	10.4	8.7	7.3	8.9	8.5	8.4
25	5.2	4.2	6.4	7.3	18.0	13.4	8.3	8.0	7.0	6.9	7.9	7.2
26	5.2	4.3	6.4	7.7	17.7	13.7	7.5	7.9	6.3	6.0	9.0	7.3
27	4.0	4.2	5.8	8.6	17.3	14.7	8.1	8.4	6.3	5.2	9.9	5.3
28	4.6	4.4	5.2	8.2	16.8	15.3	7.8	9.0	7.2	5.5	9.3	3.9
29	3.4	5.3	5.1	8.4	-	15.8	8.0	8.3	5.3	5.5	8.4	2.8
30	1.4	5.7	4.8	8.6	-----	16.2	8.7	8.0	4.1	6.5	7.9	3.1
31	1.9	-----	4.8	8.4	-----	16.5	-----	8.2	-----	8.0	7.4	-----
Total	683.7	795.6	2,012	2,032	4,182	4,375	3,247	2,636	2,437	2,235	2,180	2,429
Mean	22.2	26.5	64.9	65.5	149	141	108	85.0	81.2	72.1	70.3	81.0
Max	53	57	87	86	218	165	164	100	116	103	99	114
Min	4.0	8.4	4.8	3.4	7.4	120	7.5	7.0	4.1	3.9	4.8	2.8
Ac-ft	1,370	1,580	3,990	4,030	8,290	8,680	6,440	5,230	4,830	4,430	4,320	4,820

Calendar year 1961: Max 135 Min 4.0 Mean 59.8 Ac-ft 43,290
Water year 1961-62: Max 218 Min 4.0 Mean 80.1 Ac-ft 58,010

* Discharge measurement made on this day.

11-2615. San Joaquin River at Fremont Ford Bridge, Calif.

Location.--Lat 37°18'35", long 120°55'45", in Orestimba Grant, on left bank 150 ft downstream from Fremont Ford Bridge, Merced County, 2.1 miles downstream from Salt Slough, 4.5 miles west of Stevenson, and 6.7 miles upstream from Merced River.

Drainage area.--8,090 sq mi, approximately.

Records available.--March 1937 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Oct. 1, 1959, at datum 3.77 ft below mean sea level (levels by Topographic Division). Prior to Dec. 8, 1949, on downstream side of Fremont Ford Bridge near left bank.

Average discharge.--25 years, 836 cfs (605,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,800 cfs Feb. 18 (gage height, 64.91 ft); minimum daily, 14 cfs Nov. 6, 10, 14.
1944-62: Maximum discharge, 5,910 cfs Apr. 6, 1958 (gage height, 71.14 ft, datum then in use); minimum, 9.5 cfs Oct. 30, 1960.

Remarks.--Records good. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water from Delta-Mendota Canal (see p. 720). During periods of high flow, some water bypasses this station through Mud Slough; low flows consist mainly of return water from irrigated areas. See Remarks for stations upstream.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	22	56	38	112	880	349	167	221	90	130	136
2	48	18	61	32	105	*794	347	*167	185	111	138	130
3	55	17	75	31	101	725	339	166	173	106	142	136
4	51	17	75	35	105	716	329	149	168	112	123	143
5	51	15	70	36	107	728	300	156	160	120	119	134
6	54	14	*73	33	110	695	270	150	*170	114	136	137
7	66	16	65	54	*112	852	258	155	193	114	137	131
8	56	16	61	85	115	1,340	243	142	162	122	*140	128
9	50	15	61	105	162	1,670	241	158	158	136	134	152
10	45	14	55	115	357	1,690	250	164	154	*125	127	164
11	37	17	52	*115	1,100	1,400	247	*160	154	150	130	149
12	30	13	51	111	*2,160	1,070	*227	166	138	158	142	*134
13	*32	15	50	110	*3,060	863	219	142	123	143	155	124
14	35	*14	51	114	*3,310	737	219	148	118	132	144	134
15	31	19	50	115	3,330	648	216	180	140	148	132	122
16	30	23	51	105	3,390	590	214	202	149	156	138	112
17	30	27	60	95	*3,660	516	210	200	152	166	116	107
18	28	24	70	89	3,780	483	209	192	154	162	116	114
19	27	21	72	85	3,670	452	214	193	167	149	124	115
20	25	32	72	95	3,350	*423	207	202	175	136	124	112
21	23	31	64	110	*3,020	405	197	216	150	124	122	105
22	22	33	60	122	2,730	395	187	232	123	116	122	102
23	19	41	46	115	2,400	381	187	236	116	140	106	101
24	21	48	40	107	1,970	357	188	222	111	150	111	102
25	21	50	36	105	1,550	345	183	222	105	142	122	103
26	20	50	35	99	1,230	341	170	214	102	132	119	86
27	19	45	49	99	1,020	357	163	222	97	107	142	76
28	19	43	49	111	944	387	172	234	106	101	137	76
29	17	40	42	112	-	*385	150	239	110	106	142	73
30	23	48	34	115	-----	371	152	236	94	107	131	73
31	*23	-----	34	115	-----	355	-----	234	-----	115	136	-----
Total	1,061	803	1,725	2,811	4,706	21,351	5,862	5,866	4,333	3,990	4,037	3,511
Mean	34.2	26.8	55.7	90.7	1,681	689	229	189	144	129	130	117
Max	66	50	75	122	3,780	1,690	349	239	221	166	155	164
Min	17	14	34	31	101	341	150	142	94	90	106	73
Ac-ft	2,100	1,590	3,420	5,580	93,340	42,350	13,610	11,640	8,590	7,910	8,010	6,960

Calendar year 1961: Max 304 Min 14 Mean 88.7 Ac-ft 64,170
Water year 1961-62: Max 3,780 Min 14 Mean 283 Ac-ft 205,100

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2628. Los Banos Creek near Los Banos, Calif.

Location.--Lat 37°01'00", long 120°54'05", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.10 S., R.10 E., at Delta-Mendota Canal siphon crossing, 4.3 miles southwest of Los Banos.

Drainage area.--159 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 175 ft (from topographic map). Prior to Sept. 9, 1959, at datum 1.00 ft higher.

Extremes.--Maximum discharge during year, 2,230 cfs, Feb. 15 (gage height, 4.43 ft), from rating curve extended above 1,300 cfs; minimum, no flow for most of year.

1958-62: Maximum discharge, that of Feb. 15, 1962; no flow at times in most years.

Flood of Dec. 23, 1955, reached a stage of 12.07 ft (present datum), from flood mark in well (discharge, 11,400 cfs on basis of slope-area measurement of peak flow).

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.36	0	1.2	35
.4	.4	1.4	61
.5	1.5	1.7	115
.6	3.0	2.0	195
.7	5.0	2.5	405
.8	7.9	3.0	740
1.0	16		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	22	0.2					
2					0	21		(*)				
3					0	30	.1					
4					0	23	.1		(*)			
5			(*)		0	20	0					
6					0	68	0					
7					0	97	0					
8					0	51	0					
9					* 336	36	0					
10					262	28	* 0					
11					406	22	0					(*)
12					130	19	0					
13				(*)	* 59	* 16	0					
14		(*)			202	15	0					
15					641	14	0					
16					423	12	0					
17	(*)				198	11	0					
18					360	10	0					
19					578	9.1	0					
20					* 165	7.9	0					
21					103	7.0	0					
22					64	6.7	0					
23					46	7.6	0					
24					56	8.7	0					
25					60	6.4	0					
26					* 41	5.3	0					
27					32	4.4	0					
28					* 26	3.8	0					
29					-	3.0	0					
30						* 1.2	0			(*)		
31				(*)		2						
Total	0	0	0	0	4,188	586.3	0.5	0	0	0	0	0
Mean	0	0	0	0	150	18.9	0.02	0	0	0	0	0
Max	0	0	0	0	641	97	0.2	0	0	0	0	0
Min	0	0	0	0	0	0.2	0	0	0	0	0	0
Ac-ft	0	0	0	0	8,310	1,160	1.0	0	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0

Water year 1961-62: Max 641 Min 0 Mean 13.1 Ac-ft 9,470

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	1500	3.58	1,310	2-18	2300	4.27	2,060
2-15	0700	4.43	2,230	3- 6	2230	1.76	130

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

SAN JOAQUIN RIVER BASIN

653

11-2630. San Luis Creek near Los Banos, Calif.

Location.--Lat 37°03'55", long 121°04'15", in San Luis Gonzaga Grant, on left bank 300 ft downstream from Cottonwood Creek, and 11.5 miles west of Los Banos, Merced County.

Drainage area.--84.7 sq mi.

Records available.--October 1949 to September 1962. Monthly discharge only for some periods, published in WSP 1735.

Gage.--Water-stage recorder. Altitude of gage is 231 ft (from topographic map).

Average discharge.--13 years, 5.88 cfs (4,260 acre-ft per year).

Extremes.--Maximum discharge during year, 798 cfs Feb. 15 (gage height, 4.93 ft); no flow for several months.

1949-53, 1958-62: Maximum discharge, 2,760 cfs Nov. 19, 1950 (gage height, 5.60 ft), from rating curve extended above 470 cfs on basis of slope-area measurement of peak flow; no flow for several days to several months each year.

Flood of Apr. 2, 1958 reached a stage of 7.99 ft (discharge, 3,420 cfs, by slope-area measurement of peak flow).

Remarks.--Records good. No storage or large diversions.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.7	0	2.3	20
1.8	.3	2.6	51
1.9	1.1	2.9	88
2.0	3.2	3.3	160
2.1	7.0	3.8	290
2.2	12		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	0.6	0.4	0.4				
2				0	0	.6	.4	*.3				
3				0	0	.5	.4	.2				
4				0	0	.6	.4	.2				
5			(*)	0	.1	.6	.4	.1				
6				0	0	.6	.4	.1				
7				0	.1	1.4	.4	.1				
8				0	.2	1.4	.2	.2				
9				0	*.7	.7	.3	.2				
10				0	11	.5	.2	.2				
11				0	82	.5	.3	.2				(*)
12				0	28	.5	.3	.1				
13				*.0	*.12	.5	.3	.1				
14		(*)		0	129	.5	.3	.1				
15				0	261	.5	.4	0				
16				0	115	.5	.6	0				
17	(*)			0	66	.5	.4	0				
18				0	82	.5	.2	.1				
19				0	*175	.4	0	0				
20				.1	80	.5	0	0				
21				.1	33	.4	0	0				
22				.1	14	.4	0	0				
23				.1	6.2	.4	.1	0				
24				.1	3.8	.5	.2	0				
25				.1	2.6	.5	.2	0				
26				0	1.2	.6	.3	0	(*)			
27				0	.4	.6	.4	0				
28				0	.6	.5	.4	0				
29				.1	-	.4	.4	0				
30				0	-----	.4	.5	0		(*)		
31				*.0	-----	.4	-----	0	-----	-----	-----	-----
Total	0	0	0	0.7	1.103.9	17.5	8.8	2.6	0	0	0	0
Mean	0	0	0	0.02	39.4	0.56	0.29	0.08	0	0	0	0
Max	0	0	0	0.1	261	1.4	0.6	0.4	0	0	0	0
Min	0	0	0	0	0	0.4	0	0	0	0	0	0
Ac-ft	0	0	0	1.4	2,190	35	17	5.2	0	0	0	0

Calendar year 1961: Max 1.5 Min 0 Mean 0.08 Ac-ft 57

Water year 1961-62: Max 261 Min 0 Mean 3.11 Ac-ft 2,250

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-11	1100	3.10	117	2-18	2300	4.15	410
2-15	0600	4.93	798				

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

SAN JOAQUIN RIVER BASIN

11-2645. Merced River at Happy Isles Bridge, near Yosemite, Calif.

Location.--Lat 37°43'54", long 119°33'28", on right bank 10 ft downstream from Happy Isles Bridge, 0.4 mile downstream from Illilouette Creek, and 2.0 miles southeast of Yosemite National Park Headquarters, Mariposa County.

Drainage area.--181 sq mi.

Records available.--August 1915 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4,016.58 ft above mean sea level, datum of 1929. Prior to Nov. 2, 1916, staff gage at datum 0.55 ft lower.

Average discharge.--47 years, 335 cfs (242,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,230 cfs June 10 (gage height, 6.35 ft); minimum, 4.6 cfs Oct. 19.
1915-62: Maximum discharge, 9,860 cfs Dec. 23, 1955 (gage height, 12.73 ft), from rating curve extended above 4,000 cfs on basis of contracted-opening measurements at gage heights 10.4 and 11.55 ft; minimum, 1.5 cfs Sept. 30, 1926.

Remarks.--Records good except those for period of ice effect, which are fair. About 1 cfs diverted above station for Yosemite Valley water supply.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.1	10	3.0	250
1.3	18	3.5	405
1.6	36	4.0	600
2.0	70	5.0	1,150
2.5	143	6.2	2,090

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	11	29	29	50	*68	332	767	1,530	882	196	32
2	13	12	35	28	56	71	349	1,010	1,800	872	186	29
3	12	12	36	28	58	72	388	1,350	1,820	888	167	27
4	11	12	40	27	60	72	475	1,670	1,290	833	152	25
5	11	11	43	27	63	78	564	1,860	1,280	877	138	24
6	10	11	42	28	63	77	614	1,940	1,450	833	126	22
7	9.6	10	40	37	74	78	705	1,790	1,630	745	118	22
8	9.3	8.9	37	38	83	87	778	*1,760	1,720	705	104	20
9	8.9	8.9	30	*39	220	82	910	1,630	1,890	632	108	19
10	7.5	8.2	28	37	178	81	922	1,380	2,000	560	124	17
11	8.2	8.2	25	33	152	77	922	1,120	1,860	499	112	17
12	8.9	8.2	28	32	154	69	*1,040	1,010	1,770	523	96	17
13	6.8	7.5	24	32	167	69	1,160	778	1,700	600	90	16
14	6.8	7.5	25	24	165	70	1,280	660	1,620	475	86	16
15	7.1	7.8	24	27	172	71	1,270	582	1,210	433	85	16
16	7.8	7.5	23	24	157	75	1,160	622	1,080	419	87	15
17	9.3	7.5	24	24	152	71	1,210	582	1,180	398	85	*14
18	6.8	7.1	23	25	133	70	1,300	609	1,540	388	78	13
19	5.4	6.8	25	26	123	72	1,280	604	1,800	363	74	12
20	5.4	9.6	27	22	113	80	934	585	*1,880	346	67	12
21	15	12	27	26	94	77	860	527	1,830	329	61	11
22	15	13	27	30	94	80	1,060	665	1,800	349	57	10
23	13	14	29	33	91	76	1,270	877	1,720	363	56	9.6
24	*12	16	31	35	88	82	1,350	730	1,530	384	53	8.9
25	13	18	32	37	b 68	107	1,180	680	1,420	308	50	8.6
26	14	23	32	37	b 70	147	982	622	1,350	284	49	40
27	14	*22	30	35	b 70	178	1,000	547	1,250	278	48	46
28	14	22	29	36	b 72	212	888	495	1,130	272	45	59
29	14	24	29	40	-	242	715	705	1,040	260	42	52
30	12	27	28	42	-----	263	665	1,100	976	*232	38	42
31	12	-----	29	46	-----	293	-----	1,400	-----	208	35	-----
Total	326.8	373.7	931	984	3,040	3,249	27,563	30,658	46,096	15,538	2,813	672.1
Mean	10.5	12.5	30.0	31.7	109	105	919	989	1,537	501	90.7	22.4
Max	15	27	43	46	220	293	1,350	1,940	2,000	888	196	59
Min	5.4	6.8	23	22	50	68	332	495	976	208	35	8.6
Ac-ft	648	741	1,850	1,950	6,030	6,440	54,670	60,810	91,430	30,820	5,580	1,330

Calendar year 1961: Max 970 Min 5.4 Mean 156 Ac-ft 113,300

Water year 1961-62: Max 2,000 Min 5.4 Mean 362 Ac-ft 262,300

Peak discharge (base, 1,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-6	0100	6.28	2,160	6-10	0300	6.35	2,230
6-3	0200	6.28	2,160	6-20	0330	6.23	2,120

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

11-2665. Merced River at Pohono Bridge, near Yosemite, Calif.

Location.--Lat 37°43'01", long 119°39'55", on left bank 150 ft upstream from Pohono Bridge, 0.4 mile upstream from Artist Creek, and 4.8 miles southwest of Yosemite National Park Headquarters, Mariposa County.

Drainage area.--321 sq mi.

Records available.--October 1916 to September 1962. Monthly discharge only for October and November 1916, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 3,861.66 ft above mean sea level, datum of 1929. Prior to Sept. 5, 1918, at datum 1.8 ft higher and Sept. 5, 1918, to Sept. 30, 1955, at datum 1.0 ft higher.

Average discharge.--46 years, 587 cfs (425,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,300 cfs May 6 (gage height, 8.59 ft); minimum daily, 14 cfs Oct. 18.

1916-62: Maximum discharge, 23,400 cfs Dec. 23, 1955 (gage height, 21.52 ft, from floodmark in well), from rating curve extended above 6,800 cfs on basis of computation of flow over diversion dam for Yosemite powerhouse 1 mile downstream at gage heights 20.1 and 20.98 ft, present datum; minimum, 3.3 cfs Sept. 29, Oct. 1, 1924.

Remarks.--Records good. No diversions between stations at Happy Isles Bridge and Pohono Bridge. About 1 cfs sewage effluent returns between stations. See Remarks for Merced River at Happy Isles Bridge, near Yosemite.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.1	12	3.0	236
1.3	19	4.0	520
1.5	28	5.0	1,030
1.8	49	6.0	1,730
2.1	76	7.0	2,640
2.5	134	8.2	3,870

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	21	55	60	110	164	646	1,700	2,650	1,190	248	48
2	23	21	76	58	123	170	665	2,120	3,100	1,160	236	47
3	21	21	70	58	132	156	740	2,740	3,170	1,160	216	45
4	20	21	75	56	121	168	893	3,330	2,300	1,080	199	43
5	19	21	80	58	134	178	1,070	3,670	2,200	1,110	184	43
6	19	21	81	58	134	199	1,160	3,860	2,400	1,060	170	43
7	19	21	74	71	162	184	1,350	3,630	2,670	959	162	41
8	18	21	71	84	188	196	1,480	*3,550	2,820	910	148	40
9	18	21	64	*86	517	192	1,690	3,330	3,010	838	145	38
10	18	21	61	82	485	178	1,750	2,900	3,140	740	164	36
11	17	21	55	73	400	178	1,750	2,340	2,960	665	156	35
12	17	21	53	71	353	164	*1,940	2,170	2,790	680	138	33
13	17	21	54	68	367	168	2,210	1,670	2,630	822	131	33
14	17	21	52	55	353	174	2,460	1,460	2,510	650	126	32
15	16	20	51	55	403	176	2,520	1,270	1,980	578	121	32
16	16	20	50	54	350	178	2,310	1,350	1,770	544	121	31
17	15	20	49	51	323	168	2,370	1,310	1,860	513	120	*30
18	14	20	49	52	289	176	2,530	1,340	2,250	492	113	29
19	15	19	51	56	267	178	2,550	1,340	2,550	464	107	28
20	15	24	55	62	246	194	1,840	1,290	*2,650	438	99	27
21	18	24	58	54	214	180	1,740	1,160	2,590	412	91	26
22	26	24	57	59	210	196	2,110	1,400	2,540	420	84	26
23	24	25	61	64	205	184	2,500	1,750	2,390	426	78	26
24	*23	26	66	*64	210	196	2,720	1,520	2,100	450	83	26
25	23	31	69	71	172	234	2,430	1,410	1,910	417	69	26
26	23	39	69	72	184	292	2,090	1,270	1,790	356	67	43
27	24	*39	62	71	164	350	2,120	1,160	1,660	342	65	55
28	25	39	62	73	*168	409	2,000	1,090	1,510	331	61	69
29	24	44	61	80	-	464	1,640	1,360	1,390	320	59	68
30	23	51	59	87	-----	510	1,510	1,950	1,300	*294	55	61
31	21	-----	60	99	-----	556	-----	2,400	-----	265	52	-----
Total	609	759	1,910	2,062	6,984	7,110	54,784	62,840	70,590	20,086	3,868	1,160
Mean	19.6	25.3	61.6	66.5	249	229	1,826	2,027	2,353	648	125	38.7
Max	26	51	81	99	517	556	2,720	3,860	3,170	1,190	248	69
Min	14	19	49	51	110	156	646	1,090	1,300	265	52	26
Ac-ft	1,210	1,510	3,790	4,090	13,850	14,100	108,700	124,600	140,000	39,840	7,670	2,300
Calendar year 1961:	Max	1,380	Min	14	Mean	256	Ac-ft	185,400				
Water year 1961-62:	Max	3,860	Min	14	Mean	638	Ac-ft	461,700				

Peak discharge (base, 2,900 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-24	0200	7.36	3,000	6-10	0300	7.83	3,470
5-6	0100	8.59	4,300	6-20	0500	7.29	2,930
6-3	0200	8.02	3,670				

SAN JOAQUIN RIVER BASIN

11-2673. South Fork Merced River at Wawona, Calif.

Location.--Lat 37°32'20", long 119°39'40", in SW $\frac{1}{4}$ sec.34, T.4 S., R.21 E., in Yosemite National Park, Mariposa County, 1,000 ft downstream from highway bridge at Wawona, and 1,200 ft upstream from Big Creek.

Drainage area.--99.2 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,030 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,110 cfs May 5 (gage height, 5.50 ft); minimum, 0.9 cfs Oct. 13.

1958-62: Maximum discharge, that of May 5, 1962; minimum, 0.6 cfs Sept. 5, 1960.

Flood of Dec. 23, 1955, reached a stage of about 12 ft, from floodmarks (discharge, about 15,000 cfs).

Remarks.--Records good except those for period of ice effect, which are fair. Diversion of about 0.5 cfs above station for town of Wawona. Small amount diverted above station during summer for irrigation of Wawona Golf Course.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.78	1.1	2.0	88
.8	1.3	2.5	180
.9	2.8	3.0	330
1.0	5.2	3.5	535
1.2	13	4.0	800
1.4	24	5.0	1,600
1.6	40		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	2.6	1.6	1.6	3.6	4.9	2.25	6.98	1.180	2.20	2.2	3.4
2	1.4	2.6	3.7	1.5	3.9	4.9	2.35	9.54	1.300	2.10	2.0	3.4
3	1.4	2.4	1.8	1.4	4.0	5.7	2.74	1.270	1.060	1.95	1.9	3.0
4	1.4	2.4	1.6	1.4	4.1	4.9	3.34	1.500	8.21	1.78	1.8	3.0
5	1.4	2.4	1.8	1.5	4.4	5.8	4.01	1.580	8.70	1.82	1.7	3.0
6	1.2	2.4	1.8	1.5	4.3	9.6	4.54	1.490	9.68	1.62	1.5	3.0
7	1.3	2.4	1.6	1.8	7.2	7.0	5.26	1.440	1.010	1.44	1.4	2.8
8	1.4	2.3	1.5	2.2	1.12	6.3	5.90	* 1.400	1.050	1.33	1.3	2.8
9	1.3	2.3	1.2	* 2.3	7.69	6.2	6.70	1.270	1.100	1.18	1.4	2.8
10	1.3	2.4	1.2	2.3	5.53	5.6	6.80	1.050	1.050	1.06	1.5	2.8
11	1.4	2.6	1.2	2.0	3.73	5.6	6.85	8.70	9.82	9.6	1.4	2.8
12	1.4	2.6	1.1	2.0	1.92	5.1	* 7.52	7.53	9.19	1.07	1.2	2.6
13	1.2	2.6	1.0	1.8	1.80	5.4	8.56	5.40	8.14	1.22	1.1	2.6
14	1.1	2.6	1.0	1.5	1.73	5.7	9.40	4.45	7.70	9.6	9.8	2.6
15	1.4	2.6	9.8	1.3	3.16	5.6	9.54	3.73	6.05	8.2	9.0	2.8
16	1.4	2.6	9.8	1.3	1.80	5.6	9.33	3.85	6.00	7.7	7.8	2.8
17	1.4	2.6	9.8	1.4	1.29	5.4	9.40	3.97	6.80	6.9	7.4	* 2.8
18	1.6	2.4	1.0	1.4	1.04	5.4	1.010	4.45	7.70	6.6	7.0	2.3
19	1.6	2.4	1.1	1.5	9.3	5.8	9.47	4.58	8.07	5.6	6.6	2.4
20	1.7	7.4	1.2	4.4	8.2	6.2	6.05	4.50	* 7.64	5.4	5.8	2.3
21	2.4	7.8	1.4	3.8	7.2	5.6	6.30	4.25	7.15	5.0	5.5	2.3
22	5.6	5.6	1.4	2.9	6.9	6.7	8.70	6.05	6.75	4.8	5.2	2.3
23	3.0	7.8	1.5	2.0	6.7	6.3	1.020	6.98	5.58	4.5	5.0	2.3
24	* 2.6	8.2	1.7	* 2.0	6.8	6.2	1.030	6.00	4.90	4.7	5.2	2.1
25	2.1	1.3	1.3	2.0	6.2	8.2	8.91	5.35	4.50	3.7	5.0	2.3
26	1.8	2.1	1.7	2.2	5.8	1.09	8.00	4.54	3.97	3.6	4.7	4.2
27	2.6	* 1.1	1.6	2.2	5.7	1.27	8.00	3.77	3.54	3.2	4.0	6.2
28	3.2	8.6	1.5	2.5	* 5.1	1.44	6.98	3.85	3.09	3.0	3.7	5.2
29	3.4	9.4	1.5	2.5	-	1.58	5.85	6.20	2.74	2.8	3.7	5.8
30	3.0	1.3	1.6	3.0	-----	1.75	5.62	9.40	2.45	* 2.5	3.7	4.7
31	2.8	-----	1.6	3.0	-----	2.02	-----	1.080	-----	2.3	3.7	-----
Total	61.6	160.0	456.4	64.3	4.075	2.413	20.899	24.492	22.588	2.874	305.8	93.4
Mean	1.99	5.33	14.7	20.7	146	77.8	697	790	753	92.7	9.90	3.11
Max	6.6	21	37	44	769	202	1,030	1,580	1,300	220	22	6.2
Min	1.1	2.3	9.8	1.3	36	4.9	225	373	245	23	3.7	2.1
Ac-ft	122	317	905	1,280	8,080	4,790	41,450	48,580	44,800	5,700	609	185
Calendar year 1961:	Max	553	Min	1.1	Mean	76.7	Ac-ft	55,470				
Water year 1961-62:	Max	1,580	Min	1.1	Mean	217	Ac-ft	156,800				

Peak discharge (base 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1100	4.65	1,290	5-5	2200	5.50	2,110
4-18	2400	4.56	1,220	6-2	2000	5.30	1,900
4-23	2300	4.63	1,270				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 9-13, Jan. 14-18, 23-31.

SAN JOAQUIN RIVER BASIN

657

11-2680. South Fork Merced River near El Portal, Calif.

Location.--Lat 37°39'05", long 119°53'05", in NW 1/4 sec. 29, T.3 S., R.19 E., on right bank 1,400 ft upstream from mouth and 6.2 miles west of El Portal.

Drainage area.--239 sq mi.

Records available.--November 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,400 ft (from topographic map).

Average discharge.--11 years, 319 cfs (230,900 acre-ft per year); median of yearly mean discharges, 258 cfs (187,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,720 cfs Feb. 9 (gage height, 10.26 ft), from rating curve extended above 2,700 cfs as explained below; minimum, 3.6 cfs Oct. 8.

1950-62: Maximum discharge, 46,500 cfs Dec. 23, 1955 (gage height, 18.70 ft), from rating curve extended above 2,700 cfs on basis of slope-area measurement at gage height 17.63 ft; minimum, 2.2 cfs Aug. 26, 27, 1961.

Remarks.--Records good. Big Creek ditch diverts up to 50 cfs at times into Fresno River basin. Diversion of 0.5 cfs at Wawona for domestic use and irrigation of golf course.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

4.2	3.3	5.6	137
4.4	7.0	6.0	255
4.6	14	6.5	505
4.8	24	7.0	890
5.0	40	8.0	1,940
5.3	79	9.0	3,350

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	9.1	6.3	28	64	* 195	481	953	1,290	267	37	12
2	4.6	9.1	3.1	28	64	221	481	1,200	1,440	248	34	12
3	4.4	9.1	1.30	28	66	212	518	1,500	1,330	238	32	11
4	4.3	9.1	6.7	27	66	224	598	1,730	953	218	30	11
5	3.9	9.1	5.2	26	67	231	712	1,840	990	215	30	10
6	3.9	8.8	4.8	27	70	728	768	1,800	1,070	199	30	11
7	3.9	8.8	4.3	28	135	598	881	1,690	1,160	182	28	11
8	3.8	8.8	3.8	31	339	469	944	1,640	1,170	165	27	11
9	3.8	8.2	3.4	36	3,070	395	1,070	* 1,590	1,230	152	25	11
10	4.1	8.2	3.1	* 37	3,230	331	1,080	1,400	1,190	137	27	11
11	4.7	8.2	2.9	37	* 2,220	318	1,060	1,150	1,100	124	30	11
12	5.7	8.2	2.6	34	1,130	287	1,110	1,080	1,040	126	28	11
13	5.0	8.5	2.8	35	735	283	* 1,240	784	980	162	26	11
14	5.0	8.5	2.6	31	784	275	1,350	664	935	133	23	11
15	5.7	8.8	2.6	22	1,850	263	1,360	564	704	119	20	11
16	5.5	8.8	2.4	25	1,540	255	1,290	557	696	106	19	11
17	5.3	8.8	2.4	26	827	241	1,300	544	720	95	18	11
18	5.3	8.8	2.5	26	577	231	1,370	619	845	93	17	* 10
19	5.3	8.8	2.6	29	469	235	1,400	612	863	84	17	10
20	5.3	15	2.6	79	428	259	971	619	845	78	17	9.4
21	5.5	30	2.8	48	360	241	890	531	* 776	73	16	9.7
22	5.0	19	3.0	42	322	283	1,150	688	736	68	16	10
23	10	17	2.9	39	291	287	1,330	917	656	67	14	10
24	10	17	2.9	40	283	275	1,410	776	557	66	14	9.7
25	* 8.2	19	3.1	42	245	287	1,260	704	499	61	14	9.4
26	7.9	84	3.2	43	238	325	1,100	605	463	54	13	11
27	7.3	48	3.2	49	209	360	1,160	524	406	51	12	12
28	7.9	* 31	2.9	54	212	396	1,080	463	360	48	12	15
29	9.4	26	2.8	58	-	396	926	648	318	43	11	14
30	10	34	2.8	60	-----	418	809	1,040	291	41	11	14
31	9.4	-----	2.7	60	-----	443	-----	1,220	-----	* 38	11	-----
Total	187.5	505.4	1,400	1,175	14,892	4,967	31,099	30,652	25,613	3,752	659	332.2
Mean	6.05	16.8	45.2	37.9	710	322	1,037	989	854	121	21.3	11.1
Max	10	84	311	79	3,230	728	1,410	1,840	1,440	267	37	15
Min	3.8	8.2	24	22	64	196	481	463	291	38	11	9.4
Ac-ft	372	1,000	2,780	2,330	39,460	19,770	61,680	60,800	50,800	7,440	1,310	659

Calendar year 1961: Max 666 Min 2.3 Mean 108 Ac-ft 78,490
 Water year 1961-62: Max 3,230 Min 3.8 Mean 343 Ac-ft 248,400

Peak discharge (base 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1530	10.26	5,720	5-6	0030	8.32	2,350
2-15	1000	8.33	2,360				

* Discharge measurement made on this day.

11-2685. Merced River at Bagby, Calif.

Location.--Lat 37°36'40", long 120°07'50", in SE¹ sec.6, T.4 S., R.17 E., on left bank 800 ft upstream from highway bridge at Bagby and 0.3 mile upstream from Flyaway Gulch.

Drainage area.--912 sq mi.

Records available.--October 1922 to September 1962. Published as "at Horseshoe Bend" November 1922 to September 1931 and as "at Kitttridge" October 1931 to September 1947. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 779.52 ft above mean sea level, datum of 1929. Prior to No. 24, 1928, water-stage recorder at site 5.0 miles downstream at different datum. Nov. 24, 1928, to Nov. 3, 1947, water-stage recorder at site 3.8 miles downstream at different datum. Nov. 4, 1947, to Nov. 19, 1950, water-stage recorder at present site and datum. Nov. 20, 1950, to Nov. 4, 1951, wire-weight gage at site 800 ft downstream at datum 51.62 ft lower.

Average discharge.--40 years, 1,158 cfs (838,400 acre-ft per year); median of yearly mean discharges, 1,030 cfs (746,000 acre-ft per year).

Extremes.--Maximum discharge during year, 14,700 cfs Feb. 9 (gage height, 8.83 ft); minimum, 15 cfs Oct. 21.
1922-62: Maximum discharge, 92,500 cfs Dec. 23, 1955 (gage height, 26.80 ft), from rating curve extended above 25,000 cfs on basis of change in contents in Lake McClure; minimum, 13 cfs Oct. 5, 1925, site then in use.

Remarks.--Records good. No storage or large diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.5	10	1.5	250
.6	18	2.0	510
.8	45	2.5	880
1.0	84	3.0	1,350
1.2	138	4.0	2,640
		5.0	4,460
		7.3	10,200

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	39	132	109	193	566	1,400	2,860	4,220	1,620	325	74
2	28	36	596	112	197	*815	*1,440	3,480	4,810	1,520	310	69
3	28	34	486	109	204	864	1,490	4,440	5,230	1,490	295	65
4	26	34	259	105	216	760	1,720	5,520	3,740	1,400	272	63
5	24	34	216	104	229	736	2,050	6,110	3,460	1,370	254	59
6	23	34	204	102	237	2,930	2,300	6,400	3,660	1,350	237	58
7	22	34	193	102	309	2,540	2,580	5,870	4,080	1,230	221	58
8	20	34	178	115	786	1,680	2,750	5,870	4,240	1,140	208	56
9	19	33	164	132	7,110	1,330	3,120	*5,580	4,480	1,060	193	54
10	19	32	151	*138	5,980	1,090	3,260	4,990	4,700	952	190	54
11	19	30	138	138	7,340	1,010	3,210	3,880	4,440	872	204	54
12	20	30	124	132	3,540	943	3,430	3,640	4,140	824	197	52
13	22	30	121	124	2,160	864	3,820	2,850	3,980	979	178	50
14	22	30	115	121	2,610	824	4,280	2,460	3,640	898	168	50
15	20	29	115	104	*7,250	784	4,530	2,140	3,120	776	158	49
16	19	28	112	*92	5,550	760	4,120	2,090	2,780	713	151	49
17	18	28	112	96	2,760	720	4,120	2,160	2,780	678	148	47
18	17	26	106	92	1,750	671	4,380	2,230	3,210	636	145	*45
19	17	26	109	102	1,500	664	4,590	2,210	3,570	615	141	42
20	16	36	106	326	1,540	699	3,440	2,230	3,780	566	135	40
21	16	52	106	229	1,270	699	2,940	1,980	*3,620	531	129	39
22	17	61	115	151	1,040	736	3,500	2,220	3,530	504	121	36
23	20	45	112	145	898	898	4,180	2,940	3,320	517	115	36
24	29	42	115	141	840	808	4,590	2,700	2,930	517	106	34
25	*38	50	129	145	744	808	4,240	2,490	2,660	545	102	33
26	34	101	132	151	706	889	3,610	2,230	2,500	462	96	34
27	33	145	129	154	629	988	3,700	1,980	2,300	428	89	39
28	34	*102	124	158	587	1,100	3,520	1,790	2,090	412	86	61
29	38	89	118	164	-	1,170	3,070	2,090	1,910	400	82	84
30	39	99	115	171	-----	1,230	2,640	3,020	1,770	380	80	99
31	39	-----	109	182	-----	1,280	-----	3,860	-----	*350	78	-----
Total	766	1,423	5,041	4,247	6,217	31,856	98,020	104,316	104,690	25,735	5,214	1,583
Mean	24.7	47.4	163	137	2,220	1,028	3,267	3,365	3,490	830	168	52.8
Max	39	145	596	326	9,980	2,930	4,590	6,400	5,230	1,620	325	99
Min	16	26	106	92	193	566	1,400	1,790	1,770	350	78	33
Ac-ft	1,520	2,820	10,000	8,420	123,300	63,190	194,400	206,900	207,600	51,040	10,340	3,140

Calendar year 1961: Max 2,280 Min 16 Mean 416 Ac-ft 301,500

Water year 1961-62: Max 9,980 Min 16 Mean 1,219 Ac-ft 882,700

Peak discharge (base, 6,000 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1800	8.83	14,700	5-6	0500	6.25	7,390
2-15	0800	7.74	11,400	6-3	0500	5.72	6,090

SAN JOAQUIN RIVER BASIN

659

11-2693. Maxwell Creek at Coulterville, Calif.

Location.--Lat 37°42'58", long 120°11'20", in SE $\frac{1}{4}$ sec.34, T.2 S., R.16 E., on Dogtown road bridge, 0.40 mile downstream from Cuneo Creek, and 0.5 mile northeast of town of Coulterville.

Drainage area.--17.0 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,740 ft (from topographic map).

Extremes.--Maximum discharge during year, 797 cfs Feb. 15 (gage height, 5.64 ft), from rating curve extended above 190 cfs; no flow for many days.

1959-62: Maximum discharge, 956 cfs Feb. 8, 1960 (gage height, 5.73 ft), from rating curve extended above 190 cfs; no flow for many days in each year.

Remarks.--No diversion or storage above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.2	0.2	0.4	5.4	3.4	1.2	0.3	0.1		
2		0	6.6	.2	.4	*49	3.5	1.1	.3	0		
3	(*)	*0	3.4	.2	.4	29	3.4	1.1	.3	*0		
4		0	1.2	.2	.4	16	3.2	1.1	*3	0		
5		0	.6	.2	.4	13	2.8	.9	.3	0		
6		0	.7	.3	*.4	*180	2.8	.8	.3	0		
7		0	.5	.2	3.5	66	2.9	*.6	*.3	0		
8		0	.4	.2	12	32	2.7	.4	.4	0		
9		0	.3	*.2	*116	19	*2.4	.4	.3	0		
10		0	.2	.2	194	12	2.5	.4	.3	0		
11		0	.2	.2	199	13	2.4	.5	.2	0		
12		0	.2	.2	44	11	2.4	.4	.3	0		
13		0	.2	.2	*95	9.1	2.3	.4	.2	0		
14		0	*.1	.2	72	8.0	2.0	.5	.2	0		
15		0	.1	.2	358	6.7	2.0	.6	.2	0		
16		0	.1	.2	151	5.6	1.7	.5	.2	0		
17	(*)	0	.2	.2	55	4.6	1.5	.5	.1	0		
18		0	.2	.2	39	4.0	1.6	.5	.1	0		
19		0	.2	.3	55	3.9	2.0	.4	.1	0		
20		*.2	.1	4.6	76	4.0	2.4	.4	.1	0		
21		.1	.2	2.7	48	3.6	1.9	.4	.1	0		
22		0	.2	1.6	29	7.7	1.7	.4	.1	0		
23		0	.2	1.0	20	9.2	1.5	.4	.1	0		
24		0	.1	.8	18	7.6	1.6	.3	.1	0		
25		.2	.1	.8	16	6.7	1.6	.4	.1	0		
26		.2	.1	.7	14	6.1	1.6	.4	.1	0		
27		0	.1	.5	12	5.3	1.5	.5	.1	0		
28		0	.1	.5	11	5.3	2.0	.5	.1	0		
29		.1	.2	.5	-	4.7	1.7	.4	.1	0		
30		.1	.1	.4	-----	4.2	1.5	.3	.1	0		
31		-----	.1	.5	-----	4.0	-----	.2	-----	0		
Total	0	0.9	17.2	18.6	1639.9	555.7	66.5	16.9	5.8	0.1	0	0
Mean	0	0.03	0.55	0.60	58.6	17.9	2.22	0.55	0.19	0.003	0	0
Max	0	0.2	6.6	4.6	358	180	3.5	1.2	0.4	0.1	0	0
Min	0	0	0.1	0.2	0.4	3.6	1.5	0.2	0.1	0	0	0
Ac-ft	0	1.8	34	37	3,250	1,100	132	34	12	0.2	0	0
Calendar year 1961: Max	7.9	Min	0	Mean	0.43	Ac-ft	308					
Water year 1961-62: Max	358	Min	0	Mean	6.36	Ac-ft	4,600					

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

SAN JOAQUIN RIVER BASIN

11-2695. Lake McClure at Exchequer, Calif.

Location.--Lat 37°35'10", long 120°16'05", near center of sec.13, T.4 S., R.15 E., at center of upstream face of Exchequer Dam on Merced River, 1 mile east of Exchequer and 5.5 miles northeast of Merced Falls.

Drainage area.--1,020 sq mi, approximately.

Records available.--April 1926 to September 1930 (daily gage heights; also summary of yearly contents in WSP 881), October 1930 to September 1962.

Gage.--Indicator in powerhouse at foot of dam actuated by float in reservoir and selsyn motor circuit; indicator read every half hour when powerhouse is operating, once daily, at midnight, when not. Datum of gage is at mean sea level (levels by Merced Irrigation District).

Extremes.--Maximum contents during year, 284,500 acre-ft June 20, 25 (elevation, 708.2 ft); minimum, 2,190 acre-ft Nov. 19 (elevation, 468.5 ft).
1926-62: Maximum contents, 290,800 acre-ft Dec. 4, 1950 (elevation, 710.5 ft); practically no storage at times in 1926, 1930-31, 1934.

Remarks.--Reservoir is formed by concrete gravity-type dam completed in 1926; storage began in April 1926. Usable capacity, 280,900 acre-ft between elevations 442.6 ft (bottom of sluice valve) and 707.0 ft (top of spillway gates). Dead storage, 400 acre-ft or less. Water passes through powerplant at dam and down Merced River to diversion dam of Merced Irrigation District's main canal. Figures given herein represent total contents.

Cooperation.--Gage-height record, furnished by Merced Irrigation District, obtained in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-ft)

468	2,140	525	16,000	620	106,700
471	2,440	540	24,300	640	137,800
480	3,520	560	38,600	660	173,500
485	4,340	580	57,000	680	215,200
495	6,200	600	79,900	709	286,700
510	10,200				

Contents, in acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,650	2,680	3,810	11,800	13,600	14,340	14,240	23,200	27,400	28,160	20,790	112,100
2	4,600	2,640	5,130	12,000	20,000	14,290	14,240	24,010	28,180	28,050	20,440	109,200
3	4,540	2,560	6,220	12,200	20,400	14,290	14,240	24,510	28,320	27,910	20,100	106,400
4	4,490	2,520	6,750	12,400	20,800	14,240	14,290	25,200	28,130	27,810	19,790	103,800
5	4,420	2,460	7,100	12,500	21,400	14,150	14,410	26,020	28,180	27,650	19,430	101,000
6	4,360	2,410	7,420	12,600	21,900	14,780	14,540	26,850	28,210	27,520	19,120	98,300
7	4,290	2,350	7,720	12,800	22,600	15,180	14,730	27,080	28,240	27,370	18,790	95,400
8	4,220	2,310	8,000	13,000	24,200	15,360	14,950	27,080	28,260	27,180	18,490	92,800
9	4,190	2,290	8,220	13,200	40,000	15,430	15,270	27,030	28,290	27,000	18,170	90,200
10	4,120	2,260	8,430	13,500	65,500	15,450	15,590	26,950	28,290	26,790	17,850	87,600
11	4,070	2,260	8,640	13,700	84,900	15,450	15,900	26,950	28,290	26,560	17,550	85,000
12	4,020	2,250	8,790	13,800	93,800	15,410	16,200	26,920	28,290	26,330	17,240	82,300
13	3,970	2,260	8,940	14,000	99,300	15,360	16,630	26,980	28,320	26,120	16,950	79,800
14	3,900	2,260	9,120	14,200	105,600	15,300	17,100	27,030	28,320	25,920	16,610	77,300
15	3,830	2,240	9,210	14,400	126,500	15,230	17,650	26,980	28,320	25,680	16,310	74,900
16	3,750	2,230	9,360	14,600	138,500	15,160	18,090	27,000	28,320	25,420	16,020	72,600
17	3,640	2,220	9,480	14,700	142,700	15,070	18,550	27,030	28,320	25,150	15,720	69,800
18	3,550	2,200	9,600	14,800	144,600	14,990	19,030	26,980	28,370	24,880	15,430	67,200
19	3,440	2,190	9,780	14,900	145,600	14,870	19,600	26,980	28,430	24,610	15,140	64,700
20	3,350	2,240	9,900	15,200	147,200	14,780	19,920	27,000	28,450	24,370	14,830	62,200
21	3,250	2,300	10,000	15,800	148,200	14,700	20,150	27,030	28,430	24,100	14,540	59,400
22	3,160	2,370	10,200	16,600	148,500	14,610	20,490	27,030	28,430	23,820	14,240	56,900
23	3,060	2,440	10,300	16,900	148,000	14,600	20,950	27,130	28,430	23,530	13,930	54,400
24	2,990	2,510	10,400	17,200	147,500	14,530	21,500	27,180	28,430	23,270	13,610	51,700
25	2,940	2,550	10,600	17,400	146,800	14,460	22,000	27,180	28,450	23,020	13,290	49,100
26	2,880	2,720	10,800	17,700	146,300	14,410	22,350	27,180	28,430	22,720	12,990	46,300
27	2,840	3,020	11,100	18,000	145,400	14,380	22,760	27,210	28,430	22,420	12,680	43,500
28	2,800	3,200	11,200	18,200	144,600	14,320	23,080	27,160	28,370	22,120	12,380	41,100
29	2,770	3,390	11,400	18,500	-	14,290	23,400	27,180	28,350	21,800	12,060	38,800
30	2,750	3,600	11,600	18,900	-----	14,260	23,500	27,340	28,260	21,450	11,760	36,900
31	2,720	-----	11,700	19,200	-----	14,240	-----	27,600	-----	21,120	11,500	-----
(†)	473.5	480.5	514.5	531.2	644.0	642.7	688.6	705.0	707.5	678.2	625.5	557.9
(‡)	-1960	+880	+8100	+7500	+125,400	-2200	+92,600	+41,000	+6600	-71,400	-96,200	-78,100

Calendar year 1961 ‡ -9,700
Water year 1961-62 ‡ +32,200

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

661

11-2700. Merced River at Exchequer, Calif.

Location (revised).--Lat 37°34'55", long 120°16'45", in SE 1/4 sec. 14, T.4 S., R. 15 E., on right bank at Exchequer, 0.65 mile downstream from Lake McClure and 5 miles northeast of Merced Falls.

Drainage area.--1,029 sq mi.

Records available.--April 1901 to September 1962. Records for water years 1914-16 incomplete, yearly estimates published in WSP 1315-A. Published as "near Merced Falls" 1901-13.

Gage.--Water-stage recorder. Altitude of gage is 400 ft (from topographic map). Apr. 6, 1901, to Nov. 30, 1913, staff gage at site 5 miles downstream at different datum. Nov. 22, 1915, to Apr. 28, 1922, staff gage and Apr. 29 to Oct. 24, 1922, water-stage recorder, at site 1 mile upstream at different datum.

Average discharge.--61 years, 1,323 cfs (957,800 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 5,690 cfs May 8 (gage height, 7.88 ft); minimum, 18 cfs Jan. 16.

1901-13, 1915-62: Maximum discharge observed, 47,700 cfs Jan. 31, 1911 (gage height, 23.3 ft, site and datum then in use); no flow for part of Nov. 21, 1901.

Remarks.--Records good. No large diversion above station. Flow regulated by Exchequer powerplant and Lake McClure beginning in April 1926 (see preceding page).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.1	30	2.0	490
.2	39	3.0	990
.4	61	4.0	1,680
.6	91	5.0	2,510
1.0	169	6.0	3,460
1.5	314	8.0	5,860

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	51	* 39	38	* 42	* 1.180	1.450	* 1.860	* 2.490	2.100	* 2.000	1.460
2	* 45	51	42	* 38	36	1.190	* 1.490	1.900	3.410	* 2.100	1.990	1.420
3	48	51	43	38	36	1.190	1.540	1.930	4.460	2.100	1.980	1.390
4	48	51	39	38	36	1.190	1.540	1.930	4.460	2.090	1.960	1.380
5	48	51	43	38	36	1.190	1.540	1.940	3.240	2.050	1.920	* 1.380
6	48	51	42	39	36	1.200	1.640	2.360	3.490	2.030	1.850	1.360
7	46	51	41	39	37	1.200	1.660	4.560	3.830	2.020	1.780	1.320
8	43	50	41	39	38	1.210	1.670	5.570	3.980	2.020	1.780	1.310
9	43	44	42	40	42	1.210	1.680	5.610	4.270	2.030	1.750	1.310
10	41	39	41	40	38	1.210	1.700	5.160	4.460	2.030	1.740	1.280
11	41	39	42	39	35	1.210	1.780	* 3.730	4.220	2.020	1.740	1.260
12	39	38	39	39	30	1.210	1.840	3.700	3.890	2.000	1.720	1.260
13	42	39	37	40	43	1.210	1.840	2.610	3.850	1.980	1.600	1.230
14	45	39	37	40	78	1.210	1.840	2.280	3.450	1.970	1.790	1.180
15	45	38	37	40	1.140	1.210	1.860	2.390	3.350	1.970	1.660	1.170
16	46	38	37	38	1.170	1.210	1.890	1.960	2.620	1.960	1.620	1.170
17	55	39	36	39	1.170	1.210	1.890	2.060	2.740	1.980	1.590	1.180
18	54	39	36	40	1.170	1.210	1.860	2.380	2.960	1.980	1.590	1.210
19	54	39	36	41	1.180	1.210	1.840	2.160	3.150	1.970	1.590	1.210
20	54	40	36	42	1.180	1.210	1.840	2.040	3.700	1.900	1.600	1.210
21	54	39	37	42	1.180	1.200	1.850	2.060	3.590	1.880	1.600	1.220
22	54	39	37	41	1.180	1.200	1.860	2.060	3.410	1.880	1.640	1.210
23	53	39	37	41	1.180	1.200	1.850	2.440	3.270	1.890	1.650	1.210
24	53	40	36	42	1.180	1.200	1.850	2.510	2.850	1.880	1.650	1.220
25	53	39	37	42	1.180	1.200	1.850	2.490	2.620	1.880	1.640	1.280
26	53	39	37	42	1.180	1.200	1.850	2.180	2.510	1.900	1.590	1.310
27	51	40	37	42	1.150	1.190	1.840	2.000	2.430	1.920	1.580	1.310
28	51	41	37	42	1.180	1.450	1.850	1.980	2.280	1.930	1.580	1.180
29	50	43	37	42	-	1.450	1.860	1.940	2.140	1.970	1.580	1.110
30	51	39	38	42	-----	1.450	1.860	2.180	2.100	1.980	1.510	972
31	51	-----	37	42	-----	1.450	-----	2.510	-----	1.980	1.480	-----
Total	1,502	1,276	1,193	1,245	1,698	3,826	5,291	8,248	9,922	61,390	52,750	37,712
Mean	48.5	42.5	38.5	40.2	607	1,234	1,764	2,661	3,307	1,980	1,700	1,257
Max	55	51	43	42	1,180	1,450	1,890	5,610	4,460	2,100	2,000	1,460
Min	39	38	36	38	30	1,180	1,450	1,860	2,100	1,880	1,480	972
Ac-ft	2,980	2,530	2,370	2,470	33,690	75,890	104,900	163,600	196,800	121,800	104,600	74,800
Calendar year 1961: Max	2,040	Min	33	Mean	427	Ac-ft	309,400					
Water year 1961-62: Max	5,610	Min	30	Mean	1,224	Ac-ft	886,400					

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2725. Merced River near Stevinson, Calif.

Location.--Lat 37°22'15", long 120°55'45", in SW $\frac{1}{4}$ sec. 36, T.6 S., R.9 E., on right bank 5 miles upstream from mouth and 6 miles northwest of Stevinson.

Drainage area.--1,274 sq mi.

Records available.--October 1940 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Topographic Division). Prior to Aug. 16, 1955, at datum 55.74 ft higher, and Aug. 16, 1955, to Sept. 30, 1959, at datum 54.74 ft higher.

Average discharge.--22 years, 693 cfs (501,700 acre-ft per year).

Extremes.--Maximum discharge during year, 3,840 cfs Feb. 16 (elevation, 67.41 ft); minimum, 29 cfs Oct. 5.
1944-62: Maximum discharge, 13,600 cfs Dec. 5, 1950 (elevation, 74.79 ft, present datum); no flow July 19 to Aug. 21, 1961, result of temporary dam below station.

Remarks.--Records good except those for period of no gage-height record and those for Feb. 24 to Mar. 3 and Mar. 27-29, which are fair. Practically entire flow is diverted above station during irrigation season; some return flow enters above. Flow regulated by Lake McClure (see p. 660).

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	50	101	101	111	1,390	914	182	440	482	139	208
2	46	60	104	101	110	*1,370	839	155	665	432	141	215
3	44	58	106	101	110	1,400	708	150	1,090	376	140	205
4	38	58	113	102	111	1,400	560	146	2,300	328	153	176
5	29	59	116	102	110	1,400	460	157	2,620	301	171	174
6	38	57	*118	103	108	1,600	420	166	*1,760	274	204	171
7	31	37	108	103	*110	2,000	400	168	1,670	250	205	171
8	44	42	114	103	110	2,500	360	1,170	1,960	236	*172	179
9	49	49	112	103	121	2,400	384	3,100	2,110	229	177	192
10	38	*64	112	103	318	2,200	331	3,490	2,360	*208	168	200
11	37	62	110	*104	1,390	2,100	243	*3,340	2,590	205	187	184
12	42	62	109	104	*1,900	2,000	*245	2,400	2,520	198	198	*201
13	*41	70	108	104	874	2,000	239	2,080	2,220	212	174	191
14	43	64	108	104	*641	1,900	219	1,540	2,080	202	153	180
15	61	61	94	104	783	1,800	209	848	1,740	209	205	172
16	60	57	97	104	3,060	1,700	213	908	1,650	211	179	184
17	53	54	105	102	*2,470	1,600	201	815	1,310	164	178	202
18	38	70	105	101	1,750	1,600	173	620	1,100	152	174	170
19	41	73	104	104	1,760	1,600	173	578	1,150	156	188	162
20	51	85	105	108	1,740	*1,540	176	710	1,310	161	204	173
21	56	87	105	111	*1,500	1,570	166	645	1,670	139	157	180
22	64	84	104	116	1,470	1,570	182	530	1,670	157	151	171
23	63	85	104	131	1,400	1,580	190	450	1,510	177	147	192
24	52	86	104	134	1,400	1,540	170	444	1,390	168	161	202
25	53	88	103	128	1,400	1,530	178	658	1,260	149	183	185
26	60	94	102	123	1,400	1,540	180	782	944	128	204	174
27	70	94	98	120	1,400	1,380	192	764	866	134	201	190
28	68	92	94	116	1,400	1,160	180	648	752	136	168	197
29	69	96	101	115	-	*1,080	188	515	650	156	178	192
30	72	98	101	112	-----	1,080	*179	438	562	177	197	174
31	62	-----	101	112	-----	1,080	-----	376	-----	156	206	-----
Total	1,556	2,096	3,266	3,379	29,057	50,610	9,272	28,973	45,919	6,663	5,463	5,567
Mean	50.2	69.9	105	109	1,038	1,633	309	935	1,531	215	176	186
Max	72	98	118	134	3,060	2,500	914	3,490	2,620	482	206	215
Min	29	37	94	101	108	1,080	166	146	440	128	139	162
Ac-ft	3,090	4,160	6,480	6,700	57,630	100,400	18,390	57,470	91,080	13,220	10,840	11,040
Calendar year 1961:	Max	152	Min	0	Mean	71.4	Ac-ft	51,690				
Water year 1961-62:	Max	3,490	Min	29	Mean	526	Ac-ft	380,500				

* Discharge measurement made on this day.

Note.--No gage-height record Mar. 4-19.

11-2730. Merced River Slough near Newman, Calif.

Location.--Lat 37°21'35", long 120°57'40", in NE 1/4 sec. 3, T.7 S., R.9 E., on left bank 0.1 mile downstream from bridge, 0.2 mile downstream from head of slough between Merced and San Joaquin Rivers, and 4.5 miles northeast of Newman.

Records available.--October 1941 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Topographic Division). Prior to July 31, 1948, at datum 56.44 ft higher and Aug. 1, 1948, to Sept. 30, 1959, at datum 54.44 ft higher.

Average discharge.--21 years, 70.9 cfs (51,330 acre-ft per year).

Extremes.--Maximum discharge during year, 57 cfs Feb. 16 (gage height, 60.07 ft); no flow most of year.
1944-62: Maximum daily discharge, 7,770 cfs Apr. 6, 1958; no flow for several months in each year.

Remarks.--Slough flows from Merced River to San Joaquin River, bypassing gaging station on San Joaquin River near Newman.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

58.2	0	58.6	1.3
58.3	.1	58.7	2.6
58.4	.2	58.9	6.3
58.5	.5	59.1	11

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0							
2					0	(*)						
3					0							
4					0							
5			(*)		0							
6					0				(*)			
7					* 0							
8					0							
9					0							
10		(*)		(*)	0		(*)			(*)		
11					0							
12	(*)				0		(*)					(*)
13					0							
14					0							
15					0							
16					11							
17					7.9							
18					.2							
19					.7							
20					2	(*)						
21					0							
22					0							
23					0							
24					0							
25					0							
26					0							
27					0							
28					0							
29					-							
30					-----		(*)					
31		-----			-----		-----		-----			-----
Total	0	0	0	0	20.0	0	0	0	0	0	0	0
Mean	0	0	0	0	0.71	0	0	0	0	0	0	0
Max	0	0	0	0	11	0	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	0	40	0	0	0	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0
Water year 1961-62: Max 11 Min 0 Mean 0.05 Ac-ft 40

* Observation of no flow made on this day.

SAN JOAQUIN RIVER BASIN

11-2740. San Joaquin River near Newman, Calif.

Location.--Lat 37°21'02", long 120°58'34", in SW $\frac{1}{4}$ sec. 3, T.7 S., R.9 E., on left bank 300 ft downstream from new bridge on Hills Ferry road, 300 ft downstream from Merced River, and 3.5 miles northeast of Newman.

Drainage area.--9,990 sq mi.

Records available.--April 1912 to September 1962. Prior to Oct. 1, 1937, and subsequent to Oct. 1, 1943, flow that bypassed station at discharges above about 9,000 cfs not included in records.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Topographic Division). Prior to Mar. 3, 1931, staff gage at various sites within 240 ft of new bridge and Mar. 3, 1931, to Sept. 30, 1959, water-stage recorder within 300 ft of new bridge at datum 47.31 ft higher.

Average discharge.--50 years, 2,118 cfs (1,533,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,940 cfs (elevation, 60.03 ft); minimum, 67 cfs Nov. 7.

1912-62: Maximum discharge, 33,000 cfs Mar. 7, 1938 (elevation, 65.81 ft, present site and datum), including flow in Merced River Slough; minimum, 15 cfs Aug. 9, 10, 1924.

Remarks.--Records good except those for period of no gage-height record, which are fair. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water; low flows consist mainly of return water from irrigated areas. Record for Merced River Slough (see preceding page) shows flow bypassing station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 21		Jan. 21 to Mar. 7		Mar. to Sept. 30	
47.2	69	48.8	305	48.7	250
47.6	121	49.5	505	49.5	430
48.2	220	51.0	1,010	50.5	755
49.0	395	53.0	1,860	52.0	1,370
50.5	840	55.0	3,100	54.0	2,420
52.0	1,420	57.0	4,720	56.0	3,860
		60.1	8,020		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	91	85	293	207	376	2,790	1,120	365	710	547	276	360
2	93	86	337	206	361	* 2,630	1,070	* 335	834	535	280	352
3	94	85	370	204	337	2,530	970	335	1,060	469	282	350
4	94	85	402	207	329	2,500	878	308	2,040	439	284	322
5	85	84	* 415	204	327	2,480	786	326	2,520	442	292	306
6	90	85	428	206	324	2,460	741	328	* 2,000	410	335	302
7	95	71	428	226	* 332	3,470	702	335	1,760	378	358	304
8	100	69	422	328	345	3,640	660	812	1,940	378	* 326	306
9	105	70	405	435	449	3,600	660	2,600	2,110	395	322	328
10	95	84	356	* 480	800	3,690	640	3,240	2,260	* 352	310	362
11	85	88	317	492	2,070	3,450	587	* 3,310	2,520	375	324	335
12	85	88	298	498	* 3,740	3,030	* 544	2,550	2,500	378	340	* 335
13	* 85	89	284	490	4,260	2,680	529	2,110	2,280	385	345	324
14	90	86	276	478	* 4,720	2,460	493	1,740	2,080	375	318	318
15	95	88	254	465	5,270	2,310	475	1,060	1,890	378	335	310
16	95	89	230	438	6,720	2,190	475	1,070	1,760	392	330	306
17	90	90	234	408	7,640	2,080	460	990	1,480	358	306	335
18	81	98	244	412	7,780	2,000	425	798	1,260	342	296	306
19	76	99	242	* 875	7,910	1,960	415	762	1,270	322	306	302
20	81	127	238	944	7,620	* 1,910	412	902	1,370	324	326	308
21	89	154	234	1,210	* 6,800	1,860	388	806	1,690	308	294	310
22	91	175	232	1,120	5,960	1,820	385	720	1,780	310	276	302
23	93	207	226	549	5,290	1,800	402	668	1,620	330	270	316
24	86	258	215	448	4,620	1,720	370	664	1,470	342	280	330
25	84	280	213	424	3,960	1,700	362	866	1,380	318	314	326
26	85	295	209	406	3,430	1,690	352	950	1,050	294	328	304
27	94	276	215	382	3,080	1,600	358	938	878	274	340	298
28	97	260	211	373	2,910	1,340	350	814	772	254	315	304
29	95	256	211	382	-	1,260	356	713	702	272	320	296
30	97	264	206	385	-----	1,240	348	671	615	298	332	286
31	* 95	-----	202	385	-----	1,230	-----	615	-----	288	348	-----
Total	2,811	4,172	8,847	14,267	97,760	71,120	16,713	32,701	47,601	11,262	9,709	4,543
Mean	90.7	139	285	460	3,491	2,294	557	1,055	1,587	363	313	318
Max	105	295	428	1,210	7,910	3,690	1,120	3,310	2,520	547	358	362
Min	76	69	202	204	324	1,230	348	308	615	254	270	286
Ac-ft	5,590	8,280	17,550	28,300	193,900	141,100	33,150	64,860	94,420	22,340	19,260	18,930

Calendar year 1961: Max 666 Min 50 Mean 203 Ac-ft 146,700
 Water year 1961-62: Max 7,910 Min 69 Mean 895 Ac-ft 647,700

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 5-17.

11-2745. Orestimba Creek near Newman, Calif.

Location.--Lat 37°19'09", long 121°07'12", on line between secs.17 and 20, T.7 S., R.8 E., at left bank pier of county road bridge, 3 miles downstream from Oso Creek and 5 miles west of Newman.

Drainage area.--135 sq mi.

Records available.--January 1932 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 188.86 ft above mean sea level, adjustment of 1929. Prior to Oct. 1, 1958, at site 120 ft downstream at datum 3.00 ft higher.

Average discharge.--30 years, 15.2 cfs (11,000 acre-ft per year); median of yearly mean discharges, 7.0 cfs (5,070 acre-ft per year).

Extremes.--Maximum discharge during year, 1,740 cfs Feb. 15 (gage height, 7.14 ft); no flow for several months.
1932-62: Maximum discharge, 10,200 cfs Apr. 2, 1958 (gage height, 6.57 ft, site and datum then in use), from rating curve extended above 5,000 cfs; no flow for several months in each year.

Remarks.--Records good. No storage or diversion except for minor stock ponds.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 11 to May 31)

4.5	0	5.1	42
4.6	.2	5.3	87
4.7	1.2	5.6	180
4.8	6.3	5.9	330
4.9	15	6.3	660
5.0	26	6.7	1,120

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	12	6.3	* 0.1				
2					0	23	5.6	.1				
3					0	50	a 5.0	.1				
4					0	31	a 4.5	.1				
5			(*)		0	* 28	a 4.0	.2				
6					0	206	a 4.0	.2				
7					0	230	a 3.5	.2				
8					0	139	a 3.5	.2				
9					183	98	a 3.0	.2				
10				(*)	523	68	a 3.0	.2		(*)		
11					292	50	* 2.4	.2				(*)
12					* 221	40	2.0	.2				
13					* 122	32	1.6	.2				
14					327	28	1.2	.2				
15		(*)			*1.080	24	1.0	.3				
16					569	22	.7	.3				
17	(*)				208	20	.4	.3				
18					123	19	.4	.3				
19					106	17	.4	.2				
20					* 77	* 16	.3	.2				
21					59	16	.3	.2				
22					42	16	.3	.2				
23					31	17	.3	.2				
24					25	15	.3	.2				
25					22	11	.2	.2				
26					18	10	.3	.1	(*)			
27					15	9.4	.3	.1				
28					13	8.6	.2	.1				
29					-	* 7.8	.2	.1				
30					-----	7.1	.1	.1		(*)		
31				(*)	-----	6.3	-----	.1				
Total	0	0	0	0	4,056	1,277.2	55.3	5.6	0	0	0	0
Mean	0	0	0	0	145	41.2	1.84	0.18	0	0	0	0
Max	0	0	0	0	1,080	230	6.3	0.3	0	0	0	0
Min	0	0	0	0	0	6.3	0.1	0.1	0	0	0	0
Ac-ft	0	0	0	0	8,040	2,530	110	11	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0

Water year 1961-62: Max 1,080 Min 0 Mean 14.8 Ac-ft 10,690

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0400	6.43	796	3- 2	2300	5.27	80
2-15	1400	7.14	1,740	3- 6	2000	5.91	337

* Discharge measurement or observation of no flow made on this day.
a No gage-height record.

SAN JOAQUIN RIVER BASIN

11-2746.1. Del Puerto Creek tributary No. 2 near Patterson, Calif.

Location.--Lat 37°25'25", long 121°20'30", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.6 S., R.6 E., on left bank 0.5 mile downstream from Fall Canyon and 12 miles southwest of Patterson.

Drainage area.--0.02 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,020 ft (from topographic map).

Extremes.--No flow during year.

1958-62: Maximum discharge, 0.5 cfs Feb. 16, 1959 (gage height, 5.73 ft, from crest-stage gage), on basis of measurement of peak flow through culvert; no flow most of each year.

Remarks.--No flow since Feb. 21, 1959. No regulation or diversion above station.

Monthly rainfall, in inches, water year October 1961 to September 1962

November.....	2.3	February.....	4.9
December.....	1.1	March.....	1.8
January.....	1.0		

Total rainfall for water year 1961-62, 11.1 inches

11-2750. Falls Creek near Hetch Hetchy, Calif.

Location.--Lat 37°58'15", long 119°45'45", in SE $\frac{1}{4}$ sec.3, T.1 N., R.20 E., on right bank in Yosemite National Park, 0.2 mile upstream from Wampana Falls, 0.6 mile upstream from mouth, and 2 miles northeast of Hetch Hetchy.

Drainage area.--45.2 sq mi.

Records available.--October 1915 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Prior to Oct. 1, 1918, published as "near Sequoia."

Gage.--Water-stage recorder. Altitude of gage is 5,350 ft (from topographic map).

Average discharge.--47 years, 141 cfs (102,100 acre-ft per year).

Extremes.--Maximum discharge during year, 985 cfs June 3 (gage height, 5.75 ft); no flow Oct. 1-28, Sept. 22-30.

1915-1962: Maximum discharge, 6,660 cfs Nov. 19, 1950, Dec. 23, 1955 (gage height, 9.0 ft, from floodmarks), from rating curve extended above 2,500 cfs on basis of velocity-area studies; no flow at times in many summers.

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

Cooperation.--Water-stage-recorder graph and eight discharge measurements furnished by city and county of San Francisco.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.1	0	2.0	2.8	3.5	135
1.2	.1	2.2	6.0	4.0	250
1.4	.2	2.4	12	4.5	380
1.6	.5	2.6	20	5.0	560
1.7	.8	2.8	34	5.5	830
1.8	1.2	3.0	55	6.0	1,170
1.9	1.9				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.8	19	20	46	b42	195	*233	640	356	30	1.5
2	0	1.8	25	19	50	b43	a200	308	770	325	27	1.3
3	0	2.1	21	19	50	b43	a225	435	878	325	24	1.1
4	*0	2.4	24	19	48	b45	a250	570	575	305	22	.9
5	0	2.5	24	18	50	b45	a300	693	488	308	20	.8
6	0	2.8	24	20	53	b48	a350	754	*520	290	18	.6
7	0	2.6	22	36	77	53	a410	650	610	238	18	.5
8	0	2.4	*21	41	116	54	a445	688	660	213	16	.5
9	0	2.3	19	37	414	52	a480	660	732	195	17	.4
10	0	2.2	16	32	205	53	a480	590	836	167	21	.4
11	0	2.2	14	26	147	51	a463	401	824	153	22	.3
12	0	2.3	13	24	111	b46	a473	350	732	157	18	.3
13	0	2.4	12	25	122	b46	*a500	275	699	180	15	.3
14	0	2.2	12	b24	108	b48	552	213	645	151	13	.3
15	0	1.8	11	24	96	50	595	171	438	139	11	.2
16	0	1.8	12	*23	82	44	575	208	374	126	10	.2
17	0	1.7	12	21	86	43	528	190	473	114	9.1	.2
18	0	1.6	13	19	80	45	528	193	630	102	8.0	.2
19	0	1.6	17	23	70	b50	504	213	726	94	7.3	.1
20	0	2.4	28	b27	63	52	374	228	782	89	6.8	.1
21	0	4.2	32	b25	62	51	308	175	743	82	6.3	.1
22	0	5.4	26	b26	60	51	343	228	704	76	5.2	0
23	0	7.0	25	b28	58	50	442	356	660	71	4.6	0
24	0	9.4	27	b29	54	60	524	318	590	65	4.0	0
25	0	19	25	b31	b50	83	480	285	524	56	3.6	0
26	0	16	22	32	b45	102	417	243	477	51	3.4	0
27	0	14	21	32	b43	126	414	218	463	48	*3.0	0
28	0	12	21	35	b40	149	438	185	442	45	2.7	0
29	2.1	12	20	38	-	163	280	233	*428	42	2.4	0
30	2.0	15	20	41	-----	169	215	404	395	39	2.1	0
31	2.2	-----	20	43	-----	195	-----	556	-----	34	1.8	-----
Total	6.3	156.9	618	857	2,486	2,152	12,288	11,224	18,458	4,636	372.3	10.3
Mean	0.20	5.23	19.9	27.6	88.8	69.4	410	362	615	150	12.0	0.34
Max	2.2	19	32	43	414	195	595	754	878	356	30	1.5
Min	0	1.6	11	18	40	42	195	171	374	34	1.8	0
Ac-ft	12	311	1,230	1,700	4,930	4,270	24,370	22,260	36,610	9,200	738	20

Calendar year 1961: Max 438 Min 0 Mean 70.1 Ac-ft 50,740
 Water year 1961-62: Max 878 Min 0 Mean 146 Ac-ft 105,700

Peak discharge (base, 900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-3	0930	5.75	985	6-20	1000	5.62	902
6-10	1030	5.68	938				

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

a No gage-height record.

b Stage-discharge relation affected by ice.

11-2755. Hetch Hetchy Reservoir at Hetch Hetchy, Calif.

Location.--Lat 37°56'55", long 119°47'10", in NW¼ sec.16, T.1 N., R.20 E., near center of O'Shaughnessy Dam on Tuolumne River at Hetch Hetchy in Yosemite National Park, 1.5 miles downstream from Falls Creek.

Drainage area.--460 sq mi.

Records available.--May 1923 to September 1962. Prior to October 1930 month-end contents, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by city and county of San Francisco). Prior to Oct. 1, 1927, staff gage at same site and datum.

Extremes.--Maximum contents during year, 360,800 acre-ft July 6, 7 (elevation, 3,806.2 ft); minimum, 40,600 acre-ft Feb. 7 (elevation, 3,581.3 ft).

1923-62: Maximum contents, 369,100 acre-ft Dec. 3, 1950 (elevation, 3,810.4 ft); no contents at times in 1929-31.

Remarks.--Reservoir is formed by concrete gravity-type dam, completed to crest elevation 3,726.5 ft in 1923 and raised to 3,812.0 ft in 1937; storage began Apr. 6, 1923. Ten-foot drum gates were installed on spillway in 1949. Usable capacity, 360,400 acre-ft between elevations, 3,512.0 (somewhat above bottom outlet) and 3,806.0 ft (top of drum-type spillway gates) above mean sea level. Water flows down Tuolumne River 15 miles to Early Intake, where part is diverted through Hetch Hetchy aqueduct to Moccasin Creek powerplant. At Moccasin Creek diversion dam, water re-enters Hetch Hetchy aqueduct and flows into Crystal Springs Reservoir, which supplies city of San Francisco. Surplus water is spilled into Don Pedro Reservoir at Red Mountain Bar. Hetch Hetchy Reservoir is main storage unit of Hetch Hetchy water-supply system for San Francisco.

Cooperation.--Water-stage-recorder graph furnished by city and county of San Francisco.

Capacity table (elevation, in feet, and contents, in acre-feet)

3,580	39,500	3,660	119,900	3,760	273,700
3,600	57,400	3,680	146,200	3,790	329,300
3,620	76,500	3,700	175,000	3,807	362,300
3,640	97,000	3,730	222,200		

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92.4	73.6	60.8	50.8	41.9	57.9	47.2	158.2	276.0	355.8	356.0	319.2
2	91.8	73.1	60.7	50.4	41.6	57.1	48.2	161.7	284.5	355.6	355.4	317.7
3	91.1	72.8	60.5	49.9	41.4	56.3	49.4	167.3	292.4	356.8	354.5	316.2
4	90.5	72.3	60.2	49.6	41.2	55.7	51.2	174.9	296.8	358.2	353.5	315.1
5	90.1	71.8	59.9	49.2	41.0	55.0	53.5	183.8	300.9	360.0	352.5	313.6
6	89.3	71.4	59.6	48.9	40.7	54.8	55.9	193.2	306.3	360.8	351.5	312.2
7	88.6	70.9	59.1	48.6	40.7	54.3	58.7	201.7	313.0	360.6	350.6	310.9
8	88.0	70.5	58.8	48.4	41.3	53.7	62.1	210.3	320.4	360.2	349.4	309.4
9	87.3	69.9	58.5	48.1	46.2	53.2	65.8	218.1	328.2	359.4	348.2	307.9
10	86.8	69.4	58.3	47.9	48.9	52.6	69.4	224.3	336.6	358.8	347.2	306.5
11	86.2	68.9	57.8	47.5	50.7	51.9	72.7	228.8	344.1	359.0	346.3	305.2
12	85.6	68.4	57.4	47.2	51.6	51.2	76.5	232.8	350.9	360.0	345.1	303.7
13	85.0	67.9	57.0	47.0	52.8	50.6	81.5	235.5	356.2	360.6	344.1	302.2
14	84.4	67.6	56.7	46.6	53.8	49.9	86.8	237.5	357.0	360.6	342.8	300.9
15	83.8	67.4	56.2	46.2	55.4	49.3	92.9	239.4	353.3	360.4	341.6	299.2
16	83.2	66.7	55.9	45.7	56.2	48.7	98.1	241.4	349.6	360.0	340.4	297.9
17	82.7	66.0	55.6	45.4	56.9	47.9	103.4	242.8	346.8	359.8	339.3	296.4
18	81.9	65.6	55.3	45.1	57.3	47.2	108.7	243.0	346.6	359.8	337.9	295.0
19	81.3	65.1	54.9	44.9	57.7	46.6	113.8	243.0	349.2	360.0	336.6	293.5
20	80.5	64.7	54.5	44.8	58.0	46.1	117.3	242.8	353.3	360.0	335.4	292.2
21	79.9	64.2	54.2	44.5	58.1	45.4	120.3	242.1	357.0	360.0	334.1	290.6
22	79.4	63.8	53.9	44.3	58.2	45.0	124.5	242.6	359.2	360.0	332.7	289.3
23	78.8	63.4	53.6	43.9	58.3	44.4	129.5	245.5	359.0	360.2	331.6	287.6
24	78.3	63.0	53.4	43.7	58.4	43.8	135.4	248.1	357.4	360.2	330.3	286.2
25	77.7	62.6	53.1	43.4	58.4	43.5	140.4	250.5	356.0	360.0	328.9	284.9
26	77.2	62.3	52.8	43.1	58.5	43.5	144.2	252.3	355.8	359.6	327.6	283.4
27	76.5	62.0	52.7	42.8	58.5	43.6	148.3	253.8	356.0	359.2	326.2	282.2
28	76.0	61.5	52.3	42.6	58.5	44.2	151.8	255.2	355.6	358.8	325.1	280.7
29	75.3	61.2	51.9	42.4	---	44.9	154.2	257.7	355.4	358.2	323.6	279.5
30	74.9	61.0	51.6	42.2	-----	45.5	155.9	262.2	355.6	357.6	322.2	278.2
31	74.3	-----	51.2	42.1	-----	46.3	-----	268.7	-----	356.8	320.7	-----
(+)	3,617.7	3,603.8	3,593.2	3,582.9	3,601.2	3,587.7	3,686.9	3,757.2	3,803.6	3,804.2	3,785.5	3,762.5
(+)	-18,600	-13,300	-9,800	-9,100	+16,400	-12,200	+109,600	+112,800	+86,900	+1,200	-36,100	-42,500

Calendar year 1961..... + -35,200

Water year 1961-62..... +185,300

+ Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

11-2765. Tuolumne River near Hetch Hetchy, Calif.

Location.--Lat 37°56'15", long 119°47'50", in SW¹/₄SE¹/₄ sec.17, T.1 N., R.20 E., in Yosemite National Park, on left bank 1 mile downstream from O'Shaughnessy Dam at Hetch Hetchy and 2.5 miles downstream from Falls Creek.

Drainage area.--462 sq mi.

Records available.--October 1910 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Hetch Hetchy damsite, near Sequoia" 1910-14 and as "below Hetch Hetchy damsite, near Sequoia" 1915-18.

Gage.--Water-stage recorder. Altitude of gage is 3,430 ft (from topographic map). Prior to Jan. 1, 1915, at site 1 mile upstream, at damsite, at different datum.

Average discharge.--52 years, 995 cfs (720,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,710 cfs June 23 (gage height, 11.21 ft); minimum daily, 68 cfs Nov. 14.
1910-62: Maximum discharge, 12,900 cfs June 1, 1943 (gage height, 13.90 ft); minimum daily, 1.3 cfs Nov. 2, 3, 1923.

Remarks.--Records excellent. Flow regulated by Hetch Hetchy Reservoir beginning in April 1923 (see preceding page). No diversion above station.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by city and county of San Francisco.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.1	63	7.0	1,090
2.5	98	8.0	1,640
3.0	151	9.0	2,440
4.0	292	10.0	3,570
5.0	480	11.0	5,290
6.0	730	12.0	7,570

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	375	333	193	303	317	670	688	742	1,030	2,580	739	754
2	373	333	310	302	351	700	694	754	1,600	2,580	736	754
3	371	250	256	*286	351	694	697	769	1,840	1,880	736	751
4	369	310	254	279	351	691	706	751	1,770	1,550	736	748
5	*282	308	369	278	349	691	715	760	1,690	1,550	736	745
6	392	266	225	276	349	697	724	760	1,490	*1,880	733	754
7	367	225	366	276	289	691	739	748	1,300	2,070	733	754
8	367	270	292	274	281	688	724	745	1,360	2,040	730	751
9	366	416	187	274	330	685	724	748	1,720	2,030	730	748
10	366	273	289	274	205	682	739	745	1,870	1,810	727	745
11	358	273	289	273	256	679	751	745	1,900	1,020	727	742
12	355	312	287	273	324	676	766	739	1,920	946	730	739
13	353	342	286	273	337	673	751	745	2,470	1,140	736	745
14	351	68	284	294	330	679	757	736	4,350	1,200	736	748
15	351	213	263	305	358	685	748	733	5,450	1,200	733	745
16	349	422	251	305	348	679	748	739	5,410	1,200	742	742
17	349	331	251	289	337	676	757	1,100	5,390	1,070	748	739
18	348	274	192	268	331	682	745	1,700	*5,390	832	748	*739
19	348	273	308	257	331	685	745	1,800	4,340	754	748	742
20	348	256	308	230	331	682	754	1,780	3,670	754	748	745
21	346	271	306	232	331	679	763	1,780	3,760	754	745	745
22	346	279	279	273	330	679	757	*1,580	4,580	754	745	742
23	344	262	262	271	330	676	745	909	5,710	754	742	739
24	342	260	262	180	330	673	754	754	5,690	745	748	739
25	340	260	260	364	330	670	748	757	5,120	742	748	742
26	*299	260	260	282	330	670	766	763	3,990	742	748	748
27	386	258	183	274	328	*670	757	766	3,600	742	748	745
28	339	258	305	274	306	673	757	766	3,600	742	*745	742
29	337	258	306	273	-	676	769	766	3,290	739	742	742
30	335	257	305	273	-----	679	*751	757	2,750	739	751	739
31	335	-----	305	273	-----	682	-----	766	-----	739	754	-----
Total	10,887	8,371	8,493	8,558	9,071	21,112	22,239	28,703	98,050	38,278	22,948	22,353
Mean	351	279	274	276	324	681	741	926	3,268	1,235	740	745
Max	392	422	369	364	358	700	769	1,800	5,710	2,580	754	754
Min	282	68	183	180	205	670	688	733	1,030	739	727	739
Ac-ft	21,590	16,600	16,850	16,970	17,990	41,880	44,110	56,930	194,500	75,920	45,520	44,340

Calendar year 1961: Max 1,270 Min 68 Mean 558 Ac-ft 404,200
Water year 1961-62: Max 5,710 Min 68 Mean 819 Ac-ft 593,200

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2772. Cherry Lake near Hetch Hetchy, Calif.

Location.--Lat 37°58'30", long 119°53'45", in NW¼ sec.5, T.1 N., R.19 E., on upstream face of Cherry Valley Dam on Cherry Creek, 4.2 miles upstream from Eleanor Creek, 7 miles north of Early Intake, and 7.3 miles northwest of Hetch Hetchy.

Drainage area.--117 sq mi.

Records available.--August 1956 to September 1962. Prior to October 1959, published as Lake Lloyd near Hetch Hetchy.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by city and county of San Francisco).

Extremes.--Maximum contents during year, 250,500 acre-ft July 5, 6, 9 (elevation, 4,689.8 ft); minimum, 2,700 acre-ft Nov. 20 (elevation, 4,489.5 ft).

1956-62: Maximum contents, 269,300 acre-ft July 1-3, 1957 (elevation, 4,700.6 ft); minimum, 140 acre-ft Mar. 3, 1961 (elevation, 4,457.1 ft).

Remarks.--Reservoir is formed by a rock-fill dam completed in 1956; storage began in December 1955. Usable capacity, 268,180 acre-ft between elevations 4,430 (bottom of sluice gates) and 4,700 ft (top of spillway gates) above mean sea level. Additional storage of 20 acre-ft is not available for release. Water is released down Cherry Creek for power development and domestic supply as part of Hetch Hetchy system of city and county of San Francisco. Unmeasured diversion from Lake Eleanor into Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake through tunnel to Cherry powerhouse near mouth of Cherry Creek began on Aug. 1, 1960.

Cooperation.--Record of gage heights furnished by city and county of San Francisco.

Capacity table (elevation, in feet, and contents, in acre-feet)

4489	2,600	4550	50,600
4490	2,800	4590	98,900
4500	6,400	4640	169,900
4510	12,400	4690	250,800
4530	29,700		

Contents, in thousands of acre-feet, at 0800, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.89	3.22	4.16	(a)	15.2	27.7	27.9	116.3	192.4	249.3	237.1	207.4
2	2.86	3.25	4.64	10.2	14.7	27.4	29.0	118.6	195.6	249.9	236.1	206.4
3	2.89	3.25	4.80	10.4	14.2	27.3	30.3	121.7	198.9	250.1	235.1	(a)
4	2.89	3.28	4.96	10.5	13.9	27.1	31.5	125.5	201.7	(a)	233.9	204.8
5	2.89	3.28	5.24	10.6	13.8	27.0	32.8	130.1	203.2	250.5	233.0	203.7
6	2.89	3.28	5.44	10.7	13.1	27.0	35.1	135.0	204.8	250.5	232.7	202.5
7	2.89	3.28	5.60	11.0	12.7	26.9	37.6	139.9	206.7	250.3	231.7	201.4
8	2.89	3.28	5.72	11.3	12.4	26.8	39.9	144.1	209.0	250.3	230.5	200.0
9	2.89	3.28	5.80	11.6	14.0	26.5	43.3	148.6	211.6	250.5	229.6	190.0
10	2.86	3.28	6.04	11.9	(a)	26.3	46.0	152.6	214.5	249.9	228.6	(a)
11	2.86	3.28	6.20	12.1	21.1	26.1	48.7	155.4	217.8	249.6	227.6	197.1
12	(a)	3.28	6.24	12.2	23.1	26.0	51.5	157.6	220.3	249.1	226.7	196.3
13	2.86	3.28	6.32	12.3	24.5	25.6	54.6	159.7	222.4	248.7	226.2	195.6
14	2.83	3.28	6.40	12.5	25.5	25.4	57.9	161.5	224.4	248.4	225.2	194.8
15	2.83	3.28	6.52	12.6	26.9	25.1	61.8	162.6	225.9	248.1	224.2	194.0
16	2.83	3.28	6.76	12.7	28.5	25.0	66.0	163.8	226.7	248.1	223.1	193.5
17	2.83	3.25	6.88	12.8	(a)	24.7	69.4	165.4	227.9	247.6	222.1	193.2
18	2.83	2.92	7.00	12.9	29.0	24.4	73.1	166.8	230.4	246.9	220.9	192.6
19	2.80	2.89	7.18	13.0	29.7	24.2	77.1	168.4	232.5	246.4	220.1	191.6
20	2.80	2.70	7.36	13.2	29.8	24.0	80.2	170.2	234.9	245.5	219.6	190.9
21	2.80	2.74	7.78	13.3	29.7	23.8	82.9	172.0	237.1	244.8	218.6	190.1
22	3.04	2.80	8.14	13.5	29.2	23.7	85.8	173.4	239.2	244.3	217.4	189.3
23	3.10	(a)	8.50	13.7	29.1	23.7	89.6	175.6	241.2	244.0	216.3	188.7
24	3.13	3.07	8.86	13.9	28.8	23.6	93.5	177.6	242.8	243.3	215.3	188.7
25	3.13	3.16	(a)	14.2	28.5	23.4	97.4	179.1	244.5	242.4	214.2	187.9
26	3.13	3.34	9.16	14.2	28.2	23.6	100.9	180.3	245.5	241.7	213.4	187.1
27	3.16	3.55	9.40	14.2	27.9	23.8	104.4	181.5	246.5	241.1	212.9	186.1
28	3.16	3.70	9.52	14.6	27.8	24.3	108.4	183.1	247.4	239.9	211.8	185.2
29	3.19	3.76	9.70	14.8	—	24.9	111.1	184.4	248.1	239.3	210.8	184.1
30	3.19	3.94	9.76	15.0	-----	25.6	113.8	(a)	248.6	239.0	209.6	183.4
31	3.22	-----	9.94	15.2	-----	a26.8	-----	199.4	-----	238.0	208.5	-----
(†)	4,491.4	4,493.8	4,505.9	4,513.5	4,528.0	4,526.9	4,601.1	4,652.7	4,688.7	4,682.5	4,664.7	4,648.8
(‡)	+330	+720	+6,000	+5,260	+12,600	-1,000	+87,000	+75,600	+59,200	-10,600	-29,500	-25,100

Calendar year 1961..... † -12,360

Water year 1961-62..... ‡ +180,510

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

a No elevation record; month-end contents interpolated for March only.

11-2773. Cherry Creek below Cherry Valley Dam, near Hetch Hetchy, Calif.

Location.--Lat 37°58'04", long 119°54'59", in SW $\frac{1}{4}$ sec.5, T.1 N., R.19 E., on right bank 0.7 mile downstream from Cherry Valley Dam, 3.5 miles upstream from Eleanor Creek, 6.7 miles north of Early Intake, and 7.2 miles west of Hetch Hetchy.

Drainage area.--118 sq mi.

Records available.--November 1956 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4,337.08 ft above mean sea level (levels by city and county of San Francisco).

Extremes.--Maximum discharge during year, 44 cfs Feb. 9 (gage height, 3.53 ft); minimum daily, 3.2 cfs Apr. 26.
1956-62: Maximum discharge, 3,830 cfs Apr. 25, 1958 (gage height, 9.95 ft); minimum daily, 1.6 cfs Apr. 10, 1957.

Remarks.--Records good. Flow regulated by Cherry Lake (see preceding page). Diversion between Lake Eleanor and Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake to Cherry powerhouse began Aug. 1, 1960.

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by city and county of San Francisco.

Rating table (gage height, in feet, and discharge,
in cubic feet per second)

2.6	2.0	3.0	11
2.7	3.5	3.2	20
2.8	5.5	3.3	26
2.9	8.0		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	7.0	7.5	7.2	7.2	5.3	7.2	6.5	6.8	12	16	16
2	6.8	7.0	8.0	7.2	7.2	5.5	7.0	6.5	6.5	16	16	16
3	6.5	7.0	7.2	7.2	7.2	5.1	7.0	6.5	6.5	16	16	16
4	6.5	7.0	7.2	7.2	7.2	5.1	6.8	6.2	6.5	16	16	16
5	6.5	7.0	7.2	7.2	7.2	5.5	6.8	6.2	6.5	16	16	16
6	* 6.5	6.8	7.2	7.2	7.2	6.2	6.5	6.2	6.5	16	16	16
7	6.5	6.8	* 7.0	7.2	8.3	5.8	6.2	6.5	6.5	16	16	16
8	6.5	6.8	7.0	7.2	10	5.8	6.2	6.5	6.5	16	16	16
9	6.5	7.0	7.0	7.2	26	5.8	6.0	6.5	6.5	16	16	16
10	6.5	7.0	7.0	7.2	16	5.5	6.0	6.5	6.5	16	16	16
11	6.5	7.0	7.0	7.2	13	5.5	5.8	6.5	6.5	16	16	16
12	6.5	7.0	7.0	7.2	10	5.3	5.8	6.5	6.5	16	16	16
13	6.5	7.0	7.0	7.2	13	5.3	5.5	6.5	6.8	16	16	16
14	6.5	7.0	7.0	7.2	14	5.3	5.3	6.5	6.8	16	16	16
15	6.5	7.0	7.0	7.2	19	5.3	5.1	* 6.8	6.8	16	16	16
16	6.5	7.0	7.0	7.2	13	5.5	5.1	7.2	6.8	16	16	16
17	6.5	7.0	7.0	7.2	11	5.3	7.0	6.8	6.8	16	16	16
18	6.5	7.0	7.2	7.2	9.2	5.3	8.6	6.8	6.8	16	16	16
19	6.5	7.0	7.2	7.2	8.3	5.8	8.6	6.8	6.8	16	16	* 16
20	6.8	7.2	7.2	7.5	7.5	6.0	8.6	6.5	6.8	16	16	16
21	6.8	7.0	7.2	7.2	7.2	6.0	8.6	6.5	6.8	16	16	16
22	6.8	7.0	7.2	7.2	7.0	6.5	8.3	6.5	6.8	16	16	16
23	6.8	7.0	7.2	7.2	6.8	6.2	8.3	6.5	6.8	16	* 16	16
24	6.8	7.0	7.2	7.2	6.5	6.2	8.3	6.5	6.8	16	16	17
25	6.8	7.5	7.2	7.2	6.2	6.5	5.3	6.5	6.8	16	16	17
26	6.8	7.2	7.2	7.2	6.0	6.8	3.2	6.8	6.8	16	16	17
27	6.8	7.0	7.2	7.2	5.8	7.2	6.5	6.8	6.8	16	16	17
28	6.8	7.2	7.2	7.2	5.3	7.5	7.0	6.8	* 6.8	16	16	17
29	6.8	7.2	7.2	7.2	-	7.8	6.8	6.8	6.8	16	16	17
30	6.8	8.0	7.2	7.2	-----	7.8	6.5	6.8	6.8	16	16	10
31	6.8	-----	7.2	7.2	-----	7.5	-----	6.8	-----	16	16	-----
Total	207.5	211.7	222.1	223.5	272.3	186.2	199.9	204.3	200.7	492	496	480
Mean	6.69	7.06	7.16	7.21	9.72	6.01	6.66	6.59	6.69	15.9	16.0	16.0
Max	8.6	8.0	8.0	7.5	26	7.8	8.6	7.2	6.8	16	16	17
Min	6.5	6.8	7.0	7.2	5.3	5.1	3.2	6.2	6.5	12	16	10
Ac-ft	41.2	42.0	44.1	44.3	54.0	36.9	39.6	40.5	39.8	97.6	98.4	95.2
Calendar year 1961:	Max	27	Min	2.3	Mean	7.62	Ac-ft	5,520				
Water year 1961-62:	Max	26	Min	3.2	Mean	9.30	Ac-ft	6,740				

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2775. Lake Eleanor near Hetch Hetchy, Calif.

Location.--Lat 37°58'30", long 119°52'45", in NW¼ sec.3, T.1 N., R.19 E., on downstream side of dam on Eleanor Creek, 720 ft from left bank, 1.7 miles upstream from Miguel Creek, and 5.5 miles northwest of Hetch Hetchy.

Drainage area.--79 sq mi, approximately.

Records available.--June 1918 to September 1962. Prior to October 1930, published in WSP 1315-A. Published as "near Sequoia" 1919-20.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by city and county of San Francisco). Prior to Oct. 1, 1927, staff gage on upstream side of dam at same site and datum.

Extremes.--Maximum contents during year, 27,200 acre-ft July 15-27 (elevation, 4,661.1 ft); minimum not determined.

1919-62: Maximum contents, 31,000 acre-ft Dec. 11, 1937, from capacity table then in use (elevation, 4,663.4 ft); no usable contents at times in 1921, 1929-30, 1956-60.

Remarks.--Reservoir is formed by multiple-arch dam completed in 1918; storage began June 23, 1918. Usable capacity, 26,100 acre-ft between elevations 4,620.9 (natural outlet of old lake) and 4,660.0 ft (top of 5-foot flashboards) above mean sea level. Water is released down Eleanor Creek for power development and domestic supply as part of Hetch Hetchy system of city and county of San Francisco. Figures given herein represent usable contents.

Cooperation.--Water-stage-recorder graph furnished by city and county of San Francisco.

Capacity table (elevation, in feet, and contents, in acre-feet)

4,626	550	4,636	5,960	4,646	13,500
4,628	1,480	4,638	7,330	4,650	17,000
4,630	2,450	4,640	8,710	4,655	21,500
4,632	3,580	4,642	10,300	4,662	26,100
4,634	4,700	4,644	11,900		

Contents, in acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	817		683	3,520	7,330	8,790	10,500	15,500	22,700	26,400	27,100	26,200
2	817		817	3,630	7,540	8,710	10,700	15,400	24,300	26,400	27,100	26,100
3	817		906	3,690	7,680	8,710	10,800	15,800	25,800	26,500	27,100	26,100
4	772		950	3,800	7,810	8,710	11,200	16,400	26,500	26,600	27,000	26,000
5	728		1,040	3,860	7,950	8,710	11,400	17,000	26,600	26,700	27,000	26,000
6	728		1,140	3,970	8,020	8,710	11,600	17,600	26,600	26,700	27,000	26,000
7	728		1,190	4,250	8,360	8,710	11,900	18,200	26,700	26,700	27,000	25,900
8	683		1,240	4,480	9,100	8,710	12,200	18,800	26,800	26,700	26,900	25,800
9	683		1,330	4,650	12,000	8,710	12,400	19,400	26,800	26,600	26,900	25,800
10	639		1,380	4,820	12,500	8,790	12,600	19,800	26,800	26,600	26,900	25,800
11	639		1,430	4,930	12,300	8,790	12,800	19,700	26,800	26,700	26,900	25,500
12	639		1,480	5,040	11,600	8,790	13,100	19,500	26,700	26,700	26,900	25,000
13	639		1,480	5,100	11,200	8,790	13,600	19,100	26,600	26,900	26,900	24,700
14	639		1,530	5,210	10,900	8,790	14,400	18,800	26,600	27,100	26,900	24,200
15	639		1,580	5,270	10,900	8,790	15,100	18,300	26,400	27,200	26,900	23,800
16	-		1,620	5,340	10,500	8,710	15,500	18,200	26,400	27,200	26,900	23,400
17	-		1,670	5,410	10,200	8,710	15,900	18,200	26,400	27,200	26,800	23,100
18	-		1,720	5,480	9,980	8,710	16,200	18,200	26,600	27,200	26,800	22,600
19	-		1,770	5,680	9,820	8,710	16,300	18,100	26,600	27,200	26,700	22,200
20	-		1,960	5,820	9,660	8,790	16,000	18,100	26,600	27,200	26,700	21,800
21	-		2,110	5,890	9,420	8,790	15,600	18,000	26,600	27,200	26,700	21,400
22	-		2,260	6,020	9,340	8,950	15,600	18,100	26,600	27,200	26,600	21,000
23	-		2,400	6,090	9,180	8,870	15,900	18,400	26,500	27,100	26,600	20,600
24	-		2,560	6,230	9,180	8,950	16,200	18,700	26,500	27,100	26,600	20,200
25	-		2,730	6,300	9,100	9,020	16,200	18,900	26,400	27,100	26,500	19,900
26	-		2,840	6,440	9,020	9,180	16,100	19,000	26,300	27,100	26,500	19,400
27	-		2,960	6,510	8,950	9,420	16,200	19,100	26,400	27,100	26,400	19,000
28	-		3,070	6,640	8,870	9,740	16,600	19,300	26,500	27,100	26,400	18,600
29	-		3,180	6,780	-	10,100	16,300	19,700	26,500	27,100	26,300	18,200
30	-		3,300	6,990	-----	10,200	15,800	20,500	26,500	27,100	26,200	17,700
31	-	-----	3,410	7,130	-----	10,500	-----	21,500	-----	27,100	26,200	-----
(†)	4,625.7	4,626.0	4,631.7	4,637.7	4,640.2	4,642.2	4,648.6	4,655.0	4,660.4	4,661.0	4,660.1	4,650.8
(‡)	-	-	-	+3,720	+1,740	+1,630	+5,300	+5,700	+5,000	+600	-900	-8,500

Calendar year 1961..... † -2,270

Water year 1961-62..... ‡ +16,880

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

Note.--No reliable capacity table Oct. 16 to Nov. 31.

SAN JOAQUIN RIVER BASIN

673

11-2780. Eleanor Creek near Hetch Hetchy, Calif.

Location.--Lat 37°58'10", long 119°52'50", in SW $\frac{1}{4}$ sec.3, T.1 N., R.19 E., in Yosemite National Park, on right bank 0.5 mile downstream from Lake Eleanor Dam, 1.1 miles upstream from Miguel Creek, and 5.5 miles northwest of Hetch Hetchy.

Drainage area.--80 sq mi, approximately.

Records available.--October 1909 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Sequoia" 1910-18.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,500 ft (from topographic map). November 1909 to November 1915, staff gage and water-stage recorder at site 1 mile upstream at different datum.

Average discharge.--50 years (1909-59), 223 cfs (161,400 acre-ft per year), prior to diversion to Cherry Lake.

Extremes.--Maximum discharge during year, 756 cfs June 10 (gage height, 4.44 ft); minimum daily, 3.7 cfs Oct. 2.
1909-62: Maximum discharge, 11,700 cfs Nov. 19, 1950 (gage height, 14.95 ft), from rating curve extended above 2,000 cfs on basis of velocity-area studies; no flow at times in 1910, 1930-31, 1933, 1956.

Remarks.--Records good. Flow regulated by Lake Eleanor beginning in 1918 (see preceding page). Diversion from Lake Eleanor to Cherry Lake began in March 1960.

Cooperation.--Water-stage-recorder graph and seven discharge measurements furnished by city and county of San Francisco.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 3, 5-14, 20)

1.3	2.6	2.0	38	3.5	310
1.4	5.4	2.3	67	4.0	490
1.5	10	2.6	107	4.5	720
1.7	20	3.0	180		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	5.1	5.4	5.9	8.6	7.2	7.7	5.1	5.9	256	18	16
2	3.7	5.1	6.3	5.9	9.1	7.2	7.7	5.1	9.1	200	16	16
3	4.6	5.1	5.4	5.9	9.5	7.2	8.2	4.8	30	170	16	16
4	* 5.1	5.1	5.4	5.9	9.5	7.2	8.2	4.8	156	172	16	16
5	5.1	4.8	5.4	5.9	10	7.7	7.2	4.8	458	176	14	16
6	5.1	4.8	5.4	5.4	10	8.2	7.2	4.8	575	178	17	16
7	5.1	4.8	5.9	5.4	12	7.2	7.2	4.8	* 620	178	18	16
8	4.8	4.8	6.8	5.4	14	7.2	7.2	5.1	645	174	18	16
9	4.8	4.6	6.8	5.1	24	7.2	7.2	5.4	675	170	18	16
10	4.8	4.6	6.8	5.4	15	7.2	7.2	5.4	720	103	16	16
11	4.8	4.6	6.8	5.4	12	7.2	6.8	5.4	715	69	16	16
12	4.8	4.6	6.8	5.4	10	7.2	6.8	5.4	670	75	15	15
13	4.6	4.8	6.8	5.9	13	7.7	7.7	5.4	620	42	14	16
14	4.6	4.8	6.8	5.9	11	8.2	7.7	5.4	570	24	16	18
15	4.6	4.8	6.3	5.9	14	8.2	7.7	* 5.4	534	48	18	18
16	4.6	4.8	6.3	5.9	9.5	8.2	7.7	5.9	434	75	17	17
17	4.6	5.1	6.3	5.9	8.6	8.2	7.7	5.4	398	75	17	16
18	4.6	5.1	6.3	5.9	7.7	8.2	7.7	5.1	458	* 71	17	16
19	4.6	5.1	6.8	6.3	7.7	8.6	8.2	5.1	522	69	16	16
20	4.6	5.1	6.8	6.3	7.7	8.2	8.2	5.1	558	62	16	16
21	4.8	5.1	6.8	6.3	7.7	8.2	8.2	5.4	546	55	16	16
22	4.8	5.1	6.8	6.3	7.7	8.6	8.2	5.4	522	50	16	16
23	4.8	5.1	6.8	6.3	7.7	8.6	7.7	5.4	490	51	* 16	16
24	4.6	5.1	6.8	6.3	7.7	8.6	7.7	5.4	446	42	16	16
25	4.6	5.1	6.8	6.8	7.7	8.2	7.7	5.4	390	35	16	15
26	4.6	5.1	6.3	7.2	7.7	8.2	5.9	5.4	355	32	16	15
27	4.8	5.1	6.3	7.7	7.2	8.2	4.6	5.4	271	29	16	15
28	4.8	5.1	6.3	7.7	7.2	* 8.2	5.1	5.4	253	26	16	16
29	5.1	5.4	6.3	7.2	-	8.2	5.1	5.4	* 265	23	16	16
30	5.1	5.4	6.3	7.7	-----	8.2	4.8	5.4	265	20	16	7.7
31	5.1	-----	5.9	8.2	-----	8.2	-----	5.4	-----	18	16	-----
Total	151.7	149.2	197.0	192.7	283.5	244.8	216.2	163.1	13,176.0	2,768	505	472.7
Mean	4.89	4.97	6.35	6.22	10.1	7.90	7.21	5.26	439	89.3	16.3	15.8
Max	9.1	5.4	6.8	8.2	24	8.6	8.2	5.9	720	256	18	18
Min	3.7	4.6	5.4	5.1	7.2	7.2	4.6	4.8	5.9	18	14	7.7
Ac-ft	301	296	391	382	562	486	429	324	26,130	5,490	1,000	938

Calendar year 1961: Max 149 Min 3.7 Mean 15.2 Ac-ft 11,000
Water year 1961-62: Max 720 Min 3.7 Mean 50.7 Ac-ft 36,730

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2782. Cherry Creek Canal near Early Intake, Calif.

Location.--Lat 37°53'36", long 119°57'15", in S $\frac{1}{2}$ sec. 36, T.1 N., R.18 E., on left bank 1.3 miles northeast of Early Intake and 10 miles southwest of Hetch Hetchy.

Records available.--April 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,700 ft (from topographic map).

Extremes.--1956-62: Maximum daily discharge, 194 cfs July 30, 1959; minimum daily, 0.4 cfs Apr. 12, 1962.

Remarks.--Records good. Canal diverts from left bank of Cherry Creek near Early Intake for power development at Early Intake as part of Hetch Hetchy system of city and county of San Francisco.

Cooperation.--Water-stage-recorder graph and nine discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	6.6	14	8.9	8.0	10	0.8	12	11	25	21	19
2	10	6.6	14	8.9	8.0	11	.6	12	11	25	22	19
3	5.8	6.6	14	8.9	8.0	10	.5	12	11	24	22	19
4	5.9	6.5	15	8.9	8.7	10	.7	12	12	26	22	19
5	5.9	6.5	14	8.9	11	11	.9	12	13	26	21	19
6	* 5.9	6.5	14	8.9	11	11	.5	12	13	26	21	19
7	5.9	6.3	* 14	8.9	11	11	.7	12	12	26	21	19
8	5.9	6.3	11	8.6	12	11	.6	12	11	76	21	19
9	6.9	6.3	9.7	8.0	13	11	.6	12	11	140	21	19
10	7.6	6.2	9.7	7.6	14	11	.6	11	11	112	20	19
11	7.3	6.2	8.9	7.8	13	11	.5	12	11	58	20	19
12	7.2	6.3	8.7	7.8	12	11	.4	12	31	76	20	19
13	7.2	6.9	8.6	8.0	27	11	4.7	12	62	44	20	19
14	7.2	7.5	8.7	8.0	73	11	13	12	37	27	20	19
15	7.0	7.3	8.7	8.0	54	9.7	13	* 16	26	28	19	19
16	7.0	7.3	8.7	7.8	14	11	10	18	25	29	19	19
17	7.0	7.3	8.7	7.8	13	11	11	12	24	29	19	19
18	6.9	7.3	8.7	7.8	13	11	11	12	25	28	19	19
19	6.9	7.3	8.7	8.0	10	11	13	12	25	29	19	19
20	6.9	7.5	8.7	8.1	11	11	13	12	25	29	19	19
21	7.0	9.2	8.9	8.0	11	11	13	12	25	29	19	19
22	7.0	10	8.9	8.0	11	11	13	12	25	29	19	19
23	7.0	10	8.9	8.0	11	11	13	12	25	29	* 19	19
24	7.0	10	8.9	7.8	11	11	13	8.4	24	29	19	19
25	6.9	10	8.9	8.0	10	11	13	11	24	29	19	19
26	6.9	10	9.0	8.0	10	10	13	11	* 23	29	19	18
27	6.9	9.2	8.7	8.0	10	5.2	13	11	20	30	19	18
28	7.0	6.2	8.9	8.0	10	.6	13	11	21	30	19	18
29	7.0	6.2	8.9	8.0	-	.6	13	11	25	30	19	19
30	7.0	10	8.9	8.0	-----	.8	12	11	25	30	19	13
31	6.9	-----	8.9	8.0	-----	.6	-----	* 11	-----	26	19	-----
Total	229.0	226.1	314.3	253.4	428.7	288.5	225.1	370.4	644	1,203	615	561
Mean	7.39	7.54	10.1	8.17	15.3	9.31	7.50	11.9	21.5	38.8	19.8	18.7
Max	22	10	15	8.9	73	11	13	18	62	140	22	19
Min	5.8	6.2	8.6	7.6	8.0	0.6	0.4	8.4	11	24	19	13
Ac-ft	454	448	623	503	850	572	446	735	1,280	2,390	1,220	1,110

Calendar year 1961: Max 145 Min 0.9 Mean 17.4 Ac-ft 12,570
 Water year 1961-62: Max 140 Min 0.4 Mean 14.7 Ac-ft 10,630

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

675

11-2783. Cherry Creek near Early Intake, Calif.

Location.--Lat 37°53'40", long 119°57'42", in SE $\frac{1}{4}$ sec.35, T.1 N., R.18 E., on right bank 1.2 miles upstream from mouth, 1.3 miles north of Early Intake, and 10.3 miles southwest of Hetch Hetchy.

Drainage area.--226 sq mi.

Records available.--May 1956 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,272.00 ft above mean sea level (levels by city and county of San Francisco).

Extremes.--Maximum discharge during year, 768 cfs Feb. 9 (gage height, 6.34 ft); minimum daily, 1.0 cfs Dec. 8.
1956-62: Maximum discharge, 4,940 cfs May 6, 1958 (gage height, 10.46 ft); minimum daily, 0.4 cfs Oct. 29-31; Nov. 9-13, 1957.

Remarks.--Records good. Flow regulated by Cherry Lake (see p. 670), and Lake Eleanor (see p. 672). Cherry Creek Canal diverts about 1.0 mile upstream from station (see preceding page). Diversion from Cherry Lake to Cherry powerhouse began Aug. 1, 1960. Water is returned to creek 1.2 miles below station.

Cooperation.--Water-stage-recorder graph and nine discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	5.2	9.8	6.4	1.0	37	135	29	14	262	12	11
2	2.6	5.4	24	6.6	1.0	42	131	28	14	222	11	11
3	4.2	5.6	13	6.6	1.0	37	131	26	23	168	9.9	10
4	4.4	5.6	6.2	6.7	9.2	37	136	24	114	172	a 11	10
5	5.8	5.6	3.1	6.9	6.0	43	138	22	440	*175	a 10	11
6	5.8	5.6	1.5	7.1	6.0	87	132	21	580	177	a 12	11
7	5.8	5.6	* 1.1	7.3	19	64	129	20	* 596	175	a 13	11
8	5.8	5.6	1.0	7.5	45	60	123	20	632	128	a 12	10
9	5.8	5.6	2.0	7.6	31.9	62	116	19	656	50	14	10
10	4.3	5.6	3.7	7.6	261	53	107	19	700	32	12	10
11	4.2	5.6	4.0	* 7.8	203	52	97	19	700	13	11	10
12	4.7	5.6	4.7	8.0	132	46	90	19	640	18	10	10
13	4.8	5.6	5.0	8.2	140	46	80	19	568	26	9.9	10
14	4.7	5.2	5.0	8.5	125	49	65	20	548	13	9.7	12
15	4.7	4.7	5.0	8.5	223	52	61	19	536	22	12	12
16	4.6	4.4	5.0	8.8	168	55	58	20	436	59	12	12
17	4.6	4.3	5.0	6.9	119	50	52	28	394	62	12	11
18	4.6	4.3	5.8	7.6	95	49	50	22	436	58	12	10
19	4.7	4.3	6.6	10	79	57	49	20	500	56	12	11
20	4.7	8.7	6.7	19	73	68	54	18	536	51	12	11
21	5.0	11	6.4	9.0	63	61	51	18	528	44	12	11
22	5.6	5.4	6.0	7.6	59	80	45	17	508	39	12	11
23	5.2	3.4	5.8	8.8	58	70	39	17	472	34	* 11	11
24	5.0	2.8	5.6	8.8	58	67	37	19	436	35	11	10
25	5.0	2.5	5.8	8.8	50	82	35	17	394	25	11	11
26	5.0	7.9	5.8	9.0	46	94	28	17	359	20	11	12
27	5.0	7.6	5.9	10	40	114	26	17	292	17	10	11
28	6.7	6.0	5.9	10	* 38	129	49	18	259	14	10	11
29	7.5	8.0	6.0	10	-	* 135	38	17	266	11	10	12
30	6.0	13	6.0	10	-----	136	32	15	269	8.2	10	15
31	5.4	-----	6.2	10	-----	134	-----	* 15	-----	7.4	11	-----
Total	155.7	175.7	183.6	265.6	2,464.2	2,148	2,314	619	12,846	21,936	348.5	328.9
Mean	5.02	5.66	5.92	8.57	88.0	69.3	77.1	20.0	428	70.8	11.2	11.0
Max	7.5	13	24	19	319	136	138	29	700	262	14	15
Min	2.6	2.5	1.0	6.4	6.0	37	26	15	14	7.4	9.7	9.9
Ac-ft	309	348	364	527	4,890	4,260	4,590	1,230	25,480	4,350	691	652
(†)	0	468	111	117	21,130	22,010	26,700	26,630	24,720	23,130	26,610	29,680

Calendar year 1961: Max 41 Min 1.0 Mean 8.49 Ac-ft 6,150 †194,300

Water year 1961-62: Max 700 Min 1.0 Mean 65.9 Ac-ft 47,690 †201,300

* Discharge measurement made on this day.

† Diversion, in acre-feet, to Cherry powerhouse, furnished by city and county of San Francisco.

a No gage-height record.

Note.--Stage discharge relation affected by ice Dec. 25 to Jan. 17.

11-2810. South Fork Tuolumne River near Oakland Recreation Camp, Calif.

Location.--Lat 37°49'16", long 120°00'48", in SE $\frac{1}{4}$ sec.29, T.1 S., R.18 E., on right bank 75 ft downstream from highway bridge on Big Oak Flat Road, 0.5 mile southwest of Oakland Recreation Camp, and 0.6 mile upstream from Middle Tuolumne River.

Drainage area.--87.6 sq mi.

Records available.--March 1923 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to Nov. 22, 1931, at site 50 ft upstream at same datum.

Average discharge.--39 years, 89.9 cfs (65,090 acre-ft per year).

Extremes.--Maximum discharge during year, 3,670 cfs Feb. 9 (gage height, 7.48 ft), from rating curve extended above 1,300 cfs as explained below; minimum, 1.8 cfs Oct. 7.

1923-62: Maximum discharge, 11,900 cfs Dec. 23, 1955 (gage height, 10.9 ft, from floodmarks), from rating curve extended above 1,300 cfs on basis of slope-area measurement of peak flow; minimum, 0.3 cfs Aug. 23, 1934.

Remarks.--Records good except those for periods of ice effect, which are fair. No storage or diversion.

Cooperation.--Water-stage-recorder graph and 12 discharge measurements furnished by city and county of San Francisco.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-30)

Oct. 1 to Feb. 9				Feb. 10 to Sept. 30			
0.4	1.8	2.7	119	0.7	4.2	2.8	126
.5	2.4	3.0	165	.9	6.6	3.0	160
.7	4.2	3.5	280	1.1	9.6	3.5	275
1.0	7.9	4.0	455	1.3	14	4.0	455
1.3	14	4.5	690	1.7	26	4.5	690
1.7	25	5.0	980	2.0	42	5.0	980
2.1	51	6.0	1,850	2.4	76		
2.4	81						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	3.9	23	8.9	14	b 47	153	243	225	42	12	6.0
2	2.0	3.9	68	7.8	14	b 48	153	281	243	40	12	5.6
3	* 2.0	3.9	26	8.2	15	b 49	164	* 326	220	38	11	5.3
4	1.9	3.9	17	6.6	15	51	184	363	178	36	11	5.2
5	1.9	3.8	12	7.6	15	58	210	379	174	35	12	5.3
6	1.9	3.7	11	8.2	16	198	225	371	180	33	12	5.4
7	1.8	3.7	8.7	8.7	65	119	248	351	190	31	11	5.3
8	2.0	3.6	b 7.0	8.9	137	* 94	255	359	190	29	11	5.2
9	2.0	3.5	b 7.0	9.3	* 1,590	88	268	335	192	28	11	5.2
10	2.2	3.5	b 7.0	9.3	969	74	268	302	186	26	12	5.2
11	2.4	3.5	6.9	9.0	513	70	260	245	176	24	11	5.2
12	2.5	3.6	b 6.5	8.9	275	62	278	228	162	28	10	5.1
13	2.5	3.6	b 6.5	b 7.5	255	62	299	188	149	31	9.4	5.2
14	2.5	3.6	b 6.5	5.8	253	63	323	170	139	27	9.1	5.2
15	2.4	3.7	b 6.5	b 5.5	707	63	332	153	122	24	8.5	5.2
16	2.3	3.7	6.9	b 7.0	393	66	308	162	116	23	8.0	5.2
17	2.2	3.5	8.1	8.1	213	62	305	160	119	* 21	7.7	4.9
18	2.2	3.5	8.5	9.0	149	60	* 314	166	118	21	7.4	4.4
19	2.2	3.9	9.2	12	123	67	320	164	113	20	7.3	4.3
20	2.2	11	7.5	20	104	73	245	166	107	19	7.3	4.4
21	2.3	10	9.3	15	86	68	225	146	98	18	7.0	4.6
22	2.5	6.5	8.7	12	79	97	268	168	* 91	18	* 6.9	4.8
23	2.9	6.3	8.5	9.9	73	91	299	* 194	82	17	6.7	4.6
24	2.9	6.3	8.9	10	70	87	314	184	74	16	6.7	4.4
25	2.9	8.9	8.5	10	60	97	287	164	68	15	6.5	4.3
26	2.9	23	* 9.2	11	b 50	108	265	147	62	15	6.1	4.8
27	2.9	14	7.6	11	b 46	119	273	136	57	14	5.8	5.0
28	3.1	* 9.2	7.5	12	b 47	131	273	128	52	14	5.7	5.4
29	3.2	9.7	7.8	12	-	139	240	144	48	13	6.1	5.8
30	3.3	20	7.6	13	-----	139	218	180	45	13	5.7	5.8
31	3.9	-----	7.8	13	-----	142	-----	205	-----	13	6.0	-----
Total	75.9	194.9	351.2	305.2	6,346	2,692	7,774	6,908	3,976	742	269.9	152.3
Mean	2.45	6.50	11.3	9.85	227	86.8	259	223	133	23.9	8.71	5.08
Max	3.9	23	68	20	1,590	198	332	379	243	42	12	6.0
Min	1.8	3.5	6.5	5.5	14	47	153	128	45	13	5.7	4.3
Ac-ft	151	387	697	605	12,590	5,340	15,420	13,700	7,890	1,470	535	302

Calendar year 1961: Max 107 Min - Mean 22.2 Ac-ft 16,090
Water year 1961-62: Max 1,590 Min 1.8 Mean 81.6 Ac-ft 59,090

Peak discharge (base, 370 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1300	7.48	3,670	4-15	0100	3.86	399
2-15	0700	5.09	1,040	5-5	2400	4.10	495

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

11-2820. Middle Tuolumne River at Oakland Recreation Camp, Calif.

Location.--Lat 37°49'40", long 120°00'40", in NW¼ sec.28, T.1 S., R.18 E., on left bank 1,000 ft downstream from Oakland Recreation Camp, 0.5 mile upstream from South Fork Tuolumne River, and 4 miles east of Buck Meadows Post Office.

Drainage area.--71.0 sq mi.

Records available.--October 1916 to September 1962. Monthly discharge only for October 1916, published in WSP 1315-A. Published as Middle Fork of Tuolumne River near Buck Meadows 1917-32 and as "near Buck Meadows" 1933-40.

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

Average discharge.--46 years, 72.6 cfs (52,560 acre-ft per year).

Extremes.--Maximum discharge during year, 980 cfs Feb. 15 (gage height, 6.10 ft); minimum, 0.1 cfs Oct. 6, 7.

1916-62: Maximum discharge, 4,920 cfs Dec. 23, 1955 (gage height, 11.75 ft from flood profile, 11.05 ft from floodmarks inside gage well), from rating curve extended above 1,400 cfs on basis of slope-area measurement of peak flow; no flow Sept. 4-14, 1924, Aug. 12 to Oct. 5, 1931, Sept. 11-17, 1934, Sept. 7-14, 1961.

Remarks.--Records good. Small diversion above station for irrigation.

Cooperation.--Water-stage-recorder graph and 12 discharge measurements furnished by city and county of San Francisco.

Rating table (gage height, in feet, and discharge in cubic feet per second)
(Shifting-control method used Oct. 24 to Nov. 14)
(Stage-discharge relation affected by ice Jan. 20)

0.5	0.1	1.3	11	3.0	130
.6	.6	1.5	16	3.5	215
.7	1.4	1.8	27	4.0	324
.9	3.6	2.2	48	4.5	449
1.1	7.0	2.6	80		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	1.0	9.5	3.8	5.4	26	65	225	300	54	8.2	1.6
2	.5	.9	30	3.2	5.7	28	67	269	332	51	7.8	1.6
3	*.5	.9	11	3.2	5.9	27	68	*324	329	47	7.2	1.5
4	.5	1.0	6.6	3.0	5.9	26	74	377	254	44	7.0	1.4
5	.5	1.1	5.2	2.8	6.1	30	81	414	252	42	6.8	1.4
6	.1	1.1	4.2	3.5	6.5	138	88	424	265	38	6.6	1.4
7	.1	1.2	3.5	3.5	22	64	98	407	276	35	6.5	1.3
8	.5	1.1	3.1	3.4	47	50	107	419	282	33	6.1	1.3
9	.5	1.1	3.4	3.6	331	47	124	409	285	31	6.1	1.2
10	.5	.9	3.1	3.6	348	41	142	374	278	29	6.5	1.2
11	.5	.9	*2.8	3.5	204	40	144	305	258	27	7.4	1.2
12	.5	1.0	2.9	3.2	94	35	158	285	243	30	6.3	1.2
13	.5	1.1	2.9	2.9	97	36	183	231	231	38	5.6	1.2
14	.5	1.2	3.2	2.5	87	35	207	204	209	32	4.4	1.2
15	.5	*1.2	3.0	2.3	421	35	223	182	178	27	3.9	1.2
16	.5	1.2	2.9	2.9	154	38	221	182	176	23	3.4	1.2
17	.5	1.2	3.2	3.0	80	35	221	185	182	*22	3.2	1.2
18	.5	1.2	3.6	*3.4	60	34	*239	196	180	21	3.1	1.1
19	.5	1.2	4.1	5.4	53	37	258	204	173	20	3.5	1.1
20	.5	3.7	3.8	7.0	46	40	191	207	166	18	3.0	1.1
21	.5	3.9	3.6	6.1	39	38	176	182	151	16	2.6	1.1
22	.5	2.5	3.6	5.0	36	60	211	209	*141	15	*2.6	1.1
23	.5	2.1	3.5	4.0	35	52	260	*254	123	14	2.5	1.1
24	.5	2.1	3.5	4.0	35	47	280	229	109	13	2.3	1.1
25	.5	3.7	3.4	4.0	30	49	260	204	98	12	2.2	1.0
26	.5	8.0	*3.5	4.6	30	52	231	183	88	12	2.1	1.1
27	.5	5.4	3.2	4.7	23	56	250	164	80	11	2.0	1.2
28	.5	3.6	2.9	4.9	27	59	243	155	72	10	2.2	1.4
29	.5	4.2	2.9	5.0	-	*62	217	182	65	9.6	1.8	2.0
30	.5	8.6	3.0	5.2	-----	62	198	243	60	9.2	1.7	1.8
31	1.0	-----	3.0	5.2	-----	63	-----	278	-----	8.6	1.7	-----
Total	12.5	68.3	148.1	122.4	2,334.5	1,442	5,285	8,106	5,836	7,924	136.3	38.5
Mean	0.40	2.28	4.78	3.95	83.4	46.5	176	261	195	25.6	4.40	1.28
Max	1.0	8.6	30	7.0	421	138	280	424	332	54	8.2	2.0
Min	0.1	0.9	2.8	2.3	5.4	26	65	155	60	8.6	1.7	1.0
Ac-ft	25	135	294	243	4,630	2,860	10,480	16,080	11,580	15,570	270	76

Calendar year 1961: Max 117 Min 0 Mean 19.5 Ac-ft 14,130
Water year 1961-62: Max 424 Min 0.1 Mean 66.6 Ac-ft 48,240

Peak discharge (base, 370 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1000	5.06	592	5-6	0200	4.86	539
2-15	0600	6.10	980	6-3	0100	4.54	459

SAN JOAQUIN RIVER BASIN

11-2835. Clavey River near Buck Meadows, Calif.

Location.--Lat 37°54'00", long 120°04'15", in SE 1/4 sec. 35, T.1 N., R.17 E., on right bank 300 ft upstream from Forest Service road bridge, 1.7 miles downstream from Quilty Creek, and 6 miles north of Buck Meadows Post Office.

Drainage area.--144 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,374.08 ft above mean sea level.

Extremes.--Maximum discharge during year, 3,570 cfs Feb. 9 (gage height, 13.32 ft), from rating curve extended above 1,200 cfs; minimum, 4.3 cfs Oct. 8.

1959-62: Maximum discharge, that of Feb. 9, 1962; minimum, 3.4 cfs Sept. 7, 8, 1961.

Revisions.--The maximum discharge for the water year 1960 has been revised to 2,390 cfs Feb. 8, 1960 (gage height, 11.52 ft), superseding figure published in WSP 1715.

Remarks.--Records good. No storage or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.4	4.0	4.0	92
1.6	6.5	5.0	178
1.8	10	6.0	322
2.0	15	7.0	538
2.5	27	9.0	1,150
3.0	43	11.0	2,080
3.5	64		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.2	7.6	6.0	2.6	4.7	12.4	5.26	7.55	6.00	1.21	2.1	1.1
2	5.7	7.6	9.5	2.4	5.2	12.6	5.48	8.99	6.64	1.12	2.0	1.1
3	5.2	7.8	4.7	2.5	5.4	12.5	5.90	1.020	6.16	1.07	2.0	1.0
4	5.1	7.8	3.1	2.3	5.4	12.4	7.06	1.120	4.59	.98	2.0	1.0
5	4.9	7.6	2.6	* 2.4	5.3	13.5	8.54	1.180	* 4.44	.92	2.1	1.0
6	4.8	7.4	2.4	2.5	5.3	26.1	9.38	1.120	4.62	.84	2.1	1.0
7	4.7	7.2	2.1	2.5	1.02	2.20	* 1.030	* 1.050	4.92	.75	2.0	1.0
8	4.6	7.2	2.1	3.2	2.13	1.94	1.050	1.060	5.00	.70	2.0	1.0
9	* 4.7	* 7.0	1.8	4.0	1.830	1.82	1.130	1.000	5.02	.65	2.0	9.9
10	4.9	7.0	2.0	3.6	1.540	1.62	1.090	8.74	4.92	* 6.0	2.1	9.9
11	5.4	7.0	1.6	3.3	7.17	1.59	1.050	6.44	4.51	.57	1.9	9.9
12	5.7	7.0	* 1.9	3.0	4.35	1.43	1.150	5.80	4.18	.59	1.8	9.9
13	5.7	7.0	1.7	3.1	4.68	1.44	1.240	4.62	3.96	.62	1.7	9.9
14	5.5	7.0	1.8	2.0	5.87	* 1.44	* 1.330	4.20	3.68	.55	1.6	1.0
15	5.2	7.0	1.7	2.3	1.070	1.42	1.380	3.78	3.20	.50	1.5	1.0
16	5.0	7.0	1.7	2.4	6.36	1.45	1.250	4.40	3.01	.46	1.5	1.0
17	4.9	7.0	1.8	2.3	4.04	1.38	1.160	4.90	3.13	.42	1.5	9.7
18	4.8	7.0	2.1	2.4	3.17	1.35	1.210	5.02	3.33	.39	1.5	9.3
19	4.9	7.4	2.2	2.8	2.74	1.39	1.150	5.19	3.22	.37	1.4	9.1
20	4.9	1.5	2.4	3.6	2.36	1.70	8.12	4.80	3.17	.35	1.4	9.3
21	5.5	1.4	2.6	2.6	2.02	1.60	8.12	3.94	2.90	.33	1.4	9.3
22	6.9	1.2	2.5	2.5	1.88	1.92	9.83	4.85	2.69	.31	1.4	9.5
23	7.0	1.2	2.6	2.7	1.75	1.86	* 1.090	5.38	2.48	.29	1.3	9.3
24	6.9	1.2	2.8	2.5	1.67	1.80	1.100	4.62	2.20	.28	1.3	8.9
25	6.7	1.4	2.7	2.5	1.37	2.02	1.000	4.11	2.01	.26	1.2	8.9
26	6.9	4.5	3.0	2.6	1.49	2.38	8.90	3.62	1.86	.25	1.2	1.0
27	6.9	2.7	2.7	2.8	1.23	2.78	9.15	3.52	1.68	.24	1.1	9.9
28	1.1	1.9	2.6	3.1	1.33	3.33	1.160	4.02	1.57	.24	1.1	1.1
29	1.1	1.8	2.6	3.4	-	4.07	8.06	4.13	1.45	.23	1.1	1.1
30	8.7	4.4	2.5	3.7	-----	4.64	6.80	5.04	1.34	.22	1.1	1.1
31	7.8	-----	2.5	4.2	-----	4.92	-----	5.72	-----	.22	1.1	-----
Total	188.1	369.6	84.3	87.6	104.15	62.44	296.30	9.888	10.788	1.653	4.95	297.7
Mean	5.84	12.3	27.2	28.3	372	201	988	642	360	53.3	16.0	9.92
Max	11	4.5	9.5	42	1,830	492	1,380	1,180	664	121	21	11
Min	4.6	7.0	1.6	2.0	4.7	12.4	5.26	3.52	1.34	.22	1.1	8.9
Ac-ft	359	733	1,670	1,740	20,660	12,380	58,770	39,450	21,400	3,280	982	590

Calendar year 1961: Max 392 Min 3.5 Mean 62.2 Ac-ft 45,060

Water year 1961-62: Max 1,830 Min 4.6 Mean 224 Ac-ft 162,000

Peak discharge (base, 1,300 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1700	13.32	3,570	4-28	0600	9.68	1,430
2-15	0700	9.57	1,380	5-5	2400	9.82	1,490
4-14	2400	10.25	1,700				

11-2845. Big Creek near Groveland, Calif.

Location.--Lat 37°51'28", long 120°12'02", in NE $\frac{1}{4}$ sec.15, T.1 S., R.16 E., on right bank 0.5 mile downstream from unnamed tributary and 2.0 miles northeast of Groveland.

Drainage area.--25.0 sq mi.

Records available.--October 1931 to September 1933, July 1959 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,450 ft (from topographic map).

Average discharge.--5 years, 7.93 cfs (5,740 acre-ft per year).

Extremes.--Maximum discharge during year, 1,640 cfs Feb. 15 (gage height, 5.48 ft); no flow for several months.
1931-33, 1959-62: Maximum discharge, 3,000 cfs Feb. 6, 1932 (gage height, 6.70 ft), from rating curve extended above 1,300 cfs; no flow for several months each year.
Maximum stage known, 7.6 ft (discharge, about 4,300 cfs), from floodmarks in old gage well.

Remarks.--Records good. No storage or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.6	0	2.1	10	3.5	310
1.7	.2	2.3	23	4.0	565
1.8	.8	2.5	44	4.6	930
1.9	2.5	2.7	74		
2.0	5.9	3.0	140		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.9	0.1	0.3	1.1	8.1	1.8	0.6			
2			8.9	.1	.3	9.3	7.6	1.8	.5			
3			1.8	.1	.3	5.2	7.2	1.8	.5			
4			.5	.1	.3	3.0	6.8	1.8	* .5			
5			* .3	.1	2	3.4	6.3	1.5	.5			
6			2	.1	2	* 32.1	5.1	1.3	.4			
7			2	.1	6.5	13.5	5.1	1.3	.4			
8			2	.1	17	6.9	4.7	1.7	.4			
9	(*)	(*)	.1	.1	46.1	5.3	* 4.3	1.5	.3			
10			.1	.1	5.93	3.5	3.6	1.5	.3	(*)		
11			.1	.1	35.3	3.4	3.3	* 1.7	.3			
12			.1	.1	8.5	2.8	3.3	1.7	.3			
13			.1	.1	9.7	2.2	3.3	1.5	.3			
14			.1	.1	10.2	1.9	3.0	1.5	.3			
15			.1	.1	* 9.19	1.5	2.5	1.5	.4			
16			.1	.1	40.7	1.5	2.3	1.5	.4			
17			.1	0	10.8	1.5	2.1	1.3	.4			
18			.1	0	5.5	1.3	1.8	1.2	.3			
19			.1	2	5.2	1.2	3.0	1.1	.2			
20			.1	4.0	5.8	1.2	4.7	1.0	2			
21			.1	1.4	4.0	1.1	2.5	.8	2			
22			.1	.8	2.9	3.3	2.3	.8	.1			
23			.1	.5	2.1	2.4	1.7	.8	.1			
24			.1	* 4	2.0	1.7	1.5	.8	.1			
25			.1	.3	1.6	1.4	1.7	.8	.1			
26			.1	.3	1.6	1.3	1.8	.8	.1			
27			.1	.4	1.4	1.2	1.8	.8	.1			
28			.1	.4	1.2	1.1	2.8	.8	0			
29			.1	.4	-	9.9	2.5	.8	0			
30			.1	.4	-----	9.4	2.1	.8	0			
31			.1	.4	-----	9.0	-----	.6	-----			
Total	0	0	15.3	11.5	3,483.1	1,182.3	108.8	38.6	8.3	0	0	0
Mean	0	0	0.49	0.37	124	38.1	3.63	1.25	0.28	0	0	0
Max	0	0	8.9	4.0	919	321	8.1	1.8	0.6	0	0	0
Min	0	0	0.1	0	0.2	9.0	1.5	0.6	0	0	0	0
Ac-ft	0	0	30	23	6,910	2,350	216	77	16	0	0	0

Calendar year 1961: Max 17 Min 0 Mean 0.60 Ac-ft 432
Water year 1961-62: Max 919 Min 0 Mean 13.3 Ac-ft 9,620

Peak discharge (base, 220 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1200	4.74	1,030	3-6	0400	3.99	560
2-15	0800	5.48	1,640				

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

11-2850. North Fork Tuolumne River above Dyer Creek, near Tuolumne, Calif.

Location.--Lat 37°58'53", long 120°12'20", in NE 1/4 sec. 34, T.2 N., R.16 E., on left bank at Riverside Guard Station, 0.2 mile upstream from Dyer Creek, and 2.2 miles northeast of Tuolumne.

Drainage area.--68.7 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,200 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,420 cfs Feb. 9 (gage height, 4.79 ft); minimum, 1.4 cfs Oct. 4, 5, 6, 7.

1958-62: Maximum discharge, that of Feb. 9, 1962; minimum, 0.3 cfs Aug. 25, 26, 1961.

Flood of December 1955 reached a stage of 10.7 ft, from floodmarks.

Remarks.--Records good. No storage or large diversions above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.1	0.9	1.7	51
1.2	2.8	2.0	112
1.3	6.5	2.4	248
1.4	14	3.0	560
1.5	23	3.8	1,220

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	3.4	3.9	8.4	12	68	240	137	45	12	4.6	4.3
2	1.7	3.4	7.2	8.4	11	78	248	134	45	12	4.0	4.0
3	1.5	3.4	31	8.4	11	76	261	140	45	11	4.3	3.7
4	1.4	3.4	20	8.4	11	74	288	143	* 44	11	5.0	3.7
5	1.4	3.7	*16	7.7	12	95	321	146	40	10	5.9	3.7
6	1.4	3.4	14	8.4	12	*292	330	140	38	9.8	5.4	3.7
7	1.4	3.4	11	8.4	48	176	345	132	38	9.1	5.4	3.7
8	1.7	3.4	11	9.1	130	146	330	123	33	9.1	5.4	3.7
9	*1.7	*3.4	9.1	9.1	1190	137	*330	118	32	9.1	5.0	3.7
10	1.9	3.4	9.1	8.4	*984	118	311	107	31	*9.1	5.4	3.7
11	2.1	3.4	7.7	8.4	501	112	292	* 95	28	9.1	5.4	3.7
12	2.1	4.0	9.1	8.4	281	100	297	88	27	11	5.0	3.7
13	2.1	4.0	8.4	9.8	362	95	302	82	26	10	4.6	4.0
14	1.9	4.0	8.4	7.1	408	95	302	76	26	10	4.3	4.0
15	1.9	4.0	8.4	7.1	880	93	297	70	30	10	4.0	4.0
16	1.7	4.0	8.4	* 7.1	525	90	270	80	28	10	4.0	4.0
17	1.7	4.3	8.4	7.7	311	84	244	72	26	8.4	4.0	3.7
18	1.7	4.6	9.8	8.4	224	84	236	66	22	7.7	4.0	3.7
19	1.7	4.6	11	12	183	93	240	63	21	7.7	3.7	3.7
20	1.7	8.4	11	26	156	100	212	60	20	7.1	3.7	3.7
21	2.3	7.7	11	13	134	93	183	58	22	6.5	3.7	4.0
22	2.6	5.4	10	11	118	120	172	56	18	5.9	3.7	4.0
23	2.6	5.4	9.8	11	107	112	176	56	16	5.4	3.7	3.7
24	2.6	5.0	9.8	* 9.8	102	107	176	54	15	5.4	3.7	3.7
25	2.8	6.5	9.1	10	86	120	169	53	14	4.6	3.4	3.7
26	2.6	20	9.1	10	84	143	153	51	15	4.6	3.4	4.3
27	2.8	12	9.1	10	70	166	153	53	16	4.3	3.7	4.3
28	4.6	8.4	8.4	10	70	190	197	54	14	4.0	3.7	4.6
29	3.7	9.8	7.7	11	-	212	159	50	13	4.3	3.7	4.6
30	3.4	24	7.7	11	-----	220	146	48	12	4.0	*3.7	4.6
31	3.4	-----	7.7	11	-----	232	-----	45	-----	4.0	4.0	-----
Total	68.0	183.8	422.2	304.5	702.3	3921	7380	2650	800	246.2	133.5	117.6
Mean	2.19	6.13	13.6	9.82	251	126	246	85.5	26.7	7.94	4.31	3.92
Max	4.6	24	72	26	1,190	292	345	146	45	12	5.9	4.6
Min	1.4	3.4	7.7	7.1	11	68	146	45	12	4.0	3.4	3.7
Ac-ft	135	365	837	604	13,930	7,780	14,640	5,260	1,590	488	265	233

Calendar year 1961: Max 72 Min 0.3 Mean 14.2 Ac-ft 10,280
 Water year 1961-62: Max 1,190 Min 1.4 Mean 63.7 Ac-ft 46,130

Peak discharge (base, 600 cfs).--Feb. 9 (1100) 2,420 cfs (4.79 ft); Feb. 15 (0800) 1,170 cfs (3.75 ft).

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

681

11-2865. Woods Creek near Jacksonville, Calif.

Location.--Lat 37°51'30", long 120°23'45", in SE $\frac{1}{4}$ sec.11, T.1 S., R.14 E., on right bank 200 ft downstream from Blue Gulch, 1.5 mile upstream from mouth, and 1.5 mile northwest of Jacksonville.

Drainage area.--97.8 sq mi.

Records available.--October 1925 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 653.65 ft above mean sea level, unadjusted. Prior to Oct. 1, 1947, at datum 2.00 ft higher.

Average discharge.--37 years, 58.9 cfs (42,640 acre-ft per year); median of yearly mean discharges, 46 cfs (33,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,110 cfs Feb. 15 (gage height, 9.68 ft); no flow for many days.

1925-62: Maximum discharge, 14,400 cfs Dec. 23, 1955 (gage height, 14.66 ft), from rating curve extended above 3,900 cfs on basis of slope-area measurement of peak flow; no flow for parts of most years.

Remarks.--Records good. Tuolumne Canal (see p. 700) diverts water from the Stanislaus River Basin into Woods Creek Basin for power, irrigation, and domestic supply in the vicinity of Sonora upstream from the station. Some of the diverted water, up to 2 cfs, returns to the Stanislaus River Basin, and up to 4 cfs enters the Tuolumne River Basin upstream from Woods Creek.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9				Feb. 9 to Sept. 30			
1.6	0	2.3	8.6	1.5	0	2.7	36
1.7	.4	2.5	17	1.6	.2	3.0	62
1.8	.9	2.7	30	1.7	.6	3.5	122
1.9	1.6	3.0	56	1.8	1.3	4.0	204
2.0	2.5	3.3	92	1.9	2.6	5.0	440
2.1	3.8	3.6	136	2.0	4.5	6.0	780
2.2	5.7			2.2	10	7.0	1,330
				2.4	18	8.0	2,180

Note.--Same as following table above 3.6 ft.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	4.6	7.7	9.8	8.8	5.8	1.9	2.0	3.8		
2		0	12.4	8.0	9.4	4.91	5.7	1.6	1.8	4.2		
3		0	7.6	7.4	9.0	2.59	5.4	1.4	1.7	3.8		
4		0	2.8	8.0	8.6	1.55	5.2	1.3	* 1.6	4.0		
5		0	* 1.7	8.0	9.0	1.66	5.0	1.3	1.5	4.8		
6		0	1.4	8.0	9.4	* 1.550	4.9	1.2	1.5	4.1		
7		0	1.2	8.0	3.2	5.53	4.8	1.3	1.6	3.4		
8		0	1.1	8.0	2.35	2.85	4.7	1.2	1.6	3.4		
9	(*)	.4	1.0	8.0	1.270	2.26	* 4.6	1.2	1.4	3.2		
10		.8	1.0	7.2	* L 7.00	1.68	3.2	1.3	1.4	* 3.2		
11		.9	1.0	6.9	1.330	1.99	3.1	* 1.3	1.5	2.2		
12		.9	9.8	7.2	3.26	1.86	3.5	1.2	1.8	.7		
13		.9	9.0	10	5.65	1.38	5.9	1.1	1.9	.4		
14		1.1	8.6	8.6	5.98	1.18	2.8	1.1	2.2	.2		
15		1.2	8.3	7.4	2.120	1.08	3.5	1.2	2.9	.1		
16		1.2	7.7	* 7.7	1.240	1.02	3.5	1.2	1.3	.1		
17		1.2	8.0	7.4	3.72	.94	2.4	1.2	3.5	.1		
18		1.5	9.4	7.4	2.12	.86	2.3	1.2	1.9	0		
19		1.6	11	9.8	2.65	.84	2.6	1.0	.9	0		
20		1.0	* 9.8	9.0	3.08	.79	4.8	8.9	.6	0		
21		8.0	9.0	3.6	2.85	.80	3.4	9.9	.6	0		
22		4.2	8.3	2.1	1.52	1.40	3.5	2.0	.4	0		
23		4.2	7.7	1.6	1.16	1.45	3.1	2.1	.2	0		
24		4.4	8.3	1.4	1.29	1.01	2.0	2.0	0	0		
25		6.0	8.0	1.4	1.15	.86	1.7	1.9	2.3	0		
26		2.8	8.0	1.3	1.33	.79	1.6	2.0	4.2	0		
27		1.2	8.3	1.2	1.07	.74	1.5	2.4	4.8	0		
28		8.3	8.0	1.2	.90	.72	2.5	2.4	4.8	0		
29		1.1	8.0	1.1	-	.65	3.5	2.3	2.8	0		
30		3.0	8.0	1.0	-----	.62	3.2	2.0	1.8	0	(*)	
31		-----	8.0	9.4	-----	.60	-----	2.0	-----	0	-----	-----
Total	0	137.5	529.2	409.1	1,757.2	6,100	1,097	4,71.8	305.8	41.7	0	0
Mean	0	4.59	17.1	13.2	4.20	1.97	36.6	15.2	10.2	1.35	0	0
Max	0	30	12.4	9.0	2,120	1,550	58	24	29	4.8	0	0
Min	0	0	7.7	6.9	8.6	.60	15	8.9	0	0	0	0
Ac-ft	0	273	1,050	811	23,320	12,100	2,180	936	607	83	0	0

Calendar year 1961: Max 229 Min 0 Mean 10.4 Ac-ft 7,540
Water year 1961-62: Max 2,120 Min 0 Mean 57.1 Ac-ft 41,360

Peak discharge (base, 900 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1200	8.53	2,720	3-6	0400	9.10	3,400
2-15	0600	9.68	4,110				

SAN JOAQUIN RIVER BASIN

11-2875. Don Pedro Reservoir near La Grange, Calif.

Location.--Lat 37°42'48", long 120°24'14", in SW $\frac{1}{4}$ sec.35, T.2 S., R.14 E., 300 ft from left bank on upstream face of Don Pedro Dam on Tuolumne River, 1 mile downstream from Rogers Creek, and 5.5 miles upstream from La Grange.

Drainage area.--1,539 sq mi.

Records available.--September 1923 to September 1962. 1923-24 (year-end contents only) and October 1924 to September 1930 month-end contents, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Turlock Irrigation District). Prior to Feb. 1, 1941, staff gage at same site and datum.

Extremes.--Maximum contents during year, 277,900 acre-ft July 11 (elevation, 601.6 ft); minimum, 33,500 acre-ft Jan. 25, 26 (elevation, 480.6 ft).

1924-62: Maximum contents, 292,100 acre-ft June 13, 1937 (elevation, 606.1); minimum, 29,200 acre-ft Sept. 1-3, 5, 1934; minimum elevation, 475.0 ft Sept. 1, 2, 1934.

Remarks.--Reservoir is formed by concrete gravity-type dam, completed about Jan. 1, 1923; storage began Nov. 14, 1922. Total capacity, 290,400 acre-ft at elevation 605.55 ft (top of drum type spillway gates), of which 30,000 acre-ft below elevation 476 ft (mutually agreed-upon minimum) is not available for release. Water passes through powerplant at dam and down Tuolumne River to La Grange Dam, 4 miles downstream, where it is diverted into Turlock and Modesto Canals for irrigation. This reservoir is operated jointly by Turlock and Modesto Irrigation Districts. Figures given herein represent total contents.

Cooperation.--Water-stage-recorder graph furnished by Turlock and Modesto Irrigation Districts.

Capacity table (elevation, in feet, and contents, in acre-feet)

480	33,000	520	78,100	570	185,600
490	41,900	530	94,100	580	213,400
495	46,900	540	113,500	590	242,400
500	52,200	550	135,800	602	279,200
510	64,200	560	159,900		

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49.6	46.1	43.0	38.3	34.3	172.5	162.6	158.9	141.5	271.3	212.5	123.4
2	49.4	46.0	44.0	37.5	35.3	175.9	162.4	157.9	142.2	273.2	209.7	120.6
3	49.1	45.9	44.1	36.7	36.5	178.2	162.4	157.4	143.6	274.8	207.1	117.5
4	48.7	46.0	44.2	36.5	37.5	180.3	162.9	157.2	144.8	275.1	204.3	114.5
5	48.5	46.0	43.8	36.1	38.1	181.1	163.9	157.2	146.2	274.8	201.2	111.8
6	48.5	45.9	43.6	36.2	39.1	191.6	164.9	156.9	148.4	275.4	198.2	109.9
7	48.5	45.8	43.2	36.3	40.6	194.3	166.2	156.5	150.1	276.0	195.2	108.3
8	48.6	45.6	43.0	35.9	43.7	191.1	167.2	156.2	151.6	276.3	192.1	107.3
9	48.2	45.3	43.0	35.7	63.8	187.0	169.0	156.0	153.8	277.0	189.2	106.3
10	48.0	45.2	43.1	35.5	89.0	184.0	170.5	156.2	156.0	277.6	186.4	104.9
11	47.8	45.2	42.7	35.5	105.3	183.5	172.0	156.5	158.7	277.3	183.8	104.0
12	47.7	45.2	42.2	35.2	112.8	183.0	173.1	156.0	161.1	275.4	180.6	103.0
13	47.5	44.9	41.3	35.3	120.3	181.9	173.3	154.7	163.9	273.8	177.2	102.2
14	47.5	44.7	40.7	35.5	128.6	180.9	173.8	153.5	169.0	272.6	174.9	101.3
15	47.5	44.4	40.3	35.3	153.8	179.8	174.1	152.3	177.7	271.0	172.5	100.7
16	47.2	44.0	40.2	35.1	169.2	178.8	174.3	151.1	185.6	269.5	170.2	100.3
17	46.9	43.6	40.2	34.9	172.0	177.5	174.3	150.1	193.2	268.2	167.9	98.7
18	46.5	43.6	39.7	34.8	173.1	175.6	173.8	150.6	201.5	267.0	165.9	98.4
19	46.4	43.7	39.6	34.5	173.6	174.3	173.6	151.6	209.0	264.8	163.9	98.1
20	46.2	43.3	39.6	35.2	173.6	173.1	172.3	152.1	214.8	262.7	161.6	97.9
21	46.3	43.2	39.6	35.6	173.3	171.5	171.0	152.5	220.2	259.3	158.4	97.6
22	46.4	43.1	39.6	34.6	172.3	170.7	169.5	153.5	226.0	255.4	155.5	97.4
23	46.3	43.2	39.7	34.3	170.7	170.0	168.4	153.8	234.2	250.8	152.3	97.4
24	46.2	43.2	39.9	33.9	170.2	169.0	167.9	152.8	241.9	246.6	149.1	95.9
25	46.1	43.3	40.1	33.5	170.7	167.8	166.9	151.6	248.7	242.2	146.0	95.4
26	46.1	43.4	39.7	33.5	171.5	166.4	165.7	150.1	254.5	238.3	142.4	94.8
27	46.1	43.4	39.2	33.8	171.8	165.4	164.6	148.2	258.7	233.9	138.9	93.6
28	46.1	43.1	38.8	34.0	171.5	164.9	163.9	146.2	263.0	229.8	134.4	91.7
29	46.3	42.9	38.3	34.1	-	164.1	162.4	144.3	266.7	225.4	131.4	89.5
30	46.1	42.8	38.2	34.3	-----	163.6	160.4	143.1	269.5	220.5	128.9	87.5
31	46.2	-----	38.2	34.3	-----	163.4	-----	142.2	-----	216.2	126.1	-----
(†)	494.4	491.0	486.1	481.6	564.6	561.4	560.2	552.7	598.9	581.0	545.8	526.1
(‡)	-3,300	-3,400	-4,600	-3,900	+137,200	-8,100	-3,000	-18,200	+127,300	-53,300	-90,100	-38,600

Calendar year 1961.....† -33,300

Water year 1961-62.....‡ +38,000

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-2880. Tuolumne River above La Grange Dam, near La Grange, Calif.

Location.--Lat 37°42'35", long 120°24'45", in NE $\frac{1}{4}$ sec.3, T.3 S., R.14 E., on left bank 0.5 mile downstream from Don Pedro Dam, 3.5 miles upstream from La Grange Dam, and 5 miles upstream from La Grange.

Drainage area.--1,534 sq mi.

Records available.--August 1895 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at La Grange," 1895-1912, as "near La Grange" or "at La Grange Dam, near La Grange," 1913-17. August 1895 to September 1917 at La Grange Dam, 3.5 miles downstream, records equivalent if flow of Sierra and San Francisco Power Co.'s canal (abandoned in 1926) and Modesto and Turlock Canals is added to flow at La Grange Dam.

Gage.--Water-stage recorder. Altitude of gage is 330 ft (from topographic map). Prior to Mar. 31, 1908, and Sept. 25 to Dec. 5, 1908, staff gage at site 5 miles downstream below point of re-entrance of Sierra and San Francisco Power Co.'s canal, at different datum. Apr. 1 to Sept. 24, 1908, and Dec. 5, 1908, to Feb. 29, 1916, staff gage at site 3.5 miles downstream at La Grange Dam, diversion point of Turlock and Modesto Canals, at different datum.

Average discharge.--66 years (1896-1962), 2,512 cfs (1,819,000 acre-ft per year), adjusted for Hetch Hetchy diversion to San Francisco.

Extremes.--Maximum discharge during year, 5,100 cfs Mar. 9 (gage height, 11.50 ft); minimum daily, 38 cfs Dec. 25.

1895-62: Maximum discharge, 61,000 cfs Dec. 8, 1950 (gage height, 43.8 ft); minimum daily, 2.1 cfs Dec. 27, 1922.

Remarks.--Records excellent. Flow regulated by Don Pedro powerplant, Don Pedro Reservoir (see preceding page), Hetch Hetchy Reservoir (see p. 668), Cherry Lake (see p. 670) and Lake Eleanor (see p. 672). Tuolumne Canal (see p. 700) diverts water from the Stanislaus River basin into the Tuolumne River basin for power, irrigation, and domestic supply in the vicinity of Sonora upstream from station. Diversion through Hetch Hetchy aqueduct to San Francisco began Oct. 19, 1934; an average of 242 cfs was diverted during 1962 water year.

Cooperation.--Water-stage-recorder graph and eight discharge measurements furnished by city and county of San Francisco.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

4.8	36	6.5	600
4.9	49	7.0	900
5.2	102	8.0	1,590
5.5	175	9.0	2,410
6.0	355	12.0	5,730

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	158	211	68	248	1,100	2,500	3,190	2,590	2,280	2,700	2,370
2	313	152	105	420	231	*1,000	2,470	3,210	2,600	2,280	2,420	2,370
3	309	154	506	454	70	900	2,500	3,220	2,600	2,260	2,450	2,340
4	284	82	200	299	46	882	2,500	3,200	2,610	2,250	2,460	2,470
5	254	40	343	279	227	1,670	2,530	3,210	2,610	2,260	2,480	2,480
6	189	85	247	133	241	2,130	2,510	3,200	2,610	2,250	2,500	2,110
7	101	132	291	67	156	2,520	2,510	3,220	2,600	2,260	2,530	1,910
8	67	151	271	248	108	4,520	2,540	3,200	2,600	2,260	2,530	1,640
9	183	180	138	238	170	4,820	2,500	3,220	2,610	2,250	2,540	1,530
10	264	166	71	211	150	3,550	2,520	2,760	2,610	2,240	2,550	1,480
11	214	83	284	145	151	2,370	2,480	2,550	*2,610	2,240	2,580	1,570
12	203	49	341	292	167	2,280	2,800	2,540	2,610	2,250	2,600	1,580
13	205	144	*468	120	397	2,260	3,230	2,540	2,620	2,630	2,610	1,550
14	180	181	427	60	300	2,280	3,220	2,550	2,580	2,240	2,280	1,590
15	93	191	318	179	472	2,230	3,220	2,550	2,620	2,250	2,300	1,410
16	190	225	190	193	1,660	2,220	3,210	*2,560	2,600	2,270	2,290	1,220
17	297	250	90	194	2,280	2,450	3,220	2,560	2,500	2,140	2,280	1,620
18	268	204	284	191	2,260	2,390	3,230	2,560	2,540	2,230	2,070	1,300
19	217	84	182	257	2,360	2,250	3,220	2,560	2,480	*2,230	1,940	1,320
20	204	334	144	116	2,410	2,320	3,210	2,560	2,460	2,260	2,080	1,230
21	135	251	132	92	2,450	2,300	3,220	2,500	2,440	2,860	2,620	1,340
22	59	204	113	601	2,280	2,360	3,140	2,560	2,400	3,150	2,620	1,180
23	132	56	87	360	2,300	2,360	3,220	2,580	2,400	3,160	2,600	1,010
24	155	74	58	384	1,770	2,280	3,220	2,570	2,380	3,150	2,610	1,590
25	178	100	38	381	1,220	2,410	3,220	2,570	2,360	3,160	2,610	1,530
26	145	44	228	195	1,220	2,400	*3,230	2,580	2,310	3,160	2,580	1,430
27	143	110	323	71	1,220	2,380	3,210	2,580	2,300	3,170	2,550	1,740
28	96	300	339	42	1,220	2,380	3,210	2,590	2,260	3,180	2,630	2,240
29	49	224	343	86	-	2,420	3,200	2,590	2,290	3,190	2,380	2,210
30	131	201	222	102	-----	*2,430	3,210	2,570	2,260	3,210	*2,380	2,180
31	171	-----	100	139	-----	2,440	-----	2,590	-----	3,210	2,280	-----
Total	5,507	4,609	7,094	6,617	27,784	72,302	88,200	85,440	75,060	79,930	76,050	51,540
Mean	178	154	229	213	992	2,332	2,940	2,756	2,502	2,578	2,453	1,718
Max	313	334	506	601	2,450	4,820	3,230	3,220	2,620	3,210	2,700	2,480
Min	49	40	38	42	46	882	2,470	2,500	2,260	2,140	1,940	1,010
Ac-ft	10,920	9,140	14,070	13,120	55,110	143,400	174,900	169,500	148,900	158,500	150,800	102,200

Calendar year 1961: Max 2,240 Min 38 Mean 842 Ac-ft 609,900
 Water year 1961-62: Max 4,820 Min 38 Mean 1,589 Ac-ft 1,151,000

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2890. Modesto Canal near La Grange, Calif.

Location---Lat 37°40'04", long 120°27'26", in SW $\frac{1}{4}$ sec.17, T.3 S., R.14 E., on right bank 0.5 mile northeast of La Grange and 1 mile downstream from intake at La Grange Dam.

Records available---April 1903 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage---Water-stage recorder and concrete control. Datum of gage is 272.4 ft above mean sea level (levels by Modesto Irrigation District). Prior to July 1904, staff gage at approximately present site at different datum. July 1904 to March 1920, staff gage in concrete well 0.9 mile upstream and 460 ft below intake, set by water surface elevation to read same as previous gage. March 1920 to February 1924, staff gage and February 1924 to March 1932, water-stage recorder, 0.9 mile upstream and 500 ft below intake at different datum.

Average discharge---59 years, 390 cfs (282,300 acre-ft per year).

Extremes---1903-62: Maximum daily discharge, 1,820 cfs July 1, 1935; no flow at times.

Remarks---Records good. Canal diverts from right bank of Tuolumne River at La Grange Dam for irrigation in Modesto and Waterford Irrigation Districts.

Cooperation---Water-stage-recorder graph furnished by Modesto Irrigation District; seven discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	155	147	0	0	337	191	1,280	1,180	925	925	900
2	* 300	149	82	.3	0	* 261	585	1,290	1,180	928	785	900
3	301	151	320	.6	0	281	745	1,290	1,180	922	* 792	900
4	278	81	141	.1	0	268	745	1,240	1,110	922	792	902
5	248	40	229	.2	0	627	752	1,180	1,080	925	795	902
6	185	85	31	0	0	1,020	832	1,150	1,080	922	795	892
7	97	131	.6	0	.1	574	765	1,150	1,020	925	798	892
8	64	150	.6	0	0	30	762	1,150	978	925	810	762
9	179	178	.1	0	.5	30	765	1,150	972	878	820	682
10	260	164	0	0	.4	29	* 760	666	972	845	822	608
11	210	81	0	0	.3	28	760	436	972	845	825	678
12	199	47	* 0	0	0	28	932	436	972	842	825	682
13	202	142	0	0	.2	28	1,320	436	975	1,010	908	682
14	177	179	0	0	.1	28	1,310	436	958	852	940	684
15	90	189	0	0	7.7	28	1,310	436	935	848	915	680
16	186	223	0	0	7.7	27	1,300	436	925	850	868	664
17	293	248	0	0	3.0	27	1,300	438	920	1,090	905	682
18	264	202	0	0	3.0	27	1,310	a 436	915	628	912	670
19	214	82	0	.1	3.0	27	1,310	a 436	918	542	915	686
20	201	331	0	.1	3.0	27	1,310	a 436	925	547	915	682
21	132	247	0	0	3.0	27	1,320	a 990	922	1,020	860	694
22	56	165	0	1.4	3.0	19	1,270	a 1,360	930	1,320	780	690
23	129	43	0	0	3.0	4.1	1,290	1,250	928	1,340	770	680
24	152	53	0	.2	2.8	12	1,290	1,200	922	1,320	778	620
25	175	73	0	.2	137	26	1,290	1,180	* 915	1,260	778	555
26	142	38	0	0	258	77	1,300	1,180	910	1,250	778	556
27	140	80	0	0	254	99	* 1,290	1,180	915	1,250	772	558
28	94	203	0	0	254	99	1,290	* 1,180	915	1,200	780	517
29	48	157	0	0	-	99	1,290	1,180	928	1,170	848	484
30	129	142	0	0	-----	99	1,290	1,170	925	1,170	902	483
31	167	-----	0	0	-----	99	-----	1,180	-----	1,180	895	-----
Total	5,376	4,209	951.3	3.7	944.3	4,392.1	31,984	28,958	29,377	30,651	26,003	20,967
Mean	173	140	30.7	0.12	33.7	142	1,070	934	979	989	839	699
Max	301	331	320	1.4	258	1,020	1,320	1,360	1,180	1,340	940	902
Min	48	38	0	0	0	4.1	191	436	910	542	770	483
Ac-ft	10,660	8,350	1,890	7.3	1,870	8,710	63,440	57,440	58,270	60,800	51,580	41,590

Calendar year 1961: Max 795 Min 0 Mean 311 Ac-ft 225,200
 Water year 1961-62: Max 1,360 Min 0 Mean 504 Ac-ft 364,600

* Discharge measurement or observation of no flow made on this day.
 a No gage-height record.

11-2895. Turlock Canal near La Grange, Calif.

Location.--Lat 37°40'00", long 120°26'25", in NE 1/4 sec. 21, T.3 S., R.14 E., on right bank 2,400 ft downstream from intake at La Grange Dam and 1.2 miles east of La Grange.

Records available.--October 1898 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 265 ft (from topographic map). July 1, 1899, to Sept. 14, 1915, staff gage at different sites and datums near canal intake; Sept. 15, 1915, to Apr. 15, 1924, staff gage and Apr. 16, 1924, to winter of 1936-37, water-stage recorder, both at present site at datum 0.25 ft higher.

Average discharge.--64 years, 575 cfs (416,300 acre-ft per year).

Extremes.--1898-1962: Maximum daily discharge, 2,280 cfs June 12, 1949; no diversion for irrigation during some periods in each year. Prior to 1939, unmeasured small discharge during winter called zero; no flow Nov. 5, 6, 1961.

Remarks.--Records good. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. During fall and winter some unmeasured flow is diverted from canal at tunnel 0.3 mile above gage, passed through La Grange powerplant and returned to river.

Cooperation.--Water-stage-recorder graph furnished by Turlock Irrigation District; 10 discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	3.1	6.4	68	248	611	1,680	1,910	1,410	1,350	1,780	1,470
2	*1.3	2.8	2.3	419	*231	405	1,390	1,920	1,420	1,350	1,630	1,470
3	8.4	3.1	186	453	70	127	1,180	1,930	1,420	1,340	*1,660	1,440
4	6.4	1.4	59	299	46	121	1,180	1,960	1,500	1,330	1,670	1,570
5	5.6	0	114	279	227	518	1,200	2,030	1,530	1,340	1,690	1,580
6	4.0	0	216	133	241	652	1,100	2,050	1,530	1,330	1,700	1,220
7	3.7	.8	290	67	156	*194	1,190	2,070	1,580	1,330	1,730	1,020
8	3.4	1.0	270	248	108	21	1,180	2,050	1,620	1,330	1,720	880
9	4.0	1.8	138	238	170	20	1,170	2,070	1,640	1,370	1,720	846
10	4.4	1.6	71	211	150	19	*1,190	2,090	1,640	1,400	1,730	872
11	3.7	1.8	284	145	150	19	1,140	2,110	1,640	1,400	1,750	892
12	3.7	1.6	*341	292	167	18	1,410	2,100	1,640	1,410	1,770	903
13	3.4	2.0	468	120	397	17	1,910	2,100	1,640	1,620	1,700	872
14	3.1	*2.0	427	60	300	9.4	1,910	2,110	1,620	1,390	1,340	902
15	2.8	1.8	318	179	353	3.7	1,910	2,110	1,680	1,400	1,380	733
16	3.7	2.0	190	193	179	392	1,910	2,120	1,670	1,420	1,420	552
17	4.4	2.3	90	194	12	623	1,920	2,120	1,580	907	1,370	937
18	3.7	2.0	284	191	16	620	1,920	2,120	1,630	1,600	1,160	629
19	3.4	1.6	182	257	12	850	1,910	2,120	1,560	1,690	1,030	634
20	3.4	2.6	144	116	11	988	1,900	2,120	1,530	1,710	1,170	548
21	3.1	4.4	132	92	11	986	1,900	1,510	1,520	1,840	1,760	642
22	2.8	39	113	600	10	1,050	1,870	1,200	1,470	1,830	1,840	486
23	3.1	13	87	360	10	1,180	1,930	1,330	1,470	1,820	1,830	334
24	2.8	21	58	384	9.4	1,160	1,930	1,370	1,460	1,830	1,830	969
25	2.8	27	38	381	473	1,150	1,930	1,390	*1,440	1,900	1,830	972
26	2.6	6.3	228	195	861	1,150	1,930	1,400	1,400	1,910	1,800	877
27	2.8	30	323	71	844	1,150	*1,920	1,400	1,390	1,920	1,780	1,180
28	1.8	97	339	42	785	1,150	1,920	*1,410	1,340	1,980	1,850	1,720
29	1.0	67	343	86	-	1,150	1,910	1,410	1,360	2,020	1,530	1,730
30	1.8	59	222	102	-----	1,320	1,920	1,400	1,340	2,040	1,480	1,700
31	3.7	-----	100	139	-----	1,310	-----	1,410	-----	2,030	1,390	-----
Total	130.5	399.0	6,142	6,614	6,247.4	18,984.1	49,460	56,440	45,670	49,137	50,040	30,580
Mean	4.21	13.3	198	213	223	612	1,649	1,821	1,522	1,585	1,614	1,019
Max	14	97	468	600	861	1,320	1,930	2,120	1,680	2,040	1,850	1,730
Min	1.0	0	23	42	9.4	3.7	1,140	1,200	1,340	907	1,030	334
Ac-ft	259	791	12,180	13,120	12,390	37,650	98,100	111,900	90,590	97,460	99,250	60,650
Calendar year 1961:	Max 2,050	Min 0			Mean 477	Ac-ft 345,400						
Water year 1961-62:	Max 2,120	Min 0			Mean 876	Ac-ft 634,300						

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-2900. Tuolumne River at Modesto, Calif.

Location.--Lat 37°37'38", long 120°59'20", in SW $\frac{1}{4}$ sec.33, T.3 S., R.9 E., on left bank at bridge on U. S. Highway 99 in Modesto and 0.2 mile downstream from Dry Creek.

Records available.--1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is mean sea level, unadjusted (levels by Modesto Irrigation District). Prior to July 11, 1947, at site 1,700 ft downstream, and July 11, 1947, to Nov. 16, 1953, at site 1,000 ft downstream at same datum.

Average discharge.--23 years (1895-96, 1940-62) 1,432 cfs (1,037,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,390 cfs Mar. 10 (elevation, 47.76 ft); minimum, 85 cfs Oct. 25.

1895-96, 1940-62: Maximum discharge observed, 57,000 cfs Dec. 9, 1950 (elevation, 69.19 ft); minimum, that of Oct. 25, 1961.

Remarks.--Records good. Flow regulated by reservoirs and powerplants above station. In addition to diversions into Modesto and Turlock Canals (see p. 684, 685), there are diversions for irrigation of about 1,300 acres between stations above LaGrange Dam and at Modesto. See Remarks for Tuolumne River above LaGrange Dam, near LaGrange.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 10-16, Aug. 27 to Sept. 11)

Oct. 1-17		Oct. 18 to Sept. 30		
41.1	118	41.0	90	43.0 2,150
41.2	170	41.2	205	45.0 3,600
		41.5	425	48.0 5,550
		42.0	925	

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	149	163	175	157	151	935	1,220	264	231	238	231	345
2	149	193	181	157	145	892	* 948	257	231	244	224	377
3	149	250	187	151	145	948	837	250	238	250	238	361
4	149	338	212	151	151	1,210	826	244	218	244	250	353
5	149	353	193	151	151	1,140	837	231	250	231	250	353
6	149	353	181	151	151	*1,260	837	238	238	193	257	345
7	144	* 353	175	151	*1,63	2,630	815	250	224	205	251	338
8	139	361	175	157	163	3,280	837	250	244	205	278	338
9	134	377	169	*157	224	5,150	826	244	224	218	244	361
10	* 128	361	169	151	871	5,330	794	218	278	205	244	315
11	134	250	169	163	1,720	3,700	804	* 244	244	212	278	* 288
12	154	193	169	169	1,970	2,740	804	250	231	224	278	264
13	154	175	* 169	169	437	2,620	700	285	224	238	292	257
14	154	151	169	163	* 1,260	2,520	385	264	224	238	270	250
15	149	145	169	163	1,340	2,550	322	270	218	244	270	264
16	154	145	169	163	3,600	2,520	300	270	212	244	257	292
17	149	* 145	163	163	3,510	2,030	* 270	270	244	224	238	285
18	145	145	169	163	3,250	2,080	257	278	264	224	244	278
19	134	151	169	169	3,190	1,970	264	264	238	308	270	270
20	128	187	169	187	3,680	1,550	270	300	231	* 257	270	250
21	128	181	175	199	3,470	1,510	270	278	212	218	257	224
22	145	187	175	193	* 3,230	1,480	257	278	218	212	257	238
23	140	175	175	187	3,000	1,470	278	270	218	224	264	257
24	128	169	175	175	3,300	1,380	257	257	244	218	257	244
25	96	169	175	169	2,830	1,280	250	270	257	205	250	238
26	* 112	163	169	163	1,660	1,380	250	270	231	212	257	231
27	123	169	169	157	1,140	1,340	250	285	212	218	257	231
28	128	169	169	157	1,080	1,300	270	285	231	238	257	231
29	134	169	163	157	-	1,380	270	270	244	250	218	250
30	140	175	163	157	-----	1,380	264	264	250	292	308	231
31	145	-----	151	151	-----	1,240	-----	244	-----	264	353	-----
Total	4,313	6,515	5,360	5,071	4,598	6,219	15,769	8,142	7,023	7,197	8,069	8,559
Mean	139	217	173	164	1,642	2,006	526	262	234	232	260	285
Max	154	377	212	199	3,680	5,330	1,220	300	278	308	353	377
Min	96	145	151	151	145	892	250	218	212	193	218	224
Ac-ft	8,550	12,920	10,630	10,060	91,200	123,400	31,280	16,090	13,930	14,280	16,000	16,980
Calendar year 1961: Max	761	Min	96	Mean	219	Ac-ft	158,600					
Water year 1961-62: Max	5,330	Min	96	Mean	505	Ac-ft	365,300					

* Discharge measurement made on this day.

11-2920. Middle Fork Stanislaus River at Kennedy Meadows, Calif.

Location.--Lat 38°17'50", long 119°44'25", in NE¹/₄ sec.11, T.5 N., R.20 E., on right bank at upper end of Kennedy Meadows, 1.3 miles upstream from Deadman Creek, 1.6 miles downstream from Relief Reservoir, and 6.0 miles west of Sonora Pass.

Drainage area.--47.5 sq mi (revised).

Records available.--October 1938 to September 1962. Records for water year 1946 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 6,320.1 ft above mean sea level (river-profile survey).

Average discharge.--24 years, 130 cfs (94,120 acre-ft per year).

Extremes.--Maximum discharge during year, 920 cfs June 19 (gage height, 5.44 ft); minimum daily, 10 cfs Nov. 13, Jan. 21, 22.

1938-62: Maximum discharge recorded, 1,700 cfs Nov. 20, 1950 (gage height, 6.66 ft), from rating curve extended above 900 cfs on basis of slope-area measurement of peak flow; minimum daily recorded, 7.2 cfs Feb. 11, 1948.

Remarks.--Records good except those for periods of ice effect, which are fair. No diversion. Flow regulated by Relief Reservoir (usable capacity, 15,600 acre-ft). Contents of Relief Reservoir was 1,250 acre-ft on Sept. 30, 1961, and 5,110 acre-ft on Sept. 30, 1962.

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-5)

Oct. 1 to Feb. 9			Feb. 10 to Sept. 30		
1.1	10	2.0 47	1.2	14	3.5 221
1.2	13	2.5 80	1.5	24	4.0 345
1.5	23	3.0 133	2.0	48	5.0 700
Note.--Same as following table above 3.0 ft.			2.5	81	5.5 950
			3.0	133	

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	265	13	13	13	15	b18	47	112	600	381	103	42
2	283	*13	14	13	15	18	47	133	710	393	93	42
3	295	13	13	13	15	b18	52	160	696	405	87	42
4	*247	13	13	13	16	19	62	195	505	411	83	108
5	*29	12	13	13	16	20	74	225	460	396	78	207
6	15	11	13	13	16	20	85	236	512	378	78	*207
7	13	12	13	14	17	20	95	243	560	275	76	207
8	14	12	13	14	17	19	105	495	632	298	74	205
9	13	12	b12	14	32	19	115	588	725	295	95	203
10	12	12	b11	13	33	19	115	*362	780	273	87	207
11	12	11	b11	14	27	18	118	228	656	258	76	211
12	11	11	b11	15	24	18	133	305	656	283	71	217
13	11	10	b11	13	22	17	150	258	656	232	66	236
14	11	11	b11	b12	22	18	174	223	584	236	64	232
15	11	11	b11	b12	21	18	187	195	423	236	64	230
16	11	11	b11	b12	b21	19	177	191	420	232	62	228
17	11	13	b11	b12	b20	18	168	183	548	221	61	225
18	11	13	12	b12	20	19	170	201	692	195	59	221
19	11	12	13	b11	20	18	158	223	810	183	58	219
20	12	13	13	11	20	19	125	209	800	187	56	215
21	19	12	13	b10	20	18	115	191	770	181	55	215
22	15	12	13	b10	20	17	127	239	684	179	53	211
23	13	11	13	b11	20	20	155	313	668	179	53	209
24	13	11	13	b11	20	19	*167	283	600	160	51	207
25	13	11	13	b12	b19	22	157	263	540	136	50	205
26	13	12	13	13	b18	25	147	234	516	143	49	203
27	13	11	12	13	b18	28	144	225	481	133	47	230
28	13	11	13	13	*b18	33	128	217	474	130	46	263
29	12	11	14	13	-	37	108	273	470	128	44	258
30	13	14	13	13	-----	41	100	390	396	116	43	254
31	13	-----	13	14	-----	44	-----	519	-----	*109	42	-----
Total	1,448	355	386	390	562	676	3,705	8,112	18,024	7,362	2,024	5,959
Mean	46.7	11.8	12.5	12.6	20.1	21.8	124	262	601	237	65.3	199
Max	295	14	14	15	33	44	187	588	810	411	103	263
Min	11	10	11	10	15	17	47	112	396	109	42	42
Ac-ft	2,870	704	766	774	1,110	1,340	7,350	16,090	35,750	14,600	4,010	11,820

Calendar year 1961: Max 357 Min10 Mean 67.5 Ac-ft 48,860

Water year 1961-62: Max 810 Min10 Mean 134 Ac-ft 97,180

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

SAN JOAQUIN RIVER BASIN

11-2925. Clark Fork Stanislaus River near Dardanelle, Calif.

Location.--Lat 38°21'50", long 119°52'30", in SE $\frac{1}{4}$ sec.15, T.6 N., R.19 E., on right bank 0.3 mile upstream from mouth, and 3 miles northwest of Dardanelle.

Drainage area.--65.7 sq mi.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 5,507.3 ft above mean sea level (river-profile survey).

Average discharge.--12 years, 144 cfs (104,300 acre-ft per year).

Extremes.--Maximum discharge during year, 870 cfs June 9 (gage height, 6.10 ft); minimum, 12 cfs Jan. 11, result of freezeup.
1950-62: Maximum discharge, 4,350 cfs Nov. 20, 1950 (gage height, 11.88 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; minimum, 11 cfs Apr. 3, 1958.

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

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.1	15
2.3	26
2.5	41
3.0	96
4.0	268
5.0	505
5.6	695

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	23	24	20	35	25	83	286	511	345	*71	35
2	18	*22	24	21	35	25	86	339	619	339	65	34
3	*18	22	24	21	35	25	99	395	601	*323	64	34
4	18	22	26	20	38	25	125	473	*483	312	65	*33
5	18	21	27	*20	38	25	147	553	475	303	66	32
6	18	21	25	21	35	25	169	577	511	280	64	32
7	18	21	25	24	31	25	196	577	553	258	60	30
8	19	21	25	24	34	25	208	601	577	238	58	30
9	19	21	25	24	89	25	242	574	653	221	71	30
10	21	20	25	22	51	25	254	497	681	203	60	30
11	20	20	25	20	39	25	255	419	656	188	56	30
12	20	19	25	20	40	25	292	*388	646	197	53	30
13	20	18	25	20	32	25	334	336	610	174	51	29
14	19	20	25	20	42	*25	373	306	514	166	49	29
15	18	20	25	20	30	25	397	280	a 434	157	47	28
16	18	20	25	20	25	24	385	268	a 452	154	46	27
17	18	20	27	20	25	22	383	258	a 500	141	46	27
18	18	20	24	20	25	22	395	262	580	136	46	26
19	18	20	27	20	25	24	373	272	636	130	45	25
20	19	20	76	20	25	24	297	255	653	122	44	26
21	36	22	39	18	25	23	280	252	646	116	43	26
22	24	25	30	18	25	24	317	295	628	114	43	25
23	22	23	25	18	25	30	352	321	586	116	42	25
24	22	24	25	18	25	25	404	292	529	103	42	25
25	22	22	25	18	25	32	376	276	497	93	39	24
26	22	22	25	25	25	36	336	265	465	90	39	33
27	22	21	20	25	25	39	343	252	439	88	39	27
28	22	21	20	25	25	48	323	255	415	83	37	27
29	20	21	20	25	-	58	274	317	392	81	36	27
30	21	23	20	25	-----	62	262	376	364	76	36	25
31	21	-----	20	25	-----	72	-----	431	-----	73	35	-----
Total	627	635	823	657	929	940	8,361	11,251	16,307	5,420	1,560	861
Mean	20.2	21.2	26.5	21.2	33.2	30.3	279	363	544	175	50.3	28.7
Max	36	25	76	25	89	72	404	601	681	345	71	35
Min	18	18	20	18	25	22	83	252	364	73	35	24
Ac-ft	1,240	1,260	1,630	1,300	1,840	1,860	16,580	22,320	32,340	10,750	3,090	1,710

Calendar year 1961: Max 400 Min 17 Mean 68.7 Ac-ft 49,770
Water year 1961-62: Max 681 Min 18 Mean 133 Ac-ft 95,920

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-2	2100	6.03	846	6-19	2000	6.05	856
6-9	2100	6.10	870				

* Discharge measurement made on this day.

a No gage-height record.

Note.--Stage-discharge relation affected by ice Nov. 16-19, Dec. 6-16, Dec. 27 to Jan. 1, Jan. 12 to Feb. 3, Feb. 16 to Mar. 14.

11-2926. Donnell's Reservoir near Dardanelle, Calif.

Location.--Lat 38°19'45", long 119°57'40", in SE $\frac{1}{4}$ sec. 35, T.6 N., R.18 E., on left bank in hoist house of Donnell's Dam on Middle Fork Stanislaus River, 1.2 miles downstream from Niagara Creek, and 7.2 miles west of Dardanelle.

Drainage area.--266 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 4.84 ft above mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

Extremes.--Maximum contents during year, 64,800 acre-ft July 2 (gage height, 4,917.1 ft); minimum, 12,100 acre-ft Feb. 8 (gage height, 4,765.0 ft).

1957-62: Maximum contents, 64,800 acre-ft June 1, 1959, July 2, 1962 (gage height, 4,917.1 ft); minimum, that of Feb. 8, 1962.

Remarks.--Reservoir is formed by concrete arch-type dam completed in 1957. Capacity, 62,590 acre-ft between gage heights 4,720 ft (minimum operating head) and 4,917.0 ft (top of spillway gates). Reservoir is used for power and conservation storage. Water passes through powerplant and down Middle Fork Stanislaus River to Beardsley Lake (see p. 691). Figures given herein represent total contents, of which 2,150 acre-ft is below minimum operating head.

Capacity table (gage height, in feet,
and contents, in acre-ft)

4,765	12,100
4,790	19,100
4,820	28,400
4,850	38,700
4,880	49,800
4,917	64,700

Contents, in acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27,600	27,600	23,900	21,900	15,600	16,700	16,400	52,300	64,300	64,500	61,200	48,200
2	27,700	27,300	23,900	21,600	15,100	16,700	17,300	53,800	64,500	64,800	60,900	48,300
3	28,200	26,900	24,000	21,600	14,500	16,800	17,500	55,700	63,800	64,700	60,500	47,800
4	28,600	27,000	23,500	21,600	14,000	16,800	17,500	58,200	62,800	64,700	60,200	47,300
5	28,700	27,100	23,200	21,500	13,400	16,600	17,700	61,000	63,000	64,600	59,800	47,000
6	28,700	26,800	23,100	21,600	12,900	16,700	18,100	63,000	63,700	64,500	59,400	46,800
7	28,600	26,700	23,000	21,700	12,500	16,500	18,600	63,800	64,200	64,300	59,000	46,500
8	28,500	26,300	22,900	21,700	12,100	16,700	19,300	64,200	64,200	64,500	58,600	46,300
9	28,500	26,100	22,900	21,800	12,900	16,900	20,300	63,500	64,600	64,500	58,200	46,700
10	28,400	25,900	23,000	21,900	13,600	16,900	21,300	62,200	64,600	64,500	57,800	46,400
11	28,400	25,900	22,700	22,000	13,900	16,800	22,400	61,500	64,200	64,500	57,300	46,200
12	28,300	25,900	22,400	22,000	14,200	16,300	23,600	61,200	64,200	64,400	57,000	45,900
13	28,200	25,800	21,800	21,900	14,500	16,000	25,100	60,900	64,300	64,200	56,700	45,700
14	28,200	25,800	21,400	22,000	14,700	15,700	27,100	61,300	64,100	64,000	56,000	45,500
15	28,200	25,800	20,800	21,800	15,000	15,800	28,300	62,000	64,100	63,700	55,600	45,300
16	28,000	25,600	20,800	21,700	15,200	15,200	31,300	62,700	64,200	63,700	55,100	45,700
17	28,000	25,500	20,900	21,400	15,500	15,300	33,200	63,400	64,700	63,600	54,700	45,500
18	28,000	25,500	20,700	20,900	15,800	15,500	34,500	63,800	64,600	63,500	54,200	45,300
19	28,000	25,600	20,700	20,400	16,000	15,100	36,300	63,900	64,700	63,400	54,400	45,000
20	28,000	25,600	20,800	20,500	16,200	14,800	37,200	63,600	64,600	63,400	53,900	44,800
21	28,100	25,500	20,900	20,500	16,400	14,600	38,000	63,600	64,500	63,300	53,300	44,600
22	28,200	25,500	21,000	20,000	16,600	14,200	39,300	63,900	64,700	63,200	52,800	44,400
23	28,200	25,500	21,100	19,600	16,800	13,500	41,100	64,500	64,600	63,200	52,300	44,800
24	28,100	25,500	21,200	19,300	17,000	13,800	43,100	64,300	64,500	63,200	51,800	45,300
25	28,000	25,500	21,300	19,000	17,200	14,100	44,800	64,100	64,700	63,100	51,300	45,700
26	27,900	25,600	21,400	18,700	17,400	14,500	46,300	63,900	64,700	62,900	51,400	45,200
27	27,800	25,500	21,400	18,400	16,900	14,700	48,000	63,600	64,700	62,700	50,900	45,600
28	27,800	24,800	21,500	18,100	16,700	14,900	49,600	63,300	64,700	62,500	50,400	47,100
29	27,800	24,200	21,600	17,500	-	14,700	50,400	63,400	64,700	62,300	49,900	47,600
30	27,700	23,900	21,700	16,900	-----	15,100	51,200	64,100	64,500	61,800	49,300	48,200
31	27,700	-----	21,800	16,200	-----	15,500	-----	64,600	-----	61,500	48,800	-----
(†)	4,817.8	4,805.9	4,799.0	4,780.1	4,781.6	4,777.5	4,883.6	4,916.6	4,916.4	4,909.3	4,877.3	4,875.7
(‡)	+700	-3,800	-2,100	-5,600	+500	-1,200	+35,700	+13,400	-100	-3,000	-12,700	-600

Calendar year 1961..... ‡ -800

Water year 1961-62..... ‡ +21,200

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-2927. Middle Fork Stanislaus River at Hells Half Acre Bridge, Calif.

Location.--Lat 38°14'49", long 120°02'02", in NE¹/₄ sec.31, T.5 N., R.18 E., on left bank 200 ft upstream from Donnell's powerhouse, 800 ft downstream from Hells Half Acre Bridge, 1.1 miles upstream from Cow Creek, and 3.7 miles northwest of Strawberry.

Drainage area.--280 sq mi.

Records available.--February 1956 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 3,410.94 ft above mean sea level (Oakdale and South San Joaquin Irrigation Districts bench mark). Prior to Aug. 9, 1961, at site 1,600 ft upstream at different datum.

Average discharge.--6 years, 204 cfs (147,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,920 cfs May 9 (gage height, 8.92 ft.); minimum, 7.2 cfs Dec. 9.

1956-62: Maximum discharge, 5,820 cfs May 18, 1958 (gage height, 9.05 ft, site and datum then in use), from rating curve extended above 2,400 cfs on basis of slope-area measurement at gage height 17.72 ft, site and datum then in use; minimum, 3.3 cfs Nov. 9, 10, 1957.

Maximum stage known since at least 1905, 17.72 ft Dec. 23, 1955, site and datum in use prior to Aug. 9, 1961, from floodmarks (discharge, 26,600 cfs on basis of slope-area measurement).

Remarks.--Records good. Flow regulated by Relief Reservoir since 1909 (capacity, 15,600 acre-ft), and by Donnell's Reservoir (see preceding page), and by diversion around station through Donnell's powerhouse.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 9

May 9 to Sept. 30

2.3	6	4.3	174	2.7	23	5.5	520
2.5	12	5.1	336	3.0	41	6.5	970
2.8	26	5.9	610	3.4	71	7.5	1,640
3.2	50	7.0	1,240	4.0	146	8.5	2,500
3.7	94	8.6	2,600	4.7	285		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	18	* 26	16	* 18	44	207	* 438	1,660	545	* 35	31
2	17	* 18	36	16	20	46	215	483	1,880	* 153	36	31
3	17	18	25	16	17	44	* 244	526	2,140	496	36	31
4	* 18	18	22	16	16	43	285	574	* 1,840	426	36	32
5	18	18	20	16	16	48	324	640	1,130	414	36	* 31
6	18	18	20	16	16	63	348	962	915	396	35	31
7	18	18	13	16	25	55	387	* 1,360	1,130	339	35	31
8	18	18	7.8	17	63	54	408	* 1,980	1,480	81	34	31
9	18	18	11	18	423	55	434	2,550	1,570	33	35	31
10	18	18	16	18	298	51	427	2,350	1,860	33	34	31
11	18	18	15	17	179	51	420	1,540	1,830	36	33	31
12	18	18	15	17	117	49	472	1,200	1,550	36	33	31
13	18	18	15	17	125	49	522	976	1,440	34	32	31
14	18	18	15	16	140	51	574	560	1,320	31	34	31
15	18	18	15	16	177	51	598	275	920	29	34	31
16	18	18	15	15	125	51	554	322	770	27	34	31
17	18	18	15	15	96	50	538	320	775	26	33	31
18	18	18	16	15	81	51	558	408	1,340	29	33	31
19	18	18	16	17	70	54	522	648	1,530	29	33	31
20	18	21	18	21	63	60	417	720	1,580	30	33	31
21	20	19	18	16	58	59	405	595	1,550	33	33	30
22	18	18	18	16	55	67	455	538	1,460	32	32	30
23	18	18	17	16	54	62	506	619	1,230	31	32	30
24	18	18	17	16	54	62	530	775	1,030	31	32	30
25	18	19	16	16	48	74	490	785	1,020	30	31	31
26	18	21	16	17	47	94	444	676	830	30	31	31
27	18	19	16	16	44	115	462	671	627	33	31	31
28	20	18	16	17	44	140	670	671	640	33	31	31
29	18	20	16	17	-	165	466	680	658	33	32	31
30	18	26	16	18	-----	174	420	716	631	32	32	31
31	18	-----	16	18	-----	188	-----	982	-----	35	32	-----
Total	559	559	533.8	514	2,489	2,220	13,302	26,540	38,336	3,576	1,033	927
Mean	18.0	18.6	17.2	16.6	88.9	71.6	443	856	1,278	115	33.3	30.9
Max	20	26	36	21	423	188	670	2,550	2,140	545	36	32
Min	17	18	7.8	15	16	43	207	275	627	26	31	30
Ac-ft	1,110	1,110	1,060	1,020	4,940	4,400	26,380	52,640	76,040	7,090	2,050	1,840

Calendar year 1961: Max 154 Min 6.3 Mean 35.8 Ac-ft 25,950
 Water year 1961-62: Max 2,550 Min 7.8 Mean 248 Ac-ft 179,700

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

691

11-2928. Beardsley Lake near Strawberry, Calif.

Location.--Lat 38°12'17", long 120°04'31", in NW¼ sec.14, T.4 N., R.17 E., in hoist house of Beardsley Dam on Middle Fork Stanislaus River, 2.4 miles upstream from Spring Gap powerhouse, 3.9 miles west of Strawberry, and 4.7 miles west of Pinecrest.

Drainage area.--303 sq mi.

Records available.--June 1957 to September 1962. Published as Lake Hartley near Strawberry prior to 1960.

Gage.--Water-stage recorder. Datum of gage is 7.84 ft above mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

Extremes.--Maximum contents during year, 98,500 acre-ft July 12, 13, 14, 15 (gage height, 3,398.0 ft); minimum, 20,000 acre-ft Jan. 27, 28 (gage height, 3,261.3 ft).

1957-62: Maximum contents, 98,700 acre-ft June 27, 1957 (gage height, 3,398.2 ft); no contents at times during period of no gage-height record in November 1957.

Remarks.--Reservoir is formed by rock-fill, earth-core dam completed in 1957. Capacity, 98,300 acre-ft between gage heights 3,145.0 ft (tunnel invert) and 3,398.0 ft (top of spillway gates). Reservoir is used for power and conservation storage. Water passes through powerplant and down Middle Fork Stanislaus River to Melones Reservoir (see p. 702). Figures given herein represent total contents at 2400, all of which is available for release.

Capacity table (gage height, in feet, and contents, in acre-ft)

3,261	19,900	3,350	66,400
3,290	33,100	3,370	79,200
3,320	48,800	3,398	98,500

Contents, in acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4 2,600	4 3,700	3 4,400	2 4,200	2 0,800	2 4,900	2 5,900	6 9,500	9 7,400	9 8,100	9 6,800	9 5,400
2	4 2,900	4 3,500	3 4,000	2 4,000	2 1,000	2 4,700	2 3,900	7 0,700	9 7,700	9 7,700	9 6,700	9 4,700
3	4 3,100	4 3,400	3 4,700	2 7,700	2 1,200	2 4,300	2 4,800	7 1,900	9 7,700	9 8,100	9 6,700	9 4,700
4	4 3,400	4 3,200	3 7,500	2 7,400	2 1,300	2 3,900	2 6,100	7 3,200	9 7,100	9 8,200	9 6,700	9 4,700
5	4 3,500	4 3,000	3 7,600	2 7,300	2 1,400	2 3,900	2 7,800	7 4,600	9 6,100	9 8,000	9 6,700	9 4,800
6	4 3,600	4 3,000	3 8,200	2 7,300	2 1,500	2 3,900	2 4,500	7 6,600	9 5,900	9 7,800	9 6,400	9 4,800
7	4 3,700	4 3,000	3 8,000	2 7,200	2 1,800	2 4,000	3 1,300	7 4,800	9 6,700	9 7,900	9 6,500	9 4,800
8	4 3,900	4 3,200	3 7,600	2 6,700	2 2,100	2 3,500	3 3,100	8 3,800	9 7,600	9 8,200	9 6,600	9 4,800
9	4 4,000	4 3,200	3 7,200	2 6,000	2 3,400	2 3,200	3 4,900	8 4,000	9 7,900	9 8,200	9 5,700	9 4,200
10	4 4,100	4 3,200	3 6,700	2 5,300	2 4,000	2 2,900	3 6,800	9 3,000	9 7,400	9 8,400	9 6,700	9 4,200
11	4 4,200	4 3,000	3 6,600	2 4,700	2 4,200	2 2,800	3 8,500	9 4,400	9 7,000	9 8,400	9 6,700	9 4,200
12	4 4,400	4 2,800	3 6,500	2 4,200	2 4,100	2 3,100	4 0,500	9 4,900	9 6,900	9 8,500	9 6,700	9 4,200
13	4 4,400	4 2,700	3 6,800	2 3,700	2 4,300	2 3,100	4 2,500	9 4,900	9 6,900	9 8,500	9 6,800	9 4,200
14	4 4,500	4 2,600	3 6,800	2 3,000	2 4,700	2 3,300	4 4,600	9 4,600	9 7,200	9 8,500	9 6,800	9 4,200
15	4 4,500	4 2,400	3 6,800	2 2,600	2 5,300	2 3,100	4 6,900	9 4,600	9 7,500	9 8,500	9 6,700	9 4,200
16	4 4,700	4 2,200	3 6,300	2 2,100	2 5,700	2 3,400	4 8,900	9 5,300	9 7,700	9 8,400	9 6,900	9 3,600
17	4 4,800	4 2,000	3 5,700	2 1,800	2 5,900	2 3,100	5 0,700	9 5,900	9 7,800	9 8,200	9 6,800	9 3,500
18	4 4,700	4 1,600	3 5,400	2 1,700	2 6,200	2 2,600	5 2,600	9 6,400	9 7,700	9 8,200	9 6,900	9 3,500
19	4 4,600	4 1,300	3 5,000	2 1,700	2 6,400	2 2,700	5 4,500	9 6,800	9 7,400	9 7,900	9 6,200	9 3,500
20	4 4,400	4 1,100	3 4,400	2 1,200	2 6,300	2 2,800	5 6,100	9 6,900	9 7,500	9 7,700	9 6,200	9 3,500
21	4 4,200	4 0,900	3 3,900	2 0,500	2 6,200	2 2,800	5 7,200	9 6,900	9 7,500	9 7,400	9 6,200	9 3,500
22	4 4,100	4 0,500	3 3,300	2 0,600	2 6,000	2 3,300	5 8,500	9 6,900	9 7,700	9 7,100	9 6,200	9 3,500
23	4 4,000	4 0,100	3 2,700	2 1,000	2 5,700	2 3,800	5 4,800	9 7,200	9 7,800	9 6,700	9 6,200	9 2,800
24	4 4,000	3 4,700	3 2,100	2 0,700	2 5,500	2 3,300	6 1,100	9 7,600	9 7,700	9 6,700	9 6,200	9 2,100
25	4 4,100	3 4,500	3 1,700	2 0,500	2 5,200	2 3,000	6 2,500	9 7,700	9 7,800	9 6,700	9 6,200	9 1,600
26	4 4,000	3 4,200	3 1,000	2 0,300	2 4,900	2 2,700	6 3,500	9 7,500	9 7,900	9 6,700	9 5,500	9 0,800
27	4 4,000	3 4,900	3 0,500	2 0,000	2 5,200	2 2,500	6 4,700	9 7,400	9 8,000	9 6,800	9 5,500	9 0,200
28	4 4,000	3 4,300	3 0,000	2 0,000	2 5,100	2 2,600	6 6,300	9 7,200	9 8,100	9 6,800	9 5,400	8 4,500
29	4 3,900	3 4,600	2 4,500	2 0,300	-	2 3,500	6 7,400	9 7,200	9 8,200	9 6,900	9 5,400	8 4,800
30	4 3,900	3 4,600	2 4,000	2 0,500	-----	2 3,500	6 6,500	9 7,100	9 8,200	9 6,800	9 5,400	8 4,100
31	4 3,900	-----	2 4,600	2 0,700	-----	2 3,900	-----	9 7,200	-----	9 6,800	9 5,400	-----
(†)	3,311.0	3,302.8	3,280.5	3,262.8	3,272.9	3,270.2	3,353.4	3,396.2	3,397.6	3,395.6	3,393.6	3,383.3
(‡)	+1,000	-4,300	-11,000	-7,900	+4,400	-1,200	+4,600	+28,700	+1,000	-1,400	-1,400	-7,300

Calendar year 1961..... † -7,200

Water year 1961-62..... † +45,200

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-2929. Middle Fork Stanislaus River below Beardsley Dam, Calif.

Location.--Lat 38°11'36", long 120°05'53", in NW¹/₄ sec.22, T.4 N., R.17 E., on right bank 0.5 mile downstream from Beardsley powerhouse afterbay dam, 1.5 miles downstream from Beardsley Dam, and 5.7 miles west of town of Pinecrest.

Drainage area.--311 sq mi.

Records available.--December 1956 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 3,044.7 ft above mean sea level (river-profile survey).

Average discharge.--5 years, 470 cfs (340,300 acre-ft per year).

Extremes.--Maximum discharge during year, 3,130 cfs June 10 (gage height, 8.63 ft); minimum, 11 cfs Oct. 14.
1956-62: Maximum discharge, 5,860 cfs May 23, 1958 (gage height, 10.48 ft); minimum daily, 3.0 cfs Oct. 10, 11, 1958.

Remarks.--Records good. No diversions above station. Flow regulated by Relief Reservoir (capacity, 15,600 acre-ft), Donnell's Reservoir since April 1957 (see p. 689), and by Beardsley Lake since January 1957 (see preceding page).

Rating tables (gage height, in feet, and discharge,
in cubic feet per second)

2.0	12	4.0	168
2.2	14	4.5	278
2.5	22	5.0	430
2.8	37	6.0	865
3.2	68	7.0	1,490
3.6	110	8.6	3,090

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	115	134	* 255	233	295	300	278	592	2,340	1,200	360	357
2	57	272	250	230	284	292	278	* 592	2,510	980	* 398	345
3	28	* 271	247	* 228	289	298	286	596	2,890	* 865	404	330
4	* 26	140	247	224	289	300	* 292	600	2,980	975	385	330
5	24	134	247	215	289	298	247	604	* 2,390	1,070	369	333
6	22	140	247	36	286	218	270	608	1,620	1,060	382	336
7	21	138	250	73	286	260	306	620	1,450	881	379	336
8	29	138	245	315	284	298	309	624	1,630	576	369	348
9	16	142	247	321	203	289	298	629	2,100	588	339	342
10	14	142	250	324	137	286	286	987	2,910	600	348	333
11	13	140	247	324	196	289	300	1,540	2,750	608	351	336
12	13	148	245	327	194	286	306	* 1,660	2,380	616	348	339
13	12	137	206	333	202	260	300	1,670	2,120	638	351	339
14	12	137	268	333	100	295	303	1,350	1,870	656	348	333
15	24	142	295	339	30	225	306	898	1,430	652	342	342
16	24	155	298	345	27	300	336	624	1,290	642	306	360
17	24	213	298	345	25	289	366	608	1,290	612	315	351
18	44	192	298	351	26	292	366	725	2,100	604	369	348
19	87	188	289	330	24	286	363	1,060	2,430	592	360	357
20	95	205	292	321	79	292	360	1,310	2,250	584	348	339
21	102	204	289	318	192	284	568	1,190	2,250	580	351	351
22	104	210	286	232	198	270	572	1,110	2,070	576	348	336
23	100	213	292	51	202	286	572	1,110	1,870	520	327	336
24	96	210	298	289	204	289	576	1,250	1,700	414	348	342
25	89	208	295	300	202	289	584	1,370	1,620	395	351	345
26	89	210	292	309	202	295	592	1,370	1,360	369	348	351
27	90	208	289	286	245	298	584	1,370	1,190	372	348	345
28	98	206	262	215	295	298	584	1,360	1,190	376	360	339
29	95	198	235	260	-	260	584	1,350	1,190	379	366	342
30	92	204	235	286	-----	284	588	1,350	1,200	372	321	342
31	90	-----	233	292	-----	265	-----	1,630	-----	376	360	-----
Total	1,745	5,380	8,227	8,385	5,285	8,771	11,960	32,357	58,370	19,728	10,999	10,263
Mean	56.3	179	265	270	189	283	399	1,044	1,946	636	355	342
Max	115	272	298	351	295	300	592	1,670	2,980	1,200	404	360
Min	12	134	206	36	24	218	247	592	1,190	369	306	330
Ac-ft	3,460	10,670	16,320	16,630	10,480	17,400	23,720	64,180	115,800	39,130	21,820	20,360

Calendar year 1961: Max 632 Min 12 Mean 260 Ac-ft 188,400
Water year 1961-62: Max 2,980 Min 12 Mean 497 Ac-ft 360,000

* Discharge measurement made on this day.

11-2930. Middle Fork Stanislaus River at Sand Bar Flat, near Avery, Calif.

Location.--Lat 38°11'12", long 120°08'28", in SE¼ sec.19, T.4 N., R.17 E., on left bank 1 mile upstream from diversion dam of Pacific Gas & Electric Co. at Sand Bar Flat, 6.5 miles north of Long Barn, and 13 miles southeast of Avery.

Drainage area.--325 sq mi (revised).

Records available.--September 1905 to September 1962. Records for water year 1909 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 2,755 ft above mean sea level (river-profile survey). Prior to Mar. 19, 1928, staff gage at diversion dam 1 mile downstream at different datum. Mar. 19, 1928, to October 1938, water-stage recorder at site 150 ft downstream at present datum.

Average discharge.--57 years, 688 cfs (498,100 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 3,140 cfs June 10 (gage height, 9.29 ft); minimum daily, 50 cfs Jan. 23. 1905-57 (prior to regulation by Beardsley Lake and Donnell's Reservoir): Maximum discharge, 26,000 cfs Dec. 23, 1955 (gage height, 20.2 ft, from floodmarks), from rating curve extended above 6,000 cfs on basis of computation of peak flow over dam; minimum daily (revised), 30 cfs Nov. 28, 1919, Aug. 24, 1924. 1957-62: Maximum discharge, 6,030 cfs May 23, 1958 (gage height, 11.60 ft); minimum daily, 12 cfs Oct. 11, 1958.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Relief Reservoir since 1909 (capacity, 15,600 acre-ft), Donnell's Reservoir since April 1957 (see p. 689), and Beardsley Lake since January 1957 (see p. 691). Water diverted by Philadelphia Canal (see p. 699) from South Fork Stanislaus River through Spring Gap powerhouse into Middle Fork above station. Stanislaus tunnel diverts 1 mile downstream to Stanislaus powerhouse on Stanislaus River at Stanislaus.

Cooperation.--Water-stage-recorder graph and nine discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.6	49	5.0	510
2.7	57	6.0	895
3.0	86	8.0	2,050
3.5	155	10.0	3,880
4.0	245		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	131	133	279	a 249	a 320	355	385	* 698	2,250	1,330	* 420	444
2	118	264	288	a 252	a 310	353	383	702	2,470	1,130	462	435
3	* 81	304	279	254	a 315	355	390	* 702	2,850	995	477	423
4	80	148	276	249	a 320	360	390	702	2,970	1,100	450	426
5	78	142	279	241	a 325	360	350	702	2,430	1,210	432	426
6	76	148	274	69	a 330	293	365	706	1,690	1,200	441	435
7	76	145	272	70	a 335	300	399	718	1,530	1,030	438	* 429
8	79	148	267	343	335	368	405	726	1,740	686	435	447
9	74	149	269	350	311	365	390	726	2,150	698	423	438
10	70	149	272	350	214	368	378	1,050	2,930	718	435	435
11	70	145	267	350	279	370	385	1,620	2,840	722	444	432
12	69	152	265	355	252	363	399	1,740	2,470	734	441	432
13	68	145	* 222	358	263	335	388	1,750	2,210	746	444	432
14	68	143	290	360	171	365	393	1,490	1,970	770	444	423
15	75	151	325	365	117	289	396	1,050	1,560	758	432	423
16	76	* 165	328	* 373	96	375	423	742	1,430	742	393	444
17	76	221	328	375	80	365	459	718	1,440	710	405	435
18	72	209	333	375	76	365	456	822	2,180	698	471	435
19	90	200	323	363	72	365	459	1,140	2,500	678	462	435
20	98	221	323	360	116	365	450	1,440	2,340	666	450	420
21	107	221	323	345	241	365	650	1,280	2,350	666	450	441
22	107	225	323	282	252	353	674	1,180	2,190	662	450	426
23	103	227	328	50	252	370	678	1,180	1,990	607	417	420
24	101	225	333	298	256	373	682	1,280	1,830	495	441	423
25	96	227	328	315	245	373	690	1,410	1,730	471	450	432
26	94	221	328	330	249	373	702	1,410	* 1,530	441	447	438
27	96	225	320	311	295	378	690	1,410	1,320	441	444	435
28	103	223	295	233	353	388	686	1,410	1,320	444	459	423
29	102	214	256	276	-	352	690	1,410	1,330	444	462	429
30	101	221	249	315	-----	388	690	1,400	1,330	441	403	429
31	99	-----	a 245	318	-----	373	-----	1,660	-----	438	450	-----
Total	2,734	5,711	9,087	9,134	6,780	11,120	14,875	34,974	60,870	22,871	13,672	12,945
Mean	88.2	190	293	295	242	359	496	1,128	2,029	738	441	432
Max	131	304	333	375	353	388	702	1,750	2,970	1,330	477	447
Min	68	133	222	50	72	289	350	698	1,320	438	393	420
Ac-ft	5,420	11,330	18,020	18,120	13,450	22,060	29,500	69,370	120,700	45,360	27,120	25,680
Calendar year 1961:	Max 698			Min 48		Mean 302		Ac-ft 218,600				
Water year 1961-62:	Max 2,970			Min 50		Mean 561		Ac-ft 406,100				

* Discharge measurement made on this day.

a No gage-height record.

SAN JOAQUIN RIVER BASIN

11-2935. North Fork Stanislaus River below Silver Creek, Calif.

Location.--Lat 38°26'22", long 120°00'53", in SE $\frac{1}{4}$ sec.20, T.7 N., R.18 E., on right bank 100 ft downstream from Silver Creek and 5.6 miles northeast of Big Meadow.

Drainage area.--27.8 sq mi (revised).

Records available.--October 1952 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 6,677.3 ft above mean sea level (river-profile survey).

Average discharge.--10 years, 67.8 cfs (49,090 acre-ft per year).

Extremes.--Maximum discharge during year, 578 cfs May 5, 6 (gage height, 7.16 ft); minimum daily, 4.0 cfs Aug. 11-13.

1952-62: Maximum discharge, 1,370 cfs Dec. 23, 1955 (gage height, 9.17 ft), from rating curve extended above 500 cfs; minimum daily, 0.3 cfs Oct. 10, 1958.

Flood of Nov. 20, 1950, reached a stage of 11.17 ft, from Pacific Gas & Electric Co. recorder chart (discharge, 2,790 cfs).

Remarks.--Records good. Flow regulated by Lake Alpine and Union and Utica Reservoirs (combined capacity, 9,600 acre-ft). No diversion.

Cooperation.--Water-stage-recorder graph and seven discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 23 to Sept. 5)

Oct. 1 to Aug. 22

Aug. 23 to Sept. 30

1.6	3.0	4.2	82	2.0	5.3
1.8	5.1	5.0	148	2.2	8.5
2.0	7.6	5.7	244	2.6	16
2.4	14	6.5	400	3.2	30
3.0	29	7.0	530	4.0	61
3.6	50				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.1	4.8	6.1	15	23	18	57	304	336	42	*5.3	55
2	5.1	5.3	6.1	15	24	18	59	364	348	37	4.7	57
3	5.1	5.3	5.9	16	24	18	69	412	346	34	4.7	60
4	5.1	5.5	6.1	15	24	17	84	452	270	31	4.9	60
5	5.1	5.7	6.2	15	24	18	100	521	*242	28	4.8	*60
6	5.1	6.1	9.0	17	23	19	113	498	247	26	4.6	60
7	5.1	*6.2	16	27	22	18	126	450	258	23	4.7	59
8	5.1	6.1	14	28	21	18	138	478	258	20	4.6	58
9	5.1	5.3	14	26	39	18	173	468	265	18	4.9	58
10	*5.2	5.2	14	23	55	18	372	425	272	15	4.6	56
11	5.2	5.1	14	19	48	17	350	340	254	14	4.0	56
12	5.2	5	14	18	33	17	356	300	247	15	4.0	53
13	5.2	4.9	14	16	27	17	380	244	215	13	4.0	51
14	5.2	4.9	14	16	24	17	415	205	195	12	4.1	50
15	5.1	4.9	14	15	23	18	438	186	160	12	4.2	49
16	5.1	4.9	14	15	22	18	400	220	136	9.6	5.0	47
17	5.1	5.6	14	14	21	17	384	220	152	8.6	5.2	44
18	5.2	5.2	14	14	20	17	384	209	168	7.9	5.2	13
19	5.2	5.0	15	14	20	18	364	234	167	7.2	5.2	6.0
20	5.6	5.1	22	16	20	20	269	238	167	6.6	5.0	5.9
21	7.0	5.6	23	15	19	20	241	215	152	5.9	4.9	5.8
22	6.1	5.5	20	16	19	19	314	246	134	5.5	24	9.2
23	5.7	5.3	19	16	19	19	388	302	122	5.1	4.2	28
24	5.5	5.5	18	15	19	20	*420	267	105	5.1	4.2	34
25	5.3	5.6	19	14	19	25	392	220	89	5.7	4.2	35
26	5.1	5.9	17	15	18	30	358	185	*80	5.8	4.2	35
27	5.1	5.9	16	15	19	35	342	177	67	5.7	4.7	34
28	5.5	5.7	16	18	18	41	330	193	58	5.7	5.1	34
29	5.2	5.8	15	19	-	47	258	251	52	5.8	5.3	34
30	5.0	5.8	15	19	-----	49	254	308	47	5.7	5.4	33
31	4.8	-----	15	20	-----	51	-----	332	-----	5.6	5.4	-----
Total	163.5	162.7	439.4	536	687	712	8,328	9,464	5,609	441.5	549.6	1,239.9
Mean	5.27	5.42	14.2	17.3	24.5	23.0	278	305	187	14.2	17.7	41.3
Max	7.0	6.2	23	28	55	51	438	521	348	4.2	5.4	60
Min	4.8	4.8	5.9	14	18	17	57	177	47	5.1	4.0	5.8
Ac-ft	324	323	872	1,060	1,360	1,410	16,520	18,770	11,130	876	1,090	2,460

Calendar year 1961: Max 220 Min 3.0 Mean 37.8 Ac-ft 27,370

Water year 1961-62: Max 521 Min 4.0 Mean 77.6 Ac-ft 56,200

Peak discharge (base, 300 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-14	1900	6.73	458	5-22	0200-0900	7.03	539
4-23	2100	6.70	450	6-3	0100-0500	6.35	370
5-5	2200-						
5-6	-0100	7.16	578				

11-2940. Highland Creek below Spicer Meadows Reservoir, Calif.

Location---Lat 38°23'50", long 119°59'30", in SW $\frac{1}{4}$ sec. 3, T.6 N., R.18 E., on right bank just downstream from Spicer Meadows Reservoir dam, 5.5 miles upstream from mouth and 7 miles east of Big Meadow.

Drainage area---42.4 sq mi (revised).

Records available---October 1952 to September 1962.

Gage---Water-stage recorder. Datum of gage is 6,374.8 ft above mean sea level (river-profile survey).

Average discharge---10 years, 108 cfs (78,190 acre-ft per year).

Extremes---Maximum discharge during year, 1,190 cfs May 5 (gage height, 6.50 ft); minimum daily, 0.3 cfs Aug. 28, 29.

1952-62: Maximum discharge, 8,800 cfs Dec. 23, 1955 (gage height, 11.50 ft), from rating curve extended above 1,200 cfs;

minimum daily, 0.1 cfs Oct. 30 to Nov. 4, 1952, Nov. 9, 14, 1954, Oct. 20-30, 1955.

Flood of Nov. 20, 1950, reached a stage of 11.50 ft, from Pacific Gas & Electric Co. recorder chart (discharge, 8,800 cfs).

Remarks---Records good except those for periods of ice effect, which are fair. Flow regulated by Spicer Meadows Reservoir (capacity, 4,060 acre-ft).

Cooperation---Water-stage-recorder graph and seven discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 5				May 6 to Sept. 30			
1.0	6.0	3.6	136	0.1	0.3	1.3	7.2
1.5	14	4.0	201	.3	.6	1.6	12
2.0	27	4.5	310	.5	1.2	2.0	22
2.4	41	5.0	450	.7	2.0	2.4	37
2.8	60	6.0	890	1.0	4.1	2.8	60
3.2	90						

Note---Same as preceding table above 2.8 ft.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	13	6.9	7.6	8.7	29	162	432	588	136	* 51	0.6
2	23	13	6.9	7.6	8.7	b28	168	557	654	123	50	.6
3	23	12	6.9	7.6	8.8	27	191	634	572	115	49	.6
4	23	11	6.9	7.6	8.8	b27	251	779	457	107	48	.6
5	23	11	6.9	7.6	8.8	b30	309	837	438	102	47	* 1.5
6	23	11	6.9	7.6	8.8	b32	347	792	464	93	46	2.8
7	23	* 9.5	6.9	7.8	8.8	b29	386	785	489	77	46	2.8
8	23	8.2	6.9	7.8	9.0	b28	409	835	492	70	45	2.6
9	22	8.2	7.0	7.9	b9.1	*b28	451	749	540	65	44	2.5
10	* 22	8.2	7.0	7.9	9.1	28	458	599	548	58	43	2.5
11	22	8.2	7.0	8.1	9.1	28	439	468	506	52	43	2.5
12	22	8.2	7.0	8.1	9.3	28	515	414	478	54	42	2.4
13	22	7.5	7.0	7.9	9.5	25	572	318	441	48	46	2.4
14	18	6.9	7.0	7.9	9.7	b26	655	292	372	44	49	2.4
15	14	6.9	7.0	7.9	10	b26	704	278	303	39	53	2.4
16	14	6.9	7.0	8.1	10	b27	636	330	315	41	55	2.4
17	14	6.9	7.0	8.1	10	b26	615	299	353	36	53	1.1
18	14	6.9	7.0	8.1	10	25	624	318	393	31	52	2.1
19	14	6.9	7.0	8.1	13	b26	527	335	414	28	50	19
20	14	6.9	7.2	8.1	b34	b28	343	310	393	27	49	17
21	13	6.9	7.2	8.1	b33	b29	349	282	363	23	48	1.1
22	13	6.9	7.3	8.1	b33	b29	470	356	350	34	27	2.2
23	13	6.9	7.3	8.1	b33	30	609	405	318	40	8.9	1.4
24	14	6.9	7.3	8.1	b33	31	* 642	348	282	47	8.7	1.2
25	14	6.9	7.3	8.2	b32	46	579	303	254	53	8.6	1.0
26	14	6.9	7.5	8.2	31	66	493	278	* 226	53	8.5	1.2
27	14	6.9	7.5	8.4	b30	80	517	258	207	53	4.3	1.0
28	14	6.9	7.5	8.4	29	102	514	285	188	53	.3	1.0
29	13	6.9	7.5	8.5	-	121	348	366	170	53	.3	.9
30	13	6.9	7.6	8.5	-----	127	354	489	153	52	.4	.9
31	13	-----	7.6	8.5	-----	139	-----	536	-----	52	.6	-----
Total	544	246.3	221.0	248.5	467.2	1,351	13,637	14,267	11,721	1,859	1,076.6	121.4
Mean	17.5	8.21	7.13	8.02	16.7	43.6	455	460	391	60.0	34.7	4.05
Max	23	13	7.6	8.5	34	139	704	837	654	136	55	21
Min	13	6.9	6.9	7.6	8.7	25	162	258	153	23	0.3	0.6
Ac-ft	1,080	489	438	493	927	2,680	27,050	28,300	23,250	3,690	2,140	241

Calendar year 1961: Max 358 Min - Mean 58.8 Ac-ft 42,590

Water year 1961-62: Max 837 Min 0.3 Mean 125 Ac-ft 90,780

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-14	2130	6.15	980	6- 2	2000	6.14	974
4-23	2200	5.85	815	6- 9	2200	5.67	725
5- 5	2100	6.50	1,190	6-19	2230	5.17	510

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

SAN JOAQUIN RIVER BASIN

11-2943. North Fork Stanislaus River below Ganns dam site, Calif.

Location.--Lat 38°24'05", long 120°06'40", in SW $\frac{1}{4}$ sec.4, T.6 N., R.17 E., on left bank 0.25 mile upstream from Big Meadow Creek, and 0.9 mile south of Big Meadow.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 5,405 ft above mean sea level (from river-profile survey).

Extremes.--Maximum discharge during year, 2,930 cfs May 5 (gage height, 9.14 ft); minimum, 8.6 cfs Nov. 19, result of freezeup.

1960-62: Maximum discharge, that of May 5, 1962; minimum, that of Nov. 19, 1961.

Flood of December 1955 reached a stage of 17.0 ft, from floodmarks.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated at low and medium stages by four reservoirs (combined capacity, 13,600 acre-ft).

Rating table, except periods of ice effect (gage height, in feet, and discharge in cubic feet per second)

1.3	10	4.0	186
1.7	19	4.5	276
2.1	33	5.0	402
2.5	51	6.0	750
3.0	80	7.0	1,240
3.5	121	8.5	2,340

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	18	17	23	42	60	4 20	1 250	1 460	2 21	56	55
2	25	18	17	23	42	60	4 38	1 570	1 570	1 97	54	58
3	25	18	16	24	41	60	5 03	1 800	1 4 10	1 83	53	57
4	25	18	15	23	40	60	6 14	2 060	1 070	1 67	52	57
5	25	17	16	* 23	40	69	7 06	2 280	1 0 10	1 57	52	57
6	25	18	15	24	40	95	7 78	2 150	1 0 40	1 40	52	56
7	25	18	17	35	46	72	8 66	2 060	1 100	1 19	* 51	58
8	25	15	30	38	71	67	9 45	2 180	1 100	1 05	50	58
9	25	14	23	37	59 4	70	1 0 40	* 2 110	1 150	93	50	57
10	25	13	21	33	2 23	65	1 260	1 730	1 160	84	50	56
11	25	13	21	29	10 8	67	1 2 10	1 290	1 050	77	49	55
12	25	13	22	27	81	60	1 350	1 150	960	81	48	54
13	25	13	20	25	69	60	1 5 10	834	880	75	49	* 50
14	24	12	20	25	73	* 60	1 730	742	774	66	54	49
15	20	12	20	23	84	60	1 8 40	682	621	61	54	48
16	18	12	20	22	70	67	1 680	880	604	58	60	46
17	18	11	20	22	60	62	1 620	838	663	54	58	42
18	18	11	21	23	56	60	1 670	890	710	48	57	48
19	18	12	24	24	54	72	1 4 20	1 000	726	44	56	34
20	19	14	45	24	55	84	9 10	900	690	40	54	30
21	24	13	38	25	55	75	9 20	818	632	38	52	26
22	19	13	31	25	55	86	1 260	1 040	* 593	39	50	18
23	19	13	29	25	55	78	1 660	1 190	537	49	53	19
24	* 18	13	29	26	55	77	1 740	980	470	50	52	30
25	19	14	28	28	55	118	1 600	810	408	60	52	32
26	19	17	25	31	55	171	1 380	730	369	60	52	33
27	20	15	24	32	55	210	1 380	710	330	60	54	32
28	21	14	24	38	55	254	1 560	802	296	59	54	32
29	19	14	24	40	-	320	1 010	1 020	270	58	52	31
30	18	15	24	36	-----	343	995	1 290	246	58	55	31
31	18	-----	24	39	-----	371	-----	1 4 10	-----	57	54	-----
Total	6 74	4 31	7 22	8 73	2 329	3 4 33	36 0 15	34 196	2 3 899	2 658	1 6 39	1 309
Mean	21.7	14.4	23.3	28.2	83.2	111	1,200	1,264	797	85.7	52.9	43.6
Max	25	18	45	40	594	371	1,840	2,280	1,570	221	60	58
Min	18	11	16	22	40	60	420	682	246	38	48	18
Ac-ft	1,340	855	1,430	1,730	4,620	6,810	71,430	77,740	47,400	5,270	3,250	2,600

Calendar year 1961: Max 816 Min 11 Mean 136 Ac-ft 98,460
 Water year 1961-62: Max 2,280 Min 11 Mean 310 Ac-ft 224,500

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-14	2200	8.49	2,330	5-5	2200	9.14	2,930
4-23	2100	8.29	2,160	6-2	2300	7.88	1,830

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 18, Dec. 28-30, Jan. 13-17, 21-23, Feb. 20 to Mar. 4, Mar. 12-15.

SAN JOAQUIN RIVER BASIN

697

11-2945. North Fork Stanislaus River near Avery, Calif.

Location.--Lat 38°14'45", long 120°17'20", in NE¼ sec.35, T.5 N., R.15 E., on right bank 700 ft upstream from intake of Utica Canal, 3.3 miles upstream from Beaver Creek and 5.1 miles northeast of Avery.

Drainage area.--163 sq mi.

Records available.--July 1914 to September 1925, November 1928 to September 1962. Yearly discharge only for some years, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 3,388.3 ft above mean sea level (river-profile survey). Prior to September 1922, staff gage at same site at datum 0.05 ft lower.

Average discharge.--45 years, 405 cfs (293,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,760 cfs May 5 (gage height, 7.65 ft); minimum daily, 14 cfs Nov. 17, 18.

1914-22, 1928-62: Maximum discharge, 32,000 cfs Dec. 23, 1955 (gage height, 14.23 ft, from floodmarks), from rating curve extended above 4,500 cfs on basis of slope-area measurement at gage height 13.8 ft; minimum daily, 5.5 cfs Dec. 6, 7, 1929.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated at low and medium stages by Lake Alpine, Spicer Meadows, Union and Utica Reservoirs (combined capacity, 13,600 acre-ft). Diversion of a maximum of 10 cfs during summer from Beaver Creek into river above station.

Cooperation.--Water-stage-recorder graph and 11 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	23	55	39	66	b 148	610	1,580	1,710	259	76	63
2	32	23	77	39	71	160	665	1,930	1,830	232	72	65
3	31	22	44	38	71	157	750	2,270	1,750	218	70	67
4	32	22	35	39	69	141	888	2,330	1,310	200	70	* 66
5	31	21	32	38	69	161	1,030	2,960	1,200	188	70	65
6	29	* 20	31	37	70	248	1,130	2,600	1,240	172	70	65
7	29	20	28	46	113	207	1,300	2,420	1,290	147	69	66
8	29	20	26	b 50	221	183	1,350	3,010	1,300	131	68	67
9	30	18	b 25	b 42	1,260	186	1,510	2,420	1,330	117	67	66
10	30	16	b 25	b 39	782	175	1,690	* 2,150	1,350	108	66	65
11	* 31	15	* b 24	b 34	415	168	1,650	1,640	1,220	99	64	64
12	31	15	b 24	b 32	275	157	1,820	1,510	1,090	102	63	63
13	30	15	b 25	b 30	315	152	1,950	1,070	1,020	114	60	61
14	29	15	b 27	b 32	375	160	2,190	942	906	99	63	58
15	29	15	b 28	38	528	168	2,450	858	730	92	65	56
16	21	15	30	39	* 320	168	2,150	1,060	690	85	69	55
17	19	14	33	38	260	160	2,060	* 1,030	730	82	71	51
18	18	14	35	b 36	230	157	2,120	1,070	780	75	70	51
19	18	15	37	b 35	211	179	1,930	1,200	805	67	69	49
20	18	21	56	b 35	196	194	1,270	1,120	780	63	67	36
21	22	20	73	b 35	b 180	190	1,200	984	700	59	64	32
22	30	19	59	* b 36	b 170	213	1,760	1,220	655	54	64	26
23	22	19	53	b 38	b 150	200	2,060	1,490	605	59	61	18
24	20	18	50	b 40	b 150	190	2,180	1,220	536	65	64	17
25	20	19	48	42	b 140	236	1,990	990	470	71	63	32
26	20	30	47	45	b 130	305	* 1,760	906	428	77	63	38
27	21	30	42	47	b 130	362	1,760	876	* 383	78	63	36
28	37	22	41	53	b 130	* 424	2,110	972	347	78	69	36
29	29	22	39	60	-	512	1,420	1,180	310	78	64	36
30	24	47	38	61	-----	543	1,310	1,540	285	78	65	35
31	23	-----	41	62	-----	562	-----	1,670	-----	* 77	65	-----
Total	817	605	1,228	1,275	7,097	7,166	48,063	48,218	27,780	3,424	2,064	1,505
Mean	26.4	20.2	39.6	41.1	253	231	1,602	1,555	926	110	66.6	50.2
Max	37	47	77	62	1,260	562	2,450	3,010	1,830	259	76	67
Min	18	14	24	30	66	141	610	858	285	54	60	17
Ac-ft	1,620	1,200	2,440	2,530	14,080	14,210	95,330	95,640	55,100	6,790	4,090	2,990

Calendar year 1961: Max 1,010 Min 14 Mean 177 Ac-ft 128,200
 Water year 1961-62: Max 3,010 Min 14 Mean 409 Ac-ft 296,000

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1400-1600	6.45	2,020	5-5	2400	7.65	3,760
4-14	2400	7.42	3,340	6-3	0200	6.60	2,110

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

11-2965. South Fork Stanislaus River at Strawberry, Calif.

Location.--Lat 38°11'51", long 120°00'27", in SW $\frac{1}{4}$ sec.16, T.4 N., R.18 E., on right bank 0.3 mile downstream from bridge on State Highway 108 at Strawberry, 0.6 mile downstream from Herring Creek, and 1.2 miles downstream from Pinecrest Lake.

Drainage area.--45.5 sq mi.

Records available.--October 1911 to January 1917, August 1938 to September 1962. Monthly discharge only for October 1913 and yearly estimates for 1912-13, published in WSP 1315-A. Published as "near Confidence" 1911-13.

Gage.--Water-stage recorder. Datum of gage is 5,235.1 ft above mean sea level (river-profile survey). October 1911 to January 1917, staff gage at site 1 mile downstream at different datum.

Average discharge.--29 years (1911-16, 1938-62), 126 cfs (91,220 acre-ft per year).

Extremes.--Maximum discharge during year, 910 cfs June 2 (gage height, 4.92 ft); minimum daily, 13 cfs Dec. 30, Jan. 6-9. 1911-17, 1938-62: Maximum discharge, 3,900 cfs Nov. 21, 1950 (gage height, 9.25 ft), from rating curve extended above 1,100 cfs on basis of contracted-opening measurement of peak flow at bridge 0.3 mile below station; minimum, 1.3 cfs Nov. 22, 23, 1946.

Remarks.--Records good. Flow regulated at low and medium stages by Pinecrest Lake beginning in 1916 (capacity, 18,300 acre-ft). No diversion.

Cooperation.--Water-stage-recorder graph and eight discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 10)

1.5	12	3.0	228
1.7	26	3.5	346
2.0	54	4.0	505
2.5	128	5.0	950

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	49	30	29	14	23	33	69	272	697	221	37	66
2	71	*30	29	14	23	33	60	*411	778	204	*37	66
3	65	29	29	14	23	33	57	470	719	190	37	67
4	65	29	29	14	23	33	66	612	512	176	37	66
5	*65	29	29	14	24	34	67	746	523	172	38	66
6	64	29	26	13	24	35	73	737	564	153	38	*66
7	63	29	25	13	26	35	91	706	634	128	38	66
8	63	30	25	13	26	44	114	683	697	107	48	66
9	64	30	25	13	41	51	128	697	706	94	70	66
10	64	30	25	14	30	51	130	*596	710	78	71	66
11	64	30	25	*14	29	51	134	323	674	69	71	65
12	64	30	25	14	36	51	157	346	634	70	71	65
13	64	30	25	14	36	51	176	284	600	73	71	66
14	63	29	*25	14	36	51	196	200	495	64	70	66
15	63	29	25	14	38	49	217	160	349	53	69	66
16	63	28	26	14	36	49	204	196	366	47	69	66
17	63	28	26	16	36	49	200	226	484	41	69	67
18	49	29	26	17	35	48	206	235	604	37	69	66
19	42	29	26	19	35	48	190	289	629	36	69	66
20	41	29	26	23	35	48	132	284	608	36	69	67
21	38	29	26	23	35	48	130	250	560	36	67	67
22	38	29	26	23	34	47	172	349	526	36	67	67
23	38	29	26	23	34	48	208	407	470	37	67	67
24	36	29	26	23	34	48	221	346	404	37	67	67
25	35	29	26	23	34	48	198	301	363	37	67	67
26	34	29	26	23	34	50	180	261	*336	37	67	67
27	34	29	26	23	*34	51	186	263	303	36	67	66
28	34	29	27	23	34	52	261	241	296	37	66	66
29	34	29	23	23	-----	56	268	310	277	36	65	66
30	34	29	13	23	-----	57	188	481	250	37	66	66
31	31	-----	14	23	-----	63	-----	629	-----	37	66	-----
TOTAL	1,595	876	785	548	888	1,445	4,679	12,311	15,768	2,452	1,880	1,987
MEAN	51.5	29.2	25.3	17.7	31.7	46.6	156	397	526	79.1	60.6	66.2
MAX	71	30	29	23	41	63	268	746	778	221	71	67
MIN	31	28	13	13	23	33	57	160	250	36	37	65
AC-FT	3,160	1,740	1,560	1,090	1,760	2,870	9,280	24,420	31,280	4,860	3,730	3,940

CALENDAR YEAR 1961: MAX 395 MIN 13 MEAN 62.5 AC-FT 45,230
WATER YEAR 1961-62: MAX 778 MIN 13 MEAN 124 AC-FT 89,690

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

699

11-2970. Philadelphia Canal near Strawberry, Calif.

Location---Lat 38°10'40", long 120°02'45", in NW 1/4 sec. 30, T.4 N., R.18 E., on right bank 250 ft downstream from diversion dam on South Fork Stanislaus River and 2.8 miles southwest of Strawberry.

Records available---October 1939 to September 1962.

Gage---Water-stage recorder and concrete control. Altitude of gage is 4,920 ft (from topographic map).

Average discharge---23 years, 42.1 cfs (30,480 acre-ft per year).

Extremes---1939-62: Maximum daily discharge, 64 cfs Dec. 11, 1941, May 16, 21, 1961, May 2, 1962; no flow at times in each year except 1943, 1946-47, 1955-57, 1961.

Remarks---Records excellent except those for periods of no gage-height record, which are good. Canal diverts from right bank of South Fork Stanislaus River for power development in Spring Gap powerplant of Pacific Gas & Electric Co.; tailrace empties into Middle Fork Stanislaus River above station at Sand Bar Flat.

Cooperation---Water-stage-recorder graph and nine discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	15	21	10	18	30	61	60	0	60	30	60
2	59	16	25	10	18	31	A60	64	0	60	* 30	60
3	60	16	25	10	18	31	A60	59	0	60	30	60
4	*60	16	25	10	18	30	A60	59	35	59	30	61
5	60	16	25	10	18	30	A60	59	62	60	30	61
6	60	16	23	10	18	31	A60	58	60	59	30	* 60
7	60	16	20	10	18	30	A60	60	A61	58	30	60
8	59	16	20	10	18	36	A60	61	A61	56	39	60
9	59	16	19	10	29	44	A60	61	A60	58	59	60
10	59	16	19	10	35	45	* A60	60	A60	59	60	60
11	59	16	19	*10	31	45	60	56	A60	57	60	60
12	59	16	19	10	33	47	61	59	A60	58	60	60
13	59	16	19	10	33	45	61	59	A60	59	60	60
14	59	16	*19	A10	34	45	61	57	A60	56	60	54
15	59	16	19	A10	34	45	61	56	* A59	49	60	50
16	59	16	19	A10	33	45	59	59	60	41	60	50
17	59	*16	19	A12	33	45	59	61	63	36	60	50
18	38	16	19	A13	33	45	59	59	63	32	60	50
19	16	16	19	A15	33	45	59	58	62	30	60	50
20	16	16	19	A19	33	45	56	56	60	31	60	50
21	16	16	20	A18	A33	45	56	9.2	60	32	60	50
22	16	16	21	A18	A32	45	58	0	59	30	60	50
23	16	16	20	A18	A30	45	59	0	59	30	60	50
24	16	16	18	A18	A31	45	59	0	58	30	60	50
25	16	16	19	18	A31	46	59	0	59	30	60	50
26	16	16	19	18	A30	46	59	0	58	30	60	50
27	16	16	19	18	A30	46	59	0	58	30	60	50
28	16	16	19	18	* A30	47	60	0	60	30	60	50
29	16	16	15	18	-----	*49	59	0	63	30	60	50
30	16	16	10	18	-----	54	57	0	61	30	60	50
31	16	-----	10	18	-----	60	-----	0	-----	30	60	-----
TOTAL	1,224	479	602	417	785	1,318	1,782	1,190.2	1,601	1,370	1,628	1,636
MEAN	39.5	16.0	19.4	13.5	28.0	42.5	59.4	38.4	52.4	44.2	52.5	54.5
MAX	60	16	25	19	35	60	61	64	63	60	60	61
MIN	16	15	10	10	18	30	56	0	0	30	30	50
AC-FT	2,430	950	1,190	827	1,560	2,610	3,530	2,360	3,180	2,720	3,230	3,240

CALENDAR YEAR 1961: MAX 64 MIN 10 MEAN 31.3 AC-FT 22,670
WATER YEAR 1961-62: MAX 64 MIN 0 MEAN 38.4 AC-FT 27,830

* Discharge measurement made on this day.
A No gage-height record.

SAN JOAQUIN RIVER BASIN

11-2975. Tuolumne Canal near Long Barn, Calif.

Location.--Lat 38°05'35", long 120°10'03", in SW $\frac{1}{4}$ sec.24, T.3 N., R.16 E., on left bank 300 ft downstream from intake, 350 ft downstream from Lyons Reservoir on South Fork Stanislaus River, 2 miles west of Long Barn, and 15 miles northeast of Sonora.

Records available.--October 1937 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,110.0 ft above mean sea level (river-profile survey). Prior to June 1938, at site 200 ft downstream at different datum.

Average discharge.--25 years, 24.3 cfs (17,590 acre-ft per year).

Extremes.--1937-62: Maximum daily discharge, 55 cfs May 30, 1954; no flow at times in some years.

Remarks.--Records excellent. Canal diverts from left bank of South Fork Stanislaus River into Tuolumne River basin for power and domestic supply in vicinity of Sonora.

Cooperation.--Water-stage-recorder graph and 13 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	14	11	11	10	30	37	32	39	41	38	35
2	17	14	11	10	10	31	37	24	39	42	38	35
3	17	14	11	11	11	30	37	28	39	43	38	35
4	17	14	11	11	11	30	37	*28	38	42	38	35
5	*17	14	11	11	11	30	37	38	39	43	38	*34
6	17	16	11	11	11	32	37	37	39	43	38	35
7	18	17	11	10	11	31	37	37	40	42	38	35
8	19	17	10	11	11	32	37	37	40	42	38	35
9	20	17	10	11	10	33	28	37	39	35	38	35
10	19	18	10	10	10	33	29	37	39	26	38	35
11	21	18	11	10	10	33	29	*36	39	25	36	35
12	23	17	11	*11	15	33	29	37	39	26	35	35
13	24	17	11	12	21	33	29	37	39	26	35	35
14	23	17	11	12	21	34	37	37	40	26	35	35
15	23	17	*11	12	21	34	38	37	40	26	35	35
16	23	17	11	11	21	34	30	48	40	26	35	35
17	23	16	11	11	21	34	26	54	41	26	35	35
18	23	15	11	12	20	34	26	54	44	26	35	35
19	23	15	11	13	24	35	29	54	38	30	35	35
20	23	15	11	18	26	36	36	54	35	32	35	33
21	23	15	11	20	29	36	36	54	35	32	35	33
22	23	14	11	20	30	36	37	54	38	32	35	33
23	21	12	11	16	30	36	37	44	41	32	35	33
24	18	*11	11	15	30	36	26	38	40	32	35	33
25	18	10	11	15	30	36	26	39	40	34	35	33
26	16	10	11	12	30	36	27	39	39	35	35	33
27	13	10	11	11	*29	36	29	39	40	35	35	30
28	13	10	10	11	30	36	37	39	41	35	35	29
29	13	11	11	11	-----	36	38	39	42	35	35	29
30	13	11	11	11	-----	*37	28	42	42	35	35	28
31	13	-----	11	11	-----	37	-----	42	-----	*38	35	-----
TOTAL	591	433	337	382	544	1,050	983	1,252	1,184	1,043	1,116	1,011
MEAN	19.1	14.4	10.9	12.3	19.4	33.9	32.8	40.4	39.5	33.6	36.0	33.7
MAX	24	18	11	20	30	37	38	54	44	43	38	35
MIN	13	10	10	10	10	30	26	24	35	25	35	28
AC-FT	1,170	859	668	758	1,080	2,080	1,950	2,480	2,350	2,070	2,210	2,010

CALENDAR YEAR 1961: MAX 53 MIN 8.9 MEAN 21.1 AC-FT 15,250
 WATER YEAR 1961-62: MAX 54 MIN 10 MEAN 27.2 AC-FT 19,690

* Discharge measurement made on this day.

11-2980. South Fork Stanislaus River near Long Barn, Calif.

Location.--Lat 38°05'33", long 120°10'02", in SW $\frac{1}{4}$ sec.24, T.3 N., R.16 E., on left bank 600 ft downstream from Lyons Dam, 2 miles west of Long Barn, and 15 miles northeast of Sonora.

Drainage area.--66.9 sq mi (revised).

Records available.--October 1937 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder and masonry control. Datum of gage is 4,073.4 ft above mean sea level (river-profile survey).

Average discharge.--25 years, 86.4 cfs (62,550 acre-ft per year).

Extremes.--Maximum discharge during year, 845 cfs June 3 (gage height, 4.93 ft); minimum daily, 1.3 cfs Aug. 12-14, 18.

1937-62: Maximum discharge, 4,900 cfs Nov. 21, 1950 (gage height, 9.3 ft), from rating curve extended above 1,100 cfs on basis of computation of peak flow over Lyons Dam; no flow at times in 1937-39, 1952.

Remarks.--Records good. Flow regulated by Lyons Reservoir (capacity, 5,400 acre-ft) and Pinecrest Lake (capacity, 18,300 acre-ft). Tuolumne Canal (see preceding page) diverts at Lyons Dam; Philadelphia Canal (see p. 699) diverts 12 miles above station into Middle Fork Stanislaus River.

Cooperation.--Water-stage-recorder graph and 12 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.8	1.3	1.2	15	2.5	150
.9	3.8	1.5	34	3.0	240
1.0	6.9	1.7	51	4.0	480
1.1	10	2.0	83	5.0	880

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.3	2.3	2.6	2.3	2.1	2.1	80	146	596	120	1.8	1.6
2	2.1	2.3	2.6	2.3	2.1	2.3	80	* 299	732	91	1.6	1.8
3	2.1	2.3	2.3	2.1	2.1	2.6	68	465	785	88	1.6	1.8
4	2.3	2.3	2.3	2.1	2.1	2.6	74	* 483	556	65	1.6	1.8
5	*2.1	2.3	2.3	2.3	2.1	2.8	89	668	486	63	1.6	*1.8
6	2.1	2.3	2.6	2.3	2.1	28	85	708	510	47	1.6	1.6
7	2.3	2.3	2.6	2.3	2.3	26	95	620	580	28	1.6	1.8
8	2.3	2.3	2.6	2.1	2.6	20	103	641	600	13	1.6	1.8
9	2.1	2.3	2.6	2.1	3.3	22	124	580	636	4.5	1.6	1.8
10	2.3	2.3	2.6	2.3	3.3	15	117	567	652	2.3	1.6	1.8
11	2.3	2.3	2.6	2.3	2.8	15	105	* 310	632	2.3	1.6	1.8
12	2.3	2.3	2.6	*2.1	2.3	8.3	109	234	573	2.3	1.3	1.8
13	2.1	2.3	2.3	2.3	2.3	7.6	128	211	552	2.3	1.3	1.8
14	2.1	2.3	2.3	2.3	2.1	7.2	128	155	465	2.6	1.3	1.8
15	2.1	2.3	*2.3	2.3	3.1	7.6	150	64	338	2.6	1.6	1.8
16	2.3	2.3	2.1	2.3	22	7.6	153	84	141	2.6	1.8	1.8
17	2.3	2.3	2.3	2.3	87	6.0	137	91	153	2.6	1.6	1.8
18	2.3	2.3	2.3	2.3	67	5.7	132	122	465	2.6	1.3	1.6
19	2.3	2.3	2.3	2.3	47	8.3	146	144	549	2.8	1.8	1.6
20	2.3	2.3	2.3	2.3	34	14	81	183	538	2.8	2.1	1.6
21	2.3	2.3	2.3	2.3	21	15	55	168	489	2.8	2.1	1.6
22	2.3	2.3	2.1	2.3	14	28	67	246	445	2.8	1.8	1.6
23	2.3	2.3	2.1	2.3	11	26	102	378	393	2.8	1.8	1.6
24	2.3	*2.3	2.1	2.3	12	24	132	321	326	2.8	1.8	1.6
25	2.3	2.3	2.1	2.3	7.6	31	128	271	281	2.8	1.8	1.6
26	2.3	2.3	2.1	2.1	5.1	40	98	228	243	2.8	1.8	1.6
27	2.3	2.3	2.3	2.1	*2.6	54	103	214	212	2.8	1.6	1.6
28	2.3	2.3	2.3	1.8	2.3	67	133	218	188	2.8	1.6	1.6
29	2.3	2.3	2.3	2.1	-----	79	197	222	173	2.6	1.8	1.6
30	2.3	2.6	2.3	2.3	-----	*79	155	383	141	2.6	1.6	1.6
31	2.3	-----	2.3	2.1	-----	74	-----	406	-----	* 2.3	1.6	-----
TOTAL	69.7	69.3	72.8	69.0	369.3	727.7	3,354	9,830	13,430	577.2	51.2	51.0
MEAN	2.25	2.31	2.35	2.23	13.2	23.5	112	317	448	18.6	1.65	1.70
MAX	2.3	2.6	2.6	2.3	87	79	197	708	785	120	2.1	1.8
MIN	2.1	2.3	2.1	1.8	2.1	2.1	55	64	141	2.3	1.3	1.6
AC-FT	138	137	144	137	732	1,440	6,650	19,500	26,640	1,140	102	101

CALENDAR YEAR 1961: MAX 296 MIN 1.8 MEAN 11.2 AC-FT 8,080
 WATER YEAR 1961-62: MAX 785 MIN 1.3 MEAN 78.6 AC-FT 56,860

* Discharge measurement made on this day.

11-2990. Melones Reservoir at Melones Dam, Calif.

Location.--Lat 37°57'15", long 120°30'45", near center of sec.11, T.1 N., R.13 E., at gate tower near left bank at Melones Dam on Stanislaus River, 0.1 mile downstream from Bear Creek, and 7.5 miles southeast of Sonora.

Drainage area.--904 sq mi (revised).

Records available.--1926 (year-end content only, published in WSP 1315-A), June 1927 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas & Electric Co.). Prior to Feb. 28, 1961, staff gage at same site and datum.

Extremes.--Maximum contents during year, 114,500 acre-ft June 19, 20 (elevation, 736.0 ft); minimum observed, 10,000 acre-ft Jan. 1 (elevation, 638.3 ft).

1927-62: Maximum contents observed, 115,800 acre-ft May 27, 1951 (elevation, 736.7 ft); minimum observed, 3,220 acre-ft Dec. 7, 1957 (elevation, 613.5 ft).

Remarks.--Reservoir is formed by concrete overflow dam; storage began Aug. 21, 1926; dam completed in December 1926. Capacity for power development 1 mile below dam is 106,100 acre-ft between elevations 628.0 (minimum operating level) and 735.0 ft (top of drum-type spillway gates) above mean sea level; usable capacity for irrigation, 110,000 acre-ft between elevations 610.0 (floor of outlet tunnel) and 735.0 ft above mean sea level. Figures given herein represent total contents, of which 2,630 acre-ft is not available for release. Released water flows down Stanislaus River to Tulloch Reservoir (see p. 704).

Cooperation.--Record of elevation furnished by Oakdale Irrigation District. Capacity table furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)

635	8,750	670	28,900	710	72,200
640	10,700	680	37,600	720	86,900
645	12,900	690	47,600	730	103,500
650	15,400	700	59,100	736	114,500
660	21,500				

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11.4	11.8	22.0	10.0	11.6	69.0	74.6	94.1	113.9	113.5	76.8	14.5
2	11.0	11.6	22.0	10.1	11.4	69.3	74.6	94.0	113.9	113.4	74.8	12.6
3	10.7	11.4	22.5	10.9	11.4	70.5	74.8	94.3	113.9	113.2	72.8	11.1
4	10.5	11.6	22.5	11.0	11.3	71.6	74.9	94.8	114.1	112.6	70.7	10.8
5	10.6	12.2	22.0	10.6	11.3	72.5	75.5	95.3	113.7	112.2	68.6	10.8
6	10.8	12.6	21.4	10.6	11.2	73.3	76.7	95.5	113.4	112.2	66.6	10.9
7	11.0	12.7	20.6	11.2	11.2	77.3	78.0	95.7	113.7	112.2	64.4	10.8
8	11.2	12.6	19.9	11.4	11.9	78.6	79.8	95.3	113.7	112.1	62.3	10.8
9	11.4	12.7	19.1	11.5	13.9	78.4	81.4	95.5	113.2	111.3	60.5	10.8
10	11.5	13.0	18.3	11.7	22.6	77.8	83.6	95.3	113.5	110.2	58.2	10.8
11	11.3	13.4	17.5	12.0	32.8	76.8	86.0	95.3	114.1	109.1	56.0	10.9
12	11.1	13.8	16.7	12.2	39.4	75.9	88.2	95.7	114.1	107.5	54.2	11.0
13	11.2	14.2	16.5	12.0	42.5	74.8	90.9	95.7	113.9	105.8	51.9	11.1
14	11.1	14.5	15.0	11.6	46.4	73.3	93.5	95.2	113.4	104.4	49.7	11.2
15	11.1	14.9	14.1	11.2	51.1	72.1	94.8	94.3	113.0	103.0	47.8	11.3
16	11.4	15.2	13.8	11.0	60.7	71.1	94.8	93.8	113.2	101.8	45.6	11.3
17	11.6	15.7	13.6	10.8	66.7	70.4	94.6	93.5	113.7	100.6	43.4	11.4
18	11.8	16.2	13.5	10.8	70.4	71.2	94.5	93.5	114.1	99.0	41.3	11.4
19	11.9	16.6	13.1	10.9	72.8	71.8	94.5	93.5	114.5	97.7	39.3	11.4
20	11.6	17.1	12.5	11.8	73.6	72.1	94.5	93.8	114.5	96.2	37.4	11.5
21	11.4	17.7	11.8	13.3	73.3	72.2	93.6	95.2	114.3	94.3	35.4	11.4
22	11.6	18.3	11.1	14.4	72.9	72.2	93.6	95.3	114.1	93.0	33.5	11.3
23	11.9	18.9	10.9	14.6	72.2	72.6	93.8	96.5	114.1	91.7	31.6	11.2
24	12.1	19.4	10.9	14.1	71.5	73.3	94.3	97.3	113.9	90.2	29.6	11.0
25	11.9	19.9	10.8	13.5	70.7	73.5	94.6	98.0	114.3	88.8	27.5	10.9
26	11.7	20.6	10.8	13.2	69.8	73.8	94.5	99.6	114.3	87.9	25.6	10.8
27	11.5	21.2	10.8	13.0	69.3	74.1	93.8	101.6	114.1	86.3	23.8	11.0
28	11.4	21.8	10.7	12.8	69.0	74.4	94.1	103.6	113.9	84.7	21.9	11.0
29	11.6	22.3	10.6	12.4	-	74.5	95.0	105.6	113.7	82.7	20.1	11.2
30	11.9	22.4	10.5	12.1	-----	74.6	94.3	107.8	113.5	80.8	18.2	11.3
31	12.1	-----	10.2	11.8	-----	74.6	-----	111.1	-----	78.7	16.4	-----
(+)	643.2	661.3	638.9	642.7	707.7	711.7	724.6	734.2	735.5	714.5	651.7	641.5
(+)	+700	+10,300	-12,200	+1,600	+57,200	+5,600	+19,700	+16,800	+2,400	-34,800	-62,300	-5,100

Calendar year 1961..... + - 9,800
 Water year 1961-62..... + - 100

+ Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

11-2995. Stanislaus River below Melones powerhouse, Calif.

Location---Lat 37°56'50", long 120°31'45", near line between secs.10 and 15, T.1 N., R.13 E., on right bank 300 ft downstream from powerhouse, 0.5 mile upstream from Bean Gulch, 1 mile downstream from Melones Dam, and 8.4 miles southwest of Sonora.

Drainage area---905 sq mi (revised).

Records available---January 1931 to September 1962.

Gage---Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Average discharge---31 years, 1,468 cfs (1,063,000 acre-ft per year) unadjusted.

Extremes---Maximum discharge during year, about 5,500 cfs June 1 (gage height, 12.72 ft), during period of backwater from Tulloch Reservoir; minimum daily discharge, 1.4 cfs Oct. 8, 17.

1931-62: Maximum discharge, 62,800 cfs Dec. 23, 1955 (gage height, 29.0 ft, from floodmarks), from rating curve extended above 14,000 cfs on basis of computed flow over Melones Dam; minimum daily, 0.4 cfs Jan. 19, 20, 1943.

Remarks---Records good. Flow regulated by Melones Reservoir (see preceding page), Pinecrest Lake, Beardsley Lake, Lyons, Relief, and Donnell's Reservoirs (combined capacity, 312,300 acre-ft). Several diversions above station. Backwater from Tulloch Reservoir affects record at times since storage began on Nov. 25, 1957.

Cooperation---Water-stage-recorder graph and 14 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating tables, except for periods of backwater from Tulloch Reservoir (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-3

Oct. 4 to Sept. 30

3.8	220	2.1	0.7	2.8	32	4.5	460
4.0	285	2.2	2.5	3.0	54	5.0	690
		2.3	5.0	3.3	102	6.0	1,260
		2.4	8.5	3.6	165	7.0	2,020
		2.6	18	4.0	275		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	275	234	537	283	* 528	670	1,600	2,570	* 4,370	1,760	1,460	1,300
2	* 271	262	550	5.0	492	555	1,600	2,780	4,910	1,710	1,460	1,080
3	245	265	550	277	456	550	1,600	3,300	5,120	1,650	1,460	618
4	85	3.3	660	505	460	550	1,600	3,650	5,010	1,500	1,480	428
5	1.8	3.8	735	280	460	795	1,600	4,180	4,240	1,610	1,530	478
6	1.6	145	725	6.1	460	1,060	1,600	4,540	3,370	1,610	1,560	505
7	1.6	245	725	6.1	198	1,360	1,610	4,150	3,450	1,560	1,560	500
8	1.4	61	725	216	4.5	1,530	1,620	4,160	3,490	1,560	1,360	496
9	68	3.3	725	345	6.5	1,610	1,620	* 4,130	3,600	1,560	1,530	460
10	183	3.3	720	349	7.5	1,600	1,630	4,040	4,190	1,550	1,530	424
11	183	3.3	715	349	10	1,580	1,640	3,570	4,780	1,560	1,520	424
12	183	3.3	* 715	523	6	1,590	1,640	3,270	3,880	1,640	1,520	424
13	84	3.3	710	618	6	* 1,580	1,720	3,290	3,790	1,640	1,510	452
14	2.0	3.3	705	582	7.5	1,580	2,730	3,100	3,520	1,590	1,500	440
15	1.8	3.3	555	* 523	19	1,360	3,520	2,550	2,660	1,560	1,500	452
16	3.3	3.3	452	478	10	1,170	3,560	2,120	2,040	1,570	1,490	452
17	1.4	3.3	448	478	7.5	550	3,310	2,030	2,100	1,540	1,480	452
18	138	3.3	600	396	6.5	550	3,250	1,940	* 2,890	1,560	1,470	452
19	239	3.3	695	134	676	678	3,300	2,100	3,830	1,580	1,460	456
20	143	4.5	695	7.1	1,290	834	* 2,920	2,510	3,590	1,540	1,450	492
21	2.8	3.8	690	6.8	1,300	912	2,390	2,440	3,540	1,420	1,440	523
22	2.5	3.8	519	311	1,300	912	2,490	2,240	3,370	1,390	1,440	523
23	132	3.8	436	532	1,300	800	* 2,910	2,380	2,970	1,390	1,430	523
24	223	3.5	436	528	1,300	918	3,310	2,560	2,530	1,350	1,410	528
25	223	4.0	432	532	1,300	924	3,430	2,270	2,430	1,010	1,410	460
26	223	3.8	432	532	1,040	984	3,130	1,670	2,440	1,160	1,390	* 400
27	129	* 3.5	432	532	829	1,040	* 2,970	1,640	2,000	1,390	1,380	404
28	4.5	3.5	432	528	823	1,230	3,290	1,690	1,870	1,450	1,360	404
29	4.8	251	432	528	-	1,370	3,090	1,710	1,800	1,470	1,360	400
30	135	537	432	528	-----	1,510	2,650	1,700	1,750	* 1,470	* 1,340	400
31	234	-----	432	528	-----	1,600	-----	2,120	-----	1,470	1,320	-----
Total	3,425.5	2,077.6	18,047	11,446.1	14,303.0	33,952	73,330	86,400	99,530	46,820	45,110	15,350
Mean	111	69.3	582	369	511	1,095	2,444	2,787	3,318	1,510	1,455	512
Max	275	537	735	618	1,300	1,610	3,560	4,540	5,120	1,760	1,560	1,300
Min	1.4	3.3	432	5.0	4.5	550	1,600	1,640	1,750	1,010	1,320	400
Ac-ft	6,790	4,120	35,800	22,700	28,370	67,340	145,400	171,400	197,400	92,870	89,470	30,450

Calendar year 1961: Max 1,650 Min 1.2 Mean 542 Ac-ft 392,100
 Water year 1961-62: Max 5,120 Min 1.4 Mean 1,232 Ac-ft 892,100

* Discharge measurement made on this day.

Note---Backwater from Tulloch Reservoir Feb. 9-18, Apr. 14 to July 15.

SAN JOAQUIN RIVER BASIN

11-2999.95 Tulloch Reservoir near Knights Ferry, Calif.

Location.--Lat 37°52'30", long 120°36'15", in SW $\frac{1}{4}$ sec.1, T.1 S., R.12 E., in center of dam 1.6 miles upstream from Goodwin Dam, and 5.3 miles northeast of Knights Ferry.

Drainage area.--97 $\frac{1}{2}$ sq mi.

Records available.--November 1957 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oakdale and South San Joaquin Irrigation Districts).

Extremes.--Maximum contents during year, 68,300 acre-ft June 26 (elevation, 511.1 ft); minimum, 12,400 acre-ft Oct. 1 (elevation, 434.1 ft).

1957-62: Maximum contents, that of June 26, 1962; minimum, 4,580 acre-ft Oct. 3, 1960 (elevation, 404.0 ft).

Remarks.--Reservoir is formed by gravity-type concrete dam completed in October 1957. Capacity, 56,840 acre-ft between elevations 431.0 ft (normal minimum water surface) and 511.0 ft (top of radial gates) above mean sea level. Reservoir is used for conservation and power. Water passes down Stanislaus River, some first passing through powerplant at dam. Part of flow is diverted at Goodwin dam to Oakdale Canal (see p. 706) and South San Joaquin Canal (see p. 705). Records including extremes, show total contents at 2400.

Capacity table (elevation, in feet, and contents, in acre-ft)

430	11,100	490	45,300
445	16,400	500	55,300
460	23,600	510	67,000
475	33,100		

Contents, in acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,400	15,800	15,600	48,300	51,000	45,600	49,500	58,400	67,200	67,500	55,600	53,100
2	12,800	16,000	16,800	48,200	51,900	46,300	49,700	58,700	65,500	67,200	55,500	52,700
3	13,200	16,400	17,900	48,600	52,900	46,500	49,800	60,000	65,000	66,600	55,300	51,200
4	13,300	16,400	19,000	49,500	53,600	46,700	50,000	61,500	65,100	65,700	55,200	49,400
5	13,300	16,200	20,400	50,100	54,400	47,500	50,100	62,800	65,700	65,000	55,200	47,700
6	13,300	16,400	21,800	50,100	55,300	50,000	50,200	63,400	66,100	64,200	55,200	46,400
7	13,300	16,900	23,200	50,300	55,800	50,800	50,000	63,000	67,100	63,400	55,200	45,200
8	13,300	16,900	24,600	49,900	56,100	50,800	49,900	62,800	66,800	62,600	54,900	44,200
9	13,200	16,600	26,000	49,200	57,500	50,900	49,700	62,600	66,700	61,700	54,900	42,900
10	13,400	16,200	27,400	49,400	58,800	50,900	49,600	62,100	67,300	60,900	54,900	41,600
11	13,700	15,700	28,700	49,800	61,500	50,900	49,500	61,700	67,800	60,400	54,800	40,300
12	14,000	15,300	30,200	49,800	61,800	50,800	49,300	62,200	67,600	60,400	54,800	39,100
13	14,200	15,200	31,400	49,600	63,300	50,700	49,500	62,600	67,600	60,700	54,700	37,800
14	14,100	15,000	32,800	49,600	62,700	50,800	51,600	62,800	68,000	60,400	54,600	36,600
15	14,100	14,900	33,700	49,600	62,800	50,300	55,400	63,400	67,700	60,100	54,400	35,400
16	13,900	14,800	34,500	49,700	60,600	49,500	58,700	64,200	66,700	59,800	54,300	34,100
17	13,900	14,600	35,100	49,900	57,600	48,600	60,000	65,000	67,100	59,600	54,200	32,900
18	14,100	14,600	36,400	50,200	54,300	47,500	60,800	65,600	67,800	59,500	54,000	31,600
19	14,600	14,500	37,800	51,000	52,700	47,000	61,400	66,500	68,200	59,500	53,900	30,400
20	14,900	14,300	38,900	51,900	52,100	47,100	60,800	67,600	67,800	59,500	53,700	29,200
21	14,900	14,300	40,200	53,100	51,800	47,400	59,200	67,800	68,000	59,200	53,800	28,100
22	14,500	14,000	41,100	53,600	50,900	47,900	57,900	67,100	68,100	58,800	53,800	26,900
23	14,500	13,900	42,000	53,700	50,300	48,000	57,700	67,200	68,000	58,500	53,800	25,900
24	14,900	13,700	42,600	53,700	49,700	48,300	58,200	67,600	67,800	58,200	53,700	24,700
25	15,200	13,700	43,300	53,700	49,100	48,600	58,800	67,600	68,100	57,000	53,600	23,500
26	15,600	13,600	44,100	53,800	48,100	48,700	58,800	67,200	68,300	56,400	53,600	22,100
27	15,600	13,500	44,600	53,800	46,500	48,700	58,600	67,000	68,200	56,100	53,400	20,800
28	15,400	13,400	45,500	53,400	45,400	48,900	59,000	66,600	68,000	56,000	53,300	19,500
29	15,400	13,800	46,100	52,300	-	49,100	58,800	66,300	67,800	56,000	53,200	18,200
30	15,200	14,700	46,900	51,200	-----	49,300	58,600	66,100	67,700	55,800	53,000	16,900
31	15,600	-----	47,800	50,200	-----	49,400	-----	66,500	-----	55,700	53,100	-----
(†)	443.0	440.6	492.6	495.1	490.1	494.3	503.0	509.6	510.6	500.4	497.9	446.2
(‡)	+3,500	-900	+33,100	+2,400	-4,800	+5,000	+9,200	+7,900	+1,200	-12,000	-2,600	-36,200

Calendar year 1961..... ‡ -6,200

Water year 1961-62..... ‡ +5,800

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-3005. South San Joaquin Canal near Knights Ferry, Calif.

Location.--Lat 37°51'10", long 120°38'15", in sec.15, T.1 S., R.12 E., on left bank 0.8 mile downstream from headgate at Goodwin Dam and 3 miles upstream from Knights Ferry.

Records available.--May 1914 to September 1962. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder and concrete control. Datum of gage is 334.18 ft above mean sea level (levels by Oakdale Irrigation District). Prior to Mar. 12, 1915, staff gage 100 ft downstream. Mar. 12, 1915, to July 1, 1921, staff gage at present site and datum.

Average discharge.--48 years, 400 cfs (289,600 acre-ft per year).

Extremes.--1914-62: Maximum discharge, 1,330 cfs May 2, 1962; no flow at times each year except 1951.

Remarks.--Records excellent. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation Districts.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	50	32	1.5	*1.9	0.5	514	1,290	1,200	1,260	1,060	997
2	**1.4	*54	*32	1.7	1.9	.7	.731	*1,280	1,160	*1,260	1,060	992
3	.7	53	31	1.9	1.2	.4	*965	1,190	1,040	1,260	1,080	992
4	.3	50	29	2.3	1.4	.4	962	1,200	885	1,270	1,100	*988
5	2	45	32	2.3	2.3	.6	975	1,200	811	1,260	1,090	983
6	.1	46	31	1.4	.8	.8	1,010	1,210	1,030	1,220	1,090	842
7	.1	39	31	1.4	.6	.7	1,050	1,210	1,150	1,240	1,090	752
8	0	75	31	1.5	.5	.7	1,050	1,210	1,200	1,240	1,090	748
9	0	143	34	1.0	.7	.7	1,050	1,210	1,200	1,240	1,090	747
10	0	170	34	325	.8	.7	1,050	1,210	1,210	1,240	1,080	747
11	0	201	34	532	.8	.7	1,060	1,210	1,220	1,240	1,080	748
12	0	220	34	520	.7	.7	1,070	1,210	1,210	1,150	1,090	748
13	0	102	32	520	.9	.7	1,070	1,210	1,220	887	1,090	752
14	0	31	35	517	2.4	.7	1,080	1,210	1,220	1,080	1,090	752
15	0	20	41	511	2.8	.7	1,100	1,200	1,230	1,090	1,090	752
16	0	18	46	511	1.4	.7	1,120	1,210	1,230	1,080	1,090	754
17	0	23	40	517	1.0	1.5	1,140	1,210	1,230	1,040	1,090	751
18	0	25	35	518	1.0	2.6	1,150	1,210	1,240	1,040	1,090	751
19	0	21	28	517	.8	2.6	1,150	1,210	1,250	1,040	1,090	755
20	0	32	26	518	.7	2.6	1,150	1,210	1,260	1,040	1,090	751
21	0	31	30	517	.7	2.6	1,160	1,210	1,260	1,040	1,040	744
22	0	24	35	520	.7	2.6	1,170	1,210	1,260	1,040	1,040	747
23	0	32	39	521	.7	2.6	1,180	1,210	1,260	1,040	1,050	747
24	0	32	35	521	.7	2.6	1,190	1,210	1,250	1,050	1,050	741
25	0	35	39	521	.7	1.0	1,190	1,210	1,260	1,050	1,050	745
26	27	36	38	521	.7	1.4	1,190	1,220	1,260	1,050	1,050	743
27	45	35	35	521	.7	45	1,190	1,220	1,260	1,050	1,050	747
28	57	33	39	277	.7	218	1,200	1,220	1,260	1,050	1,050	747
29	57	32	40	1.5	-	374	1,200	1,220	1,260	1,050	1,050	750
30	56	29	20	1.9	-----	509	1,240	1,220	1,260	1,060	1,060	750
31	58	-----	2.4	1.7	-----	510	-----	1,210	-----	1,060	1,010	-----
Total	3,383.3	1,738	1,021.4	9,445.1	30.2	1,688.5	32,357	37,660	35,785	34,717	33,220	23,763
Mean	10.9	57.9	32.9	305	1.08	54.5	1,079	1,215	1,193	1,120	1,072	792
Max	58	220	46	532	2.8	510	1,240	1,290	1,260	1,270	1,100	997
Min	0	18	2.4	1.0	0.5	0.4	514	1,190	811	887	1,010	741
Ac-ft	671	3,450	2,030	18,730	60	3,350	64,180	74,700	70,980	68,860	65,890	47,130

Calendar year 1961: Max 950 Min 0 Mean 385 Ac-ft 278,600
 Water year 1961-62: Max 1,290 Min 0 Mean 580 Ac-ft 420,000

* Discharge measurement made on this day.

** Field estimate made on this day.

SAN JOAQUIN RIVER BASIN

11-3010. Oakdale Canal near Knights Ferry, Calif.

Location.--Lat 37°51'30", long 120°38'00", in SE $\frac{1}{4}$ sec.10, T.1 S., R.12 E., on left bank 1,835 ft downstream from headgate at Goodwin Dam and 4 miles upstream from Knights Ferry.

Records available.--May 1914 to September 1962. Records for water years 1933-36 incomplete, monthly and yearly estimates published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map). Prior to Apr. 29, 1916, staff gage at site 1,000 ft upstream at different datum. Apr. 29, 1916, to July 3, 1925, staff gage and July 4, 1925, to Apr. 3, 1949, water-stage recorder, at present site at datum 0.18 ft higher.

Average discharge.--48 years, 143 cfs (103,500 acre-ft per year).

Extremes.--1914-62: Maximum daily discharge, 547 cfs June 22, 1962; no flow at times in each year.

Remarks.--Records good. Canal diverts water from left bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale Irrigation District.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	10	1.2	4.6	*.8	0	383	*534	523	546	481	329
2	*5.2	7.0	1.2	*2.7	.8	.3	442	*545	523	*545	481	334
3	13	5.1	.8	2.1	.8	.1	*443	546	523	545	481	335
4	13	2.2	.8	1.8	3.9	0	455	545	524	546	483	*335
5	13	0	.8	1.6	8.6	.1	461	544	522	544	481	334
6	12	0	.8	1.4	15	.6	463	545	523	539	481	329
7	12	0	.8	1.8	12	.4	466	544	529	542	481	326
8	10	0	.8	4.4	1.0	.1	469	545	535	544	481	326
9	10	0	.8	1.8	1.4	0	493	545	538	544	481	325
10	11	0	.8	1.8	1.6	0	495	544	538	541	480	325
11	12	0	.8	1.8	1.4	0	496	543	536	541	480	325
12	12	0	.8	1.4	.7	0	496	544	535	540	481	323
13	12	0	.8	1.2	.8	0	497	544	536	540	481	324
14	12	4.4	1.0	1.0	.8	0	498	543	536	541	481	324
15	12	8.0	.8	1.0	2.1	0	499	544	535	542	481	325
16	7.3	8.0	1.0	.8	1.0	0	502	528	536	535	481	326
17	5.4	9.4	.8	1.2	.7	0	530	522	535	480	481	324
18	5.1	10	.8	1.2	.7	0	528	522	539	482	482	324
19	4.0	8.6	.7	1.2	.7	0	528	522	542	482	482	326
20	3.8	8.6	.7	1.4	.7	0	527	523	544	483	478	328
21	3.8	4.9	4.5	1.4	.7	0	528	521	546	483	414	331
22	3.8	1.9	7.6	1.2	.6	0	533	522	547	482	415	330
23	4.9	2.7	7.3	1.2	.6	0	539	522	546	480	416	329
24	5.1	2.7	7.0	1.2	.6	0	540	523	546	476	416	329
25	4.9	2.7	7.3	1.2	.6	0	539	522	546	477	416	329
26	4.0	2.1	7.6	1.2	.3	0	531	522	546	477	417	329
27	3.5	1.8	7.3	1.0	.1	30	502	522	546	477	417	331
28	4.6	1.8	5.7	1.0	0	238	488	522	546	478	416	329
29	4.3	1.2	4.9	1.0	-	354	490	522	546	478	414	330
30	4.3	1.2	5.1	.8	-----	379	505	522	546	478	410	332
31	6.7	-----	4.6	.8	-----	382	-----	523	-----	478	326	-----
Total	234.7	104.3	85.9	48.2	59.0	1384.6	14866	16515	16113	15866	14096	9846
Mean	7.57	3.48	2.77	1.55	2.11	44.7	496	533	537	512	455	328
Max	13	10	7.6	4.6	15	382	540	546	547	546	483	335
Min	0	0	0.7	0.8	0	0	383	521	522	476	326	323
Ac-ft	466	207	170	96	117	2,750	29,490	32,760	31,960	31,470	27,960	19,530
Calendar year 1961:	Max 404	Min 0	Mean 156	Ac-ft 113,100								
Water year 1961-62:	Max 547	Min 0	Mean 244	Ac-ft 177,000								

* Discharge measurement made on this day.

11-3020. Stanislaus River below Goodwin Dam, near Knights Ferry, Calif.

Location.--Lat 37°51'00", long 120°38'15", in N $\frac{1}{2}$ sec.15, T.1 S., R.12 E., on right bank 0.1 mile downstream from Owl Creek, 1.0 mile downstream from Goodwin Dam, and 3 miles northeast of Knights Ferry.

Drainage area.--980 sq mi.

Records available.--February 1957 to September 1962. Records equivalent to those published as Stanislaus River at Knights Ferry, 1903-14, and as Stanislaus River near Knights Ferry, 1915-32, if adjusted for diversions in Stanislaus and San Joaquin Water Company's canal, and Oakdale and South San Joaquin canals.

Gage.--Water-stage recorder. Datum of gage is 252.83 ft above mean sea level.

Average discharge.--5 years, 403 cfs (291,800 acre-ft per year).

Extremes.--Maximum discharge during year, 4,970 cfs June 1 (gage height, 13.28 ft); minimum, 1.8 cfs Sept. 7. 1957-62: Maximum discharge, 12,200 cfs Apr. 4, 1958 (gage height, 17.25 ft), from rating curve extended above 6,000 cfs; minimum daily, 0.3 cfs Sept. 13, 14, Oct. 1, 1960.

Flood of Dec. 23, 1955, reached a peak discharge of 62,900 cfs (gage height, unknown), by computation of flow over Goodwin Dam.

Remarks.--Records good. Flow regulated by reservoirs and powerplants at Donnellis, Beardsley Lake, Melones, Tulloch, and several smaller reservoirs above station. South San Joaquin Canal (see p. 705) and Oakdale Canal (see p. 706) divert at Goodwin Dam 1.0 mile upstream.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Jan. 16)

Oct. 1 to Feb. 13

Feb. 14 to Sept. 20

6.6	5.8	6.4	1.9	7.4	98
6.7	9.8	6.5	3.3	7.8	205
6.8	16	6.6	5.8	8.4	425
6.9	25	6.7	9.8	9.0	710
7.0	37	6.8	16	10.0	1,320
		6.9	25	11.0	2,170
		7.1	47	13.0	4,580

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	36	25	24	*24	*578	630	*870	2,420	61	*4.6	2.3
2	*20	*32	*26	*24	24	479	368	864	4,550	*54	4.6	2.3
3	20	24	25	26	24	474	*119	960	4,130	24	4.6	2.1
4	18	21	24	26	23	474	79	1,210	3,860	10	4.9	*2.1
5	19	21	24	26	23	720	84	1,800	2,910	16	4.9	2.1
6	18	21	24	26	24	912	89	2,430	*1,640	6.2	4.6	2.0
7	18	20	25	26	24	1,230	167	2,640	1,100	6.2	4.6	1.9
8	16	24	25	26	23	1,660	164	*2,640	2,070	6.2	4.6	1.9
9	16	33	24	26	24	1,660	134	2,580	2,090	6.2	4.9	1.9
10	18	35	24	26	24	1,660	137	2,510	2,190	5.8	4.6	1.9
11	19	36	24	26	24	1,660	131	2,170	2,880	5.8	4.9	2.0
12	18	36	25	27	21	1,650	129	1,640	2,840	5.8	4.6	2.0
13	18	27	25	27	17	1,590	126	1,530	2,250	4.6	4.6	2.0
14	17	20	25	27	569	1,540	126	1,240	1,660	4.9	4.6	2.0
15	17	22	26	27	1,840	1,650	131	599	1,050	4.9	4.6	2.1
16	16	22	26	27	*1,810	1,560	323	68	700	4.9	4.6	2.1
17	17	23	26	29	1,780	990	1,000	73	221	4.1	4.6	2.1
18	27	24	26	29	1,760	984	1,220	76	657	3.9	4.3	2.1
19	35	23	26	29	1,720	934	1,340	78	1,790	3.9	4.6	2.1
20	31	26	25	27	1,710	745	1,540	202	1,990	3.9	4.6	2.3
21	29	25	25	26	1,700	745	1,470	600	1,600	3.9	3.9	2.1
22	29	24	26	26	1,700	745	1,410	755	1,500	3.9	3.5	2.1
23	36	25	26	26	1,690	745	1,370	755	1,190	3.9	3.3	2.1
24	37	25	27	26	1,680	750	1,330	670	731	3.9	3.1	2.1
25	37	26	27	26	1,670	755	1,380	264	542	4.1	3.1	2.1
26	38	25	26	25	1,660	881	1,390	82	466	4.1	3.1	2.1
27	35	25	26	25	1,650	928	1,400	82	333	4.1	3.1	2.0
28	36	25	27	30	1,360	712	1,420	80	159	4.3	3.0	2.1
29	35	25	27	26	-	542	1,430	80	73	4.3	3.0	2.0
30	35	25	31	24	-----	534	1,080	78	68	4.3	3.0	2.1
31	35	-----	29	24	-----	635	-----	222	-----	4.6	2.7	-----
Total	769	776	797	815	24,598	51,122	21,717	29,848	49,660	287.7	127.7	62.1
Mean	24.8	25.9	25.7	26.3	878	1,004	724	963	1,655	9.28	4.12	2.07
Max	38	36	31	30	1,840	1,660	1,540	2,640	4,550	61	4.9	2.3
Min	9.0	20	24	24	17	474	79	68	68	3.9	2.7	1.9
Ac-ft	1,530	1,540	1,580	1,620	48,790	61,730	43,080	59,200	98,500	571	253	123

Calendar year 1961: Max 163 Min 0.7 Mean 17.5 Ac-ft 12,690
Water year 1961-62: Max 4,550 Min 1.9 Mean 440 Ac-ft 318,500

* Discharge measurement made on this day.

11-3030. Stanislaus River at Ripon, Calif.

Location.--Lat 37°43'50", long 121°06'35", in SE $\frac{1}{4}$ sec.29, T.2 S., R.8 E., on left bank 15 ft downstream from railroad bridge, 1 mile southeast of Ripon and 15 miles upstream from mouth.

Records available.--October 1940 to September 1962 in reports of Geological Survey. April to September 1940 in reports of California Department of Water Resources.

Gage.--Water-stage recorder. Datum of gage is 0.72 ft above mean sea level, datum of 1929, adjustment of 1959. Prior to Nov. 17, 1953, at site 100 ft upstream at same datum.

Average discharge.--22 years, 1,018 cfs (737,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,740 cfs June 4 (gage height, 50.19 ft); minimum, 80 cfs Oct. 3, 4.

1940-62: Maximum discharge, 62,500 cfs Dec. 24, 1955 (gage height, 63.25 ft); minimum, 40 cfs July 21, 1961.

Flood of Feb. 12, 1938, reached a stage of 64.4 ft, from floodmarks. Flood of Apr. 1, 1940, reached a stage of 61.1 ft, from floodmarks.

Remarks.--Records good. Flow regulated by reservoirs and powerplants above station (see Remarks for station below Goodwin Dam near Knights Ferry). South San Joaquin Canal (see p. 705) and Oakdale Canal (see p. 706) divert at Goodwin Dam 34 miles upstream. Diversions for irrigation of about 2,300 acres below Goodwin Dam and above Ripon.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 23 to Dec. 1, Aug. 2 to Sept. 30)

Oct. 1 to Apr. 17		Apr. 18 to Sept. 30	
37.1	83	37.4	116
37.9	159	38.0	182
39.0	314	39.0	332
41.0	664	41.0	705
43.0	1,130	44.0	1,470
46.8	2,120	48.0	2,820
		50.1	3,690

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	105	112	107	105	1,520	763	1,320	335	369	126	147
2	85	105	118	107	104	959	799	1,120	1,680	342	128	172
3	84	111	123	103	102	796	645	1,070	3,550	303	135	174
4	84	111	128	107	102	724	425	1,120	3,680	278	145	164
5	84	109	146	105	102	677	347	1,270	3,550	254	152	156
6	85	107	142	105	102	*809	305	1,750	2,940	225	164	148
7	89	*104	127	105	*102	1,260	287	2,300	1,880	212	177	157
8	89	102	120	105	104	1,420	295	2,520	1,460	218	144	178
9	88	97	116	*104	112	1,640	338	2,550	2,120	193	127	172
10	*90	97	114	104	195	1,640	330	2,560	2,160	174	119	144
11	91	97	112	104	454	1,640	290	*2,540	2,290	175	134	*133
12	90	99	111	104	605	1,650	293	2,300	2,720	186	140	*138
13	88	101	*104	105	476	1,650	285	1,890	2,740	187	148	148
14	85	102	102	105	*393	1,630	263	1,750	2,320	194	154	145
15	88	105	102	107	720	1,580	264	1,520	1,880	178	149	143
16	85	107	102	107	*2,110	1,640	275	1,070	1,400	190	146	165
17	84	105	101	105	1,980	1,580	*294	602	1,080	185	160	165
18	84	100	102	105	1,900	1,200	765	495	750	162	162	152
19	85	102	103	105	1,930	1,130	1,170	427	814	139	147	132
20	85	110	107	111	1,980	1,080	1,290	420	1,760	*135	143	133
21	89	111	105	114	1,900	911	1,540	435	1,960	142	131	128
22	90	113	106	113	*1,750	684	1,560	724	1,710	135	127	128
23	95	113	107	120	1,720	877	1,540	905	1,640	140	134	155
24	97	113	107	115	1,720	865	1,500	946	1,420	140	131	157
25	93	103	107	112	1,720	854	1,480	915	*1,040	127	137	155
26	93	107	107	110	1,710	851	1,500	721	834	134	135	156
27	100	107	107	108	1,720	925	*1,510	465	768	127	130	164
28	102	110	107	105	1,690	997	1,520	407	655	134	133	175
29	105	112	107	105	-	863	1,550	367	552	134	155	175
30	112	112	105	105	-----	752	1,580	343	418	123	143	199
31	109	-----	105	105	-----	673	-----	345	-----	119	144	-----
Total	2,879	3,196	3,465	3,341	2,760.3	35,682	25,014	37,169	52,107	5,768	4,400	4,658
Mean	91.3	107	112	108	986	1,151	834	1,200	1,737	186	142	155
Max	112	118	146	120	2,110	1,650	1,580	2,560	3,680	369	177	199
Min	84	97	101	104	102	678	263	343	335	119	119	128
Ac-ft	5,610	6,340	6,870	6,630	54,760	70,770	49,610	73,720	103,400	11,440	8,730	9,240
Calendar year 1961: Max	253	Min	42	Mean	98.7	Ac-ft	71,460					
Water year 1961-62: Max	3,680	Min	84	Mean	562	Ac-ft	407,100					

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

709

11-3035. San Joaquin River near Vernalis, Calif.

Location.--Lat 37°40'34", long 121°15'51", on left bank 30 ft upstream from Durham Ferry highway bridge, 3 miles downstream from Stanislaus River, and 3.4 miles northeast of Vernalis, San Joaquin County.

Drainage area.--14,010 sq mi, approximately.

Records available.--July 1922 to September 1962 (1922-23 and 1925-29, low-water records only).

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is mean sea level. Prior to Oct. 1, 1959, at datum 5.06 ft above mean sea level and 8.4 ft above datum of Corps of Engineers. July 1922 to September 1946 at various sites on or within 100 ft of Durham Ferry bridge. Prior to Apr. 1, 1931, at different datum.

Average discharge.--34 years (1924, 1929-62), 4,459 cfs (3,228,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,600 cfs Feb. 21 (elevation, 22.85 ft); minimum, 282 cfs Oct. 5.

1922-62: Maximum discharge recorded, about 79,000 cfs Dec. 9, 1950 (elevation, 32.81 ft, present datum), including flow through breaks in levee; minimum, 19 cfs Aug. 10, 1961.

Remarks.--Records good. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation; low flows consist mainly of return flow from irrigated areas.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	335	504	714	619	808	6,390	3,540	*2,000	1,440	1,600	650	792
2	378	510	734	616	792	5,730	*3,410	1,760	1,550	1,450	642	900
3	324	520	759	616	780	5,160	3,120	1,690	3,570	1,280	634	990
4	304	514	766	612	770	5,040	2,700	1,660	4,490	1,180	642	965
5	300	584	800	608	756	*5,020	2,380	1,700	5,060	1,070	679	890
6	291	636	832	612	748	5,000	2,250	2,010	5,490	984	778	920
7	318	*633	836	619	*752	5,690	2,150	2,540	4,660	953	764	950
8	356	616	832	*626	756	7,220	2,070	2,940	3,540	a 935	760	995
9	382	633	812	633	831	8,620	1,990	3,170	3,650	a 917	756	1,080
10	*386	633	800	692	1,090	9,650	1,930	4,240	4,350	a 904	751	1,110
11	382	647	*792	748	2,000	9,830	1,840	5,090	4,440	a 890	746	*1,080
12	382	608	766	800	3,550	8,780	1,780	5,460	4,920	a 878	733	995
13	386	570	742	820	*4,670	7,890	1,760	5,130	5,300	a 866	746	925
14	386	517	728	828	4,760	7,340	1,730	4,530	5,040	a 854	728	885
15	523	517	717	820	5,780	6,980	1,510	4,050	4,530	a 842	582	920
16	475	507	703	812	7,820	6,780	1,420	3,290	3,910	a 830	562	930
17	434	*507	682	800	10,200	6,620	1,280	2,560	3,400	a 818	598	920
18	393	485	668	776	11,100	6,120	1,220	2,210	3,080	a 806	622	895
19	399	494	664	770	*11,600	5,820	1,570	1,970	2,410	a 794	618	880
20	414	555	668	900	12,000	5,610	1,800	1,850	2,640	*746	658	905
21	418	594	661	1,030	12,500	5,170	2,050	*1,930	3,290	710	642	980
22	459	616	650	1,170	12,200	4,940	2,340	1,910	3,510	726	642	1,040
23	478	626	650	1,260	11,400	4,870	2,280	2,000	3,530	730	614	1,060
24	475	630	647	1,160	10,600	4,740	2,060	2,050	3,530	627	650	1,140
25	466	650	647	972	10,000	4,550	1,990	2,030	*3,170	599	706	1,140
26	450	678	640	896	8,970	4,420	1,960	2,120	2,690	574	778	1,100
27	453	700	633	856	7,690	4,330	2,010	2,200	2,320	557	841	1,060
28	469	700	630	836	6,850	4,230	2,100	2,020	2,000	566	764	1,090
29	494	700	630	812	-	3,970	2,140	1,880	1,780	614	787	1,120
30	498	706	626	800	-----	3,790	2,170	1,690	1,620	630	733	1,140
31	494	-----	626	812	-----	3,610	-----	1,570	-----	606	705	-----
Total	12,702	17,791	22,055	24,931	161,773	183,910	62,550	81,250	104,910	26,536	21,512	29,797
Mean	410	593	711	804	5,778	5,933	2,085	2,621	3,384	856	694	993
Max	523	706	836	1,260	12,500	9,830	3,540	5,460	5,490	1,600	841	1,140
Min	291	504	626	608	748	3,610	1,220	1,570	1,440	606	562	792
Ac-ft	25,190	35,290	43,750	49,450	320,900	364,800	124,100	161,200	208,100	52,630	42,670	59,100

Calendar year 1961: Max 1,590 Min 30 Mean 495 Ac-ft 358,200
 Water year 1961-62: Max 12,500 Min 291 Mean 2,054 Ac-ft 1,487,000

* Discharge measurement made on this day.

a No gage-height record.

SAN JOAQUIN RIVER BASIN

11-3035. San Joaquin River near Vernalis, Calif.--Continued.

Records available.--Water temperatures: October 1961 to September 1962.

Extremes.--Maximum temperature during year, 76°F July 21-27; minimum, 42°F Jan. 23-25.

Temperature (°F) of water, water year October 1961 to September 1962																								
Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	-	-	57	55	54	54	49	48	49	49	49	49	-	-	62	62	68	68	73	73	74	73	72	71
2	-	-	57	57	54	54	48	48	49	49	49	49	60	60	62	62	69	68	73	73	73	72	72	71
3	-	-	57	56	54	54	48	48	49	48	50	49	61	60	63	62	69	69	73	73	73	72	72	71
4	-	-	57	56	54	53	48	48	48	48	51	50	62	61	64	63	69	68	73	73	72	72	72	71
5	-	-	55	55	53	53	48	48	48	48	52	51	62	62	64	64	68	68	73	73	72	71	72	71
6	-	-	56	56	53	53	48	48	48	48	52	52	63	62	64	64	68	67	74	73	71	70	72	71
7	-	-	56	56	53	51	49	48	49	48	52	52	63	63	64	64	67	67	74	73	70	70	72	71
8	-	-	56	55	51	50	48	48	50	49	52	52	63	63	64	64	68	67	74	73	70	70	72	71
9	-	-	56	55	50	49	48	48	51	50	52	52	63	63	64	64	68	68	74	73	70	70	71	70
10	-	-	55	55	49	48	48	48	51	51	52	52	63	63	-	-	68	68	74	73	71	70	71	70
11	-	-	56	56	48	47	48	47	52	52	52	52	63	63	-	-	68	68	74	73	71	71	70	70
12	-	-	56	55	47	47	47	47	53	53	52	52	63	63	-	-	68	68	73	73	71	71	71	70
13	-	-	55	54	47	46	47	47	53	53	52	52	64	63	-	-	68	68	73	73	71	71	70	68
14	-	-	54	54	47	45	47	46	53	53	52	52	65	64	-	-	68	68	73	73	72	71	68	68
15	-	-	54	54	47	47	45	46	53	53	52	52	65	65	-	-	68	68	73	73	72	72	69	68
16	-	-	54	52	47	47	46	45	53	53	52	52	65	65	65	65	68	68	73	73	72	72	69	68
17	-	-	52	50	48	47	45	45	53	53	52	52	65	65	66	65	68	68	73	73	72	72	70	69
18	-	-	50	49	49	48	45	45	53	53	52	52	65	65	67	66	68	68	74	73	72	72	70	69
19	-	-	50	49	51	49	47	45	53	52	53	52	65	65	67	67	69	68	74	73	73	72	70	69
20	-	-	50	49	53	51	47	47	52	52	53	53	65	63	65	66	71	69	75	74	73	72	69	68
21	-	-	50	49	53	53	47	46	52	51	54	53	63	62	65	66	73	71	76	75	73	73	68	68
22	-	-	50	49	53	53	47	43	51	51	54	54	62	62	66	66	73	73	76	75	73	73	69	68
23	-	-	51	50	53	52	43	42	51	51	54	54	63	62	66	66	73	73	76	75	73	73	69	68
24	-	-	52	51	52	52	42	42	51	51	54	54	63	63	67	66	73	73	76	75	73	73	69	69
25	-	-	53	52	52	52	43	42	51	51	54	54	63	63	67	67	73	73	76	75	73	73	69	69
26	-	-	53	53	52	52	44	43	51	50	55	54	63	63	67	67	73	73	76	75	74	73	69	69
27	61	60	53	53	52	51	43	44	50	49	56	55	63	63	67	67	73	73	76	75	74	73	70	69
28	61	58	53	53	51	50	45	43	50	49	56	56	63	63	67	67	73	73	75	74	74	73	70	69
29	58	57	53	53	50	50	47	46	-----	-----	56	56	63	62	68	67	73	73	75	74	74	73	69	68
30	57	55	54	53	50	50	48	47	-----	-----	56	56	62	62	68	68	73	73	75	74	73	73	68	67
31	55	53	-	-	50	49	49	48	-----	-----	56	56	-----	-----	68	68	-----	-----	74	74	73	72	-----	-----
Avg	-	-	53.9	53.2	50.9	50.3	46.7	46.1	51.0	50.6	52.8	52.6	-	-	-	-	69.9	69.6	74.2	73.6	72.3	71.9	70.1	69.3

Note.--Record began Oct. 20, 1961. No temperature record Apr. 1, May 10-15.

SAN JOAQUIN RIVER BASIN

711

11-3040. Corral Hollow Creek near Tracy, Calif.

Location.--Lat 37°39'24", long 121°28'40", in SE 1/4 sec. 24, T.3 S., R.4 E., on left bank just upstream from highway bridge, 0.8 mile downstream from Elk Ravine, and 6.3 miles southwest of Tracy.

Drainage area.--61.6 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 330 ft (from topographic map).

Extremes.--Maximum discharge during year, 145 cfs Mar. 6 (gage height, 2.54 ft); no flow for several months.
1958-62: Maximum discharge, that of Mar. 6, 1962; no flow for several months in each year.

Remarks.--Records good. Small diversions by pumping from stream above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 15				Feb. 15 to Mar. 6				Mar. 7 to Sept. 30			
1.0	0	1.6	5.8	1.1	0.2	1.6	7.0	1.03	0	1.5	8.3
1.1	.1	1.7	8.8	1.2	.7	1.8	14	1.1	.3	1.6	14
1.2	.2	1.8	13	1.3	1.5	2.0	25	1.2	1.3	1.8	28
1.3	.7	2.0	25	1.4	2.7	2.2	44	1.3	2.3	2.0	50
1.4	1.8	2.2	44	1.5	4.6	2.5	81	1.4	4.6		
1.5	3.4										

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.1	0.1	0.4	0.6	* 0.4	0.1			
2			0	.1	.1	.6	.5	.4	.1			
3			0	.1	.1	.4	.5	.3	0			
4			0	.1	.1	.4	.5	.2	.1			
5			0	.1	* .1	.6	.5	.1	.1			
6			0	.1	.1	* 80	.5	.1	.1			
7			0	.1	.3	* 40	.5	.1	0			
8			0	* .1	.2	7.7	.4	.2	0			
9			0	.1	* .7	2.8	.4	.3	0			
10			0	.1	1.2	1.8	.4	.4	0			
11			** 0	.1	1.0	1.2	.5	.4	.1			
12			.1	.1	* .3	.9	.5	.4	.3			
13			.1	.1	.4	.7	.5	.4	.5			
14			.1	.1	.4	.6	.5	.5	.7			
15		(*)	.1	.1	* 3.9	.6	.5	.5	.6			
16			.1	.1	3.2	.6	.5	.5	.5			
17			.1	.1	6.8	.6	.5	.4	.3			
18			.1	.1	2.3	.6	.4	.4	.1			
19	(*)		.1	.1	* 2.1	.6	.5	.4	0			
20			.1	.2	1.3	.6	.5	.4	0			
21			.1	.1	.6	.6	.5	.3	0			
22			.1	.1	.4	.7	.4	.2	0			
23			.1	.1	.4	.7	.4	.3	0			
24			.1	.1	.6	.6	.4	.4	0			
25			.1	.1	.4	.7	.5	.4	* 0			
26			.1	.1	.4	.7	.5	.4	0			(*)
27			.1	.1	.4	.7	.5	.4	0			
28			.1	.1	.4	.6	.6	.4	0			
29			.1	.1	-	*.5	.5	.3	0			
30			.1	.1	-----	.6	.5	.1	0	(*)		
31			.1	.1	-----	.6	-----	.1	-----			
Total	0	0	2.0	3.2	92.2	148.7	14.5	10.1	3.6	0	0	0
Mean	0	0	0.06	0.10	3.29	4.80	0.48	0.33	0.12	0	0	0
Max	0	0	0.1	0.2	.39	.80	0.6	0.5	0.7	0	0	0
Min	0	0	0	0.1	0.1	0.4	0.4	0.1	0	0	0	0
Ac-ft	0	0	4.0	6.3	183	295	23	20	7.1	0	0	0

Calendar year 1961: Max 0.5 Min 0 Mean 0.06 Ac-ft 40
Water year 1961-62: Max 80 Min 0 Mean 0.75 Ac-ft 544

Peak discharge (base, 40 cfs).--Feb. 15 (0800) 74 cfs (2.45 ft); Mar. 6 (1400) 145 cfs (2.54 ft).

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

** Field estimate made on this day.

SAN JOAQUIN RIVER BASIN

11-3050. San Domingo Creek near San Andreas, Calif.

Location.--Lat 38°06'55", long 120°37'00", in NE¼ sec.14, T.3 N., R.12 E., on right bank 2.5 miles upstream from mouth, 3.2 miles downstream from French Gulch, and 6.5 miles southeast of San Andreas.

Drainage area.--27.1 sq mi.

Records available.--January 1950 to September 1962 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 1,060 ft (from topographic map). Prior to Dec. 6, 1950, staff gage and crest-stage gage at same site and datum.

Average discharge.--12 years, 11.9 cfs (8,620 acre-ft per year); median of yearly mean discharges, 7.8 cfs (5,600 acre-ft per year).

Extremes.--Maximum discharge during year, 388 cfs Feb. 15 (gage height, 4.03 ft), from rating curve extended as explained below; no flow for several months.

1950-62: Maximum discharge, 2,830 cfs Dec. 23, 1955 (gage height, 8.24 ft), from rating curve extended above 130 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Remarks.--Records good. San Domingo Creek receives water above station at times from North Fork Stanislaus River by way of Utica Reservoir. Some diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 9-15)

Oct. 1 to Feb. 15				Feb. 15 to Sept. 30			
0.7	0	1.5	14	0.6	0	1.3	10
.8	.2	1.8	27	.7	.2	1.6	23
.9	.8	2.2	54	.8	.8	1.9	43
1.0	1.6	2.8	110	.9	1.7	2.4	92
1.1	2.9	3.5	215	1.0	3.1	2.9	160
1.2	4.9	4.0	325	1.1	5.1	3.5	264
1.3	7.5						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2.9	0.8	1.3	1.3	8.4	2.3	1.5			
2		0	8.0	.8	1.3	2.4	8.1	2.3	1.2	**		
3		0	8.6	.9	1.2	2.6	7.9	* 2.5	1.2			
4		0	2.3	.9	1.2	2.2	7.6	2.3	1.1			
5		0	1.4	.9	1.2	3.5	6.8	2.2	1.1			
6		0	1.1	.9	1.3	182	6.3	2.0	.9			
7		0	1.0	.9	4.6	* 141	6.1	1.9	.8			
8		0	.9	.8	2.4	72	5.6	1.7	.7			
9		0	.8	.8	129	51	5.1	1.7	.6			
10		0	.8	.9	203	37	4.3	1.8	.5			
11		0	.8	.9	128	32	3.9	1.8	.3			
12		0	.7	1.1	44	28	3.7	1.9	.3			(*)
13		0	.7	1.3	69	24	3.5	1.9	.3			
14		0	.7	1.3	96	22	3.1	2.0	.3			
15		0	.7	1.0	271	19	3.0	2.3	.2			
16		0	.7	1.0	167	17	2.8	2.2	.4			
17		0	.8	.9	81	15	2.6	1.9	.8			
18		0	* .8	.9	46	13	2.6	1.7	1.4			
19		0	1.0	1.3	49	12	3.5	1.7	.9			
20		* 0	5.3	10	* 46	11	5.4	1.6	.5			
21		0	4.6	5.3	40	11	3.5	1.5	.3			
22		0	2.9	3.1	29	23	3.0	1.5	.2			
23	(*)	0	2.2	2.2	23	24	2.5	1.4	.2			
24		0	1.1	1.8	22	19	2.2	1.2	.1			
25		0	.8	1.6	19	16	2.3	1.4	.1	(*)		
26		1.0	.8	1.5	18	15	2.5	1.5	.1			
27		1.6	.8	1.5	15	* 13	2.6	1.9	.1			
28		1.2	.8	1.4	13	12	3.7	1.5	.1			
29		1.4	.8	* 1.2	-	11	3.0	1.4	.1			
30		4.2	.8	1.2	-----	9.8	2.5	1.2	.1			
31		-----	.8	1.3	-----	8.9	-----	* 1.2	-----			
Total	0	9.4	56.4	50.4	1544.1	958.7	128.1	55.4	16.4	0	0	0
Mean	0	0.31	1.82	1.63	55.1	30.9	4.27	1.79	0.55	0	0	0
Max	0	4.2	8.6	10	271	182	8.4	2.5	1.5	0	0	0
Min	0	0	0.7	0.8	1.2	8.9	2.2	1.2	0.1	0	0	0
Ac-ft	0	19	112	100	3,060	1,900	254	110	33	0	0	0

Calendar year 1961: Max 18 Min 0 Mean 1.23 Ac-ft 888
Water year 1961-62: Max 271 Min 0 Mean 7.72 Ac-ft 5,590

Peak discharge (base, 220 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1000	3.70	295	3-6	2200	3.29	222
2-15	0300	4.03	388				

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

**Field estimate made on this day.

11-3060. South Fork Calaveras River near San Andreas, Calif.

Location.--Lat 38°08'40", long 120°39'50", in NW $\frac{1}{4}$ sec.4, T.3 N., R.12 E., on right bank 0.1 mile downstream from San Antonio Creek, 1.6 miles south of the Calaveras Cement Plant, and 3.7 miles south of San Andreas.

Drainage area.--118 sq mi.

Records available.--April 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 860 ft (from topographic map). Prior to Feb. 13, 1952, staff gage at same site and datum.

Average discharge.--12 years, 73.0 cfs (52,850 acre-ft per year); median of yearly mean discharges, 47 cfs (34,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,920 cfs Feb. 15 (gage height, 6.95 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement at gage height 10.29 ft; no flow for many days.

1950-62: Maximum discharge, 17,600 cfs Dec. 23, 1955 (gage height, 10.29 ft), from rating curve extended above 3,400 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records good. Some small diversions, mainly for irrigation, above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 15				Feb. 16 to Sept. 30			
0.3	0	1.7	56	1.0	11	2.0	130
.4	.2	1.9	90	1.2	19	2.5	285
.5	.6	2.1	140	1.4	33	3.0	510
.6	1.4	2.5	280	1.7	70		
.7	2.8	3.0	510				
.8	5.0	4.0	1,210				
1.0	11	5.0	2,350	Note.--Same as preceding table above 3.0 ft and below 1.0 ft.			
1.2	19	6.0	3,870				
1.5	36						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2.6	4.0	6.6	8.6	100	28	*10	2.5		
2		0	4.8	3.8	6.6	191	100	27	10	*2.4		
3		0	5.4	4.0	7.0	164	98	*25	9.8	2.2		
4		0	2.4	3.8	7.3	126	98	24	9.4	2.2		
5		0	1.2	3.8	6.6	180	100	23	9.1	2.2		
6		0	7.6	3.8	6.6	1,520	100	21	9.4	2.1		
7		0	6.3	4.0	1.3	775	98	20	8.2	1.9		
8		0	5.6	4.0	183	328	96	18	7.6	1.8		
9		0	5.3	4.0	967	229	90	16	7.3	1.6		
10		0	4.3	4.3	2,020	176	84	16	6.8	1.6		
11		0	3.8	4.3	1,020	161	74	16	6.6	1.6		
12		0	3.4	4.6	324	138	68	16	6.3	1.6		(*)
13		0	3.4	5.0	812	118	66	17	6.6	2.1		
14		0	3.4	5.3	910	106	61	18	6.6	2.1		
15		0	3.4	5.0	3,080	96	56	19	7.3	1.9		
16		0	3.4	4.3	*1,140	90	53	19	7.3	1.6		
17		0	3.2	4.0	475	84	49	20	7.0	1.2		
18		0	3.4	4.0	278	76	47	17	6.0	.8		
19		0	*4.3	6.0	316	74	47	16	5.3	.7		
20		*0	4.8	9.5	271	74	54	15	4.8	.5		
21		0	9.6	3.8	*240	74	48	14	4.3	.3		
22		0	7.0	24	170	137	41	13	3.8	.2		
23	(*)	0	6.3	15	126	145	38	12	3.6	.1		
24		0	5.6	12	132	112	35	12	3.4	0		
25		0	4.8	9.8	122	104	32	13	3.0	0		
26		.1	4.3	8.8	124	100	31	12	3.2	0		
27		6.6	4.3	7.9	104	*98	31	14	3.2	0		
28		6.6	4.0	7.3	94	98	42	14	2.8	0		
29		6.3	4.0	*7.0	-	100	37	12	2.7	0		
30		13	4.0	7.0	-----	100	31	11	2.5	0		
31		-----	4.0	6.6	-----	100	-----	11	-----	0		
Total	0	32.6	287.5	234.9	1,296.17	5,960	1,905	529	183.9	35.2	0	0
Mean	0	1.09	9.27	7.58	463	192	63.5	17.1	6.13	1.14	0	0
Max	0	13	54	38	3,080	1,520	100	28	10	2.5	0	0
Min	0	0	3.2	3.8	6.6	74	31	11	2.5	0	0	0
Ac-ft	0	65	570	466	25,710	11,820	3,780	1,050	365	70	0	0

Calendar year 1961: Max 89 Min 0 Mean 6.89 Ac-ft 5,000
 Water year 1961-62: Max 3,080 Min 0 Mean 60.6 Ac-ft 43,900

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1000	5.88	3,630	3-6	0100	5.06	2,430
2-15	1500	6.95	5,920				

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

SAN JOAQUIN RIVER BASIN

11-3065. Calaveritas Creek near San Andreas, Calif.

Location.--Lat 38°09'50", long 120°39'30", in SW $\frac{1}{4}$ sec.28, T.4 N., R.12 E., on right bank 0.8 mile east of Calaveritas Cement Plant, 1.0 mile upstream from mouth, and 2.6 miles southeast of San Andreas.

Drainage area.--53.3 sq mi.

Records available.--April 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 865 ft (from topographic map). Prior to Feb. 12, 1952, staff gage at same site and datum.

Average discharge.--12 years, 31.0 cfs (22,440 acre-ft per year); median of yearly mean discharges, 18.5 cfs (13,760 acre-ft per year).

Extremes.--Maximum discharge during year, 1,980 cfs Feb. 15 (gage height, 5.15 ft); no flow for many days.

1950-62: Maximum discharge, 3,620 cfs Apr. 2, 1958 (gage height, 6.65 ft); no flow at times in 1950, 1954-55, 1957, 1959-62.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 19 - July 3)

0.4	0	1.0	7.3	2.5	183
.5	.2	1.1	10	3.0	335
.6	.6	1.2	14	3.5	560
.7	1.4	1.5	30	4.0	870
.8	2.8	1.8	57	4.5	1,280
.9	4.8	2.1	99		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2.1	1.8	3.8	2.6	2.5	6.0	2.7	0.7		
2		0	5.2	1.6	3.4	4.2	2.3	5.8	2.6	* .7		
3		0	1.6	1.6	3.4	7.5	2.1	* 5.3	2.6	.6		
4		0	1.4	1.6	3.2	5.5	2.0	5.3	2.4	.5		
5		0	9.4	1.6	3.0	6.3	1.8	4.8	2.2	.4		
6		0	6.6	1.6	3.2	5.0	1.6	4.8	2.2	.4		
7		0	5.0	1.6	4.0	3.9	1.6	4.6	2.1	.4		
8		0	4.2	1.5	8.6	1.9	1.4	4.6	2.0	.4		
9		0	3.6	1.5	17.4	1.2	1.3	4.4	1.8	.3		
10		0	3.0	1.6	* 5.6	8.6	1.2	4.4	1.6	.3		
11		0	2.7	1.5	3.5	6.7	1.1	4.2	1.5	.2		
12		0	2.7	1.8	1.6	6.3	1.0	4.2	1.6	.2		
13		0	2.7	1.8	1.5	5.3	9.4	4.0	1.5	.2		
14		0	2.4	1.5	2.1	4.4	8.5	4.4	1.4	.2		
15		0	2.2	1.5	1.4	3.9	7.9	4.6	1.5	.1		
16		0	2.2	1.4	* 5.0	3.6	7.0	4.6	1.5	.1		
17		0	2.1	1.5	2.4	3.3	6.8	4.4	1.3	.1		
18		0	2.1	1.6	1.5	3.0	6.6	4.2	1.2	.1		
19		0	* 2.0	2.6	1.1	2.8	7.3	3.6	1.2	.1		
20		* .3	1.8	7.2	1.1	2.9	9.7	3.2	1.2	.1		
21		.1	1.8	3.4	* 9.6	2.7	9.7	3.2	1.1	0		
22		.1	1.8	5.3	6.5	3.7	7.9	3.0	.9	0		
23	(*)	.1	1.6	6.3	4.8	6.9	7.0	3.0	.9	0		
24		.1	1.5	5.3	4.1	5.9	6.8	3.0	.9	0		
25		.3	1.5	4.8	3.9	5.0	6.6	2.8	.9	* 0		
26		.5	1.5	4.6	3.6	* 4.3	6.0	2.8	.9	0		
27		.5	1.5	4.8	3.4	3.8	6.6	2.8	.8	0		
28		.5	1.5	4.2	2.9	3.5	6.8	2.8	.7	0		
29		.8	1.6	* 3.8	-	3.3	6.8	3.0	.7	0		
30		2.0	1.8	4.0	-----	3.0	6.8	2.8	.7	0		
31		-----	1.8	4.0	-----	2.7	-----	* 2.7	-----	0		
Total	0	5.3	109.9	88.9	4,284.6	2,433	3,332	1,233	4,466	6.1	0	0
Mean	0	0.18	3.55	2.87	153	78.5	11.1	3.98	1.49	0.20	0	0
Max	0	2.0	16	7.2	1,140	506	25	6.0	2.7	0.7	0	0
Min	0	0	1.5	1.4	3.0	26	6.0	2.7	0.7	0	0	0
Ac-ft	0	11	218	176	8,500	4,830	661	245	88	12	0	0

Calendar year 1961: Max 47 Min 0 Mean 3.00 Ac-ft 2,170
Water year 1961-62: Max 1,140 Min 0 Mean 20.4 Ac-ft 14,740

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1000	4.10	940	3-6	0700	3.72	692
2-15	1400	5.15	1,980				

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

** Field estimate made on this day.

11-3080. North Fork Calaveras River near San Andreas, Calif.

Location.--Lat 38°13'05", long 120°41'55", in NW¼ sec.7, T.14 N., R.12 E., on right bank 0.5 mile upstream from Chile Gulch and 1.8 miles northwest of San Andreas.

Drainage area.--85.7 sq mi.

Records available.--March 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 750 ft (from topographic map). Prior to Feb. 14, 1952, staff gage at same site and datum.

Average discharge.--12 years, 45.7 cfs (33,090 acre-ft per year); median of yearly mean discharges, 29 cfs (21,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,470 cfs Feb. 15 (gage height, 8.60 ft); no flow for many days.

1950-62: Maximum discharge, 6,200 cfs Dec. 23, 1955 (gage height, 12.52 ft), from rating curve extended above 3,900 cfs; no flow at times in most years.

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

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	4.0	6.0	4.7	3.0	1.1	3.8			
2			10	4.0	5.8	18.9	2.9	1.0	3.0	(*)		
3			5.6	4.0	5.6	17.9	2.7	*9.7	3.0			
4			18	4.0	5.4	11.2	2.6	9.1	2.8			
5			9.1	3.8	5.2	9.2	2.4	8.5	2.6			
6			6.3	3.8	5.2	72.9	2.2	8.2	2.4			
7			5.2	3.8	6.8	4.57	2.0	8.2	2.2			
8			4.5	4.0	6.1	22.5	2.0	7.4	2.0			
9			4.0	3.8	3.96	1.54	1.9	7.4	1.5			
10			3.8	3.8	* 681	1.14	1.8	6.8	1.3			
11			3.6	3.6	4.34	10.5	1.7	6.6	1.1			
12			3.6	3.8	1.59	10.6	1.6	6.8	1.0			
13			3.4	4.7	2.68	8.4	1.6	7.6	.8			
14			3.4	4.7	3.84	6.9	1.6	7.6	.9			
15			3.4	4.7	*1.460	6.1	1.5	8.5	1.2			
16			3.2	4.3	6.78	5.3	1.4	7.9	1.7			
17			3.4	4.1	3.64	5.0	1.2	7.4	2.0			
18			3.8	4.3	1.74	4.6	1.2	6.8	1.5			
19			* 4.3	6.8	1.67	4.2	1.3	6.3	1.2			
20		(*)	4.7	7.7	*182	3.8	2.1	6.3	.8			
21			4.9	4.5	1.31	3.7	2.0	5.6	.5			
22			4.7	2.0	.93	9.4	1.6	5.2	.2			
23	(*)		4.3	1.2	7.4	1.57	1.4	5.2	.2			
24			4.3	1.1	.67	10.6	1.4	5.2	.1			
25			4.1	9.7	.68	8.2	1.1	5.4	0	(*)		
26			4.1	9.1	.63	.67	1.1	5.4	0			
27			4.0	9.4	.56	* 5.2	1.1	5.6	0			
28			4.0	7.9	.50	4.5	2.3	5.4	0			
29			4.0	* 7.1	-	4.0	2.1	4.9	0			
30			4.0	.68	-----	3.6	1.6	4.5	0			
31			4.0	.66	-----	3.3	-----	* 4.3	-----			
Total	0	0	200.1	301.6	6,050.0	3,701	544	214.8	37.8	0	0	0
Mean	0	0	6.45	9.73	216	119	18.1	6.93	1.26	0	0	0
Max	0	0	56	77	1,460	729	30	11	3.8	0	0	0
Min	0	0	0	3.6	5.2	33	11	4.3	0	0	0	0
Ac-ft	0	0	397	998	12,000	7,340	1,080	426	75	0	0	0

Calendar year 1961: Max 77 Min 0 Mean 5.88 Ac-ft 4,250
 Water year 1961-62: Max 1,460 Min 0 Mean 30.3 Ac-ft 21,900

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1400	6.69	1,310	3-6	0500	6.88	1,390
2-15	1800	8.60	2,470				

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

SAN JOAQUIN RIVER BASIN

11-3089. Calaveras River below Hogan Dam, Calif.

Location.--Lat 38°08'53", long 120°49'26", in NE¼ sec.1, T.3 N., R.10 E., on right bank at county road bridge, 0.5 mile upstream from Cosgrove Creek, 0.8 mile downstream from Hogan Dam, and 3.0 miles south of Valley Springs.

Drainage area.--363 sq mi.

Records available.--January 1961 to September 1962.

Gage.--Water-stage recorder and concrete control. The control was undermined Feb. 13, 1962. Datum of gage is 519.8 ft above mean sea level (levels by Corps of Engineers). Auxiliary staff gage 300 ft downstream at different datum beginning May 1, 1962.

Extremes.--Maximum daily discharge during year, 5,300 cfs Feb. 16; no flow on many days.
1961-62: Maximum daily discharge, that of Feb. 16, 1962; no flow on many days.

Remarks.--Records good to Feb. 12 and fair thereafter. Flow regulated by Hogan Reservoir at Stockton flood-control dam (usable capacity, 75,000 acre-ft), by Bingham Reservoir (capacity, 775 acre-ft) on North Fork Calaveras River, and by some seepage of North Fork Stanislaus River water from diversion canals and reservoirs, normally not over 1.5 cfs. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	0	0.5	1.1	22	180		1.6	432	160		
2	5.3	.4	1.2	1.1	22	260		1.6	285	135		
3	3.2	.2	.4	1.1	21	690		1.6	280	* 70		
4	2.1	.1	1.5	1.1	20	460		1.9	278	4		
5	1.5	.1	3.2	1.0	2.0	280	3	1.9	250			
6	1.2	.1	2.6	1.0	2.0	2,000		1.9	225	2		
7	.9	0	2.0	1.0	2.2	3,000		1.9	225			
8	.6	.1	1.6	1.0	75	2,200		2.2	210			
9	.3	.1	1.5	1.0	919	1,200		2.2	210			
10	.3	0	1.3	1.0	2,730	650		2.2	210			
11	.2	.2	1.2	9.5	3,380	450		2.2	285	1		**
12	0	.3	1.3	1.0	* 2,580	400		2.2	250			
13	0	.1	1.2	1.0	1,900	330		2.2	205			
14	.1	.1	1.2	1.1	2,300	210		2.2	201			
15	0	0	1.2	1.1	* 3,900	8		2.2	200			
16	0	0	1.1	1.1	* 5,300			2.2	195		0.5	0.4
17	0	0	1.1	1.1	3,900			2.2	195			
18	0	.1	* 1.1	1.0	3,100			2.2	210	.8		
19	.3	.2	1.2	1.1	1,700			2.2	245			
20	.4	* .5	1.2	64	920		2	2.4	315			
21	.3	.2	1.2	168	800			2.4	303			
22	.3	0	1.3	99	560			2.6	265			
23	*.6	0	1.5	68	380	3		2.7	235	.7		
24	.2	0	1.5	50	290			2.4	225	*		
25	0	.4	1.4	41	* 280		**	2.4	* 205			
26	0	.2	1.3	33	280	**		2.2	201			
27	.3	0	1.2	30	240			2.2	215			
28	.3	0	1.2	27	200			2.2	240	.6		
29	.2	.5	1.1	* 2.6	-		*	2.2	228			
30	.1	.9	1.1	24	-----			2.2	215			
31	0	-----	1.1	23	-----			160	-----			
Total	28.7	4.8	39.61	851.5	35,881	12,366	70	224.7	7,238	394.1	15.5	12.0
Mean	0.93	0.16	12.8	27.5	1,281	399	2.33	7.25	241	1.27	0.50	0.40
Max	10	0.9	32	168	5,300	3,000	-	160	432	160	-	-
Min	0	0	0.4	9.5	20	-	-	1.6	195	-	-	-
Ac-ft	57	9.5	785	1,690	71,170	24,530	139	446	14,360	782	31	24

Calendar year 1961: Max - Min - Mean - Ac-ft -
Water year 1961-62: Max 5,300 Min 0 Mean 157 Ac-ft 114,000

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

** Field estimate made on this day.

Note.--Stage-discharge relation indefinite Feb. 13 to Mar. 13. No gage-height record Mar. 14 to Sept. 30. Intermittent staff gage readings obtained May 1 to June 30.

11-3090. Cosgrove Creek near Valley Springs, Calif.

Location.--Lat 38°08'10", long 120°50'05", in SE $\frac{1}{4}$ sec.35, T.4 N., R.10 E., on right bank 0.4 mile upstream from mouth and 2.7 miles south of Valley Springs.

Drainage area.--20.6 sq mi.

Records available.--October 1929 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 547.8 ft above mean sea level, datum of 1929. Prior to Mar. 17, 1930, staff gage at site a quarter of a mile downstream at different datum.

Average discharge.--33 years, 7.43 cfs (5,380 acre-ft per year); median of yearly mean discharges, 5.3 cfs (3,800 acre-ft per year).

Extremes.--Maximum discharge during year, 938 cfs Mar. 5 (gage height, 5.65 ft); no flow for several months.

1929-62: Maximum discharge, 3,240 cfs Dec. 23, 1955 (gage height, 8.96 ft), from rating curve extended above 900 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. No storage or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 10-15)

1.92	0	2.7	17
2.0	.1	3.0	38
2.1	.3	3.3	74
2.2	1.0	3.7	150
2.3	2.4	4.1	255
2.5	7.0		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	5.2	1.0	0.1				
2				0	0	4.4	.9	0				
3				0	0	1.9	.8	0				
4				0	0	1.1	.7	0				
5				0	0	7.3	.6	0				
6				0	0	227	.5	0				
7				0	0	66	.5	0				
8				0	0	2.4	.5	0				
9				0	1.6	1.6	.5	0				
10				0	177	12	.4	0				
11				0	*121	9.0	.4	0				(*)
12				0	43	7.0	.4	0				
13				0	167	6.0	.3	0				
14				0	*110	5.0	.3	0				
15				0	239	4.5	.3	0				
16				0	105	4.0	.2	0				
17				0	32	3.8	.2	0				
18			(*)	0	21	3.4	.1	0				
19				0	4.4	3.0	.2	0				
20		(*)		.1	32	2.8	.3	0				
21				0	*25	2.4	.3	0				
22				0	15	4.5	.2	0				
23	(*)			0	11	6.0	.1	0				
24				0	12	3.2	.1	0				
25				0	10	2.4	.1	0	(*)			
26				0	12	*1.9	.1	0				
27				0	7.0	1.8	.1	0				
28				0	6.0	1.4	.2	0				
29				0	-	1.3	.1	0				
30				*0	-----	1.2	*.1	0				
31				0	-----	1.1	-----	0				
Total	0	0	0	0.1	1,205.0	572.9	10.5	0.1	0	0	0	0
Mean	0	0	0	0.003	43.0	18.5	0.35	0.003	0	0	0	0
Max	0	0	0	0.1	239	227	1.0	0.1	0	0	0	0
Min	0	0	0	0	0	1.1	0.1	0	0	0	0	0
Ac-ft	0	0	0	0.2	2,390	1,140	21	0.2	0	0	0	0

Calendar year 1961: Max 7.0 Min 0 Mean 0.16 Ac-ft 114

Water year 1961-62: Max 239 Min 0 Mean 4.90 Ac-ft 3,550

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-15	0200	5.07	635	3-5	2400	5.65	938

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

SAN JOAQUIN RIVER BASIN

11-3095. Calaveras River at Jenny Lind, Calif.

Location.--Lat 38°05'20", long 120°51'53", in NW¼ sec.27, T.3 N., R.10 E., on right bank 70 ft downstream from bridge on Milton road, 0.2 mile south of Jenny Lind, and 6.5 miles downstream from Cosgrove Creek.

Drainage area.--395 sq mi.

Records available.--January 1907 to September 1962. Yearly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 220 ft (from topographic map). Prior to Dec. 3, 1925, staff gage on center pier of bridge. Prior to October 1917, at datum 7.00 ft higher, and October 1917 to May 1928 at datum 2.00 ft higher.

Average discharge.--54 years (1908-62) 220 cfs (159,300 acre-ft per year).

Extremes.--Maximum discharge during year, 5,820 cfs Feb. 16 (gage height, 9.43 ft); no flow for several months.

1907-62: Maximum discharge observed, 50,000 cfs Jan. 31, 1911 (gage height, 21.0 ft, present datum), from rating curve extended above 11,000 cfs; no flow in late summer of most years.

Remarks.--Records good. Flow regulated by Hogan Reservoir at Stockton flood-control dam beginning in 1930 (usable capacity, 75,000 acre-ft), by Bingham Reservoir (capacity, 775 acre-ft) on North Fork Calaveras River, and by some seepage of North Fork Stanislaus River water from diversion canals and reservoirs, normally not over 1.5 cfs. Small diversions above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.5	0	1.2	10	3.0	320
.6	.8	1.4	18	4.0	780
.7	1.6	1.6	31	5.0	1,360
.8	2.4	1.9	61	7.0	3,040
.9	3.8	2.2	100	9.5	5,900
1.0	5.5	2.5	165		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18		0.5	11	21	185	5.1	2.2	440	140		
2	9.4		3.1	11	20	304	4.9	2.0	271	114		
3	6.1		5.1	11	20	710	5.1	2.0	264	73		
4	4.1		2.4	11	18	472	4.9	1.9	260	5.5		
5	2.9		3.3	11	18	348	4.6	1.9	244	2.4		
6	2.2		3.3	11	18	2,500	4.1	2.0	229	1.9		
7	1.6		2.6	10	20	3,280	3.8	2.0	211	1.6		
8	1.2		2.2	9.9	4.3	2,500	3.5	2.0	190	1.6		
9	.9		1.8	9.9	9.39	1,240	3.5	2.0	188	1.5		
10	.8		1.6	9.9	3,150	665	3.3	2.2	188	1.3		
11	.7		1.5	9.9	3,660	460	2.9	2.2	241	1.2		
12	.6		1.3	10	* 2,940	412	2.8	2.2	217	1.0		
13	.5		1.2	11	2,090	336	2.8	2.2	188	.9		
14	.4		1.2	11	2,410	213	2.7	2.2	185	.8		
15	.4		1.1	12	4,110	12	2.6	2.2	182	.7		
16	.4		1.1	12	5,370	6.8	2.4	2.2	180	.5		
17	.4		1.1	12	3,970	6.1	2.6	2.2	175	.4		
18	.4		* 1.1	12	3,090	5.7	2.4	2.2	178	.2		
19	.4		1.2	12	1,720	5.3	2.4	2.2	211	.2		
20	.3	(*)	1.3	39	952	5.1	2.8	2.2	* 264	0		
21	.1		1.3	160	820	4.9	2.8	2.2	254	0		
22	0		1.8	94	570	5.9	2.4	2.2	226	0		
23	* 0		1.6	61	392	7.6	2.4	2.2	196	0		
24	0		1.6	44	306	6.3	2.2	2.2	185	* 0		
25	0		1.5	36	292	5.1	2.0	2.2	170	0		
26	0		1.4	30	* 292	* 5.1	2.0	2.4	168	0		
27	0		1.3	28	250	5.1	1.9	2.4	175	0		
28	0		1.2	25	211	4.9	2.6	2.4	196	0		
29	0		1.2	24	-	4.7	2.4	2.4	182	0		
30	0		1.1	* 23	-----	4.6	2.0	2.4	170	0		
31	0	-----	1.1	22	-----	4.9	-----	7.8	-----	0	-----	-----
Total	51.8	0	431.1	793.6	3771.2	13725.1	91.9	143.2	642.8	348.7	0	0
Mean	1.67	0	13.9	25.6	1,347	443	3.06	4.62	214	11.2	0	0
Max.	18	0	33	160	5,370	3,280	5.1	7.8	440	140	0	0
Min.	0	0	0.5	9.9	18	4.6	1.9	1.9	168	0	0	0
Ac-ft	103	0	855	1,570	74,800	27,220	182	284	12,750	692	0	0

Calendar year 1961: Max 416 Min 0 Mean 16.0 Ac-ft 11,560

Water year 1961-62: Max 5,370 Min 0 Mean 16.4 Ac-ft 118,500

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

SAN JOAQUIN RIVER BASIN

719

11-3120. Bear Creek near Lockeford, Calif.

Location.--Lat 38°09'15", long 121°08'15", in NW¹/₄SE¹/₄ sec.31, T.4 N., R.8 E., on right bank 15 ft downstream from county road bridge and 0.8 mile southeast of Lockeford.

Drainage area.--47.6 sq mi.

Records available.--October 1930 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. October 1926 to November 1930 at site 3 miles downstream; records not equivalent.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 85 ft (from topographic map).

Average discharge.--32 years, 11.0 cfs (7,960 acre-ft per year); median of yearly mean discharges, 7.3 cfs (5,300 acre-ft per year).

Extremes.--Maximum discharge during year, 822 cfs Feb. 15 (gage height, 10.71 ft); no flow at times in most months.
1930-62: Maximum discharge, 2,930 cfs Apr. 3, 1958 (gage height, 15.13 ft); no flow at times for several months in each year.

Remarks.--Records good except those below 1.0 cfs, which are fair. No storage or diversion above station. Water may be released from East Bay Municipal Utility District aqueduct into Bear Creek at rare intervals.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.3	0	4.2	30
3.4	.4	4.6	60
3.5	1.7	5.5	137
3.6	3.4	7.0	291
3.7	5.7	9.0	542
3.9	12		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		2.6	0	0	4.4	0.2	0	0	0.1	0	0
2	0		2.9	* 0	0	14	.2	** 0	0	0	0	0
3	.2		1.7	0	0	21	.2	0	0	0	0	0
4	0		.5	0	0	9.2	.2	.1	0	0	0	.1
5	.1		.2	0	0	7.0	.1	0	0	* 0	0	0
6	0		.1	0	0	152	.1	.1	0	.1	0	0
7	0		0	0	0	* 180	.1	0	0	0	.2	.4
8	0		0	0	0	44	.2	0	0	0	0	.2
9	0		0	0	255	21	.3	0	0	0	0	0
10	0		0	0	431	12	.1	0	0	.1	0	.1
11	.2		0	0	237	8.5	.1	0	0	0	.1	* * 0
12	0		0	0	53	6.8	.2	0	0	0	.1	.1
13	0		0	0	282	5.5	.9	0	0	0	.1	0
14	0		0	0	309	4.6	.2	.1	0	0	0	.1
15	.1		0	0	513	3.9	1.0	0	0	0	0	0
16	0		0	0	280	3.3	.7	0	0	0	0	0
17	0		0	0	68	3.1	.2	0	0	.2	0	.2
18	0		0	0	46	2.8	.1	0	.1	0	0	.2
19	0		0	0	61	2.2	.1	.1	0	0	0	0
20	.1		* 0	.1	36	2.0	.1	0	**0	0	0	.1
21	0	(*)	0	0	18	1.2	0	.1	0	.2	0	0
22	0		0	.1	11	.8	0	0	0	0	0	.1
23	.1		0	.1	* 7.9	3.2	0	0	0	0	.1	0
24	0		0	0	63	4.4	0	0	0	0	0	.1
25	0		0	0	5.2	2.6	0	0	0	0	0	0
26	0		0	0	8.8	1.7	0	0	0	* 0	0	0
27	0		0	0	8.5	1.2	0	0	.1	.1	0	.1
28	0		0	0	5.0	1.1	0	0	0	0	0	.1
29	0		0	0	-	.7	0	0	.1	0	.1	.3
30	0		0	0	-----	.6	0	0	.1	0	0	0
31	* 0	-----	0	* 0	-----	.5	-----	.1	-----	.1	0	-----
Total	0.8	0	8.0	0.3	2,641.7	5,253	5.3	0.6	0.4	0.9	0.7	2.2
Mean	0.03	0	0.26	0.01	94.3	16.9	0.18	0.02	0.01	0.03	0.02	0.07
Max	0.2	0	2.9	0.1	513	180	1.0	0.1	0.1	0.2	0.2	0.4
Min	0	0	0	0	0	0.5	0	0	0	0	0	0
Ac-ft	1.6	0	16	0.6	5,240	1,040	11	1.2	0.8	1.8	1.4	4.4

Calendar year 1961: Max 55 Min 0 Mean 0.56 Ac-ft 408
Water year 1961-62: Max 513 Min 0 Mean 8.73 Ac-ft 6,320

Peak discharge (base, 220 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1330	9.62	631	3-6	2300	7.34	331
2-15	0600	10.71	822				

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

SAN JOAQUIN RIVER BASIN

11-3130. Delta-Mendota Canal at Tracy pumping plant, near Tracy, Calif.

Location.--Lat 37°47'45", long 121°35'05", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.31, T.1 S., R.4 E., at Tracy pumping plant at intake to canal, 6 miles south-east of Byron and 10 miles northwest of Tracy.

Records available.--June 1951 to September 1962. Prior to October 1959, published as Delta-Mendota Canal near Tracy.

Gage.--Water-stage recorder on forebay, pressure gages on pump discharge lines, and operating time of pumps. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Average discharge.--11 years, 1,410 cfs (1,021,000 acre-ft per year).

Extremes.--1951-62: Maximum daily discharge, 4,934 cfs July 13, 1961; no flow for many days most years.

Remarks.--Discharge computed from records of operation of pumps. Water is diverted from Sacramento-San Joaquin Delta by way of Old River and a dredged channel to the Tracy Pumping Plant where it is lifted about 200 ft into canal. Water, less intermediate diversions, flows into Mendota Pool on San Joaquin River to replace water diverted at Friant Dam. The canal is a part of Central Valley project.

Cooperation.--Records of daily discharge furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,775	643	356	69	608	142	2,088	3,201	2,816	3,945	4,154	2,521
2	2,023	* 679	357	69	644	142	2,268	3,170	2,950	3,851	4,042	2,523
3	* 2,042	679	253	68	644	142	2,268	3,242	2,958	3,807	3,904	2,517
4	2,038	678	389	69	499	142	* 2,267	3,243	2,959	3,737	3,898	2,301
5	2,021	678	248	69	500	142	* 2,266	3,241	3,020	3,739	3,895	2,300
6	2,023	678	247	69	* 499	143	2,407	3,238	3,282	3,733	3,888	2,300
7	2,022	655	212	69	500	* 760	2,407	3,246	3,455	3,728	3,891	2,195
8	2,259	642	247	69	466	322	2,412	3,196	3,632	3,792	3,683	2,201
9	1,976	607	392	69	286	432	2,589	* 3,180	3,627	3,790	3,685	2,205
10	2,017	608	319	68	0	433	2,778	3,213	4,006	4,037	3,581	2,206
11	1,704	607	248	68	0	577	2,708	3,111	3,676	4,141	3,408	* 1,952
12	1,024	606	248	138	0	577	2,740	3,008	3,814	4,202	3,409	1,774
13	1,025	678	248	320	0	* 576	2,745	3,015	3,820	4,180	3,303	1,667
14	959	* 678	249	320	0	575	2,818	3,011	4,018	4,312	3,300	1,736
15	959	679	249	320	0	930	2,649	2,747	* 4,014	4,434	3,494	1,824
16	960	463	284	535	0	867	2,643	2,686	3,916	4,313	3,769	1,825
17	927	463	284	535	0	867	2,743	2,518	3,916	4,409	3,769	1,719
18	* 928	462	212	933	0	866	2,808	2,522	3,850	4,205	3,769	1,669
19	928	463	69	1,183	0	868	2,814	2,520	3,738	4,168	3,767	1,734
20	927	465	69	1,192	70	* 867	2,839	2,521	3,736	4,160	3,770	1,735
21	927	464	69	1,186	36	930	2,720	2,409	3,743	4,150	3,707	1,804
22	925	463	69	716	106	1,432	2,707	2,410	3,928	4,146	3,711	1,805
23	862	534	69	104	106	1,430	2,714	2,378	3,926	4,148	3,650	1,842
24	862	608	69	104	105	1,193	2,732	2,377	3,907	4,077	3,647	1,842
25	863	610	69	280	141	1,193	2,932	2,579	3,862	4,081	3,643	1,989
26	865	609	68	319	141	1,191	3,052	2,876	3,860	4,085	3,554	1,987
27	863	535	68	142	141	* 1,661	3,120	2,878	3,862	4,161	3,222	2,026
28	863	* 535	68	280	141	1,733	3,123	2,879	3,904	4,227	2,848	1,984
29	861	535	68	318	-----	1,735	3,214	2,811	3,911	4,295	2,752	2,020
30	859	427	68	498	-----	1,733	3,050	2,813	3,948	4,294	2,718	1,978
31	642	-----	68	463	-----	1,980	-----	2,847	-----	4,153	2,556	-----
Total	40,929	17,431	5,933	10,642	5,633	26,581	80,621	89,086	110,054	126,500	110,387	60,181
Mean	1,320	581	191	343	201	857	2,687	2,874	3,668	4,081	3,561	2,006
Max	2,775	679	392	1,192	644	1,980	3,214	3,246	4,018	4,434	4,154	2,523
Min	642	427	68	68	0	142	2,088	2,377	2,816	3,728	2,556	1,667
Ac-ft	81,180	34,570	11,770	21,110	11,170	52,720	159,900	176,700	218,300	250,900	218,900	119,400
Calendar year 1961: Max	4,934	Min	0	Mean	2,068	Ac-ft	1,497,000					
Water year 1961-62: Max	4,434	Min	0	Mean	1,874	Ac-ft	1,357,000					

* Discharge measurement made on this day.

11-3135. Salt Springs Reservoir near West Point, Calif.

Location.--Lat 38°30'00", long 120°12'55", in SE $\frac{1}{4}$ sec.33, T.8 N., R.16 E., at right end of Salt Springs Dam on North Fork Mokelumne River, 2 miles upstream from Cole Creek, and 18 miles northeast of West Point.

Drainage area.--160 sq mi.

Records available.--March 1931 to September 1962.

Gage.--Staff gage read once daily. Datum of gage is 3,700 ft above mean sea level (levels by Pacific Gas & Electric Co.); gage readings have been reduced to elevations above mean sea level.

Extremes.--Maximum contents observed during year, 140,000 acre-ft June 20 to July 2 (elevation, 3,958.0 ft); no contents Jan. 14 to Feb. 2 (elevation, 3,707.25 ft), reservoir drained for repairs to dam.

1931-62: Maximum contents observed, 140,000 acre-ft for several days in June or July each year 1948-54, 1956-58, 1960, 1962 (elevation, 3,958.0 ft); no contents at times in 1932-33, 1945, 1962.

Remarks.--Reservoir is formed by concrete-faced, rock-fill dam, completed in 1931; storage began in March 1931. Usable capacity, 139,000 acre-ft between elevations 3,707.25 (powerhouse intake) and 3,957.0 ft (upper operating limit, 1 ft below top of radial gates) above mean sea level. Additional storage of 1,860 acre-ft is available for release to river through outlet drain at elevation 3,667.75 ft. Water is released through powerhouse just below dam and discharged into Tiger Creek powerhouse conduit (see following page). Figures given herein represent contents available for use through powerhouse.

Cooperation.--Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)

3,707.25	0	3,760.0	10,800	3,830.0	41,200
3,708.0	78	3,770.0	14,100	3,840.0	46,900
3,710.0	298	3,780.0	17,700	3,860.0	59,400
3,720.0	1,610	3,790.0	21,700	3,880.0	73,600
3,730.0	3,320	3,800.0	26,100	3,900.0	88,900
3,740.0	5,420	3,810.0	30,800	3,930.0	114,100
3,750.0	7,890	3,820.0	35,800	3,960.0	141,900

Contents, in acre-feet, at 1700, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45,600	25,200	12,400	3,560	0	11,700	12,200	69,600	138,100	140,000	126,300	110,900
2	44,800	24,500	12,700	3,360	0	12,100	13,200	71,700	138,800	140,000	125,900	110,000
3	44,100	23,900	12,400	2,900	436	12,400	13,900	74,500	138,800	139,900	125,700	109,200
4	43,500	23,200	12,100	2,420	608	12,700	15,400	77,800	138,300	139,700	124,900	108,500
5	42,900	22,600	12,300	1,940	861	13,000	17,200	82,600	138,600	139,400	124,300	108,300
6	42,300	21,800	12,500	1,470	1,120	13,200	19,200	87,800	138,500	139,400	123,600	107,600
7	41,800	21,100	12,600	1,080	1,410	13,600	20,900	92,300	138,500	139,000	123,300	107,100
8	41,300	20,500	12,700	757	1,850	13,600	22,800	97,200	138,500	138,300	123,200	107,100
9	40,500	19,800	12,200	505	3,650	13,600	25,000	102,000	138,600	137,800	123,000	106,300
10	39,900	19,200	11,600	321	3,360	13,300	27,400	105,900	138,500	137,600	122,800	105,600
11	39,200	18,500	11,000	321	4,180	13,000	28,900	107,800	138,500	137,300	122,200	105,000
12	38,500	17,800	10,400	206	4,540	12,200	30,600	109,400	138,400	137,000	121,600	104,300
13	37,900	17,100	9,840	92	4,910	12,000	33,300	110,300	138,600	136,800	121,000	103,800
14	37,000	16,500	9,320	0	5,150	11,800	35,400	111,000	139,000	136,000	120,800	103,300
15	36,600	15,900	8,910	0	6,000	11,500	38,600	111,500	138,600	135,500	120,100	102,300
16	35,800	15,200	8,800	0	6,610	10,800	41,600	112,200	138,600	134,900	119,600	101,300
17	35,100	14,800	8,690	0	7,110	9,960	44,100	112,400	139,200	134,500	119,100	100,400
18	34,300	14,700	8,440	0	7,630	9,520	46,600	112,900	139,200	134,100	118,300	99,800
19	33,600	14,600	7,890	0	8,160	8,910	49,300	113,400	139,500	133,700	117,300	99,200
20	32,800	14,400	7,500	0	8,630	8,270	51,100	114,800	140,000	133,100	116,500	98,500
21	31,900	13,800	7,370	0	9,030	7,630	52,000	115,500	140,000	132,300	116,100	97,800
22	30,900	13,300	7,140	0	9,460	7,040	53,300	116,600	140,000	131,300	115,600	97,000
23	30,200	13,200	6,710	0	9,870	6,460	55,200	118,900	140,000	130,500	115,200	95,900
24	29,600	13,100	6,270	0	10,300	6,760	57,200	120,400	140,000	130,100	114,800	94,900
25	28,900	13,000	5,810	0	10,600	7,060	60,800	121,700	140,000	129,700	114,100	94,300
26	28,300	13,000	5,310	0	11,000	7,370	62,700	123,200	140,000	129,500	113,200	93,700
27	27,700	12,800	4,860	0	11,200	7,810	64,700	124,700	140,000	129,200	112,500	93,100
28	27,500	12,700	4,280	0	11,400	8,300	66,200	126,500	140,000	128,300	112,100	92,400
29	27,200	12,500	3,770	0	-	9,320	67,300	128,800	140,000	127,500	111,900	91,400
30	26,400	12,600	3,710	0	-----	10,300	68,000	131,700	140,000	126,800	111,700	90,300
31	25,800	-----	3,640	0	-----	11,100	-----	135,300	-----	126,600	111,600	-----
(+)	3,799.4	3,765.7	3,731.6	3,707.2	3,762.1	3,761.1	3,872.3	3,953.1	3,958.0	3,943.8	3,927.1	3,901.8
(+)	-20,800	-13,200	-8,960	-3,640	+11,400	-300	+56,900	+67,300	+4,700	-13,400	-15,000	-21,300

Calendar year 1961..... † -19,460

Water year 1961-62..... † +43,700

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

SAN JOAQUIN RIVER BASIN

11-3140. Tiger Creek powerhouse conduit below Salt Springs Dam, Calif.

Location.--Lat 38°29'47", long 120°13'04", in SW $\frac{1}{4}$ sec.33, T.8 N., R.16 E., on left bank 1,000 ft downstream from Salt Springs Dam and powerhouse.

Records available.--June 1931 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,620 ft (from topographic map). Auxiliary staff gages in stilling wells upstream and downstream from control.

Average discharge.--31 years, 304 cfs (220,100 acre-ft per year).

Extremes.--1931-62: Maximum daily discharge, 577 cfs June 22, 1945; no flow at times in each year except 1957, 1962.

Remarks.--Records excellent. Conduit conveys water of North Fork Mokelumne River from tailrace of Salt Springs powerhouse to forebay of Tiger Creek powerhouse. Since December 1952, records include Bear River diversion to Salt Springs powerhouse.

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	508	558	150	100	63	225	101	25	335	550	550	550
2	510	561	151	238	113	226	182	1.8	546	554	550	550
3	504	520	150	296	59	228	224	1.0	546	552	552	550
4	508	384	223	297	60	228	228	.4	474	552	550	549
5	504	380	225	297	150	325	228	.4	424	554	550	549
6	498	503	222	279	222	291	270	.4	334	552	552	549
7	251	567	225	253	222	309	342	.4	454	552	552	364
8	208	*564	253	360	222	219	342	.4	550	552	513	243
9	518	564	300	*284	218	453	338	.3	550	552	554	550
10	541	494	302	304	216	453	338	.2	550	552	*554	550
11	550	351	305	285	218	452	378	.2	550	552	552	550
12	550	345	298	285	216	464	472	.2	550	*552	552	550
13	549	390	296	290	216	470	519	.2	549	550	552	550
14	547	332	239	248	216	477	528	.2	550	549	552	549
15	550	328	152	216	221	*484	532	114	550	363	552	549
16	560	277	53	216	224	486	532	450	550	549	552	550
17	563	245	53	200	220	486	532	556	550	549	552	552
18	563	51	217	183	228	486	*506	561	550	552	550	549
19	535	51	296	230	228	494	531	560	550	554	552	549
20	520	215	297	230	228	500	531	558	550	554	550	549
21	435	298	297	229	228	498	532	560	550	552	549	550
22	406	207	296	229	228	472	33	561	550	550	552	552
23	516	49	296	225	228	337	92	561	550	550	554	550
24	560	50	298	223	228	104	56	560	549	548	554	552
25	558	50	300	223	228	101	41	455	549	550	552	552
26	558	50	345	213	228	103	64	222	550	506	552	554
27	391	116	346	222	228	210	51	207	550	552	550	554
28	93	149	345	222	226	249	42	249	550	550	552	555
29	275	93	264	222	-	228	36	164	550	550	552	556
30	513	128	102	222	-----	178	30	41	549	550	552	556
31	558	-----	100	139	-----	99	-----	33	-----	550	550	-----
Total	14,900	8,870	7,396	7,460	5,582	10,335	8,347.5	6,390.9	15,759	16,854	17,062	16,032
Mean	481	296	239	241	199	333	278	206	525	544	550	534
Max	563	567	346	360	228	500	532	561	550	554	554	556
Min	93	49	53	100	59	99	30	0.2	334	363	513	243
Ac-ft	29,550	17,590	14,670	14,800	11,070	20,500	16,560	12,680	31,260	33,430	33,840	31,800
Calendar year 1961: Max	567	Min	0	Mean	316	Ac-ft	228,800					
Water year 1961-62: Max	567	Min	0.2	Mean	370	Ac-ft	267,800					

* Discharge measurement made on this day.

11-3145. North Fork Mokelumne River below Salt Springs Dam, Calif.

Location.--Lat 38°29'37", long 120°13'12", in NE 1/4 NW 1/4 sec. 4, T.7 N., R.16 E., on left bank 0.3 mile downstream from Salt Springs Dam and 1.3 miles upstream from Cole Creek.

Drainage area.--160 sq mi.

Records available.--September 1926 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as "above Moore Creek" 1926-30.

Gage.--Water-stage recorder. Altitude of gage is 3,590 ft (from topographic map). Prior to Sept. 12, 1928, at site 100 ft upstream and Sept. 12, 1928, to Sept. 23, 1940, at present site, at datum 2.0 ft higher.

Average discharge.--36 years, 452 cfs (327,200 acre-ft per year), combined flow of North Fork Mokelumne River and Tiger Creek powerhouse conduit minus Bear River-Cole Creek diversion.

Extremes.--Maximum discharge during year, 2,490 cfs June 3 (gage height, 7.92 ft); minimum daily, 4.6 cfs Oct. 21-24.

1926-62: Maximum discharge, 16,000 cfs Nov. 21, 1950 (gage height, 17.20 ft), from rating curve extended above 3,000 cfs on basis of computations of flow over dam and discharge through powerhouse; minimum daily, 0.3 cfs Mar. 31, Apr. 1, 1931.

Remarks.--Records excellent. Flow regulated since 1931 by Salt Springs Reservoir (see p. 721). Diversion from Bear River and Cole Creek to Salt Springs powerhouse averaged 141 cfs during 1962 water year. Diversion above station through Tiger Creek powerhouse conduit (see preceding page).

Cooperation.--Water-stage-recorder graph and eight discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.0	2.8	2.0	72	4.0	495
1.2	8.8	2.5	139	5.0	860
1.4	19	3.0	229	7.0	1,900
1.7	42	3.5	345	8.0	2,550

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.9	5.4	6.8	5.4	6.4	6.1	6.1	415	1,080	133	17	13
2	4.9	5.4	7.4	5.7	6.1	6.4	6.1	516	1,920	119	17	13
3	4.9	5.4	6.8	5.4	5.7	5.4	6.1	548	2,350	19	17	13
4	4.9	5.4	6.1	5.7	5.7	5.1	6.1	381	* 1,490	19	17	13
5	4.9	5.4	5.7	5.7	5.7	6.1	6.1	246	1,460	19	16	13
6	4.9	5.4	5.7	5.7	6.1	8.5	33	246	1,860	19	16	13
7	5.1	5.4	5.7	5.7	5.7	7.1	76	299	1,730	19	16	13
8	5.4	* 5.4	5.7	5.7	6.8	6.4	78	325	1,610	19	16	12
9	5.1	5.4	5.7	* 5.4	4.56	6.4	80	* 446	1,760	19	16	12
10	5.1	5.4	5.7	5.7	614	5.7	174	772	2,180	19	15	12
11	5.1	5.4	5.4	5.7	13	5.4	265	876	1,870	19	15	* 12
12	5.1	5.4	5.1	5.4	7.8	5.4	196	880	1,550	* 19	15	12
13	5.1	5.7	* 5.4	5.4	9.2	5.4	164	800	1,240	19	15	12
14	5.1	5.4	5.4	100	9.7	5.4	172	880	1,130	19	15	11
15	4.9	5.4	5.4	200	17	* 5.1	186	382	1,040	19	15	11
16	4.9	5.7	5.4	138	12	5.1	201	423	804	19	* 15	11
17	4.9	5.7	5.4	185	9.2	5.1	215	286	930	19	15	11
18	4.9	5.4	5.7	176	8.1	5.4	* 244	246	1,640	19	15	11
19	4.9	4.9	6.1	164	7.8	5.4	244	192	1,020	19	15	11
20	4.9	5.1	6.1	155	6.8	5.7	246	141	1,320	19	15	11
21	4.6	5.1	5.7	141	6.4	5.7	252	114	1,250	19	15	11
22	4.6	5.4	5.7	126	6.1	6.8	694	44	1,050	18	15	11
23	4.6	4.9	5.7	44	6.1	6.4	730	16	965	18	15	11
24	4.6	4.9	5.7	6.4	6.4	5.7	740	16	768	18	15	11
25	4.9	5.1	5.7	6.8	6.8	5.7	629	16	712	18	14	11
26	5.1	5.4	5.7	6.4	6.4	5.7	756	17	548	18	14	11
27	5.1	5.4	5.7	6.4	6.1	6.1	760	17	355	18	14	11
28	4.9	5.4	5.7	6.4	6.1	6.4	760	53	370	18	14	11
29	5.4	5.7	5.4	6.4	-----	6.8	764	286	397	17	14	11
30	5.4	6.8	5.4	6.1	-----	6.4	572	481	253	17	14	11
31	5.7	-----	5.4	6.1	-----	6.1	-----	623	-----	17	14	-----
TOTAL	154.8	162.2	178.5	1,552.6	1,269.2	184.4	9,261.5	11,063	36,652	790	471	350
MEAN	4.97	5.41	5.76	50.1	45.3	5.95	309	357	1,222	25.5	15.2	11.7
MAX	5.7	6.8	7.4	200	614	8.5	764	880	2,350	133	17	13
MIN	4.6	4.9	5.1	5.4	5.7	5.1	6.1	16	253	17	14	11
AC-FT	307	322	354	3,083	2,520	366	18,370	21,940	72,700	1,570	934	694

CALENDAR YEAR 1961: MAX 169 MIN 4.1 MEAN 13.0 AC-FT 9,390
 WATER YEAR 1961-62: MAX 2,350 MIN 4.6 MEAN 170 AC-FT 123,200

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-3150. Cole Creek near Mokelumne Peak, Calif.

Location.--Lat 38°31'26", long 120°12'28", in SE $\frac{1}{4}$ sec. 21, T.8 N., R.16 E., on right bank 3.4 miles upstream from mouth and 6.3 miles southwest of Mokelumne Peak.

Drainage area.--23 sq mi, approximately.

Records available.--July 1927 to November 1942, October 1943 to September 1962. Prior to October 1958, published as Cold Creek near Mokelumne Peak.

Gage.--Water-stage recorder. Altitude of gage is 5,970 ft (from topographic map).

Average discharge.--34 years, 61.5 cfs (44,520 acre-ft per year).

Extremes.--Maximum discharge during year, 555 cfs May 5 (gage height, 4.10 ft); minimum daily, 0.1 cfs Oct. 1-20, Aug. 22 to Sept. 30. 1927-62: Maximum discharge, 5,500 cfs Nov. 18, 1950 (gage height, 9.69 ft), from rating curve extended above 900 cfs on basis of slope-area measurement of peak flow; no flow for many days in 1931, 1948-49, 1954-55, 1960.

Remarks.--Records good except those for periods of ice effect or doubtful gage-height record, which are fair. Occasional pumping for domestic use in summer home tract began in September 1961.

Cooperation.--Water-stage-recorder graph and eight discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table, except periods of ice effect or doubtful gage-height record,
(gage-height, in feet, and discharge, in cubic feet per second)

0.3	0.1	0.8	2.1	1.5	28
.4	.2	.9	4.2	2.0	67
.5	.4	1.0	6.6	2.5	134
.6	.7	1.1	9.7	3.0	228
.7	1.1	1.3	18	4.0	520

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.5	2.5	12	15	20	130	203	308	31	0.4	0.1
2	.1	.9	3.0	11	15	19	116	270	313	26	.4	.1
3	.1	1.1	3.5	11	20	18	140	315	261	23	.4	.1
4	.1	1.1	4	11	20	21	176	367	215	20	.4	.1
5	.1	.9	5	11	20	23	201	382	213	18	.5	.1
6	.1	.8	6	12	25	24	211	346	* 233	15	.4	.1
7	.1	.7	9	17	25	23	213	358	242	13	.4	.1
8	.1	.6	8	25	30	22	226	391	253	11	.3	.1
9	.1	* .5	7	23	120	21	240	379	270	9.4	.4	.1
10	.1	.4	6	20	100	21	224	273	249	9.0	.3	.1
11	.1	.4	7.5	13	60	20	222	207	228	* 7.8	.3	* .1
12	* .1	.4	6.6	11	40	19	268	187	211	12	.3	.1
13	.1	.4	6.4	10	30	19	295	131	191	12	.2	.1
14	.1	.3	5.9	10	25		338	115	147	9.0	.2	.1
15	.1	.3	5.4	10	21		346	108	131	7.2	* .2	.1
16	.1	.3	4.9	10			305	140	144	6.4	.2	.1
17	.1	.3	5.1	11			* 295	140	154	5.4	.2	.1
18	.1	.3	5.9	11	20	22	305	174	163	4.6	.2	.1
19	.1	.3	13	11			256	195	163	3.9	.2	.1
20	.1	.3	80	10			178	168	144	3.3	.2	.1
21	.4	.4	60	9			181	166	130	2.7	.2	.1
22	.2	.4	35	10			260	235	113	2.3	.1	.1
23	.2	.5	30	10	18		318	226	99	1.9	.1	.1
24	.2	.6	27	10			320	170	84	1.6	.1	.1
25	.2	.7	20	10		26	261	130	71	1.3	.1	.1
26	.2	1.9	18	11		50	213	118	62	1.1	.1	.1
27	.4	2.5	15	11	19	70	240	128	54	.9	.1	.1
28	.7	2.5	13	12		80	220	191	48	.8	* .1	.1
29	.5	2.0	13	12		95	148	253	42	.7	.1	.1
30	1.1	2.0	13	* 12	-----	100	154	293	37	.6	.1	.1
31	.7	-----	13	12	-----	110	-----	285	-----	.5	.1	-----
Total	6.8	24.3	451.7	379	813	1043	7000	7044	4973	2614	7.3	3.0
Mean	0.22	0.81	14.6	12.2	29.0	33.6	233	227	166	8.43	0.24	0.10
Max	1.1	2.5	80	25	120	110	346	391	313	31	0.5	0.1
Min	0.1	0.3	2.5	9	.15	18	116	108	37	0.5	0.1	0.1
Ac-ft	13	48	896	752	1,610	2,070	13,880	13,970	9,860	518	14	6.0

Calendar year 1961: Max 242 Min 0.1 Mean 34.4 Ac-ft 24,890

Water year 1961-62: Max 391 Min 0.1 Mean 60.3 Ac-ft 43,640

Peak discharge (base, 500 cfs).--Apr. 14 (2030) 506 cfs (3.96 ft); May 5 (2030) 555 cfs (4.10 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 24 to Dec. 11, Dec. 20 to Apr. 1. Doubtful gage-height record Oct. 1, 2, Oct. 24 to Nov. 8, June 29 to July 9, July 12 to Aug. 1, Aug. 5-14, 16-27, Sept. 5-10, 13-30.

SAN JOAQUIN RIVER BASIN

725

11-3160. Bear River near Salt Springs Dam, Calif..

Location.--Lat 38°29'37", long 120°17'18", in NW¹/₄ sec.2, T.7 N., R.15 E., on right bank 200 ft upstream from diversion to Tiger Creek powerhouse conduit and highway bridge, 1.5 miles upstream from mouth, and 4 miles west of Salt Springs Dam.

Drainage area.--48 sq mi, approximately.

Records available.--October 1951 to September 1962.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 3,710 ft (from topographic map).

Average discharge.--11 years, 61.8 cfs (44,740 acre-ft per year).

Extremes.--Maximum discharge during year, 738 cfs June 2 (gage height, 3.15 ft); minimum daily, 1.2 cfs Oct. 26.

1951-62: Maximum discharge, 3,060 cfs May 18, 1957 (gage height, 5.35 ft), from rating curve extended above 560 cfs; minimum daily, 1.0 cfs Aug. 23-28, 1961.

Flood in November 1950 reached a stage of 11.2 ft, from floodmarks (discharge unknown).

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are fair. Flow regulated by Bear River Reservoir since 1900 (capacity, 6,760 acre-ft) and Lower Bear River Reservoir since December 1952 (capacity, 49,100 acre-ft). Water diverted for power from Lower Bear River Reservoir through tunnel to Salt Springs powerhouse on North Fork Mokelumne River since December 1952. Water diverted occasionally from Cole Creek into Lower Bear River Reservoir.

Cooperation.--Water-stage-recorder graph and eleven discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 8

Nov. 9 to Sept. 30

1.0	1.8	0.5	1.4	1.1	10	1.6	90
1.1	6.7	.6	2.2	1.2	16	2.0	205
		.8	4.2	1.3	27	2.5	388
		1.0	7.0	1.4	43	3.0	640

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	a 2.1	9.3	3.4	5.7	b 12	47	56	580	7.8	6.4	4.3
2	2.1	a 2.1	9.3	3.4	6.1	15	52	54	616	7.6	6.4	4.3
3	2.1	a 2.1	6.1	3.3	6.0	12	61	54	547	7.6	6.4	4.3
4	1.8	a 2.1	4.7	3.3	6.0	10	75	52	* 376	7.6	6.4	4.3
5	1.8	a 2.1	4.6	3.3	6.1	11	88	52	202	7.3	6.4	4.3
6	1.8	a 2.1	4.2	3.4	6.6	14	95	47	195	7.3	6.6	4.6
7	1.8	a 2.1	3.5	3.5	12	11	98	43	288	7.1	6.4	4.6
8	1.8	a 2.1	3.1	3.5	29	11	108	38	495	7.1	6.2	4.6
9	1.8	* 2.0	2.9	* 3.5	155	11	106	* 38	515	7.1	6.8	4.4
10	1.8	2.0	2.7	3.5	95	10	111	35	515	7.1	6.6	4.6
11	1.8	2.0	2.6	3.4	43	12	113	30	439	7.1	6.6	4.4
12	* 1.8	2.0	2.6	b 3.4	27	10	103	27	368	* 7.8	6.6	4.4
13	1.8	2.0	2.6	b 3.3	32	11	83	25	333	7.1	6.6	4.4
14	1.8	2.0	2.6	3.1	40	11	80	25	232	7.1	6.2	4.4
15	1.8	2.0	2.7	3.1	45	* 11	88	23	135	6.8	6.0	4.4
16	1.8	2.0	2.6	b 3.2	30	10	98	29	143	6.8	6.0	4.3
17	1.5	2.0	3.2	3.4	23	9.7	106	25	155	6.8	5.8	4.4
18	1.5	2.0	4.2	b 3.5	21	11	* 106	26	183	6.8	5.8	4.4
19	1.5	2.1	6.8	b 4.5	18	11	95	25	176	6.8	6.0	4.4
20	1.8	3.8	9.3	4.8	15	13	78	25	167	6.8	6.2	4.4
21	2.1	3.9	7.8	3.7	13	13	73	25	132	6.6	6.2	4.3
22	1.8	4.3	5.7	b 3.5	13	13	73	25	100	6.6	6.2	4.3
23	1.8	3.7	5.0	b 3.5	13	13	75	231	52	6.6	6.1	4.3
24	1.5	3.9	4.7	b 3.6	12	14	75	321	20	6.4	6.1	4.3
25	1.5	3.2	4.4	4.6	11	18	68	208	9.0	6.4	6.1	4.4
26	1.2	5.0	a 4.0	4.7	b 1.1	21	61	176	8.1	6.4	6.1	4.6
27	3.4	3.4	a 3.5	4.6	b 1.0	27	70	229	7.8	6.4	6.1	4.4
28	3.4	3.0	3.5	4.9	b 1.1	33	103	296	7.8	6.4	4.7	4.4
29	1.5	4.2	3.7	4.9	-	38	68	471	7.8	6.6	4.4	4.4
30	a 2.1	8.1	3.5	5.2	-----	41	61	580	7.8	6.6	4.3	4.4
31	a 2.1	-----	3.5	5.4	-----	45	-----	592	-----	6.6	4.3	-----
Total	58.4	85.4	138.9	118.4	715.5	502.7	2518	3883	7012.3	215.1	187.0	132.0
Mean	1.88	2.85	4.48	3.82	25.6	16.2	83.9	125	234	6.94	6.03	4.40
Max	3.4	8.1	9.3	5.4	155	45	113	592	616	7.8	6.8	4.6
Min	1.2	2.0	2.6	3.1	5.7	9.7	47	23	7.8	6.4	4.3	4.3
Ac-ft	116	169	276	235	1420	997	4990	7700	13910	427	371	262

Calendar year 1961: Max 30 Min 1.0 Mean 5.89 Ac-ft 4,260
 Water year 1961-62: Max 616 Min 1.2 Mean 42.6 Ac-ft 30,870

* Discharge measurement made on this day.

a No gage-height record.

b Stage-discharge relation affected by ice.

SAN JOAQUIN RIVER BASIN

11-3168. Forest Creek near Wilseyville, Calif.

Location.--Lat 38°24'10", long 120°26'45", in SW 1/4 sec. 4, T.6 N., R.14 E., on left bank 1.0 mile downstream from Lion Creek, 1.8 miles upstream from mouth, and 4 miles northeast of Wilseyville.

Drainage area.--20.8 sq mi.

Records available.--July 1960 to September 1962.

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

Extremes.--Maximum discharge during year, 260 cfs Feb. 15 (gage height, 4.60 ft); minimum, 0.7 cfs Oct. 3.
1960-62: Maximum discharge, that of Feb. 15, 1962; minimum, 0.6 cfs Aug. 24, 25, 1961.

Remarks.--Records good. No regulation. Minor diversions above station for irrigation and domestic use.

Rating table, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.5	0.9	3.2	25
2.6	1.9	3.5	53
2.7	3.5	3.8	92
2.8	5.8	4.3	181
3.0	13		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	* 2.6	1.1	3.5	3.9	2.1	5.5	3.8	1.1	6.4	3.9	2.8
2	1.4	2.6	1.7	3.5	* 3.9	2.5	* 5.4	3.6	1.1	* 5.5	3.7	2.4
3	1.2	2.6	9.4	3.5	3.9	2.4	5.7	3.5	1.1	5.5	3.9	2.2
4	1.2	2.6	7.0	* 3.3	3.9	2.4	6.0	3.4	1.1	5.2	4.3	2.2
5	1.3	2.6	6.1	3.5	3.9	4.2	6.3	3.3	1.0	5.0	4.8	2.2
6	1.3	2.6	5.0	3.3	4.3	7.6	6.5	3.2	1.0	4.8	4.5	2.4
7	1.3	2.6	4.5	3.3	8.0	4.8	6.8	3.1	9.8	4.8	4.3	2.4
8	1.6	2.6	4.3	3.5	2.4	3.8	6.8	2.9	1.0	4.8	3.7	2.4
9	1.9	2.6	4.3	3.5	* 1.16	3.7	7.0	2.9	1.0	5.0	3.5	2.4
10	2.2	2.6	4.3	3.5	* 1.46	3.1	6.8	2.8	9.8	5.0	3.7	2.3
11	2.3	2.6	6.7	3.3	8.6	3.0	6.3	2.7	9.8	5.2	3.1	2.2
12	2.2	2.6	4.5	3.5	5.0	2.7	6.4	2.5	9.8	6.7	3.3	2.2
13	2.0	2.6	3.9	3.3	6.7	2.7	* 6.5	2.4	9.8	6.1	3.3	2.0
14	1.9	2.8	3.9	b 3.5	8.0	2.7	6.8	2.3	1.1	5.5	3.1	1.7
15	1.9	2.6	3.9	b 3.5	1.73	2.5	6.8	2.3	1.1	4.8	3.1	2.3
16	1.8	2.6	3.5	b 3.5	9.4	2.5	6.3	2.4	1.1	5.0	3.5	2.3
17	1.8	2.4	3.9	b 3.5	6.8	2.4	6.0	2.2	1.1	4.8	3.3	2.4
18	1.8	2.6	3.3	3.9	5.2	2.5	5.7	2.0	9.4	5.0	3.1	2.4
19	1.7	2.8	3.5	5.8	4.5	2.7	6.2	2.0	8.3	5.5	3.1	2.4
20	1.9	4.1	5.8	8.0	* 4.1	3.0	5.6	2.0	8.3	5.5	3.1	2.4
21	2.3	3.7	5.0	4.5	3.5	3.0	5.2	2.0	7.6	5.0	2.4	2.4
22	2.3	3.7	4.5	4.3	3.1	3.6	4.9	1.8	7.3	4.8	2.8	2.4
23	2.3	3.9	4.3	4.5	2.8	3.8	4.6	1.8	7.3	4.8	2.9	2.3
24	2.3	3.3	4.1	4.3	2.8	3.8	4.6	1.8	7.0	4.8	2.8	2.3
25	2.2	3.7	4.1	4.3	2.5	3.7	4.3	1.8	7.3	4.3	2.4	2.3
26	2.2	5.2	3.9	4.1	2.4	3.9	4.0	1.8	7.0	4.3	2.6	2.3
27	2.6	4.5	3.7	3.9	2.0	4.3	4.1	1.9	7.0	4.3	2.8	2.6
28	4.1	* 3.9	3.7	4.1	2.1	4.8	5.4	* 1.8	6.4	4.3	* 2.8	2.6
29	2.9	4.8	3.7	4.1	-	5.2	4.2	1.6	6.4	3.7	2.8	2.2
30	2.6	* 1.0	3.5	3.9	-----	5.3	3.8	1.3	6.4	* 3.9	2.8	2.3
31	2.6	-----	3.5	3.9	-----	5.4	-----	1.1	-----	3.9	2.8	-----
Total	62.5	100.4	159.8	122.1	128.5	110.1	170.5	74.0	272.7	154.2	102.2	69.7
Mean	2.02	3.35	5.15	3.94	4.59	35.5	56.8	23.9	9.09	4.97	3.30	2.32
Max	4.1	10	17	8.0	173	76	70	38	11	6.7	4.8	2.8
Min	1.2	2.4	3.3	3.3	3.9	21	38	11	6.4	3.7	2.4	1.7
Ac-ft	124	199	317	242	2,550	2,180	3,380	1,470	541	306	203	138

Calendar year 1961: Max 23 Min 0.7 Mean 5.53 Ac-ft 4,000
Water year 1961-62: Max 173 Min 1.2 Mean 16.1 Ac-ft 11,650

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1200	4.38	199	3-5	2300	4.03	129
2-15	1230	4.60	260				

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

11-3170.. Middle Fork Mokelumne River at West Point, Calif.

Location--Lat 38°23'23", long 120°31'32", in SE 1/4 sec. 10, T.6 N., R.13 E., on right bank 200 ft downstream from highway bridge, 0.6 mile south of West Point, and 4.5 miles upstream from South Fork.

Drainage area--67.2 sq mi.

Records available--October 1911 to September 1962. Monthly discharge only for October 1911, published in WSP 1315-A.

Gage--Water-stage recorder. Altitude of gage is 2,450 ft (from topographic map). Prior to Oct. 6, 1926, staff gage at site 1,200 ft upstream at different datum. Oct. 6, 1926, to Aug. 18, 1928, staff gage at present site and datum.

Average discharge--51 years, 57.4 cfs (41,560 acre-ft per year).

Extremes--Maximum discharge during year, 1,100 cfs Feb. 15 (gage height, 5.11 ft); minimum, 1.4 cfs Oct. 6.

1911-62: Maximum discharge, 4,320 cfs Dec. 23, 1955 (gage height, 8.98 ft); no flow Aug. 23 to Sept. 14, 1931, Sept. 9, 1934.

Remarks--Records good except those for periods of backwater from temporary dams, which are fair, and those for periods of ice effect or no gage-height record, which are poor. Flow slightly regulated by Middle Fork Reservoir (capacity, 1,740 acre-ft), 6 miles above station, since January 1940. Several small diversions above station. Water diverted at times 4 miles above station to South Fork Mokelumne River via Middle Fork ditch (capacity, about 15 cfs) and Licking Fork Mokelumne River.

Rating table, except periods of backwater from temporary dams and ice effect
(gage height, in feet, and discharge, in cubic feet per second)

0.67	1.4	1.5	41
.7	1.8	2.0	100
.8	3.7	2.5	192
.9	6.2	3.0	305
1.0	9.7	4.0	620
1.2	19	5.0	1,040

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	* 3.9	1.8	9.7	7.8	6.0	14.0	12.7	5.3	1.9	1.7	3.7
2	2.9	4.1	3.3	9.7	* 7.5	12.5	* 15.0	12.6	5.3	* 1.8	1.5	3.7
3	* 2.7	4.3	1.8	9.3	7.1	9.0	16.0	12.6	4.8	1.7	1.4	2.3
4	2.5	4.6	1.1	* 7.5	7.1	7.5	17.0	12.6	4.7	1.7	1.4	1.5
5	2.1	4.6	1.1	7.5	7.1	15.0	18.3	12.6	4.7	1.6	1.3	2.1
6	2.3	4.6	9.3	7.5	7.5	34.0	19.2	12.2	4.7	1.5	1.5	2.9
7	2.3	4.6	b 8.9	7.5	1.6	20.0	20.7	11.6	4.5	1.5	1.4	3.1
8	2.3	4.3	b 8.9	7.1	5.0	13.5	20.7	11.3	4.2	1.4	1.4	2.3
9	2.7	4.3	7.8	7.1	3.27	11.0	21.2	10.8	4.4	1.4	1.3	3.5
10	3.1	4.3	7.8	7.8	6.83	10.0	20.7	10.3	4.3	1.3	1.3	3.5
11	3.3	4.3	b 6.8	7.1	31.5	9.0	19.9	9.4	3.9	1.3	1.3	3.5
12	3.3	4.3	b 1.2	7.5	17.0	8.0	19.9	8.9	3.9	1.3	1.2	3.3
13	3.3	4.1	1.0	7.5	24.3	7.5	* 20.7	8.3	3.7	1.2	1.1	3.5
14	3.1	4.8	1.0	b 5.4	31.4	7.0	21.0	8.2	3.7	1.2	1.1	1.8
15	2.7	4.6	9.7	b 5.4	7.60	7.0	21.8	7.6	3.9	1.1	1.1	2.5
16	2.5	5.4	9.7	b 5.4	3.90	6.5	20.1	7.9	3.7	1.1	1.1	3.3
17	3.1	4.8	1.0	b 5.9	2.45	6.4	19.0	7.5	3.5	1.1	1.1	3.7
18	2.7	4.3	1.1	8.1	1.77	6.2	18.5	7.1	3.3	1.2	1.0	3.9
19	2.3	4.8	1.2	1.4	1.62	6.8	19.9	7.0	3.0	1.3	9.7	4.1
20	2.7	7.5	1.3	2.4	* 15.0	7.5	17.0	6.7	3.0	1.0	9.7	3.7
21	4.1	6.8	1.3	1.3	1.30	9.0	15.6	6.5	3.0	9.7	7.8	4.1
22	4.1	5.6	1.2	b 9.7	1.10	11.0	15.8	6.4	3.1	9.7	7.5	3.7
23	3.9	5.4	1.1	b 1.0	9.5	10.0	16.0	6.4	3.1	7.1	8.5	4.1
24	3.7	5.4	1.0	b 1.0	8.5	9.0	15.8	6.2	3.0	7.5	1.2	3.7
25	3.9	5.6	1.0	1.0	8.0	9.0	14.8	6.1	3.1	6.8	1.0	3.5
26	4.6	7.8	9.7	1.0	7.0	10.0	13.9	6.1	3.0	6.5	1.0	3.1
27	5.4	7.5	1.0	9.7	6.5	11.0	14.5	6.5	2.7	6.5	6.8	3.1
28	7.8	* 6.2	9.7	9.3	6.0	11.5	18.8	* 6.1	2.5	6.8	* 5.9	2.9
29	5.1	7.8	9.7	8.1	-	12.0	14.6	5.8	2.3	9.7	5.6	3.1
30	5.4	2.1	1.0	8.1	-----	13.0	13.2	5.5	2.1	* 1.0	5.1	3.1
31	4.3	-----	9.7	7.8	-----	13.5	-----	5.3	-----	1.3	3.9	-----
Total	107.1	171.6	352.7	276.7	474.1	3,294	5,336	2,648	1,104	369.3	334.5	96.3
Mean	3.45	5.72	11.4	8.93	169	106	178	85.4	36.8	11.9	10.8	3.21
Max	7.8	21	33	24	760	340	218	127	53	19	17	4.1
Min	2.1	3.9	6.8	5.4	7.1	60	132	53	21	6.5	3.9	1.5
Ac-ft	212	340	700	549	9,400	6,530	10,580	5,250	2,190	732	663	191

Calendar year 1961: Max 42 Min 1.7 Mean 12.8 Ac-ft 9,230

Water year 1961-62: Max 760 Min 1.5 Mean 51.6 Ac-ft 37,340

Peak discharge (base, 400 cfs)--Feb. 10 (8900) 900 cfs (4.70 ft); Feb. 15 (1400) 1,100 cfs (5.11 ft).

* Discharge measurement made on this day.

b. Stage-discharge relation affected by ice.

Note.--No gage-height record Feb. 20 to Apr. 2, June 26 to July 13. Backwater from temporary dams June 18 to Sept. 30.

SAN JOAQUIN RIVER BASIN

11-3185. South Fork Mokelumne River near West Point, Calif.

Location.--Lat 38°22'06", long 120°32'40", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.6 N., R.13 E., on right bank 500 ft upstream from highway bridge, 2.4 miles southwest of West Point, and 2.5 miles upstream from mouth.

Drainage area.--73.8 sq mi.

Records available.--October 1933 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,950 ft (from topographic map). Prior to Sept. 19, 1957, at site 1,100 ft downstream at different datum.

Average discharge.--29 years, 81.1 cfs (58,710 acre-ft per year).

Extremes.--Maximum discharge during year, 1,410 cfs Feb. 15 (gage height, 6.66 ft); minimum, 5.4 cfs Oct. 17.

1933-62: Maximum discharge, 6,920 cfs Dec. 23, 1955 (gage height, 14.8 ft, from floodmarks, site and datum then in use), from rating curve extended above 1,800 cfs on basis of slope-area measurement of peak flow; no flow Aug. 6, 7, Aug. 12 to Sept. 26, 1934.

Remarks.--Records good except those for periods of ice effect, which are fair. Several small diversions above station for domestic use and for irrigation of about 100 acres. Diversions into South Fork Mokelumne River basin above station at times from North Fork Calaveras River and from Middle Fork Mokelumne River, for use below station.

Rating table, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.8	4.0	3.5	144
1.9	6.0	4.0	245
2.0	8.6	5.0	570
2.2	16	6.0	1,020
2.5	34	6.5	1,310
3.0	78		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.3	* 9.6	54	13	17	81	182	138	46	20	11	7.8
2	5.6	9.6	90	13	*16	174	*186	134	45	* 19	11	7.0
3	6.3	9.6	48	*13	16	124	194	130	44	18	11	7.3
4	6.3	9.3	28	13	16	102	210	125	42	18	12	7.3
5	6.3	8.9	23	12	16	127	232	120	41	18	12	7.8
6	6.3	8.9	20	12	16	479	250	114	39	17	12	7.3
7	6.3	8.9	18	12	39	273	265	108	38	16	12	7.6
8	6.6	8.9	b 15	12	100	188	268	101	36	16	11	7.8
9	6.8	8.6	15	12	570	160	276	95	35	16	12	7.6
10	6.8	8.6	b 14	12	783	130	262	90	34	16	13	7.0
11	6.8	8.6	14	12	400	128	250	85	31	17	12	7.3
12	7.0	8.9	14	14	210	111	252	81	33	20	12	7.3
13	6.6	8.9	14	14	325	101	* 260	79	30	19	11	7.0
14	6.8	8.6	14	b 12	441	97	265	79	33	18	11	7.0
15	6.8	8.9	14	b 11	1,030	94	265	77	35	17	10	7.0
16	6.3	8.9	14	b 11	554	93	242	81	37	15	9.6	7.0
17	5.6	7.6	14	b 11	363	89	225	76	35	15	10	6.5
18	5.8	7.6	15	14	240	86	220	71	34	14	9.6	6.3
19	5.8	7.6	16	24	210	89	225	67	32	14	10	6.3
20	6.0	12	16	56	196	96	196	67	30	13	9.2	6.5
21	5.8	14	17	26	*155	94	186	64	28	13	10	6.5
22	6.0	11	16	b 21	131	156	178	62	28	12	11	6.3
23	6.3	10	16	25	117	136	175	60	28	12	11	6.8
24	6.6	10	15	20	114	125	173	58	26	12	9.6	7.6
25	6.8	11	15	18	101	125	166	55	25	11	9.2	6.8
26	7.6	20	14	18	95	130	155	55	24	12	7.8	7.6
27	7.8	18	14	18	84	139	158	60	23	12	8.3	7.6
28	14	*13	14	17	80	155	204	* 59	22	12	7.8	7.3
29	12	16	b 13	17	-	167	162	53	21	11	7.8	7.8
30	8.9	51	b 13	18	-----	171	146	52	20	*11	* 7.5	8.6
31	9.3	-----	13	18	-----	173	-----	49	-----	12	7.3	-----
Total	218.2	352.5	630	519	643.5	4,393	6,428	2,545	975	466	318.7	215.6
Mean	7.04	11.8	20.3	16.7	230	142	214	82.1	32.5	15.0	10.3	7.19
Max	14	51	90	56	1,030	479	276	138	46	20	13	8.6
Min	5.6	7.6	13	11	16	81	146	49	20	11	7.3	6.3
Ac-ft	433	699	1,250	1,030	12,760	8,710	12,750	5,050	1,930	924	632	428

Calendar year 1961: Max 90 Min 3.7 Mean 19.4 Ac-ft 14,020
 Water year 1961-62: Max 1,030 Min 5.6 Mean 64.4 Ac-ft 46,600

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0800	6.05	1,040	3-6	0200	5.31	694
2-15	1500	6.66	1,410				

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

SAN JOAQUIN RIVER BASIN

729

11-3195. Mokelumne River near Mokelumne Hill, Calif.

Location.--Lat 38°18'46", long 120°43'09", SW $\frac{1}{4}$ sec. 1, T.5 N., R.11 E., on downstream side of bridge, 1.2 miles northwest of Mokelumne Hill and 8 miles downstream from confluence of North and South Forks.

Drainage area.--538 sq mi.

Records available.--January to June 1901, May 1903 to December 1904, October 1927 to September 1962. Yearly estimate only for water year 1928 (incomplete), published in WSP 1315-A. Published as "at Electra" 1901, 1903-4.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 589.88 ft above mean sea level (levels by California Division of Highways). Jan. 1 to June 30, 1901, and May 11, 1903, to Dec. 31, 1904, staff gage at site 3 miles upstream at different datum. Nov. 10, 1927, to Aug. 26, 1952, water-stage recorder at site 40 ft upstream at same datum.

Average discharge.--36 years (1903-4, 1927-62), 939 cfs (679,800 acre-ft per year).

Extremes.--Maximum discharge during year, 5,140 cfs Feb. 10 (gage height, 7.65 ft); minimum daily, 72 cfs Nov. 25. 1901, 1903-4, 1927-62; Maximum discharge, 33,700 cfs Dec. 3, 1950 (gage height, 18.5 ft); minimum observed, 5 cfs Aug. 13-15, 17, 18, 1904.

Remarks.--Records good. Flow regulated by Salt Springs Reservoir beginning in 1931 (see p. 721), several smaller reservoirs, and four powerplants. Diversions above station for irrigation and domestic use.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	350	498	409	143	* 116	459	854	1180	1860	866	575	532
2	500	* 333	446	340	146	751	862	1140	3370	680	590	637
3	* 540	554	178	270	138	613	* 891	1130	3840	851	608	590
4	510	512	375	231	126	557	1030	1100	3160	729	593	489
5	458	315	214	290	222	654	1110	1020	2400	610	538	550
6	496	450	279	350	240	2100	1140	942	2790	606	548	550
7	335	596	254	211	346	1210	1220	1060	2790	494	677	513
8	222	516	256	480	398	730	1400	1080	2860	540	572	266
9	435	572	350	282	1540	826	1480	1060	2870	624	587	391
10	534	590	340	365	4060	1070	1480	1270	3420	629	587	521
11	602	360	356	310	1710	779	1480	1540	3220	624	602	613
12	584	318	272	314	1110	1030	1630	1390	2800	638	561	635
13	546	445	367	338	1310	708	1680	1370	2340	637	628	561
14	561	346	270	273	* 1570	788	1700	1300	2180	640	542	625
15	574	308	136	388	3180	824	1780	978	2010	480	624	551
16	628	318	118	353	2200	751	1780	898	1640	567	620	477
17	624	204	103	362	1530	776	1730	1270	1480	538	578	590
18	522	76	225	464	1130	736	1780	1280	2520	688	514	609
19	503	120	362	508	752	740	1670	1160	1960	584	571	576
20	571	216	329	541	782	840	1630	994	2170	690	580	615
21	486	356	340	439	758	834	1530	950	* 2070	573	580	699
22	410	292	434	475	585	936	1400	1030	1820	518	549	628
23	483	103	332	252	665	968	1470	1050	1830	584	614	390
24	544	126	294	292	516	486	1620	1110	1510	690	632	588
25	568	72	340	222	551	605	1520	1200	1460	619	550	600
26	586	98	392	324	587	598	1460	702	1250	648	546	561
27	494	140	410	208	460	635	1510	726	1110	570	683	603
28	196	92	356	237	437	778	1640	778	1050	590	475	594
29	366	87	379	323	-	918	1480	847	936	569	* 587	542
30	365	170	99	257	-----	873	1610	1400	1010	612	578	663
31	604	-----	146	230	-----	538	-----	1500	-----	* 532	640	-----
Total	15,197	9,183	9,161	10,072	27,165	25,111	43,567	34,455	65,726	19,220	18,129	16,759
Mean	490	306	296	325	970	810	1,452	1,111	2,191	620	585	559
Max	628	596	446	541	4,060	2,100	1,780	1,540	3,840	866	683	699
Min	196	72	99	143	116	459	854	702	936	480	475	266
Ac-ft	30,140	18,210	18,170	19,980	53,880	49,810	86,410	68,340	130,400	38,120	35,960	33,240

Calendar year 1961: Max 710 Min 72 Mean 382 Ac-ft 276,500
 Water year 1961-62: Max 4,060 Min 72 Mean 805 Ac-ft 582,700

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-3195. Mokelumne River near Mokelumne Hill, Calif.--Continued.

Records available.--Water temperatures: February 1961 to September 1962.

Extremes.--Maximum temperature during year, 63°F June 19, 21, 22, 24; minimum, 39°F Jan. 23-28.
 1960-62: Maximum temperature, 68°F June 24, 25, 1961; minimum, that of Jan. 23-28, 1962.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	-	-	52	52	-	-	42	42	44	42	40	40	48	48	52	50	55	55	59	58	56	56	54	53
2	--	-	52	52	-	-	42	41	44	43	41	40	48	48	52	51	55	55	58	57	56	56	54	53
3	62	58	52	51	-	-	41	41	44	43	41	41	48	48	52	52	55	55	58	58	56	56	54	54
4	62	60	51	51	-	-	41	41	44	43	41	41	48	48	54	52	56	55	58	57	59	56	54	54
5	62	60	51	50	45	45	41	40	43	43	42	41	48	48	54	54	55	55	58	57	60	57	54	54
6	62	59	51	49	45	45	41	40	43	43	42	42	48	48	54	54	56	55	58	57	57	56	54	54
7	62	60	49	49	45	45	41	41	43	43	42	42	48	48	54	54	56	56	60	57	57	56	54	54
8	62	58	50	49	45	45	41	41	44	43	42	42	48	48	54	54	58	56	59	57	57	56	57	54
9	61	56	50	49	45	45	41	41	43	43	44	42	49	48	54	54	59	58	57	57	59	56	57	55
10	60	58	49	49	45	44	41	40	43	43	43	43	49	48	54	53	59	59	57	57	57	56	56	55
11	60	58	49	49	45	43	41	40	43	43	43	43	49	49	53	52	59	58	57	56	56	55	55	55
12	59	58	49	48	43	43	41	41	44	43	43	43	49	49	52	51	59	58	57	56	57	55	55	55
13	59	58	49	48	43	41	41	41	43	43	43	43	49	49	51	50	59	58	58	56	56	55	55	55
14	61	59	49	48	42	42	41	43	43	44	43	43	49	49	51	50	58	57	58	57	56	55	55	54
15	61	60	49	47	42	42	41	40	43	42	43	43	50	49	50	50	57	57	62	56	56	55	55	54
16	61	60	49	47	42	42	41	40	42	42	43	43	50	50	50	50	57	57	57	55	56	55	55	54
17	61	60	48	46	43	42	40	40	42	42	43	43	50	50	51	50	58	57	57	56	56	55	55	54
18	61	59	48	46	43	43	40	40	42	42	44	43	50	50	53	51	60	58	57	57	56	55	56	54
19	60	59	46	46	43	43	40	40	42	42	45	44	50	50	52	52	63	60	57	56	57	55	55	54
20	60	59	46	46	43	43	41	40	42	41	45	45	50	50	52	52	62	61	57	55	57	55	55	55
21	59	59	47	46	-	-	41	41	41	41	45	45	50	50	52	51	63	61	56	55	56	56	55	55
22	59	57	47	47	-	-	41	40	41	41	45	45	50	50	53	51	63	61	57	55	56	55	55	55
23	58	55	47	47	-	-	40	39	41	41	45	45	50	50	52	52	62	61	57	55	55	54	57	55
24	58	55	47	47	43	43	40	39	41	41	45	45	50	50	54	52	63	61	57	55	55	54	56	55
25	58	57	47	47	43	43	39	39	41	41	46	45	50	50	53	52	62	60	57	55	55	54	55	55
26	57	57	47	47	43	43	39	39	42	41	46	46	50	50	52	52	61	59	57	55	56	54	55	55
27	57	57	47	47	43	43	40	39	41	40	46	46	50	50	52	52	61	59	59	56	55	54	55	55
28	57	56	47	46	43	43	40	39	40	40	46	46	50	50	52	51	59	59	59	56	55	54	55	55
29	56	54	-	-	43	42	40	40	-	-	46	46	50	50	52	51	59	58	59	56	54	53	56	55
30	54	52	-	-	42	42	42	40	-	-	47	46	50	50	54	52	59	58	57	55	54	53	56	55
31	52	52	-	-	42	42	42	41	-	-	48	47	-	-	55	54	-	-	56	56	53	53	-	-
Avg	-	-	-	-	-	-	41	40	42	42	44	44	49	49	53	52	59	58	58	56	56	55	55	54

SAN JOAQUIN RIVER BASIN

731

11-3200. Pardee Reservoir near Valley Springs, Calif.

Location.--Lat 38°15'30", long 120°51'00", in $\frac{1}{4}$ sec. 26, T.5 N., R.10 E., at Pardee Dam on the Mokelumne River and 4.5 miles north of Valley Springs.

Drainage area.--578 sq mi.

Records available.--October 1961 to September 1962 in reports of Geological Survey. March 1929 to September 1961 in files of East Bay Municipal Utility District.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by East Bay Municipal Utility District).

Extremes.--Maximum contents during year, 210,800 acre-ft June 18 (elevation, 568.04 ft); minimum, 125,500 acre-ft Feb. 6 (elevation, 523.27 ft).

Remarks.--Reservoir is formed by a curved concrete gravity dam, completed in 1929; storage began Mar. 9, 1929. Usable capacity, 194,100 acre-ft between elevations 393.50 ft (diversion tunnel invert) and 567.65 ft (spillway crest) above mean sea level. Water is diverted from reservoir for municipal use in the area on the east side of San Francisco Bay. Small intermittent diversions are made to Jackson Valley Irrigation District.

Cooperation.--Records of contents, diversions and evaporation furnished by East Bay Municipal Utility District.

Capacity table (elevation, in feet, and contents, in thousands of acre-feet)

523	125.1
530	136.5
540	153.8
550	172.7
560	193.2
570	215.3

Contents, in thousands of acre-ft, at 2400 hrs, water year October 1961 to September 1962												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	129.2	132.8	130.2	128.2	127.2	157.8	160.0	185.9	193.5	209.4	186.8	164.0
2	129.4	133.3	130.6	128.2	126.9	157.8	160.1	185.4	197.3	208.8	186.1	164.0
3	129.6	133.7	130.3	128.0	126.4	157.3	160.3	184.9	199.3	208.4	185.4	164.0
4	129.7	134.0	130.4	127.8	126.0	156.7	160.8	184.3	199.5	208.0	184.6	163.8
5	129.8	133.9	130.3	127.7	125.7	156.5	161.3	183.6	198.4	207.2	183.8	163.7
6	129.8	134.0	130.2	127.7	125.5	158.7	161.8	182.7	198.4	206.5	182.6	163.5
7	129.6	134.5	130.0	127.4	125.6	159.6	162.4	182.3	198.7	205.5	182.3	163.3
8	129.2	134.8	129.8	127.7	127.4	159.5	163.4	182.6	200.2	204.7	181.5	162.6
9	129.1	135.2	129.8	127.6	128.4	159.6	164.4	182.9	202.6	204.0	180.7	162.2
10	129.3	135.7	129.8	127.7	136.5	160.2	165.5	183.4	206.5	203.2	179.9	161.9
11	129.7	135.7	129.9	127.6	139.4	160.3	166.6	184.5	208.5	202.5	179.2	161.9
12	130.0	135.6	129.8	127.5	141.1	160.9	167.9	185.4	207.9	201.8	178.4	162.0
13	130.2	135.7	129.8	127.5	143.3	160.9	169.3	186.2	207.7	201.2	177.8	161.8
14	130.5	135.7	129.7	127.3	146.3	161.0	170.8	186.9	207.9	200.5	177.0	161.9
15	130.8	135.6	129.5	127.4	152.1	161.1	172.4	187.1	207.7	199.5	176.3	161.8
16	131.1	135.5	129.3	127.4	155.4	161.0	174.0	187.0	208.0	198.7	175.6	161.5
17	131.5	135.2	129.0	127.4	158.4	161.0	175.5	187.4	209.1	197.8	174.8	161.5
18	131.7	134.6	128.9	127.6	158.5	161.0	177.2	188.0	210.8	197.4	173.9	161.4
19	131.8	134.2	129.0	128.1	158.7	160.9	178.6	188.5	210.0	196.6	173.1	161.4
20	132.1	134.0	129.0	128.5	159.2	161.2	179.9	188.6	209.7	196.1	172.3	161.3
21	132.2	134.0	129.0	128.8	159.5	161.3	181.0	188.6	209.1	195.3	171.6	161.5
22	132.1	133.8	129.2	129.0	159.4	161.7	181.9	188.8	209.0	194.4	170.9	161.5
23	132.2	133.3	129.2	128.8	159.6	162.1	182.9	189.1	210.0	193.5	170.1	161.1
24	132.4	132.8	129.1	128.8	159.4	161.5	184.2	189.4	209.7	193.0	169.5	161.0
25	132.7	132.3	129.1	128.5	159.3	161.1	185.0	189.9	209.3	192.4	168.7	161.0
26	132.9	131.8	129.3	128.4	159.2	160.7	185.1	189.6	209.5	191.6	167.8	160.9
27	133.1	131.4	129.4	128.2	158.9	160.3	185.3	190.3	209.6	190.7	167.2	160.9
28	132.6	130.9	129.4	128.0	158.5	160.1	185.7	190.0	209.7	190.0	166.3	160.8
29	132.5	130.4	129.5	128.0	-	160.4	185.9	189.9	209.5	189.2	165.6	160.7
30	132.3	130.1	129.0	127.7	-	160.5	186.2	190.7	209.6	188.5	164.9	160.8
31	132.6	-	128.7	127.6	-	160.0	-	191.8	-	187.6	164.4	-
(+)	527.68	526.16	525.24	524.59	542.55	543.34	556.71	559.34	567.49	557.37	545.71	543.79
(+)	+3,300	-2,500	-1,400	-1,100	+30,900	+1,500	+26,200	+5,600	+17,800	-22,000	-23,200	-3,600
(+)	631	366	203	163	119	291	658	971	1,421	1,568	1,355	904

Calendar year 1961..... # -49,700
 Water year 1961-62..... # +31,500

+ Elevation, in feet, at end of month.

+ Change in contents, in acre-feet.

++ Evaporation, in acre-feet, furnished by East Bay Municipal Utility District.

SAN JOAQUIN RIVER BASIN

11-3210. Mokelumne River at Lancha Plana, Calif.

Location.--Lat 38°13'25", long 120°53'20", in SW¹/₄ sec. 4, T.4 N., R.10 E., on left bank 1 mile east of Lancha Plana, 3 miles downstream from Pardee Dam, and 5 miles upstream from Camanche Creek.

Drainage area.--584 sq mi.

Records available.--June 1926 to September 1962. Records for water years 1927-28 incomplete, yearly estimates published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 158.95 ft above mean sea level (levels by East Bay Municipal Utility District).

Average discharge.--33 years (1929-62), since start of East Bay aqueduct diversion, 810 cfs, unadjusted (586,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,950 cfs June 4 (gage height, 6.45 ft); minimum daily, 76 cfs Dec. 2.
1926-62: Maximum discharge, 26,700 cfs Nov. 21, 1950 (gage height, 20.1 ft); minimum daily, 7 cfs Nov. 21, 1929.

Remarks.--Records excellent. Flow regulated by Pardee Reservoir beginning Mar. 9, 1929 (see preceding page), Salt Springs Reservoir beginning March 1931 (see p. 721), several smaller reservoirs, and four powerplants. Of several diversions above station, East Bay Municipal Utility District aqueduct is largest not returned to river.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 30

July 1 to Sept. 30

1.8	69	2.8	290
2.0	93	3.2	450
2.4	171	4.0	870
3.0	362		
4.0	860		
5.0	1,580		
6.5	3,000		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	156	123	*118	100	106	*657	706	*1.160	712	700	700	443
2	*189	113	76	*109	107	701	*706	1.160	1.170	700	700	294
3	196	113	96	112	107	696	706	1.160	2.590	700	700	345
4	181	117	96	110	107	696	706	1.160	*2.930	700	694	341
5	176	118	101	110	108	712	706	1.160	2.720	706	694	337
6	179	112	98	110	108	745	706	1.160	*2.500	706	694	337
7	176	112	99	110	112	723	706	1.030	2.510	706	694	337
8	178	117	98	110	108	706	706	712	1.810	706	694	337
9	181	114	101	110	116	701	712	706	1.400	706	694	337
10	177	113	98	110	133	701	712	701	1.180	706	694	337
11	170	113	102	109	96	701	712	712	2.020	694	689	337
12	173	114	101	110	112	701	712	712	2.920	711	689	337
13	173	114	98	110	136	701	712	712	2.220	711	689	337
14	167	113	99	110	132	701	712	712	1.880	711	689	337
15	173	112	101	110	270	701	712	712	1.830	706	689	337
16	173	117	101	110	488	701	712	712	1.320	706	689	337
17	173	113	101	107	358	701	712	*789	756	706	689	337
18	173	114	101	109	404	701	718	712	1.490	610	689	337
19	181	114	98	113	434	690	712	712	2.210	667	689	337
20	181	129	101	108	392	690	718	712	*2.080	700	689	337
21	181	104	99	107	423	690	718	712	2.060	700	689	337
22	181	116	98	123	444	701	718	712	1.580	700	689	337
23	177	114	98	99	423	696	712	696	1.100	700	689	337
24	177	117	99	112	400	701	712	718	1.360	*700	689	337
25	181	114	102	112	399	701	794	718	*1.340	605	689	337
26	181	114	101	108	395	696	1.150	660	*811	700	689	*337
27	176	114	99	107	399	701	1.150	138	*784	700	689	337
28	180	114	98	109	399	696	1.150	706	701	700	684	337
29	178	117	99	107	-	701	1.150	712	701	700	689	337
30	180	114	99	108	-----	701	1.140	712	701	700	672	337
31	*181	-----	100	*112	-----	706	-----	712	-----	*700	689	-----
Total	5,499	3,443	3,076	3,391	7,216	21,716	23,598	24,502	49,386	21,563	21,405	10,185
Mean	177	115	99	109	258	701	787	790	1,646	696	690	340
Max.	196	129	118	123	488	745	1,150	1,160	2,930	711	700	443
Min.	156	104	76	99	96	690	706	138	701	605	672	294
Ac-ft	10,910	6,830	6,100	6,730	14,310	43,070	46,810	48,600	97,960	42,770	42,460	20,200
(+)	14,680	14,240	13,620	14,360	13,000	7,420	10,810	12,040	12,820	15,330	15,200	14,120
Mean†	480	318	301	328	1,050	850	1,420	1,093	2,185	613	583	531
Ac-ft‡	29,520	18,940	18,520	20,150	58,330	52,280	84,480	67,200	130,000	37,670	35,820	31,620
Calendar year 1961: Max	428	Min	76	Mean	209	Mean†	-	Ac-ft	151,600	Ac-ft‡	-	
Water year 1961-62: Max	2,930	Min	76	Mean	534	Mean†	807	Ac-ft	386,800	Ac-ft‡	584,500	

* Discharge measurement made on this day.

† Diversions, in acre-feet, to East Bay Municipal Utility District, and to Jackson Valley Irrigation District; furnished by East Bay Municipal Utility District.

‡ Adjusted for change in storage, diversions and evaporation from Pardee Reservoir.

11-3235. Mokelumne River below Camanche Dam, Calif.

Location.--Lat 38°13'15", long 121°02'20", in NW 1/4 sec. 7, T.4 N., R.9 E., on left bank 0.7 mile downstream from Murphy Creek, and 3.4 miles northeast of Clements.

Drainage area.--627 sq mi.

Records available.--October 1904 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A and WSP 1735. Prior to October 1961, published as "near Clements."

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 82.91 ft above mean sea level (levels by East Bay Municipal Utility District).

Average discharge.--24 years (1904-28), 1,111 cfs (804,300 acre-ft per year), 33 years (1929-62), 815 cfs (590,000 acre-ft per year). Storage and diversion by East Bay Municipal Utility District began March 1929.

Extremes.--Maximum discharge during year, 3,100 cfs June 12, 13 (gage height, 8.02 ft); minimum daily, 83 cfs Dec. 3.
1904-62: Maximum discharge, 28,800 cfs Nov. 21, 1950 (gage height, 24.40 ft, site and datum then in use); no flow July 9, Aug. 15, 20-23, 1924.

Remarks.--Records good. Concerning regulation and diversions, see Remarks for Mokelumne River at Lancha Plana, on preceding page. Several small diversions for irrigation between Camanche Dam and station at Lancha Plana.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 11		June 12 to Sept. 30	
4.1	83	4.5	260
4.5	180	5.0	490
5.0	365	5.5	770
6.0	990	6.0	1,140
7.0	1,850	7.0	2,050
8.1	3,000	8.1	3,190

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	143	123	101	105	* 585	668	* 1,160	662	722	716	492
2	180	120	105	109	105	724	668	1,160	934	722	704	288
3	* 195	108	83	114	107	686	668	1,160	2,450	722	704	336
4	163	112	95	114	109	680	668	1,160	* 2,990	722	704	336
5	165	116	97	111	109	686	668	1,160	* 2,820	722	704	327
6	175	112	95	114	109	976	668	1,150	* 2,520	722	698	332
7	175	112	93	114	113	822	668	1,090	2,500	716	* 698	332
8	210	110	95	111	111	704	668	668	1,970	716	698	332
9	124	108	97	111	289	686	674	662	1,370	716	698	332
10	175	105	97	111	405	674	674	656	1,190	716	692	332
11	165	112	95	111	269	674	680	662	1,690	716	692	327
12	165	112	95	114	148	674	680	662	3,100	704	692	327
13	165	110	93	114	380	668	680	662	2,530	716	692	327
14	165	108	91	116	334	668	680	662	2,040	710	692	327
15	168	105	93	114	574	668	680	662	1,980	710	692	327
16	168	108	96	114	724	668	680	662	1,560	710	692	332
17	168	110	97	114	451	668	680	* 745	847	710	692	327
18	172	110	99	111	377	668	680	662	1,300	629	692	327
19	175	108	* 93	116	433	662	680	662	2,400	692	692	327
20	176	141	95	122	476	662	686	662	* 2,220	710	686	327
21	176	* 90	95	116	391	656	686	662	2,210	710	686	327
22	182	112	95	125	420	674	686	662	1,870	710	686	327
23	176	114	95	109	401	662	686	644	1,020	710	686	332
24	175	114	99	109	377	668	686	662	1,500	710	686	327
25	176	120	99	111	376	668	710	662	* 1,470	619	686	327
26	176	116	95	111	377	* 656	1,170	656	854	710	680	* 332
27	172	116	95	107	374	662	1,170	194	819	704	680	336
28	187	114	95	107	379	656	1,170	520	728	686	680	336
29	164	123	95	105	-	662	1,160	662	722	710	680	321
30	176	126	95	107	-----	662	1,150	662	722	704	662	336
31	176	-----	97	* 107	-----	668	-----	662	-----	704	680	-----
Total	5,313	3,415	2,982	3,470	8,823	21,197	22,772	23,377	50,988	21,880	21,422	10,015
Mean	171	114	96.2	112	315	684	759	754	1,700	706	691	334
Max	210	143	123	125	724	976	1,170	1,160	3,100	722	716	492
Min	124	90	83	101	105	585	668	194	662	619	662	288
Ac-ft	10,540	6,770	5,910	6,880	17,500	42,040	45,170	46,370	101,100	43,400	42,490	19,860
Calendar year 1961: Max	407	Min	83	Mean	200	Ac-ft	144,900					
Water year 1961-62: Max	3,100	Min	83	Mean	536	Ac-ft	388,000					

* Discharge measurement made on this day.

SAN JOAQUIN RIVER BASIN

11-3235. Mokelumne River below Camanche Dam, Calif.--Continued.

Records available.--Water temperatures: October 1961 to September 1962.

Extremes.--Maximum temperature during year, 64°F Oct. 14-16; minimum, 45°F Jan. 22-26.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	62	61	59	57	53	53	50	49	49	49	47	47	52	49	54	50	58	54	57	56	60	59	61	59
2	63	62	57	57	53	53	49	49	49	49	47	47	52	50	54	52	58	56	57	56	60	59	61	60
3	63	62	57	56	53	53	49	49	49	49	47	46	52	49	54	52	56	53	58	56	60	59	60	59
4	63	62	57	56	53	53	49	49	49	49	47	46	52	49	55	52	54	53	58	58	60	59	61	60
5	63	62	57	56	53	52	49	49	49	49	48	47	52	49	55	52	54	54	58	57	60	59	61	60
6	63	62	57	56	52	52	49	49	49	49	48	48	52	49	54	52	54	54	58	58	60	59	61	60
7	63	62	57	56	52	52	49	48	50	49	48	48	52	49	55	52	55	54	59	58	60	59	61	61
8	62	60	56	56	52	52	48	48	52	50	49	48	53	49	56	52	56	54	59	58	60	59	61	60
9	60	59	56	56	52	50	48	48	54	52	48	48	53	50	56	53	56	55	59	58	61	60	61	61
10	60	59	56	56	50	50	48	47	54	54	49	47	53	49	56	52	57	55	59	58	61	59	61	61
11	60	60	56	56	50	49	47	47	54	53	49	48	53	49	55	52	57	55	59	58	61	60	61	61
12	62	60	56	55	49	49	47	47	53	53	49	48	53	50	54	52	56	56	59	58	61	60	61	61
13	63	61	55	53	49	49	47	47	53	53	49	47	53	50	54	52	56	56	59	58	61	60	61	61
14	64	62	53	53	49	49	47	47	53	53	49	47	53	50	54	52	56	56	59	58	61	60	61	61
15	64	63	53	53	49	49	47	46	53	53	49	47	54	49	55	52	56	56	59	58	61	60	61	61
16	64	63	53	52	49	49	46	46	53	51	49	48	54	50	55	53	57	56	60	59	61	60	61	61
17	63	63	52	51	49	49	46	46	51	50	49	48	54	50	55	52	59	57	60	59	61	60	61	61
18	63	62	51	50	49	49	46	46	51	50	50	48	53	50	56	53	59	58	60	59	61	60	61	61
19	62	62	50	50	50	49	47	46	50	50	50	48	53	50	56	53	58	58	60	59	61	60	61	60
20	62	60	51	50	52	50	48	47	50	50	50	49	53	50	56	52	59	58	60	59	61	60	61	60
21	60	60	52	51	52	52	48	48	50	49	51	49	54	50	57	52	58	58	60	59	61	60	61	60
22	60	58	52	51	52	52	48	45	50	49	51	50	55	50	57	53	58	57	60	59	61	60	61	60
23	58	58	52	52	52	52	45	45	50	49	52	49	55	51	56	54	58	57	60	59	61	60	61	60
24	58	58	53	52	52	52	45	45	49	49	52	50	55	51	56	53	58	57	60	59	61	60	61	60
25	58	58	53	53	52	52	45	45	49	48	53	50	54	51	56	53	57	56	61	59	61	60	61	61
26	59	58	53	53	52	52	46	45	48	48	53	51	54	51	56	53	58	56	61	59	61	60	61	60
27	59	59	53	53	52	51	46	46	48	46	51	48	53	50	57	54	58	57	61	59	61	60	61	60
28	59	58	53	53	51	51	47	46	47	46	51	49	53	50	57	56	58	56	61	59	61	60	61	60
29	58	56	53	53	51	51	47	47	-	-	51	49	53	50	58	54	58	57	60	59	61	60	61	60
30	57	56	53	53	51	50	48	47	-	-	51	49	53	50	58	54	57	57	60	59	61	60	61	60
31	57	57	-	-	50	50	49	48	-	-	51	49	-	-	58	54	-	-	60	59	61	60	-	-
Avg	61	60	54	54	51	51	47	47	50	49	50	48	53	50	56	53	57	56	59	58	61	60	61	60

SAN JOAQUIN RIVER BASIN

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11-3250. Woodbridge Canal at Woodbridge, Calif.

Location.--Lat 38°09'10", long 121°18'00", in S $\frac{1}{4}$ sec. 34, T. 4 N., R. 6 E., on right bank at Woodbridge at point of diversion.

Records available.--April 1926 to September 1962.

Gage.--Differential water-stage recorder and gate-opening recorder. Datum of gage is 32.18 ft above mean sea level (levels by East Bay Municipal Utility District). Prior to Mar. 15, 1931, water-stage recorder at site 0.2 mile downstream at different datum.

Average discharge.--36 years, 136 cfs (98,460 acre-ft per year).

Extremes.--1926-62: Maximum daily discharge, 482 cfs July 8, 1953; no flow part of each year.

Remarks.--Records good to February, fair thereafter. Discharge computed from records of gate openings and effective head as shown by recorders. Canal diverts from Woodbridge Reservoir on Mokelumne River in sec. 34, T. 4 N., R. 6 E., for irrigation of lands south and west of Woodbridge.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	150	72	23	0	0	0	87	304	300	346	359	302
2	* 135	77	8	* 0	0	0	* 111	277	287	343	354	272
3	127	71	0	0	0	0	136	260	282	* 363	339	258
4	121	61	0	0	0	0	153	238	294	367	320	* 253
5	114	59	0	0	* 0	0	182	216	292	371	316	247
6	103	62	0	0	0	0	190	171	295	375	322	231
7	87	62	0	0	0	0	172	* 304	292	364	321	233
8	85	52	0	0	0	0	156	365	307	359	322	246
9	86	44	0	0	0	0	154	355	292	362	328	247
10	87	29	0	0	0	0	171	344	282	365	323	250
11	102	29	0	0	0	0	191	332	266	364	314	244
12	101	24	0	0	0	0	229	332	295	355	313	241
13	97	22	0	0	0	a 10	249	324	296	349	323	238
14	82	31	0	0	0	a 7	234	306	295	328	332	235
15	76	35	0	0	0	a 6	234	282	284	302	324	228
16	88	32	0	0	0	a 6	260	272	277	309	319	210
17	96	34	0	0	0	a 6	367	* 292	248	316	323	201
18	92	34	0	0	0	a 7	454	300	244	316	330	176
19	90	34	0	0	0	a 7	446	300	282	317	325	165
20	90	31	0	0	0	a 7	427	299	264	322	324	170
21	90	31	0	0	0	a 7	402	312	268	318	322	171
22	75	* 33	0	0	0	a 7	371	341	360	307	331	162
23	75	33	0	0	0	a 7	352	339	360	334	331	164
24	76	31	0	0	0	a 7	359	333	386	324	333	158
25	79	26	0	0	0	a 7	364	323	369	336	332	159
26	81	26	0	0	0	a 7	386	289	390	335	321	165
27	71	32	0	0	0	a 7	364	275	372	347	315	164
28	69	40	0	0	0	53	310	232	370	345	317	161
29	82	35	0	0	-	65	289	300	367	352	322	155
30	71	26	0	0	-----	82	* 303	306	361	357	318	138
31	* 73	-----	0	* 0	-----	93	-----	307	-----	* 358	319	-----
Total	2,851	1,208	31	0	0	398	8,103	9,230	9,277	10,606	10,092	6,244
Mean	92.0	40.3	1.00	0	0	12.8	270	298	309	342	326	203
Max	150	77	23	0	0	93	454	365	390	375	359	302
Min	69	22	0	0	0	0	87	171	244	302	313	138
Ac-ft	5,650	2,400	61	0	0	789	16,070	18,310	18,400	21,040	20,020	12,380

Calendar year 1961: Max 255 Min 0 Mean 86.7 Ac-ft 62,750
 Water year 1961-62: Max 454 Min 0 Mean 159 Ac-ft 115,120

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

a No gage-height record.

Note.--Head-discharge relation indefinite Apr. 18 to July 2.

11-3255. Mokelumne River at Woodbridge, Calif.

Location.--Lat 38°09'30", long 121°18'10", in NE $\frac{1}{4}$ sec.34, T.4 N., R.6 E., on left bank at Woodbridge, 0.3 mile downstream from county highway bridge and 0.4 mile downstream from dam and canal intake of Woodbridge Irrigation District.

Drainage area.--644 sq mi.

Records available.--May 1924 to September 1962 (low-water records only 1924-25).

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 14.9 ft above mean sea level (levels by East Bay Municipal Utility District). May 1924 to July 1928, about 100 ft downstream from bridge at datum about 4 ft higher; July 1928 to March 1931, 400 ft downstream from bridge at about same datum.

Average discharge.--33 years (1929-62), since start of diversion through East Bay Municipal Utility District aqueduct, 629 cfs (455,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,340 cfs June 13 (gage height, 15.66 ft); minimum daily, 20 cfs Jan. 21, 22.
1924-62: Maximum discharge, 27,000 cfs Nov. 22, 1950 (gage height, 29.58 ft), from rating curve extended above 6,000 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 1.4 cfs Sept. 19, 20, 22, 1927.

Remarks.--Records good. Concerning regulation and diversions see Remarks for Mokelumne River below Camanche Dam; between Woodbridge and Camanche Dam there are many additional diversions for irrigation, including Woodbridge Canal (see preceding page).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 10 to Apr. 10, Apr. 14, 15, 26-30)

Oct. 1 to Apr. 30				May 1 to Sept. 30			
3.4	20	6.0	243	3.3	18	8.0	530
3.9	46	8.0	506	3.7	36	10.0	900
4.5	90	10.0	822	4.5	90	12.0	1,360
5.0	135			5.0	135	14.0	1,880
				6.0	243	16.0	2,450

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	41	* 108	61	26	*393	562	709	*281	296	211	268
2	*46	36	* 522	*67	27	574	544	716	337	293	215	129
3	32	29	168	70	28	623	482	713	1,010	280	218	38
4	24	28	119	73	30	608	493	700	1,960	280	265	*26
5	30	28	90	73	31	612	415	664	*2,290	247	276	24
6	33	27	84	73	33	691	426	707	2,140	229	271	23
7	30	26	78	73	37	817	439	676	2,000	235	253	32
8	30	24	73	74	44	698	460	475	1,940	256	251	32
9	33	25	70	137	96	647	488	274	1,250	254	250	31
10	29	27	70	84	331	634	454	261	1,050	232	253	30
11	24	27	70	77	357	629	342	263	777	208	254	30
12	24	28	68	73	221	631	320	261	1,750	229	271	26
13	24	29	67	73	177	626	365	272	2,170	226	275	22
14	24	30	66	70	332	624	384	293	1,710	270	238	22
15	26	30	65	76	427	628	378	307	1,440	288	230	22
16	26	29	65	69	547	636	337	322	1,340	277	244	29
17	27	29	66	64	537	660	319	326	728	253	239	47
18	27	30	66	63	398	640	306	376	362	233	237	65
19	26	30	66	38	394	637	303	305	1,380	172	248	104
20	26	32	*64	69	418	629	311	302	*1,600	220	255	102
21	27	32	61	20	393	629	348	300	1,520	249	247	92
22	28	*32	60	20	376	634	343	241	1,520	265	241	100
23	30	32	61	22	386	645	342	257	761	257	235	106
24	*32	33	60	39	368	639	328	248	929	235	225	112
25	31	34	62	39	359	645	299	306	891	218	229	110
26	32	35	62	23	360	648	470	307	630	152	243	109
27	32	35	62	24	359	*640	740	256	428	210	267	95
28	36	35	60	28	356	611	744	40	330	226	253	106
29	40	35	60	30	-	575	743	120	294	230	251	129
30	37	88	59	26	-----	515	* 722	274	288	245	247	90
31	38	-----	60	*27	-----	546	-----	275	-----	*229	245	-----
Total	972	976	2,712	1,755	7,448	19,364	13,207	11,546	35,106	7494	7,637	21,511
Mean	31.4	32.4	87.3	56.6	266	625	440	372	1,170	242	246	71.7
Max	68	88	522	137	547	817	744	716	2,290	296	276	268
Min	24	24	59	20	26	393	299	40	281	152	211	22
Ac-ft	1,930	1,940	5,380	3,480	14,770	38,410	26,200	22,900	69,630	14,860	15,150	4,270

Calendar year 1961: Max 522 Min 12 Mean 54.7 Ac-ft 39,640
Water year 1961-62: Max 2,290 Min 20 Mean 302 Ac-ft 218,910

* Discharge measurement made on this day.

11-3255. Mokelumne River at Woodbridge, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature during year, 70°F Oct. 1, Sept. 3-5, 9, 16-18; minimum, 40°F Jan. 25, 26.
 1960-62: Maximum temperature 79°F July 11, 13, 30, 31, 1961; minimum, that of Jan. 25, 26, 1962.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	70	69	58	57	52	52	45	43	46	45	47	47	54	54	56	55	62	61	64	63	68	67	69	69
2	69	69	57	56	52	52	44	43	47	46	48	47	54	54	56	55	62	62	66	64	69	67	69	68
3	69	68	56	56	52	52	44	44	48	47	48	48	54	54	58	56	62	60	68	66	69	67	70	69
4	69	67	56	56	52	52	45	44	48	48	48	48	53	54	58	57	60	58	68	68	68	68	70	69
5	68	68	56	56	52	52	45	45	48	48	48	48	55	55	58	57	58	57	68	68	68	68	70	68
6	68	68	56	56	52	51	46	45	48	48	49	48	56	55	58	57	57	57	69	68	68	67	69	67
7	68	65	56	56	51	50	45	45	50	48	49	49	57	56	59	58	57	56	69	68	68	67	69	68
8	65	63	56	55	50	49	46	45	51	50	49	49	57	57	59	59	56	56	68	68	68	67	69	68
9	63	63	55	55	49	47	46	46	52	51	49	49	57	57	59	59	56	56	68	68	68	68	70	68
10	63	62	55	55	47	46	46	46	52	52	49	49	57	57	59	59	56	56	68	67	68	68	69	68
11	62	62	55	55	46	44	46	45	53	52	49	49	58	57	59	59	58	56	67	66	69	68	69	67
12	62	61	55	54	44	44	45	45	53	53	49	49	58	58	59	59	58	58	67	65	69	68	69	68
13	63	62	54	53	44	43	45	45	53	53	49	49	59	58	59	59	58	57	67	67	69	68	69	67
14	65	63	53	53	43	43	45	45	53	52	49	49	59	59	59	58	57	57	67	67	69	68	69	68
15	66	65	53	52	43	43	45	42	52	52	49	49	59	59	58	58	57	57	67	67	69	68	69	68
16	67	65	52	52	43	43	43	42	52	52	49	49	59	59	58	58	58	57	67	66	68	67	70	68
17	68	67	52	51	43	43	42	42	52	52	49	49	59	58	59	58	58	58	66	66	68	67	70	69
18	69	67	51	50	43	43	42	42	52	52	50	49	58	57	59	58	60	58	66	66	68	67	70	69
19	69	68	51	51	44	43	44	42	52	51	50	50	57	56	58	58	63	60	67	66	68	66	69	68
20	68	67	51	50	51	44	44	43	51	51	51	50	56	56	58	58	63	63	67	66	68	66	69	68
21	67	65	50	49	52	51	44	43	51	50	51	51	56	56	58	58	63	61	68	67	68	67	68	68
22	65	63	50	49	52	52	44	42	50	50	51	51	56	56	60	58	61	61	68	67	68	67	68	68
23	63	61	50	50	52	51	42	41	50	50	51	51	57	56	60	60	61	60	67	67	68	66	68	68
24	61	60	50	50	51	51	41	41	50	50	51	51	58	57	61	60	61	60	68	67	68	67	68	68
25	60	60	50	50	51	51	41	40	50	50	52	51	58	57	60	60	61	61	68	67	68	67	68	68
26	60	60	51	50	51	49	41	40	50	48	53	52	57	56	60	60	61	60	69	67	68	67	68	68
27	60	60	51	51	49	48	43	41	48	46	53	53	56	56	60	60	60	60	69	68	68	67	68	68
28	60	59	51	51	48	48	43	42	47	46	54	53	56	56	62	60	60	60	68	68	68	67	68	67
29	59	58	51	51	48	47	43	43	-	-	54	54	56	55	64	61	62	60	68	67	69	67	67	67
30	58	58	52	51	47	46	45	43	-	-	54	54	55	54	64	63	63	62	68	67	69	69	67	67
31	58	57	-	-	46	45	45	45	-	-	54	54	-	-	63	62	-	-	68	67	69	69	-	-
Avg	65	64	53	53	48	48	44	43	50	50	50	50	57	56	59	59	60	59	68	67	68	67	69	68

SAN JOAQUIN RIVER BASIN

11-3263. Dry Creek above Sutter Creek, near Ione, Calif.
(Formerly published as Dry Creek near Ione)

Location.--Lat 38°24'54", long 120°54'18", in SW 1/4 sec. 32, T.7 N., R.10 E., on right bank 1,000 ft downstream from bridge on State Highway 104 and 4.6 miles northeast of Ione.

Drainage area.--70.8 sq mi.

Records available.--February 1960 to September 1962. Published as Dry Creek near Ione in 1961.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,450 cfs Feb. 15 (gage height, 7.40 ft), from rating curve extended above 320 cfs; no flow for several months.

1960-62: Maximum discharge, that of Feb. 15, 1962; no flow for several months in each year.

Remarks.--No known diversion or regulation above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	1.8	28	17	6.6	1.2			
2				0	1.6	* 158	16	5.8	1.0			
3				0	1.5	105	15	* 5.4	.9			
4				0	1.5	72	14	5.1	.7			
5				0	1.5	73	13	4.6	.6			
6	(*)			0	1.6	569	12	4.2	.5	(*)		
7				0	4.5	331	11	4.1	.4			
8				0	7.5	166	11	3.6	.3			
9				* 0	* 184	109	11	3.3	.4		(*)	
10		(*)		0	528	79	10	3.2	.3			
11				0	257	66	9.4	3.0	.3			
12			(*)	0	122	53	9.2	3.0	.3			
13				.1	436	46	8.9	3.2	.2			
14				1.0	407	40	8.7	3.3	.2			
15				1.3	886	35	7.9	3.7	.1			
16				1.2	621	33	7.5	3.6	.1			
17				1.2	253	30	7.1	3.4	.1			
18				1.2	137	28	6.7	2.7	.1			
19	(*)			2.8	136	24	* 8.8	2.5	0			
20				16	108	24	15	2.3	0			
21				8.3	* 82	22	10	2.1	* 0			
22		(*)		5.0	64	53	8.8	1.9	0			
23				* 3.2	52	49	7.4	1.8	0			
24				2.5	47	34	6.4	1.8	0			
25				2.3	42	29	6.0	1.6	0			
26				2.3	40	26	6.0	1.8	0			
27			(*)	2.1	33	24	6.9	2.3	0			
28				1.9	28	22	16	2.3	0			
29				1.8	-	20	11	2.0	0			
30				1.7	-	19	7.7	1.7	0			
31				1.7	-	18	-	* 1.5	-			
Total	0	0	0	57.6	4,484.5	2,385	305.4	97.4	7.7	0	0	0
Mean	0	0	0	1.86	160	76.9	10.2	3.14	0.26	0	0	0
Max	0	0	0	16	886	569	17	6.6	1.2	0	0	0
Min	0	0	0	0	1.5	18	6.0	1.5	0	0	0	0
Ac-ft	0	0	0	114	8,890	4,730	606	193	15	0	0	0

Calendar year 1961: Max 62 Min 0 Mean 2.53 Ac-ft 1,830
Water year 1961-62: Max 886 Min 0 Mean 20.1 Ac-ft 14,550

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

11-3270. Sutter Creek near Sutter Creek, Calif.

Location.--Lat 38°23'45", long 120°46'50", in SE $\frac{1}{4}$ sec.5, T.6 N., R.11 E., on left bank 1.3 miles east of town of Sutter Creek.Drainage area.--50.6 sq mi.Records available.--October 1935 to December 1941, March 1960 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.Gage.--Water-stage recorder and artificial control. Altitude of gage is 1,220 ft (from topographic map). Prior to Oct. 29, 1937, staff gage 15 ft downstream at datum 4.00 ft lower. Oct. 29, 1937, to Dec. 7, 1938, staff gage at same site at datum 4.00 ft lower.Average discharge.--8 years, 30.4 cfs (22,010 acre-ft per year).Extremes.--Maximum discharge during year, 656 cfs Feb. 10 (gage height, 3.04 ft); no flow for many months.

1935-41, 1960-62: Maximum discharge, 3,900 cfs Feb. 22, 1936 (gage height, 8.0 ft), from rating curve extended above 1,800 cfs; no flow at times in each year except 1938 and 1941.

Remarks.--Small diversions for irrigation upstream.Cooperation.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			* 4.4	2.4	5.3	20	20	9.2	4.6			
2			11	2.4	5.0	127	19	8.8	4.4			
3			15	2.6	4.8	88	* 18	* 8.6	3.7			
4			6.4	2.6	4.5	63	17	8.2	3.1			
5			4.3	2.6	4.4	61	15	7.6	2.8			
6	(*)		3.5	2.6	4.7	* 346	14	7.3	2.5	(*)		
7			2.9	2.6	7.6	* 220	13	7.2	2.4			
8			2.7	2.6	18	128	13	6.7	2.4			
9			2.5	2.6	123	93	14	6.7	2.2		(*)	
10		(*)	2.5	2.6	* 389	73	13	6.5	2.1			
11			2.5	2.6	167	64	12	6.5	2.0			
12			2.4	2.9	83	59	12	6.8	2.4			
13			2.3	3.3	233	50	11	7.1	2.4			
14			2.3	3.2	223	40	11	7.2	2.5			
15			2.2	3.0	460	36	11	7.7	2.7			
16			2.1	2.8	289	31	11	7.2	2.9			
17			2.1	2.8	164	29	10	6.7	2.8			
18			2.4	2.9	103	26	10	6.3	2.2			
19	(*)		2.7	5.0	93	24	12	6.1	2.0			
20			3.2	4.1	76	22	16	5.9	1.6			
21			3.5	1.9	* 61	23	12	5.5	* 1.3			
22		(*)	3.3	1.2	46	54	11	5.3	1.1			
23			3.1	* 8.7	36	61	9.6	5.5	.9			
24			3.0	7.3	34	49	9.1	5.4	.8			
25			2.8	6.8	32	38	8.8	5.4	.6	(*)		
26	(*)		2.8	6.3	28	31	8.8	5.4	.5			
27			* 2.8	6.1	25	28	9.1	6.0	.3			
28			2.6	5.9	21	25	20	6.0	.2			
29			2.6	5.7	-	23	13	5.6	.1			
30			2.5	5.5	-----	23	10	5.5	.1			
31			2.4	5.4	-----	21	-----	* 4.9	-----			
Total	0	0	110.8	183.8	2,740.3	1,976	383.4	204.8	59.6			
Mean	0	0	3.57	5.93	97.9	63.7	12.8	6.61	1.99	0	0	0
Max	0	0	15	41	460	346	20	9.2	4.6	0.1	0	0
Min	0	0	2.1	2.4	4.4	20	8.8	4.9	0.1	0	0	0
Ac-ft	0	0	220	365	5,440	3,920	760	406	118	0	0	0
Calendar year 1961:	Max	39	Min	0	Mean	3.72	Ac-ft	2,700				
Water year 1961-62:	Max	460	Min	0	Mean	15.5	Ac-ft	11,230				

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

SAN JOAQUIN RIVER BASIN

11-3295. Dry Creek near Galt, Calif.

Location.--Lat 38°14'48", long 121°13'03", in NE¼ sec.32, T.5 N., R.7 E., on right bank of main channel just downstream from county road bridge, 2 miles downstream from Coyote Creek, and 4 miles east of Galt.

Drainage area.--325 sq mi.

Records available.--October 1926 to September 1933; October 1944 to September 1962. Monthly figures only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 52.83 ft above mean sea level (levels by East Bay Municipal Utility District). Dec. 4, 1926, to Sept. 30, 1933, at site 4 miles downstream at different datum. Oct. 1, 1944, to Sept. 30, 1945, at present site at datum 3.00 ft higher.

Average discharge.--25 years, 103 cfs (74,500 acre-ft per year); median of yearly mean discharges, 63 cfs (45,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,900 cfs Feb. 15 (gage height, 13.30 ft); no flow for several months. 1926-33, 1944-62: Maximum discharge, 24,000 cfs Apr. 3, 1958 (gage height, 15.28 ft); no flow for several months in each year.

Remarks.--Records good. Many small diversions above station for irrigation. Total storage of many small reservoirs, about 1,000 acre-ft and total number of acres irrigated, approximately 500.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.24	0	4.0	106
2.3	.1	5.0	262
2.4	.4	6.0	458
2.5	1.3	8.0	898
2.6	2.9	12.0	1,710
2.7	5.3	12.5	1,950
2.9	12	13.0	2,800
3.2	29	13.5	4,900
3.5	52		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	72	42	6.2				
2			0		0	306	40	*1.7				
3			4.5		0	467	*37	.3				
4			2.6		0	258	34	0				
5			.1		0	197	29	0				
6			0		0	1280	28	0				
7			0		0	*1450	24	0				
8			0		0	660	22	0				
9			0		154	406	20	0				
10			0		1460	269	16	0				
11			0		*1630	248	14	0				(*)
12			0		*616	*204	13	0				
13			0		1320	165	12	0				
14			0		*1760	141	10	0				
15			0		*2960	124	5.0	0				
16			0		2240	106	2.4	0				
17			0		1270	95	3.8	0				
18			0		632	82	2.6	0				
19			*0		513	72	1.0	0				
20			0		438	65	5.3	0	(*)			
21		(*)	0		320	62	14	0				
22			0		224	67	7.7	0				
23			0		*181	204	4.0	0				
24	(*)		0		151	126	1.8	0				
25			0		134	93	.1	0				
26			0		126	80	0	0		(*)		
27			0		100	71	0	0				
28			0		82	63	0	0				
29			0		-	56	1.7	0				
30			0	(*)	-----	51	1.1	0				
31			0		-----	47	-----	0	-----			-----
Total	0	0	7.2	0	16,311	7,587	416.7	8.2	0	0	0	0
Mean	0	0	0.23	0	583	245	13.9	0.26	0	0	0	0
Max	0	0	4.5	0	2,960	1,450	42	6.2	0	0	0	0
Min	0	0	0	0	0	47	0	0	0	0	0	0
Ac-ft	0	0	14	0	32,350	15,050	827	16	0	0	0	0

Calendar year 1961: Max 110 Min 0 Mean 2.31 Ac-ft 1,680

Water year 1961-62: Max 2,960 Min 0 Mean 66.7 Ac-ft 48,260

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	2200	12.76	2,290	3-5	1400	12.35	1,840
2-15	1100	13.30	3,900				

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

11-3330. Camp Creek near Somerset, Calif.

Location.--Lat 38°39'26", Long 120°39'46", in SW $\frac{1}{4}$ sec. 4, T.9 N., R.12 E., on right bank 0.2 mile upstream from mouth, 1.3 miles northeast of Somerset, and 5.6 miles south of Camino.

Drainage area.--62.7 sq mi.

Records available.--February to May 1924 (published as "near Pleasant Valley"), October 1954 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,820 ft (from topographic map). Feb. 1 to May 31, 1924, staff gage at site about 0.2 mile upstream at different datum.

Average discharge.--8 years (1954-62), 63.0 cfs (45,610 acre-ft per year), adjusted for storage, diversion, and evaporation from Jenkinson Lake.

Extremes.--Maximum discharge during year, 150 cfs Feb. 10 (gage height, 3.50 ft); minimum, 1.0 cfs Sept. 21-25.

1924, 1954-62: Maximum discharge, 6,020 cfs Dec. 23, 1955 (gage height, 12.48 ft); minimum, 0.5 cfs Aug. 1-3, 1961.

Remarks.--Records good. Flow partly regulated since January 1955 by Jenkinson Lake (usable capacity, 40,570 acre-ft). Water is released from Jenkinson Lake through Camino conduit for irrigation and domestic supply in North Fork Cosumnes and South Fork American River basins.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.3	0.5	2.0	14
1.4	1.2	2.2	24
1.5	2.2	2.5	44
1.6	3.5	3.0	89
1.8	8.3	3.5	150

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	2.8	12	4.6	5.0	12	1.6	9.5	5.0	3.0	3.0	1.6
2	1.6	2.8	12	4.6	5.0	41	1.4	8.9	4.8	7.4	2.8	1.6
3	1.4	2.6	8.9	4.3	4.0	29	1.5	8.6	4.6	9.8	2.8	1.4
4	1.4	2.5	5.8	4.3	3.9	22	1.4	8.3	4.6	8.3	3.0	1.4
5	1.4	2.5	5.0	4.0	3.9	28	1.3	8.0	4.3	* 8.0	3.1	1.6
6	1.4	2.3	4.8	4.0	4.0	96	1.2	7.8	4.3	7.3	3.1	1.6
7	1.4	2.3	4.8	4.3	6.3	60	1.2	7.6	4.0	6.8	3.1	1.6
8	1.4	2.6	4.8	4.3	8.6	40	1.1	7.6	3.9	6.3	3.1	1.6
9	1.4	3.5	4.6	4.3	4.7	33	1.0	7.6	3.9	6.0	3.4	1.6
10	1.4	2.8	4.3	4.3	10.3	26	* 9.8	7.6	3.7	5.8	3.4	1.4
11	1.6	2.0	4.3	4.3	4.9	26	8.9	7.6	3.7	5.6	3.2	1.4
12	1.8	2.1	4.0	4.6	2.6	22	8.6	7.8	3.7	7.0	3.1	1.6
13	1.8	* 2.2	* 4.3	5.0	3.2	20	8.0	8.0	3.7	7.6	2.8	* 1.4
14	1.6	2.3	4.3	4.3	4.7	20	7.8	8.3	3.9	6.3	2.6	1.4
15	1.6	2.3	4.6	3.7	8.8	18	7.8	8.3	4.3	5.6	2.3	1.4
16	1.6	2.2	4.3	3.9	8.2	18	6.6	7.6	4.3	4.8	2.2	1.4
17	1.4	2.2	4.3	4.0	5.4	18	7.3	7.6	4.0	4.6	2.1	1.3
18	1.4	2.5	5.6	4.8	3.7	16	8.3	7.3	3.9	4.0	2.1	1.3
19	1.4	4.0	6.3	1.3	3.0	1.4	1.4	7.0	3.7	3.9	2.0	1.2
20	1.6	6.6	8.6	2.5	2.5	1.7	1.6	7.0	3.5	3.7	1.9	1.2
21	2.0	6.8	7.0	1.1	2.0	1.8	1.0	* 7.3	3.4	4.0	1.9	1.1
22	2.3	5.0	5.8	6.3	1.6	3.3	9.8	7.3	3.4	5.3	1.9	1.1
23	2.5	4.3	5.0	* 6.6	* 1.4	3.4	9.2	7.3	3.2	4.0	1.8	1.1
24	2.5	4.0	4.8	6.0	1.6	3.0	8.6	7.3	3.2	3.4	1.8	1.1
25	2.3	3.9	4.6	5.6	1.3	2.6	8.6	7.3	3.2	3.2	1.6	1.1
26	2.2	4.3	4.6	5.6	1.2	2.3	8.3	7.8	3.2	3.2	1.6	1.1
27	2.6	5.0	4.6	5.8	1.1	2.2	1.0	1.0	3.2	3.1	1.6	1.2
28	5.8	4.3	4.6	5.6	1.1	2.2	2.1	8.3	3.1	3.0	1.4	1.4
29	5.8	5.6	4.6	5.6	-	2.0	1.2	7.6	3.1	3.0	1.4	1.4
30	3.5	1.2	4.6	5.8	-----	1.9	1.0	7.0	3.1	3.0	1.6	1.6
31	3.1	-----	4.6	6.3	-----	1.7	-----	5.6	-----	3.0	1.6	-----
Total	65.5	110.3	172.4	185.8	773.7	840	327.6	240.8	113.9	160.0	73.3	41.2
Mean	2.11	3.68	5.56	5.99	27.6	27.1	10.9	7.77	3.80	5.16	2.36	1.37
Max	5.8	12	12	25	103	96	21	10	5.0	9.8	3.4	1.6
Min	1.4	2.0	4.0	3.7	3.9	12	6.6	5.6	3.1	3.0	1.4	1.1
Ac-ft	130	219	342	369	1,530	1,670	650	478	226	317	145	82
(+)	-981	-312	+252	+225	+6,882	+4,769	+10,772	+4,539	-106	-3,115	-2,984	-1,997
(+)	994	367	0	0	0	39	178	480	1,694	2,833	2,636	1,597
(++)	72	24	0	7	0	0	132	156	294	337	291	215
Mean ++	3.50	5.01	9.66	9.77	151	105	197	91.9	35.4	6.05	1.43	-1.73
Ac-ft++	215	298	594	601	8,410	6,480	11,730	5,650	2,110	372	88	-103
Calendar year 1961: Max	23		Min	0.6	Mean	4.97	Ac-ft	3,600	Mean++	16.1	Ac-ft++	11,620
Water year 1961-62: Max	103		Min	1.1	Mean	8.51	Ac-ft	6,160	Mean++	50.3	Ac-ft++	36,440

* Discharge measurement made on this day.

+ Change in contents, in acre-feet, in Jenkinson Lake, furnished by Bureau of Reclamation.

+ Diversion, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

++ Evaporation, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

++ Adjusted for storage, diversion, and evaporation.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net runoff appear. This arises primarily from the difficulty of computing net runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

SAN JOAQUIN RIVER BASIN

11-3335. North Fork Cosumnes River near El Dorado, Calif.

Location.--Lat 38°35'20", long 120°50'38", in SW $\frac{1}{4}$ sec.35, T.9 N., R.10 E., on downstream side of left abutment of county road bridge, 0.8 mile north of Nashville, 2.6 miles upstream from mouth, and 6 miles south of El Dorado.

Drainage area.--202 sq mi.

Records available.--August 1911 to December 1941, October 1948 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 840 ft (from topographic map). Prior to October 1933, staff gage at site about 1.5 miles upstream at different datum. October 1933 to December 1941, water-stage recorder at site 1,000 ft upstream at different datum.

Extremes.--Maximum discharge during year, 2,480 cfs Feb. 15 (gage height, 8.08 ft); minimum, 0.6 cfs Aug. 30, 31.

1911-41, 1948-62: Maximum discharge, 15,800 cfs Dec. 23, 1955 (gage height, 14.8 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurement of peak flow; no flow for part of 1924, 1926, 1931, 1933-34.

Remarks.--Records good except those for periods of shifting control, which are fair. Flow partly regulated since January 1955 by Jenkinson Lake (useable capacity, 40,570 acre-ft). Camino conduit above the station diverts water out of the basin (see Remarks for station Camp Creek near Somerset). Numerous small diversions above station for irrigation and domestic use.

Rating tables, except periods of shifting-control method (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 7					Feb. 8 to Sept. 30				
1.25	0.2	1.7	12		1.3	0.6	2.5	96	
1.3	.6	1.8	18		1.4	1.6	3.0	162	
1.4	1.6	2.0	38		1.5	3.4	4.0	316	
1.5	3.4	2.3	77		1.6	6.6	5.0	510	
1.6	6.6	2.7	129		1.8	18	6.0	880	
					2.0	37	7.1	1,600	

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	13	58	9.9	13	112	234	* 220	92	18	3.7	4.2
2	5.6	11	52	9.9	13	454	245	215	91	17	3.4	5.9
3	6.2	10	60	9.9	13	260	255	217	92	* 19	2.8	7.0
4	5.6	9.4	31	10	12	183	272	212	85	23	1.6	12
5	2.4	9.4	21	10	12	183	296	214	80	34	.8	22
6	6.2	8.9	15	9.9	13	977	320	212	74	29	1.2	21
7	8.4	8.9	12	10	20	576	341	197	73	22	8.4	19
8	10	8.4	10	11	47	327	348	193	70	18	8.4	23
9	12	7.0	9.4	11	379	255	350	191	67	19	7.4	23
10	13	6.2	8.9	12	1,320	207	350	184	65	17	6.6	15
11	14	4.8	8.4	13	674	191	334	161	61	9.4	8.4	6.2
12	16	4.0	* 11	16	* 381	170	334	149	55	9.9	9.4	* 4.0
13	18	* 2.9	7.4	17	575	151	350	138	53	22	* 12	2.6
14	19	5.6	8.4	19	* 770	140	363	126	49	24	12	2.6
15	18	6.2	9.4	17	1,560	134	374	123	48	16	13	2.4
16	16	7.0	9.9	12	1,200	136	359	114	45	11	13	2.2
17	9.4	7.9	11	13	566	138	334	112	40	8.9	12	2.2
18	7.9	8.9	13	16	381	130	321	108	35	5.9	8.9	2.0
19	8.9	9.4	17	38	329	128	330	109	31	6.2	8.9	2.0
20	10	14	26	117	264	130	300	108	28	7.9	8.4	2.0
21	11	19	32	70	* 210	136	271	101	26	22	2.4	2.0
22	12	21	31	34	177	197	258	101	22	30	2.4	1.9
23	13	15	26	* 22	156	214	260	101	20	36	2.0	1.9
24	14	9.9	21	22	152	179	261	99	17	47	.8	1.9
25	14	9.9	17	24	142	168	255	89	15	72	.8	1.9
26	13	13	14	21	131	* 168	232	85	17	47	.8	2.0
27	13	12	13	18	114	170	228	96	19	30	.6	2.2
28	16	13	13	18	114	184	325	90	19	32	.6	2.2
29	22	16	* 12	18	-	198	268	91	21	6.2	.7	2.0
30	19	29	9.9	* 18	-----	211	234	92	15	1.8	.6	2.6
31	14	-----	9.9	17	-----	217	-----	* 94	-----	2.4	.8	-----
Total	572.4	320.7	597.6	663.6	9,738	7,024	9,002	4,342	1,425	663.6	163.8	200.9
Mean	12.0	10.7	19.3	21.4	349	227	300	140	47.5	21.4	5.28	6.70
Max	22	29	60	117	1,560	977	374	220	92	72	13	23
Min	2.4	2.9	7.4	9.9	12	112	228	85	15	1.8	0.6	1.9
Ac-ft	739	636	1,190	1,320	19,320	13,930	17,860	8,610	2,830	1,320	325	398

Calendar year 1961: Max 177 Min 0.3 Mean 37.0 Ac-ft 26,780
 Water year 1961-62: Max 1,560 Min 0.6 Mean 94.6 Ac-ft 66,480

Peak discharge (base, 1,800 cfs).--Feb. 10 (1100) 1,820 cfs (7.38 ft); Feb. 15 (2000) 2,480 cfs (8.08 ft).

*Discharge measurement made on this day.

Note.--Shifting-control method used Oct. 1 to Dec. 11, June 20 to Sept. 10, Sept. 29, 30.

11-3342. Middle Fork Cosumnes River near Somerset, Calif.

Location.--Lat 38°37'29", Long 120°42'02", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.19, T.9 N., R.12 E., on left bank 1,000 ft downstream from county road bridge, 0.2 mile downstream from Perry Creek, and 1.8 miles southwest of Somerset.

Drainage area.--108 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,647.95 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 107 cfs (77,460 acre-ft per year).

Extremes.--Maximum discharge during year, 1,460 cfs Feb. 10 (gage height, 8.53 ft); minimum, 2.9 cfs Oct. 5-7.

1957-62: Maximum discharge, 3,400 cfs Apr. 3, 1958 (gage height, 10.85 ft); minimum, 1.7 cfs probably Sept. 11, 1961.

Flood of Dec. 23, 1955 reached a stage of 18.1 ft, from floodmarks (discharge not determined).

Remarks.--Records good except those for periods of no gage-height record, which are poor. No storage above station. About 600 acre-ft was diverted above station into South Fork Cosumnes River basin through Garabaldi ditch for irrigation and industrial use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 23 to Mar. 1, Mar. 3-6, 10-21, 24, 25,
May 18, 21, 22, 24-30, June 4-14)

2.5	2.5	5.0	169
2.7	4.8	5.5	258
2.9	8.5	6.0	375
3.2	16	6.5	520
3.5	27	7.0	700
4.0	53	8.0	1,150
4.5	99		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		5.9	4.8	14.1	18	104	365	332	171	34	12	5.9
2	3.6	5.8	6.3	14	20	200	370	335	175	32	12	6.1
3	3.5	5.8	4.5	14	21	140	390	350	169	32	12	5.9
4	3.3	5.9	2.6	12	21	111	424	350	148	31	12	5.6
5	3.1	5.8	2.0	12	21	145	490	368	137	* 29	12	5.6
6	3.0											
7	2.9	5.6	17	13	21	432	526	368	130	29	13	5.6
8	2.9	5.6	15	13	44	258	557	338	* 128	27	13	5.6
9	3.0	5.4	13	14	96	197	568	342	127	26	13	5.4
10	3.1	5.3	12	14	728	175	578	342	123	25	13	5.3
11	3.2	5.3	12	14	1,100	144	* 560	316	116	24	14	5.3
12												
13	3.5	5.3	10	13	571	141	529	265	107	23	13	5.3
14	3.8	5.1	* 9.5	13	362	123	544	242	101	27	12	5.1
15	4.0	* 5.1	9	15	456	114	585	213	98	29	* 11	* 5.1
16	4.7	5.1	9	10	616	109	610	195	90	25	10	5.4
17	4.3	5.0	9	7.2	1,100	109	620	179	87	23	9.5	5.4
18												
19	3.9	4.8	9	9.2	754	109	585	174	81	22	8.8	5.3
20	3.4	4.8	8.5	11	472	106	541	164	76	21	8.8	5.1
21	3.3	4.5	11	12	348	103	526	158	71	20	8.3	5.0
22	3.3	4.8	14	23	307	107	523	164	69	19	8.5	4.7
23	3.6	7.9	19	54	250	119	445	161	65	18	8.3	4.4
24												
25	4.3	12	20	27	204	120	403	* 152	61	16	8.1	4.5
26	5.0	9.8	20	18	177	213	400	158	56	16	7.7	4.5
27	6.1	9.5	19	* 18	* 155	167	415	167	54	15	7.4	4.5
28	5.8	9.8	18	17	152	144	421	153	50	15	7.4	4.4
29	5.3	8.8	17	16	127	148	409	142	48	14	7.4	4.3
30												
31	5.1	12	17	15	121	167	380	138	44	14	6.4	4.3
1	5.0	15	16	16	98	194	372	148	43	14	6.4	4.3
2	7.4	12	15	15	106	231	493	152	40	13	6.1	4.4
3	11	12	15	16	-	273	385	144	38	13	5.8	4.8
4	7.9	39	14	17	-----	307	345	150	36	12	5.9	5.0
5	6.4	-----	14	17	-----	325	-----	164	-----	12	6.1	-----
Total	138.7	248.7	564.0	493.4	846.6	533.5	1435.9	702.4	273.9	670	298.9	152.1
Mean	4.47	8.29	18.2	15.9	302	172	479	227	91.3	21.6	9.64	5.07
Max	11	39	63	54	1,100	432	620	368	175	34	14	6.1
Min	2.9	4.5	-	7.2	18	103	345	138	36	12	5.8	4.3
Ac-ft	275	493	1,120	979	16,790	10,580	28,480	13,930	5,430	1,330	593	302

Calendar year 1961: Max 140 Min 1.9 Mean 31.1 Ac-ft 22,530
Water year 1961-62: Max 1,100 Min 2.9 Mean 111 Ac-ft 80,300

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0800	8.53	1,460	4-15	0200	7.00	700
2-15	0600	8.22	1,270				

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 12-27, 29-31, Jan. 1, 2.

SAN JOAQUIN RIVER BASIN

11-3343. South Fork Cosumnes River near River Pines, Calif.

Location.--Lat 38°33'25", long 120°47'32", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.8, T.8 N., R.11 E., on left bank 2.4 miles upstream from mouth and 2.7 miles west of River Pines.

Drainage area.--64.3 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,220 ft (from topographic map).

Average discharge.--5 years, 33.0 cfs (23,890 acre-ft per year).

Extremes.--Maximum discharge during the year, 1,260 cfs Feb. 10 (gage height, 4.52 ft); no flow for several months.
1957-62: Maximum discharge, 4,740 cfs Apr. 3, 1958 (gage height, 9.90 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement of peak flow; no flow for several months in 1959-62.

Remarks.--Records good. Small diversions above station for irrigation. About 600 acre-ft was imported from Middle Fork Cosumnes River through Garabaldi ditch for irrigation and industrial use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.1	0	0.8	8.0	2.0	122
.2	.1	1.0	16	2.5	237
.3	.3	1.2	28	3.0	400
.4	1.1	1.4	42	3.5	625
.5	2.1	1.6	59	4.0	920
.6	3.5				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.0	2.8	3.9	3.9	5.3	1.8	7.4	0.8		
2		0	8.9	2.8	3.7	20.9	5.1	1.6	6.8	.7		
3		0	1.8	2.8	3.5	11.3	4.8	1.6	6.4	*.3		
4		0	8.9	2.6	3.3	7.6	4.6	1.5	6.1	.3		
5		0	5.7	2.6	3.1	9.9	4.4	1.4	5.7	.2		
6		0	4.3	2.6	3.1	61.3	4.2	1.3	5.7	.2		
7		0	3.3	2.6	6.2	31.6	4.0	1.3	5.5	.1		
8		0	3.1	2.6	1.9	19.4	3.8	1.2	5.1	.1		
9		0	2.6	2.6	2.82	14.4	3.6	1.1	4.7	.1		
10		0	2.4	2.6	60.6	11.1	*3.4	1.0	4.3	.1		
11		0	2.3	2.6	27.6	9.5	3.1	1.0	3.9	0		
12		0	2.1	2.8	13.6	7.9	2.8	9.6	4.1	0		
13		0	2.1	3.3	27.1	6.7	2.8	1.0	4.1	0	(*)	
14		0	2.1	3.3	34.4	6.0	2.5	1.1	4.1	0		
15		0	2.1	2.6	8.67	5.7	2.4	1.3	5.3	.1		
16		0	2.0	2.8	5.53	5.5	2.4	1.2	6.1	.2		
17		0	2.0	2.6	27.4	5.3	2.2	1.1	5.3	1.2		
18		0	2.3	3.1	17.0	5.0	2.1	1.1	4.5	1.1		
19		0	3.7	7.4	16.0	4.8	2.3	9.6	3.9	.6		
20		0	4.7	3.4	12.8	4.8	2.8	9.6	3.0	.2		
21		0	5.1	1.8	*9.5	4.8	2.2	*9.2	2.3	.1		
22		0	4.7	9.6	7.2	9.6	2.1	9.2	1.9	.1		
23		0	4.1	8.0	5.9	9.3	1.8	8.9	1.9	0		
24		0	3.9	6.8	5.5	7.3	1.6	8.9	1.7	0		
25		0	3.5	6.6	5.1	6.8	1.6	8.9	1.7	0		
26		0	3.3	5.5	4.7	6.4	1.6	9.2	2.1	0		
27		0	*3.1	5.1	4.2	6.2	1.8	1.1	1.7	0		
28		0	3.1	4.7	3.9	6.0	3.8	1.1	1.1	0		
29		0	3.1	4.5	-	6.0	2.4	9.6	1.0	0		
30		4.2	3.0	*4.3	-----	5.9	2.0	8.6	1.1	0		
31		-----	2.8	3.9	-----	5.5	-----	8.3	-----	0		
Total	0	0	4.2	132.3	168.1	457.2	89.5	347.6	118.5	6.5	0	0
Mean	0	0.14	4.27	5.42	163	105	29.8	11.2	3.95	0.21	0	0
Max	0	4.2	1.8	3.4	8.67	61.3	5.3	1.8	7.4	1.2	0	0
Min	0	0	2.0	2.6	3.1	3.9	1.6	8.3	1.1	0	0	0
Ac-ft	0	8.3	262	333	9,070	6,470	1,780	689	235	12.9	0	0

Calendar year 1961: Max 4.6 Min 0 Mean 4.99 Ac-ft 3,610
Water year 1961-62: Max 8.67 Min 0 Mean 26.0 Ac-ft 18,860

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0800	4.52	1,260	3-6	0200	4.11	1,010
2-15	0400	4.35	1,150				

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

11-3350. Cosumnes River at Michigan Bar, Calif.

Location.--Lat 38°30'00", long 121°02'45", in SE $\frac{1}{4}$ sec.36, T.8 N., R.8 E., on downstream side of midstream pier of highway bridge at Michigan Bar, 5.5 miles southwest of Latrobe, and 12 miles downstream from confluence of North and Middle Forks.

Drainage area.--537 sq mi.

Records available.--October 1907 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 168.09 ft above mean sea level, datum of 1929. Prior to July 10, 1930, staff gage at same site and datum.

Average discharge.--55 years, 472 cfs (341,700 acre-ft per year).

Extremes.--Maximum discharge during year, 7,440 cfs Feb. 10, 15 (gage heights, 7.29 ft); no flow Oct. 9, 10.

1907-62: Maximum discharge, 42,000 cfs Dec. 23, 1955 (gage height, 14.59 ft), from rating curve extended above 6,000 cfs on basis of comparison with upstream and downstream peaks and velocity-area studies; no flow for parts of many years.

Flood in March 1907 reached a stage of 16.3 ft.

Remarks.--Records good. Flow partly regulated by Jenkinson Lake (usable capacity, 40,570 acre-ft). Camino conduit above the station diverts water out of the basin (see Remarks for station Camp Creek near Somerset). Numerous small diversions above station for irrigation and domestic use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.6	0.9	2.4	35	4.5	1,010
1.7	2.1	2.6	60	5.0	1,620
1.8	3.6	2.8	94	5.5	2,340
1.9	5.8	3.1	167	6.0	3,300
2.0	9.2	3.5	310	7.0	6,360
2.2	19	4.0	580		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	1.6	9.8	2.5	* 3.9	3.30	6.90	6.15	2.56	5.4	1.5	5.8
2	*2.7	1.4	10.9	2.5	3.8	1.250	7.14	6.01	2.60	4.9	1.4	5.2
3	2.3	1.3	13.4	2.6	3.8	9.40	7.46	6.01	2.63	4.5	1.3	6.4
4	3.3	1.2	9.2	2.5	3.8	6.29	7.86	6.01	2.52	4.9	1.3	1.0
5	2.3	1.2	5.7	2.5	3.8	5.95	* 8.80	6.08	2.32	* 4.7	1.2	1.2
6	3.3	1.4	4.3	2.3	3.9	3.260	9.40	6.08	2.18	4.4	1.0	1.5
7	3.1	1.3	3.5	2.3	5.6	2.210	1.010	5.66	2.14	4.0	9.6	1.6
8	2.7	1.2	3.0	2.4	1.00	1.210	1.040	5.59	2.10	3.9	1.2	1.6
9	.9	1.2	2.7	2.4	1.030	8.90	1.050	5.52	2.04	3.7	1.7	1.6
10	.7	1.2	2.5	2.4	5.000	7.14	1.050	5.31	2.04	3.1	1.6	1.6
11	2.2	1.2	2.3	2.4	2.580	6.29	9.90	4.62	1.97	3.0	1.6	1.5
12	2.7	9.6	2.2	2.5	1.370	5.59	9.80	4.05	1.87	3.0	1.7	1.2
13	2.8	8.4	2.1	2.5	2.450	4.80	1.030	3.70	1.77	3.0	1.7	9.2
14	2.8	8.8	2.1	2.7	3.670	4.35	1.080	3.34	1.67	3.5	1.6	8.0
15	2.6	8.4	2.2	2.7	* 5.760	4.10	1.110	3.26	1.59	3.5	1.6	7.3
16	2.3	8.0	2.2	2.4	4.670	4.00	1.080	2.98	1.53	2.9	1.5	6.4
17	3.3	8.8	2.2	1.8	2.070	3.90	9.80	2.90	1.42	2.5	1.4	5.0
18	4.3	9.6	2.2	2.0	1.330	3.65	9.40	2.78	1.29	2.5	1.3	4.5
19	4.5	1.0	2.4	2.5	1.160	3.50	9.60	2.78	1.22	2.2	1.3	5.2
20	4.7	1.2	3.2	1.37	9.40	3.50	8.90	2.78	1.13	2.0	1.2	5.0
21	5.0	1.4	4.0	1.70	7.30	3.75	7.70	2.63	1.07	1.9	1.2	4.5
22	4.5	* 1.8	5.4	9.2	6.01	5.21	7.30	2.56	1.00	3.2	1.4	6.1
23	4.7	2.3	5.0	6.5	* 5.07	7.06	7.46	2.63	.92	3.6	1.4	6.1
24	5.0	2.0	4.3	5.4	4.74	5.10	7.46	2.66	8.7	3.4	1.2	4.7
25	7.0	1.7	3.7	5.0	4.45	4.62	7.38	2.49	8.0	4.0	1.2	4.1
26	1.0	1.8	3.4	4.9	4.20	4.62	6.66	2.32	7.3	5.2	1.0	4.7
27	9.6	1.8	* 3.1	4.4	3.70	4.68	6.43	2.42	7.0	3.7	* 7.0	4.5
28	1.0	1.9	3.0	4.4	3.38	5.10	9.10	2.42	6.6	3.4	5.5	4.5
29	1.1	2.3	2.9	4.2	-	5.73	7.86	* 2.42	6.2	3.4	6.4	4.7
30	1.2	3.4	2.8	4.2	-----	6.29	6.66	2.38	5.7	2.5	5.8	5.0
31	1.8	-----	2.6	4.2	-----	6.43	-----	2.46	-----	1.7	5.2	-----
Total	154.2	429.6	128.3	129.0	363.01	222.55	263.47	119.00	4.653	1.076	384.5	244.9
Mean	4.97	14.3	41.4	41.6	1,296	718	878	384	155	34.7	12.4	8.16
Max	18	34	134	170	5,760	3,280	1,110	615	263	54	17	1.6
Min	0.7	8.0	21	18	38	330	643	232	57	17	5.2	4.1
Ac-ft	306	852	2,540	2,560	72,000	44,140	52,260	23,600	9,230	2,130	763	486

Calendar year 1961: Max 405 Min 0.7 Mean 71.1 Ac-ft 51,500

Water year 1961-62: Max 5,760 Min 0.7 Mean 291 Ac-ft 210,900

Peak discharge (base, 4,000 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	1200	7.29	7,440	3-6	0700	6.41	4,410
2-15	2400	7.29	7,440				

SAN JOAQUIN RIVER BASIN

11-3357. Deer Creek near Sloughhouse, Calif.

Location.--Lat 38°33'06", long 121°06'30", in NW 1/4 sec. 16, T.8 N., R.8 E., on right bank 0.2 mile upstream from bridge on Scott Road, 0.4 mile upstream from Little Deer Creek, and 5.9 miles northeast of Sloughhouse.

Drainage area.--46.9 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,120 cfs Feb. 10 (gage height, 9.80 ft); no flow for several months.
1959-62: Maximum discharge, 3,100 cfs Feb. 8, 1960 (gage height, 10.45 ft); no flow for several months in each year.

Remarks.--No known regulation or diversion above station.

Cooperation.--Records furnished by the California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	2.5	1.8	7.2	3.1				
2				0	2.4	12.3	7.2	2.8				
3				0	2.2	5.4	* 6.9	2.6				
4				0	2.2	3.6	6.7	2.4				
5				0	2.1	4.2	6.3	2.2				
6	(*)			0	2.3	4.5	5.5	1.8		(*)		
7				0	1.4	20.2	5.2	1.6				
8				0	* 15	7.4	5.0	1.4				
9				0	2.4	4.9	4.8	1.2			(*)	
10		(*)		0	* 1.4	7.0	3.7	4.5	1.1			
11				0	3.8	3.0	4.1	.9				
12			(*)	* 0	1.3	6	4.1	.8				
13				0	6.9	2.3	4.0	.9				
14				0	6.8	7	4.0	.9				
15				0	8.4	7	3.8	1.1				
16				0	3.1	9	3.6	1.2				
17				0	1.3	9	3.5	1.1				
18				0	7.9	1.4	3.1	.9				
19	(*)			0	8.4	1.3	* 3.4	.6				
20				5.1	5.4	1.2	5.0	.4				
21				1.6	4.0	1.2	5.2	.3	(*)			
22		(*)		7.7	3.3	1.3	4.1	.2				
23				* 6.7	2.9	1.6	3.5	.1				
24				7.6	2.5	1.2	2.7	0				
25				5.7	2.3	1.0	2.5	0				
26				4.3	2.4	* 9.1	2.3	0				
27			(*)	3.5	2.1	8.5	2.4	0				
28				3.1	1.8	8.0	3.6	0				
29				2.9	-	7.4	5.1	0				
30				2.6	-----	7.2	3.8	0				
31				2.4	-----	7.2	-----	* 0	-----			-----
Total	0	0	0	67.6	5,405.7	1,384.4	1,331.1	29.6	0	0	0	0
Mean	0	0	0	2.18	193	44.7	4.44	0.95	0	0	0	0
Max	0	0	0	16	1,470	451	7.2	3.1	0	0	0	0
Min	0	0	0	0	2.1	7.2	2.3	0	0	0	0	0
Ac-ft	0	0	0	134	10,720	2,750	264	59	0	0	0	0

Calendar year 1961: Max 166 Min 0 Mean 4.09 Ac-ft 2,960

Water year 1961-62: Max 1,470 Min 0 Mean 19.2 Ac-ft 13,930

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

SAN JOAQUIN RIVER BASIN

747

11-3360. Cosumnes River at McConnell, Calif.

Location.--Lat 38°21'29", long 121°20'34", in sec.20, T.6 N., R.6 E., on downstream side of bridge on U. S. Highway 99, 0.2 mile south of McConnell, 1 mile downstream from Deer Creek, and 7 miles north of Galt.

Drainage area.--730 sq mi.

Records available.--October 1941 to September 1962 in reports of Geological Survey. Monthly figures only for some periods, published in WSP 1315-A. Gage heights only during high-water periods 1931-40, in reports of California Department of Water Resources.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers.

Average discharge.--21 years (1941-62), 542 cfs (392,400 acre-ft per year); median of yearly mean discharges, 400 cfs (289,600 acre-ft per year).

Extremes.--Maximum discharge during year, 9,100 cfs Feb. 15 (gage height, 41.45 ft); no flow for several months.
1943-62: Maximum discharge, 54,000 cfs Dec. 23, 1955 (gage height, 46.26 ft), from rating curve extended above 36,000 cfs; no flow for parts of each year.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Diversions for irrigation of about 2,100 acres between stations at Michigan Bar and at McConnell.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 6-20, June 19-26)

Oct. 1 to Feb. 9

Feb. 10 to Sept. 30

29.36	0	29.36	0	32.2	590
29.4	3	29.4	3	33.0	910
29.6	21	29.8	40	34.0	1,370
30.0	62	30.2	88	36.0	2,660
30.4	122	30.8	190	38.0	4,320
31.0	265	31.5	360	40.6	7,560

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	7.5	22	384	610	602	212	0		
2			10	7.5	20	778	658	* 570	212	0		
3			80	6.6	17	1,460	686	570	220	0		
4			109	10	17	825	722	578	208	0		
5			64	43	18	629	778	582	190	0		
6			40	26	19	2,550	854	590	170	0		
7			26	4.8	* 26	* 3,460	910	566	163	4	(*)	
8			18	3.0	45	1,670	962	518	156	0		
9			10	3.0	234	1,100	970	514	152	0		
10			4.1	2.1	* 4,050	866	982	504	145	0		
11			0	2.1	* 6,490	702	942	462	143	0		
12			0	4.8	* 2,580	* 610	898	384	138	0		
13			0	6.6	2,930	522	938	352	122	0		
14			0	4.8	4,940	471	982	322	112	0		
15			0	5.7	7,430	438	1,020	305	105	0		
16			0	6.6	7,520	423	1,020	295	94	0		
17			0	4.8	3,420	411	958	270	91	0		
18			* 0	2.1	1,820	390	890	255	73	0		
19			0	2.1	1,400	366	870	245	60	0		
20			0	35	1,350	358	914	248	* 40	0		
21			4.8	158	974	369	770	242	19	0		
22		(*)	17	120	762	381	698	228	10	0		
23			31	68	650	710	698	230	1	0		
24	(*)		33	* 47	570	554	706	235	5	0		
25			26	40	538	468	698	222	1	0		
26			19	35	* 486	441	662	206	7	0		
27			11	32	456	438	602	212	0	0		
28			12	26	396	456	730	230	0	0		
29			* 10	24	-	495	878	220	0	0		
30			10	22	-----	554	682	208	0	0		
31			8.4	21	-----	586	-----	210	-----	0		
Total	0	0	543.3	781.1	491.80	23,865	24,688	11,175	2,849	4	0	0
Mean	0	0	17.5	25.2	1,756	770	823	360	95.0	0.13	0	0
Max	0	0	109	158	7,520	3,460	1,020	602	220	4	0	0
Min	0	0	0	2.1	17	358	602	206	0	0	0	0
Ac-ft	0	0	1,080	1,550	97,550	47,340	48,970	22,170	5,650	7.9	0	0

Calendar year 1961: Max 606 Min 0 Mean 56.1 Ac-ft 40,610
Water year 1961-62: Max 7,520 Min 0 Mean 310 Ac-ft 224,300

Peak discharge (base, 3,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-11	0600	41.22	8,640	3-6	1800	37.98	4,300
2-15	2100	41.95	9,100				

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

Note.--No gage-height record Dec. 2, 3, June 27 to Sept. 30.

SAN JOAQUIN RIVER BASIN

11-3370. Contra Costa Canal near Oakley, Calif.

Location.--Lat 37°59'45", long 121°42'00", in NE¼ sec.25, T.2 N., R.2 E., at Pumping Plant No. 1, 0.7 mile east of Oakley and 2.6 miles northwest of Knightsen.

Records available.--February 1950 to September 1962.

Gage.--Recording flow meters on pumps. Prior to Jan. 1, 1953, water-stage recorder at site 3.2 miles downstream at datum 121.72 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--12 years, 71.9 cfs (52,050 acre-ft per year).

Extremes.--1950-62: Maximum daily discharge, 210 cfs July 14, 1961; minimum daily, 8.0 cfs Jan. 12, 1952.

Remarks.--Water is diverted from Sacramento-San Joaquin Delta by way of Old River, Rock Slough, and a dredged channel. A series of four pumping plants lifts the water about 115 ft into canal. Water is used for municipal, agricultural, and industrial purposes. The canal is a part of the Central Valley project.

Cooperation.--Records of daily discharge furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	103	92	46	68	50	49	78	112	126	158	149
2	119	99	92	52	63	49	51	81	112	132	167	131
3	129	98	91	51	67	46	86	85	107	123	159	88
4	145	95	82	56	57	47	98	88	107	116	154	139
5	143	95	82	55	66	48	88	94	111	122	149	147
6	133	103	78	55	72	47	77	93	113	123	146	164
7	119	100	70	56	69	48	54	96	115	129	158	154
8	112	104	71	54	72	47	52	104	138	129	161	152
9	115	103	69	60	70	48	79	90	138	139	161	145
10	110	117	65	59	72	47	84	89	129	140	167	146
11	111	107	65	60	67	47	70	84	130	146	162	164
12	111	106	63	59	61	45	76	84	127	149	163	165
13	117	109	55	58	50	46	74	72	131	146	169	158
14	129	114	55	62	50	46	68	72	125	150	170	156
15	122	115	55	65	51	47	78	80	132	149	172	137
16	119	110	55	61	48	49	69	80	132	153	173	127
17	144	118	56	71	46	46	72	85	134	169	175	125
18	147	117	50	70	48	47	78	86	140	168	165	122
19	130	114	50	69	48	47	80	88	144	165	156	126
20	130	110	52	72	48	50	76	94	148	167	159	120
21	107	106	52	65	48	51	77	93	149	165	163	124
22	110	100	56	71	47	52	75	94	142	162	164	124
23	132	99	52	68	48	48	75	97	138	166	165	129
24	109	100	52	64	47	47	74	94	131	165	163	128
25	114	91	50	58	47	49	76	93	131	160	158	124
26	117	90	51	61	46	45	73	94	133	154	155	124
27	114	97	51	60	42	45	74	89	138	159	154	113
28	102	92	50	60	55	44	73	88	137	157	157	115
29	94	92	51	58	-	50	73	93	138	151	161	125
30	108	91	47	61	-----	50	76	96	139	149	154	120
31	108	-----	46	64	-----	49	-----	101	-----	157	153	-----
Total	3,721	3,095	1,906	1,881	1,573	1,477	2,205	2,755	3,901	4,586	4,991	4,041
Mean	120	103	61.5	60.7	56.2	47.6	73.5	88.9	130	148	161	135
Max	147	118	92	72	72	52	98	104	149	169	175	165
Min	94	91	46	46	42	44	49	72	107	116	146	88
Ac-ft	7,380	6,140	3,780	3,730	3,120	2,930	4,370	5,460	7,740	9,100	9,900	8,020
Calendar year 1961:	Max	210	Min	46	Mean	109	Ac-ft	79,220				
Water year 1961-62:	Max	175	Min	42	Mean	99.0	Ac-ft	71,670				

SAN JOAQUIN RIVER BASIN

749

11-3375. Marsh Creek near Byron, Calif.

Location.--Lat 37°52'25", long 121°43'35", in Los Meganos Grant, on right bank 40 ft downstream from highway bridge on Marsh Creek road and 5.0 miles west of Byron, Contra Costa County.

Drainage area.--42.5 sq mi.

Records available.--February 1953 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 177.87 ft above mean sea level, datum of 1929.

Average discharge.--9 years, 6.81 cfs (4,930 acre-ft per year).

Extremes.--Maximum discharge during year, 505 cfs Feb. 14 (gage height 5.30 ft, from floodmarks); no flow Oct. 1 to Feb. 9, Apr. 15 to Sept. 30.

1953-62: Maximum discharge, 3,800 cfs Dec. 23, 1955 (gage height, 12.98 ft), from rating curve extended above 320 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. No regulation or diversion.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.92	0	2.8	12
2.1	.1	3.0	25
2.2	.3	3.3	55
2.3	.7	3.6	100
2.4	1.5	4.0	172
2.5	2.5	4.2	212
2.6	4.5		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	6.3	3.1					
2			(*)		0	20	2.7					
3					0	16	2.4				(*)	
4					0	11	1.7					(*)
5	(*)				0	24	1.6					
6					0	67	1.5					
7					0	37	1.3					
8					0	26	1.2					
9					0	21	1.2			(*)		
10					* 35	16	1.0					
11					* 44	13	.8					
12					17	11	.3					
13					79	10	.4					
14					138	8.8	.2					
15			(*)	(*)	212	8.0	0					
16		(*)			111	* 7.3	0					
17					53	7.0	0					
18					95	6.6	* 0					
19					99	5.9	0					
20					42	5.6	0					
21					* 30	5.2	0					
22					21	6.3	0					
23					16	7.3	0	(*)				
24					13	4.5	0					
25					11	4.1	0					
26					8.8	4.1	0					
27					7.0	3.9	0					
28					6.3	3.5	0					
29					-	3.3	0					
30					-----	2.9	0					
31					-----	3.1	-----					
Total	0	0	0	0	1,038.1	375.7	19.4	0	0	0	0	0
Mean	0	0	0	0	37.1	12.1	0.65	0	0	0	0	0
Max	0	0	0	0	212	67	3.1	0	0	0	0	0
Min	0	0	0	0	0	2.9	0	0	0	0	0	0
Ac-ft	0	0	0	0	2,060	74.5	38	0	0	0	0	0

Calendar year 1961: Max 0 Min 0 Mean 0 Ac-ft 0
 Water year 1961-62: Max 212 Min 0 Mean 3.93 Ac-ft 2,840

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	2200	3.55	92	2-18	1900	4.17	206
2-14	2400	5.30	505	3- 5	2200	3.92	156

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

SACRAMENTO RIVER BASIN

11-3414. Sacramento River near Mount Shasta, Calif.

Location.--Lat 41°16'00", long 122°18'38", in SE $\frac{1}{4}$ sec.33, T.40 N., R.4 W., 0.1 mile upstream from Stink Creek and 3 miles south of city of Mount Shasta.

Drainage area.--134 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,820 ft (from topographic map).

Extremes.--Maximum discharge during year, not determined; minimum, 37 cfs Sept. 6.

1959-62: Maximum discharge, 3,380 cfs Feb. 11, 1961 (gage height, 6.94 ft); minimum, that of Sept. 6, 1962.

Remarks.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	70	319	115	107	140	600	489	477	90	49	41
2	53	71	218	115	112	135	660	585	479	90	49	42
3	54	69	153	116	118	125	690	703	436	89	49	43
4	52	70	132	115	120	130	720	728	361	85	51	42
5	52	69	126	112	122	140	820	708	316	83	52	42
6	54	70	118	119	143	160	900	751	306	76	53	40
7	55	68	110	141	315	160	1,000	779	310	74	61	42
8	54	67	109	159	753	150	1,060	908	323	74	82	46
9	56	65	101	* 157	999	150	940	813	358	75	100	48
10	* 61	64	101	145	649	145	760	714	354	70	78	49
11	69	67	94	133	392	140	720	610	* 315	70	71	49
12	68	66	103	133	464	135	880	532	296	67	64	47
13	64	* 63	* 98	127	* 605	135	1,000	480	265	68	57	* 47
14	63	65	97	114	* 478	135	1,200	425	234	66	50	49
15	59	67	97	117	768	140	1,200	406	217	63	48	47
16	60	66	96	105	556	145	1,000	* 409	212	63	49	49
17	61	66	100	109	378	145	920	457	199	* 61	48	51
18	60	69	98	110	316	150	* 940	522	187	57	48	* 46
19	61	71	142	117	267	165	799	480	179	56	48	47
20	62	72	347	110	234	190	611	416	168	55	49	47
21	63	70	344	126	210	200	552	382	159	57	45	49
22	63	73	202	208	190	210	602	408	151	56	44	47
23	62	98	163	100	185	200	724	413	140	57	43	47
24	63	188	148	94	180	190	826	378	129	54	41	48
25	63	128	142	95	160	200	732	344	125	55	41	50
26	65	219	130	96	150	220	* 632	337	119	51	42	51
27	98	215	126	96	145	* 280	741	383	112	47	42	52
28	91	159	120	99	145	370	640	422	106	47	43	77
29	75	201	120	105	-	381	485	469	101	49	41	80
30	70	283	117	104	-----	470	441	488	94	51	42	67
31	69	-----	114	106	-----	540	-----	475	-----	53	41	-----
Total	1,952	2,989	4,485	3,698	9,261	6,176	23,795	16,414	7,228	2,009	1,621	1,482
Mean	63.0	99.6	145	119	331	199	793	529	241	64.8	52.3	49.4
Max	98	283	347	208	999	540	1,200	908	479	90	100	80
Min	52	63	94	94	107	125	441	337	94	47	41	40
Ac-ft	3,870	5,930	8,900	7,330	18,370	12,250	47,200	32,560	14,340	3,980	3,220	2,940
Calendar year 1961:	Max 2,260	Min 42	Mean 245	Ac-ft 177,600								
Water year 1961-62:	Max 1,200	Min 40	Mean 222	Ac-ft 160,900								

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 22 to Mar. 27, Mar. 30 to Apr. 18.

11-3420. Sacramento River at Delta, Calif.

Location.--Lat 40°56'20", long 122°24'55", in NW $\frac{1}{4}$ sec.35, T.36 N., R.5 W., on left bank 0.2 mile downstream from Dog Creek, 0.6 mile southeast of Delta, and 2.8 miles south of LaMoine.

Drainage area.--427 sq mi.

Records available.--October 1944 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 1,075.00 feet above mean sea level (levels by Bureau of Reclamation).

Average discharge.--18 years, 1,143 cfs (827,500 acre-ft per year).

Extremes.--Maximum discharge during year, 14,200 cfs Feb. 9 (gage height, 12.35 ft); minimum, 175 cfs Sept. 25.
1944-62: Maximum discharge, 37,000 cfs Dec. 22, 1955 (gage height, 19.50 ft), from rating curve extended above 19,000 cfs on basis of slope-area measurement of peak flow; minimum, 141 cfs Sept. 3, 4, 5, 1950.

Remarks.--Records good.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.6	160	7.0	2,560
4.0	285	8.0	4,020
4.5	485	10.0	7,900
5.0	750	12.0	13,100
6.0	1,480		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	203	232	4,720	545	570	*1,130	2,060	1,520	*1,200	356	218	185
2	203	229	3,490	535	591	1,060	*2,190	1,720	1,200	340	209	188
3	206	229	1,800	*530	591	1,020	2,280	1,950	1,160	336	*218	188
4	200	226	1,200	516	580	1,010	2,320	2,010	1,010	332	240	188
5	197	222	948	494	580	2,430	2,560	1,900	922	320	236	185
6	197	215	798	498	679	4,010	2,660	1,970	902	313	229	185
7	197	215	696	580	2,300	2,650	2,920	2,010	909	299	250	182
8	203	*215	635	630	7,470	2,120	3,100	2,280	909	296	332	178
9	203	215	575	624	10,300	1,890	2,960	2,240	954	292	396	178
10	209	215	530	570	*8,070	1,670	2,520	1,900	954	288	324	182
11	254	218	485	530	4,600	1,480	2,320	1,690	902	282	278	182
12	243	215	472	535	5,150	1,330	2,490	1,500	840	282	260	182
13	226	215	449	503	*1,600	1,240	2,790	1,390	786	278	250	188
14	215	212	436	467	7,220	1,180	3,000	1,250	726	271	243	188
15	209	212	420	458	10,500	1,190	3,200	1,190	702	260	232	185
16	209	209	412	436	8,190	1,230	2,770	1,160	662	257	226	185
17	206	209	512	432	5,420	1,190	2,540	1,200	635	257	222	182
18	203	212	494	444	4,050	1,160	2,500	1,370	591	254	222	185
19	206	218	845	619	3,250	1,200	2,430	1,350	565	254	222	182
20	206	229	2,550	821	2,660	1,370	2,000	1,200	540	246	218	185
21	218	222	2,760	550	2,220	1,350	1,830	1,110	516	243	212	185
22	215	254	1,560	485	1,950	1,730	1,900	1,130	490	240	206	182
23	218	485	1,160	485	1,750	1,590	2,170	1,160	472	240	206	182
24	215	1,850	980	472	1,570	1,450	2,440	1,120	449	240	*203	180
25	215	1,620	864	467	1,420	1,410	2,240	1,040	428	236	197	180
26	222	2,330	768	480	1,270	1,430	2,010	994	412	226	194	178
27	302	1,500	702	485	1,180	1,640	2,220	1,030	400	218	191	185
28	340	883	652	503	1,170	1,850	2,090	1,150	380	215	194	320
29	257	1,310	618	535	-	1,850	1,660	1,200	368	222	194	313
30	240	*3,120	580	565	-----	1,840	1,500	1,240	352	222	191	240
31	232	-----	555	570	-----	1,890	-----	1,200	-----	222	191	-----
Total	6,869	17,936	33,666	16,364	106,901	49,590	71,670	45,174	21,336	8,337	7,204	5,828
Mean	222	598	1,086	528	3,818	1,600	2,389	1,457	711	269	232	194
Max	340	3,120	4,720	821	11,600	3,990	3,200	2,280	1,200	356	396	320
Min	197	209	412	432	570	1,010	1,500	994	352	215	191	178
Ac-ft	13,620	35,580	66,780	32,460	212,000	98,360	142,200	89,600	42,320	16,540	14,290	11,560

Calendar year 1961: Max 10,700 Min 191 Mean 1,063 Ac-ft 769,900

Water year 1961-62: Max 11,600 Min 178 Mean 1,071 Ac-ft 775,300

Peak discharge (base, 8,000 cfs).--Feb. 9 (1500) 14,200 cfs (12.35 ft); Feb. 13 (1300) 13,600 cfs (12.18 ft).

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3435. North Fork Pit River near Alturas, Calif.

Location.--Lat 41°30', long 120°29', in NE¼ sec.8, T.42 N., R.13 E., on right bank 1.5 miles downstream from Parker Creek, 3 miles northeast of Alturas, and 4 miles upstream from mouth.

Drainage area.--209 sq mi, excluding Goose Lake basin.

Records available.--May 1929 to November 1932, October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is about 4,500 ft (from U. S. Forest Service Map).

Average discharge.--8 years, 37.7 cfs (27,290 acre-ft per year).

Extremes.--Maximum discharge during year, 759 cfs Feb. 10 (gage height, 4.26 ft); minimum, 0.1 cfs May 6, 7.

1929-32, 1957-62: Maximum discharge, 2,140 cfs Feb. 24, 1958 (gage height, 9.85 ft); no flow Apr. 29, 30, 1931, June 6, 1959.

Remarks.--Records good. Flow regulated by many small reservoirs (total capacity now, about 2,480 acre-ft). Diversions of up to 6,100 acre-ft to Dorris Reservoir (capacity, 11,100 acre-ft). Diversions for irrigation of about 7,100 acres above and below gage.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.5	1.5	1.0	9.8	1.3	8.4	4.6	9.5	5.8	0.5	0.3
2	.2	.5	3.2	9.8	1.0	1.3	8.8	4.5	7.3	5.8	.6	.3
3	.3	.5	6.4	1.2	1.1	1.1	8.8	4.1	4.2	3.3	.8	.4
4	.3	.5	3.7	9.8	1.2	1.3	9.3	3.9	4.2	3.3	.8	.3
5	.3	.5	3.3	8.4	1.2	1.6	11.4	1.9	4.0	3.3	.8	.3
6	.3	.5	2.5	1.3	1.4	* 4.4	11.4	9.7	3.3	3.3	1.0	.3
7	.3	.5	2.5	1.3	3.7	8.3	13.5	.2	2.8	3.3	1.2	.3
8	.4	.4	2.5	1.5	4.2	8.7	16.7	1.2	9.2	3.3	1.2	.2
9	.3	.5	2.1	1.3	20.5	8.4	14.6	6.7	1.0	2.9	1.5	.2
10	.4	.5	2.1	1.0	56.2	4.4	12.9	1.5	1.0	1.8	1.8	.2
11	.5	.6	2.1	7.7	19.9	3.4	12.3	6.4	7.7	1.0	1.8	.3
12	* .5	.6	* 2.1	1.1	13.1	2.7	12.3	1.2	2.5	* .6	1.5	.3
13	.5	.6	4.2	9.8	1.70	2.7	12.7	2.7	9.1	.4	1.8	.4
14	.5	.6	9.8	6.4	20.1	3.2	10.8	9.1	5.2	.4	1.8	.5
15	.5	.6	9.1	9.8	18.4	6.5	10.4	5.9	2.9	.4	2.1	.5
16	.5	.5	9.1	7.7	13.3	11.0	9.1	5.7	3.3	.4	2.1	.6
17	.6	.5	9.1	9.1	9.9	11.4	* 8.4	6.2	3.3	.2	2.1	.6
18	.6	.5	9.8	9.8	5.7	10.4	8.4	6.3	3.3	.2	1.8	1.0
19	.6	.5	2.6	1.0	4.9	10.1	7.9	10.8	* 2.5	.2	1.5	.6
20	.6	.6	2.1	9.1	5.0	10.1	7.9	12.0	2.5	.3	1.5	.3
21	.8	.6	3.4	7.7	4.4	9.0	7.0	13.3	2.5	.3	* .8	.3
22	.8	.8	1.8	7.0	4.2	8.6	6.6	13.7	2.5	.4	.4	.4
23	.8	1.0	1.5	5.8	3.9	9.7	6.5	18.1	3.3	.4	.3	.4
24	.8	1.2	1.4	2.9	3.1	11.0	6.0	14.2	4.2	.4	.4	.3
25	.8	1.2	1.4	4.2	2.0	12.0	5.6	16.1	5.2	.5	.4	.3
26	.6	1.2	1.1	* 7.7	1.4	10.8	4.1	21.7	5.8	.5	.4	.4
27	1.0	1.2	1.2	7.7	1.3	9.9	3.6	17.0	7.7	.5	.4	.4
28	1.5	1.0	1.1	7.7	1.4	9.9	5.2	13.9	7.7	.5	.4	.5
29	1.2	1.0	1.0	8.4	-	7.1	5.2	* 13.9	5.8	.3	.3	.5
30	.6	1.5	1.0	8.4	-----	7.1	4.5	11.8	5.8	.4	.3	.5
31	.5	-----	9.8	9.1	-----	7.4	-----	10.3	-----	.4	.3	-----
Total	17.8	21.2	33.2	281.0	2,404.8	2,148	2,703	2,516.7	4,750	44.8	32.6	11.9
Mean	0.57	0.71	10.7	9.06	85.9	69.3	90.1	81.2	15.8	1.45	1.05	0.40
Max	1.5	1.5	32	15	562	120	167	217	95	5.8	2.1	1.0
Min	0.2	0.4	2.1	2.9	9.8	11	36	0.2	2.5	0.2	0.3	0.2
Ac-ft	35	42	661	557	4,770	4,260	5,360	4,990	942	89	65	24
Calendar year 1961:	Max	239	Min	0.2	Mean	15.2	Ac-ft	10,980				
Water year 1961-62:	Max	562	Min	0.2	Mean	30.1	Ac-ft	21,800				

* Discharge measurement made on this day.

11-3455. South Fork Pit River near Likely, Calif.

Location.--Lat 41°14', long 120°25', in NE¼ sec.11, T.39 N., R.13 E., on left bank 1.3 miles downstream from West Valley Creek and 3.5 miles east of Likely.

Drainage area.--248 sq mi.

Records available.--October 1928 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 4,508 ft above mean sea level (levels by Topographic Division). Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

Average discharge.--34 years, 71.1 cfs (51,470 acre-ft per year).

Extremes.--Maximum discharge during year, 439 cfs May 28 (gage height, 4.02 ft); minimum daily, 3.5 cfs Feb. 27 to Mar. 3.
1928-62: Maximum discharge, 1,060 cfs Apr. 27, 1932 (gage height, 5.55 ft), from rating curve extended above 600 cfs; minimum, 0.2 cfs Feb. 3, 1941.

Remarks.--Records good except those for periods of ice effect, which are poor. Flow regulated by West Valley Creek Reservoir beginning in May 1937 (total capacity, 17,700 acre-ft). Diversions for irrigation of about 3,800 acres above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	2.4	2.2	45
1.5	4.2	2.6	93
1.6	6.6	3.0	165
1.7	10	3.5	285
1.9	21		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	14	23	17	22	3.5	9.7	79	148	40	183	65
2	41	12	19	18	22	3.5	8.3	87	127	36	169	56
3	68	13	11	19	21	3.5	7.3	104	125	34	157	56
4	110	12	8.0	18	21	3.7	9.0	116	115	28	116	34
5	53	8.0	9.3	18	20	6.9	12	125	98	28	85	24
6	14	10	6.1	20	22	*29	16	133	80	30	86	34
7	14	18	6.5	21	32	12	20	129	72	30	89	34
8	16	21	9.5	20	42	6.4	27	123	65	29	96	32
9	14	21	9.0	19	66	12	27	115	67	38	99	23
10	14	21	8.0	19	54	5.0	21	104	79	54	99	29
11	17	20	7.0	18	18	5.5	17	89	83	54	94	35
12	*19	17	*7.7	19	12	6.0	22	83	98	*55	93	35
13	17	16	9.0	17	17	5.5	34	78	106	71	94	35
14	16	16	10	15	17	6.0	44	78	133	86	74	34
15	15	15	12	17	11	7.0	60	69	127	85	85	34
16	14	15	14	17	5.4	16	59	64	122	78	104	34
17	12	13	16	18	4.7	26	*68	56	116	57	100	34
18	11	17	16	19	5.5	24	69	90	115	63	99	33
19	12	19	17	20	7.0	22	79	94	*113	77	99	35
20	16	19	17	17	7.5	10	63	106	111	82	99	36
21	21	21	15	14	6.0	6.4	48	123	108	82	*99	36
22	20	22	12	11	5.0	8.0	50	105	78	80	98	36
23	20	26	13	12	4.5	10	67	142	44	80	98	36
24	21	24	14	14	4.5	16	92	146	40	80	98	35
25	19	24	15	20	4.0	17	98	154	38	104	96	35
26	19	25	14	*23	4.0	16	78	163	35	154	96	35
27	24	24	13	23	3.5	16	78	118	35	172	94	38
28	24	22	14	23	3.5	14	87	150	32	172	94	40
29	23	22	15	24	-	8.0	87	*285	29	157	80	32
30	23	23	16	23	-----	8.3	71	232	33	172	73	26
31	20	-----	16	23	-----	10	-----	180	-----	187	73	-----
Total	751	550.0	392.1	576	462.1	343.2	1,428.3	3,720	2,572	2,495	3,119	1,081
Mean	24.2	18.3	12.6	18.6	16.5	11.1	47.6	120	85.7	80.5	101	36.0
Max	110	26	23	24	66	29	98	285	148	187	183	65
Min	11	8.0	6.1	11	3.5	3.5	7.3	56	29	28	73	23
Ac-ft	1,490	1,090	778	1,140	917	681	2,830	7,380	5,100	4,950	6,190	2,140
Calendar year 1961:	Max 187	Min 1.5	Mean 39.0	Ac-ft 28,260								
Water year 1961-62:	Max 285	Min 3.5	Mean 47.9	Ac-ft 34,690								

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 5-7, 12-22, Dec. 4, 7-17, Dec. 20 to Jan. 2, Jan. 4, 5, Jan. 9 to Feb. 5, Feb. 18 to Mar. 3, Mar. 10-15.

SACRAMENTO RIVER BASIN

11-3485. Pit River near Canby, Calif.

Location.--Lat 41°24', long 120°55', in SW $\frac{1}{4}$ sec.10, T.41 N., R.9 E., on right bank at lower end of Warm Spring Valley, 4 miles southwest of Canby.

Drainage area.--1,430 sq mi, approximately, excluding Goose Lake Basin.

Records available.--January 1904 to December 1905, May 1929 to September 1962 (1929-31 incomplete).

Gage.--Water-stage recorder. Datum of gage is 4,266 ft (levels by Topographic Division). January 1904 to December 1905 staff gage and May 6, 1929, to Sept. 30, 1931, water-stage recorder, at site 100 ft upstream at different datum.

Average discharge.--32 years (1905, 1931-62), 221 cfs (160,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,330 cfs Feb. 11 (gage height, 4.88 ft); minimum, 3.6 cfs Aug. 5, 6, 11. 1904-5, 1929-62: Maximum discharge observed, 13,000 cfs Mar. 8, 1904 (gage height, 15.0 ft, datum then in use); minimum, 0.1 cfs Apr. 29, Aug. 5, Sept. 18, 1934, Aug. 18-21, 1935.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by many small reservoirs (total capacity now, about 141,000 acre-ft). Diversions for irrigation of about 39,000 acres above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 13					May 14 to Sept. 30				
2.2	7.0	3.0	205	2.1	2.8	2.8	125		
2.3	16	3.5	450	2.2	7.0	3.2	245		
2.4	30	4.0	750	2.3	16	3.6	380		
2.5	49	4.5	1,060	2.4	30	4.0	540		
2.7	103			2.5	49	4.5	760		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	59	61	45	43	28	229	205	612	45	5.7	22
2	14	56	97	41	43	52	272	166	594	43	6.2	23
3	14	47	103	41	47	85	281	221	484	38	8.8	30
4	14	56	88	41	54	109	290	194	324	54	9.7	40
5	23	40	68	38	59	94	300	129	215	51	7.0	86
6	16	30	64	40	66	*142	330	79	*239	51	4.9	76
7	15	30	52	41	142	245	325	26	179	61	6.6	68
8	15	29	30	45	290	428	335	26	88	56	12	41
9	15	29	26	49	658	412	395	30	61	86	6.2	30
10	15	40	28	47	810	368	384	32	17	43	4.9	72
11	*15	41	a 28	42	1,040	250	340	61	11	*19	4.1	24
12	17	36	*a 32	40	1,020	191	305	103	16	12	55	16
13	38	34	34	28	660	160	202	35	23	9.7	43	19
14	26	34	29	26	684	142	258	56	16	12	30	15
15	24	36	27	30	756	160	245	73	24	14	41	23
16	27	24	29	34	612	237	245	96	40	19	61	13
17	23	28	29	30	456	320	*163	114	43	13	38	14
18	22	28	29	29	356	362	163	209	47	12	23	20
19	20	24	41	15	276	390	198	170	51	32	40	19
20	19	24	66	12	245	406	225	173	*54	43	41	17
21	24	24	91	10	241	406	184	269	43	20	29	17
22	26	30	110	a 10	202	362	184	334	49	14	*16	17
23	19	56	116	a 14	170	340	100	456	71	12	14	19
24	19	51	82	a 22	146	406	82	576	73	12	20	29
25	22	54	71	a 26	106	422	76	508	43	14	19	38
26	32	40	61	*a 30	34	444	135	524	24	27	23	22
27	41	32	56	30	22	428	276	504	27	22	26	19
28	38	43	51	41	22	384	229	552	38	12	26	17
29	40	54	47	45	-	384	194	*646	73	16	26	17
30	43	54	43	45	-----	300	170	532	54	20	26	17
31	56	-----	43	47	-----	237	-----	552	-----	16	24	-----
Total	7 46	1 163	1 732	1 034	9 260	8 694	7 115	7 651	3 633	8 987	6 971	880
Mean	24.1	38.8	55.9	33.4	331	280	237	121	29.0	22.5	29.3	
Max	56	59	116	49	1,040	444	395	646	612	86	61	86
Min	14	24	26	10	22	28	76	26	11	9.7	4.1	13
Ac-ft	1,480	2,310	3,440	2,080	18,370	17,240	14,110	15,180	7,210	1,780	1,380	1,750

Calendar year 1961: Max 422 Min 1.0 Mean 52.9 Ac-ft 38,260
 Water year 1961-62: Max 1,040 Min 4.1 Mean 119 Ac-ft 86,330

* Discharge measurement made on this day.

a No gage-height record.

Note.--Stage-discharge relation affected by ice Nov. 16-21, Dec. 6-13, Jan. 11-17, 20-25, Feb. 25 to Mar. 2.

SACRAMENTO RIVER BASIN

755

11-3490. Pit River near Lookout, Calif.

Location.--Lat 41°19'25", long 121°07'35", in NE $\frac{1}{4}$ sec.11, T.40 N., R.7 E., on right bank 0.5 mile downstream from unnamed tributary and $\frac{8}{10}$ miles north of Lookout.

Drainage area.--1,621 sq mi, excluding Goose Lake basin.

Records available.--January 1929 to September 1931, August 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,160 ft (from topographic map). January 1929 to September 1931, water-stage recorder at site approximately $2\frac{1}{2}$ miles downstream at different datum.

Average discharge.--6 years, 114 cfs (82,530 acre-ft per year).

Extremes.--Maximum discharge during year, 1,880 cfs Feb. 12 (gage height, 12.30 ft); minimum, 6.1 cfs Aug. 13. 1929-31, 1958-62: Maximum discharge, 3,200 cfs Feb. 8, 1960 (gage height, 14.58 ft); no flow Aug. 29, 1931.

Remarks.--Records good except those for periods of no gage-height record, or ice effect, which are fair. Flow regulated by many small reservoirs. See Remarks for station near Canby. Diversions for irrigation of about 41,000 acres above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 23

Nov. 24 to Sept. 30

4.7	9.0	4.5	4.0	7.0	248
5.0	32	4.7	10	8.0	488
5.3	58	5.0	25	9.0	770
5.6	91	5.5	62	10.0	1,070
		6.0	109	12.0	1,760
		6.5	166		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	80	92	41	52	b 60	522	186	603	49	17	24
2	19	79	116	39	52	b 90	522	204	614	46	11	20
3	20	72	136	40	52	94	499	199	552	43	7.0	19
4	20	66	120	40	57	141	494	223	412	39	8.2	27
5	20	71	97	40	65	131	488	180	276	56	9.7	41
6	33	49	79	40	72	*223	482	124	241	49	10	89
7	24	41	b 66	40	149	*308	480	74	230	52	8.5	65
8	23	40	b 60	48	390	510	460	36	140	64	7.0	61
9	21	38	b 34	57	796	527	474	35	98	58	9.4	38
10	21	38	b 44	57	1,430	485	480	38	50	86	12	31
11	*22	51	*31	46	1,200	358	422	40	23	*38	7.9	68
12	24	52	44	48	1,590	266	393	101	16	23	6.4	31
13	26	47	41	42	1,290	228	297	90	18	16	40	22
14	54	44	43	26	1,080	216	303	46	25	12	33	23
15	37	44	37	36	1,340	223	301	83	18	14	24	23
16	32	b 35	36	33	926	282	*292	89	25	15	33	28
17	36	b 32	37	36	670	386	270	117	42	16	49	20
18	32	b 40	37	35	510	466	166	160	*44	12	30	18
19	28	b 40	40	28	406	552	223	226	43	9.4	19	24
20	28	b 38	73	19	349	656	246	183	56	27	*35	25
21	28	b 37	146	b 14	323	600	239	232	48	33	39	23
22	37	48	107	b 12	290	558	212	306	40	17	27	22
23	35	59	129	b 12	256	474	159	351	48	12	17	23
24	28	66	104	b 19	b 190	522	123	452	70	11	13	24
25	27	72	90	*27	b 150	640	108	527	64	10	17	34
26	30	66	68	29	a 100	812	104	541	38	11	19	44
27	51	52	60	31	a 50	966	248	527	23	21	20	29
28	59	45	53	33	a 50	*883	*286	*536	26	21	24	26
29	49	59	50	44	-	732	225	653	33	13	24	24
30	52	73	45	48	-----	642	210	583	73	13	24	23
31	59	-----	42	51	-----	566	-----	550	-----	18	24	-----
Total	990	1,574	2,157	1,111	13,885	13,597	9,728	7,692	3,989	904.4	625.1	969
Mean	31.9	52.5	69.6	35.8	496	439	324	248	133	29.2	20.2	32.3
Max	59	80	146	57	1,590	966	522	653	614	86	49	89
Min	15	32	31	12	50	60	104	35	16	9.4	6.4	18
Ac-ft	1,960	3,120	4,280	2,200	27,540	26,970	19,300	15,260	7,910	1,790	1,240	1,920
Calendar year 1961: Max		608	Min	1.3	Mean	77.6	Ac-ft	56,160				
Water year 1961-62: Max		1,590	Min	6.4	Mean	157	Ac-ft	113,500				

* Discharge measurement made on this day.

a No gage-height record.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER BASIN

11-3505. Ash Creek at Adin, Calif.

Location.--41°12', long 120°57', in SW¼ sec.21, T.39 N., R.9 E., on left bank 300 ft upstream from highway bridge at Adin and 0.4 mile upstream from Butte Creek.

Drainage area.--249 sq mi.

Records available.--March 1904 to December 1905, October 1928 to November 1932, October 1957 to September 1962. Record of daily discharge for Oct. 19-31, 1928, is in error and should not be used.

Gage.--Water-stage recorder. Altitude of gage is 4,190 ft (estimated on basis of bench mark 300 ft downstream). Prior to Sept. 12, 1957, recorder or staff gage at sites within 1 mile of present site, at different datums.

Average discharge.--10 years (1904-5, 1928-32, 1957-62), 53.1 cfs (38,440 acre-ft per year).

Extremes.--Maximum discharge during year, 814 cfs Feb. 9 (gage height, 9.23 ft); no flow for part of Aug. 26.

1904-5, 1928-32, 1957-62: Maximum discharge, 1,690 cfs Feb. 24, 1958 (gage height, 12.67 ft), from rating curve extended above 600 cfs; no flow for part of Aug. 26, 1962.

Remarks.--Small diversions above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	26	36	30	30	34	231	79	62	11	23	13
2	21	26	42	29	30	29	342	70	54	11	23	14
3	*19	26	38	28	31	31	238	62	50	11	23	9.0
4	19	26	*31	28	33	31	202	58	45	12	24	7.9
5	19	24	29	28	*37	35	192	51	*41	12	25	13
6	18	*23	28	28	40	82	175	48	34	12	22	14
7	19	24	27	29	96	96	169	44	27	11	*21	4.6
8	21	24	28	29	143	126	167	*40	25	9.4	22	10
9	23	25	24	29	352	109	155	38	20	9.8	23	16
10	21	24	30	28	585	78	*129	33	19	*13	24	18
11	23	25	29	25	216	67	116	27	16	15	23	*17
12	*22	25	32	29	158	58	106	24	14	16	21	16
13	20	25	29	26	294	*66	105	38	14	15	21	16
14	19	24	29	19	191	105	103	43	15	16	21	14
15	18	25	28	24	219	114	113	30	16	17	20	13
16	18	19	27	24	159	113	113	28	16	18	20	15
17	18	20	28	28	130	129	106	23	13	18	20	14
18	19	26	28	31	97	140	106	28	13	18	19	14
19	19	43	29	30	94	167	102	53	13	17	17	14
20	23	32	40	28	90	201	93	48	12	20	18	16
21	26	30	106	16	87	150	81	47	11	24	20	17
22	24	30	45	10	69	194	81	42	12	20	20	15
23	23	34	36	18	63	189	79	62	11	26	20	16
24	22	37	34	24	56	155	85	63	11	23	18	14
25	22	34	34	25	43	226	75	64	11	35	13	13
26	23	33	32	28	28	300	62	79	11	33	7.5	12
27	34	31	31	24	28	352	62	63	11	28	2.6	16
28	44	28	31	29	34	336	93	73	11	29	3.3	22
29	31	28	31	30	-	243	90	183	11	28	3.5	23
30	28	33	31	25	-----	208	80	*88	10	23	9.8	21
31	27	-----	31	25	-----	197	-----	74	-----	24	12	-----
Total	704	830	1,054	804	3,433	4,361	3,851	1,703	629	575.2	559.7	437.5
Mean	22.7	27.7	34.0	25.9	123	141	128	54.9	21.0	18.6	18.1	14.6
Max	44	43	106	31	585	352	342	183	62	35	25	23
Min	18	19	24	10	28	29	62	23	10	9.4	2.6	4.6
Ac-ft	1,400	1,650	2,090	1,600	6,810	8,650	7,640	3,380	1,250	1,140	1,110	868

Calendar year 1961: Max 224 Min 6.5 Mean 33.6 Ac-ft 24,360
 Water year 1961-62: Max 585 Min 2.6 Mean 51.9 Ac-ft 37,590

* Discharge measurement made on this day.

11-3520. Pit River near Bieber, Calif.

Location.--Lat 41°00'55", long 121°09'13", in NE $\frac{1}{4}$ sec. 27, T. 37 N., R. 7 E., on right bank 2.2 miles upstream from Spring Gulch and 7.4 miles south of Bieber.

Drainage area.--2,970 sq mi, approximately, excluding Goose Lake basin.

Records available.--January 1904 to September 1908, December 1913 to August 1914, September 1921 to September 1926, November 1928 to September 1931, October 1951 to September 1962. Yearly figures only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 4,080.4 ft above mean sea level (levels by Topographic Division). Prior to November 1928, staff gage at same site and datum.

Average discharge.--24 years (1903-8, 1921-26, 1928-31, 1951-62), 492 cfs (356,200 acre-ft per year).

Extremes.--Maximum discharge during year, 2,620 cfs Feb. 11 (gage height, 6.58 ft); no flow many days in October, August, September. 1904-8, 1913-14, 1921-26, 1928-31, 1951-62: Maximum discharge, 33,800 cfs Mar. 19, 1907 (gage height, 16.7 ft), from rating curve extended above 15,000 cfs; no flow at times in 1923-24, 1926, 1929-31, 1955, 1961, 1962.

Remarks.--Records good except those for periods of shifting control, which are fair, and those for periods of ice effect and those below 3 cfs, which are poor. Flow regulated by many small reservoirs (total capacity now, about 201,000 acre-ft). Diversions for irrigation of about 33,000 acres between stations near Canby and near Bieber.

Rating tables, except periods of ice effect or shifting control (gage height, in feet, and discharge, in cubic feet per second)

1.4	0	2.0	7.5	3.6	268
1.5	.1	2.2	17	4.2	520
1.6	.2	2.5	38	4.8	885
1.7	.5	2.8	74	5.5	1,450
1.8	1.5	3.2	152	6.5	2,520
1.9	4.0				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	14	79	84	157	80	975	97	586	3.1	0.2	0
2	0	40	118	94	150	100	900	63	631	12	.2	.1
3	0	39	157	90	145	120	922	49	620	9.2	.2	.1
4	0	41	173	80	147	136	952	197	581	4.9	.2	0
5	0	46	140	80	184	* 173	878	394	515	1.7	.2	0
6	0	44	118	67	218	308	815	313	* 425	.6	.2	0
7	0	40	90	71	262	614	776	209	252	.4	.2	0
8	0	29	80	74	455	789	756	162	246	.4	.2	0
9	0	21	70	80	1,110	1,060	730	108	118	1.1	.3	0
10	0	19	62	85	1,690	1,020	718	53	88	2.3	.3	0
11	* 0	18	* 68	88	2,300	857	692	34	59	* 21	.3	0
12	0	27	62	82	2,150	655	620	31	17	12	.3	0
13	0.1	70	52	70	2,130	500	565	30	22	7.1	.2	0
14	0.1	40	52	71	2,200	448	452	32	11	.6	.2	0
15	.2	60	61	77	2,190	456	456	27	9.2	.2	.2	0
16	.2	26	58	63	2,150	500	* 430	25	9.6	.1	.2	0
17	.2	32	52	63	1,770	576	390	26	7.5	.1	.2	0
18	.3	36	48	64	1,190	643	368	29	* 6.0	.1	.1	0
19	.5	58	42	54	857	704	278	49	9.5	.1	.1	0
20	.6	88	58	60	730	815	302	90	21	.1	** .1	0
21	1.3	54	156	26	614	945	285	88	6.7	.1	.1	0
22	1.3	76	242	14	535	960	271	67	1.7	.2	.1	0
23	1.3	50	252	14	466	1,000	278	145	.6	.2	.1	0
24	1.1	45	215	20	404	960	224	301	.5	.3	.1	0
25	.7	58	218	* 32	300	922	121	550	.5	.4	.1	0
26	.8	74	162	34	125	945	59	565	.6	.3	.1	0
27	4.0	71	143	44	70	1,100	35	620	.6	.2	.1	0
28	4.3	63	118	50	70	1,330	66	* 661	.6	.2	.1	0
29	1.0	48	106	55	-	1,360	42	661	.6	.4	0	0
30	6.0	54	77	74	-----	1,180	82	625	.5	.4	0	0
31	4.6	-----	73	106	-----	1,060	-----	586	-----	.3	0	-----
Total	28.6	1,381	3,402	1,966	24,769	22,316	14,438	6,887	4,246.7	110.7	4.9	0.2
Mean	0.92	46.0	110	63.4	885	720	481	222	142	3.57	0.16	0.07
Max	4.6	88	252	106	2,300	1,360	975	661	631	23	0.3	0.1
Min	0	14	42	14	70	80	35	25	0.5	0.1	0	0
Ac-ft	57	2,740	6,750	3,900	49,130	44,260	28,640	13,660	8,420	220	9.7	0.4

Calendar year 1961: Max 1,210 Min 0 Mean 96.0 Ac-ft 69,510
 Water year 1961-62: Max 2,300 Min 0 Mean 218 Ac-ft 157,800

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

** Field estimate made on this day.

Note.--Stage-discharge relation affected by ice Nov. 13-21, Dec. 7-14, Jan. 20-28, Feb. 25 to Mar. 3. Shifting-control method used May 26 to July 24.

SACRAMENTO RIVER BASIN

11-3525. Horse Creek at Little Valley, near Pittville, Calif.

Location.--Lat 40°53'56", long 121°10'23", in NE $\frac{1}{4}$ sec.15, T.35 N., R.7 E., on left bank 100 ft downstream from railroad bridge, 0.5 mile northeast of Little Valley, and 13 miles southeast of Pittville.

Drainage area.--203 sq mi.

Records available.--December 1928 to September 1931, October 1959 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,150 ft (from topographic map). Prior to 1959 at datum 0.1 ft lower.

Average discharge.--5 years, 10.3 cfs (7,460 acre-ft per year).

Extremes.--Maximum discharge during year, 118 cfs Feb. 15 (gage height, 2.64 ft), from rating curve extended above 30 cfs; minimum, 3.1 cfs Apr. 21.

1928-31, 1959-62: Maximum discharge, 513 cfs Feb. 8, 1960 (gage height, 3.51 ft), from rating curve extended above 30 cfs; minimum, 2.6 cfs July 4, 1961.

Remarks.--Divisions for irrigation above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	7.2	1.0	1.0	1.6	1.2	1.1	5.4	7.5	3.8	4.1	4.5
2	6.5	8.2	1.1	9.9	1.5	1.4	1.1	5.3	6.6	3.8	* 4.0	4.7
3	6.6	8.1	1.2	9.6	1.5	1.5	1.2	5.9	5.3	3.8	3.7	4.7
4	6.4	8.1	1.1	9.2	1.5	1.5	9.1	7.9	4.1	3.8	3.7	4.4
5	7.0	7.7	1.0	9.4	1.5	1.8	8.8	5.9	4.4	3.6	3.7	4.2
6	6.8	7.4	9.8	9.6	1.5	2.6	4.8	4.9	4.7	4.3	3.5	4.1
7	7.6	7.4	9.2	9.8	1.5	3.6	7.7	4.0	4.5	4.4	3.6	4.2
8	7.3	7.4	8.5	9.8	1.6	6.5	8.4	3.8	4.1	4.2	3.9	4.2
9	5.7	7.3	8.2	9.2	2.5	4.3	7.4	4.9	4.0	* 4.2	3.9	3.9
10	5.2	1.2	8.6	9.3	4.4	2.9	7.8	4.9	3.9	4.1	3.9	4.1
11	5.3	9.9	7.7	8.4	4.1	2.3	8.1	5.2	4.0	4.2	3.7	4.3
12	5.9	8.1	8.5	9.1	3.2	2.0	7.6	6.1	* 3.9	4.2	3.7	4.3
13	6.3	7.9	8.5	9.0	2.7	* 1.7	6.7	7.3	3.8	4.2	3.8	4.0
14	8.3	8.1	8.4	8.5	2.5	1.6	5.9	7.9	3.9	4.0	3.8	4.0
15	1.1	8.1	8.6	* 9.1	7.0	1.5	5.0	7.4	4.1	4.2	3.6	3.8
16	8.3	* 8.2	8.4	8.8	8.4	1.4	4.6	8.6	3.9	3.8	3.6	3.8
17	* 6.0	7.8	8.5	8.8	5.3	1.4	4.7	* 7.7	3.7	3.8	4.0	3.5
18	5.2	8.1	9.0	9.0	3.7	1.3	4.5	8.8	4.1	5.0	3.8	3.5
19	5.1	8.1	1.0	9.8	2.8	1.2	* 3.7	1.0	4.8	5.1	3.8	3.7
20	8.4	8.5	1.2	1.0	2.3	1.3	4.0	7.8	4.6	5.0	3.9	3.8
21	1.0	8.5	1.5	1.1	1.9	1.3	3.6	7.2	4.2	4.7	4.1	4.1
22	8.2	8.2	1.3	1.1	1.7	1.4	3.8	6.9	4.2	4.5	4.1	4.0
23	7.8	9.1	1.2	1.1	1.5	1.5	3.8	1.0	4.1	4.5	4.0	4.1
24	7.6	9.2	1.1	1.1	1.4	1.5	4.2	9.8	4.3	4.4	4.0	4.2
25	7.7	9.6	1.1	1.2	1.3	1.4	4.1	1.2	4.7	4.5	4.1	4.3
26	7.9	9.2	1.0	1.2	1.2	1.3	4.5	1.4	4.7	4.7	4.0	4.2
27	8.3	8.7	9.6	1.2	1.3	1.3	4.7	1.2	5.0	4.4	3.9	4.2
28	9.3	9.0	9.6	1.1	1.3	1.4	5.8	1.0	5.4	4.1	3.9	4.4
29	8.7	8.8	9.8	1.3	-	1.3	5.9	9.7	4.5	4.0	4.0	4.8
30	5.8	9.2	9.6	1.4	-----	1.3	5.6	* 9.1	4.0	4.1	4.2	4.8
31	6.0	-----	9.8	1.5	-----	1.3	-----	9.3	-----	4.1	4.3	-----
Total	222.8	253.1	308.3	319.3	72.7	58.0	188.8	239.7	135.0	131.5	120.3	124.6
Mean	7.19	8.44	9.95	10.3	26.0	18.7	6.29	7.73	4.50	4.24	3.88	4.15
Max	11	12	15	15	84	65	12	14	7.5	5.1	4.3	4.8
Min	5.1	7.2	7.7	8.4	12	12	3.6	3.8	3.7	3.6	3.5	3.5
Ac-ft	442	502	612	633	1,440	1,150	374	475	268	261	239	247
Calendar year 1961: Max	45	Min	3.4	Mean	8.67	Ac-ft	6,280					
Water year 1961-62: Max	84	Min	3.5	Mean	9.18	Ac-ft	6,640					

* Discharge measurement made on this day.

11-3537. Fall River near Dana, Calif.

Location.--Lat 41°06'20", long 121°33'00", in NE $\frac{1}{4}$ sec. 30, T.38 N., R.4 E., on left bank 0.7 mile southeast of Dana and 1 mile downstream from large springs below Bear Creek.

Drainage area.--More than 140 sq mi; hydrologic drainage boundaries uncertain owing to ground-water exchange.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,340 ft (from topographic map).

Extremes.--Maximum discharge during year, 820 cfs Apr. 28 (gage height, 6.56 ft); minimum daily, 353 cfs Jan. 29.
1958-62: Maximum discharge, 1,020 cfs Mar. 8, 1960 (gage height, 7.20 ft); minimum daily, that of Jan. 29, 1962.

Remarks.--Practically entire flow of stream originates in large spring about 1 mile upstream. Some pumping from stream in vicinity of gage for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	371	375	485	382	354	462	484	617	470	391	367	377
2	372	375	462	377	357	451	501	615	467	388	* 363	375
3	372	371	442	377	356	453	505	617	464	388	367	376
4	369	370	423	374	357	453	513	615	457	388	368	375
5	370	366	414	374	354	457	532	606	451	383	371	373
6	370	367	403	377	355	468	549	596	446	381	371	373
7	370	370	400	375	369	464	564	592	442	376	369	* 374
8	370	368	396	375	408	459	605	591	441	377	372	373
9	369	370	393	372	488	453	635	598	433	* 375	373	372
10	368	369	393	372	545	447	640	593	428	374	374	369
11	368	369	388	371	523	444	632	575	428	372	374	367
12	368	370	390	375	512	439	635	558	* 427	374	375	370
13	369	371	395	373	547	433	657	566	421	374	378	370
14	367	* 371	* 393	370	589	434	673	546	425	372	378	364
15	368	370	389	367	635	433	716	528	422	371	378	365
16	365	370	387	367	585	432	721	517	421	370	377	364
* 17	* 364	368	387	370	545	428	705	* 511	418	368	374	363
18	364	368	388	374	512	423	693	518	416	368	378	362
19	365	368	391	379	* 494	427	* 689	527	409	371	379	362
20	367	369	401	372	480	433	662	508	409	369	379	361
21	368	367	434	365	468	437	631	498	407	367	383	362
22	367	367	423	364	462	451	628	492	410	370	381	360
23	368	370	408	365	462	439	636	501	408	369	379	360
24	367	378	396	365	462	428	654	495	405	370	381	362
25	370	405	397	364	454	426	653	489	403	371	382	359
26	372	395	387	362	442	434	639	494	403	370	377	355
27	378	401	385	359	444	442	649	490	402	369	378	357
28	376	389	381	355	* 466	463	778	480	398	368	378	362
29	377	384	381	353	-	465	688	478	397	372	376	365
30	375	385	380	353	-----	475	639	* 483	397	371	376	362
31	374	-----	379	353	-----	475	-----	478	-----	370	376	-----
Total	11,458	11,236	12,471	11,431	13,025	13,828	18,906	16,772	12,725	11,597	11,632	10,989
Mean	370	375	402	369	465	446	630	541	424	374	375	366
Max	378	405	485	382	635	475	778	617	470	391	383	377
Min	364	366	379	353	354	423	484	478	397	367	363	355
Ac-ft	22,730	22,290	24,740	22,670	25,830	27,430	37,500	33,270	25,240	23,000	23,070	21,800
Calendar year 1961: Max	621	Min	364	Mean	429	Ac-ft	310,700					
Water year 1961-62: Max	778	Min	353	Mean	428	Ac-ft	309,600					

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3555. Hat Creek near Hat Creek, Calif.

Location.--Lat 40°41'12", long 121°25'25", in SE $\frac{1}{4}$ sec.28, T.33 N., R.5 E., on right bank 0.8 mile northeast of Old Station Post Office and 8 miles southeast of Hat Creek Post Office.

Drainage area.--122 sq mi, approximately; hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--July 1926 to September 1929, April 1930 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,300 ft (from topographic map). July 1926 to April 1928 at site 0.5 mile upstream at different datum.

Average discharge.--35 years, 131 cfs (94,840 acre-ft per year).

Extremes.--Maximum discharge during year, 193 cfs June 1 (gage height, 2.75 ft); minimum, 97 cfs Sept. 18.
1926-62: Maximum discharge, 3,320 cfs Dec. 11, 1937 (gage height, 7.75 ft, in gage well, affected by drawdown), from rating curve extended above 290 cfs on basis of slope-area measurement of peak flow; minimum, 67 cfs Sept. 7, 1934.

Remarks.--Records excellent except those for Oct. 22 to May 21, which are good. Diversions for irrigation of about 260 acres above station.

Rating table (gage height, in feet, and discharge
in cubic feet per second)

2.29	98
2.5	134
2.7	180

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	117	113	115	123	119	119	123	130	175	115	113	110
2	117	113	113	121	119	119	124	136	180	117	112	107
3	117	113	117	121	119	119	123	143	175	113	112	103
4	117	112	119	119	119	121	121	149	163	113	113	104
5	115	113	119	121	119	121	121	154	152	113	112	103
6	115	113	117	123	121	119	124	156	149	112	112	100
7	115	113	117	121	121	119	126	156	149	110	112	98
8	117	112	119	121	121	121	128	163	154	108	112	107
9	117	112	117	121	126	119	128	168	161	110	107	110
10	117	113	117	121	124	119	128	158	166	121	105	110
11	* 121	115	* 115	117	124	119	124	156	166	121	105	110
12	119	115	115	123	123	119	126	158	173	119	104	110
13	115	113	117	117	121	119	130	156	* 175	117	104	108
14	110	115	117	113	121	119	136	149	173	117	* 103	109
15	110	113	117	115	121	119	143	145	166	117	103	109
16	110	112	117	117	119	119	138	149	166	115	102	108
17	110	110	119	117	119	119	134	149	163	117	102	108
18	110	112	117	119	121	119	136	163	161	119	105	102
19	110	113	119	121	121	119	136	163	166	119	109	98
20	112	113	130	113	121	119	130	149	170	112	110	98
21	115	113	130	113	* 121	119	126	145	168	108	110	98
22	112	119	123	113	121	117	128	152	170	108	110	98
23	108	119	124	113	123	117	132	161	166	108	110	98
24	110	119	123	113	119	119	134	152	158	108	110	98
25	112	117	123	113	119	121	132	* 149	152	107	110	102
26	112	117	119	117	117	121	132	145	149	105	110	102
27	113	119	123	117	117	123	* 141	145	145	104	110	102
28	112	119	121	119	119	123	147	156	143	108	110	105
29	112	117	123	119	-	123	136	170	141	112	107	107
30	112	113	121	119	-----	123	130	175	123	113	103	107
31	113	-----	121	119	-----	* 123	-----	173	-----	113	105	-----
Total	3,522	3,430	3,704	3,659	3,375	3,715	3,917	4,773	4,818	3,499	3,351	3,127
Mean	114	114	119	118	121	120	131	154	161	113	108	104
Max	121	119	130	123	126	123	147	175	180	121	113	110
Min	108	110	113	113	117	117	121	130	123	104	102	98
Ac-ft	6,990	6,800	7,350	7,260	6,690	7,370	7,770	9,470	9,560	6,940	6,650	6,200

Calendar year 1961: Max 196 Min 108 Mean 129 Ac-ft 93,200
Water year 1961-62: Max 180 Min 98 Mean 123 Ac-ft 89,050

Peak discharge (base, 170 cfs).--June 1 (2400) 193 cfs (2.75 ft).

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

761

11-3605. Burney Creek near Burney, Calif.

Location.--Lat 40°52'15", long 121°40'50", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.19, T.35 N., R.3 E., on right bank 300 ft upstream from road bridge, three-quarters of a mile southwest of Burney, and 4.5 miles upstream from Goose Creek.

Drainage area.--87.2 sq mi.

Records available.--August 1911 to August 1913 (published as "at Burney"), March 1921 to September 1922, April 1958 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 3,180 ft (from topographic map). August 1911 to August 1913 and March 1921 to September 1922 staff gage or water-stage recorder at different site and datum.

Extremes.--Maximum discharge during year, 302 cfs Feb. 13 (gage height, 8.21 ft); minimum, 5.0 cfs Sept. 25.

1911-13, 1921-22, 1958-62: Maximum discharge, 592 cfs Jan. 12, 1959 (gage height, 9.75 ft), from rating curve extended above 200 cfs; minimum, 3.4 cfs Aug. 4, 1961.

Remarks.--Probably small diversions for irrigation upstream. Slight regulation probably caused by logging operations.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.8	11	73	24	20	37	85	123	42	11	9.0	9.9
2	* 1.0	12	61	21	20	31	95	120	40	10	8.8	9.5
3	1.1	11	50	26	19	23	97	118	42	8.3	9.1	9.6
4	9.7	11	37	24	19	36	106	116	36	8.8	9.8	9.0
5	7.3	11	32	25	* 19	58	117	104	32	9.5	9.1	9.1
6	8.0	11	27	25	23	55	125	96	33	8.2	8.1	9.1
7	9.2	12	25	20	50	58	133	95	31	7.7	7.4	8.5
8	9.8	12	24	26	90	56	141	109	31	7.5	7.0	7.5
9	1.4	12	21	23	168	53	143	127	34	7.9	8.3	7.7
10	8.4	11	22	22	191	44	138	105	31	8.0	8.6	7.8
11	11	11	22	22	144	39	136	97	27	8.4	8.4	8.0
12	12	11	22	23	123	38	140	88	* 26	8.6	8.3	8.4
13	11	11	22	23	207	35	152	91	27	9.9	9.1	8.0
14	13	12	23	21	187	35	166	88	24	11	* 8.5	7.9
15	9.6	14	19	22	225	36	181	94	21	11	8.0	8.1
16	12	* 13	9.2	23	182	37	167	86	19	10	7.4	8.3
17	* 13	13	26	22	134	38	168	* 79	20	11	7.4	7.7
18	9.9	14	* 27	21	89	36	159	88	19	* 11	8.0	7.8
19	8.9	15	45	38	* 84	37	* 158	88	14	11	8.3	* 7.7
20	12	16	91	39	80	42	140	76	14	11	8.6	8.3
21	13	15	99	32	69	43	127	66	15	10	8.5	8.5
22	11	16	58	31	85	76	127	65	14	11	7.9	8.4
23	12	22	48	30	116	44	138	72	13	11	8.2	8.2
24	11	41	40	29	68	44	140	66	12	11	8.5	8.1
25	12	175	31	27	41	45	135	78	11	11	8.2	5.8
26	16	67	35	26	38	45	123	84	11	11	8.3	6.4
27	34	45	30	25	38	49	* 147	72	13	11	7.3	8.0
28	28	28	27	24	39	* 56	227	65	13	11	7.2	11
29	15	52	29	22	-	60	160	62	11	11	7.6	17
30	13	62	28	21	-----	66	136	58	10	10	7.4	15
31	12	-----	26	21	-----	74	-----	52	-----	9.8	8.8	-----
Total	385.6	767	1129.2	778	2568	1426	4207	2728	686	307.6	255.1	264.3
Mean	12.4	25.6	36.4	25.1	91.7	46.0	140	88.0	22.9	9.92	8.23	8.81
Max	34	175	99	39	225	76	227	127	42	11	9.8	17
Min	7.3	11	9.2	20	19	23	85	52	10	7.5	7.0	5.8
Ac-ft	765	1,520	2,240	1,540	5,090	2,830	8,340	5,410	1,360	610	506	524

Calendar year 1961: Max 340 Min 5.1 Mean 48.2 Ac-ft 34,890
 Water year 1961-62: Max 227 Min 5.8 Mean 42.5 Ac-ft 30,740

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3625. Pit River below Pit No. 4 Dam, Calif.

Location.--Lat 40°58'25", long 121°46'42", in SW¹/₄ sec.17, T.36 N., R.2 E., on right bank 0.65 mile downstream from Ruling Creek, 1.3 miles downstream from Pit No. 4 Dam, and 2.7 miles downstream from Pit No. 3 powerhouse.

Drainage area.--4,860 sq mi, approximately, excluding Goose Lake basin.

Records available.--May 1922 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Pecks Bridge" April to October 1922, and as "at Lindsay Flat" November 1922 to June 1927.

Gage.--Water-stage recorder. Altitude of gage is 2,345 ft (from river-profile map). Prior to November 1922 at site at Pecks Bridge 7.4 miles upstream at different datum. November 1922 to June 20, 1927, at site at Lindsay Flat 1.8 miles upstream at different datum.

Average discharge.--52 years (1910-62), 2,703 cfs (1,957,000 acre-ft per year), including diversion to Pit No. 4 powerhouse. Period 1910-22 extrapolated on basis of records for Pit River at Big Bend.

Extremes.--Maximum discharge during year, 2,730 cfs Feb. 16 (gage height, 8.17 ft); minimum daily, 50 cfs Jan. 4, Feb. 26 to Mar. 1. 1922-55 (prior to diversion to Pit No. 4 powerhouse): Maximum discharge, 30,200 cfs Dec. 12, 1937 (gage height, 17.90 ft), from rating curve extended above 8,000 cfs on basis of velocity-area studies; minimum daily, 234 cfs Sept. 13, 1953. 1955-62: Maximum discharge, 17,200 cfs Dec. 23, 1955 (gage height, 14.39 ft); minimum daily, 45 cfs Feb. 6, 7, 1961.

Remarks.--Records excellent. Flow regulated by many small reservoirs and powerplants (total usable reservoir capacity, about 210,000 acre-ft). Many diversions above station; diversion to Pit No. 4 powerhouse began June 9, 1955.

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 20				July 21 to Sept. 30	
4.2	48	6.0	645	4.7	128
4.5	100	7.0	1,390	5.0	193
5.0	215	8.0	2,490		
5.5	395				

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	106	76	724	51	58	50	83	126	141	141	157	155
2	96	73	108	51	58	53	96	139	141	141	164	153
3	96	73	102	*51	58	54	*100	141	143	141	155	153
4	98	71	102	50	56	53	102	139	143	141	151	153
5	98	69	76	51	56	56	100	146	141	*141	151	153
6	94	71	56	51	56	58	102	141	139	141	153	162
7	94	71	54	51	56	58	102	141	141	143	149	155
8	94	71	53	51	58	56	100	141	141	139	149	153
9	98	73	53	51	61	54	100	*139	141	139	149	153
10	98	73	53	51	58	56	100	139	141	139	151	151
11	*98	73	53	51	56	54	100	139	141	139	175	153
12	98	73	53	51	1,130	54	100	153	141	139	177	157
13	96	71	53	51	1,470	54	100	146	141	139	172	164
14	96	71	53	51	*2,110	56	100	137	141	139	*157	172
15	96	71	53	53	2,070	56	100	139	146	139	153	160
16	94	71	54	53	2,350	54	100	137	133	139	166	155
17	94	71	59	54	1,610	56	100	137	139	141	160	155
18	94	71	56	54	842	54	100	139	139	139	153	155
19	96	73	61	59	185	53	100	141	139	139	153	155
20	96	73	68	58	56	53	100	141	139	139	149	170
21	96	71	82	56	56	54	100	139	137	139	151	*155
22	96	73	56	56	54	62	102	137	137	139	166	155
23	98	74	54	54	54	56	102	137	137	139	151	157
24	96	81	53	56	53	53	100	137	153	141	164	157
25	98	281	53	56	51	54	100	146	141	141	153	157
26	98	1,030	51	56	50	54	100	157	139	141	168	157
27	102	937	51	56	50	54	102	143	139	141	160	162
28	98	130	51	58	50	53	100	141	139	141	153	186
29	98	89	51	58	-----	54	100	139	141	143	153	172
30	*96	783	51	*56	-----	54	100	143	141	141	153	172
31	96	-----	51	56	-----	54	-----	139	-----	145	155	-----
TOTAL	3,002	4,988	2,548	1,662	12,872	1,694	2,991	4,359	4,215	4,349	4,871	4,787
MEAN	96.8	166	82.2	53.6	460	54.6	99.7	141	141	140	157	160
MAX	106	1,030	724	59	2,350	62	102	157	153	145	177	186
MIN	94	69	51	50	50	50	83	126	133	139	149	151
AC-FT	5,950	9,890	5,050	3,300	25,530	3,360	5,930	8,650	8,360	8,630	9,660	9,490
(†)	134,200	121,700	137,200	133,500	176,400	189,500	177,600	152,700	118,300	105,000	128,400	110,400
Mean†	2,280	2,212	2,314	2,225	3,637	3,136	3,085	2,624	2,129	1,849	2,245	2,016
Ac-ft†	140,200	131,600	142,300	136,800	202,000	192,800	183,600	161,300	126,700	113,700	138,000	119,900
Calendar year 1961:	Max	162	Min	45	Mean	108	Ac-ft	77,980	Mean†	2,355	Ac-ft†	1,705,000
Water year 1961-62:	Max	2,350	Min	50	Mean	143	Ac-ft	103,800	Mean†	2,471	Ac-ft†	1,789,000

* Discharge measurement made on this day.

† Diversion, in acre-feet, to Pit No. 4 powerhouse, furnished by Pacific Gas & Electric Co.

Adjusted for diversion.

11-3630. Pit River at Big Bend, Calif.

Location.--Lat 41°01', long 121°55', in sec.31, T.37 N., R.1 E., on left bank at Big Bend, 0.5 mile downstream from Nelson Creek and 1 mile upstream from Kosk Creek.

Drainage area.--4,920 sq mi, approximately, excluding Goose Lake basin.

Records available.--October 1910 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Henderson" 1910-23.

Gage.--Water-stage recorder. Datum of gage is 1,674.47 ft above mean sea level, datum of 1929. Prior to Dec. 28, 1912, staff gage and Dec. 28, 1912, to June 21, 1924, water-stage recorder, at same site at datum 7.69 ft higher.

Extremes.--Maximum discharge during year, 3,740 cfs Feb. 15 (gage height, 9.90 ft); minimum daily, 57 cfs Dec. 16.
1910-62: Maximum discharge, 34,200 cfs Dec. 12, 1937 (gage height, 16.26 ft), from rating curve extended above 12,000 cfs on basis of velocity-area studies; minimum daily, 34 cfs Mar. 29, 1955.

Remarks.--Records good. Flow regulated by many reservoirs and powerplants (total usable reservoir capacity, about 210,000 acre-ft). Many diversions above station; diversion to Pit No. 5 powerhouse began May 1, 1944.

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

4.3	56	7.0	740
4.5	74	8.0	1,440
5.0	136	9.0	2,400
5.5	226	10.0	3,900
6.0	350		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	116	85	231	70	65	160	153	154	150	116	114	111
2	115	84	201	68	65	150	156	186	144	121	118	108
3	116	83	133	68	65	144	156	188	136	123	115	108
4	112	82	108	*67	65	142	*165	190	141	123	119	111
5	114	83	94	66	65	184	168	188	139	*119	114	109
6	111	82	83	66	72	205	172	192	138	125	115	111
7	112	83	74	65	179	173	179	188	136	121	119	108
8	109	84	73	65	248	168	184	188	136	109	116	109
9	111	79	70	65	464	163	182	*190	133	116	116	109
10	115	84	66	65	640	153	172	188	129	123	115	114
11	*121	83	64	64	428	148	166	182	133	123	109	111
12	119	82	64	65	1,620	142	166	175	136	123	111	112
13	108	80	61	64	2,400	139	168	181	130	123	112	109
14	109	83	60	63	3,180	136	172	173	136	119	*111	109
15	112	84	58	59	*3,180	136	172	172	132	112	111	111
16	111	83	57	59	3,310	135	170	168	128	112	112	107
17	111	83	70	58	2,470	132	163	168	128	118	111	111
18	115	82	72	63	1,660	130	158	165	125	118	111	111
19	115	82	86	81	890	133	156	158	125	116	111	106
20	115	82	161	80	471	138	151	156	126	114	111	111
21	108	83	151	68	293	135	142	158	125	114	109	*111
22	112	95	115	68	213	165	141	158	128	111	111	107
23	115	156	114	65	201	147	141	158	123	114	111	106
24	112	183	94	64	186	139	142	156	125	114	108	109
25	115	303	85	61	173	138	139	154	123	112	111	112
26	115	226	83	63	165	141	136	154	126	108	114	112
27	139	305	78	64	154	148	153	151	126	114	112	114
28	119	129	76	64	153	151	153	151	125	111	114	125
29	115	130	75	65	-----	151	136	151	123	109	112	111
30	*112	165	74	*65	-----	150	129	153	119	111	114	108
31	109	-----	72	64	-----	150	-----	153	-----	111	112	-----
TOTAL	3,538	3,428	2,903	2,032	23,075	4,626	4,741	5,247	3,924	3,603	3,499	3,311
MEAN	114	114	93.6	65.5	824	149	158	169	131	116	113	110
MAX	139	305	231	81	3,310	205	164	192	150	125	119	125
MIN	108	79	57	58	65	130	129	151	119	108	108	106
AC-FT	7,020	6,800	5,760	4,030	45,770	9,180	9,400	10,410	7,780	7,150	6,940	6,570

CALENDAR YEAR 1961: MAX 640 MIN 56 MEAN 144 AC-FT 104,300
WATER YEAR 1961-62: MAX 3,310 MIN 57 MEAN 175 AC-FT 126,800

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3650. Pit River near Montgomery Creek, Calif.

Location.--Lat 40°50'50", long 121°59'30" in NE¼ sec.32, T.35 N., R.1 W., on left bank 1 mile upstream from Cow Canyon Creek and 3.5 miles west of town of Montgomery Creek.

Drainage area.--5,170 sq mi, approximately, excluding Goose Lake Basin.

Records available.--October 1944 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 1,075.00 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--18 years, 3,694 cfs (2,674,000 acre-ft per year).

Extremes.--Maximum discharge during year, 14,100 cfs Feb. 13 (gage height, 8.29 ft); minimum, 500 cfs Oct. 1.

1944-62: Maximum discharge, 37,100 cfs Dec. 23, 1955 (gage height, 14.12 ft); minimum, 486 cfs Sept. 27, 1959.

Remarks.--Records good. Flow regulated by many small reservoirs and several powerplants above station. Many diversions above station for irrigation. Concerning regulation and diversions see Remarks for stations upstream. This station is just above pool stage when Shasta Lake is full.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 30

July 1 to Sept. 30

2.0 675
2.5 1,080
3.0 1,600
5.0 4,680
7.0 9,720
9.0 16,800

1.9 570
2.5 1,080

Note.--Same as preceding table above 2.5 ft.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,980	2,340	6,460	2,220	*3,390	4,170	4,900	*3,980	*3,970	670	2,670	1,210
2	*2,270	2,280	6,070	1,420	2,540	4,660	*4,900	3,830	3,810	2,760	2,750	1,770
3	2,520	2,250	4,640	3,360	1,360	3,340	4,970	4,200	1,790	2,720	*2,540	*1,010
4	2,170	1,970	4,180	3,080	1,780	3,020	4,910	3,760	3,700	758	736	2,620
5	2,340	1,650	3,460	2,900	2,600	5,310	5,000	3,200	3,710	2,670	953	2,860
6	2,120	2,600	*2,640	1,890	3,230	5,790	5,060	2,080	3,540	3,370	2,740	2,910
7	1,660	2,430	2,940	1,800	4,680	5,530	5,020	3,670	3,360	862	2,770	2,510
8	1,760	2,720	3,960	2,630	5,830	5,280	5,180	3,980	3,770	651	2,660	625
9	2,430	2,170	2,940	3,260	8,720	5,310	5,100	3,950	1,570	2,630	2,460	597
10	2,690	2,690	2,260	3,090	9,420	5,080	5,000	4,020	1,090	3,610	2,600	3,050
11	2,660	2,130	2,580	3,050	*7,540	4,930	4,930	4,330	2,790	3,110	1,720	2,640
12	2,720	2,410	2,890	3,200	8,630	4,880	4,860	3,360	3,610	2,880	1,400	2,730
13	2,600	2,280	2,690	2,480	12,300	4,820	4,880	1,590	3,440	2,910	2,480	2,780
14	2,540	2,620	2,630	1,440	12,600	4,820	5,020	3,350	2,780	786	2,450	3,180
15	2,590	2,730	2,770	2,860	12,000	4,300	4,990	3,890	2,690	635	2,570	602
16	2,780	2,700	2,310	3,140	11,400	4,700	4,860	3,780	958	2,390	3,040	550
17	2,490	2,610	1,850	3,010	10,100	4,140	4,900	3,780	1,630	2,690	2,260	2,810
18	2,580	2,710	3,210	2,920	8,700	2,400	4,820	3,440	1,980	2,670	590	2,710
19	2,590	1,710	3,860	3,960	7,350	3,880	4,560	2,420	2,470	2,930	1,020	2,710
20	2,720	2,370	4,630	3,080	6,570	4,730	4,470	1,880	2,560	2,570	2,720	2,700
21	2,560	2,440	6,060	2,230	5,970	4,810	3,980	3,490	2,650	679	2,770	2,740
22	2,510	2,230	4,770	2,480	5,530	5,550	3,150	3,460	2,360	611	3,280	592
23	2,290	2,530	3,260	3,340	5,390	4,900	3,910	3,530	746	2,220	3,250	1,010
24	2,650	2,960	2,530	2,930	5,260	5,040	4,630	3,390	724	2,830	2,390	2,720
25	2,640	4,880	3,230	2,640	4,940	4,950	4,030	3,700	2,780	2,700	599	2,780
26	2,580	4,580	3,110	2,470	5,000	4,700	3,670	3,370	3,980	2,680	586	2,840
27	2,890	4,200	3,840	2,120	4,150	4,900	4,070	2,490	3,930	2,750	2,720	2,730
28	2,800	3,020	4,040	1,380	4,120	4,930	4,220	3,710	3,500	655	2,720	2,820
29	2,610	2,800	3,850	3,220	-	4,990	3,580	3,840	3,110	860	2,760	736
30	2,310	3,840	2,020	3,180	-----	5,040	3,580	3,700	806	2,730	2,990	1,070
31	2,290	-----	1,860	3,380	-----	4,770	-----	3,970	-----	2,770	2,900	-----
Total	76,340	80,850	107,540	84,160	181,100	145,670	137,150	107,140	79,804	65,757	70,094	62,612
Mean	2,463	2,695	3,469	2,715	6,468	4,699	4,572	3,456	2,660	2,121	2,261	2,087
Max	2,890	4,880	6,460	3,960	12,600	5,790	5,180	4,330	3,980	3,610	3,280	3,180
Min	1,660	1,650	1,860	1,380	1,360	2,400	3,150	1,590	724	611	586	592
Ac-ft	151,400	160,400	213,300	166,900	359,200	288,900	272,000	212,500	158,300	130,400	139,000	124,200
Calendar year 1961:	Max 8,950	Min 768	Mean 3,183	Ac-ft 2,304,000								
Water year 1961-62:	Max 12,600	Min 586	Mean 3,283	Ac-ft 2,376,000								

* Discharge measurement made on this day.

11-3655. Squaw Creek above Shasta Lake, Calif.

Location.--Lat 40°51'25", long 122°05'08", in SW $\frac{1}{4}$ sec.29, T.35 N., R.2 W., on left bank 1.3 miles upstream from Salt Creek, about 2 miles upstream from Shasta Lake, and 10 miles west of town of Montgomery Creek.

Drainage area.--65.3 sq mi.

Records available.--October 1944 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as "above Shasta Reservoir" prior to 1950.

Gage.--Water-stage recorder. Altitude of gage is 1,170 ft (from topographic map).

Average discharge.--18 years, 229 cfs (165,800 acre-ft per year).

Extremes.--Maximum discharge during year, 7,510 cfs Feb. 9 (gage height, 16.73 ft); minimum, 9.9 cfs Sept. 24, 25, 26, 27. 1944-62: Maximum discharge, 17,800 cfs Dec. 21, 1955 (gage height, 21.90 ft), from rating curve extended above 4,200 cfs on basis of slope-area measurement at gage height 18.90 ft; minimum, that of Sept. 24, 25, 26, 27, 1962.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9				Feb. 9 to Sept. 30			
5.8	10	8.0	255	7.0	89	10.0	1,000
5.9	14	9.0	555	7.5	149	12.0	2,460
6.0	18	10.0	1,010	8.0	240	14.0	4,200
6.2	28	12.0	2,240	9.0	540	15.0	5,200
6.5	46	14.0	3,960				
7.0	89	15.0	5,060				
7.5	157						

Note.--Same as preceding table below 7.0 ft.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	16	1,840	136	122	327	278	101	56	32	19	13
2	13	16	1,570	*127	119	294	*269	*98	55	*32	19	13
3	13	*16	724	121	114	284	258	96	54	31	20	*13
4	13	15	441	114	110	294	250	94	53	31	25	13
5	13	15	322	107	107	533	242	91	52	30	24	13
6	13	15	*255	104	115	1,270	234	89	51	29	22	13
7	13	15	211	100	987	945	230	87	50	29	22	13
8	13	14	182	97	1,650	735	224	89	49	28	26	12
9	13	14	157	94	4,110	660	212	90	49	28	26	12
10	14	14	139	91	3,650	584	198	86	47	28	24	12
11	25	15	125	88	*1,870	496	186	83	45	28	22	12
12	24	15	115	89	1,610	428	178	80	45	27	20	12
13	17	14	106	85	4,210	*386	171	85	45	26	19	12
14	15	14	101	82	3,420	347	168	80	45	26	18	12
15	14	14	95	79	2,860	327	161	77	46	26	18	12
16	14	14	90	77	2,520	321	155	74	45	25	17	12
17	14	14	161	76	2,000	310	148	73	43	24	17	11
18	14	14	161	79	1,390	292	141	73	42	24	16	11
19	14	14	326	296	1,080	284	141	71	40	24	16	11
20	14	17	815	538	885	304	131	69	40	24	16	11
21	15	16	995	279	725	297	127	67	38	23	16	11
22	15	22	590	207	616	620	123	66	38	22	15	11
23	15	104	418	177	536	616	120	69	37	22	15	10
24	15	476	335	155	476	508	117	66	37	22	14	9.9
25	15	868	282	143	413	436	114	66	36	22	14	9.9
26	16	743	242	133	371	392	111	66	35	21	14	9.9
27	32	401	213	125	335	359	145	65	35	21	14	11
28	32	201	191	122	324	341	117	61	34	20	14	34
29	18	238	175	125	-	324	109	62	33	21	14	35
30	16	775	161	127	-----	307	103	61	32	21	14	17
31	16	-----	146	125	-----	290	-----	58	-----	20	13	-----
Total	502	4,139	11,684	4,298	36,725	13,911	5,161	2,393	1,307	787	563	401.7
Mean	16.2	138	377	139	1,312	449	172	77.2	43.6	25.4	18.2	13.4
Max	32	868	1,840	538	4,210	1,270	278	101	56	32	26	35
Min	13	14	90	76	107	284	103	58	32	20	13	9.9
Ac-ft	996	8,210	23,170	8,520	72,840	27,590	10,240	4,750	2,590	1,560	1,120	797

Calendar year 1961: Max 2,330 Min 13 Mean 199 Ac-ft 144,000
 Water year 1961-62: Max 4,210 Min 9.9 Mean 224 Ac-ft 162,400

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1500	12.13	2,340	2-13	1800	15.20	5,420
2-9	1900	16.73	7,510				

* Discharge measurement made on this day.

11-3675. McCloud River near McCloud, Calif.

Location.--Lat 41°11'20", long 122°03'50", in NE $\frac{1}{4}$ sec.34, T.39 N., R.2 W., on right bank 0.4 mile downstream from Angel Creek and 6 miles southeast of McCloud.

Drainage area.--382 sq mi.

Records available.--April 1931 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,711.2 ft above mean sea level (river-profile survey).

Average discharge.--31 years, 897 cfs (649,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,730 cfs Feb. 10 (gage height, 2.63 ft); minimum, 749 cfs Jan. 22.

1931-62: Maximum discharge, 11,800 cfs Dec. 21, 1955 (gage height, 9.42 ft), from rating curve extended above 4,500 cfs on basis of slope-area measurement of peak flow; minimum, 524 cfs Nov. 23, 24, 1932.

Remarks.--Records excellent except those for periods of shifting control or no gage-height record, which are good. Two small diversions above station for irrigation, and one 22-inch pipe line for town of McCloud and millpond.

Cooperation.--Water-stage recorder graph and seven discharge measurements furnished by Pacific Gas & Electric Co.

Rating tables, except periods of shifting control (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 10

Feb. 10 to Sept. 30

1.3	725	1.4	770
2.0	1,200	2.0	1,170
3.0	2,080	2.5	1,580

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	773	773	1,080	785	761	854	946	1,200	1,060	872	812	a 789
2	773	767	987	779	761	849	967	1,230	1,060	866	812	a 789
3	773	767	909	*785	761	842	*982	1,240	1,060	860	812	a 789
4	773	767	863	785	761	836	1,010	1,270	1,050	860	812	a 789
5	773	767	844	785	761	854	1,040	1,260	1,030	860	824	a 789
6	779	767	824	785	767	872	1,060	1,250	1,020	*854	819	a 789
7	773	767	819	785	811	860	1,100	1,270	1,010	854	830	a 782
8	773	767	804	785	967	854	1,140	1,290	1,010	854	824	a 782
9	773	767	799	792	1,310	849	1,190	1,310	1,020	854	819	a 782
10	773	767	792	792	1,620	842	1,160	1,270	1,030	849	812	a 782
11	779	767	779	792	1,310	830	1,150	1,220	1,020	849	a 812	a 782
12	* 779	767	779	792	1,180	824	1,170	1,170	1,010	842	a 806	*a 782
13	773	767	779	a 785	1,170	819	1,230	1,160	995	836	a 806	782
14	773	767	779	a 779	*1,160	819	1,280	1,140	981	836	a 806	782
15	773	767	779	a 779	1,300	819	1,370	1,110	*981	830	a 806	776
16	773	761	779	a 773	1,240	819	1,350	1,090	960	836	a 800	776
17	773	761	785	773	1,130	819	1,320	1,090	960	836	a 800	770
18	773	761	779	773	1,070	819	1,310	1,110	953	836	a 800	770
19	767	761	*785	779	1,020	824	1,320	1,130	946	830	a 800	*770
20	773	767	824	767	981	854	1,270	1,090	939	830	a 800	770
21	773	761	929	761	953	*849	1,230	1,060	932	830	a 800	770
22	773	767	882	755	925	854	1,240	1,060	925	824	a 800	776
23	773	773	850	755	919	842	1,270	*1,080	925	830	a 800	789
24	767	850	830	761	904	836	1,330	1,060	925	830	a 794	782
25	767	882	824	761	884	842	1,310	1,050	919	824	a 794	776
26	767	909	811	761	866	860	1,270	1,040	911	819	a 794	776
27	779	1,000	804	761	854	879	1,310	1,040	897	819	a 794	782
28	773	896	799	761	860	897	1,480	1,040	884	819	a 794	800
29	773	863	792	761	-	911	1,310	1,050	879	824	a 794	789
30	773	941	792	761	-----	911	1,230	1,070	872	819	a 794	776
31	773	-----	785	761	-----	925	-----	1,070	-----	812	a 789	-----
Total	23,963	23,963	25,661	24,009	28,005	26,354	36,351	35,520	29,162	25,988	24,962	23,430
Mean	773	799	828	774	1,000	850	1,212	1,146	972	838	805	781
Max	779	1,000	1,080	792	1,620	925	1,480	1,310	1,060	872	830	800
Min	767	761	779	755	761	818	946	1,040	872	812	788	770
Ac-ft	47,530	47,530	50,900	47,620	55,550	52,270	72,100	70,450	57,840	51,550	49,510	46,470

Calendar year 1961: Max 1,630 Min 761 Mean 888 Ac-ft 642,800
 Water year 1961-62: Max 1,620 Min 755 Mean 897 Ac-ft 649,300

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1100	1.88	1,110	4-28	0730	2.47	1,550
2-10	0300	2.63	1,730				

* Discharge measurement made on this day.

a No gage-height record.

Note.--Shifting-control method used Oct. 1-26, Feb. 10.

11-3680. McCloud River above Shasta Lake, Calif.

Location.--Lat 40°57'30", long 122°13'05", in NW¼ sec.28, T.36 N., R.3 W., on right bank just upstream from Shasta Lake, 0.2 mile downstream from Big Bollibokka Creek, and 11.3 miles east of La Moine.

Drainage area.--606 sq mi.

Records available.--October 1945 to September 1962. Published as "above Shasta Reservoir" prior to 1950.

Gage.--Water-stage recorder. Datum of gage is 1,100.00 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--17 years, 1,695 cfs (1,227,000 acre-ft per year).

Extremes.--Maximum discharge during year, 14,200 cfs Feb. 9 (gage height, 19.98 ft), from rating curve extended above 4,500 cfs as explained below; minimum daily, 934 cfs Nov. 16, 17.

1945-62: Maximum discharge, 45,200 cfs Dec. 22, 1955 (gage height, 28.20 ft), from rating curve extended above 4,500 cfs on basis of slope-area measurement of peak flow; minimum, 820 cfs Jan. 3, 1950.

Remarks.--Records excellent. Some very small diversions above station for domestic use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

11.0	910	13.0	2,600
11.2	1,040	14.0	3,670
11.6	1,330	16.0	6,270
12.0	1,660	19.0	11,800

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	970	952	4,450	1,240	* 1,160	1,860	2,120	* 1,910	1,510	1,150	1,030	964
2	* 964	952	3,770	1,220	1,170	1,770	* 2,160	1,920	1,500	1,140	1,030	964
3	964	952	2,610	* 1,220	1,170	1,720	2,180	1,930	1,480	* 1,140	* 1,030	964
4	958	952	2,030	1,190	1,170	1,720	2,190	1,970	1,450	1,130	1,050	* 964
5	958	946	1,730	1,180	1,160	2,150	2,240	1,940	1,410	1,120	1,040	964
6	958	946	* 1,560	1,170	1,220	2,860	2,280	1,930	1,400	1,120	1,030	958
7	952	946	1,450	1,170	2,220	2,600	2,360	1,930	1,390	1,110	1,050	958
8	952	946	1,380	1,190	5,000	* 2,320	2,440	1,980	1,380	1,100	1,080	946
9	952	946	1,310	1,190	9,390	2,220	2,460	2,040	1,390	1,100	1,070	946
10	964	952	1,250	1,180	11,300	2,090	2,340	1,970	1,390	1,100	1,030	946
11	998	946	1,190	1,170	* 6,110	1,980	2,260	1,880	1,370	1,100	1,030	952
12	977	946	1,190	1,180	5,590	1,860	2,260	1,800	1,360	1,090	1,010	952
13	964	940	1,170	1,160	9,060	1,780	2,330	1,780	1,350	1,090	1,010	946
14	958	940	1,160	1,130	7,050	1,750	2,410	1,720	1,350	1,080	1,000	946
15	958	940	1,140	1,120	7,440	1,730	2,510	1,670	1,340	1,080	1,000	946
16	952	934	1,120	1,120	6,760	1,740	2,450	1,620	1,310	1,070	998	946
17	952	934	1,230	1,110	5,410	1,720	2,360	1,620	1,280	1,070	991	946
18	952	940	1,200	1,130	4,260	1,700	2,310	1,640	1,280	1,060	991	946
19	952	940	1,390	1,320	3,600	1,730	2,290	1,660	1,280	1,060	998	946
20	952	952	2,320	1,440	3,160	2,020	2,180	1,600	1,270	1,050	991	946
21	958	946	3,020	1,240	2,820	2,020	2,090	1,550	1,260	1,050	991	946
22	952	977	2,160	1,170	2,590	2,390	2,060	1,550	1,250	1,050	991	940
23	952	1,140	1,880	1,150	2,420	2,290	2,090	1,570	1,240	1,050	984	940
24	952	2,010	1,680	1,140	2,260	2,130	2,160	1,550	1,230	1,040	984	940
25	952	2,290	1,550	1,130	2,140	2,030	2,120	1,520	1,220	1,040	984	940
26	958	2,500	1,460	1,120	2,000	1,990	2,050	1,510	1,200	1,030	977	940
27	1,030	2,160	1,390	1,120	1,900	2,030	2,140	1,500	1,190	1,030	970	952
28	991	1,630	1,350	1,120	1,890	2,110	2,300	1,500	1,180	1,030	970	1,080
29	958	1,930	1,310	1,130	-	2,130	2,090	1,510	1,170	1,040	970	1,030
30	952	3,270	1,270	1,150	-----	2,100	1,960	1,520	1,170	1,030	970	970
31	952	-----	1,250	1,150	-----	2,090	-----	1,530	-----	1,030	964	-----
Total	29,814	37,755	52,970	36,450	111,420	62,630	67,190	53,320	39,600	33,380	31,214	28,724
Mean	962	1,258	1,709	1,176	3,979	2,020	2,240	1,720	1,320	1,077	1,007	957
Max	1,030	3,270	4,450	1,440	11,300	2,860	2,510	2,040	1,510	1,150	1,080	1,080
Min	934	934	1,120	1,110	1,160	1,700	1,960	1,500	1,170	1,030	964	940
Ac-ft	59,140	74,890	105,100	72,300	221,000	124,200	133,300	105,800	78,550	66,210	61,910	56,970

Calendar year 1961: Max 6,020 Min 934 Mean 1,508 Ac-ft 1,092,000
 Water year 1961-62: Max 11,300 Min 934 Mean 1,601 Ac-ft 1,159,000

Peak discharge (base, 4,500 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1100	14.97	4,850	2-13	1600	18.22	10,100
2-9	2400	19.98	14,200				

SACRAMENTO RIVER BASIN

11-3700. Shasta Lake near Redding, Calif.

Location.--Lat 40°43'10", long 122°25'10", in NW¼ sec.15, T.33 N., R.5 W., in Shasta Dam on Sacramento River near right bank, 2 miles downstream from Squaw Creek and 9.5 miles north of Redding.

Drainage area.--6,665 sq mi, excluding Goose Lake basin.

Records available.--November 1942 to September 1962. Prior to 1950, published as Shasta Reservoir near Redding.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to July 10, 1944, staff gages at various sites near dam at same datum.

Extremes.--Maximum contents during year, 4,330,200 acre-ft May 11 (elevation, 1,059.43 ft); minimum, 2,144,900 acre-ft Nov. 22 (elevation, 965.54 ft).
1942-62: Maximum contents, 4,528,900 acre-ft May 18, 1957 (elevation, 1,066.22 ft); minimum since initial season of normal operation, 916,200 acre-ft Sept. 25, 26, 1944 (elevation, 877.31 ft).

Remarks.--Reservoir is formed by concrete gravity-type dam completed in 1949; regulation of discharge from reservoir began Dec. 30, 1943. Usable capacity, 4,377,000 acre-ft between elevations 737.75 (bottom of lowest set of river outlets) and 1,065.0 ft (top of drum-type spillway gates) above mean sea level. Not available for release, 115,700 acre-ft. All water passes down Sacramento River, some first passing through powerplant at dam. Figures given herein represent total contents.

Cooperation.--Record of contents furnished by Bureau of Reclamation.

Capacity table, (elevation, in feet, and contents, in thousands of acre-feet)

965	2,135.2	1,010	3,051.8
970	2,226.1	1,020	3,286.9
980	2,416.0	1,030	3,533.5
990	2,616.6	1,040	3,792.6
1,000	2,828.5	1,060	4,346.7

Contents, in thousands of acre-feet, at 2400 hrs. water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,327.7	2,210.3	2,306.4	2,579.7	2,721.1	3,620.9	4,009.3	4,320.7	4,290.7	4,009.9	3,583.8	3,129.4
2	2,324.1	2,207.3	2,342.4	2,584.2	2,724.5	3,619.9	4,024.2	4,321.5	4,288.6	3,997.6	3,569.8	3,116.6
3	2,319.9	2,203.3	2,360.4	2,589.7	2,725.8	3,616.8	4,039.1	4,323.0	4,282.0	3,985.8	3,555.5	3,103.4
4	2,315.3	2,198.5	2,373.3	2,594.6	2,727.7	3,613.2	4,054.3	4,324.4	4,279.5	3,969.7	3,538.8	3,091.8
5	2,311.0	2,194.2	2,381.4	2,598.9	2,731.1	3,634.6	4,070.0	4,323.6	4,275.7	3,957.7	3,521.6	3,081.9
6	2,306.1	2,192.0	2,386.7	2,600.8	2,738.1	3,669.5	4,085.9	4,321.2	4,270.3	3,947.1	3,507.3	3,072.9
7	2,299.6	2,188.9	2,391.7	2,603.1	2,766.5	3,687.4	4,102.0	4,321.8	4,264.8	3,932.7	3,494.2	3,064.2
8	2,294.2	2,186.5	2,398.3	2,606.8	2,815.7	3,698.4	4,119.6	4,324.4	4,259.4	3,916.5	3,481.2	3,052.2
9	2,290.4	2,182.7	2,402.4	2,611.7	2,919.5	3,706.7	4,136.2	4,326.2	4,249.7	3,904.4	3,468.7	3,041.7
10	2,287.2	2,179.9	2,405.1	2,615.6	3,009.3	3,713.8	4,151.3	4,327.6	4,238.5	3,893.9	3,455.0	3,035.1
11	2,284.4	2,176.3	2,407.6	2,619.5	3,061.9	3,720.6	4,164.3	4,330.2	4,230.8	3,882.3	3,439.8	3,028.2
12	2,281.6	2,173.4	2,410.6	2,624.9	3,127.8	3,727.9	4,176.7	4,329.9	4,224.0	3,870.8	3,423.5	3,022.5
13	2,277.6	2,169.9	2,413.3	2,627.4	3,259.3	3,736.6	4,190.0	4,326.4	4,216.0	3,859.0	3,409.6	3,017.1
14	2,273.9	2,166.7	2,415.8	2,628.2	3,338.2	3,746.1	4,204.4	4,325.0	4,206.7	3,843.3	3,395.1	3,012.1
15	2,270.1	2,164.7	2,418.0	2,631.5	3,418.5	3,758.2	4,219.7	4,324.7	4,197.9	3,826.5	3,381.1	3,002.5
16	2,267.0	2,161.8	2,420.1	2,635.4	3,481.4	3,771.4	4,233.1	4,324.1	4,185.1	3,812.7	3,367.7	2,992.6
17	2,263.2	2,158.9	2,423.6	2,639.0	3,524.4	3,783.3	4,245.4	4,323.8	4,173.3	3,799.5	3,353.8	2,986.3
18	2,259.3	2,156.2	2,430.5	2,644.4	3,557.8	3,791.3	4,258.2	4,323.3	4,162.0	3,786.8	3,335.7	2,981.1
19	2,255.4	2,153.1	2,444.0	2,661.6	3,578.7	3,802.6	4,269.7	4,319.8	4,151.9	3,774.0	3,318.5	2,975.0
20	2,252.2	2,149.5	2,468.1	2,671.3	3,593.8	3,818.0	4,280.3	4,315.5	4,141.2	3,760.8	3,304.3	2,968.7
21	2,248.5	2,147.4	2,497.5	2,675.4	3,604.5	3,833.2	4,286.6	4,314.3	4,130.8	3,744.2	3,290.5	2,963.3
22	2,244.8	2,144.9	2,514.7	2,680.0	3,611.4	3,854.8	4,291.8	4,312.6	4,120.2	3,727.2	3,277.3	2,954.3
23	2,240.3	2,145.9	2,525.4	2,685.3	3,616.6	3,872.9	4,297.9	4,311.1	4,106.2	3,713.5	3,264.1	2,945.2
24	2,237.2	2,164.5	2,533.6	2,690.3	3,619.9	3,889.8	4,304.8	4,309.1	4,092.0	3,700.5	3,249.9	2,940.0
25	2,233.5	2,183.9	2,541.9	2,694.1	3,622.5	3,905.7	4,309.1	4,306.2	4,080.9	3,686.6	3,232.0	2,934.9
26	2,229.8	2,204.0	2,549.2	2,697.9	3,622.5	3,919.5	4,310.8	4,304.2	4,072.3	3,673.6	3,213.7	2,929.8
27	2,228.5	2,215.2	2,556.9	2,700.4	3,620.4	3,934.4	4,316.9	4,299.6	4,062.6	3,660.4	3,196.6	2,925.5
28	2,224.6	2,219.8	2,565.0	2,701.5	3,621.2	3,950.4	4,320.1	4,297.6	4,052.3	3,642.8	3,175.8	2,924.0
29	2,221.5	2,232.2	2,570.7	2,706.4	-	3,965.3	4,320.4	4,296.1	4,041.3	3,625.6	3,164.3	2,916.2
30	2,217.8	2,254.3	2,573.8	2,711.4	-----	3,980.3	4,320.1	4,294.1	4,026.1	3,611.9	3,153.5	2,908.0
31	2,213.4	-----	2,576.4	2,716.7	-----	3,994.3	-----	4,292.7	-----	3,597.6	3,143.0	-----
(+)	969.31	971.52	988.04	994.79	1,033.44	1,047.50	1,059.08	1,058.13	1,048.66	1,032.52	1,013.94	1,003.62
(*)	-119.6	+40.9	+322.1	+140.3	+904.5	+373.1	+325.8	-27.4	-266.6	-428.5	-454.6	-235.0
(††)	6,080	3,140	1,820	3,220	2,010	4,150	10,860	11,080	18,040	19,840	13,690	10,980

Calendar year 1961..... + -505.9

Water year 1961-62..... + -575.0

† Elevation, in feet, at end of month.

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

†† Evaporation, in acre-feet, furnished by Bureau of Reclamation.

SACRAMENTO RIVER BASIN

769

11-3705. Sacramento River at Keswick, Calif.

Location.--Lat 40°36'05", long 122°26'35", in SW 1/4 sec. 28, T. 32 N., R. 5 W., on right bank 0.4 mile upstream from Middle Creek, 0.8 mile downstream from Keswick Dam, 1.6 miles downstream from Keswick, and 10 miles downstream from Shasta Dam.

Drainage area.--6,710 sq mi, approximately, excluding Goose Lake basin.

Records available.--October 1938 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 479.81 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1939, at site 1.5 miles upstream at datum 20.2 ft higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 miles upstream at datum 15.2 ft higher. Since Aug. 20, 1960, auxiliary water-stage recorder at city of Redding pumping plant 2.1 miles downstream.

Average discharge.--24 years, 8,302 cfs (6,010,000 acre-ft per year), adjusted for storage and evaporation.

Extremes.--Maximum discharge during year, 11,500 cfs Feb. 13 (gage height, 14.19 ft); minimum daily, 2,960 cfs Jan. 30.

1938-43 (prior to regulation by Shasta Lake): Maximum discharge, 186,000 cfs Feb. 23, 1940 (gage height, 47.2 ft, site and datum then in use), from rating curve extended above 75,000 cfs on basis of peak discharge at Kennett plus 4,000 cfs estimated inflow; minimum observed, 2,730 cfs Aug. 22, 1939.

1944-62: Maximum discharge, 78,800 cfs Feb. 21, 1958 (gage height, 31.55 ft); minimum, 154 cfs May 15, 1948.

Remarks.--Records good. Flow regulated by Shasta Lake beginning Dec. 30, 1943 (see preceding page). Diurnal fluctuations from Shasta powerplant re-regulated by Keswick Reservoir (capacity, 4,170 acre-ft between normal operation elevations 579.0 and 586.0 ft) and powerplant. No diversion for irrigation between Shasta Dam and station at Keswick.

Cooperation.--Thirteen discharge measurements furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,770	* 5,320	7,740	3,300	2,990	* 1,000	3,340	* 8,010	* 7,760	10,400	11,000	9,190
2	5,760	5,290	7,910	* 3,300	* 2,990	9,990	* 3,300	7,760	7,770	* 10,400	11,000	9,190
3	* 5,790	5,320	4,380	3,320	2,990	9,980	3,330	7,730	7,760	10,300	* 11,000	9,190
4	5,850	5,310	3,380	3,300	2,990	9,990	3,260	7,730	7,770	10,300	11,000	9,380
5	5,850	5,310	* 3,380	3,300	2,970	10,200	3,220	7,730	8,330	10,300	11,000	* 9,100
6	5,840	5,310	3,370	3,260	2,980	10,400	3,180	7,730	8,810	10,300	11,100	8,680
7	5,850	5,340	3,380	3,250	3,070	10,300	3,180	7,770	8,750	10,300	11,100	8,180
8	5,860	5,320	3,380	3,230	3,050	10,100	3,180	7,770	8,970	10,500	11,000	7,700
9	5,850	5,320	3,400	3,230	4,590	9,610	3,150	7,770	9,290	10,400	11,000	7,330
10	5,860	5,320	3,430	3,190	6,060	8,900	3,140	7,640	9,290	10,500	11,000	7,370
11	5,880	5,320	3,430	3,200	3,150	8,200	3,710	7,320	9,290	10,400	11,000	7,200
12	5,850	5,290	* 3,460	3,170	3,220	7,210	4,080	7,350	9,290	10,500	11,000	* 6,850
13	5,880	5,290	3,460	3,170	8,370	6,170	* 4,080	7,320	* 9,670	10,400	11,000	6,850
14	5,850	5,320	3,460	3,120	* 10,600	* 5,130	4,080	* 7,340	9,870	10,500	* 11,000	6,870
15	5,860	* 5,290	3,460	* 3,110	10,600	3,940	4,080	7,320	9,870	10,700	11,000	6,870
16	* 5,850	5,290	3,460	3,120	10,300	3,060	4,120	7,320	9,870	10,800	* 11,000	6,870
17	5,840	5,320	3,480	3,120	10,100	3,050	4,110	7,320	9,870	* 10,800	11,000	6,880
18	5,850	5,320	3,480	3,120	10,100	3,040	4,110	7,340	9,870	10,800	11,000	6,890
19	5,880	5,310	3,910	3,700	10,100	3,040	4,110	7,290	9,870	10,800	11,000	6,880
20	5,880	5,310	3,980	5,350	10,100	3,060	4,150	7,320	9,870	10,800	11,000	6,890
21	5,820	5,310	3,950	3,520	10,000	3,050	4,900	7,300	9,870	10,800	11,000	6,880
22	5,830	5,320	3,400	3,030	10,000	3,090	4,900	7,300	9,870	10,900	11,000	6,660
23	5,830	5,320	3,360	3,010	10,000	3,070	5,040	7,280	9,870	10,900	11,000	6,500
24	5,830	5,640	3,330	2,990	9,990	3,050	6,220	7,760	9,870	10,900	11,000	6,540
25	5,840	6,470	3,290	3,020	9,990	3,050	6,830	7,760	9,870	10,900	10,900	6,530
26	5,840	5,880	3,270	2,980	9,980	3,040	7,220	7,730	10,200	11,000	11,000	6,510
27	5,830	4,560	3,280	2,970	9,990	3,120	7,240	7,740	10,300	11,000	10,800	6,500
28	5,830	4,560	3,280	2,970	9,990	3,200	7,540	7,770	10,300	11,000	10,400	6,510
29	5,830	4,440	3,280	2,970	-	3,290	7,700	7,770	10,300	11,000	9,780	6,490
30	5,850	5,600	3,280	2,960	-----	3,350	7,720	7,760	10,300	11,000	9,400	6,470
31	5,840	-----	3,290	2,970	-----	3,350	-----	7,760	-----	11,000	9,200	-----
Total	181,070	159,320	116,340	100,250	201,260	180,030	138,220	234,810	282,590	330,600	335,690	219,950
Mean	5,841	5,311	3,753	3,233	7,188	5,807	4,607	7,575	9,420	10,660	10,830	7,332
Max	5,880	6,470	7,910	5,350	10,600	10,400	7,720	8,010	10,300	11,000	11,100	9,380
Min	5,760	4,440	3,270	2,960	2,970	3,040	3,140	7,280	7,760	10,300	9,200	6,470
Ac-ft	359,100	316,000	230,800	198,800	399,200	357,100	274,200	465,700	560,500	655,700	665,800	436,300
Meant	3,994	6,050	9,021	5,567	23,520	11,940	10,270	7,309	5,242	4,017	3,658	3,568
Ac-ft†	245,600	360,000	554,700	342,300	1,306,000	734,400	610,900	449,400	311,900	247,000	224,900	212,300
Calendar year 1961: Max	14,300	Min	3,270	Mean	7,851	Ac-ft	5,691,000	Meant	7,292	Ac-ft†	5,279,000	
Water year 1961-62: Max	11,100	Min	2,960	Mean	6,795	Ac-ft	4,919,000	Meant	7,734	Ac-ft†	5,599,000	

* Discharge measurement made on this day.

† Adjusted for change in storage and evaporation from Shasta Lake.

SACRAMENTO RIVER BASIN

11-3710. Clear Creek at French Gulch, Calif.

Location.--Lat 40°41'40", long 122°38'10", in NE¼ sec.27, T.33 N., R.7 W., on right bank 1,200 ft downstream from Right Fork, 0.3 mile south of French Gulch, and 15 miles northwest of Redding.

Drainage area.--115 sq mi.

Records available.--July 1950 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,320.60 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Dec. 28, 1959, at datum 3.00 ft higher.

Average discharge.--12 years, 219 cfs (158,500 acre-ft per year); median of yearly mean discharges, 190 cfs (138,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,010 cfs Feb. 13 (gage height, 9.45 ft); minimum, 6.5 cfs Aug. 31.

1950-62: Maximum discharge, 7,050 cfs Dec. 22, 1955 (gage height, 13.49 ft, present datum), from rating curve extended above 4,600 cfs on basis of slope-area measurement of peak flow; minimum, 3.9 cfs Sept. 6, 7, 8, 1955.

Remarks.--Records good. No large diversion above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 5-7)

Oct. 1 to Feb. 8				Feb. 8 to Feb. 10			
Feb. 11 to Sept. 30							
3.4	4.5	5.0	322	6.5	935		
3.5	9.5	6.0	700	7.5	1,450		
3.7	29	7.5	1,600				
4.0	71	9.0	2,650				
4.5	181						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	20	539	69	76	244	346	127	55	25	11	9.0
2	13	20	572	66	*76	*230	346	*124	52	24	10	9.0
3	*12	20	305	*65	73	216	*340	120	52	*23	11	8.5
4	13	20	194	63	69	211	328	113	54	23	14	9.0
5	13	20	138	60	66	926	328	107	52	22	16	9.0
6	13	19	111	58	78	*2410	322	105	49	22	15	8.5
7	14	*19	93	57	*281	1400	319	103	47	21	17	9.0
8	15	19	82	57	1000	890	319	107	45	21	26	8.5
9	16	19	73	55	*1290	696	310	107	44	20	36	8.5
10	17	20	66	54	*1160	580	281	107	44	19	28	8.5
11	22	21	60	51	785	480	261	107	42	19	23	9.0
12	21	21	*58	54	776	406	250	97	41	19	20	9.0
13	19	21	55	51	*2330	362	250	97	40	19	18	9.5
14	18	20	54	48	1790	337	247	95	42	18	17	10
15	17	20	51	49	*2230	325	242	91	48	18	14	10
16	16	20	49	46	1770	319	225	85	44	17	13	10
17	15	20	58	48	1210	310	211	82	40	17	13	9.0
18	15	21	60	49	944	296	203	82	35	16	13	9.0
19	16	22	150	85	770	305	203	78	34	15	12	10
20	16	24	399	b 138	652	313	189	76	33	15	11	11
21	17	24	406	b 80	544	310	173	75	31	14	11	11
22	18	26	270	b 66	460	337	165	73	29	14	10	12
23	19	37	200	b 69	399	*319	160	71	29	13	10	11
24	19	122	160	66	355	302	160	69	28	13	*9.5	11
25	19	200	133	65	322	296	153	69	26	13	9.0	11
26	20	192	116	65	284	296	148	71	26	12	9.0	11
27	25	138	103	66	261	319	160	68	26	12	9.0	14
28	27	84	93	68	256	352	153	66	26	12	9.0	24
29	22	116	85	75	-	359	143	66	26	12	9.5	30
30	21	*305	80	78	-----	352	136	60	25	12	9.5	20
31	20	-----	73	78	-----	346	-----	57	-----	11	9.0	-----
Total	540	1,650	4,886	1,999	2,0307	14,844	7,071	2,755	1,165	531	442.5	339.0
Mean	17.4	55.0	158	64.5	725	479	236	88.9	38.8	17.1	14.3	11.3
Max	27	305	572	138	2,330	2,410	346	127	55	25	36	30
Min	12	19	49	46	66	211	136	57	25	11	9.0	8.5
Ac-ft	1,070	3,270	9,690	3,960	40,280	29,440	14,030	5,460	2,310	1,050	878	672

Calendar year 1961: Max 1,370 Min 9.5 Mean 144 Ac-ft 104,200
Water year 1961-62: Max 2,410 Min 8.5 Mean 155 Ac-ft 112,100

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1700	7.80	1,630	3-6	0400	8.85	2,710
2-13	1330	9.45	3,010				

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

SACRAMENTO RIVER BASIN

771

11-3720. Clear Creek near Igo, Calif.

Location.--Lat 40°30'50", long 122°31'20", in NE 1/4 sec. 27, T.31 N., R.6 W., on left bank at highway bridge on Redding-Igo road, 1.0 mile northeast of Igo, 8 miles southwest of Redding, and 11.1 miles upstream from mouth.

Drainage area.--228 sq mi.

Records available.--October 1940 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 675 ft (from river-profile map).

Average discharge.--22 years, 413 cfs (299,000 acre-ft per year); median of yearly mean discharges, 330 cfs (239,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,100 cfs Feb. 13 (gage height, 9.36 ft); minimum, 19 cfs Sept. 11.

1940-62: Maximum discharge, 24,500 cfs Dec. 21, 1955 (gage height, 13.75 ft), from rating curve extended above 18,000 cfs on basis of slope-area measurement of peak flow; minimum, 8.6 cfs Sept. 4, 6, 7, 1950.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 19				Jan. 19 to Sept. 30			
2.2	27	4.0	580	2.1	17	4.5	830
2.4	45	4.5	910	2.3	35	5.0	1,230
2.6	73	5.0	1,340	2.5	64	6.0	2,400
3.0	167	5.5	1,900	3.0	165	7.0	4,020
3.5	340			3.5	320	8.5	7,580
				4.0	540		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	41	*1,540	a 145	151	515	560	264	136	58	27	25
2	30	*41	1,370	a 140	149	495	555	260	132	58	26	25
3	31	41	622	a 135	147	476	545	*257	129	58	26	24
4	30	42	398	a 130	142	476	530	244	129	56	30	23
5	30	41	300	a 130	140	2,240	530	235	127	*53	35	23
6	* 29	40	244	a 125	158	4,770	525	229	* 123	51	35	23
7	28	39	207	a 120	* 649	2,810	525	226	117	51	35	23
8	29	38	185	*a 115	1,510	1,790	525	244	113	51	54	22
9	30	38	162	115	2,760	1,340	515	238	109	50	88	21
10	33	39	151	113	2,450	1,070	476	232	107	47	71	22
11	39	40	143	111	1,460	893	450	241	105	47	54	* 21
12	43	41	135	118	2,040	765	440	238	103	47	47	20
13	41	41	130	115	* 6,660	687	445	226	103	45	40	22
14	38	40	122	108	3,810	628	445	220	111	44	38	23
15	35	39	122	106	4,560	618	436	211	115	43	35	24
16	34	39	118	104	* 3,370	612	414	199	109	42	32	23
17	33	39	140	102	2,260	596	392	188	101	39	29	23
18	33	40	151	113	1,960	555	380	188	93	38	29	20
19	33	42	356	620	1,620	545	384	180	90	38	29	22
20	34	49	739	531	1,300	618	360	175	86	35	28	22
21	35	46	676	b 260	1,060	575	340	170	78	33	27	23
22	36	49	465	b 188	886	772	324	165	77	33	27	23
23	38	71	356	b 213	772	* 657	316	160	73	33	26	23
24	39	603	293	172	693	606	313	160	71	32	26	23
25	38	680	258	163	623	570	306	160	68	30	26	22
26	39	510	227	158	565	555	292	165	66	30	26	22
27	41	328	204	154	515	560	320	158	64	29	26	23
28	50	200	188	151	510	580	320	151	61	29	26	40
29	46	416	176	154	-	590	288	154	59	31	25	47
30	43	783	a 160	156	-----	575	271	147	59	31	25	71
31	41	-----	a 150	154	-----	565	-----	138	-----	28	25	-----
Total	1,109	4,496	10,488	5,219	4,2920	29,104	12,522	6,223	2,914	1,290	1,073	768
Mean	35.8	150	338	168	1,530	939	417	201	97.1	41.6	34.6	25.6
Max	50	783	1,540	620	6,660	4,770	560	264	136	58	88	71
Min	28	38	118	102	140	476	271	138	59	28	25	20
Ac-ft	2,200	8,920	20,800	10,350	85,130	57,730	24,840	12,340	5,780	2,560	2,130	1,520

Calendar year 1961: Max 3,770 Min 26 Mean 294 Ac-ft 213,100
 Water year 1961-62: Max 6,660 Min 20 Mean 324 Ac-ft 234,300

Peak discharge (base 3,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	1330	6.84	3,730	3- 5	2300	7.74	5,620
2-13	1230	9.36	10,100				

* Discharge measurement made on this day.

a No gage-height record.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER BASIN

11-3720.5. Churn Creek near Redding, Calif.

Location.--Lat 40°38'35", long 122°22'05", in NE 1/4 sec. 7, T. 32 N., R. 4 W., on right bank 0.3 mile upstream from Newtown Creek, 0.35 mile upstream from Oasis Road bridge, and 4 miles north of Redding.

Drainage area.--9.34 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,480 cfs Feb. 13 (gage height, 6.91 ft); no flow for several months.

1960-62: Maximum discharge, that of Feb. 13, 1962; no flow for several months each year.

Flood of Sept. 18, 1959, reached a stage of 9.8 ft, from floodmarks (discharge, 4,860 cfs).

Remarks.--Records excellent. Small diversion above station for domestic supply.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 7
Feb. 13 to Sept. 30

Feb. 7 to Feb. 13

1.23	0	2.0	15	3.0	90
1.3	.1	2.5	47	3.5	160
1.4	.2	3.0	96	4.0	250
1.5	.8	3.5	163	4.5	360
1.6	2.1	4.0	267	5.0	510
1.7	3.7	4.5	396	6.0	950
1.8	6.5				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	* 21.9	5.1	5.0	2.9	1.0	2.3	0.2			
2		0	15.1	4.5	5.4	3.3	9.5	2.0	2			
3		0	3.5	4.3	5.1	3.3	9.2	* 2.0	2			
4		0	1.9	3.7	4.8	3.5	9.0	1.7	.1			
5		0	1.3	3.4	4.5	1.76	* 7.6	1.6	.1			
6		0	9.2	3.4	7.3	2.99	6.0	1.4	.1	(*)		
7		0	7.6	3.2	13.6	13.9	6.2	1.3	.1			
8		0	6.5	3.1	* 11.1	8.0	6.2	1.4	** 1			
9		0	5.4	2.7	* 4.02	5.4	5.7	1.4	.1			
10		0	5.1	2.6	16.6	4.3	5.1	1.4	.1			
11		0	4.0	2.6	9.4	3.4	4.8	1.4	.1			
12	(*)	0	3.7	2.7	13.2	2.7	4.5	1.6	.1			
13		0	3.4	2.7	* 8.02	2.2	4.5	1.8	.1			
14		0	3.2	2.4	* 3.13	1.9	4.3	1.6	.1			
15		0	3.1	2.4	3.23	2.0	3.7	1.3	.1			
16		0	2.7	2.4	14.1	1.9	3.5	1.1	.1			
17		0	5.0	2.3	9.0	1.6	3.4	.9	.1			
18		0	9.5	3.4	9.2	1.4	3.4	.9	.1			
19		0	6.2	12.7	7.5	1.3	3.5	.8	** 1			
20		0	9.7	11.5	5.8	2.0	3.5	.8	.1			
21		0	6.1	4.6	4.6	1.8	3.2	.7	.1			
22		* 0	3.3	2.6	3.8	6.3	2.9	.7	.1			
23		0	2.2	1.9	2.9	4.1	2.7	.7	0			
24		1.2	1.7	1.6	2.4	3.2	2.7	.7	0			
25		3.9	1.3	1.2	1.9	2.6	2.6	.7	0			
26		3.6	1.1	9.4	1.6	2.2	2.4	.8	0			
27		* 1.4	8.8	8.4	1.4	1.9	3.1	.7	0			
28		6.2	* 7.6	7.3	1.5	1.7	3.4	* .6	0		(*)	
29		* 2.8	6.5	6.2	-	1.5	2.7	.7	0			
30		2.4	5.9	5.9	-----	1.3	2.4	.6	0			
31		-----	5.4	5.7	-----	1.1	-----	.4	-----			
Total	0	159.2	856.5	461.3	3175.0	1401	141.6	36.0	2.5	0	0	0
Mean	0	5.31	27.6	14.9	113	45.2	4.72	1.16	0.08	0	0	0
Max	0	39	219	127	802	299	10	2.3	0.2	0	0	0
Min	0	0	2.7	2.3	4.5	11	2.4	0.4	0	0	0	0
Ac-ft	0	316	1,700	915	6,300	2,780	281	71	5.0	0	0	0

Calendar year 1961: Max 399 Min 0 Mean 12.0 Ac-ft 8,670

Water year 1961-62: Max 802 Min 0 Mean 17.1 Ac-ft 12,370

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	2300	4.97	531	2-13	1300	6.91	1,480
1-19	2100	4.85	496	3- 5	2300	4.79	478
2- 9	1400	6.33	1,130				

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

** Field estimate made on this day.

SACRAMENTO RIVER BASIN

773

11-3722. South Cow Creek near Millville, Calif.

Location.--Lat 40°32'55", long 122°05'30", in NW 1/4 sec.16, T.31 N., R.2 W., on left bank 2.5 miles upstream from Old Cow Creek and 4.4 miles east of Millville.

Drainage area.--78.7 sq mi.

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 610 ft (from topographic map). Prior to Aug. 9, 1957, at site 1.0 mile downstream at different datum.

Average discharge.--6 years, 93.0 cfs (67,330 acre-ft per year).

Extremes.--Maximum discharge during year, 4,440 cfs Dec. 1 (gage height, 8.45 ft), from rating curve extended above 1,800 cfs; minimum, 2.4 cfs Aug. 15.

1956-62: Maximum discharge, 5,720 cfs May 18, 1957 (gage height, 9.23 ft, site and datum then in use), from rating curve extended above 800 cfs by comparison with rating curve at present site which was extended above 1,800 cfs; minimum, 0.3 cfs Aug. 30, 1960.

Remarks.--Records good. Diversions above station of up to 35 cfs for irrigation of about 1,050 acres.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 20

Dec. 20 to Sept. 30

0.8	7.0	2.0	120	0.5	3.8	2.0	162
.9	9.5	2.5	230	.7	9.4	2.5	300
1.0	14	3.0	370	1.0	22	3.0	485
1.2	25	4.0	810	1.3	44	4.0	940
1.4	40	5.0	1,420	1.6	86	5.0	1,520
1.7	73	6.0	2,160				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	20	1,830	46	41	386	100	96	55	21	9.1	9.4
2	12	20	369	44	40	366	109	96	51	18	10	10
3	12	20	138	41	39	167	107	100	51	18	9.8	11
4	*12	20	83	40	39	138	97	*104	53	18	12	11
5	9.2	18	63	38	*38	661	*100	106	49	18	13	10
6	7.5	18	53	39	44	651	102	104	46	*16	11	8.8
7	8.2	*18	45	39	305	397	106	102	43	16	11	*9.8
8	11	18	*38	39	467	217	111	104	37	14	14	10
9	9.2	19	38	40	728	172	113	111	34	8.5	19	10
10	12	19	36	38	583	144	107	102	34	6.6	16	10
11	18	18	31	37	314	128	102	96	31	7.8	14	9.8
12	23	19	34	40	539	113	102	88	31	10	12	9.1
13	20	20	33	38	1,190	99	106	91	*31	13	9.8	9.1
14	18	20	32	34	906	94	115	86	35	12	8.5	11
15	17	20	32	34	1,230	92	128	86	35	13	6.0	12
16	16	19	31	34	594	97	124	80	31	12	7.2	10
17	15	20	35	34	386	99	118	67	29	10	7.8	9.1
18	16	20	38	38	412	84	113	75	28	11	9.4	7.8
19	14	21	*742	856	299	81	118	76	26	12	12	9.8
20	16	24	751	330	219	86	113	72	27	12	11	10
21	23	23	365	102	170	100	100	67	20	12	8.8	11
22	20	23	172	73	138	293	96	66	19	13	8.8	11
23	19	23	118	76	124	147	100	75	21	9.1	9.1	10
24	18	39	96	57	111	118	106	72	23	7.8	9.1	11
25	17	497	83	53	99	107	106	66	23	7.5	10	12
26	20	141	72	51	86	102	102	67	22	9.4	9.8	12
27	23	*67	64	48	80	97	111	69	23	11	9.8	10
28	26	43	59	44	*83	97	155	66	23	10	9.8	15
29	21	*188	55	43	-	99	115	66	25	12	8.8	17
30	20	117	51	42	-----	99	100	64	24	12	8.8	16
31	20	-----	48	41	-----	97	-----	60	-----	11	10	-----
Total	504.1	1,552	5,635	2,509	9,304	5,628	3,282	2,580	980	381.7	325.4	322.7
Mean	16.3	51.7	182	80.9	332	182	109	83.2	32.7	12.3	10.5	10.8
Max	26	497	1,830	856	1,230	661	155	106	55	21	19	17
Min	7.5	18	31	34	38	81	96	60	19	6.6	6.0	7.8
Ac-ft	1,000	3,080	11,180	4,980	18,450	11,160	6,510	5,120	1,940	757	645	640

Calendar year 1961: Max 1,830 Min 6.6 Mean 92.2 Ac-ft 66,750

Water year 1961-62: Max 1,830 Min 6.0 Mean 90.4 Ac-ft 65,460

Peak discharge (base, 1,800 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1230	8.45	4,440	2-14	2100	6.24	2,380
12-20	1800	7.76	3,710	3-5	2200	6.06	2,240
1-19	1200	5.54	1,880				

11-3732. Oak Run Creek near Oak Run, Calif.

Location.--Lat 40°41'25", long 122°02'35", in SE 1/4 sec. 25, T.33 N., R.2 W., on left bank 800 ft downstream from road bridge, 1.1 miles northwest of town of Oak Run, 3.2 miles upstream from Tracy Creek, and 12.2 miles northeast of Millville.

Drainage area.--11.1 sq mi.

Records available.--May 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,400 ft (from topographic map).

Average discharge.--5 years, 15.6 cfs (11,290 acre-ft per year).

Extremes.--Maximum discharge during year, 736 cfs Dec. 1 (gage height, 5.66 ft), from rating curve extended above 230 cfs as explained below; minimum, 0.6 cfs August 22.

1957-62: Maximum discharge, 1,250 cfs Feb. 16, 1959 (gage height, 6.47 ft), from rating curve extended above 230 cfs on basis of slope-area measurement at gage height 5.96 ft; no flow Aug. 17, 22, 1960.

Remarks.--Records good. Some diversion above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 8				Feb. 8 to Sept. 30			
1.3	2.4	3.0	55	1.0	0.8	2.1	16
1.5	4.6	3.5	96	1.1	1.3	2.5	30
1.8	9.0	4.0	157	1.3	2.8	3.0	58
2.1	16	4.5	260	1.5	4.7	3.5	99
2.5	29	5.0	410	1.8	9.5	4.0	159

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	4.6	28.7	5.6	5.3	3.0	1.3	6.4	3.8	1.4	1.5	2.9
2	4.1	4.6	5.4	5.3	5.2	6.4	1.2	6.2	3.8	1.4	1.6	2.8
3	3.3	4.5	2.3	5.2	5.1	4.1	1.2	5.9	3.9	1.5	1.8	1.9
4	* 3.3	4.2	1.4	4.8	5.0	3.8	1.1	* 5.4	4.0	2.2	2.6	1.8
5	3.9	4.2	1.0	4.7	* 4.8	13.0	1.1	4.6	3.7	2.3	1.8	2.6
6	3.6	4.1	8.1	4.7	8.7	11.7	1.0	4.6	3.3	* 2.0	2.0	2.1
7	3.8	4.1	6.9	4.6	* 4.6	7.0	9.9	4.3	3.4	2.2	2.2	* 2.0
8	3.6	4.1	* 6.4	4.5	6.2	5.1	9.9	5.3	3.4	1.7	3.0	2.0
9	4.0	4.0	5.9	4.2	9.8	4.1	9.5	5.2	2.2	1.3	4.2	2.1
10	4.4	4.0	5.6	4.1	10.6	3.4	9.0	5.0	2.3	1.8	3.6	2.3
11	7.9	3.8	5.2	4.1	5.4	2.9	8.5	6.4	2.4	2.1	3.4	2.6
12	7.2	3.4	5.2	4.7	5.3	2.5	5.4	6.4	2.6	1.7	2.8	2.6
13	5.7	3.3	5.1	4.4	12.6	2.3	5.9	7.8	2.2	1.6	2.4	2.3
14	5.1	3.3	4.8	4.1	* 10.0	2.2	6.5	7.3	3.3	1.6	2.6*	2.7
15	4.8	3.2	4.6	4.0	* 9.4	2.2	7.2	7.6	3.2	1.3	2.5	3.3
16	4.8	3.2	4.5	4.0	6.1	2.8	7.6	6.8	3.3	1.5	2.6	3.2
17	4.8	3.4	1.1	4.0	4.4	2.3	7.6	6.5	2.3	1.6	2.0	2.8
18	3.8	3.5	2.2	7.5	5.1	2.0	7.2	6.8	3.0	1.6	2.0	2.9
19	3.2	4.0	13.7	13.9	4.1	1.9	8.6	6.5	3.2	2.0	2.1	3.1
20	5.4	4.7	8.4	3.9	3.0	2.0	8.6	6.4	2.6	1.9	2.1	3.6
21	5.7	3.9	4.0	1.2	2.4	2.1	7.6	6.0	2.4	1.6	1.8	3.2
22	5.3	4.8	1.9	9.2	2.1	3.8	6.7	5.9	2.4	1.6	1.3	2.6
23	5.3	4.7	1.4	9.0	1.9	2.4	6.4	5.9	2.6	1.3	3.1	2.2
24	5.3	1.0	1.1	9.2	1.8	2.0	6.4	5.8	2.5	1.6	5.2	2.2
25	5.4	6.9	9.8	8.8	1.6	1.9	6.2	5.6	1.9	1.4	4.4	2.0
26	6.5	3.9	8.5	7.6	1.4	1.8	5.8	5.6	2.0	1.6	2.2	1.8
27	1.2	1.2	7.6	6.8	1.3	1.6	7.8	4.0	2.0	1.7	2.2	2.4
28	7.1	7.4	7.1	6.2	1.4	1.5	7.3	3.4	2.4	1.6	2.2	5.3
29	5.2	3.9	6.6	5.8	-	1.5	6.5	3.4	2.0	1.6	2.6	4.5
30	4.8	1.3	6.2	5.7	-----	1.4	6.5	3.2	1.2	1.4	2.4	3.9
31	4.6	-----	5.8	5.4	-----	* 1.3	-----	3.9	-----	1.3	2.5	-----
Total	156.5	28.1	839.9	348.2	1139.1	1060.0	247.6	174.1	83.3	51.4	78.7	81.7
Mean	5.05	9.37	27.1	11.2	40.7	34.2	8.25	5.62	2.78	1.66	2.54	2.72
Max	12	69	287	139	126	130	13	7.8	4.0	2.3	5.2	5.3
Min	2.6	3.2	4.5	4.0	4.8	13	5.4	3.2	1.2	1.3	1.3	1.8
Ac-ft	310	557	1,670	691	2,260	2,100	491	345	165	102	156	162

Calendar year 1961: Max 287 Min 1.1 Mean 15.1 Ac-ft 10,920
 Water year 1961-62: Max 287 Min 1.2 Mean 12.4 Ac-ft 9,010

Peak discharge (base, 300 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1100	5.66	736	3-5	2200	5.00	380
1-19	1130	4.95	392				

11-3733. Little Cow Creek near Ingot, Calif.

Location.--Lat 40°44'45", long 122°03'40", in SE 1/4 NW 1/4 sec. 2, T.33 N., R.2 W., on right bank 1.8 miles northeast of Ingot and 7 miles southwest of Round Mountain.

Drainage area.--60.6 sq mi.

Records available.--March 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,140 ft (from topographic map).

Average discharge.--5 years, 136 cfs (98,460 acre-ft per year).

Extremes.--Maximum discharge during year, 3,800 cfs Feb. 13 (gage height, 13.84 ft); minimum, 3.8 cfs Sept. 17.
1957-62: Maximum discharge, 8,200 cfs Nov. 13, 1957 (gage height, 16.64 ft), from rating curve extended above 3,300 cfs; minimum, that of Sept. 17, 1962.

Remarks.--No known storage or diversion above station.

Cooperation.--Records furnished by the California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.9	1.6	1800	51	52	159	149	98	50	12	7.6	5.7
2	8.7	1.6	536	49	50	257	152	99	48	1.1	7.3	5.9
3	8.3	1.6	210	46	48	228	155	99	46	9.9	6.8	6.0
4	8.2	1.6	117	45	48	265	157	100	41	9.9	7.7	6.2
5	8.2	1.5	85	44	47	1100	163	94	37	9.7	8.2	5.9
6	7.9	1.5	67	43	65	1170	164	91	35	8.8	8.2	5.9
7	7.9	1.5	58	43	1390	595	169	89	34	8.2	8.7	6.4
8	8.4	1.4	51	46	2030	406	180	96	33	8.0	10	6.3
9	8.2	1.5	46	44	1170	310	178	96	32	8.6	12	6.5
10	8.6	1.5	43	44	1160	243	163	84	30	8.3	10	6.7
11	18	1.6	40	44	1790	201	159	79	28	8.1	9.4	7.5
12	19	1.6	40	49	1700	172	159	73	* 25	7.9	9.3	7.2
13	12	1.6	38	44	2140	159	164	79	23	7.2	8.4	7.1
14	11	1.5	38	42	1110	149	173	71	25	6.8	*8.1	7.2
15	10	1.5	35	40	1110	144	177	68	24	5.7	7.9	6.9
16	10	* 1.5	33	39	713	157	159	63	22	5.6	7.6	5.6
17	* 9.9	1.5	157	40	506	154	150	* 61	20	5.8	6.7	5.1
18	9.8	1.5	212	43	428	134	140	70	18	5.4	7.0	4.4
19	9.7	1.6	942	806	357	131	146	73	16	7.1	6.9	*5.2
20	12	2.0	834	421	320	148	130	64	14	7.6	6.5	5.3
21	14	1.7	435	117	253	159	114	60	14	7.3	6.6	5.4
22	11	2.0	203	95	207	475	112	59	13	7.1	6.8	5.5
23	12	2.8	142	* 79	180	244	118	62	13	7.6	6.5	5.7
24	12	7.7	111	76	168	187	124	57	13	7.4	6.4	5.8
25	11	6.88	94	77	150	162	118	*56	13	6.7	6.3	4.9
26	12	4.20	81	69	122	158	110	56	13	6.5	6.0	4.7
27	41	1.40	72	63	117	150	165	53	13	6.4	5.8	5.8
28	28	6.4	65	60	119	152	156	51	12	6.8	5.7	12
29	17	2.74	60	57	-	* 149	119	53	12	7.4	5.8	12
30	16	1.26	55	54	-----	146	101	55	12	8.1	5.8	8.4
31	16	-----	52	53	-----	147	-----	53	-----	7.3	5.6	-----
Total	393.7	21.66	6752	2823	17550	8411	4424	2262	729	240.2	231.6	193.2
Mean	12.7	72.2	218	91.1	627	271	147	73.0	24.3	7.75	7.47	6.44
Max	41	688	1,800	806	2,140	1,170	180	100	50	12	12	12
Min	7.9	1.4	33	39	47	131	101	51	12	5.4	5.6	4.4
Ac-ft	781	4,300	13,390	5,600	34,810	16,680	8,770	4,490	1,450	476	459	383

Calendar year 1961: Max 2,470 Min 6.8 Mean 135 Ac-ft 97,660
Water year 1961-62: Max 2,140 Min 4.4 Mean 127 Ac-ft 91,590

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3740. Cow Creek near Millville, Calif.

Location.--Lat 40°30'20", long 122°13'55", in NE 1/4 sec. 32, T. 31 N., R. 3 W., on right bank 4.2 miles southwest of Millville and 4.3 miles downstream from Little Cow Creek.

Drainage area.--427 sq mi.

Records available.--October 1949 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 400 ft (from topographic map).

Average discharge.--13 years, 638 cfs (461,900 acre-ft per year); median of yearly mean discharges, 560 cfs (405,000 acre-ft per year).

Extremes.--Maximum discharge during year, 23,900 cfs Dec. 1 (gage height, 16.68 ft); minimum, 1.6 cfs Aug. 27.
1949-62: Maximum discharge, 45,200 cfs Dec. 27, 1951 (gage height, 21.55 ft); minimum, 1.0 cfs Aug. 22, 1960.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 1				Dec. 1 to Sept. 30			
1.4	12	4.0	795	0.9	2.0	3.0	360
1.7	45	5.0	1,440	1.0	3.8	4.0	860
2.1	110	7.0	3,360	1.2	9.7	5.0	1,560
2.5	194	9.5	6,900	1.4	18	7.0	3,550
3.0	342	12.0	11,800	1.7	43	9.0	6,260
				2.1	98	11.0	9,800
				2.5	182		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	85	*1 1,000	237	221	1,580	500	387	180	44	12	11
2	26	89	3,560	224	212	2,610	510	392	172	38	8.4	11
3	25	87	1,320	215	206	1,420	505	392	170	27	6.5	9.4
4	* 30	85	760	206	201	1,130	495	* 387	165	27	10	13
5	26	82	570	201	*198	4,280	* 505	369	149	24	17	10
6	20	80	441	193	218	6,050	505	360	138	*25	13	9.7
7	21	*80	369	190	1,700	2,720	515	356	124	22	16	*9.4
8	25	80	324	187	2,320	1,660	535	351	120	23	27	11
9	29	82	291	187	5,490	1,240	550	378	116	24	32	16
10	29	85	261	180	4,090	980	520	346	111	17	44	12
11	43	85	234	177	2,800	836	490	315	107	18	31	13
12	84	82	228	185	2,290	720	490	295	98	13	22	7.8
13	75	78	218	187	8,850	645	500	311	*93	13	18	11
14	55	73	215	172	5,500	600	520	291	109	16	14	14
15	49	70	209	168	6,800	580	575	283	111	16	6.5	16
16	46	70	201	165	3,000	590	540	261	107	18	3.4	19
17	48	75	356	163	2,080	640	515	237	96	14	5.7	17
18	45	85	461	175	2,400	525	490	254	85	13	10	12
19	45	90	4,960	4,460	1,890	490	510	261	74	12	16	7.5
20	48	118	4,940	2,890	1,320	515	515	250	72	18	15	11
21	77	110	2,520	841	1,060	515	436	224	58	18	9.4	16
22	70	106	1,140	480	872	1,230	423	221	53	18	6.2	21
23	65	120	760	436	760	891	423	228	55	16	7.8	22
24	65	150	595	396	685	690	432	218	54	13	10	18
25	64	2,450	495	360	605	625	428	212	54	9.7	9.4	20
26	70	1,310	418	329	515	585	414	221	49	7.8	16	20
27	101	657	360	291	465	550	441	218	48	7.8	4.1	22
28	158	325	320	264	*500	540	705	204	47	5.7	7.5	34
29	114	1,110	295	250	-	525	505	201	42	14	9.1	43
30	94	824	272	234	-----	515	423	201	50	14	6.2	45
31	89	-----	250	224	-----	495	-----	190	-----	12	9.4	-----
Total	1,764	8,823	38,343	14,866	57,249	36,972	14,915	8,814	2,907	5,580	4,226	500.8
Mean	56.9	294	1,237	480	2,045	1,193	497	284	96.9	18.0	13.6	16.7
Max	158	2,450	11,000	4,460	8,850	6,050	575	392	180	44	44	45
Min	20	70	201	163	198	490	414	190	42	5.7	3.4	7.5
Ac-ft	3,500	17,500	76,050	29,490	113,500	73,330	29,580	17,480	5,770	1,110	838	993

Calendar year 1961: Max 11,000 Min 7.3 Mean 538 Ac-ft 389,900

Water year 1961-62: Max 11,000 Min 3.4 Mean 510 Ac-ft 369,100

Peak discharge (base, 10,000 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1500	16.68	23,900	3-5	2300	13.60	15,500
2-14	2300	13.02	14,100				

11-3741. Bear Creek near Millville, Calif.

Location.--Lat 40°31'50", long 122°06'30", in SE 1/4 sec. 20, T.31 N., R.2 W., on right bank 10 feet downstream from bridge on State Highway 44 and 3.8 miles southeast of town of Millville.

Drainage area.--75.3 sq mi.

Records available.--October 1959 to September 1962.

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

Extremes.--Maximum discharge during year, 3,140 cfs Dec. 1 (gage height, 10.44 ft), from rating curve extended above 450 cfs; minimum daily, 4.0 cfs Aug. 29.

1959-62: Maximum discharge, that of Dec. 1, 1961; minimum, 2.6 cfs Sept. 9, 1961.

Remarks.--No storage or diversion above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	13	1,450	52	57	216	115	41	22	7.5	4.6	4.4
2	9.0	14	* 468	49	57	272	110	39	20	7.1	4.6	4.6
3	7.6	14	189	46	58	212	103	37	18	* 6.7	4.6	4.7
4	7.7	14	116	44	59	200	97	36	18	6.0	4.8	5.1
5	7.7	14	83	* 44	59	502	92	34	18	6.5	4.8	5.6
6	8.5	13	69	46	73	720	85	32	17	5.7	4.8	5.9
7	9.3	14	59	44	249	431	81	29	18	6.2	5.5	* 5.7
8	9.8	14	53	43	* 452	316	79	27	* 17	6.4	7.9	5.7
9	10	* 15	48	41	696	264	76	28	17	5.1	11	5.3
10	* 11	16	45	39	531	223	71	28	17	5.5	* 9.7	4.7
11	15	17	41	38	364	197	66	* 27	17	5.8	6.9	4.8
12	17	17	39	40	567	174	62	27	16	5.6	6.2	5.3
13	14	16	38	39	1,130	157	57	31	16	5.3	5.8	6.2
14	12	16	38	36	777	147	54	31	19	4.9	5.4	* 6.5
15	12	16	37	36	* 1,090	143	51	31	18	5.4	5.0	7.0
16	11	16	35	35	657	143	49	28	18	5.7	5.2	6.5
17	11	16	85	35	516	139	44	27	17	5.4	4.9	5.2
18	11	16	79	37	466	121	42	28	15	5.4	5.9	5.3
19	10	17	577	615	417	114	47	36	14	5.1	6.1	5.7
20	11	23	606	384	332	125	60	28	14	4.5	5.4	5.9
21	13	19	442	149	276	127	52	27	13	4.3	5.4	5.8
22	13	20	219	95	237	416	47	25	12	4.3	5.1	6.3
23	12	21	150	80	215	224	45	27	12	4.4	4.9	7.2
24	12	25	117	* 74	194	178	42	27	9.3	4.5	4.8	6.5
25	12	336	99	71	173	159	39	* 26	9.0	4.4	4.9	6.1
26	14	136	83	68	154	153	37	27	9.0	4.6	4.9	6.3
27	15	65	75	63	137	142	40	29	9.0	4.6	4.7	7.2
28	16	38	68	60	138	141	71	27	7.9	4.6	4.4	10
29	13	234	63	58	-	* 135	52	25	7.0	4.6	4.0	12
30	13	160	58	58	-----	131	45	25	7.3	4.6	4.1	11
31	13	-----	54	57	-----	121	-----	23	-----	4.6	4.2	-----
Total	358.0	1365	5583	2576	10,131	6,743	1,911	913	441.5	165.3	170.5	188.5
Mean	11.5	45.5	180	83.1	362	218	63.7	29.5	14.7	5.33	5.50	6.28
Max	17	336	1,450	615	1,130	720	115	41	22	7.5	11	12
Min	7.4	13	35	35	57	114	37	23	7.0	4.3	4.0	4.4
Ac-ft	710	2,710	11,070	5,110	20,090	13,370	3,790	1,810	876	328	338	374

Calendar year 1961: Max 1,450 Min 2.8 Mean 82.9 Ac-ft 60,000

Water year 1961-62: Max 1,450 Min 4.0 Mean 83.7 Ac-ft 60,580

* Discharge measurement made on this day.

Note.--No gage-height record July 26 to Aug. 10.

SACRAMENTO RIVER BASIN

11-3744. Middle Fork Cottonwood Creek near Ono, Calif.

Location.--Lat 40°23'25", long 122°31'15", in SE 1/4 sec. 3, T.29 N., R.6 W., on left bank 0.4 mile upstream from North Fork and 7.8 miles southeast of Ono.

Drainage area.--249 sq mi.

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 550 ft (from topographic map).

Average discharge.--6 years, 219 cfs (158,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,970 cfs Mar. 5 (gage height, 9.72 ft); minimum, 2.7 cfs Sept. 9.
1956-62: Maximum discharge, 9,090 cfs Feb. 18, 1958 (gage height, 14.74 ft); minimum, 2.4 cfs Aug. 12, 13, 1959.

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

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 13				Feb. 14 to Sept. 30			
2.2	2.3	4.0	155	2.1	4.0	165	
2.3	4.6	5.0	315	2.2	4.0	320	
2.5	11	6.0	570	2.3	6.7	540	
2.8	28	7.0	930	2.5	15	900	
3.4	81	8.0	1,450	2.8	34	1,800	
				3.2	68		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	1.1	28.1	5.0	6.5	23.3	33.0	9.3	5.2	1.7	4.8	3.8
2	4.6	* 1.1	24.8	4.8	6.4	24.2	31.4	9.1	5.0	1.6	4.5	3.6
3	4.6	1.1	11.4	4.6	6.3	19.4	29.1	8.8	4.9	1.5	4.5	3.2
4	4.6	1.1	9.0	4.2	6.0	17.8	28.0	* 8.7	4.9	1.4	5.6	3.2
5	4.6	1.1	8.0	4.0	5.8	9.98	28.6	8.1	4.8	* 1.3	6.7	3.2
6	* 4.4	1.1	7.0	4.0	* 6.1	* 1.350	27.8	8.0	* 4.6	1.2	7.1	3.4
7	3.9	1.1	6.0	3.8	16.9	8.68	27.6	7.9	4.4	1.1	7.8	3.2
8	3.9	1.1	5.0	* 3.8	41.9	61.2	27.0	8.0	4.4	1.1	1.0	3
9	4.6	1.1	4.6	3.7	5.25	51.8	26.0	8.2	4.2	1.0	2.2	2.9
10	5.5	1.1	4.2	3.6	61.1	45.5	22.5	8.6	4.1	9.7	2.1	2.9
11	6.6	1.1	4.0	3.4	48.3	35.6	20.2	8.9	4.0	1.0	1.3	* 3
12	6.9	1.1	3.8	3.4	3.84	2.97	19.6	7.7	4.0	1.0	1.0	3
13	7.8	1.2	3.6	3.7	* 1.250	* 2.70	20.0	7.2	3.9	1.2	9.3	3.2
14	7.8	1.2	3.4	3.4	* 1.350	2.55	20.0	7.6	4.1	1.0	8.9	3.6
15	7.8	1.1	3.4	3.1	1.680	2.46	18.8	7.6	4.2	9.3	8.2	3.8
16	7.2	1.1	3.4	3.1	* 1.200	2.49	17.6	6.9	4.0	8.6	7.4	3.8
17	6.9	1.1	4.0	3.0	7.68	2.43	16.4	6.6	3.6	7.8	6.2	3.6
18	6.3	1.2	5.4	3.4	8.30	2.28	15.4	6.7	3.4	7.4	5.9	3.4
19	6.3	1.4	9.0	3.32	* 6.44	2.20	14.7	6.5	3.0	7.4	5.9	3.4
20	6.6	1.7	16.0	3.91	* 5.25	2.32	13.7	6.2	2.9	7.1	5.9	3.6
21	6.9	1.7	14.0	b 1.30	4.40	* 2.26	12.2	6.0	2.8	6.7	5.6	3.8
22	7.2	1.7	10.0	b 7.0	3.78	2.49	11.6	5.9	2.7	6.7	5.4	3.8
23	7.5	1.6	8.4	b 6.8	2.96	2.26	11.3	5.8	2.5	6.4	5.1	3.8
24	8.2	3.0	7.6	b 7.0	2.61	2.13	11.1	5.7	2.5	6.2	4.8	3.6
25	8.2	10.8	7.0	7.0	2.25	2.07	10.6	5.7	2.3	5.6	5.1	3.4
26	8.9	7.2	6.6	6.2	1.94	2.12	10.0	5.8	2.1	5.6	4.5	3.4
27	9.2	5.4	6.4	6.0	* 1.71	2.38	10.2	5.9	2.0	5.4	4	4
28	1.0	4.2	6.0	5.9	1.83	2.84	12.7	5.7	2.0	5.4	3.8	5.6
29	1.7	5.6	5.6	5.9	-	3.24	10.7	5.9	2.0	5.6	3.8	7.1
30	1.4	10.6	5.4	6.3	-----	3.30	9.8	5.6	1.9	5.6	3.8	8.9
31	1.2	-----	5.2	6.4	-----	3.24	-----	5.3	-----	5.4	3.8	-----
Total	224.6	75.0	246.3	217.8	133.57	11.077	5.676	2.199	1.064	28.29	224.4	114.2
Mean	7.25	25.0	79.4	70.3	4.77	357	189	70.9	35.5	9.13	7.24	3.81
Max	17	108	281	391	1,680	1,350	330	93	52	17	22	8.9
Min	3.9	1.1	3.4	3.0	5.8	1.78	98	53	19	5.4	3.8	2.9
Ac-ft	445	1,490	4,890	4,320	26,490	21,970	11,260	4,360	2,110	561	445	227

Calendar year 1961: Max 2,550 Min 3.7 Mean 136 Ac-ft 98,290
Water year 1961-62: Max 1,680 Min 2.9 Mean 109 Ac-ft 78,570

Peak discharge (base, 1,800 cfs).--Feb. 14 (2200) 2,680 cfs (9.45 ft); Mar. 5 (2230) 2,970 cfs (9.72 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Dec. 4 to Jan. 8, Feb. 19, 20.

11-3757. North Fork Cottonwood Creek near Igo, Calif.

Location.--Lat 40°26'32", long 122°32'57", in SE 1/4 sec. 21, T.30 N., R.6 W., near right bank on downstream side of bridge on Gas Point Road, 1.2 miles downstream from Huling Creek, 4.4 miles south of Igo, and 4.5 miles upstream from Middle Fork.

Drainage area.--88.7 sq mi.

Records available.--October 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 630 ft (from topographic map).

Average discharge.--6 years, 178 cfs (128,900 acre-ft per year).

Extremes.--Maximum discharge during year, 4,830 cfs Jan. 31 (gage height, 35.20 ft), from rating curve extended above 1,600 cfs on basis of a previous high-water rating; minimum, 3.0 cfs Sept. 12.

1956-62: Maximum discharge, 8,670 cfs Feb. 8, 1960 (gage height, 35.70 ft); minimum daily, 0.9 cfs Nov. 4, 1960.

Flood of Dec. 21, 1955, reached a peak discharge of 12,100 cfs by slope-area measurement at site 1.2 miles upstream (above Huling Creek).

Remarks.--Some storage for irrigation above station in Rainbow Lake (capacity, 4,800 acre-ft). Some flow diverted upstream to Clear Creek basin by Happy Valley Irrigation Canal.

Cooperation.--Records furnished by the California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	* 10	401	63	58	263	237	81	41	17	7.4	5.3
2	11	11	* 274	62	* 56	226	237	* 77	40	* 18	6.0	5.5
3	11	11	182	49	54	200	* 235	74	40	18	* 6.5	4.9
4	11	12	150	45	54	193	236	73	* 37	17	3.5	4.2
5	11	12	136	44	54	1,330	235	71	28	18	9.4	4.3
6	* 11	11	125	44	64	* 1,430	236	70	* 32	16	9.3	* 5.1
7	8.6	11	116	44	142	1,130	241	68	30	15	11	5.8
8	8.3	11	89	44	236	708	237	67	27	14	19	5.9
9	8.3	11	52	43	715	542	235	56	26	13	25	5.1
10	9.2	11	48	43	580	454	221	54	25	13	20	5.3
11	14	11	46	44	507	402	209	60	24	12	14	4.2
12	13	12	45	* 45	573	356	201	55	22	13	12	4.1
13	11	11	41	44	2,370	326	199	54	21	14	11	3.7
14	10	11	40	43	1,470	308	194	60	30	14	11	4.1
15	9.8	12	40	43	1,570	309	190	59	31	13	11	3.6
16	* 11	11	40	42	1,050	309	186	49	28	12	8.7	3.5
17	10	10	49	41	785	293	178	47	25	12	8.6	4.0
18	9.0	9.9	68	47	876	271	175	46	23	13	9.0	3.7
19	9.3	11	221	535	751	233	172	44	22	11	10	3.7
20	9.4	19	268	285	645	266	161	43	21	10	11	4.4
21	9.8	14	144	108	550	232	129	42	19	9.6	9.6	4.7
22	9.8	14	105	106	499	305	118	41	18	9.8	7.1	5.4
23	10	16	91	97	456	255	117	47	16	8.9	6.4	4.8
24	11	117	84	89	415	239	104	46	15	8.6	6.2	4.5
25	10	194	78	74	318	230	89	47	16	8.4	6.5	4.3
26	10	94	75	65	207	230	91	50	16	8.8	6.6	4.5
27	13	79	74	63	193	228	99	46	16	7.9	5.8	5.9
28	16	56	72	63	192	232	94	48	17	8.0	5.2	1.4
29	13	131	70	64	-	236	89	75	16	8.5	5.3	2.0
30	12	* 149	67	63	-----	236	83	73	17	8.2	5.8	2.0
31	10	-----	64	61	-----	234	-----	61	-----	7.5	5.0	1.1
Total	331.5	1,092.9	3,355	2,503	15,440	12,206	5,228	1,784	739	377.2	298.3	1,695
Mean	10.7	36.4	108	80.7	551	394	174	57.5	24.6	12.2	9.62	5.65
Max	16	194	401	535	2,370	1,430	241	81	41	18	25	20
Min	8.3	9.9	40	41	54	193	83	41	15	7.5	5.0	3.5
Ac-ft	658	2,170	6,650	4,960	30,620	24,210	10,370	3,540	1,470	748	592	336
Calendar year 1961: Max	2,800	Min	7.2	Mean	111	Ac-ft	80,690					
Water year 1961-62: Max	2,370	Min	3.5	Mean	119	Ac-ft	86,320					

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3760. Cottonwood Creek near Cottonwood, Calif.

Location.--Lat 40°23'10", long 122°14'15", in NE¼ sec.7, T.29 N., R.3 W., on right bank 2 miles east of Cottonwood and 2.4 miles upstream from mouth.

Drainage area.--945 sq mi.

Records available.--October 1940 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 370 ft (from river-profile map).

Average discharge.--22 years, 815 cfs (590,000 acre-ft per year); median of yearly mean discharges, 560 cfs (405,000 acre-ft per year).

Extremes.--Maximum discharge during year, 18,300 cfs Feb. 15 (gage height, 11.26 ft); minimum, 50 cfs Sept. 17.

1940-62: Maximum discharge, 52,300 cfs Mar. 1, 1941 (gage height, 15.4 ft), from rating curve extended above 30,000 cfs; minimum, 15 cfs for several days in September 1945.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Small diversions for irrigation above station. At times during irrigation season, Cottonwood Creek receives water above station from Sacramento River by way of Anderson-Cottonwood Canal.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	71	3,120	210	220	800	1,100	456	260	102	76	64
2	81	* 73	3,030	200	230	750	1,100	417	250	98	76	64
3	82	77	1,110	180	230	650	1,050	405	250	92	70	62
4	85	77	600	170	220	600	1,010	* 397	250	87	66	62
5	73	96	380	160	210	5,000	1,030	374	240	93	64	62
6	* 72	100	340	160	* 220	5,900	* 1,080	354	* 240	87	62	62
7	76	91	290	160	600	4,600	1,030	354	230	78	62	60
8	82	96	250	* 160	* 1,420	2,800	1,030	350	220	78	72	60
9	93	100	210	150	* 3,190	* 2,100	1,030	354	210	76	80	62
10	93	103	180	150	2,960	1,870	921	354	200	81	87	60
11	94	94	160	150	2,410	1,400	828	374	200	80	92	60
12	96	81	150	150	2,220	* 1,080	774	354	200	76	84	58
13	81	76	140	150	7,320	949	804	336	210	76	82	54
14	70	74	130	140	* 6,340	* 894	822	310	220	72	78	56
15	69	77	130	130	1,120	876	798	343	240	68	76	59
16	68	77	130	130	* 5,300	* 935	762	340	220	66	74	56
17	64	88	130	130	3,770	888	732	320	210	64	74	56
18	64	70	200	130	4,090	822	687	310	190	62	72	63
19	73	73	397	718	3,680	774	682	300	180	* 60	72	75
20	76	74	1,650	2,630	* 2,150	864	660	290	180	60	72	80
21	86	73	1,430	762	1,480	852	580	280	170	60	72	68
22	96	80	850	412	1,190	963	535	280	170	64	78	58
23	94	85	470	315	1,030	882	545	270	160	64	81	69
24	100	94	370	300	804	792	520	270	150	64	72	75
25	107	426	330	274	640	750	492	270	140	64	70	62
26	107	294	310	244	500	738	470	280	140	66	70	* 62
27	82	229	* 290	226	480	* 810	484	280	* 130	66	68	66
28	78	173	270	215	500	914	575	270	111	66	68	86
29	80	200	260	210	-	1,060	540	280	102	66	68	94
30	77	362	240	210	-----	1,100	488	270	102	70	66	96
31	73	-----	220	210	-----	1,080	-----	260	-----	72	64	-----
Total	2,550	3,684	1,776	9,536	6,460	4,493	23,159	10,102	5,775	2,278	2,268	1,971
Mean	82.3	123	573	308	2,307	1,435	772	326	192	73.5	73.2	65.7
Max	107	426	3,120	2,630	11,200	5,900	1,100	456	260	102	92	96
Min	64	71	130	130	210	600	470	260	102	60	62	54
Ac-ft	5,060	7,310	35,240	18,910	128,100	88,250	45,940	20,040	11,450	4,520	4,500	3,910

Calendar year 1961: Max 9,870 Min 62 Mean 531 Ac-ft 384,300
 Water year 1961-62: Max 11,200 Min 54 Mean 516 Ac-ft 373,200

Peak discharge (base 7,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	2100	7.67	8,040	3-6	unknown	10.96	17,200
2-15	0330	11.26	18,300				

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 4-18, Dec. 22 to Jan. 18, Jan. 24, Jan. 29 to Feb. 7, Feb. 27 to Mar. 9, May 14, May 17 to June 27, July 12 to Aug. 9, Aug. 15-22, Aug. 24 to Sept. 10.

11-3765.5. Battle Creek below Coleman Fish Hatchery, near Cottonwood, Calif.

Location.--40°23'55", long 122°08'45", in SW $\frac{1}{4}$ sec. 1, T.29 N., R.3 W., on right bank 3.7 miles downstream from Spring Branch, 5.7 miles upstream from mouth, and 7.0 miles east of Cottonwood.

Drainage area.--358 sq mi.

Records available.--October 1961 to September 1962. Record published as Battle Creek near Cottonwood 1940-61 not equivalent because it did not include flow diverted to Coleman Fish Hatchery.

Gage.--Water-stage recorder. Datum of gage is 415 ft (from topographic map).

Extremes.--Maximum discharge during year, 9,200 cfs Dec. 1 (gage height, 12.60 ft); minimum, 52 cfs Aug. 8.

1940-62: Maximum discharge, 12,800 cfs Feb. 6, 1942 (gage height, 11.85 ft, site and datum then in use).

Maximum stage known, 15.8 ft Dec. 11, 1937, from floodmarks at former site and datum (discharge, 35,000 cfs, by slope-area measurement of peak flow).

Remarks.--Records good. Flow regulated by four small powerplants, several small reservoirs above station, and 50 to 90 cfs diverted through Coleman Fish Hatchery and returned above station. About 10 cfs diverted above station for irrigation. Peak flows considered equivalent to former station Battle Creek near Cottonwood.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 1		Dec. 1 to Sept. 30	
3.9	185	3.8	165
4.4	400	4.4	435
5.0	740	5.0	720
6.0	1,500	6.0	1,500
8.0	3,680	7.0	2,560

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	229	237	* 3,260	291	291	692	444	471	444	296	206	183
2	221	237	* 978	286	286	498	448	471	444	268	206	178
3	213	225	502	286	286	440	458	498	458	291	210	178
4	213	245	404	* 264	286	426	453	516	426	273	219	183
5	213	229	345	296	282	806	462	520	* 408	278	210	183
6	* 217	237	318	278	* 296	1,230	* 476	520	399	278	210	183
7	213	237	304	278	440	692	484	525	399	278	210	183
8	217	241	304	278	644	570	498	534	399	273	219	183
9	217	241	286	278	* 1,030	520	512	579	408	268	219	188
10	233	229	278	278	982	484	471	* 543	417	264	219	183
11	249	241	273	273	660	471	458	502	417	264	210	170
12	249	237	268	286	895	448	466	476	408	260	196	188
13	241	245	264	278	1,740	* 422	494	489	386	255	178	196
14	229	237	264	264	1,480	417	516	462	412	250	196	196
15	237	245	264	264	* 2,450	412	556	453	426	246	192	196
16	225	245	264	273	1,240	412	538	444	408	237	192	196
17	213	241	268	268	1,140	404	520	440	399	232	192	196
18	213	245	278	278	967	390	520	453	386	* 219	192	196
19	213	249	* 914	896	* 768	390	538	484	381	228	188	196
20	217	257	* 1,220	1,040	665	394	512	448	381	232	192	196
21	225	* 257	852	422	597	399	498	426	372	228	183	196
22	233	253	489	332	548	462	498	430	363	224	188	192
23	237	265	408	318	516	453	525	458	354	219	183	192
24	237	281	368	318	489	417	538	448	350	219	178	192
25	237	590	336	314	462	408	525	426	340	214	183	* 196
26	241	435	322	304	440	412	516	430	327	214	178	183
27	249	328	* 300	300	422	412	516	430	322	210	183	192
28	253	289	314	296	444	422	630	430	318	214	178	196
29	245	385	300	291	-	426	530	440	309	214	188	210
30	241	450	286	282	-----	430	507	453	304	210	183	201
31	237	-----	286	286	-----	435	-----	458	-----	206	178	-----
Total	7,107	8,333	15,517	10,396	20,746	15,194	15,107	14,657	11,565	7,562	6,059	5,701
Mean	229	278	501	335	741	490	504	473	386	244	195	190
Max	253	590	3,260	1,040	2,450	1,230	630	579	458	296	219	210
Min	213	229	264	263	282	390	444	426	304	206	178	170
Ac-ft	14,100	16,530	30,780	20,620	41,150	30,140	29,960	29,070	22,940	15,000	12,020	11,310

Calendar year 1961: Max - Min - Mean - Ac-ft -
 Water year 1961-62: Max 3,260 Min 170 Mean 378 Ac-ft 273,600

Peak discharge (base, 2,500 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1300	12.60	9,200	2-16	2400	7.06	2,630
12-20	2200	6.99	2,550	3-6	0030	7.01	2,570
2-15	1530	8.58	4,380				

11-3775. Paynes Creek near Red Bluff, Calif.

Location.--Lat 40°15'50", long 122°11'10", in SE $\frac{1}{4}$ sec.22, T.28 N., R.3 W., on right bank 0.4 mile upstream from mouth and 6.5 miles northeast of Red Bluff.

Drainage area.--92.5 sq mi.

Records available.--October 1949 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 360 ft (from topographic map).

Average discharge.--13 years, 74.4 cfs (53,860 acre-ft per year).

Extremes.--Maximum discharge during year, 10,600 cfs Dec. 1 (gage height, 11.33 ft); no flow many days June to September. 1949-62: Maximum discharge, that of Dec. 1, 1961; no flow at times in most years.

Remarks.--Records good except those for period of shifting control, which are fair. Diversions up to 10 cfs at times above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Dec. 1)

Oct. 1 to Dec. 21				Dec. 21 to Sept. 30			
2.0	0.1	3.0	80	2.1	0	3.0	70
2.1	.3	3.5	193	2.2	.7	3.5	190
2.2	1.1	4.0	345	2.3	2.3	4.0	355
2.3	2.8	4.5	560	2.4	5.7	4.8	700
2.4	6.0	5.0	850	2.5	11	5.6	1,200
2.5	11	6.0	1,610	2.6	18	7.0	2,490
2.6	20	7.5	3,250	2.8	40		
2.8	46						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.8	2.7 0 0	2.4	2.3	1 0 0	4.4	1.3	3.0		0	
2	.1	.8	8 7 0	2.2	2.2	8 7	4.1	1.3	2.6		0	
3	.1	.7	2 2 8	2.1	2.1	7 4	4.0	1.2	3.0		0	
4	.1	.6	* 1 0 8	* 2 0	2.0	6 7	3.8	1.0	3.0		0	
5	* .1	.8	6 6	2.0	1.9	3 4 4	3.5	1.1	3.3		0	
6	.1	.9	4 9	1.9	* 2.1	9 0 6	3.4	1.1	* 2.3		0	
7	.1	1.1	4 0	1.8	1.2 6	4 3 0	3.0	1.1	2.3		0	
8	.1	.9	3 5	1.8	2 5 4	2 8 5	3.0	1.1	3.3		0	(*)
9	.1	1.0	3 1	1.6	7 3 9	2 1 4	2.9	1.1	3.7		.4	
10	.1	1.4	2 8	1.3	4 6 6	1 6 8	2.4	1.1	3.0		0	
11	.1	1.8	2 5	1.3	2 9 6	1 4 1	1.9	1.2	3.7	(*)	0	
12	.2	1.5	2 4	1.4	6 3 4	1 1 6	1.8	1.2	3.7		0	
13	.2	1.5	2 2	1.4	2 0 2 0	* 9 8	1.8	1.6	4.0		0	
14	.2	1.6	2 1	1.4	1 3 4 0	8 3	1.8	1.4	8.4		0	
15	.2	2.0	2 0	1.3	2 1 8 0	7 8	1.7	1.3	8.9		0	
16	.2	1.4	1 8	1.2	* 8 5 7	7 0	1.7	1.3	6.8		0	
17	.2	1.8	1 6	1.2	6 9 6	6 4	1.6	1.2	4.7		0	
18	.1	1.6	1 7	1.3	6 1 9	5 9	1.6	9.9	4.0		0	
19	.2	2.0	8 9	3.4 6	4 8 6	5 4	1.9	1.0	4.0		0	
20	.3	2.5	1 0 0 0	6 7 9	* 3 5 5	5 1	1.9	9.9	4.0		0	
21	.2	* 2.3	7 6 5	1 8 7	2 8 5	5 0	1.7	9.9	4.0		0	
22	.2	2.1	2 0 8	7 8	2 2 0	8 5	1.6	9.4	3.7		0	
23	.2	3.2	1 1 1	5 1	1 7 4	9 8	1.4	9.4	3.3		0	
24	.3	1.1	7 2	4 6	1 5 0	7 6	1.5	9.4	3.0		0	
25	.3	1 5 4	5 3	4 0	1 2 1	6 7	1.4	* 9.9	2.1		0	
26	.3	9 4	4 4	3 6	1 0 2	6 0	* 1.4	1.2	.4		0	
27	.4	2 7	3 8	3 3	8 0	5 6	1.4	1.1	* .1		0	
28	.5	1 2	3 3	3 0	8 0	5 3	1.6	9.9	.1		0	
29	.6	7 8	3 0	2 8	-	5 1	1.6	8.4	0		0	
30	.6	* 1 4 2	2 7	2 6	-----	4 8	1.5	6.2	0		0	
31	.6	-----	2 5	2 4	-----	4 6	-----	3.3	-----		0	-----
Total	7.1	5 5 2.3	6.8 1.3	1.9 0.0	1.2 4 0 6	4.1 7 9	6.7 3	3 3 4.6	98.4	0	0.7	0
Mean	0.23	18.4	220	61.3	443	135	22.4	10.8	3.28	0	0.23	0
Max	0.6	154	2,700	679	2,180	906	44	16	8.9	0	0.4	0
Min	0.1	0.6	16	12	19	46	14	3.3	0	0	0	0
Ac-ft	14	1,100	13,510	3,770	24,610	8,290	1,330	663	195	0	1.4	0

Calendar year 1961: Max 2,700 Min 0 Mean 67.5 Ac-ft 48,830

Water year 1961-62: Max 2,700 Min 0 Mean 73.9 Ac-ft 53,480

Peak discharge (base 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	1300	11.33	10,600	2-13	1200	7.09	2,600
12-20	2100	8.10	4,070	2-15	1500	8.20	4,110
1-20	0130	6.10	1,600	3- 6	0100	6.17	1,660
2- 9	1100	5.78	1,330				

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

Note.--Shifting control method used Oct. 1 to Dec. 1.

11-3780. Sacramento River near Red Bluff, Calif.

Location.--Lat 40°13'55", long 122°10'50", in SE $\frac{1}{4}$ sec.34, T.28 N., R.3 W., on left bank at lower end of Iron Canyon, 0.5 mile downstream from Sevenmile Creek and 4.6 miles northeast of Red Bluff.

Drainage area.--9,300 sq mi, approximately, excluding Goose Lake basin.

Records available.--January 1892 to September 1962. Monthly discharges only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Published as "at Red Bluff" 1894-96, and as "at Jellys Ferry" 1895-1902.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 253.18 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to January 1902, staff gage at site 16.2 miles upstream at different datum. January 1902 to December 1919, staff gage at several sites within 1 mile of present site at same datum.

Average discharge.--71 years, 11,400 cfs (8,253,000 acre-ft per year).

Extremes.--Maximum discharge during year, 65,400 cfs Feb. 15 (gage height, 15.42 ft); minimum, 4,190 cfs Feb. 5 (gage height, 0.96 ft). 1892-1962: Maximum discharge, 291,000 cfs Feb. 28, 1940 (gage height, 38.9 ft), from rating curve extended above 170,000 cfs on basis of velocity-area studies; minimum, 2,000 cfs Mar. 29, 1944 (gage height, -0.45 ft).

Remarks.--Records excellent. Flow regulated by Shasta Lake since Dec. 30, 1943 (see p. 768). Diversions, in addition to those on tributaries, for irrigation of about 22,000 acres between stations at Keswick and Red Bluff.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.9	4,080	6.0	18,700
1.0	4,270	8.0	26,500
2.0	6,470	12.0	45,800
3.0	9,150	14.0	56,800
4.0	12,100		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,340	* 5,980	3,080	4,400	4,330	* 14,300	6,220	* 9,150	* 8,460	10,300	10,700	9,180
2	5,890	5,750	32,000	* 4,350	4,330	17,300	6,220	9,040	8,400	10,300	10,700	9,180
3	5,840	5,800	12,000	4,310	4,290	15,100	6,150	8,980	8,370	10,300	* 10,800	9,210
4	5,860	5,820	7,320	4,330	4,250	14,200	5,980	8,980	8,370	10,200	10,800	9,210
5	5,820	5,700	6,220	4,310	4,230	17,900	5,860	8,930	8,590	10,100	10,800	9,150
6	5,800	5,730	5,680	4,350	4,270	44,900	5,750	8,900	8,930	10,100	10,800	8,650
7	5,770	5,730	5,370	4,380	6,320	26,800	5,750	8,900	9,150	10,100	10,800	8,270
8	5,820	5,730	5,150	4,360	10,600	19,900	5,750	8,930	* 9,150	10,200	10,900	7,640
9	5,820	5,730	5,020	4,380	20,400	17,300	5,750	9,040	9,540	10,200	11,000	7,210
10	5,890	5,750	4,890	4,380	22,400	15,100	5,540	8,950	9,690	10,200	10,900	7,110
11	5,980	5,840	4,830	4,400	16,800	13,500	5,370	8,480	9,660	10,200	11,000	7,140
12	6,170	5,770	4,720	4,400	13,200	12,100	6,120	8,370	9,610	10,200	10,900	6,750
13	6,120	5,730	4,680	4,380	34,700	10,600	6,200	8,480	9,720	10,200	10,900	6,700
14	6,030	5,700	4,660	4,440	39,700	9,430	6,240	8,370	10,300	10,100	10,800	6,700
15	5,980	5,700	4,660	4,540	52,300	8,320	6,370	8,400	10,200	10,300	10,800	6,720
16	5,890	5,640	4,660	4,560	31,200	7,380	6,300	8,320	10,200	10,400	10,800	6,720
17	5,800	5,680	4,700	4,580	25,200	6,720	6,150	8,210	10,200	10,400	10,800	6,750
18	5,820	5,700	5,080	4,560	22,600	6,340	6,000	8,210	10,100	10,400	10,800	6,750
19	5,840	5,700	9,580	9,410	22,600	6,100	6,080	8,210	9,980	10,500	10,800	6,770
20	5,910	5,890	20,400	19,900	18,400	6,220	6,170	8,160	9,950	10,500	10,800	6,770
21	5,910	5,750	15,700	9,210	16,800	6,270	6,370	8,100	9,950	10,500	10,800	6,820
22	5,980	5,730	8,580	5,480	15,600	7,400	6,900	8,080	9,950	10,600	10,800	6,750
23	6,000	5,840	6,570	5,120	15,100	7,560	6,850	8,100	9,950	10,600	10,800	6,500
24	6,030	6,070	5,800	5,000	14,400	6,720	7,590	8,350	9,950	10,700	10,800	6,500
25	6,030	12,300	5,370	4,890	14,000	6,420	7,860	8,480	9,920	10,700	10,800	6,500
26	6,030	10,200	5,100	4,760	13,400	6,220	8,540	8,590	10,000	10,600	10,800	6,470
27	6,300	7,670	4,890	4,600	13,100	6,100	8,670	8,560	10,300	10,700	10,800	6,520
28	6,300	6,400	4,790	4,480	13,100	6,030	9,370	8,560	10,300	10,700	10,400	6,620
29	6,240	6,950	4,660	4,380	-	6,220	9,520	8,560	10,300	10,700	9,810	6,700
30	6,170	8,950	4,560	4,350	-----	6,270	9,230	8,540	10,300	10,700	9,430	6,700
31	6,170	-----	4,460	4,310	-----	6,220	-----	8,510	-----	10,700	9,090	-----
Total	185,550	190,930	252,900	165,300	477,620	360,940	200,870	265,440	289,490	322,400	330,930	218,660
Mean	5,985	6,364	8,158	5,332	17,060	11,640	6,696	8,563	9,650	10,400	10,680	7,289
Max	6,340	12,300	32,000	19,900	52,300	44,900	9,520	9,150	10,300	10,700	11,000	9,210
Min	5,770	5,640	4,460	4,310	4,230	6,030	5,370	8,080	8,370	10,100	9,090	6,470
Ac-ft	368,000	378,700	501,600	327,900	947,300	715,900	398,400	526,500	574,200	639,500	656,400	433,700
Calendar year 1961:	Max	32,600	Min	4,460	Mean	9,851	Ac-ft	7,132,000				
Water year 1961-62:	Max	52,300	Min	4,230	Mean	8,934	Ac-ft	6,468,000				

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3780. Sacramento River near Red Bluff, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1962.

Extremes.--Maximum temperature during year, 60°F Oct. 3-7; minimum, 39°F Jan. 22, 23.
 1960-62: Maximum temperature, that of Oct. 3-7, 1961; minimum, that of Jan. 22, 23, 1962.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	58	58	56	56	51	50	46	46	47	47	44	44	53	53	52	52	56	55	52	52	52	52	54	54
2	59	58	57	56	50	50	46	46	47	47	44	43	54	53	53	52	56	56	52	52	52	52	54	54
3	60	59	57	57	51	50	46	46	47	47	44	44	54	54	53	53	56	56	52	52	52	52	54	54
4	60	60	57	57	51	50	46	46	47	47	45	44	54	54	53	53	56	55	52	51	52	52	54	54
5	60	60	58	57	50	50	46	46	47	47	45	45	55	54	53	53	55	55	51	51	52	52	54	53
6	60	60	58	57	50	49	46	46	47	47	45	45	56	55	53	53	56	55	51	50	52	52	53	53
7	60	58	57	57	49	48	46	46	47	46	46	45	56	56	53	53	56	56	50	50	52	51	53	53
8	58	58	57	57	48	48	47	46	47	46	46	46	56	56	53	53	56	56	50	50	51	50	53	53
9	58	58	57	57	48	47	48	47	47	47	46	46	56	55	53	52	56	55	50	50	50	50	53	53
10	58	57	57	57	47	46	48	48	47	47	46	46	56	55	52	52	55	55	50	50	51	50	53	52
11	57	57	57	55	46	46	48	47	47	47	46	46	57	56	52	52	55	55	50	50	52	51	52	52
12	58	57	55	55	46	46	47	47	47	47	46	46	57	57	52	52	55	54	50	50	52	51	53	52
13	59	58	55	55	46	46	47	46	47	47	46	46	57	57	52	52	54	54	50	50	52	51	53	53
14	59	59	55	55	46	46	46	46	47	47	46	46	57	57	52	52	54	54	50	50	52	52	53	53
15	59	59	55	53	46	46	46	46	47	47	46	46	57	57	52	52	54	53	50	50	52	52	53	53
16	59	59	53	52	46	46	46	46	47	46	46	46	57	57	52	52	54	54	50	50	52	52	54	53
17	59	59	52	52	46	46	46	46	47	46	48	46	57	57	52	52	54	54	51	50	52	52	54	54
18	59	59	52	52	46	46	46	46	47	47	50	48	57	57	52	52	54	54	51	51	52	52	54	54
19	59	59	52	52	46	46	46	46	45	47	50	50	57	54	53	52	54	54	51	51	52	52	54	54
20	59	58	52	52	46	46	45	44	47	47	50	50	54	52	53	53	54	54	51	51	52	52	54	54
21	58	58	52	52	46	46	44	41	47	47	50	50	55	53	53	53	54	53	51	51	52	52	54	54
22	58	57	52	52	46	46	41	39	47	47	50	49	55	55	53	53	53	53	51	51	53	52	54	54
23	57	57	52	52	46	46	40	39	47	47	49	49	55	55	53	53	53	53	51	51	53	52	54	54
24	57	57	52	52	46	46	42	40	47	46	49	49	56	55	53	53	53	53	52	51	53	52	54	54
25	57	57	52	51	46	46	44	42	46	46	49	49	56	56	53	53	53	53	52	52	53	52	54	54
26	57	57	52	51	46	46	45	44	46	44	51	49	56	55	53	53	53	53	52	52	53	52	54	54
27	57	57	52	52	46	46	45	45	44	44	53	51	55	54	53	53	53	53	52	52	53	53	54	53
28	57	57	52	52	46	46	47	45	44	44	53	53	54	52	54	53	53	53	52	52	53	53	53	52
29	57	56	52	51	46	46	47	47	-	-	53	53	52	52	54	54	53	52	52	52	54	53	52	52
30	56	56	51	51	46	46	47	47	-	-	53	53	52	52	55	54	52	52	52	52	54	54	52	52
31	56	56	-	-	46	46	47	47	-	-	54	53	-	-	55	55	-	-	52	52	54	54	-	-
Avg	58	58	54	54	47	47	46	45	47	46	48	48	55	55	53	53	54	54	51	51	52	52	53	53

SACRAMENTO RIVER BASIN

785

11-3788. Red Bank Creek near Red Bluff, Calif.

Location.--Lat 40°05'25", long 122°24'45", in SE $\frac{1}{4}$ sec.22, T.26 N., R.5 W., on road bridge near left bank, 0.1 mile downstream from unnamed tributary, 1.8 miles southeast of town of Red Bank, and about 13 miles west of Red Bluff.

Drainage area.--93.5 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 470 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,980 cfs Feb. 13 (gage height, 8.30 ft); no flow for several months.
1959-62: Maximum discharge, that of Feb. 13, 1962; no flow for several months in each year.

Remarks.--Some small storage ponds and possibly some diversions for irrigation upstream.

Cooperation.--Records furnished by the California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			619	1.0	* 1.9	93	16	* 1.9	* 0.5			
2			320	1.1	4.0	* 61	* 15	2.5	.3			
3			58	.9	6.1	30	12	* 1.9	.2			
4			39	.8	8.9	24	10	1.6	0			
5			26	.6	14	846	8.9	1.3	0			
6			19	.6	19	1110	7.5	1.1	0			
7			16	.6	61	593	6.2	.9	0			
8			12	.6	416	352	5.5	.8	0			
9			9.6	.4	* 577	263	5.2	.9	0			
10			8.0	.3	224	201	3.8	1.2	0			
11			6.0	.2	178	159	3.5	1.7	0			
12			4.3	.4	281	127	3.7	2.0	0			
13			3.5	.5	1450	103	3.8	1.7	0			
14			2.7	.4	765	94	3.6	1.9	0			
15			2.0	.2	833	84	3.4	2.7	0			
16			1.4	.2	325	75	2.9	2.7	0			
17			1.2	.2	179	72	2.6	1.8	0			
18			*.9	.2	259	61	2.7	1.4	0			
19			1.7	2.5	213	52	2.9	.9	0			
20			3.1	25	119	49	3.1	.7	0			
21			4.1	8.5	82	48	2.6	.5	0			
22			3.4	7.6	64	52	2.3	.4	0			
23			2.6	4.3	49	40	1.8	.3	0			
24			2.1	3.6	41	35	1.4	.2	0			
25			1.8	3.1	31	32	1.6	.2	0			
26			1.3	2.5	23	28	1.2	.4	0			
27			1.2	2.1	20	25	1.4	.3	0			
28			.3	2.0	24	23	1.4	3.1	0			
29			1.0	1.9	-	21	1.7	2.3	0			
30			1.4	1.7	-----	20	1.7	.8	0			
31			1.1	1.8	-----	18	-----	.4	-----			
total	0	0	1173.7	75.8	6267.9	4791	139.4	40.5	1.0	0	0	0
an	0	0	37.9	2.45	224	155	4.65	1.31	0.03	0	0	0
x	0	0	619	25	1,450	1,110	16	3.1	0.5	0	0	0
n	0	0	0.3	0.2	1.9	18	1.2	0.2	0	0	0	0
-ft	0	0	2,330	150	12,430	9,500	276	80	2.0	0	0	0

lendar year 1961: Max 951 Min 0 Mean 20.7 Ac-ft 14,990
ter year 1961-62: Max 1,450 Min 0 Mean 34.2 Ac-ft 24,770

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3790. Antelope Creek near Red Bluff, Calif.

Location.--Lat 40°12'10", long 122°07'05", in Rio De Los Berrendos Grant, on right bank 1.8 miles upstream from diversion dam of Los Molinos Mutual Water Co., 6.5 miles east of Red Bluff, Tehama County, and 9.7 miles upstream from mouth.

Drainage area.--124 sq mi.

Records available.--October 1940 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 360 ft (from topographic map). Prior to Sept. 18, 1954, at site 0.6 mile downstream at different datum.

Average discharge.--22 years, 142 cfs (102,800 acre-ft per year); median of yearly mean discharges, 121 cfs (87,600 acre-ft per year).

Extremes.--Maximum discharge during year, 4,600 cfs Feb. 15 (gage height, 10.32 ft), from rating curve extended above 2,800 cfs on basis of previous high-water rating; minimum, 8.2 cfs Oct. 27.

1940-62: Maximum discharge, 11,500 cfs Feb. 22, 1956 (gage height, 12.43 ft), from rating curve extended above 2,800 cfs on basis of slope-area measurement at gage height 11.78 ft; minimum, that of Oct. 27, 1961.

Flood in December 1937 reached a stage of about 22 ft from floodmarks, at former site and datum.

Remarks.--Records good. Small diversion above station for Red Bluff water supply during October to June of each year.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 20

Dec. 21 to Sept. 30

2.8	26	5.0	411	2.7	25	5.0	425
3.0	40	6.0	820	3.0	49	6.0	825
3.5	85	7.0	1,340	3.5	98	7.0	1,340
4.0	162	8.0	1,960	4.0	170	8.0	1,960
				4.5	280	9.0	2,800

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	33	1,900	54	58	110	100	120	90	35	26	26
2	30	33	*1,020	52	56	120	102	*123	90	34	26	25
3	30	33	255	52	55	110	100	130	89	33	27	26
4	*27	33	124	50	53	103	99	138	*84	33	28	26
5	30	32	89	*49	*52	431	100	144	77	32	29	26
6	30	32	70	48	55	1,060	*100	142	74	32	29	26
7	30	32	60	47	164	478	104	141	73	31	28	*26
8	30	32	53	47	254	308	109	147	72	31	28	26
9	31	32	49	46	*997	232	114	172	70	31	30	26
10	32	32	46	46	621	192	110	152	69	31	30	26
11	33	33	45	45	358	168	105	138	67	31	28	27
12	34	33	44	47	1,030	146	106	130	64	31	27	28
13	34	33	43	47	2,430	129	115	136	64	31	27	28
14	32	33	42	45	1,660	118	122	118	74	31	26	28
15	32	32	41	45	2,190	112	136	112	69	30	26	28
16	32	33	41	45	*816	106	133	108	63	29	26	27
17	32	33	41	45	488	100	130	104	58	28	26	26
18	32	33	45	47	414	95	129	105	54	28	26	26
19	32	34	102	529	397	91	149	104	51	28	26	27
20	33	*37	810	582	*295	91	136	99	48	28	26	28
21	34	36	789	202	235	92	123	95	46	28	25	28
22	34	36	238	121	192	152	117	96	44	28	25	28
23	34	36	144	98	163	150	125	100	42	*28	25	28
24	40	43	111	88	147	128	132	97	41	28	25	28
25	34	225	95	82	130	117	136	92	39	28	25	28
26	36	148	83	76	116	110	132	96	38	27	25	28
27	32	63	74	72	104	105	136	94	38	27	25	28
28	36	46	69	68	102	104	a 170	89	37	27	25	31
29	33	189	65	64	-	102	146	90	36	27	26	32
30	33	404	61	62	-----	102	128	91	36	26	26	31
31	33	-----	58	60	-----	100	-----	91	-----	26	26	-----
Total	1,005	1,884	6,697	2,961	3,632	5,562	3,644	3,594	1,797	918	823	822
Mean	32.4	62.8	216	95.5	487	179	121	116	59.9	29.6	26.5	27.4
Max	40	404	1,900	582	2,430	1,060	170	172	90	35	30	32
Min	27	32	41	45	52	91	99	89	36	26	25	25
c-ft	1,990	3,740	13,280	5,870	27,040	11,030	7,230	7,130	3,560	1,820	1,630	1,630

alendar year 1961: Max 1,900 Min 27 Mean 102 Ac-ft 74,050
ater year 1961-62: Max 2,430 Min 25 Mean 119 Ac-ft 85,950

Peak discharge (base, 2,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-1	1000	10.06	4,160	2-15	0130	10.32	4,600
2-20	2300	9.31	3,130				

* Discharge measurement made on this day.

a No gage-height record.

11-3795. Elder Creek near Paskenta, Calif.

Location.--Lat 40°01'30", long 122°30'30", in NW $\frac{1}{4}$ sec. 14, T.25 N., R.6 W., on right bank 2.5 miles downstream from South Fork, 8 miles northeast of Flournoy, and 11 miles north of Paskenta.

Drainage area.--95.8 sq mi.

Records available.--October 1948 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

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

Average discharge.--14 years, 92.9 cfs (67,260 acre-ft per year); median of yearly mean discharges, 63 cfs (45,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,840 cfs Mar. 5 (gage height, 9.52 ft); minimum daily, 0.3 cfs Sept. 9.

1948-62: Maximum discharge, 11,700 cfs Feb. 24, 1958 (gage height, 13.90 ft), from rating curve extended above 2,200 cfs on basis of slope-area measurements at gage heights 10.97 and 13.90 ft; no flow Aug. 6, Aug. 14 to Sept. 16, 1950, Aug. 16, 1959.

Remarks.--Records good. No regulation or large diversion above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 13

Feb. 13 to Sept. 30

2.33	1.1	3.8	103	2.23	0.3	3.0	17
2.4	1.5	4.1	162	2.3	0.7	3.3	37
2.5	2.9	4.5	254	2.4	1.4	3.7	76
2.6	4.9	5.0	390	2.5	2.2	4.2	158
2.7	7.6	6.0	765	2.6	3.4	5.0	355
2.9	15	7.0	1,330	2.7	5.3	6.0	750
3.2	31	8.0	2,170	2.8	8.0	7.0	1,330
3.5	58						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	2.5	529	14	17	147	154	49	18	5.3	1.0	0.5
2	1.1	2.7	187	13	17	95	158	48	16	4.6	.9	.4
3	1.1	2.6	55	13	16	74	154	* 47	16	4.7	1.0	.4
4	1.1	2.9	33	13	15	68	164	46	16	4.4	1.4	.4
5	* 1.1	2.5	26	* 12	15	1,060	170	43	* 16	4.2	2.0	.5
6	1.1	2.5	21	12	* 18	844	168	43	14	4.0	2.0	.5
7	1.1	2.5	19	13	125	422	174	42	13	3.8	2.1	.5
8	1.1	2.7	17	13	442	250	176	42	12	3.8	6.1	.4
9	1.1	2.7	16	13	594	196	168	42	12	3.6	2.1	.3
10	1.3	2.9	15	13	316	160	* 138	41	12	3.4	6.1	.4
11	1.6	3.1	13	12	220	135	120	40	11	3.3	3.6	*.6
12	2.3	3.1	13	13	* 329	114	126	37	11	* 32	2.9	.6
13	2.1	2.9	13	13	1,440	* 101	138	36	11	3.0	2.4	.7
14	1.8	2.9	13	11	584	95	142	38	16	2.9	2.0	.8
15	1.6	3.1	12	11	797	90	129	36	23	2.4	1.8	.8
16	1.5	2.9	12	11	* 340	89	114	32	15	2.2	1.5	.6
17	1.4	3.1	12	11	198	106	106	30	12	2.1	1.3	.5
18	1.4	3.3	12	11	259	93	* 101	29	11	2.2	1.3	.5
19	1.4	3.7	18	93	190	90	95	29	10	2.1	1.3	.8
20	1.6	* 5.5	30	121	144	95	82	27	8.8	2.0	1.0	.8
21	1.9	4.9	44	34	116	90	74	26	7.7	1.8	1.0	.8
22	2.0	4.5	* 30	b 26	98	96	69	25	7.5	1.6	.9	.8
23	2.0	4.9	25	b 26	86	84	69	24	6.9	1.5	.9	.8
24	2.0	4.6	23	b 21	77	79	69	25	6.9	1.4	.7	.7
25	2.0	13.4	22	20	70	77	66	25	6.6	1.4	.7	.7
26	2.3	4.1	19	18	62	89	62	29	6.1	1.3	.6	.7
27	2.5	2.1	18	18	57	106	63	26	6.1	1.1	.6	1.0
28	2.5	1.5	16	17	* 62	131	63	23	5.8	1.2	.6	1.6
29	2.5	4.4	16	17	-	153	56	22	5.8	1.3	.6	1.9
30	2.3	10.9	15	17	-----	149	51	21	5.8	1.2	.7	2.0
31	2.3	-----	15	17	-----	145	-----	19	-----	1.1	.6	-----
Total	52.2	484.7	1,309	667	6,704	5,523	3,419	1,042	339	82.4	70.6	22.0
Mean	1.68	16.2	42.2	21.5	239	178	114	33.6	11.3	2.66	2.28	0.73
Max	2.5	134	529	121	1,440	1,060	176	49	23	5.3	21	2.0
Min	1.1	2.5	12	11	15	68	51	19	5.8	1.1	0.6	0.3
Ac-ft	104	961	2,600	1,320	13,300	10,950	6,780	2,070	672	163	140	44

Calendar year 1961: Max 1,200 Min 0.8 Mean 48.5 Ac-ft 35,100
 Water year 1961-62: Max 1,440 Min 0.3 Mean 54.0 Ac-ft 39,100

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	1230	6.82	1,210	3-5	2030	9.52	3,840
2-13	1000	9.33	3,610				

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER BASIN

11-3805. Elder Creek at Gerber, Calif.

Location.--Lat 40°03'05", long 122°09'53" (revised), in Saucos Grant, on right bank 1.0 mile west of Gerber, Tehama County, and 3.5 miles upstream from mouth. Prior to Oct. 1, 1961, at site 150 ft upstream.

Drainage area.--142 sq mi.

Records available.--October 1949 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 232.14 ft above mean sea level (from Bureau of Reclamation bench mark). Prior to Oct. 1, 1961, at site about 150 ft upstream, at datum 4.32 ft higher.

Average discharge.--13 years, 99.0 cfs (71,670 acre-ft per year); median of yearly mean discharges, 66 cfs (48,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,000 cfs Mar. 6 (gage height, 10.02 ft), from rating curve extended above 1,600 cfs; no flow for several months.

1949-62: Maximum discharge, 11,000 cfs Feb. 19, 1958 (gage height, 14.40 ft, site and datum then in use); no flow for several months each year.

Remarks.--Records good except those for periods of doubtful gage-height record and those for Feb. 9-12, which are fair. Many diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	31.9	5.2	1.0	12.7	14.2	4.2	9.0	1.0		
2		0	*41.1	5.0	1.0	12.5	15.0	*4.1	7.3	1.0		
3		0	5.5	4.4	9.0	7.6	14.6	3.9	5.0	1.2	(*)	
4		0	2.9	*4.2	9.4	6.0	14.6	3.8	*5.0	1.7		
5		0	1.6	4.0	9.8	8.73	*16.1	3.4	6.6	.5		
6		0	1.1	3.8	9.0	1.930	15.0	3.0	6.6	.3		
7		0	1.0	3.8	8.4	7.61	15.7	3.0	6.2	.3		
8		0	1.0	4.0	4.89	3.42	15.7	2.9	5.2	.2		
9		0	6.4	4.7	*8.44	2.62	15.7	2.9	3.8	.1		
10		0	6.4	3.6	3.74	1.95	13.9	2.8	2.4	.3		
11		0	8.8	3.4	4.49	15.7	11.3	3.0	1.7	*.4		(*)
12		0	6.2	4.2	*33.8	13.6	11.0	3.1	*1.7	.3		
13		0	5.2	4.0	2.010	*11.8	12.8	2.7	1.7	.2		
14		0	5.4	3.4	9.69	*10.4	13.2	2.4	3.1	.1		
15		0	5.4	3.0	1.680	9.6	12.8	2.4	4.1	0		
16		0	4.0	2.6	5.60	*9.1	11.0	2.2	9.5	0		
17		0	4.0	2.6	2.94	10.5	10.5	*1.9	5.5	.1		
18		0	3.8	2.6	3.73	10.2	*9.8	1.7	2.8	.5		
19		0	4.7	6.2	*28.4	9.1	9.6	1.7	*2.1	0		
20		*0	1.0	1.86	1.78	9.1	8.6	1.4	2.1	0		
21		0	*4.3	1.1	1.35	9.1	7.9	1.3	1.7	0		
22		0	3.6	5.0	11.0	9.4	7.1	1.3	1.4	0		
23		0	2.4	3.0	9.4	8.7	6.7	1.2	1.4	0		
24		0	1.7	2.8	8.5	8.0	6.5	1.2	1.2	0		
25		0	1.4	2.6	7.6	7.6	6.2	*1.4	1.7	0		
26		0	1.1	3.8	6.0	7.9	*5.5	1.7	1.4	.2		
27		*0	*9.4	6.0	*6.4	*8.7	5.5	1.8	*1.4	0		
28		0	7.8	1.0	*6.5	11.0	5.7	1.5	2.1	0		
29		0	6.7	1.4	-	13.9	5.2	1.3	1.4	0		
30	(*)	*3.0	6.0	1.2	-----	14.6	4.6	1.2	1.2	0		
31		-----	5.4	*1.0	-----	14.2	-----	1.0	-----	0		
Total	0	3.0	1.110.6	340.9	9.681.0	6,980	3,219	714	108.0	8.4	0	0
Mean	0	1.00	35.8	11.0	346	225	107	23.0	3.60	0.27	0	0
Max	0	30	411	186	2,010	1,930	161	42	9.5	1.7	0	0
Min	0	0	3.8	2.6	8.8	68	46	10	1.2	0	0	0
Ac-ft	0	59.5	2,200	676	19,200	13,840	6,380	1,420	214	16.7	0	0

Calendar year 1961: Max 1,370 Min 0 Mean 48.7 Ac-ft 35,290
 Water year 1961-62: Max 2,010 Min 0 Mean 60.8 Ac-ft 44,010

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1100	7.66	1,570	3-6	0030	10.02	5,000
2-13	1400	9.57	4,170				

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

Note.--Doubtful gage-height record Dec. 3-21, Jan. 20-31, Mar. 8-14.

SACRAMENTO RIVER BASIN

789

11-3815. Mill Creek near Los Molinos, Calif.

Location.--Lat 40°03'17", long 122°01'23", in NE 1/4 sec. 6, T.25 N., R.1 W., on right bank 4 1/2 miles northeast of Los Molinos and 5.5 miles upstream from mouth.

Drainage area.--134 sq mi.

Records available.--September 1909 to August 1913 (fragmentary), October 1928 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 380 ft (from topographic map). September 1909 to September 1913 staff gage at site 0.3 mile downstream at different datum.

Average discharge.--34 years (1928-62), 287 cfs (207,800 acre-ft per year).

Extremes.--Maximum discharge during year, 4,500 cfs Feb. 15 (gage height, 8.60 ft); minimum, 85 cfs Sept. 19.
1928-62: Maximum discharge, about 23,000 cfs Dec. 11, 1937 (gage height, 23.4 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of slope-area studies; minimum, 49 cfs Dec. 13, 1932.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 9

May 10 to Sept. 30

1.2 82
2.0 272
3.0 530
4.0 925
5.0 1,430
6.5 2,560

1.1 78
1.5 154
2.0 268
3.0 540

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	98	1,960	138	150	210	298	360	365	189	109	91
2	87	98	*1,260	138	150	210	313	*400	380	185	109	91
3	87	96	385	135	150	200	315	438	388	178	109	91
4	*87	96	236	*135	150	193	342	464	*341	176	116	91
5	87	94	186	130	150	394	*360	462	310	172	112	91
6	87	91	164	130	169	1,220	380	464	310	169	109	91
7	87	91	157	130	313	518	400	459	315	165	109	91
8	87	94	152	135	443	376	420	475	318	161	109	91
9	87	91	145	135	1,560	322	440	497	331	158	110	89
10	89	94	140	135	1,410	279	420	435	341	156	110	89
11	98	94	133	135	804	262	380	393	328	154	107	89
12	100	94	130	135	1,380	234	400	383	318	152	105	*91
13	94	91	130	135	2,250	217	420	375	310	148	103	89
14	91	91	128	130	2,000	207	440	328	310	146	101	89
15	89	*91	126	125	2,190	200	480	310	313	142	100	89
16	89	91	123	125	1,080	195	460	315	300	140	100	87
17	89	89	126	120	679	186	420	318	297	136	100	87
18	89	89	133	140	565	176	400	341	295	136	100	87
19	89	94	188	250	486	174	400	334	282	132	100	89
20	91	100	494	700	397	178	360	302	280	130	98	91
21	98	96	443	350	339	181	320	282	270	126	96	91
22	96	96	289	220	296	269	300	308	266	124	96	89
23	94	103	224	190	274	234	340	347	256	*122	96	89
24	94	121	195	195	258	210	360	305	242	120	94	87
25	94	243	176	180	238	200	360	280	230	118	94	87
26	98	222	164	170	214	207	340	287	222	118	94	87
27	105	162	157	160	198	217	360	266	213	114	94	91
28	123	128	154	160	*202	241	380	302	205	114	92	98
29	100	320	150	155	-	258	340	331	198	112	94	112
30	98	537	145	150	-----	277	320	360	194	112	92	98
31	96	-----	140	150	-----	282	-----	378	-----	110	92	-----
Total	2,889	3,895	8,733	5,416	18,495	8,527	11,268	11,299	8,728	4,415	3,150	2,723
Mean	93.2	130	282	175	661	275	376	364	291	142	102	90.8
Max	123	537	1,960	700	2,250	1,220	480	497	388	189	116	112
Min	87	89	123	120	150	174	298	266	194	110	92	87
Ac-ft	5,730	7,730	17,320	10,740	36,680	16,910	22,350	22,410	17,310	8,760	6,250	5,400

Calendar year 1961: Max 2,220 Min 87 Mean 241 Ac-ft 174,400
Water year 1961-62: Max 2,250 Min 87 Mean 245 Ac-ft 177,600

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1530	7.54	3,470	2-12	2130	6.80	2,800
1-20	unknown	5.50	1,770	2-15	0130	8.60	4,500
2-9	2200	5.81	2,010	3-6	0100	5.99	2,150

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 4 to Feb. 5, Apr. 5 to May 2.

SACRAMENTO RIVER BASIN

11-3820. Thomas Creek at Paskenta, Calif.

Location.--Lat 39°52'55", long 122°33'05", in NW $\frac{1}{4}$ sec. 4, T.23 N., R.6 W., on left bank 0.25 mile upstream from Digger Creek and 0.3 mile upstream from highway bridge at Paskenta.

Drainage area.--188 sq mi.

Records available.--October 1920 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Published as Thomas Creek at Paskenta prior to 1943.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 750 ft (from topographic map). Prior to Oct. 1, 1930, staff gage at site 0.3 mile downstream at different datum. Oct. 1, 1930, to Dec. 28, 1938, water-stage recorder at site 1,300 ft upstream and Dec. 29, 1938, to June 20, 1942, at site 1,000 ft upstream at different datums. June 21, 1942, to Sept. 30, 1959, at datum 1.75 ft higher.

Average discharge.--42 years, 265 cfs (191,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,330 cfs Feb. 9 (gage height, 6.14 ft); minimum daily, 1.1 cfs Sept. 26. 1921-62: Maximum discharge, 23,500 cfs Dec. 21, 1955 (gage height, 13.89 ft, present datum), from rating curve extended above 11,000 cfs; no flow at times in many years.

Remarks.--Records good except those for periods of ice effect, which are fair. No storage or large diversions above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 15				Feb. 15 to Apr. 8		Apr. 9 to Sept. 30			
3.36	1.8	3.9	39	4.3	140	3.3	0.3	4.1	49
3.4	2.2	4.1	79	4.7	310	3.4	1.3	4.3	98
3.5	5.6	4.4	164	5.2	600	3.5	3.8	4.6	223
3.6	10	4.8	335	6.0	1,200	3.6	7.6	5.0	450
3.7	16	5.3	650			3.8	18	5.5	795
3.8	25	5.8	1,030			4.0	34	6.0	1,200

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.7	4.4	4 35	7 2	1 38	1 75	9 44	2 59	1 27	2 2	3 8	2 0
2	3.7	4.4	1 96	7 0	1 35	1 61	9 52	2 75	1 30	2 1	3 6	1 8
3	a 3.7	4.0	1 10	7 0	1 26	1 47	9 28	* 2 97	1 30	1 9	3 6	1 8
4	a 3.1	3.7	7 5	7 2	1 15	1 40	1 020	3 08	1 16	1 9	3 8	1 8
5	* 2.2	3.7	6 4	* 6 6	1 07	4 76	1 080	2 75	* 1 02	1 8	4 6	1 8
6	2.1	3.7	6 4	6 4	* 1 21	5 17	1 070	2 86	9 5	1 6	4 9	2 0
7	2.0	3.4	5 5	8 6	3 15	3 72	1 110	2 65	9 2	1 5	5 3	2 0
8	1.9	3.4	5 2	8 9	5 48	2 75	1 120	2 75	9 0	1 5	8 1	2 3
9	1.9	3.4	4 8	8 9	8 78	2 70	1 060	2 65	9 2	1 4	7 6	1 6
10	2.0	3.4	4 4	8 2	8 51	2 42	* 8 25	2 39	9 2	1 4	1 8	1 6
11	2.2	4.0	3 8	7 0	5 67	2 20	7 28	2 18	9 0	1 3	1 4	* 1 6
12	2.8	3.7	3 5	6 6	4 63	1 95	8 10	1 95	8 1	* 1 2	1 1	1 8
13	3.1	3.7	3 2	6 4	9 76	* 1 91	8 78	1 85	7 8	1 3	8 5	2 0
14	2.8	3.7	3 1	b 4 8	8 09	1 95	8 70	1 76	7 6	1 2	7 2	2 0
15	2.5	4.0	2 9	b 4 1	9 86	1 95	7 80	1 72	8 1	1 1	6 8	2 0
16	2.1	4.0	2 6	b 4 1	* 6 21	2 03	6 64	1 55	6 8	1 0	5 7	1 8
17	1.9	4.4	2 6	b 3 9	4 56	2 15	6 01	1 47	6 4	1 0	4 9	1 6
18	1.8	4.4	3 5	4 3	4 26	2 03	* 5 60	1 59	6 0	9 5	4 9	1 6
19	2.0	4.8	7 3	1 04	3 40	2 28	5 28	1 59	5 5	9 5	4 2	1 8
20	2.0	* 7.8	6 67	2 81	3 00	2 60	4 32	1 42	5 3	9 0	3 8	1 6
21	2.0	6.9	* 7 00	b 1 15	2 51	2 51	3 84	1 34	4 8	8 1	3 8	1 6
22	2.0	7.4	2 36	b 8 2	2 28	2 75	3 78	1 34	4 4	7 2	3 8	1 3
23	2.0	7.8	1 61	b 7 5	2 28	2 42	4 08	1 38	4 2	6 8	3 6	1 2
24	2.1	57	1 42	b 6 8	2 20	2 28	4 26	1 30	3 8	6 1	3 3	1 2
25	3.1	2 08	1 26	7 5	1 95	2 38	3 84	1 23	3 3	6 1	3 0	1 2
26	3.4	1 15	1 07	7 5	1 79	3 90	3 48	1 23	3 0	5 3	2 6	1 1
27	3.4	8 4	9 4	8 2	1 54	5 28	3 72	1 23	2 8	4 9	2 3	1 8
28	3.7	5 2	8 6	8 6	* 1 72	7 26	4 26	1 23	2 6	4 9	2 3	3 0
29	6.9	6 1	8 4	1 02	-	8 88	3 24	1 27	2 4	4 9	2 3	2 8
30	6.5	1 42	8 2	1 26	-----	9 20	2 86	1 38	2 3	4 6	2 3	3 0
31	4.8	-----	7 7	1 38	-----	9 04	-----	1 30	-----	4 2	2 0	-----
Total	89.4	823.1	403.0	2,581	1,090.5	1,047.0	2,069.6	5,875	2,108	3,451	2,340	54.7
Mean	2.88	27.4	130	83.3	389	338	690	190	70.3	11.1	7.55	1.82
Max	6.9	208	700	281	986	920	1,120	308	130	22	76	3.0
Min	1.8	3.4	26	39	107	140	286	123	23	4.2	2.0	1.1
Ac-ft	177	1,630	7,990	5,120	21,630	20,770	41,050	11,650	4,180	684	464	108

Calendar year 1961: Max 2,900 Min 1.6 Mean 176 Ac-ft 127,800
 Water year 1961-62: Max 1,120 Min 1.1 Mean 159 Ac-ft 115,500

Peak discharge (base, 1,600 cfs).--No peaks above base.

* Discharge measurement made on this day.

a No gage-height record.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER BASIN

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11-3820. Thomas Creek at Paskenta, Calif.--Continued.

Records available.--Water temperatures: October 1961 to September 1962.

Extremes.--Maximum temperature during year, 88°F July 25-27; minimum, 33°F Jan. 15, 16, 21-24, Feb. 27.

Temperature (°F) of water, water year October 1961 to September 1962																								
Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	-	-	55	49	48	46	43	40	46	40	46	36	50	46	61	53	70	60	82	70	86	74	80	71
2	-	-	56	47	47	45	43	39	46	40	45	39	50	46	64	55	71	62	82	70	85	75	80	72
3	-	-	55	48	45	44	43	41	46	40	45	39	51	46	65	56	67	57	83	72	80	73	80	72
4	-	-	57	49	45	42	42	38	46	40	45	40	51	47	62	54	69	57	84	72	76	71	79	72
5	-	-	56	48	44	41	42	37	45	40	45	44	50	46	63	53	71	58	84	73	81	69	79	72
6	-	-	55	46	43	40	45	39	44	42	46	44	51	47	60	55	71	59	84	72	81	70	79	72
7	-	-	55	46	41	39	47	42	47	43	49	45	52	47	64	55	71	61	84	73	75	70	78	71
8	-	-	55	46	40	39	47	41	46	44	52	44	53	47	63	56	74	61	84	73	73	70	76	69
9	-	-	54	46	39	37	47	40	45	44	48	41	50	45	57	53	76	64	84	74	71	65	74	67
10	-	-	51	46	37	36	45	40	45	44	50	41	51	46	56	52	76	65	83	74	76	68	74	68
11	-	-	52	44	36	35	42	37	46	45	49	42	52	45	59	52	76	65	84	73	78	71	75	68
12	-	-	53	46	37	36	41	40	45	44	50	41	53	47	59	53	76	65	83	71	81	73	75	69
13	-	-	53	44	37	37	40	37	45	43	50	40	53	49	57	54	74	66	83	72	81	73	74	67
14	-	-	52	44	38	37	39	34	44	42	47	41	53	49	59	52	72	65	83	72	82	74	75	68
15	-	-	51	44	38	37	38	33	45	43	46	43	53	49	59	52	75	63	82	71	85	74	77	69
16	-	-	47	39	38	37	38	33	45	43	47	43	54	49	63	51	77	66	84	71	84	74	76	69
17	-	-	47	39	39	38	39	34	45	42	52	44	55	49	66	55	79	67	86	74	83	73	77	70
18	-	-	47	41	39	38	39	37	44	43	52	42	54	51	67	57	81	69	85	75	83	73	76	69
19	-	-	43	42	40	39	41	39	46	42	49	43	53	50	62	56	81	70	86	74	83	72	73	66
20	-	-	48	42	45	40	41	37	43	42	46	45	54	47	64	53	83	71	86	73	83	72	73	66
21	-	-	48	41	45	43	37	33	47	40	46	43	57	48	66	54	82	70	87	73	82	73	74	66
22	-	-	47	45	43	41	33	33	47	40	49	44	59	51	64	56	82	71	86	74	84	73	74	67
23	-	-	50	47	44	41	35	33	44	40	49	41	60	54	61	56	81	71	87	74	82	73	75	67
24	-	-	49	49	43	41	39	33	44	38	49	43	59	52	62	54	82	71	87	76	82	73	75	67
25	58	55	49	48	43	41	43	36	42	37	56	45	58	51	61	56	81	70	88	75	83	73	74	68
26	60	55	49	48	43	40	42	38	41	34	52	46	58	51	66	57	80	67	88	76	82	73	73	68
27	59	54	49	47	43	40	44	37	40	33	51	45	56	52	69	56	81	69	88	77	79	70	72	64
28	57	50	48	45	43	40	44	38	36	35	50	45	54	49	69	60	81	71	87	77	80	70	64	63
29	54	46	48	47	43	41	45	40	-----	-----	49	45	56	47	71	61	81	70	86	75	78	70	68	61
30	56	47	49	47	43	41	44	39	-----	-----	49	45	58	49	70	59	82	71	86	75	77	69	72	62
31	59	49	-----	-----	42	39	45	40	-----	-----	49	45	-----	-----	72	60	-----	-----	87	75	79	69	-----	-----
Avg	-	-	51	45	42	40	42	37	44	41	49	43	54	48	63	55	77	66	85	73	80	72	75	68

SACRAMENTO RIVER BASIN

11-3825.5. Deer Creek below Slate Creek, near Deer Creek Meadows, Calif.

Location.--Lat 40°14'00", long 121°27'50", in NE 1/4 sec. 1, T. 27 N., R. 4 E., on right bank 0.4 mile downstream from Slate Creek and 15 miles southwest of Chester.

Drainage area.--69.4 sq mi.

Records available.--August 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,300 ft (from topographic map).

Extremes.--1961: Maximum discharge during period August to September, 71 cfs Aug. 8 (gage height, 2.69 ft); minimum, 40 cfs Sept. 3, 8, 12, 15, 25, 26, 27, 28, 29, 30.

1961-62: Maximum discharge during water year, 463 cfs Feb. 9 (gage height, 4.12 ft); minimum, 37 cfs Nov. 17, Sept. 17.

Remarks.--Records excellent except those for period of ice affect, which are fair. No storage or diversion above station.

Rating table, except period of ice effect (gage height, in feet,
and discharge, in cubic feet per second)

2.3	31
2.7	72
3.1	140
3.5	235
4.0	415

Discharge, in cubic feet per second, 1961

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	45	43	6	46	42	11	46	41	16	45	45	21	44	43	26	43	41
2	*45	42	7	47	42	12	46	41	17	44	47	22	44	42	27	44	41
3	43	42	8	55	42	13	46	41	18	44	45	23	*43	42	28	46	41
4	43	42	9	55	42	14	45	42	19	45	44	24	43	41	29	47	41
5	44	42	10	47	41	15	45	42	20	46	43	25	43	41	30	45	41
															31	43	
Total																	1,407
Mean																	45.4
Max																	55
Min																	43
Runoff in acre-feet																	2,790

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	43	73	51	52	71	174	235	106	59	45	41
2	40	43	66	50	53	70	185	247	106	58	44	40
3	41	43	64	50	53	67	198	253	104	57	46	41
4	41	43	60	50	54	66	223	256	99	56	48	40
5	41	42	58	49	55	68	250	250	96	55	47	40
6	41	42	56	50	59	73	*272	241	94	55	46	40
7	41	43	54	52	94	70	293	235	89	55	46	40
8	41	43	52	54	140	70	318	235	89	54	47	40
9	41	43	50	57	269	70	324	232	89	53	51	39
10	*42	43	49	57	282	67	293	*205	86	52	48	39
11	48	44	45	52	176	66	293	192	83	52	46	40
12	44	43	49	54	156	64	310	185	*83	51	46	40
13	42	42	48	49	164	64	335	178	83	50	45	39
14	42	42	48	47	176	64	371	170	100	51	44	38
15	42	*43	48	48	198	*65	379	164	99	50	44	39
16	41	42	47	47	162	64	*351	158	85	50	44	38
17	41	42	49	47	134	64	324	152	79	49	43	38
18	41	43	48	49	120	64	310	150	76	49	44	38
19	41	43	57	49	109	68	296	144	72	*49	44	38
20	45	45	*92	49	100	71	256	134	71	48	43	38
21	45	44	120	b 49	94	71	250	130	70	48	43	38
22	44	48	82	b 49	89	72	262	128	67	47	43	38
23	44	55	70	b 49	88	68	279	126	66	47	*42	38
24	44	56	64	50	83	66	290	122	66	46	42	38
25	43	82	60	49	76	70	279	124	64	49	43	38
26	46	70	57	49	70	83	262	134	62	49	41	39
27	60	61	55	49	70	102	296	120	61	48	41	41
28	53	52	53	49	70	122	343	115	60	46	41	48
29	45	55	52	*49	-	132	262	113	59	46	41	50
30	44	89	51	50	-----	146	241	111	58	45	41	43
31	43	-----	51	51	-----	160	-----	109	-----	45	41	-----
Total	1,347	1,469	1,828	1,554	3,246	2,438	8,519	5,348	2,422	1,569	1,370	1,197
Mean	43.5	49.0	59.0	50.1	116	78.6	284	173	80.7	50.6	44.2	39.9
Max	60	89	120	57	282	160	379	256	106	59	51	50
Min	40	42	45	47	52	64	174	109	58	45	41	38
Ac-ft	2,670	2,910	3,630	3,080	6,440	4,840	16,900	10,610	4,800	3,110	2,720	2,370

Calendar year 1961: Max - - Min - Mean - Ac-ft -
Water year 1961-62: Max 379 Min 38 Mean 88.5 Ac-ft 64,080

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1900	4.12	463	4-27	2000	4.10	455
4-14	2000	4.07	443				

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

11-3835. Deer Creek near Vina, Calif.

Location.--Lat 40°00'50", long 121°56'50", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.23, T.25 N., R.1 W., on left bank 0.5 mile upstream from concrete diversion dam and 7.9 miles northeast of Vina.

Drainage area.--200 sq mi.

Records available.--October 1911 to December 1915, March 1920 to December 1937, January 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 479.5 ft above mean sea level (river-profile survey). Prior to Oct. 9, 1928, staff gage at site 0.8 mile downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, water-stage recorder at present site at datum 2.64 ft higher.

Average discharge.--44 years, 300 cfs (217,200 acre-ft per year).

Extremes.--Maximum discharge during year, 6,370 cfs Feb. 15 (gage height, 9.43 ft); minimum daily, 73 cfs Sept. 19. 1911-15, 1920-37, 1939-62: Maximum discharge, 23,800 cfs Dec. 10, 1937 (gage height, 19.2 ft, present datum, from floodmarks), from rating curve extended above 7,000 cfs on basis of velocity-area studies; minimum, 43 cfs Dec. 13, 1932.

Remarks.--Records excellent. No storage or large diversions above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 1

Dec. 2 to Sept. 30

2.3	62	2.3	60
2.6	114	2.6	120
3.0	209	3.0	214
3.5	365	3.5	365
4.0	565	4.0	585
5.0	1,160	5.0	1,180
6.0	1,970	6.0	1,970
7.0	2,970	7.5	3,560

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	85	2,510	118	133	235	409	401	206	116	85	75
2	75	85	* 1,540	116	133	246	421	* 405	204	112	85	75
3	76	85	477	114	131	230	429	421	204	112	85	77
4	* 76	83	257	* 112	131	219	454	433	* 202	110	91	77
5	76	83	194	110	* 129	618	* 499	437	192	107	91	77
6	76	81	167	110	133	1,930	522	429	184	107	89	77
7	76	83	149	112	281	902	555	417	179	105	87	77
8	76	83	138	114	574	615	595	417	175	105	89	75
9	78	83	129	116	2,140	508	620	429	172	103	93	75
10	80	83	122	118	2,020	425	560	389	172	103	95	75
11	83	85	116	114	1,020	377	526	354	167	103	89	75
12	88	83	114	114	1,500	327	535	340	163	101	87	* 77
13	83	83	114	114	3,490	295	585	334	160	101	85	75
14	81	83	112	103	2,690	280	620	311	177	99	83	75
15	80	* 83	110	105	3,500	262	674	295	189	97	81	75
16	80	83	107	105	1,920	254	625	289	172	97	79	75
17	80	81	120	101	1,110	243	570	274	160	97	79	75
18	80	83	124	105	878	232	545	268	151	95	81	75
19	80	85	149	500	706	232	560	262	147	95	79	73
20	81	92	274	764	560	237	494	254	140	93	79	75
21	85	90	289	277	458	235	441	243	135	93	79	75
22	85	90	235	184	389	428	441	237	133	91	79	75
23	83	97	194	163	351	344	468	237	131	* 91	79	75
24	83	108	175	165	320	311	499	232	129	91	77	75
25	83	206	160	158	289	295	494	232	124	89	77	75
26	85	206	149	147	260	298	468	243	122	93	77	75
27	90	137	140	140	237	308	481	235	120	91	77	77
28	106	112	133	138	* 237	337	640	219	120	89	77	85
29	92	300	129	135	-	354	486	219	118	89	77	97
30	85	599	124	135	-----	373	425	217	116	87	77	89
31	85	-----	120	133	-----	385	-----	212	-----	87	75	-----
Total	2,543	3,620	8,671	5,040	2,5720	12,335	15,641	9,685	4,764	3,049	2,563	2,308
Mean	82.3	121	280	163	919	398	521	312	159	98.4	82.7	76.9
Max	106	599	2,310	764	3,500	1,930	674	437	206	116	95	97
Min	75	81	107	101	129	219	409	212	116	87	75	73
Ac-ft	5,040	7,180	17,200	10,000	51,010	24,470	31,020	19,210	9,450	6,050	5,080	4,580

Calendar year 1961: Max 2,350 Min 75 Mean 221 Ac-ft 160,000

Water year 1961-62: Max 3,500 Min 73 Mean 263 Ac-ft 190,300

Peak discharge (base, 2,500 cfs)

	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1430	8.02	4,230	2-15	0130	9.43	6,370
2-9	2200	6.85	2,800	3-5	2400	6.94	2,900

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3840. Big Chico Creek near Chico, Calif.

Location.--Lat 39°46'35", long 121°45'10", in Arroyo Chico Grant, on right bank 1.8 miles upstream from golf clubhouse in Bidwell Park, 2.6 miles upstream from Lindo Channel, and 7 miles northeast of Chico, Butte County.

Drainage area.--67.9 sq mi.

Records available.--May 1930 to September 1962. Prior to October 1952, published as Chico Creek near Chico.

Gage.--Water-stage recorder. Altitude of gage is 300 ft (from topographic map). Prior to Oct. 1, 1955, at site 0.6 mile downstream at different datums.

Average discharge.--32 years, 139 cfs (100,600 acre-ft per year); median of yearly mean discharges, 110 cfs (79,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,720 cfs Feb. 13 (gage height, 10.03 ft); minimum, 19 cfs Oct. 3, 5.

1930-62: Maximum discharge, 8,260 cfs Dec. 10, 1937 (gage height, 16.6 ft, site and datum then in use), from rating curve extended above 5,000 cfs on basis of rating at cable gage and velocity-area studies; minimum, 10 cfs Dec. 11, 1932, Aug. 15, 1939, Sept. 18, 1947.

Remarks.--Records good. No storage or large diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.1	20	3.5	270
2.3	37	4.0	440
2.6	74	6.0	1,380
3.0	142	9.0	3,080

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	24	1,060	44	55	151	163	61	37	28	23	21
2	21	25	868	41	54	170	156	59	35	28	23	21
3	20	25	276	40	52	156	154	58	35	28	23	21
4	21	24	147	38	48	144	144	54	35	27	24	21
5	21	24	98	37	48	279	138	53	35	26	25	21
6	22	24	75	37	49	1,370	134	52	34	26	24	21
7	22	24	61	36	129	* 830	130	50	34	26	24	21
8	22	24	55	35	369	536	130	48	33	26	24	22
9	22	24	49	35	1,320	426	128	50	32	26	26	22
10	22	25	45	34	* 1,160	352	120	48	32	26	26	21
11	* 22	25	42	33	658	294	111	48	32	26	25	21
12	24	25	40	35	719	246	104	48	32	26	24	21
13	22	25	38	35	2,810	218	101	49	* 32	26	25	22
14	22	* 24	38	33	2,000	200	98	48	37	24	24	22
15	21	24	37	32	2,310	185	96	48	36	24	22	22
16	21	24	35	32	* 1,340	172	91	49	36	24	22	21
17	22	24	49	32	840	160	88	46	35	* 24	22	* 21
18	22	24	55	33	632	147	* 84	45	34	24	22	20
19	22	24	* 80	344	512	142	91	44	33	24	20	21
20	22	27	170	711	405	142	94	45	32	24	21	21
21	23	27	185	270	324	138	85	40	32	23	21	22
22	23	27	136	* 151	270	* 235	80	40	31	23	* 21	25
23	23	28	104	113	235	258	75	41	30	23	21	22
24	24	33	85	94	212	230	73	41	30	23	21	22
25	24	76	74	81	190	215	71	42	29	23	20	22
26	24	87	66	74	165	200	68	44	28	24	20	22
27	25	59	59	66	147	190	70	44	28	24	20	22
28	26	39	54	63	140	182	77	41	28	23	21	24
29	25	85	49	60	-	180	68	40	28	23	21	26
30	24	269	47	60	-----	175	64	39	28	23	21	25
31	24	-----	45	58	-----	168	-----	37	-----	23	21	-----
Total	699	1,219	4,222	2,787	17,193	8,491	3,086	1,452	973	768	697	656
Mean	22.5	40.6	136	89.9	614	274	103	46.8	32.4	24.8	22.5	21.9
Max	26	269	1,060	711	2,810	1,370	163	61	37	28	26	26
Min	20	24	35	32	48	138	64	37	28	23	20	20
Ac-ft	1,390	2,420	8,370	5,530	34,100	16,840	6,120	2,880	1,930	1,520	1,380	1,300

Calendar year 1961: Max 1,290 Min 20 Mean 81.2 Ac-ft 58,800
 Water year 1961-62: Max 2,810 Min 20 Mean 116 Ac-ft 83,780

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1500	6.77	1,800	2-13	1500	10.03	3,720
2-9	1300	6.63	1,730				

* Discharge measurement made on this day.

11-3870. Stony Creek near Fruto, Calif.

Location.--Lat 39°40'15", long 122°31'05", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.15, T.21 N., R.6 W., on right bank 0.3 mile downstream from Grindstone Creek and 6.5 miles northwest of Fruto.

Drainage area.--598 sq mi.

Records available.--January 1901 to October 1912, October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 600 ft (from topographic map). Prior to Oct. 6, 1912, staff gage at site 1.0 mile downstream at different datum.

Average discharge.--13 years, 694 cfs (502,400 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 6,910 cfs Mar. 6 (gage height, 8.98 ft); minimum, 2.9 cfs Oct. 29.

1901-12, 1960-62: Maximum discharge observed, 36,000 cfs Feb. 2, 1909 (gage height, 16.3 ft, site and datum then in use); no flow July 5-13, Oct. 25, 26, 1901.

Remarks.--Records good. Many diversions above station for irrigation. Flow regulated by East Park Reservoir beginning in 1910 (usable capacity, 50,600 acre-ft) and by Stony Gorge Reservoir beginning in 1928 (usable capacity, 50,100 acre-ft).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 11-25)

Oct. 1 to Mar. 6

Mar. 6 to Sept. 30

2.2	2.6	3.5	235	2.2	24	4.0	660
2.3	5.7	4.0	440	2.5	80	5.0	1,320
2.4	10	5.0	1,060	2.8	155	6.0	2,200
2.5	16	6.0	1,940	3.1	255	7.0	3,240
2.7	36	7.0	3,140	3.5	415	8.0	4,740
2.9	68	8.0	4,740				
3.2	140	9.0	6,960				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	330	64	677	26	47	176	1,170	351	295	379	403	359
2	306	55	266	25	46	176	1,160	347	319	359	399	331
3	263	24	91	24	43	158	1,150	367	355	375	387	335
4	207	13	50	23	42	158	1,160	375	379	387	351	351
5	173	16	37	23	40	2,010	1,140	391	371	395	347	335
6	182	40	30	22	44	*5,730	1,100	399	343	420	335	311
7	176	81	27	22	136	3,520	1,100	391	331	407	315	303
8	170	96	24	23	270	1,820	1,070	355	355	387	307	275
9	146	96	22	23	865	1,330	1,050	323	383	379	287	299
10	111	55	21	22	669	1,100	930	238	379	403	271	299
11	89	14	20	22	536	815	864	*283	379	399	275	238
12	*87	14	18	23	490	580	810	315	383	480	299	234
13	121	34	18	23	2,940	625	804	303	363	451	363	241
14	185	74	17	22	1,850	635	780	267	*331	375	363	241
15	200	74	17	20	*2,380	615	738	217	315	383	327	303
16	235	*63	16	19	1,040	615	684	255	307	387	331	291
17	282	45	16	19	606	615	635	355	319	363	351	283
18	322	22	*19	20	666	585	570	375	311	*359	335	*323
19	314	23	28	64	*480	548	*560	327	343	359	351	307
20	197	24	207	323	386	327	510	299	363	387	359	299
21	132	23	176	108	314	391	460	323	403	395	*347	287
22	126	22	89	97	278	495	437	335	415	383	327	271
23	108	11	59	*52	260	*520	433	311	415	395	347	244
24	99	18	49	47	232	475	419	295	411	415	379	252
25	96	100	42	46	210	456	403	279	387	395	343	248
26	78	68	37	42	188	530	383	287	359	383	248	248
27	10	36	34	42	164	640	391	291	335	375	323	222
28	5.1	26	32	42	167	774	442	295	359	351	351	134
29	8.4	28	29	42	-	930	395	351	383	351	335	91
30	87	118	28	46	-----	1,050	367	355	387	383	315	26
31	83	-----	27	47	-----	1,110	-----	319	-----	407	331	-----
Total	4,928.5	1,377	2,223	1,399	15,389	29,509	22,115	9,974	10,778	12,067	10,402	7,981
Mean	159	45.9	71.7	45.1	550	952	737	322	359	389	336	266
Max	330	118	677	323	2,940	5,730	1,170	399	415	480	403	359
Min	5.1	11	16	19	40	158	367	217	295	351	248	26
Ac-ft	9,780	2,730	4,410	2,770	30,520	58,530	43,860	19,780	21,380	23,930	20,630	15,830

Calendar year 1961: Max 2,120 Min 5.1 Mean 285 Ac-ft 206,100
Water year 1961-62: Max 5,730 Min 5.1 Mean 351 Ac-ft 254,200

* Discharge measurement made on this day.

11-3879.9 South Diversion Canal near Orland, Calif.

Location.--Lat 39°48'35", long 122°19'45", in NE $\frac{1}{4}$ sec.32, T.23 N., R.4 W., on right bank 0.6 mile downstream from Black Butte Dam and 8.2 miles northwest of Orland.

Records available.--October 1956 to September 1962 in reports of the Geological Survey. October 1956 to September 1961, monthly discharge only, published with records for Stony Creek at Black Butte damsite near Orland. July 1955 to September 1956 in files of California District office.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 370 ft (from topographic map). Prior to Oct. 23, 1956, at site 0.5 mile upstream at different datum. Oct. 1, 1960, to Sept. 30, 1961, at datum 1.00 lower.

Average discharge.--7 years (1956-62), 111 cfs (80,360 acre-ft per year).

Extremes.--1955-62: Maximum daily discharge, 289 cfs, June 5, 6, 1960; no flow at times in 1957-62.

Remarks.--Records good except those for period of no gage-height record and periods of flow below 2 cfs, which are poor. Canal diverts from Black Butte Reservoir at right end of Black Butte Dam for irrigation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	223	37	11	1.8	0	0	96	236	194	225	249	207
2	210	40	2.0	1.8	.5	0	107	234	194	228	247	201
3	190	25	.8	1.8	0	0	122	234	206	248	249	206
4	158	9.8	.2	3.6	0	0	138	228	221	228	237	219
5	121	7.2	0	20	0	2.1	166	231	234	227	219	221
6	95	14	0	21	0	.8	213	246	227	249	210	198
7	78	36	0	22	0	0	263	249	193	253	202	167
8	77	44	0	20	0	.4	271	242	192	252	197	148
9	82	57	0	20	1.9	.2	269	252	215	242	185	147
10	70	65	0	20	0	0	255	198	221	235	186	157
11	*51	26	9.0	20	0	0	241	179	227	234	181	141
12	39	9.0	15	21	.8	.2	237	209	243	237	178	120
13	45	.5	16	22	1.7	0	230	212	241	245	203	125
14	89	22	15	22	4.0	0	222	201	234	237	213	127
15	107	41	14	20	0	.2	216	179	203	247	206	184
16	106	*36	14	20	.7	0	211	171	203	255	197	203
17	121	39	13	20	0	0	210	198	217	180	213	*200
18	160	32	9.0	21	1.6	0	*218	231	180	237	202	218
19	189	18	*.7	19	.9	.1	219	241	191	224	203	198
20	174	14	0	a 18	.8	0	221	194	199	221	207	170
21	128	7.6	0	a 17	.4	0	218	176	215	233	194	167
22	114	5.5	2.8	a 16	0	0	213	200	246	235	*185	156
23	88	4.5	7.9	*15	0	*0	217	189	267	235	190	133
24	64	5.5	7.6	14	0	0	225	186	264	253	228	124
25	51	3.8	7.2	14	0	0	225	182	237	255	241	122
26	45	4.5	6.9	6.7	0	0	230	190	234	249	181	120
27	38	3.5	6.5	0	0	0	239	193	224	251	176	120
28	28	2.9	6.5	0	0	28	242	176	198	245	203	88
29	20	2.9	3.5	0	-	58	227	194	216	221	191	72
30	25	2.6	2.0	0	-----	62	225	218	221	212	171	61
31	39	-----	2.0	0	-----	81	-----	221	-----	*245	176	-----
Total	3,025	615.8	172.6	417.7	13.3	233.0	6,386	6,490	6,557	7,338	6,320	4,720
Mean	97.6	20.5	5.57	13.5	0.48	7.52	213	209	219	237	204	157
Max	223	65	16	22	4.0	81	271	252	267	255	249	221
Min	20	0.5	0	0	0	0	96	171	180	180	171	61
Ac-ft	6,000	1,220	342	828	26	462	12,670	12,870	13,010	14,550	12,540	9,360
Calendar year 1961: Max	276	Min	0	Mean	108	Ac-ft	78,200					
Water year 1961-62: Max	271	Min	0	Mean	116	Ac-ft	83,880					

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

a No gage-height record.

11-3880. Stony Creek at Black Butte damsite, near Orland, Calif.

Location.--Lat 39°49'00", long 122°19'25" in SW $\frac{1}{4}$ sec. 28, T.23 N., R.4 W., on downstream side of road bridge, 0.6 mile downstream from diversion dam, and 8.1 miles northwest of Orland.

Drainage area.--741 sq mi.

Records available.--July 1955 to September 1962.

Gage.--Wire-weight gage read once daily. Altitude of gage is 360 ft (from topographic map). Prior to Dec. 12, 1960, water-stage recorder at site 0.6 mile upstream at different datum.

Average discharge.--7 years, 584 cfs (422,800 acre-ft per year), adjusted for diversion to South Diversion Canal.

Extremes.--Maximum discharge observed during year, 5,870 cfs Mar. 6 (gage height, 9.35 ft); minimum daily, 3.4 cfs Nov. 11.

1955-62: Maximum discharge, 36,300 cfs Feb. 24, 1958 (gage height, 11.82 ft, site and datum then in use), from rating curve extended above 7,500 cfs on basis of slope-area measurement of peak flow; no flow Dec. 8-10, 31, 1956, Jan. 1-10, 1957.

Remarks.--Records fair, except those for period of no gage-height record, which are poor. Many diversions above station for irrigation. Flow regulated by East Park Reservoir (usable capacity, 50,600 acre-ft) and Stony Gorge Reservoir (usable capacity, 50,100 acre-ft). Prior to October 1956, figures of daily discharge included water diverted to South Diversion canal, which diverts 0.6 mile above station. Records of combined monthly discharge do not include a small diversion that bypasses the station at times for irrigation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	32	658	41	42	194	890	127	93	158	152	137
2	87	11	512	25	44	198	970	122	93	130	140	109
3	80	6.4	152	17	41	191	970	132	107	135	140	93
4	60	6.8	91	15	39	177	954	152	130	170	122	105
5	74	6.0	55	10	37	1560	922	158	130	143	122	112
6	96	4.0	36	10	42	*6130	858	167	146	149	124	105
7	93	6.4	31	10	210	4760	843	161	137	143	127	155
8	85	32	18	7.6	320	2510	843	119	143	135	122	112
9	64	18	a 14	7.6	1120	1810	780	89	155	140	107	117
10	51	6.0	a 12	8.0	*745	1200	689	91	158	149	87	132
11	*53	3.4	a 10	7.6	*724	962	634	*109	143	149	88	105
12	46	4.4	a 8	18	515	787	569	132	140	152	91	96
13	48	4.8	a 5	17	2750	724	557	132	*137	152	127	105
14	46	12	a 5	11	1910	717	551	102	135	140	132	87
15	46	15	a 5	7.2	*3640	696	510	72	122	135	119	105
16	78	*18	a 5	5.6	1640	689	471	76	89	*135	119	102
17	102	14	a 8	4.8	858	703	406	130	89	137	127	*66
18	117	6.4	a 12	5.2	843	682	*392	124	102	127	124	78
19	102	14	*18	12	*759	654	365	102	130	114	124	83
20	64	16	193	152	545	539	342	100	149	143	135	100
21	22	16	308	130	430	482	300	107	158	152	132	98
22	25	24	177	121	370	521	264	135	132	135	*132	87
23	36	14	100	*61	324	*588	219	119	130	130	127	91
24	44	4.8	76	46	280	563	205	122	158	155	122	100
25	53	30	68	20	236	551	198	114	161	127	140	105
26	51	112	59	32	212	569	167	102	114	127	85	107
27	28	62	42	41	208	675	149	102	127	119	107	105
28	7.6	31	44	39	194	773	202	109	146	107	122	91
29	5.2	22	37	37	-	822	180	122	161	102	130	72
30	15	68	48	39	-----	858	155	117	161	122	119	57
31	41	-----	48	44	-----	822	-----	109	-----	146	119	-----
Total	1,817.8	620.4	2,855	1,001.6	19,078	33,107	15,555	3,655	3,976	4,258	3,764	3,017
Mean	58.6	20.7	92.1	32.3	681	1,068	518	118	133	137	121	101
Max	117	112	658	152	3,640	6,130	970	167	161	158	152	155
Min	5.2	3.4	-	4.8	37	177	149	72	89	102	85	57
Ac-ft	3,610	1,230	5,660	1,990	37,840	65,670	30,850	7,250	7,890	8,450	7,470	5,980
Mean†	156	41.2	97.6	45.9	682	1,076	731	327	351	374	325	258
Ac-ft†	9,610	2,450	6,000	2,820	37,870	66,130	43,520	20,120	20,900	23,000	20,010	15,340
Calendar year 1961:	Max	2,400	Min	3.4	Mean	189	Ac-ft	136,900	Mean†	297	Ac-ft†	215,100
Water year 1961-62:	Max	6,130	Min	3.4	Mean	254	Ac-ft	183,900	Mean†	370	Ac-ft†	267,800

* Discharge measurement made on this day.

† Adjusted for diversion to South Diversion Canal.

a No gage-height record.

SACRAMENTO RIVER BASIN

11-3885. Stony Creek near Hamilton City, Calif.

Location.--Lat 39°43'25", long 122°02'47", in Capay Grant, on right bank 2.3 miles southwest of Hamilton City, 6 miles upstream from mouth, and 8 miles east of Orland, Glenn County.

Drainage area.--764 sq mi.

Records available.--October 1940 to September 1962. Records for water year 1941 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map). Prior to February 1946, at site 3 miles upstream at different datum.

Average discharge.--22 years, 421 cfs (304,800 acre-ft per year).

Extremes.--Maximum discharge during year, 6,780 cfs Mar. 6 (gage height, 11.46 ft); no flow for several months.
1941-62: Maximum discharge, 39,900 cfs Feb. 25, 1928 (gage height, 18.31 ft); no flow at times in each year.

Remarks.--Records good except those below 20 cfs, which are fair. Flow regulated by East Park Reservoir beginning in 1910 (usable capacity, 50,620 acre-ft) and Stony Gorge Reservoir beginning in 1928 (usable capacity, 50,100 acre-ft). Diversions for irrigation of about 17,200 acres above station in Orland Project, Bureau of Reclamation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 13, Apr. 10-23, 29)

Oct. 1 to Feb. 13

Feb. 13 to Sept. 30

3.7	0	5.0	91	3.4	0	5.0	125
3.8	1.0	5.5	190	3.5	.1	5.5	240
3.9	3.0	6.0	335	3.6	.4	6.0	385
4.0	7.0	6.5	560	3.7	2.0	7.0	830
4.1	11	7.0	890	3.8	5.0	8.0	1,550
4.4	30	8.0	1,850	3.9	9.0	9.0	2,610
4.7	55	9.0	3,140	4.0	14	10.0	3,990
				4.3	36	11.0	5,790
				4.6	70		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0		0	310	902	77	12			
2			553		0	304	926	* 49	7.4			
3			178		0	289	896	34	7.0			
4			67		0	277	848	27	2.9			
5			34		0	440	830	18	.2			
6			22		0	5,790	740	19	0			
7			12		0	* 5,460	680	30	0			
8			7.0		6.1	2,620	695	32	0			
9			.6		491	1,750	665	26	0			
10			0		758	1,310	620	32	0			
11	(*)		0		* 674	1,120	548	* 28	0			
12			0		540	819	503	22	0			
13			0		2,250	750	511	19	* 0			
14			0		2,330	740	499	33	0			
15			0		4,190	725	499	31	0			
16		(*)	0		* 2,130	710	475	19	11			
17			0		1,190	725	420	14	14			(*)
18			0		1,050	685	* 355	12	17			
19			* 0		* 1,030	665	280	12	4.1	(*)		
20			0		715	553	252	29	.1			
21			0		602	471	220	16	0			
22			17		519	* 499	159	9.0	0		(*)	
23			19	(*)	467	553	139	12	0			
24			11		427	527	110	18	0			
25			6.2		392	507	127	25	* 0			
26			.4		373	507	119	22	0			
27			0		331	562	102	19	0			
28			0		313	645	119	11	* 0			
29			0		-	715	182	7.0	0			
30			0		-----	830	133	3.8	0			
31			0		-----	878	-----	4.4	-----			
Total	0	0	927.2	0	20,778.1	52,736	13,554	710.2	75.7	0	0	0
Mean	0	0	29.9	0	742	1,056	452	22.9	2.52	0	0	0
Max	0	0	553	0	4,190	5,790	926	77	17	0	0	0
Min	0	0	0	0	0	277	102	3.8	0	0	0	0
Ac-ft	0	0	1,840	0	41,210	64,930	26,880	1,410	150	0	0	0

Calendar year 1961: Max 3,060 Min 0 Mean 125 Ac-ft 90,200
Water year 1961-62: Max 5,790 Min 0 Mean 188 Ac-ft 136,400

Peak discharge (base, 2,000 cfs).--Feb. 15 (0700 to 0800) 5,910 cfs (11.06 ft); Mar. 6 (1800) 6,780 cfs (11.46 ft).

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

11-3890. Sacramento River at Butte City, Calif.

Location.--Lat 39°27'35", long 121°59'35", in NE¼ sec.32, T.19 N., R.1 W., on left bank 0.5 mile south of Butte City.Records available.--April 1921 to September 1938 (low-water periods only), October 1938 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.Gage.--Water-stage recorder and thermograph attachment. Datum of gage is set to datum of Corps of Engineers. Prior to December 1930, at site 0.5 mile upstream at same datum.Average discharge.--24 years (1938-62), 12,230 cfs (8,854,000 acre-ft per year).Extremes.--Maximum discharge during year, 87,800 cfs Feb. 16 (gage height, 90.90 ft); minimum, 4,670 cfs Jan. 18.

1940-62: Maximum discharge, 170,000 cfs Feb. 7, 1942 (gage height, 96.87 ft), from rating curve extended above 100,000 cfs.

1921-62: Minimum discharge recorded, 1,050 cfs July 15, 25, 26, 1931 (gage height, 67.49 ft).

Remarks.--Records good. Natural flow of stream affected by storage reservoirs, power developments, unmeasured over-bank flow during extreme floods, diversions for irrigation, and return flow from irrigated areas.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,940	5,620	13,200	5,540	5,230	15,900	8,800	7,620	6,620	7,640	7,710	6,860
2	5,660	5,500	46,500	5,410	5,210	17,800	8,800	7,520	6,550	7,660	7,690	6,950
3	5,230	5,390	40,200	5,350	5,190	19,000	8,800	7,400	6,470	7,620	7,740	6,990
4	5,050	5,390	16,200	5,210	5,130	17,300	8,750	7,440	6,420	7,570	7,810	7,190
5	5,070	5,350	10,300	5,150	5,090	16,600	8,670	7,400	6,360	7,470	7,860	7,260
6	4,970	5,310	8,170	5,110	5,070	36,800	8,550	7,280	6,420	7,420	7,810	7,330
7	4,970	*5,310	7,080	5,010	5,460	62,200	8,260	7,240	6,640	7,450	7,860	7,060
8	4,930	5,310	6,470	4,950	8,680	43,700	8,190	7,210	6,730	7,660	7,950	6,860
9	4,930	5,310	6,060	4,930	17,200	29,100	8,070	7,300	6,770	7,710	7,930	6,550
10	*4,970	5,310	5,660	4,890	33,000	23,900	7,880	7,520	7,100	7,660	8,050	6,230
11	5,030	5,230	5,370	4,870	29,200	20,900	7,150	7,350	*7,280	7,640	8,000	6,110
12	5,190	5,250	*5,190	4,890	23,300	18,600	6,550	6,930	7,190	7,660	8,020	6,130
13	5,290	5,230	5,050	4,890	32,400	16,600	6,620	6,840	7,130	7,660	*7,950	5,880
14	5,370	5,210	4,970	4,810	60,300	15,000	6,710	*6,880	7,380	7,640	7,950	5,880
15	5,290	5,210	4,930	4,770	70,200	13,500	6,840	6,730	7,690	7,660	7,880	5,880
16	5,270	5,170	4,830	4,710	*8,1500	12,100	*6,820	6,730	7,760	*7,880	7,900	5,830
17	5,150	5,190	4,750	*4,690	51,800	11,000	6,360	6,550	7,760	7,950	7,860	*5,830
18	5,070	5,130	4,870	4,670	35,200	10,200	5,850	6,420	7,740	7,980	7,900	5,940
19	5,050	5,150	5,150	4,790	37,700	*9,550	5,540	6,380	7,690	7,880	8,020	6,060
20	5,090	5,210	11,500	14,300	31,400	9,110	5,640	6,340	7,590	7,880	8,050	6,020
21	5,210	5,370	22,100	19,500	25,000	8,980	5,430	6,230	7,570	7,830	8,000	6,020
22	5,230	5,330	17,000	11,000	22,200	9,060	5,460	6,130	7,450	7,830	8,020	6,130
23	5,250	5,330	11,100	7,740	20,300	10,500	5,710	6,080	7,350	7,780	8,020	6,000
24	5,370	5,290	8,820	6,840	19,000	10,300	5,690	6,170	7,300	7,780	8,020	5,830
25	5,350	6,020	7,640	6,420	18,200	9,320	6,230	6,360	7,260	7,830	8,100	5,810
26	5,370	11,700	7,020	6,130	17,300	8,930	6,440	6,510	7,210	7,660	8,120	5,730
27	5,460	10,400	6,580	5,900	16,400	8,820	6,930	6,620	7,300	7,710	8,170	5,790
28	5,710	8,000	6,190	5,640	15,900	8,800	7,260	6,600	7,620	7,740	8,120	5,850
29	5,730	6,880	5,960	5,480	-	8,530	8,190	6,530	7,590	7,760	7,710	5,960
30	5,690	8,720	5,770	5,350	-----	8,820	8,100	6,620	7,620	7,660	7,350	6,110
31	5,640	-----	5,620	5,290	-----	8,820	-----	6,640	-----	7,740	7,040	-----
Total	163,530	178,820	320,250	194,230	702,560	519,740	214,290	211,570	215,560	239,010	244,610	188,070
Mean	5,275	5,961	10,330	6,265	25,090	16,770	7,143	6,825	7,185	7,710	7,891	6,269
Max	5,940	11,700	46,500	19,500	81,500	62,200	8,800	7,620	7,760	7,980	8,170	7,330
Min	4,930	5,130	4,750	4,670	5,070	8,530	5,430	6,080	6,360	7,420	7,040	5,730
Ac-ft	324,400	354,700	635,200	385,200	1,394,000	1,031,000	425,000	419,600	427,600	474,100	485,200	373,000

Calendar year 1961: Max 54,900 Min 4,750 Mean 10,000 Ac-ft 7,243,000
 Water year 1961-62: Max 81,500 Min 4,670 Mean 9,294 Ac-ft 6,729,000

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3890. Sacramento River at Butte City, Calif.--Continued.

Records available.--Water temperatures: November 1961 to September 1962.

Extremes.--Maximum temperature during period, 67°F, June 9, 20-24; minimum, 37°F Jan. 22, 23.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1					52	52	46	46	49	47	45	45	60	59	59	55	65	63	65	61	64	61	63	60
2					52	51	46	46	49	47	47	45	60	59	61	58	65	63	65	61	64	61	63	61
3			57	56	51	51	46	46	49	47	47	46	60	59	62	59	65	62	65	61	63	61	63	61
4			57	56	51	51	46	45	49	47	48	46	61	60	63	60	63	60	65	62	63	61	63	61
5			56	56	52	51	46	45	48	48	48	48	62	60	63	60	64	61	66	62	63	61	63	61
6			56	55	52	50	46	45	48	48	48	48	62	61	63	60	64	62	65	62	63	61	63	61
7			56	55	50	50	48	46	49	48	48	48	62	61	62	59	65	62	65	62	62	60	63	61
8			56	55	50	48	49	47	50	49	50	48	63	62	62	59	66	63	65	62	62	61	63	61
9			56	55	48	47	49	48	50	50	50	50	63	60	60	58	67	64	66	62	61	59	64	61
10			55	54	48	46	49	48	50	50	50	50	62	59	60	58	66	64	66	63	61	58	64	62
11			54	54	46	45	48	46	50	49	50	50	61	59	59	57	66	63	66	63	63	60	64	63
12			54	53	47	46	47	45	50	50	50	50	63	61	59	57	65	62	65	62	63	60	65	64
13			53	52	47	47	46	43	50	50	51	50	64	62	58	57	65	62	65	62	64	60	64	63
14			54	53	47	47	45	43	50	49	52	51	64	64	60	58	64	62	66	63	63	60	65	64
15			53	51	47	47	45	43	49	49	52	52	64	62	60	59	64	61	66	62	63	60	65	64
16			51	50	47	47	45	42	49	48	52	51	63	62	60	58	63	61	65	62	62	60	65	64
17			50	49	48	47	45	43	48	48	53	52	63	61	60	58	64	61	65	62	63	60	65	64
18			50	50	48	48	46	44	49	48	54	52	63	61	61	59	66	62	65	62	63	60	65	63
19			50	50	49	48	46	45	49	48	55	54	61	57	61	60	66	62	65	62	63	60	64	63
20			50	50	50	49	46	44	48	48	55	54	58	56	60	57	67	62	64	62	62	60	64	62
21			50	50	49	48	44	39	48	48	54	54	58	56	60	57	67	64	64	61	62	60	63	62
22			51	50	48	48	39	37	48	48	54	53	60	58	60	59	67	64	64	60	63	60	63	62
23			52	51	48	48	38	37	49	48	54	53	63	60	61	59	67	64	64	60	63	60	63	62
24			52	52	48	48	39	38	49	49	54	53	63	61	61	59	67	64	64	60	63	60	63	62
25			52	52	48	48	42	39	49	48	54	53	62	60	61	59	66	63	64	60	63	60	63	62
26			53	52	48	48	43	42	48	46	56	54	62	60	61	60	66	63	64	61	63	60	63	62
27			52	51	48	48	45	43	46	45	58	56	61	58	62	59	66	63	65	61	63	60	62	60
28			52	52	48	48	46	45	45	45	59	58	58	54	63	61	66	63	64	61	62	59	60	59
29			52	52	48	47	47	46	-	-	60	59	56	54	64	62	65	63	63	60	62	59	60	59
30			52	52	47	47	47	46	-----	-----	60	58	57	54	65	62	65	62	63	60	62	59	61	59
31			-----	-----	47	46	48	47	-----	-----	60	58	-----	-----	65	63	-----	-----	64	61	63	60	-----	-----
Avg			53	52	49	48	45	44	49	48	53	52	61	59	61	59	65	62	65	61	63	60	63	62

SACRAMENTO RIVER BASIN

801

11-3895. Sacramento River at Colusa, Calif.

Location.--Lat 39°12'50", long 121°59'55", at north end of Jimeno Grant, on right bank just downstream from highway bridge at Colusa, Colusa County, at mile 89.4 upstream from Sacramento.

Records available.--April 1921 to October 1939 (low-water periods only), June 1940 to September 1962.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers. Prior to December 1930, water-stage recorder in center fender pier 50 ft upstream from bridge at same datum.

Average discharge.--22 years (1940-62), 10,500 cfs (7,602,000 acre-ft per year).

Extremes.--Maximum discharge during year, 38,500 cfs Feb. 16 (gage height, 64.80 ft); minimum, 4,620 cfs Jan. 19.

1940-62: Maximum discharge, 49,000 cfs Feb. 8, 1942 (gage height, 69.20 ft).

1921-62: Minimum discharge recorded, 820 cfs July 25, 26, 1931 (gage height, 34.79 ft).

Remarks.--Records good. Natural flow of stream affected by storage reservoirs, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,780	5,360	10,400	5,400	5,230	15,200	8,920	7,100	6,680	7,080	7,220	6,850
2	5,620	5,330	23,000	5,280	5,210	15,700	8,880	6,920	6,680	7,100	7,220	6,740
3	5,250	5,070	33,000	5,230	5,190	17,800	8,900	6,860	6,630	7,110	7,220	6,720
4	5,050	5,060	24,200	5,150	5,130	17,200	8,840	6,820	6,560	7,110	7,250	6,750
5	4,970	5,060	14,500	5,070	5,090	16,100	8,730	6,890	6,510	7,100	7,300	6,810
6	4,940	5,000	10,200	4,970	5,070	21,100	8,630	6,870	6,400	7,000	7,340	6,910
7	4,950	*4,990	8,420	4,950	5,100	34,700	8,400	6,750	6,460	6,960	7,350	6,980
8	4,890	4,980	7,460	4,930	6,410	34,200	8,350	6,730	6,640	6,980	7,360	6,930
9	*4,870	4,990	6,880	4,930	11,000	30,200	8,160	6,760	6,710	7,040	7,400	6,750
10	4,860	4,970	6,470	4,920	22,500	26,100	8,000	6,900	6,780	7,070	7,470	6,460
11	4,910	4,980	6,100	4,900	28,600	22,200	7,400	6,970	*7,040	7,070	7,520	6,150
12	5,030	5,020	*5,840	4,900	*25,400	19,300	6,750	6,800	7,070	7,060	7,550	6,010
13	5,200	5,010	5,600	4,880	24,000	17,000	6,610	6,520	6,990	7,000	*7,580	5,920
14	5,220	4,980	5,500	4,820	33,600	15,200	6,600	*6,510	7,000	7,000	7,580	5,760
15	5,180	5,000	5,400	4,770	36,100	13,700	6,610	6,460	7,190	7,000	7,560	5,750
16	5,160	4,890	5,320	4,700	38,000	12,500	*6,660	6,440	7,390	*7,030	7,540	5,750
17	5,100	4,860	5,220	*4,670	35,900	11,400	6,540	6,410	7,470	7,130	7,530	*5,730
18	5,010	4,880	5,220	4,630	32,000	10,300	6,080	6,350	7,510	7,180	7,520	5,700
19	4,950	4,950	5,420	4,650	31,100	*9,960	5,640	6,250	7,470	7,170	7,520	5,790
20	4,950	5,010	6,890	7,320	30,800	9,440	5,490	6,240	7,420	7,120	7,540	5,870
21	4,990	5,130	16,600	17,800	26,900	9,100	5,490	6,190	7,350	7,110	7,550	5,860
22	5,070	5,140	18,600	13,200	23,200	9,100	5,250	6,150	7,220	7,170	7,550	5,870
23	5,070	5,110	12,900	8,620	20,800	9,560	5,510	6,070	7,060	7,180	7,540	5,940
24	5,080	5,140	9,360	6,950	19,100	10,500	5,520	6,020	6,980	7,160	7,550	5,840
25	5,080	5,520	7,800	6,420	18,000	9,610	5,600	6,060	6,940	7,140	7,550	5,710
26	5,080	8,360	7,080	6,110	17,100	9,200	5,930	6,290	6,900	7,160	7,550	5,650
27	5,100	10,600	6,510	5,900	16,200	8,980	6,150	6,430	6,860	7,110	7,570	5,610
28	5,340	8,700	6,120	5,690	15,500	8,960	6,420	6,480	7,100	7,100	7,570	5,630
29	5,400	7,080	5,870	5,510	-	8,670	7,050	6,520	7,080	7,140	7,500	5,680
30	5,410	7,180	5,660	5,380	-----	8,740	7,330	6,520	7,060	7,180	7,170	5,830
31	5,360	-----	5,520	5,300	-----	8,900	-----	6,600	-----	7,190	6,970	-----
Total	158,870	168,350	303,060	187,950	548,230	470,620	210,440	202,880	209,150	219,950	230,640	183,950
Mean	5,125	5,612	9,776	6,063	19,580	15,180	7,015	6,545	6,972	7,095	7,440	6,132
Max	5,780	10,600	33,000	17,800	38,000	34,700	8,920	7,100	7,510	7,190	7,580	6,980
Min	4,860	4,860	5,220	4,630	5,070	8,670	5,250	6,020	6,400	6,960	6,970	5,610
Ac-ft	315,100	333,900	601,100	372,800	1,087,000	933,500	417,400	402,400	414,800	436,300	457,500	364,900

Calendar year 1961: Max 33,000 Min 4,860 Mean 9,409 Ac-ft 6,811,000
 Water year 1961-62: Max 38,000 Min 4,630 Mean 8,477 Ac-ft 6,137,000

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3897. Butte Creek at Butte Meadows, Calif.

Location.--Lat 40°04'05", long 121°34'25", on right bank in NW $\frac{1}{4}$ sec. 31, T.26 N., R.4 E., 1.0 mile downstream from small tributary, 1.5 miles southwest of Butte Meadows, and 15 miles northeast of Forest Ranch.

Drainage area.--44.4 sq mi.

Records available.--August 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,260 ft (from topographic map).

Extremes.--Maximum discharge during year, 611 cfs probably Feb. 9 (gage height, 3.98 ft); minimum, 48 cfs Oct. 1, 2, 3, Sept. 9. 1960-62: Maximum discharge, that of Feb. 9, 1962; minimum, 46 cfs Sept. 4, 1961.

Revisions.--The maximum discharge for the water year 1961 has been revised to 413 cfs Jan. 31, 1961 (gage height, 3.52 ft), superseding figure published in 1961 Surface Water Records of California, Vol. 2.

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

Revisions (water years).--Revised figures of peak discharges for the water year 1961, superseding those published in 1961 Surface Water Records of California, are given herewith:

Revised peak discharge.--1960-61: Dec. 1 (1400) 409 cfs; Jan. 31 (1200) 413 cfs.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.9	46	3.0	232
2.0	56	3.5	405
2.5	122		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	53	175	54	54	77	114	241	189	75	55	50
2	49	53	114	54	56	78	119	262	189	74	55	50
3	49	53	82	53	58	72	126	278	182	73	56	50
4	49	53	72	53	58	76	136	298	164	72	56	50
5	49	52	67	53	60	86	150	306	160	72	56	50
6	49	52	64	53	65	100	164	312	156	69	56	50
7	50	52	62	54	85	96	182	316	152	67	56	50
8	50	52	60	55	130	92	189	330	150	66	56	50
9	51	52	58	55	400	88	214	334	148	66	56	49
10	*51	52	58	54	320	85	214	*298	144	66	56	49
11	55	52	56	53	240	84	219	275	138	64	55	50
12	53	51	56	54	200	82	229	262	*133	64	54	50
13	52	51	56	53	190	81	253	247	131	63	54	50
14	52	51	55	52	220	80	278	227	146	62	54	50
15	52	*52	55	51	260	*78	302	214	133	62	54	50
16	52	51	54	51	210	78	292	219	122	60	53	49
17	52	51	56	51	170	77	*282	219	116	59	53	49
18	51	52	55	52	150	79	275	224	111	59	54	49
19	51	52	63	58	130	82	272	211	106	*59	54	50
20	53	54	79	60	120	80	250	189	103	59	53	50
21	53	52	82	58	110	79	238	185	99	58	54	50
22	53	54	67	56	100	83	250	196	96	58	53	50
23	53	58	64	55	95	78	275	196	92	57	*53	50
24	52	64	62	54	90	77	295	182	89	56	52	50
25	52	93	60	54	84	79	292	173	87	57	51	50
26	54	79	58	54	78	83	282	175	84	57	51	51
27	56	64	58	54	76	86	320	178	82	56	51	52
28	55	58	*56	54	76	89	312	180	79	56	51	55
29	53	68	55	54	-	96	259	192	78	56	51	54
30	53	106	54	54	-----	102	244	192	77	56	51	51
31	53	-----	54	54	-----	106	-----	189	-----	55	51	-----
Total	1,606	1,737	2,067	1,674	3,885	2,609	7,027	7,300	3,736	1,933	1,665	1,508
Mean	51.8	57.9	66.7	54.0	139	84.2	234	235	125	62.4	53.7	50.3
Max	56	106	175	60	400	106	320	334	189	75	56	55
Min	49	51	54	51	54	72	114	173	77	55	51	49
Ac-ft	3,190	3,450	4,100	3,320	7,710	5,170	13,940	14,480	7,410	3,830	3,300	2,990

Calendar year 1961: Max 252 Min 47 Mean 90.4 Ac-ft 65,450
 Water year 1961-62: Max 400 Min 49 Mean 101 Ac-ft 72,890

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-9	unknown	3.98	611	5-8	2300	3.44	381
4-27	2200	3.43	3.77				

+ Probably occurred Feb. 9.

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 21 to Mar. 14.

11-3900. Butte Creek near Chico, Calif.

Location.--Lat 39°43'34", long 121°42'28", in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 36, T.22 N., R.2 E., on right bank 0.7 mile downstream from Little Butte Creek and 7.5 miles east of Chico.

Drainage area.--148 sq mi.

Records available.--October 1930 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 320 ft (from topographic map). Prior to Aug. 13, 1944, at site 0.4 mile upstream at different datum.

Average discharge.--32 years, 385 cfs (278,700 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 4,930 cfs Feb. 15 (gage height, 6.63 ft); minimum, 46 cfs Oct. 28.

1930-1962: Maximum discharge, 18,700 cfs Dec. 22, 1955 (gage height, 13.35 ft), from rating curve extended above 6,900 cfs on basis of slope-area measurement of peak flow; minimum, 10 cfs Nov. 29, 1952.

Remarks.--Records good. Flow slightly regulated by storage in Magalia Reservoir (capacity, 3,540 acre-feet). Diversions above station for irrigation and domestic use of about 4,200 acre-ft annually. Butte Creek receives considerable water above station from West Branch Feather River by way of De Sabla and Centerville powerplants. Pacific Gas & Electric Co. has furnished the following record of this flow for water year 1962.

Month	Mean discharge	Runoff in Acre-feet	Month	Mean discharge	Runoff in Acre-feet
October.....	4.7	287	May.....	74.6	4,585
November.....	0.04	2.4	June.....	74.5	4,436
December.....	2.1	129	July.....	73.9	4,543
January.....	3.8	232	August.....	61.6	3,790
February.....	3.7	206	September	57.2	3,404
March.....	5.2	322			
April.....	50.9	3,031	Water year.....	34.4	24,967

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.3	57	2.0	285	4.0	1,900
1.4	79	2.5	545	5.0	2,980
1.6	132	3.0	920	6.0	4,150

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86	64	1,230	112	165	446	497	485	321	176	132	118
2	84	66	968	110	168	485	515	* 485	321	168	126	118
3	66	64	375	107	165	446	527	503	316	168	124	118
4	66	64	240	104	162	415	545	521	303	165	132	115
5	66	61	190	102	162	579	558	521	290	162	139	118
6	68	61	155	101	172	1,850	558	527	285	162	135	118
7	72	64	139	101	378	1,170	571	515	272	158	132	118
8	75	61	129	102	884	819	604	521	267	158	132	118
9	* 72	61	121	102	2,490	695	624	539	267	155	142	115
10	72	61	115	101	* 2,090	610	584	497	267	155	142	115
11	82	61	107	96	1,060	545	558	468	254	155	135	118
12	77	61	107	102	1,110	491	571	446	249	155	132	118
13	72	61	102	101	3,560	458	604	430	* 244	155	129	118
14	70	* 64	101	96	2,710	441	624	410	272	152	124	112
15	66	64	102	101	3,710	441	666	395	262	148	124	104
16	66	64	101	94	2,040	430	645	400	244	148	124	104
17	66	66	126	96	1,420	415	* 604	390	236	145	121	* 107
18	66	66	129	96	1,130	400	590	390	228	145	121	118
19	66	68	* 172	638	974	405	617	380	216	145	121	115
20	70	79	276	779	811	420	584	355	208	* 145	121	118
21	70	72	355	312	688	405	539	340	204	142	118	118
22	66	72	258	* 193	610	* 571	527	350	200	142	* 118	121
23	66	86	200	172	558	509	545	350	196	142	121	121
24	68	96	172	162	533	458	558	340	193	142	121	121
25	66	194	155	155	485	441	564	335	186	142	118	118
26	68	228	129	142	446	441	539	335	186	142	118	121
27	70	165	132	132	410	452	558	335	182	139	115	121
28	77	104	132	132	410	463	631	321	179	142	118	126
29	68	160	121	139	-	458	533	335	179	139	118	135
30	66	461	115	158	-----	463	497	335	176	139	118	129
31	64	-----	112	165	-----	474	-----	330	-----	135	118	-----
Total	2,177	2,919	6,866	5,103	29,501	17,096	17,137	12,884	7,203	4,666	3,889	3,534
Mean	70.2	97.3	221	165	1,054	551	571	416	240	151	125	118
Max	86	461	1,230	779	3,710	1,850	666	539	316	176	142	135
Min	64	61	101	94	162	400	497	321	176	135	115	104
Ac-ft	4,320	5,790	13,620	10,120	58,510	33,910	33,990	25,560	14,290	9,250	7,710	7,010

Calendar year 1961: Max 2,020 Min 61 Mean 264 Ac-ft 191,000

Water year 1961-62: Max 3,710 Min 61 Mean 310 Ac-ft 224,100

Peak discharge (base, 2,700 cfs).--Feb. 9 (2200) 3,130 cfs (5.14 ft); Feb. 15 (0400) 4,930 cfs (6.63 ft).

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3900. Butte Creek near Chico, Calif.

Records available.--Water temperatures: October 1961 to September 1962.

Extremes.--Maximum temperature during year, 72 °F July 27, 28; minimum, 35 °F Jan. 23, 24.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	-	-	48	46	47	46	43	42	44	42	41	40	48	47	55	50	60	56	67	63	71	66	68	62
2	-	-	48	46	47	47	43	43	44	42	42	41	49	48	55	52	61	57	67	63	71	67	68	63
3	-	-	48	46	47	46	43	43	45	43	43	42	50	49	56	54	60	57	67	63	69	66	68	63
4	-	-	47	45	46	45	43	40	45	43	43	42	51	50	56	54	59	55	68	64	68	66	67	63
5	-	-	47	45	45	44	41	39	45	44	45	43	51	50	55	54	57	52	69	65	68	64	67	63
6	-	-	47	44	44	42	43	40	45	45	45	45	51	50	55	54	59	54	69	66	68	64	68	64
7	-	-	46	45	42	41	43	42	47	45	46	45	51	50	55	54	60	55	69	65	66	63	68	64
8	-	-	46	44	41	40	43	42	47	47	46	45	51	50	54	53	61	56	69	64	67	64	69	65
9	-	-	46	44	40	38	43	42	48	47	46	44	51	49	54	52	62	58	69	64	67	64	68	63
10	-	-	46	44	39	38	43	41	47	47	45	43	49	47	53	51	62	59	68	64	67	63	66	63
11	-	-	46	45	38	37	41	40	48	47	45	43	50	47	53	51	62	58	68	64	69	65	66	62
12	-	-	46	43	38	37	41	41	48	48	44	42	51	49	53	50	62	58	68	64	70	65	66	63
13	-	-	44	42	38	37	41	39	48	48	43	41	51	50	52	50	63	58	68	64	70	66	65	61
14	-	-	44	41	38	38	39	37	49	48	44	42	51	50	52	50	63	60	68	64	70	66	66	62
15	-	-	44	42	39	38	37	36	49	48	44	44	51	50	52	49	60	57	68	63	70	65	66	62
16	-	-	43	41	39	38	37	36	48	48	44	44	50	49	54	51	62	57	68	63	70	66	66	61
17	-	-	41	38	40	38	38	36	48	48	44	43	50	49	55	52	65	60	69	64	70	66	65	62
18	-	-	41	38	41	40	39	38	48	48	45	43	50	50	56	53	67	63	69	65	70	66	64	61
19	-	-	40	39	42	41	43	39	48	47	46	44	50	48	56	53	67	63	69	65	70	65	64	59
20	-	-	43	40	45	42	43	41	47	47	46	45	48	46	53	50	68	64	68	64	70	65	62	58
21	-	-	42	41	45	45	41	38	48	46	45	44	49	47	54	50	69	65	69	64	70	66	62	58
22	-	-	42	42	45	43	38	36	46	44	45	44	51	48	56	52	69	66	68	63	70	65	63	59
23	-	-	46	42	43	42	37	35	45	45	44	42	52	51	56	53	69	65	68	63	70	65	64	59
24	-	-	45	45	42	42	37	35	45	45	45	43	52	51	56	53	68	64	69	64	70	65	63	59
25	51	49	47	45	42	42	39	37	45	44	46	44	52	51	54	51	68	64	70	65	70	65	63	60
26	52	51	48	47	42	42	40	39	44	41	47	45	51	50	53	52	67	64	71	66	70	64	64	61
27	52	52	48	46	43	42	41	39	41	38	47	45	51	50	56	52	67	63	72	67	69	64	64	61
28	52	49	46	45	44	42	42	40	40	40	47	45	51	49	57	54	67	63	72	67	68	63	61	60
29	49	46	45	45	43	43	43	41	-	-	48	47	49	48	60	56	67	63	71	66	67	62	61	59
30	48	45	46	46	43	42	44	42	-	-	48	47	50	48	60	57	67	63	71	66	67	62	61	59
31	48	46	-	-	42	42	44	42	-	-	48	47	-	-	60	57	-	-	71	66	67	61	-	-
Avg	-	-	45	43	42	41	41	39	46	45	45	44	50	49	55	52	64	60	69	64	69	65	65	61

11-3905. Sacramento River below Wilkins Slough, Calif.

Location.--Lat 39°00'35", long 121°49'25", in Jimeno Grant, on right bank 1,500 ft downstream from Wilkins Slough, Colusa County, 6 miles southeast of Grimes, and at mile 62.9 upstream from Sacramento.

Records available.--August 1931 to September 1938 (low-water periods only), October 1938 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers.

Average discharge.--24 years (1938-62), 9,125 cfs (6,606,000 acre-ft per year).

Extremes.--Maximum discharge during year, 25,700 cfs Dec. 3 (gage height, 46.99 ft); maximum gage height, 48.27 ft Feb. 17 (backwater from Feather River and Sutter bypass); minimum discharge, 3,640 cfs Apr. 22.

1938-62: Maximum discharge, 28,900 cfs Feb. 27, 1958 (gage height, 51.41 ft); maximum gage height, 52.75 ft Mar. 1, 1940.

1931-62: Minimum discharge recorded, 100 cfs Aug. 1, 1931 (gage height, 14.20 ft).

Remarks.--Records good. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,980	5,640	9,420	5,720	5,450	15,800	9,550	5,410	5,920	5,840	6,120	5,910
2	6,000	5,620	16,300	5,590	5,400	15,900	9,490	5,190	5,850	5,920	6,120	5,890
3	5,700	5,450	25,500	5,470	5,370	17,400	9,370	5,160	5,610	5,890	6,160	6,130
4	5,360	5,310	24,300	5,360	5,330	17,700	9,410	5,080	5,490	5,910	6,150	6,360
5	5,170	5,310	18,400	5,290	5,290	16,800	9,410	5,240	5,340	5,900	6,290	6,590
6	5,150	5,280	13,100	5,250	5,250	17,800	9,340	5,330	5,010	5,820	6,260	6,870
7	5,150	5,240	10,500	5,200	5,300	24,000	9,170	5,350	5,020	5,830	6,210	7,040
8	5,120	* 5,240	9,180	5,130	5,640	24,600	9,080	5,460	5,080	5,850	6,220	7,080
9	5,090	5,250	8,340	5,210	8,750	24,000	9,010	5,630	5,090	5,940	6,260	6,980
10	5,090	5,250	7,730	5,210	16,900	23,300	8,750	5,780	5,100	5,990	6,350	6,820
11	* 5,090	5,250	* 7,240	5,250	23,400	22,500	8,400	6,240	5,370	5,910	6,430	6,610
12	5,160	5,250	6,660	5,300	23,300	21,000	7,500	6,180	5,460	5,870	6,530	6,540
13	5,350	5,290	6,100	5,290	22,600	19,000	6,840	5,890	* 5,420	5,940	6,510	6,530
14	5,360	5,250	5,890	5,250	24,200	17,200	6,630	5,810	5,390	5,960	6,390	6,350
15	5,340	5,250	5,770	* 5,160	25,000	15,500	6,560	5,850	5,610	5,990	* 6,310	6,350
16	5,290	5,220	5,680	5,070	25,400	14,100	6,620	5,830	5,930	6,090	6,240	6,400
17	5,240	5,210	5,610	5,010	25,300	13,000	6,240	* 5,930	6,120	6,220	6,270	6,340
18	5,210	5,210	5,530	4,970	24,600	12,000	* 5,420	5,880	6,150	* 6,250	6,310	6,170
19	5,140	5,240	5,620	4,980	* 24,200	11,200	4,580	5,770	6,170	6,200	6,420	6,250
20	5,110	5,320	6,070	5,490	24,200	10,600	4,220	5,830	6,120	6,120	6,480	* 6,330
21	5,170	5,390	12,900	14,700	23,600	* 10,200	4,190	5,730	5,980	6,100	6,450	6,370
22	5,260	5,520	18,600	15,800	22,800	9,960	3,800	5,510	5,910	6,160	6,410	6,400
23	5,270	5,510	15,500	11,000	21,800	10,000	3,770	5,440	5,640	6,140	6,380	6,480
24	5,280	5,530	11,100	8,230	20,400	11,000	3,790	5,370	5,520	6,040	6,450	6,340
25	5,290	5,680	8,970	7,170	19,200	11,600	3,730	5,350	5,520	6,060	6,500	6,170
26	5,290	6,910	7,860	6,680	18,200	10,100	3,870	5,500	5,520	6,060	6,560	6,090
27	5,330	10,600	7,140	6,360	17,200	9,750	4,030	5,720	5,530	5,960	6,660	5,980
28	5,450	10,000	6,620	6,430	* 16,300	9,600	4,340	5,780	5,740	6,040	6,620	6,000
29	5,560	8,430	6,260	5,860	-	9,430	4,890	5,810	5,750	6,090	6,550	6,090
30	5,660	7,620	6,030	5,670	-----	9,310	5,490	5,850	5,740	6,080	6,360	6,200
31	5,670	-----	5,840	5,530	-----	9,490	-----	5,950	-----	6,090	6,130	-----
Total	165,330	177,270	309,760	198,630	470,380	463,840	197,490	174,850	168,100	186,260	197,100	191,660
Mean	5,333	5,909	9,992	6,407	16,800	14,960	6,583	5,640	5,603	6,008	6,358	6,389
Max	6,000	10,600	25,500	15,800	25,400	24,600	9,550	6,240	6,170	6,250	6,660	7,080
Min	5,090	5,210	5,530	4,970	5,250	9,310	3,730	5,080	5,010	5,820	6,120	5,890
Ac-ft	327,900	351,600	614,400	394,000	933,000	920,000	391,700	346,800	333,400	369,400	390,900	380,200

Calendar year 1961: Max 25,800 Min 5,050 Mean 9,107 Ac-ft 6,593,000
 Water year 1961-62: Max 25,500 Min 3,730 Mean 7,947 Ac-ft 5,753,000

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3906.72. Stone Corral Creek near Sites, Calif.

Location.--Lat 39°17'18", long 122°18'00", in NW¹/₄ NW¹/₄ sec.34, T.17 N., R.4 W., on left bank at road bridge 2.4 miles southeast of Sites.

Drainage area.--

Records available.--March 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 180 ft (from topographic map).

Extremes.--1957-58: Maximum discharge during period April to September, 2,500 cfs Apr. 2 (gage height, 14.93 ft); no flow for many days.

1958-59: Maximum discharge during water year, 1,590 cfs Feb. 16 (gage height, 12.88 ft); no flow for several months.

1959-60: Maximum discharge during water year, 126 cfs Feb. 8 (gage height, 6.22 ft); no flow for several months.

1960-61: Maximum discharge during water year, 265 cfs Feb. 2 (gage height, 7.22 ft); no flow for several months.

1961-62: Maximum discharge during water year, 1,980 cfs Feb. 14 (gage height, 14.29 ft); no flow for several months.

Remarks.--No known diversion or regulation above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, March to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						—	* 191	16	2.0	0.1		(*)
2						—	* 619	16	1.9	.1		
3						—	147	17	1.9	* .1		
4						—	108	18	1.8	.2		
5						—	168	17	1.7	.1		
6						—	205	17	1.6	.1		
7						—	101	17	1.5	.1		
8						—	76	17	1.6	.1		
9						—	67	17	1.6	.1		
10						—	59	16	1.9	.1		
11						—	52	25	* 1.9	.1		
12						—	47	19	2.0	.1		
13						—	42	15	1.7	0		
14						—	37	14	1.4	0		
15						—	34	14	.9	0		
16						—	31	13	.8	0		
17						—	29	13	.7	0		
18						—	27	12	.6	0		
19						—	24	11	.6	0		
20						—	22	11	.7	0		
21						—	20	9.7	.6	0		
22						—	18	10	.6	0		
23						—	16	12	.4	0		
24						—	16	5.6	.3	0		
25						—	15	4.2	.3	0		
26						34	14	3.6	.2	0		
27						36	14	3.0	.2	0		
28						* 32	15	2.6	.1	0		
29					—	135	15	2.4	.1	0		
30					-----	* 100	15	2.6	.1	0		
31		-----			-----	44	-----	2.3	-----	0		-----
Total						—	2,244	373.0	31.7	1.3	0	0
Mean						—	74.8	12.0	1.06	0.04	0	0
Max						—	619	25	2.0	0.2	0	0
Min						—	14	2.3	0.1	0	0	0
Ac-ft						—	4,450	740	63	2.6	0	0

Calendar year 1957 Max - Min - Mean - Ac-ft -

Water year 1957-58 Max - Min - Mean - Ac-ft -

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

SACRAMENTO RIVER BASIN

807

11-3906.72. Stone Corral Creek near Sites, Calif.--Continued

Discharge, in cubic feet per second, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.1	0.1	0.3	3.3	1.1	0.4		(*)		
2		0	.1		.3	3.3	1.1	.3				
3		0	.1		.3	3.0	1.2	.3				
4		0	.1		.3	2.7	1.1	.2				
5		0	.1		2.1	2.7	1.0	.2				
6		0	.1	4.7	.2	* 3.0	.8	.1				(*)
7		0	.1	1.0	.2	2.8	.6	* .1				
8		0	.1	4.4	.2	2.7	.5	.1				
9		0	.1	3.0	.2	2.6	.6	0	(*)			
10		0	.1	3.9	* .3	2.4	.5	0				
11		0	.1	1.3	.3	2.0	.5	0				
12		0	.1	1.1	.1	1.9	.6	0				
13		0	.1	1.4	.1	2.0	.5	0				
14		0	.1	.9	0	1.8	* .5	0				
15		0	.1	.9	2.0	1.6	.4	0				
16		0	.1	.8	4.69	1.5	.5	0				
17		0	.1	.8	* 2.78	1.6	.5	0				
18		0		.7	3.9	1.5	.5	0				
19		0		.7	1.5	1.5	.5	0				
20		0		.6	1.0	1.5	.5	0				
21		.1		.6	2.0	1.4	.4	0				
22		.1		.5	1.3	1.5	.3	0				
23		.1	.1	.6	7.0	1.5	.3	0				
24		.1		.5	5.6	1.5	.3	0				
25	(*)	.1		.5	4.8	1.4	.4	0				
26		.1		.5	4.2	1.4	.5	0				
27		.1		.5	3.7	1.3	.5	0				
28		.1		.4	3.3	1.3	.4	0				
29		.1		.4	-	1.3	.3	0				
30		.1		.3	-----	1.5	.4	0				
31		-----		.3	-----	1.2	-----	0	-----			
Total	0	1.0	3.0	60.8	895.6	60.7	17.3	1.7	0	0	0	0
Mean	0	0.03	0.97	1.96	32.0	1.96	0.58	0.05	0	0	0	0
Max	0	* 0.1	0.1	30	469	3.3	1.2	0.4	0	0	0	0
Min	0	0	-	0.1	0	1.2	0.3	0	0	0	0	0
Ac-ft	0	2.0	6.0	121	1,780	120	34	3.4	0	0	0	0

Calendar year 1958 Max - Min - Mean - Ac-ft -
 Water year 1958-59 Max 469 Min 0 Mean 2.85 Ac-ft 2,070

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

SACRAMENTO RIVER BASIN

11-3906.72. Stone Corral Creek near Sites, Calif.--Continued

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	(*)		0	0.3	0.7	0.5	0.3	0.3				
2			.1	.3	.3	.4	.3	.3				
3			.1	.3	.5	.4	.3	.3				
4			.1	.3	.6	.6	.3	.2				
5			.1	.2	3.7	.9	.3	.1			(*)	
6			.1	.2	1.7	.7	.3	.1				
7			.1	.2	1.3	.6	.3	.1				
8			.2	.3	* 6.1	.4	.3	.1				
9			.2	.3	3.3	.4	.3	.1				
10			.1	.3	6.8	.3	.3	.1				
11			.2	.3	3.4	.3	.3	0				
12			.2	.3	2.6	.5	.3	0				
13			.2	.3	1.8	1.5	.3	0				
14			.2	* .3	1.4	1.5	.3	0				
15			.2	.2	1.1	.8	.3	0				
16			.2	.2	.9	.5	.3	0				
17			.2	.2	.7	.3	.3	0				
18			.2	.2	.7	.3	.3	0				
19			.2	.2	.6	.3	.3	0				
20			.2	.2	.5	.3	.4	0				
21			.1	.4	.5	.3	.3	0				
22			.1	.3	.5	.3	.3	0				
23			.3	.3	.5	.3	.4	0				
24			.4	.3	.4	.3	.4	0	(*)			
25			.3	.3	.5	.3	.4	0				
26			.3	.3	.6	.3	.5	0				
27			.3	.3	.6	.3	.6	* 0				
28			.3	.3	.6	.3	.5	0				
29	(*)		.3	.3	.6	.3	.3	0				
30			* .3	.3	-----	.3	.3	0				
31			-----	.3	-----	.3	-----	0			(*)	-----
Total	0	0	6.1	8.5	139.8	14.8	10.1	1.7	0	0	0	0
Mean	0	0	0.20	0.27	4.82	0.48	0.34	0.05	0	0	0	0
Max	0	0	0.3	0.4	.61	1.5	0.6	0.3	0	0	0	0
Min	0	0	0	0.2	0.3	0.3	0.3	0	0	0	0	0
Ac-ft	0	0	.12	17	277	29	20	3.4	0	0	0	0

Calendar year 1959 Max 469 Min 0 Mean 2.86 Ac-ft 2,070
 Water year 1959-60 Max 61 Min 0 Mean 0.49 Ac-ft 358

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

SACRAMENTO RIVER BASIN

809

11-3906.72. Stone Corral Creek near Sites, Calif.--Continued

Discharge, in cubic feet per second, water year October 1960 to September 1961

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	(*)		0.2	0	8.4	0.4	0.5	0.6	0.1			
2			* 0	0	7.2	.5	.5	.6	.1			
3			0	0	1.4	.5	.5	.5	.1			
4			0	0	4.7	.5	.5	.4	0			
5			0	0	2.2	.4	.4	.5	* 0			
6			0	0	1.6	.4	.5	.5	0			
7			0	0	1.2	.4	.5	.5	0	(*)		
8			0	0	.9	.6	.5	.5	0			
9			0	0	8.0	.7	.6	.5	0		(*)	
10			0	0	5.5	.8	.6	.5	0			
11			0	0	2.3	.7	.6	.5	0			(*)
12			0	0	1.7	.6	* .6	.6	0			
13			0	* 0	1.3	.5	.6	.4	0			
14		(*)	0	0	1.0	.6	.6	.3	0			
15			0	0	1.1	1.0	.6	.3	0			
16			0	0	1.1	.8	.7	.2	0			
17			0	0	.9	1.3	.7	.2	0			
18			0	0	.7	1.0	.7	.3	0			
19			0	0	.7	.8	.7	.2	0			
20			0	0	.7	.6	.7	.2	0			
21			* 0	0	.7	.6	.8	.2	0			
22			0	0	.8	.6	.9	.2	0			
23			0	0	.6	.6	.9	.1	0			
24			0	0	.5	.7	.9	.1	0			
25			0	.1	.6	.7	.8	.1	0			
26			0	6.8	.6	.6	.8	0	0			
27	(*)		0	* 4.0	.5	.6	.7	0	0			
28			* 0	.3	.5	.5	.7	0	0			(*)
29			0	4.4	-	.5	.7	0	0			
30			0	* 2.1	-----	.5	.7	0	0			
31		-----	0	3.2	-----	.6	-----	.1	-----			-----
Total	0	0	0.2	108.2	134.8	19.6	19.5	9.1	0.3	0	0	0
Mean	0	0	0.006	3.49	4.81	0.63	0.65	0.29	0.01	0	0	0
Max	0	0	.2	44	72	1.3	0.9	0.6	0.1	0	0	0
Min	0	0	0	0	0.5	0.4	0.4	0	0	0	0	0
Ac-ft	0	0	0.4	215	267	39	39	18	0.6	0	0	0
Calendar year 1960: Max	61	Min	0	Mean	0.48	Ac-ft	347					
Water year 1960-61: Max	72	Min	0	Mean	0.80	Ac-ft	579					

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

11-3906.72 Stone Corral Creek near Sites, Calif.--Continued.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			1.0		0	1.6	0.8	0.5	0.3			
2		(*)	1.1		0	1.5	.8	.5	.2			
3			2.1		* 0	1.4	.8	.4	.1			
4			.1		0	1.3	.7	.3	.1			
5			* 0		0	4.6	.6	.2	0	(*)		
6			0		0	14.4	.6	.2	0			(*)
7			0		0	6.3	.6	.2	* 0		(*)	
8			0		0	1.3	.6	.2	0			
9			0		0	7.7	.6	.1	0			
10			0	(*)	0	5.3	.4	.1	0			
11			0		0	3.7	.4	.1	0			
12			0		0	3.0	.4	.1	0			
13			0		8.6	2.8	.4	.1	0			
14			0		* 4.5	2.7	.4	* .2	* 0			
15			0		* 17.1	2.7	.4	.2	0			
16			0		2.6	2.7	.4	.2	0			
17			0		1.1	2.3	.4	.1	0			
18			0		11.1	1.7	.5	.1	0			(*)
19	(*)		0	(*)	3.0	1.6	.6	.1	0			
20			0		1.2	1.4	.7	.1	0			
21			0		7.5	1.4	.6	.1	0			
22			0		5.2	1.8	.6	0	* 0			
23			0		4.1	1.6	.7	.1	0			
24			0		3.4	1.3	.6	0	0	(*)		
25			0		2.7	1.1	.6	.1	0			
26			0		2.4	1.2	.6	.1	0			
27			0		1.8	1.1	.6	.1	0			
28			0		2.0	1.1	.6	0	0		(*)	(*)
29			0		-	1.1	.6	0	0			
30			0		-----	.9	.5	0	0			
31			0		-----	.8	-----	0	-----			
Total	0	0	14.2	0	93.5	322.8	17.1	4.5	0.7	0	0	0
Mean	0	0	0.46	0	33.4	10.4	0.57	0.15	0.02	0	0	0
Max	0	0	11	0	45.9	14.4	0.8	0.5	0.3	0	0	0
Min	0	0	0	0	0	0.8	0.4	0	0	0	0	0
Ac-ft	0	0	28	0	1,850	640	34	8.9	1.4	0	0	0
Calendar year 1961: Max 72 Min 0 Mean 0.84 Ac-ft 607												
Water year 1961-62: Max 459 Min 0 Mean 3.55 Ac-ft 2,560												

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

11-3910. Sacramento River at Knights Landing, Calif.

Location.--Lat 38°48'10", long 121°42'55", in NE $\frac{1}{4}$ sec. 14, T.11 N., R.2 E., on left bank just upstream from Southern Pacific Railroad bridge at Knights Landing, 13.1 miles upstream from Feather River and at mile 34.0 upstream from Sacramento.

Records available.--April 1921 to October 1939 (low-water periods only), June 1940 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers. Prior to Dec. 9, 1930, in fender pier of railroad bridge at same datum. Water-stage recorder for station at Verona was used as auxiliary gage for this station January 1941 to June 1945. Since Aug. 16, 1945, auxiliary water-stage recorder 6.0 miles downstream from base gage.

Average discharge.--22 years (1940-62), 9,852 cfs (7,133,000 acre-ft per year).

Extremes.--Maximum discharge during year, 29,100 cfs Dec. 4 (gage height, 31.48 ft); maximum gage height, 38.16 ft Feb. 17 (backwater from Feather River and Sutter bypass); minimum daily discharge, 4,220 cfs Apr. 23, 24; minimum gage height, 15.73 ft Oct. 11. 1940-62: Maximum discharge, 30,000 cfs Dec. 3, 1960 (gage height, 30.31 ft); maximum gage height, 41.83 ft Feb. 8, 1942 (backwater from Feather River and Sutter bypass).

1921-62: Minimum discharge recorded, 250 cfs July 23, 1931 (gage height, 7.80 ft).

Remarks.--Records good except those for period of no gage-height record at auxiliary gage, which are fair. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and considerable return flow from irrigated areas.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,790	6,430	9,790	6,400	6,100	17,400	10,500	6,120	7,020	6,420	6,670	7,480
2	6,590	6,290	15,200	6,300	5,950	17,100	10,900	6,270	6,760	6,420	6,740	7,660
3	6,310	6,150	28,100	6,200	5,910	17,800	10,600	6,040	6,400	6,280	6,700	7,990
4	5,900	5,950	27,000	6,000	5,940	19,300	10,700	6,060	6,220	6,250	6,810	8,180
5	5,630	5,930	22,400	6,270	5,820	18,400	10,500	6,220	6,080	6,180	7,070	8,760
6	5,480	5,930	17,000	5,990	5,730	18,200	10,300	6,430	5,740	6,160	7,170	9,310
7	5,520	5,840	14,000	5,940	5,850	25,800	10,100	6,370	5,680	6,030	7,140	9,550
8	5,550	*5,820	12,200	5,820	5,890	25,500	9,960	6,550	5,540	6,050	6,980	9,720
9	5,630	5,710	10,500	5,890	7,870	24,100	9,640	6,730	5,460	6,210	7,240	9,630
10	5,560	5,670	9,540	5,900	11,600	22,400	9,310	7,210	5,410	6,230	7,400	9,330
11	*5,520	5,650	*8,730	5,910	21,300	21,200	8,910	7,600	5,500	6,310	7,420	8,860
12	5,590	5,720	8,210	6,070	22,400	22,000	8,620	7,720	5,840	6,210	7,590	8,420
13	5,770	5,820	7,440	6,110	21,700	19,400	7,600	7,350	*5,950	6,180	7,730	8,430
14	5,870	5,780	6,810	6,000	23,500	17,900	6,840	7,440	5,910	6,290	7,590	8,220
15	5,870	5,810	6,500	*5,860	25,100	16,500	6,900	7,550	6,130	6,310	*7,460	7,960
16	5,820	5,740	6,240	5,700	25,900	15,000	7,020	7,590	6,730	6,310	7,270	7,840
17	5,770	5,780	6,170	5,530	26,300	14,000	6,960	*7,900	7,100	6,330	7,310	7,520
18	5,660	5,710	6,050	5,540	25,900	13,500	*6,220	7,730	7,060	*6,480	7,250	7,220
19	5,600	5,740	6,040	5,450	*24,800	12,700	5,300	7,850	7,090	6,420	7,490	7,090
20	5,500	5,900	6,380	5,180	24,700	12,000	4,890	7,850	7,090	6,460	7,510	*7,030
21	5,510	5,990	11,600	12,900	24,400	*11,400	5,100	7,610	6,960	6,390	7,490	6,830
22	5,630	6,220	20,900	18,900	23,400	11,000	4,770	7,460	6,640	6,430	7,520	6,790
23	5,770	6,200	19,100	13,900	22,300	10,500	4,220	7,220	6,360	6,510	7,400	7,070
24	5,730	6,350	14,900	10,300	21,300	11,600	4,220	6,840	6,250	6,420	7,470	6,890
25	5,920	6,400	11,700	8,720	19,700	11,900	4,270	6,960	6,130	6,360	7,550	6,560
26	5,970	7,220	9,940	7,860	19,200	11,400	4,300	7,100	6,220	6,440	7,810	6,390
27	6,030	11,500	8,660	7,370	18,800	10,800	4,420	7,490	6,160	6,350	7,800	6,260
28	6,070	12,500	7,840	7,080	*18,000	10,600	4,650	7,490	6,210	6,460	7,820	6,390
29	6,260	10,600	7,230	6,750	-	10,300	5,260	7,580	6,290	6,540	7,860	6,440
30	6,330	9,140	6,880	6,470	-----	10,100	5,760	7,410	6,300	6,730	7,810	6,530
31	6,430	-----	6,670	6,250	-----	10,200	-----	7,290	-----	6,760	7,710	-----
Total	181,580	199,490	359,720	224,560	475,360	490,000	218,740	221,030	188,230	196,920	228,780	232,350
Mean	5,857	6,650	11,600	7,244	16,980	15,810	7,291	7,130	6,274	6,352	7,380	7,745
Max	6,790	12,500	28,100	18,900	26,300	25,800	10,900	7,900	7,100	6,760	7,860	9,720
Min	5,480	5,650	6,040	5,180	5,730	10,100	4,220	6,040	5,410	6,030	6,670	6,260
Ac-ft	360,200	395,700	713,500	445,400	942,900	971,900	433,900	438,400	373,300	390,600	453,800	460,900

Calendar year 1961: Max 28,900 Min 4,600 Mean 10,110 Ac-ft 7,322,000
 Water year 1961-62: Max 28,100 Min 4,220 Mean 8,810 Ac-ft 6,378,000

* Discharge measurement made on this day.

Note.--No gage-height record at auxiliary gage Sept. 13-20.

SACRAMENTO RIVER BASIN

11-3914. Little Last Chance Creek near Chilcott, Calif.

Location.--Lat 39°52'00", long 120°10'05", in ~~Range~~ sec.10, T.23 N., R.16 E., on left bank 500 ft downstream from highway bridge, 0.9 mile downstream from unnamed tributary, 4.5 miles north of Vinton, and 5.0 miles north of Chilcott.

Drainage area.--84.2 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,140 ft (from topographic map).

Extremes.--Maximum discharge during year, 162 cfs May 11 (gage height, 4.41 ft); minimum daily, 0.2 cfs several days in September.
1958-62: Maximum discharge, 784 cfs Feb. 8, 1960 (gage height, 5.56 ft); no flow Oct. 23, 1959, July 24-27, 29, Aug. 4, 1961.

Remarks.--Flow regulated by Frenchman Reservoir beginning Nov. 7, 1961 (capacity, 50,300 acre-ft, preliminary figure).

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	1.6					8.4	90	2.0	2.1	1.4	0.4
2	.8	1.8			0.4		13	*84	2.0	2.2	*20	.3
3	.3	1.9					11	67	2.3	2.3	36	.3
4	.4	1.9					*9.2	69	2.4	2.3	39	*.3
5	.7	2.1		0.3			10	75	2.1	2.4	45	.4
6	.8	1.6	*				10	75	2.2	2.4	46	.4
7	.8	1.5					10	77	79	2.5	44	.4
8	1.1	.5			*0.5	1.0	11	106	*134	2.2	43	.3
9	1.0	.3					11	102	134	2.3	75	.3
10	.8	*.3		*			8.8	102	141	2.2	92	.4
11	.7						8.0	124	123	2.2	90	.4
12	1.3						8.3	141	107	2.8	89	.2
13	1.3						8.2	141	106	3.2	88	.2
14	1.5				0.6		10	134	109	2.5	86	.3
15	1.4		0.3			*1.4	9.4	75	111	2.6	*84	.2
16	1.3					1.6	7.8	*63	111	2.6	80	.3
17	1.3					1.8	6.5	30	69	2.8	83	.2
18	1.4					1.8	6.4	25	48	2.7	80	.2
19	1.4	.3				2.1	5.6	3.5	49	2.4	80	.2
20	1.8			0.4		2.5	4.6	3.2	*46	2.2	57	.3
21	1.8				*	2.6	3.7	3.0	22	2.2	19	.4
22	1.7					2.5	3.7	2.7	5.0	2.1	19	.4
23	1.7					2.6	3.5	2.8	4.9	2.6	13	.3
24	2.0					2.6	2.9	3.0	4.8	2.6	.9	.3
25	2.0				1.0	3.4	2.4	2.6	4.4	2.0	.7	.4
26	2.2					4.9	65	2.5	3.0	1.6	.5	.5
27	2.5					6.8	94	2.8	2.1	1.6	.4	.4
28	2.3					7.7	99	2.3	2.2	1.6	.4	.4
29	2.2				-	7.7	101	2.1	2.0	1.8	.4	.4
30	2.1					7.8	99	2.1	2.1	1.7	.3	.3
31	1.6					7.8		2.0		1.5	.3	
Total	43.1	19.5	9.3	11.4	18.1	81.6	673.0	1,614.6	1,432.5	70.2	1,313.3	9.8
Mean	1.39	0.65	0.30	0.37	0.65	2.63	22.4	52.1	47.8	2.26	42.4	0.33
Max	2.5	2.1	-	-	-	7.8	101	141	141	3.2	92	0.5
Min	0.3	-	-	-	-	-	2.9	2.0	2.0	1.5	0.3	0.2
Ac-ft	85	39	18	23	36	162	1,330	3,200	2,840	139	2,600	19

Calendar year 1961: Max 17 Min 0 Mean 3.39 Ac-ft 2,450

Water year 1961-62: Max 141 Min 0.2 Mean 14.5 Ac-ft 10,490

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 11 to Dec. 5. Stage-discharge relation affected by ice Dec. 6 to Mar. 14.

11-3915. Big Grizzly Creek near Portola, Calif.

Location (corrected).--Lat 39°52'00", long 120°27'20", in NW 1/4 sec. 7, T.23 N., R.14 E., on left bank 500 ft upstream from small tributary, 4.3 miles upstream from mouth, and 4.5 miles north of Portola.

Drainage area.--45.5 sq mi.

Records available.--October 1925 to September 1932, October 1950 to September 1953, June 1954 to September 1962. Prior to October 1952, published as Grizzly Creek near Portola.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,320 ft (corrected) (from topographic map). Oct. 26, 1925, to Sept. 30, 1932, at datum 2.04 ft higher.

Average discharge.--18 years, 36.9 cfs (26,710 acre-ft per year); median of yearly mean discharges, 31 cfs (22,400 acre-ft per year).

Extremes.--Maximum discharge during year, 732 cfs Apr. 14 (gage height, 5.23 ft); no flow, probably Jan. 22 or 23, result of freeze-up.

1925-32, 1950-53, 1954-62: Maximum discharge, 2,680 cfs Mar. 26, 1928 (gage height, 9.54 ft, present datum), from rating curve extended above 330 cfs; minimum, that of Jan. 22 or 23, 1962.

Remarks.--Records good except those for period of no gage-height record, which are poor. Diversions for irrigation of about 400 acres above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 22 to Nov. 17, Sept. 26-30)

1.16	0.1	2.0	18
1.2	.2	2.2	27
1.3	.5	2.5	51
1.4	1.1	3.0	109
1.5	2.4	3.5	193
1.6	4.1	4.0	315
1.8	10	5.0	645

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.6	1.2		1.5	6.2	28	91	20	0.8	0.2	0.2
2	.2	.4	1.2		1.6	6.2	36	97	19	.8	.2	.2
3	.2	.5	1.0	0.4	1.6	3.9	53	101	19	.7	.2	.2
4	* .2	.4	.7		1.6	3.6	82	101	19	.7	.2	.2
5	.2	.6	.7		1.8	3.4	* 90	95	16	.6	.2	.2
6	.2	.6	.6		1.9	4.4	128	86	14	.5	.2	.2
7	.2	.4	.5		2.5	5.6	189	79	13	.4	.2	.2
8	.2	.4	.5		3.0	5.7	250	73	12	.4	.2	.1
9	.2	.4	.4		3.6	6.5	354	69	12	.4	.3	.1
10	.2	.6			5.6	6.2	402	58	9.7	.4	.3	.1
11	.2	.6		.3	8.7	5.9	396	50	8.4	.4	.2	.1
12	.3	.6			13	5.3	396	45	* 7.4	* .4	.2	.2
13	.3	.6			11	4.8	408	40	6.5	.4	.2	.2
14	.2	.6			10	4.8	505	37	8.1	.4	.2	.2
15	.2	.5	.3		9.7	4.8	536	* 37	7.8	.4	.2	.2
16	.2	.5			7.1	* 4.8	* 449	75	6.5	.4	.2	.2
17	.2	* .4			7.1	4.8	387	80	6.8	.3	.2	.2
18	.2	.4			7.8	5.1	351	54	5.1	.3	.2	.2
19	.3	.4			7.4	5.6	333	40	3.9	.3	.2	.2
20	.4	.4			7.1	5.9	248	34	3.4	.2	.2	.2
21	.5	.6		2.0	6.8	5.9	286	30	2.8	.2	.2	.2
22	.5	.6			6.5	5.9	337	27	2.4	.2	.2	.2
23	.4	1.0			6.2	5.6	336	30	2	.2	.2	.2
24	.4	1.1			6.2	5.9	280	37	1.8	.2	.2	.2
25	.3	1.1	.4		6.2	6.8	206	29	1.5	.2	.2	.2
26	.4	1.4		1.5	5.7	8.4	149	28	1.3	.2	.2	.2
27	.7	1.5			6.2	11	166	35	1.0	.2	.2	.2
28	.9	1.1			6.5	12	147	28	1.0	.2	.2	.2
29	.9	1.0			-	13	96	26	1.0	.2	.2	.3
30	.6	1.1		* 1.4	-----	18	86	24	.9	.2	.2	.2
31	.5	-----		1.5	-----	22	-----	22	-----	.2	.2	-----
Total	10.6	20.4	14.5	27.3	163.9	218.0	7710	1658	2333	11.4	6.4	5.7
Mean	0.34	0.68	0.47	0.88	5.85	7.03	257	53.5	7.78	0.37	0.21	0.19
Max	0.9	1.5	1.2	-	13	22	536	101	20	0.8	0.3	0.3
Min	0.2	0.4	-	-	1.5	3.4	28	22	0.9	0.2	0.2	0.1
Ac-ft	21	40	29	54	325	432	15,290	3,290	463	23	13	11

Calendar year 1961: Max 79 Min 0.1 Mean 7.90 Ac-ft 5,730

Water year 1961-62: Max 536 Min 0.1 Mean 27.6 Ac-ft 19,990

Peak discharge (base, 410 cfs).--Apr. 14 (2000) 732 cfs (5.23 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 10 to Jan. 29.

SACRAMENTO RIVER BASIN

11-3925. Middle Fork Feather River near Cllo, Calif.

Location.--Lat 39°45'10", long 120°35'40", in SE $\frac{1}{4}$ sec.23, T.22 N., R.12 E., on left bank 0.6 mile upstream from Frazier Creek, 1.0 mile northwest of Cllo, and 2.2 miles southeast of Blairsden.

Drainage area.--686 sq mi.

Records available.--October 1925 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,380 ft (from topographic map). Prior to July 29, 1953, at site 0.5 mile downstream at different datum.

Average discharge.--37 years, 267 cfs (193,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,860 cfs Feb. 13 (gage height, 8.62 ft); minimum, 6.4 cfs Aug. 26.
1925-62: Maximum discharge, 14,400 cfs Dec. 23, 1955 (gage height, 15.77 ft), from rating curve extended above 6,300 cfs; minimum, 4.3 cfs Sept. 5, 1934.

Remarks.--Records good except those for period July 12 to Sept. 30 and those for periods of ice effect or no gage-height record, which are fair. Diversions for irrigation of about 40,000 acres above station, of which 14,500 acres receive supplemental water of about 7,000 acre-ft annually from Little Truckee River.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 17, July 20 to Aug. 15, Aug. 18 to Sept. 30)

2.0	7.0	2.6	31	5.0	324
2.1	9.5	3.0	62	6.0	575
2.2	12.5	3.5	114	7.0	970
2.4	20	4.0	175	9.0	2,130

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	18	131	50	33	147	1,480	331	130	27	11	8.2
2	8.0	18	113	50	36	135	1,500	377	130	27	11	8.8
3	8.3	18	99	51	38	118	1,490	362	137	30	11	9.5
4	*8.8	18	93	52	43	100	1,510	352	133	34	11	9.5
5	9.0	17	90	51	50	111	1,520	337	122	29	11	9.5
6	8.5	17	81	49	74	233	1,500	a 330	108	26	12	10
7	11	18	70	49	176	258	1,510	a 320	101	23	12	11
8	12	18	58	51	203	299	1,510	a 300	96	23	12	11
9	12	17	51	54	739	348	1,580	a 280	92	21	17	11
10	13	18	46	55	495	356	*1,470	a 230	90	20	14	12
11	14	18	37	48	568	391	1,390	a 210	85	22	12	12
12	14	18	40	43	1,050	389	1,300	a 180	*78	*23	12	12
13	13	18	37	53	1,530	329	1,260	a 160	71	20	13	12
14	12	18	36	41	1,190	297	1,290	a 150	70	17	11	12
15	13	19	37	42	1,550	288	1,350	*a 140	67	18	*9.8	11
16	13	19	37	39	856	283	1,200	233	62	18	9.5	11
17	13	*20	41	37	1,100	288	1,070	294	59	13	9.8	12
18	13	23	45	41	943	299	997	257	58	14	10	12
19	12	24	59	61	617	352	938	235	56	13	9.5	13
20	16	29	76	91	*450	445	780	212	56	13	8.8	14
21	12	31	100	b 50	362	490	704	199	52	13	9.5	14
22	11	37	88	b 45	314	498	728	178	50	11	8.0	14
23	11	47	85	*b 38	280	474	728	163	45	13	8.2	14
24	10	41	79	*b 36	260	422	680	158	40	12	8.8	13
25	10	47	73	33	227	515	606	148	38	13	8.8	13
26	18	70	66	31	182	627	518	139	36	13	7.5	15
27	21	59	61	29	154	780	539	142	32	14	8.5	14
28	30	54	58	29	149	997	545	144	30	15	8.2	17
29	21	75	58	29	-	1,260	445	135	29	13	8.8	16
30	19	154	54	30	-----	1,400	408	136	28	12	8.2	14
31	19	-----	51	32	-----	1,450	-----	135	-----	12	8.2	-----
Total	414.6	998	2,050	1,390	13,669	14,379	32,546	6,967	2,181	572	320.1	365.5
Mean	13.4	33.3	66.1	44.8	488	464	1,085	225	72.7	18.5	10.3	12.2
Max	30	154	131	91	1,550	1,450	1,580	377	137	34	17	17
Min	8.0	17	36	29	33	100	408	135	28	11	7.5	8.2
Ac-ft	822	1,980	4,070	2,760	27,110	28,520	64,550	13,820	4,330	1,130	635	725

Calendar year 1961: Max 233 Min 5.4 Mean 53.7 Ac-ft 38,920

Water year 1961-62: Max 1,580 Min 7.5 Mean 208 Ac-ft 150,500

Peak discharge (base, 850 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1800	7.74	1,320	2-17	2400	7.62	1,260
2-13	1600	8.62	1,860	4-4	2000	8.25	1,620

* Discharge measurement made on this day.

a No gage-height record.

b Stage-discharge relation affected by ice.

11-3935. Middle Fork Feather River below Sloat, Calif.

Location.--Lat 39°52'00", long 120°46'15", in SW $\frac{1}{4}$ sec. 8, T.23 N., R.11 E., on right bank 0.6 mile downstream from Bell Bar Creek, 1.1 miles west of Bell Bar, and 2.2 miles west of Sloat.

Drainage area.--819 sq mi.

Records available.--October 1940 to September 1962 (discontinued). Records for water year 1941 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 4,010 ft (from topographic map). Prior to Sept. 9, 1953, at site 0.6 mile upstream at different datum.

Average discharge.--22 years, 545 cfs (394,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,830 cfs Feb. 9 (gage height, 6.47 ft); minimum, 36 cfs Oct. 1, 2, 4.

1940-62: Maximum discharge, 31,200 cfs Dec. 23, 1955 (gage height, 19.25 ft), from rating curve extended above 8,200 cfs on basis of slope-area measurement of peak flow; minimum, 28 cfs Sept. 8, 14, 1955.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow slightly regulated by millpond at Sloat. Diversions for irrigation of about 1,000 acres between stations near Clio and below Sloat. See Remarks for station near Clio.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 31 to Apr. 19)

2.4	28	4.0	610
2.6	56	5.0	1,310
2.8	100	6.0	2,300
3.0	160	6.5	2,870
3.5	350		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	60	262	95	82	265	1,970	795	598	174	56	43
2	38	58	244	90	86	248	2,020	895	616	167	54	43
3	38	58	192	88	90	248	2,050	972	616	157	54	45
4	* 38	56	160	88	93	220	2,120	1,070	562	154	54	45
5	38	56	147	90	100	240	2,210	1,110	512	147	56	45
6	39	54	134	90	114	485	2,220	1,060	495	138	56	45
7	39	56	122	88	258	460	2,280	979	495	122	54	46
8	39	56	108	90	368	470	2,340	1,020	495	117	54	46
9	40	54	100	93	1,490	534	2,530	1,040	485	114	72	46
10	40	54	92	98	1,220	506	* 2,200	888	495	108	68	45
11	43	54	82	95	909	528	2,190	762	475	108	62	46
12	51	54	82	86	1,170	517	2,100	664	* 420	* 111	58	46
13	48	53	78	82	1,970	465	2,150	580	420	111	56	45
14	48	53	76	76	1,850	415	2,300	524	410	100	* 54	46
15	46	53	72	72	2,160	415	2,490	* 522	386	98	54	46
16	46	52	72	75	1,350	405	2,260	610	364	93	53	46
17	46	* 52	74	76	1,300	405	2,020	718	372	93	50	45
18	45	52	81	84	1,250	430	1,920	724	372	88	50	46
19	45	53	86	92	881	500	1,880	628	364	83	50	46
20	48	58	134	115	* 640	616	1,520	574	350	76	48	46
21	62	60	251	90	539	664	1,320	550	328	72	48	48
22	56	62	181	74	480	694	1,360	550	314	70	48	48
23	53	76	157	* 69	440	658	1,450	586	293	70	48	48
24	53	81	144	80	405	592	1,500	568	273	77	46	48
25	53	78	131	88	359	700	1,390	500	254	74	46	48
26	60	108	122	88	310	854	1,210	470	240	66	45	46
27	78	111	114	84	262	1,070	1,240	470	220	66	43	46
28	111	93	111	82	262	1,310	1,300	517	209	66	43	51
29	76	98	111	82	-	1,570	1,000	580	202	62	43	53
30	64	234	108	82	-----	1,780	895	622	184	58	43	50
31	62	-----	100	82	-----	1,860	-----	616	-----	56	43	-----
Total	1,581	2,097	3,928	2,664	2,043	2,012	5,543	2,216	1,181	3,096	1,609	1,393
Mean	51.0	69.9	127	85.9	730	649	1,848	715	394	99.9	51.9	46.4
Max	111	234	262	115	2,160	1,860	2,530	1,110	616	174	72	53
Min	38	52	72	69	82	220	895	470	184	56	43	43
Ac-ft	3,140	4,160	7,790	5,280	40,540	39,920	110,000	43,960	23,440	6,140	3,190	2,760

Calendar year 1961: Max 517 Min 32 Mean 163 Ac-ft 117,800
Water year 1961-62: Max 2,530 Min 38 Mean 401 Ac-ft 290,300

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2100	6.47	2,830	4-15	0600	6.25	2,710
2-13	2000	6.43	2,790				

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 16-18, Dec. 10-14, Jan. 12 to Feb. 3.

SACRAMENTO RIVER BASIN

11-3945. Middle Fork Feather River near Merrimac, Calif.

Location.--Lat 39°42'30", long 121°16'15", in NE $\frac{1}{4}$ sec.2, T.21 N., R.6 E., on right bank 400 ft downstream from bridge on Milsap Bar Road, 500 ft downstream from Little North Fork, 4.5 miles southeast of Merrimac, and 20 miles northeast of Oroville.

Drainage area.--1,068 sq mi.

Records available.--October 1951 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,560 ft (from topographic map).

Average discharge.--11 years, 1,366 cfs (988,900 acre-ft per year); median of yearly mean discharges, 1,150 cfs (833,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,500 cfs Feb. 9 (gage height, 10.65 ft); minimum, 114 cfs Oct. 2, 3, 4, 5, 7, 8.

1951-62: Maximum discharge, 62,000 cfs Dec. 23, 1955 (gage height, 21.2 ft); from rating curve extended above 13,000 cfs on basis of comparison of upstream and downstream peak discharges and study of runoff per square mile for intervening areas; minimum, 92 cfs Jan. 2, 1960.

Revisions.--The minimum discharge for the water year 1961 has been revised to 114 cfs Sept. 30, 1961, superseding figure published in Surface Water Records of California, Vol. 2.

Remarks.--Records good. No diversions between stations below Sloat and near Merrimac.

Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1961, superseding those published in Vol. 2 of the 1961 Surface Water Records of California, are given herewith:

1960	1960
Oct. 1..... 126	Oct. 4..... 124
2..... 125	5..... 126
3..... 125	

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1960.....	4,138	158	124	133	8,210
Calendar year 1960.....	351,075	23,800	119	959	696,300
Water year 1960-61.....	227,044	3,090	117	622	450,300

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	116	150	1320	269	275	964	3130	2560	1950	506	195	142
2	116	148	1120	260	284	1010	3240	2730	1980	482	192	142
3	116	146	640	254	290	916	3390	3090	1960	462	188	140
4	116	144	462	251	293	856	3590	3390	1730	446	190	140
5	116	140	386	245	299	928	3860	3560	1590	430	200	140
6	*118	140	344	242	335	1540	4020	3480	1530	410	200	140
7	118	138	314	248	757	1430	4200	3350	1510	386	192	138
8	116	140	293	260	1720	1330	4390	3390	1500	366	190	138
9	119	140	266	278	6200	1380	4700	3480	1500	350	212	137
10	120	138	245	281	6420	1300	4410	3120	1490	338	228	137
11	136	138	218	272	*3420	1260	4160	2720	1400	329	205	137
12	142	138	220	272	3010	1200	*4150	2410	1320	326	192	138
13	137	137	220	254	4760	1140	4440	2140	1260	326	182	138
14	132	137	215	222	5240	1060	4810	1960	*1280	314	176	138
15	131	137	210	210	6260	1050	5150	1810	1210	299	172	138
16	130	137	202	222	4510	1030	4780	1960	1130	290	168	137
17	128	136	230	220	3380	1010	4380	*2030	1100	284	*164	137
18	128	134	233	257	2980	1010	4220	2060	1070	281	164	134
19	128	144	290	537	2340	1100	4210	1940	1030	266	164	134
20	130	166	585	701	1910	1240	3630	1840	1000	254	166	136
21	137	*164	1000	430	1580	1300	3230	1750	940	245	166	137
22	148	162	645	255	1410	1590	3310	1800	886	236	168	138
23	142	205	474	220	1390	1380	3620	1900	838	230	158	137
24	140	205	410	275	1270	1290	3860	1810	772	225	156	136
25	138	272	378	*287	1150	1340	3730	1670	710	233	152	137
26	146	422	344	275	1040	1550	3380	1560	675	225	150	134
27	176	344	323	272	928	1850	3560	1550	635	218	148	134
28	230	251	305	257	928	2240	4020	1660	590	218	146	148
29	205	281	293	263	-	2550	3090	1850	560	212	144	162
30	166	764	281	263	-----	2840	2700	1960	535	208	146	152
31	156	-----	272	266	-----	2930	-----	1980	-----	200	144	-----
Total	4,277	5,898	12,738	8,818	64,379	43,614	117,360	72,510	35,681	9,595	5,418	4,176
Mean	138	197	411	284	2,299	1,407	3,912	2,339	1,189	310	175	139
Max	230	764	1,320	701	6,420	2,930	5,150	3,560	1,980	506	228	162
Min	116	134	202	210	275	856	2,700	1,550	535	200	144	134
Ac-ft	8,480	11,700	25,270	17,490	127,700	86,510	232,800	143,800	70,770	19,030	10,750	8,280

Calendar year 1961: Max 3,090 Min 116 Mean 604 Ac-ft 437,400

Water year 1961-62: Max 6,420 Min 116 Mean 1,053 Ac-ft 762,600

Peak discharge (base, 7,000 cfs).--Feb. 9 (2100) 10,500 cfs (10.65 ft).

* Discharge measurement made on this day.

11-3948. South Fork Feather River above Little Grass Valley Reservoir, Calif.

Location.--Lat 39°45'07", long 120°57'26", in NW¹/₄SE¹/₄ sec.22, T.22 N., R.9 E., on right bank about 0.6 mile upstream from maximum pool elevation of Little Grass Valley Reservoir, 0.5 mile downstream from unnamed tributary and 5 miles north of LaPorte.

Drainage area.--8.09 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,080 ft (from topographic map).

Extremes.--Maximum discharge during year, 222 cfs Feb. 9 (gage height, 3.23 ft), from rating curve extended above 110 cfs; minimum daily, 0.1 cfs for many days.

1960-62: Maximum discharge, that of Feb. 9, 1962; minimum daily, 0.1 cfs for many days in 1961-62.

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

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.22	0.1	1.8	11
1.3	.3	2.0	22
1.4	.9	2.2	37
1.5	2.1	2.4	58
1.6	4.2	2.7	103
1.7	7.0	3.1	189

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	*0.6	3.0	2.5	3.2	5.0	2.6	*91	*120	13	*0.9	0.2
2	.1	.4	3.6	*2.3	3.4	12.0	2.9	107	135	12	.8	.2
3	.1	.4	4.0	2.5	4.0	48	3.2	132	116	11	.8	.2
4	.2	.4	2.0	2.3	4.2	*9.4	4.1	159	96	9.8	.9	.2
5	.2	.4	1.6	2.1	4.5	9.8	4.9	173	89	8.6	1.0	.2
6	.2	.4	1.5	2.3	5.9	11	5.7	168	89	7.8	.9	.2
7	.2	.4	1.4	2.9	1.5	9.4	6.7	173	93	6.7	.8	.2
8	.1	.4	1.2	3.4	1.4	9.0	7.7	178	94	6.4	.7	.2
9	.2	.4	1.6	4.0	9.7	1.0	8.9	183	98	5.9	1.5	.1
10	.2	.4	1.1	4.2	7.5	9.4	8.8	157	91	5.3	1.1	.1
11	.2	.4	1.1	b4.0	3.8	9.0	8.8	132	*82	5.0	.8	.1
12	.2	.4	1.0	4.0	3.0	b8.6	9.6	111	74	4.8	.7	.2
13	.2	.4	.9	b4.0	2.9	b8.6	12.0	94	67	4.5	.6	.2
14	.2	.4	.9	4.2	2.9	8.6	14.3	82	63	4.0	.6	.2
15	.2	.4	.9	4.2	3.0	8.2	15.0	71	61	3.6	.4	.2
16	.2	.4	.8	5.3	2.4	8.2	13.9	71	57	3.2	.4	.2
17	.2	.4	.9	4.8	2.1	8.2	13.2	76	56	2.9	.5	.2
18	.2	.4	.8	2.7	1.9	8.2	13.2	84	55	2.7	.4	.2
19	.2	.4	2.0	2.9	1.7	8.6	12.6	84	51	2.3	.4	.2
20	.3	.6	1.3	8.6	1.5	9.0	10.5	76	47	2.1	.4	.2
21	.3	.4	1.8	11	1.4	8.6	9.4	76	42	1.8	.4	.2
22	.3	.5	6.7	7.0	1.3	12	10.3	84	37	1.6	.4	.2
23	.3	1.0	5.0	3.6	1.3	8.6	12.8	89	33	1.5	.3	.2
24	.3	1.3	4.0	2.1	1.2	8.6	14.3	80	28	1.4	.3	.1
25	.4	3.2	3.6	2.0	b12	9.8	14.1	71	26	1.3	.3	.1
26	.6	6.4	3.4	2.0	b12	11	13.2	63	22	1.2	.3	.1
27	2.8	4.0	2.9	1.8	b12	13	13.9	64	20	1.8	.2	.2
28	2.0	2.1	2.9	2.0	1.1	14	13.0	78	18	1.8	.2	.2
29	1.0	3.4	b2.6	2.1	-	17	10.1	100	16	1.3	.2	.2
30	.7	1.1	b2.6	2.3	-----	19	9.1	111	14	1.1	.2	.2
31	.6	-----	b2.6	2.5	-----	23	-----	112	-----	1.0	*.2	-----
Total	13.0	41.7	157.0	111.6	577.2	515.8	2,988	3,330	1,890	137.4	17.6	5.4
Mean	0.42	1.39	5.06	3.60	20.6	16.6	99.6	107	63.0	4.43	0.57	0.18
Max	2.8	11	36	11	97	120	150	183	135	13	1.5	0.2
Min	0.1	0.4	0.8	1.8	3.2	8.2	26	63	14	1.0	0.2	0.1
Ac-ft	26	83	311	221	1,140	1,020	5,930	6,600	3,750	273	35	11

Calendar year 1961: Max 98 Min 0.1 Mean 18.0 Ac-ft 12,990
 Water year 1961-62: Max 183 Min 0.1 Mean 26.8 Ac-ft 19,400

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1900	3.23	222	5-7	2000	3.13	196
3-2	1100	2.93	150	6-2	1800	3.01	168
4-14	2000	3.04	175				

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER BASIN

11-3950.2. Little Grass Valley Reservoir near LaPorte, Calif.

Location.--Lat 39°43'25", long 121°01'10", in W $\frac{1}{2}$ sec.31, T.22 N., R.9 E., in valve chamber in dam on South Fork Feather River, 3.3 miles northwest of LaPorte.

Drainage area.--25.5 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Staff gage read one or two times a month. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District).

Extremes.--Maximum contents observed during year, 65,800 acre-ft July 3 (elevation, 5,027.6 ft).

Remarks.--Records good. Reservoir is formed by rockfill dam. Storage began in October 1961. Capacity, 94,600 acre-ft between elevations 4,876 ft (invert of release valve) and 5,047 ft (top of spillway gates), all of which is usable. Water is released down South Fork Feather River for power development and irrigation downstream. Records including extremes represent total contents at 2400 hrs.

Month-end elevation and contents, water year October 1960 to September 1961

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30.....	-	0	-
Oct. 31.....	4,897.5	297	+297
Nov. 30.....	4,918.5	1,170	+873
Dec. 31.....	4,936.8	3,330	+2,160
Calendar year 1961.....	-	-	+3,330
Jan. 31.....	4,943.6	4,680	+1,350
Feb. 28.....	4,960.4	9,660	+4,980
Mar. 31.....	4,976.0	17,200	+7,540
Apr. 30.....	5,003.1	37,600	+20,400
May 31.....	5,022.0	58,500	+20,900
June 30.....	5,027.6	65,800	+7,300
July 31.....	5,027.4	65,500	-300
Aug. 31.....	5,026.8	64,700	-800
Sept.30.....	5,026.2	63,900	-800
Water year 1961-62.....	-	-	+63,900

11-3950.3. South Fork Feather River below Little Grass Valley Dam, Calif.

Location.--Lat 39°43'26", long 121°01'17", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 31, T. 22 N., R. 9 E., on left bank 0.1 mile downstream from Little Grass Valley Dam, 0.7 mile downstream from Ice Creek and 3.5 miles northwest of LaPorte.

Drainage area.--25.9 sq mi.

Records available.--October 1927 to September 1933, (published as South Fork Feather River near LaPorte), October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,830 ft (from topographic map). Prior to Oct. 1, 1960, at site about 0.4 mile upstream at different datum.

Average discharge.--8 years (1927-33, 1960-62), 66.3 cfs (48,000 acre-ft per year), adjusted for storage.

Extremes.--Maximum daily discharge during year, 9.0 cfs Feb. 9; minimum daily discharge, 0.2 cfs Oct. 28-31, Nov. 2.

1927-33, 1960-62: Maximum discharge, 2,600 cfs Mar. 26, 1928 (gage height 7.00 ft, site and datum then in use), from rating curve extended above 400 cfs; minimum, that of Oct. 28-31, Nov. 2, 1961.

Remarks.--Records fair except those for period of no gage-height record and those for periods of indefinite stage-discharge relation, which are poor. Flow regulated by Little Grass Valley Reservoir (see preceding page) beginning in October 1961. No diversion above station.

Rating tables, except for periods of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 31

Jan. 1 to Sept. 30

2.7	0.2	3.0	4.5	2.77	0.6	3.0	4.0
2.8	.4	3.1	15	2.8	.8	3.1	7.0
2.9	1.4			2.9	1.9	3.2	11.0

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	* 0.5	1.8	0.6	0.7	a 1.0	1.2	* 3.2	* 7.0	1.6	* 8.8	8.4
2	1.4	.2	1.1	* .6	* .7	a .9	* 1.2	4.2	7.4	1.6	8.4	8.4
3	1.3	1.0	.9	.6	.7	a .9	1.3	5.3	5.9	* 1.6	8.4	8.4
4	1.3	2.0	.8	.6	.6	* .9	1.6	6.2	5.3	1.6	8.8	8.4
5	1.3	2.0	.8	.6	.6	.9	1.9	6.2	5.0	1.6	8.4	8.4
6	1.0	2.0	.8	.6	.6	1.0	2.3	5.9	5.0	1.5	8.4	8.4
7	1.3	2.0	.8	.7	1.2	.9	2.8	6.2	5.0	1.5	8.4	8.4
8	1.3	2.0	.8	1.2	1.9	.9	3.2	6.2	5.0	1.4	8.4	8.4
9	1.3	* 2.0	.7	1.2	9.0	1.0	3.8	5.9	4.8	1.4	8.4	8.4
10	1.2	2.1	.7	1.1	5.0	1.0	3.2	5.0	4.5	1.4	8.4	8.1
11	1.3	2.2	.5	.9	2.6	1.0	3.0	4.0	4.0	1.5	8.4	8.1
12	2.6	2.2	.4	.9	1.9	.9	3.4	3.8	4.0	1.5	8.1	8.1
13	3.0	2.3	.4	.8	2.3	.9	4.8	3.4	3.8	4.2	8.1	8.1
14	3.0	2.3	.4	.7	3.8	.9	5.3	3.0	3.8	8.4	8.1	8.1
15	2.6	2.4	.4	.7	3.0	.9	4.8	2.6	3.4	8.4	8.1	8.1
16	2.6	* 2.5	.4	.6	2.1	1.0	4.2	3.4	3.2	8.4	8.1	8.1
17	* 2.3	2.3	.3	.6	1.8	1.0	4.2	3.2	3.4	8.4	8.4	7.0
18	2.3	2.0	.3	.6	1.5	1.0	4.2	5.0	3.2	8.8	8.4	5.3
19	2.3	2.0	.4	.6	1.4	1.0	4.2	5.9	2.4	8.8	8.4	5.3
20	2.3	2.0	1.7	.6	1.4	1.0	3.2	5.3	2.4	8.8	8.4	5.3
21	2.0	2.0	2.5	.6	1.3	1.0	3.0	5.3	2.3	8.8	8.4	5.3
22	2.0	2.0	1.0	.6	1.2	.9	4.0	5.6	2.3	8.8	8.4	5.3
23	2.0	1.7	.9	.6	a 1.2	.9	4.8	6.2	1.9	8.8	8.4	5.3
24	5.0	1.4	.8	.6	a 1.1	.9	5.3	5.9	1.9	8.4	8.4	5.3
25	2.5	2.3	.8	.6	a 1.1	.9	5.3	5.3	1.8	8.8	8.4	5.3
26	2.5	3.3	.7	.6	a 1.1	.9	4.5	4.8	1.6	8.8	8.4	5.3
27	1.5	2.6	.7	.6	a 1.0	.9	5.3	4.8	1.6	8.8	8.4	5.3
28	.2	1.4	.6	.6	a 1.0	1.0	5.9	5.9	1.6	8.8	8.4	5.3
29	.2	.9	.6	.7	-	1.0	3.8	6.6	1.8	8.8	8.4	5.3
30	.2	.9	.6	.7	-----	1.1	3.0	7.0	1.6	8.8	8.4	5.3
31	.2	-----	.6	.7	-----	1.1	-----	7.0	-----	8.8	* 8.4	-----
Total	55.4	56.5	24.2	21.7	51.8	29.6	108.7	158.3	106.9	178.8	259.7	208.2
Mean	1.79	1.88	0.78	0.70	1.85	0.95	3.62	5.11	3.56	5.77	8.38	6.94
Max	5.0	3.3	2.5	1.2	9.0	1.1	5.9	7.0	7.4	8.8	8.8	8.4
Min	0.2	0.2	0.3	0.6	0.6	0.9	1.2	2.6	1.6	1.4	8.1	5.3
Ac-ft	110	112	48	43	103	59	216	314	212	355	515	413
Mean†	6.62	16.6	35.9	22.6	91.5	124	347	345	126	0.89	-4.64	-6.50
Ac-ft†	407	985	2,210	1,390	5,080	7,600	20,620	21,210	7,510	55	-285	-387
Calendar year 1961: Max	581	Min	-	Mean	63.2	Ac-ft	45,740	Mean†	67.8	Ac-ft†	49,070	
Water year 1961-62: Max	9.0	Min	0.2	Mean	3.45	Ac-ft	2,500	Mean†	91.7	Ac-ft†	66,400	

* Discharge measurement made on this day.

† Adjusted for storage in Little Grass Valley Reservoir.

a No gage-height record.

Note.--Stage-discharge relation indefinite Oct. 18 to Nov. 16, Feb. 9, 10. For months when inflow to the reservoir was small and other quantities were large, discordant figures of runoff may appear because of evaporation from the reservoir.

SACRAMENTO RIVER BASIN

11-3952. South Fork Feather River below diversion dam, near Strawberry Valley, Calif.

Location.--Lat 39°38'51", long 121°07'04", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.30, T.21 N., R.8 E., on right bank 0.1 mile downstream from diversion dam, 3.1 miles upstream from Rock Creek and 5.8 miles north of Strawberry Valley.

Drainage area.--37.7 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 3,535.02 ft above mean sea level (levels by Oroville-Wyandotte Irrigation District).

Extremes.--Maximum discharge during year, 271 cfs Feb. 9 (gage height, 4.78 ft); minimum daily, 0.5 cfs for many days.

1960-62: Maximum discharge observed, 1,380 cfs Feb. 9, 1961 (gage height, 4.10 ft), from rating curve extended above 400 cfs; minimum daily, 0.5 cfs for many days in 1962.

Remarks.--Records good. Flow regulated by Little Grass Valley Reservoir (see p. 818). At times South Fork Diversion Tunnel (maximum capacity about 600 cfs) diverts water 500 ft upstream to Sly Creek Reservoir (see p.822); diversion began in November 1961.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	1.8	1.6	1.0	1.0	0.8	0.7	* 0.6	* 4.3	3.1	13	12
2	4.4	* 1.8	1.5	* 1.0	* .9	1.5	* .7	.7	4.3	* 3.4	* 12	12
3	4.4	2.1	1.4	1.0	.9	.6	.7	.7	4.3	3.4	12	12
4	4.4	3.3	1.2	1.0	.9	.6	.7	1.5	4.3	3.4	13	* 12
5	4.5	2.2	1.2	1.0	.9	.6	.7	3.4	4.0	3.4	13	12
6	5.5	3.5	1.2	1.0	1.0	.6	.6	3.4	4.0	3.4	12	12
7	5.2	2.0	* 1.2	1.0	1.0	.6	.6	3.4	3.7	3.4	12	12
8	5.5	2.3	1.2	1.0	1.4	.6	.6	3.4	3.7	3.4	12	12
9	5.2	1.2	1.2	1.0	94	.6	.6	3.4	3.7	3.4	13	12
10	5.2	1.0	1.2	1.0	* 40	.5	.6	3.4	3.7	3.4	13	12
11	8.2	4.2	1.2	1.0	.7	.5	.6	3.4	3.7	3.4	12	12
12	9.6	.8	1.2	1.0	.7	.5	.6	3.4	3.7	3.4	12	12
13	7.8	* .8	1.2	1.0	1.5	.5	.6	3.4	3.7	3.4	12	12
14	6.8	* .8	1.2	1.0	1.1	.5	.6	3.4	4.0	3.4	12	12
15	6.4	* 1.1	1.2	1.0	1.5	.5	.5	3.4	4.0	3.1	12	12
16	* 6.4	1.2	1.2	1.0	1.0	.5	.5	3.7	4.0	3.1	13	12
17	6.4	1.2	1.2	1.0	* .7	.5	.5	3.7	3.7	3.1	13	12
18	5.8	1.2	1.2	1.0	.6	.5	.5	3.4	3.7	3.1	13	9.4
19	6.4	1.2	1.2	1.2	.6	.6	.6	3.4	3.7	3.1	13	8.5
20	6.4	1.2	1.2	1.2	.6	.6	.6	3.4	3.7	13	13	8.2
21	4.4	1.2	1.2	1.0	.6	.6	.6	3.4	3.7	22	13	8.2
22	4.6	1.2	1.2	1.2	.6	.6	.6	3.4	3.4	14	13	8.2
23	3.2	1.2	1.2	1.0	.6	.6	.6	3.7	3.4	14	13	8.2
24	12	1.2	1.2	.9	.6	.6	.6	3.7	3.4	14	13	8.2
25	6.1	1.2	1.2	.9	.6	.6	.6	4.0	3.4	14	13	8.2
26	6.4	1.2	1.2	.9	.6	.6	.6	4.6	3.4	14	12	7.9
27	3.2	1.2	1.2	.9	.6	.6	.6	5.0	3.1	14	12	8.2
28	1.2	1.2	1.2	.9	.6	.6	.6	5.0	3.1	14	12	9.4
29	1.5	1.4	1.2	.9	-	.6	.7	4.6	3.1	13	12	9.7
30	1.6	* 1.4	1.2	1.0	-----	.7	.6	4.6	3.1	13	12	8.8
31	1.2	-----	1.0	1.0	-----	.7	-----	4.6	-----	13	12	-----
Total	164.5	47.3	37.9	31	155.8	19	18.2	105.1	11.1	234.8	387	315.1
Mean	5.31	1.58	1.22	1.00	5.56	0.61	0.61	3.39	3.70	7.57	12.5	10.5
Max	12	4.2	1.6	1.2	94	1.5	0.7	5.0	4.3	22	13	12
Min	1.2	0.8	1.0	0.9	0.6	0.5	0.5	0.6	3.1	3.1	12	7.9
Ac-ft	326	94	75	61	309	38	36	208	220	466	768	625
Meant	5.31	10.7	26.0	15.0	160	45.4	166	82.5	23.7	11.6	12.5	10.5
Ac-ft†	326	637	1,600	922	8,860	2,790	9,860	5,070	1,410	717	768	625
Calendar year 1961:	Max	960	Min	0.8	Mean	93.1	Ac-ft	67,420	Meant	96.0	Ac-ft†	69,490
Water year 1961-62:	Max	94	Min	0.5	Mean	4.46	Ac-ft	3,230	Meant	46.4	Ac-ft†	33,580

* Discharge measurement made on this day.

† Adjusted for South Fork Tunnel diversion.

11-3953. Lost Creek above Sly Creek Reservoir, Calif.

Location.--Lat 39°37'05", long 121°05'19", in NE 1/4 SW 1/4, sec. 4, T.20 N., R.8 E., on left bank 0.4 mile upstream from French Creek, and 3.8 miles north of Strawberry Valley.

Drainage area.--14.1 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,320 cfs Feb. 9 (gage height, 5.47 ft), from rating curve extended above 300 cfs on basis of slope-area measurement at gage height 5.97 ft; minimum, 3.2 cfs Oct. 7-9, 10.
1960-62: Maximum discharge, that of Feb. 9, 1962; minimum, that of Oct. 7-9, 10, 1961.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.4	2.0	2.5	68
1.5	3.5	3.0	135
1.6	6.0	3.5	230
1.7	9.0	4.0	350
1.8	13	4.5	560
2.0	24	5.0	880
2.2	38		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	4.5	115	15	14	58	*79	116	43	16	8.7	6.0
2	3.5	*4.5	69	*14	15	62	86	117	42	*16	*8.7	6.0
3	3.4	4.5	32	14	16	*45	95	123	41	16	8.4	6.0
4	3.4	4.5	22	14	16	42	111	124	37	16	8.4	*6.0
5	3.4	4.2	18	13	17	49	124	123	36	16	9.0	6.0
6	3.4	4.2	16	13	22	67	138	117	35	15	9.0	6.0
7	3.2	4.2	13	15	80	53	150	114	34	14	8.7	6.0
8	3.2	4.0	12	18	150	49	164	110	33	14	8.7	5.8
9	3.2	4.0	11	20	678	49	170	105	32	14	9.0	5.5
10	3.4	3.8	11	19	470	45	158	96	30	14	9.4	5.5
11	4.0	3.8	10	17	218	43	154	88	30	14	9.4	5.5
12	5.8	3.8	9.8	16	170	42	168	81	28	13	9.0	5.5
13	5.5	3.8	9.0	15	227	41	186	75	28	13	8.4	5.5
14	4.8	3.8	8.4	14	294	40	206	70	29	13	8.1	5.5
15	4.5	3.8	8.1	13	393	39	204	*66	28	12	7.8	5.5
16	4.0	3.8	7.8	13	234	38	188	81	26	12	7.8	5.5
17	4.0	3.8	8.1	13	164	37	176	69	25	12	7.5	5.2
18	3.8	3.8	9.4	12	132	37	170	65	23	12	7.2	4.5
19	3.8	4.0	18	24	110	38	164	62	23	11	7.2	4.5
20	3.8	4.5	53	53	98	40	146	58	22	11	7.2	4.5
21	4.0	5.2	82	52	84	39	135	55	22	11	7.2	4.5
22	4.0	5.5	38	41	76	42	138	54	21	11	6.9	4.5
23	4.2	6.9	30	37	72	37	148	56	20	11	6.6	4.5
24	4.2	7.5	24	30	67	37	152	57	20	10	6.6	4.5
25	4.0	14	22	25	60	38	146	54	19	10	6.6	4.2
26	4.0	33	20	20	56	42	136	56	19	9.8	6.3	4.2
27	7.0	16	18	16	59	47	186	53	19	9.4	6.6	4.5
28	9.8	11	16	13	50	53	170	51	18	9.4	6.6	5.5
29	6.9	12	16	12	-	59	136	49	18	9.4	6.3	6.3
30	5.5	52	16	12	-----	66	122	47	17	9.0	6.3	6.3
31	5.0	-----	15	13	-----	72	-----	45	-----	9.0	6.3	-----
Total	136.2	244.4	757.6	616	4042	1446	4506	2437	818	383	239.9	159.5
Mean	4.40	8.15	24.4	19.9	144	46.6	150	78.6	27.3	12.4	7.74	5.32
Max	9.8	52	115	53	678	72	206	124	43	16	9.4	6.3
Min	3.2	3.8	7.8	12	14	37	79	45	17	9.0	6.3	4.2
Ac-ft	270	485	1,500	1,220	8,020	2,870	8,940	4,830	1,620	760	476	316

Calendar year 1961: Max 203 Min 3.2 Mean 28.2 Ac-ft 20,440

Water year 1961-62: Max 678 Min 3.2 Mean 43.2 Ac-ft 31,310

Peak discharge (base, 250 cfs).--Feb. 9 (1600) 1,320 cfs (5.47 ft); Feb. 15 (0300) 520 cfs (4.42 ft).

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3954. Sly Creek Reservoir near Strawberry Valley, Calif.

Location.--Lat 39°35'00", long 121°06'45", in NW¹/₄ sec.20, T.20 N., R.8 E., in valve chamber inside dam, 1.4 miles northwest of Strawberry Valley.

Drainage area.--24.1 sq mi.

Records available.--November 1961 to September 1962 (fragmentary prior to April 1962).

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District).

Extremes.--Maximum contents during year, 65,500 acre-ft June 2-5, 11, 12 (elevation, 3,531.5 ft).

Remarks.--Records good. Reservoir is formed by earth-fill dam. Storage began in November 1961. Capacity, 65,200 acre-ft between elevations 3,285 (invert of outlet) and 3,531 ft (top spillway gate). Water is diverted into reservoir from South Fork Feather River through South Fork Diversion Tunnel and from North Yuba River basin through Slate Creek Tunnel (see p. 853).

Capacity table (elevation, in feet, and contents, in acre-ft)

3,285	0	3,360	4,300
3,310	450	3,390	9,300
3,320	860	3,430	19,500
3,330	1,400	3,490	43,200
3,340	2,150	3,531	65,200

Contents, in acre-feet, at 2400 hrs, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			1.5 20				52.900	62.600	65.400	65.200	65.000	65.200
2			1.8 50				52.900	62.700	65.500	65.300	65.000	65.200
3			2.2 00				53.400	63.000	65.500	65.200	65.000	65.200
4			2.5 70				54.600	63.300	65.500	65.200	65.000	65.300
5			2.7 40				54.900	63.600	65.500	65.200	65.000	65.300
6			2.7 40				55.400	64.100	65.200	65.200	65.000	65.300
7			2.8 50				56.300	64.100	65.200	65.200	65.000	65.300
8			2.9 30				57.100	64.400	65.200	65.200	65.000	65.300
9			3.0 30				57.700	64.400	65.200	65.000	65.000	65.300
10			3.0 30				58.800	64.700	65.200	65.000	65.000	65.300
11			3.1 30				59.600	64.700	65.500	65.000	65.000	65.200
12			3.2 60				59.900	64.700	65.500	65.000	65.000	65.200
13			3.2 60				60.200	65.000	65.200	65.000	65.000	65.200
14			3.2 60			48.400	60.500	65.000	65.200	65.000	65.000	65.200
15			3.3 20			48.900	60.500	65.000	65.200	65.000	65.000	65.200
16			3.4 50			48.900	60.500	64.700	65.000	65.200	65.000	65.200
17			3.5 10			49.200	60.500	64.700	65.000	65.200	65.200	65.200
18			3.6 40			49.500	60.500	65.000	64.700	65.200	65.200	65.200
19			3.7 60			49.500	60.500	65.000	64.700	65.200	65.200	65.000
20			4.1 50			50.200	60.500	65.000	64.700	65.200	65.200	65.000
21			4.4 40			50.200	60.200	64.700	64.700	65.000	65.200	65.000
22			4.5 10			50.200	60.200	64.700	64.700	65.000	65.200	65.000
23			4.7 20			50.500	59.900	65.000	64.700	65.000	65.200	65.000
24			4.9 30			50.500	59.600	65.200	64.700	65.000	65.200	65.000
25			5.0 70			50.800	60.200	65.200	64.700	65.000	65.200	65.000
26			5.1 50			50.800	60.800	65.200	64.700	65.000	65.200	65.000
27			5.2 80			51.600	61.300	65.200	64.700	65.000	65.200	65.000
28			5.3 50		42.000	51.900	61.900	65.200	64.700	65.000	65.200	65.000
29			5.4 20			52.100	62.200	65.400	65.000	65.000	65.200	65.000
30		1.1 40	5.4 90			52.700	62.400	65.400	65.200	65.000	65.200	65.000
31			5.5 30	4.7 30		52.700		55.400		65.000	65.200	
(+)		3,325.2	3,368.8	3,360.1	3,487.5	3,508.5	3,526.0	3,531.3	3,531.0	3,530.5	3,531.0	3,530.5
(+)		+1,140	+4,390	-800	+37,300	+10,700	+9,700	+3,000	-200	-200	+200	-200

Calendar year 1961..... † +5,530

Water year 1961-62..... † +65,000

† Elevation, in feet, at end of month.

† Change, in contents, in acre-feet.

Note.--Fragmentary gage-height record prior to Mar. 14.

11-3955. Oroville-Wyandotte Canal near Clipper Mills, Calif.

Location.--Lat 39°34'25", long 121°08'25", in SW $\frac{1}{4}$ sec.24, T.20 N., R.7 E., 0.3 mile downstream from Lost Creek Dam, and 2.8 miles north of Clipper Mills.

Records available.--October 1927 to September 1941 (published as Forbestown Ditch), October 1954 to September 1962. Monthly discharge only for October 1953 to September 1961, published with records for Lost Creek near Clipper Mills.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 3,200 ft (from topographic map). Prior to Oct. 25, 1932, staff gage 100 ft upstream at different datum. Oct. 25, 1932, to Sept. 30, 1941, staff gage at present site and datum.

Average discharge.--23 years, 21.0 cfs (15,200 acre-ft per year).

Extremes.--1927-41, 1954-62: Maximum daily discharge, 43 cfs Aug. 9 to Sept. 9, 1937; no flow at times in many years.

Remarks.--Record good. Canal diverts from left side of Lost Creek Dam for irrigation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	21	* 25	0	6.7	0.1	0.1	*20	*28	37	*35	36
2	31	20	29	* 0	* 4.1	.1	*.1	20	28	* 37	34	36
3	32	* 19	27	5.7	7.1	.1	.1	25	28	37	34	35
4	32	19	22	10	10	*.1	.1	28	28	37	34	*36
5	32	18	6.8	8.9	10	.2	.1	28	32	36	34	36
6	32	18	0	8.1	10	.2	.1	28	34	36	35	35
7	31	17	0	7.5	6.9	.2	.1	28	33	36	35	35
8	28	17	0	6.6	4.4	.2	.1	28	33	36	35	36
9	29	17	0	6.2	4.5	.2	.1	28	33	36	35	36
10	29	17	0	5.7	4.5	.2	.1	28	33	36	35	35
11	29	18	0	5.4	4.5	.1	.1	28	33	36	35	36
12	29	18	0	7.8	4.5	.1	.1	29	33	36	35	36
13	26	18	0	1.4	4.7	.1	.1	29	33	36	35	36
14	21	18	0	1.2	4.9	.1	.1	29	34	36	35	36
15	16	18	0	1.1	2.3	.1	.1	29	34	36	35	36
16	11	18	0	1.1	.5	.1	.1	29	34	36	34	36
17	10	19	0	10	.4	.1	2.8	29	34	36	35	36
18	22	19	0	9.3	.4	.1	6.6	29	34	36	34	36
19	28	19	0	9.5	.3	.1	9.8	29	34	36	35	36
20	32	20	0	4.2	.3	.1	12	29	34	36	35	37
21	34	20	0	0	.3	.1	12	29	34	36	35	37
22	34	20	0	0	.3	.2	12	29	34	36	35	37
23	34	20	0	0	.2	.1	17	29	34	36	36	37
24	32	21	0	0	.2	.1	20	29	34	36	36	37
25	30	21	0	0	.2	.1	20	29	34	36	36	37
26	28	23	0	0	.2	.1	20	29	34	36	35	37
27	26	23	0	0	.2	.1	20	29	34	36	35	37
28	25	20	0	0	.2	.1	20	29	36	36	35	37
29	24	16	0	5.0	-	.1	20	28	37	35	35	37
30	23	19	0	9.3	-----	.1	20	28	37	35	36	37
31	22	-----	0	9.3	-----	.1	-----	28	-----	35	35	-----
Total	843	571	109.8	176.5	92.8	3.8	213.8	86.6	99.5	111.7	108.3	108.7
Mean	27.2	19.0	3.54	5.60	3.31	0.12	7.13	27.9	33.2	36.0	34.9	36.2
Max	34	23	29	14	10	.2	20	29	37	37	36	37
Min	10	16	0	0	0.2	.1	0.1	20	28	35	34	35
Ac-ft	1,670	1,130	218	350	184	7.5	424	1,720	1,970	2,220	2,150	2,160

Calendar year 1961: Max - Min - Mean 21.5 Ac-ft 15,540
 Water year 1961-62: Max 37 Min 0 Mean 19.6 Ac-ft 14,200

* Discharge measurement made on this day.

** Field estimate made on this day.

SACRAMENTO RIVER BASIN

11-3960. Lost Creek near Clipper Mills, Calif.

Location.--Lat 39°34'25", long 121°08'25", in SW $\frac{1}{4}$ sec.24, T.20 N., R.7 E., on left bank 0.3 mile downstream from Lost Creek Reservoir, 0.3 mile downstream from Pinkard Creek, and 2.8 miles north of Clipper Mills.

Drainage area.--30.0 sq mi.

Records available.--October 1927 to September 1941, October 1948 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,170 ft (from topographic map).

Average discharge.--28 years, 71.8 cfs (51,980 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 480 cfs Apr. 18 (gage height, 3.00 ft); no flow for many days.

1927-41, 1948-62: Maximum discharge, 5,030 cfs Dec. 22, 1955 (gage height, 6.90 ft), from rating curve extended above 150 cfs on basis of studies of downstream peak discharges and runoff per square mile for intervening areas; no flow at times.

Remarks.--Records good. Flow regulated by Sly Creek Reservoir (see p. 822) and Lost Creek Reservoir. Water is diverted from South Fork Feather River into Sly Creek Reservoir through South Fork Diversion Tunnel and imported from North Yuba River basin through Slate Creek Tunnel (see p. 853). Oroville-Wyandotte Canal (see preceding page) diverts water at Lost Creek Dam for irrigation and domestic use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 12-23)

0.1	0	1.0	22
.2	.4	1.3	44
.3	1.1	1.6	76
.4	2.4	2.0	148
.5	4.1	2.5	295
.7	9.3	3.0	530

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	0	* 0.9	0	0	29	2.2	*116	*75	10	* 1.3	3.8
2	18	0	.4	* 0	* 0	29	*6.4	115	116	* 13	1.2	3.8
3	18	* 0	.1	0	0	28	9.0	115	120	96	.9	3.8
4	18	0	0	0	0	* 27	10	113	105	241	.8	* 3.6
5	18	0	2.6	0	0	27	12	113	98	92	.5	3.6
6	18	0	7.6	0	0	28	12	115	95	2.1	.1	3.6
7	18	0	2.5	0	.6	28	12	115	93	2.4	.1	3.6
8	18	0	2.1	0	1.2	28	14	92	69	2.1	0	3.6
9	18	0	10	0	4.7	55	14	72	23	1.9	.1	3.4
10	17	0	7.8	0	4.1	97	14	79	22	1.9	0	3.4
11	10	0	6.7	0	1.8	90	52	158	33	1.8	0	3.4
12	2.9	0	4.8	0	1.9	80	272	165	54	1.7	0	3.4
13	2.9	0	7.3	0	21	71	353	199	56	1.7	0	3.4
14	2.9	0	11	0	45	64	380	202	56	1.5	0	3.2
15	2.9	0	7.0	0	92	63	390	202	55	1.5	0	3.2
16	2.7	0	5.7	0	120	63	440	214	53	1.7	0	3.2
17	2.5	0	7.0	0	75	62	455	205	56	1.7	1.0	3.0
18	2.5	0	8.4	0	58	61	*470	183	49	1.7	3.8	3.0
19	2.5	0	12	1.6	49	60	*470	137	31	1.7	3.9	3.0
20	1.1	0	15	.4	46	60	465	135	31	1.7	3.9	3.0
21	0	0	18	.2	42	29	460	133	29	1.7	3.9	3.0
22	0	0	10	.2	39	.7	455	95	30	1.7	3.9	3.0
23	0	0	8.4	.2	35	.6	455	32	31	1.7	3.9	3.0
24	0	0	8.4	.2	34	.4	305	32	30	1.7	3.9	3.0
25	0	0	8.4	.1	32	.4	124	32	29	1.7	3.9	3.0
26	0	.1	3.3	.1	32	.4	122	37	20	1.7	3.9	2.9
27	0	0	0	.1	30	.4	122	42	12	1.7	3.9	2.9
28	0	0	0	0	29	.3	120	42	11	1.7	3.8	2.9
29	0	.2	0	0	-	.3	118	49	9.7	1.7	3.8	2.9
30	0	.6	0	0	-----	.2	118	61	9.7	1.5	3.8	2.9
31	0	-----	0	0	-----	.2	-----	70	-----	1.4	3.8	-----
Total	210.9	0.9	214.8	3.1	793.3	1082.9	6251.6	3470	1501.4	497.3	60.1	97.5
Mean	6.80	0.03	6.93	0.10	28.3	34.9	208	112	50.0	16.0	1.94	3.25
Max	18	0.6	23	1.6	120	97	470	214	120	241	3.9	3.8
Min	0	0	0	0	0	0.2	2.2	32	9.7	1.4	0	2.9
Ac-ft	418	1.8	426	6.1	1,570	2,150	12,400	6,880	2,980	986	119	193
Meant	12.8	29.7	56.3	41.0	259	131	220	114	42.5	30.6	13.2	17.3
Ac-ft†	788	1,770	3,460	2,520	14,370	8,050	13,110	7,010	2,530	1,880	809	1,030
Calendar year 1961:	Max	290	Min	0	Mean	34.6	Ac-ft	25,050	Meant	56.4	Ac-ft†	40,820
Water year 1961-62:	Max	470	Min	0	Mean	38.9	Ac-ft	28,130	Meant	79.2	Ac-ft†	57,330

* Discharge measurement made on this day.

† Adjusted for flow in Slate Creek Tunnel, South Fork Diversion Tunnel, Oroville-Wyandotte Canal and change in storage in Sly Creek and Lost Creek Reservoirs.

SACRAMENTO RIVER BASIN

825

11-3962. South Fork Feather River below Forbestown Dam, Calif.

Location.--Lat 39°33'05", long 121°12'30", in NE¼ sec.32, T.20 N., R.7 E., 500 ft downstream from Forbestown Dam, 0.4 mile upstream from Oroleve Creek, and 4.0 miles northeast of Forbestown.

Drainage area.--87.5 sq mi.

Records available.--July to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,690 ft (from topographic map).

Extremes.--Maximum daily discharge during period, 280 cfs July 4; minimum, 3.8 cfs Sept. 20.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Little Grass Valley Reservoir (see p. 818), Sly Creek Reservoir (see p. 822), Lost Creek Reservoir and smaller reservoirs. Oroville-Wyandotte Canal (see p. 823) diverts above the station for irrigation. Water is imported from North Yuba River basin through Slate Creek Tunnel (see p. 853).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.3	17	4.5	130
3.5	26	5.0	205
3.7	39	5.5	300
4.0	66		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								† 197		25	* 24	27
2					† 17					24	22	27
3		† 7.0								90	22	26
4										280	22	* 26
5										180	23	26
6										22	22	26
7										20	22	26
8										21	22	25
9										23	24	24
10										* 23	23	24
11										22	22	24
12			† 15							22	21	24
13										22	22	24
14										21	22	24
15										21	22	24
16								† 298		20	22	24
17										18	22	24
18							† 540			18	24	22
19										18	26	20
20										17	27	18
21					† 210					34	27	20
22										24	27	20
23										21	27	19
24										22	27	19
25										21	27	19
26									† 54	20	27	19
27										18	27	19
28										19	27	22
29					-					20	27	23
30					-----					21	27	21
31		-----			-----					22	27	-----
Total										1,149	753	686
Mean										37.1	24.3	22.9
Max										280	27	27
Min										17	21	18
Ac-ft										2,280	1,490	1,360

Calendar year 1961: Max Min Mean Ac-ft
 Water year 1961-62: Max 280 Min 17 Mean - Ac-ft 5,130

* Discharge measurement made on this day.

† Result of discharge measurement.

Note.--No gage-height record July 1-10.

SACRAMENTO RIVER BASIN

11-3963.5. South Fork Feather River below Ponderosa Dam, Calif.

Location.--Lat 39°33'05", long 121°18'30", in NW¼ sec.33, T.20 N., R.6 E., on left bank 1,000 ft upstream from Sucker Run, 1,800 ft downstream from Ponderosa Dam, and 2.8 miles northwest of Forbestown.

Drainage area.--108 sq mi.

Records available.--July to September 1962.

Gage.--Water-stage recorder. Altitude of gage 830 ft (from topographic map).

Extremes.--Maximum discharge during period, 330 cfs July 4 (gage height, 3.87 ft); minimum, 18 cfs Sept. 21.

Remarks.--Records good. Flow regulated by several reservoirs and diversions (see Remarks for South Fork Feather River below Forbestown Dam on preceding page). Water is imported from North Yuba River basin through Slate Creek Tunnel (see p.853).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.3	21
2.5	34
2.7	54
3.0	96
3.4	180
3.9	342

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			† 200							36	32	28
2					† 27					35	* 32	30
3							† 147	† 177		101	31	30
4										318	31	30
5										207	33	* 30
6										32	31	30
7										28	30	30
8		† 21							† 135	30	32	30
9										30	33	30
10										* 31	33	29
11										32	30	29
12										32	30	28
13										32	30	29
14						† 191				31	29	28
15										31	28	30
16								† 320		30	28	30
17										27	28	29
18										26	30	30
19										26	31	27
20										26	30	26
21								† 179		41	30	25
22		† 15								43	30	27
23										35	30	27
24										34	30	28
25										34	30	27
26									† 60	34	30	26
27										33	30	27
28										33	30	28
29						-				33	30	31
30						-----				33	31	28
31		-----				-----				32	30	-----
Total										1,526	943	857
Mean										49.2	30.4	28.6
Max										318	33	31
Min										26	28	25
Ac-ft										3,030	1,870	1,700

Calendar year 1961: Max

Min

Mean

Ac-ft

Water year 1961-62: Max

Min

Mean

Ac-ft

* Discharge measurement made on this day.

† Result of discharge measurement.

SACRAMENTO RIVER BASIN

827

11-3965. Palermo Canal at Enterprise, Calif.

Location.--Lat 39°32'05", long 121°20'40", in NW¼ sec. 6, T.19 N., R.6 E., on left bank 400 ft downstream from intake at diversion dam on South Fork Feather River, 1 mile east of highway bridge at Enterprise, and 11 miles east of Oroville.

Records available.--October 1911 to September 1962. Prior to October 1926, published as Palermo Land and Water Co. canal at Enterprise.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 650 ft (from topographic map). Prior to Nov. 17, 1932, staff gages at several sites about 1 mile downstream at various datums. Nov. 17, 1932, to Oct. 21, 1934, staff gage at present site and datum.

Average discharge.--51 years, 18.6 cfs (13,470 acre-ft per year).

Extremes.--1911-1962: Maximum daily discharge, 41 cfs June 14, 17, 1918, July 10-30, 1922; no flow at times in most years.

Remarks.--Records good except those for period of indefinite stage-discharge relation, which are poor. Canal diverts from left bank of South Fork Feather River 1 mile above Enterprise. Water is used for irrigation near Oroville.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	16	3.2	4.1	2.2		12	29	* 31	30	29	27
2	26	16	1.2	4.1	* 2.2	**	12	28	30	29	* 29	28
3	26	18	1.5	* 4.0	2.2		* 23	* 28	30	30	29	28
4	26	16	2.3	4.0	2.1		29	29	29	30	29	28
5	26	16	4.5	4.0	2.0		29	29	29	29	29	* 29
6	25	20	7.0	4.0	.5		28	29	30	27	29	31
7	26	22	5.8	4.0			28	29	30	28	29	30
8	26	* 22	6.5	4.0			27	29	30	30	29	28
9	25	19	6.5	4.0			27	28	29	29	29	28
10	25	19	6.5	4.0			27	29	29	* 31	29	28
11	25	18	5.0	4.0		.2	27	29	26	32	28	28
12	25	19	3.3	4.0			27	28	30	32	28	28
13	25	20	3.5	4.0			28	29	30	32	28	28
14	23	17	4.0	4.0			28	30	29	32	27	28
15	21	16	4.5	4.0			28	29	30	31	27	28
16	21	15	4.5	4.0			28	28	30	31	27	28
17	20	16	4.3	4.0	.2		28	30	30	29	27	28
18	20	17	4.0	3.5			29	30	30	28	28	28
19	19	17	8.2	1.6			26	30	30	27	29	27
20	19	17	11	.4			27	31	29	27	29	27
21	20	14	11	0			29	31	30	29	28	26
22	19	13	10	0		1.0	29	31	30	31	28	28
23	17	12	10	1.2		1.4	30	30	30	30	28	28
24	17	13	9.9	2.8		1.4	29	31	30	30	27	28
25	19	12	9.6	2.2		1.4	29	31	30	30	27	27
26	23	4.9	9.6	2.2		13	30	30	30	30	27	27
27	23	2.9	17	2.3		14	26	30	29	30	26	27
28	24	11	17	2.5		14	24	30	29	30	26	26
29	19	7.4	9.4	2.5	-	14	26	30	30	29	26	28
30	19	2.0	4.1	2.3	-----	13	27	30	28	29	29	28
31	16	-----	4.1	2.2	-----	13	-----	31	-----	29	28	-----
Total	691	448.2	209.0	93.9	15.6	137.2	797	916	887	921	868	836
Mean	22.3	14.9	6.74	3.03	0.56	4.43	26.6	29.5	29.6	29.7	28.0	27.9
Max	26	22	17	4.1	2.2	14	30	31	31	32	29	31
Min	16	2.0	1.2	0	-	-	12	28	26	27	26	26
Ac-ft	1,370	889	415	186	31	272	1,580	1,820	1,760	1,830	1,720	1,660

Calendar year 1961: Max 33 Min 1.2 Mean 17.3 Ac-ft 12,560

Water year 1961-62: Max 32 Min 0 Mean 18.7 Ac-ft 13,530

* Discharge measurement made on this day.

** Field estimate made on this day.

Note.--Stage-discharge relation indefinite Feb. 7 to Mar. 21.

SACRAMENTO RIVER BASIN

11-3970. South Fork Feather River at Enterprise, Calif.

Location.--Lat 39°32'15", long 121°20'45", in NW $\frac{1}{4}$ sec. 6, T.19 N., R.6 E., on left bank 0.5 mile upstream from McCabe Creek, 1 mile upstream from highway bridge at Enterprise, and 11 miles east of Oroville.

Drainage area.--132 sq mi.

Records available.--October 1911 to September 1962. Monthly discharges for October 1911 published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map). Prior to Oct. 18, 1930, staff gage at site half a mile downstream at different datum.

Average discharge.--51 years, 307 cfs (222,300 acre-ft per year).

Extremes.--Maximum discharge during year, 5,320 cfs Feb. 9 (gage height, 12.62 ft); minimum, 0.2 cfs Sept. 21.

1911-62: Maximum discharge, 19,200 cfs Dec. 22, 1955 (gage height, 21.60 ft), from rating curve extended above 4,600 cfs on basis of computed flow over diversion dam a quarter of a mile upstream; no flow Aug. 9, 10, Sept. 24-30, 1950.

Remarks.--Records good. Flow regulated by powerplants, Little Grass Valley Reservoir (see p. 818), Sly Creek Reservoir (see p. 822), and smaller reservoirs. Water from North Yuba River basin is diverted into Sly Creek Reservoir through Slate Creek Tunnel (see p. 853). Palermo Canal (see p. 827) and Oroville-Wyandotte Canal (see p. 823) divert above station for irrigation of about 4,500 acres in Oroville-Wyandotte Irrigation District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 7, 9-21, July 26 to Sept. 30)

1.6	0.3	2.2	8.5	4.0	198
1.7	.8	2.4	15	5.0	416
1.8	1.7	2.7	30	6.0	730
1.9	2.7	3.0	54	7.0	1,130
2.0	4.1	3.5	114	9.0	2,260

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.8	0.6	* 241	20	28	232	154	164	* 99	15	3.0	1.0
2	9.1	.6	212	19	* 27	* 473	159	157	118	14	* 2.3	1.2
3	9.4	.9	107	* 19	27	329	* 155	* 155	145	36	2.0	1.3
4	9.4	.6	67	18	27	264	154	155	131	211	3.0	1.2
5	9.1	.6	44	18	26	365	154	150	122	148	5.0	* 2.6
6	9.7	.6	28	18	29	830	152	152	117	9.1	3.7	2.0
7	8.5	.7	29	18	86	569	152	150	117	4.5	2.4	3.1
8	8.8	*.7	49	18	273	416	145	142	110	6.0	3.1	5.2
9	11	.6	31	17	1,560	364	142	114	42	4.9	5.4	3.8
10	8.8	.6	24	17	1,770	361	132	122	36	* 4.0	5.4	3.8
11	12	.6	23	17	638	316	123	171	36	3.7	3.3	3.4
12	4.9	1.0	23	17	552	283	344	185	62	4.3	3.3	3.1
13	1.7	.7	21	18	1,690	256	448	211	66	4.0	1.6	3.8
14	.8	.6	24	17	1,310	234	464	220	83	3.3	1.0	3.6
15	.8	.5	24	17	1,960	226	473	216	74	3.0	.9	4.3
16	.8	.5	21	17	1,300	222	500	280	70	2.2	.8	4.7
17	.8	.5	25	17	744	214	518	230	67	.9	.8	3.7
18	.8	.5	34	18	518	209	509	220	67	.8	1.2	4.1
19	.8	.5	42	191	426	207	509	166	43	.7	3.3	2.3
20	.8	3.3	83	371	424	212	509	155	40	.6	1.7	1.0
21	.8	6.0	87	108	390	198	482	152	39	10	1.4	.6
22	.7	4.9	60	61	335	287	479	142	36	14	2.3	1.2
23	.7	6.0	39	47	298	214	476	68	36	7.0	2.3	1.4
24	.7	6.5	34	39	270	180	415	104	35	5.8	2.1	1.4
25	1.7	8.0	29	35	244	167	178	74	34	5.8	2.1	.9
26	.8	27	24	33	216	162	169	77	32	5.4	1.7	.9
27	1.0	30	14	30	194	155	198	88	20	4.9	1.0	2.0
28	1.9	11	11	29	189	154	226	77	18	4.3	1.0	4.9
29	.6	32	16	29	-	154	184	77	18	4.5	1.0	6.8
30	.7	128	20	33	-----	154	169	86	16	3.7	2.3	4.3
31	.6	-----	20	30	-----	154	-----	95	-----	3.5	1.5	-----
Total	127.0	274.6	1506	1356	15551	8561	8872	4555	1929	5449	71.9	83.6
Mean	4.10	9.15	48.6	43.7	555	276	296	147	64.3	17.6	2.32	2.79
Max	12	128	241	371	1,960	830	518	280	145	211	5.4	6.8
Min	0.6	0.5	11	17	26	154	123	68	16	0.6	0.8	0.6
Ac-ft	252	545	2,990	2,690	30,840	16,980	17,600	9,030	3,830	1,080	143	166

Calendar year 1961: Max 1,110 Min 0.5 Mean 158 Ac-ft 114,100
Water year 1961-62: Max 1,960 Min 0.5 Mean 119 Ac-ft 86,150

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

829

11-3975. Feather River at Bidwell Bar, Calif.

Location.--Lat 39°33'15", long 121°26'15", in NE¼NW¼ sec.32, T.20 N., R.5 E., on left bank just upstream from suspension bridge at Bidwell Bar, 2 miles upstream from North Fork and 7 miles northeast of Oroville.

Drainage area.--1,347 sq mi.

Records available.--October 1911 to September 1962. Published as Middle Fork Feather River near Oroville prior to September 1925 and as Middle Fork Feather River at Bidwell Bar October 1925 to September 1950. Monthly discharge only for October 1911 published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 290 ft (from topographic map). Prior to Sept. 17, 1930, staff gage at same site and datum.

Average discharge.--51 years, 1,840 cfs (1,332,000 acre-ft per year).

Extremes.--Maximum discharge during year, 18,600 cfs Feb. 9 (gage height, 13.20 ft); minimum, 154 cfs Oct. 4, 5, 6, 7, 8, 9. 1911-62: Maximum discharge, 104,000 cfs Dec. 23, 1955 (gage height, 25.5 ft), from rating curve extended above 26,000 cfs on basis of studies of upstream and downstream peaks; minimum, 88 cfs Jan. 8, 1937. Maximum stage known, 31.2 ft (corrected) in January 1862.

Remarks.--Records good. Flow partly regulated by reservoirs above station. Several diversions above station for irrigation. See Remarks for stations upstream.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9				Feb. 10 to Sept. 30			
2.1	146	6.0	2,140	2.2	168	6.0	2,230
2.5	220	8.0	4,640	2.5	230	8.0	4,640
3.0	350	10.0	8,200	3.0	370	10.0	8,200
4.0	710	11.0	10,600	4.0	770	12.0	13,800
5.0	1,300			5.0	1,390		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	159	194	1,910	392	401	1,740	3,610	3,510	2,390	650	275	190
2	157	192	1,990	383	413	2,360	3,790	3,370	2,430	626	270	188
3	156	188	1,020	371	419	1,870	3,940	3,610	2,470	618	265	188
4	154	188	700	368	422	1,650	4,240	3,960	2,220	755	262	188
5	154	182	570	359	425	1,880	4,520	4,240	2,020	755	270	188
6	*156	178	500	353	454	3,610	4,730	4,200	1,950	574	280	188
7	156	180	450	356	895	2,930	4,880	4,020	1,940	546	280	194
8	159	180	437	368	2,360	2,460	5,100	4,050	1,910	522	272	184
9	157	180	398	389	9,100	2,390	5,440	4,090	1,840	518	275	182
10	160	178	365	398	11,800	2,230	5,340	3,850	1,820	502	313	180
11	176	180	335	395	*5,540	2,100	4,990	3,510	1,740	482	316	178
12	210	180	306	386	4,800	1,980	*4,970	3,180	1,660	474	286	180
13	186	176	326	386	8,420	1,850	5,370	2,930	1,590	463	270	180
14	176	175	314	344	8,830	1,750	5,770	2,750	*1,660	460	255	184
15	166	175	309	323	11,000	1,690	6,280	2,600	1,570	442	245	180
16	164	175	298	323	8,100	1,680	6,190	2,640	1,480	421	238	178
17	162	175	326	323	5,480	1,630	5,840	*2,680	1,420	407	*230	178
18	162	167	380	362	4,580	1,610	5,580	2,700	1,380	400	221	174
19	160	178	456	1,140	3,710	1,670	5,480	2,650	1,330	391	217	172
20	160	216	799	1,760	3,410	1,830	4,970	2,480	1,290	370	217	170
21	171	220	1,260	760	2,840	1,920	4,310	2,350	1,180	355	212	172
22	186	*212	934	496	2,480	2,510	4,270	2,310	1,120	352	210	174
23	186	249	680	395	2,290	2,160	4,440	2,330	1,060	346	210	174
24	178	279	596	440	2,180	1,970	4,740	2,390	978	331	210	170
25	178	312	542	*450	1,960	1,950	4,730	2,200	894	322	208	170
26	182	524	506	425	1,770	2,140	4,480	2,090	840	328	204	168
27	214	552	472	416	1,600	2,420	4,260	2,020	785	316	198	168
28	303	380	437	395	1,560	2,740	5,050	2,050	730	301	192	184
29	289	377	425	395	-	3,020	4,300	2,250	705	298	190	215
30	227	1,020	413	401	-----	3,390	3,790	2,400	675	289	192	215
31	204	-----	395	398	-----	3,500	-----	2,420	-----	283	192	-----
Total	5,608	7,762	18,849	14,450	10,723	68,630	45,400	91,830	45,077	13,897	7,475	5,454
Mean	181	259	608	466	3,830	2,214	4,847	2,962	1,503	448	241	182
Max	303	1,020	1,990	1,760	11,800	3,610	6,280	4,240	2,470	755	316	215
Min	154	175	298	323	401	1,610	3,610	2,020	675	283	190	168
Ac-ft	11,120	15,400	37,390	28,660	212,700	136,100	288,400	182,100	89,410	27,560	14,830	10,820

Calendar year 1961: Max 4,670 Min 152 Mean 927 Ac-ft 671,200
 Water year 1961-62: Max 11,800 Min 154 Mean 1,457 Ac-ft 1,054,000

Peak discharge (base, 9,000 cfs).--Feb. 9 (2200) 18,600 cfs (13.20 ft); Feb. 15 (1600) 11,500 cfs (11.29 ft).

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-3990. Lake Almanor near Prattville, Calif.

Location (revised).--Lat 40°10'33", long 121°05'17", in NE¼NW¼ sec.28, T.27 N., R.8 E., at outlet tower at dam on North Fork Feather River, 1.0 mile west of Canyondam, and 4.4 miles southeast of Prattville.

Drainage area.--491 sq mi.

Records available.--July 1913 to September 1962. Monthly contents only for some periods, published in WSP 1315-A. Published as "at Prattville" prior to 1937.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level.

Extremes.--Maximum contents observed during year, 566,900 acre-ft June 13 (elevation, 4,470.10 ft); minimum observed, 296,900 acre-ft Sept. 30 (elevation, 4,455.20 ft).

1913-62: Maximum contents, 798,900 acre-ft June 9, 1928 (elevation, 4,480.5 ft); minimum, 5,230 acre-ft Feb. 5, 1918 (elevation, 4,416.1 ft).

Remarks.--Lake is formed by earth-fill dam; storage began in July 1913; dam raised to elevation 4,455 ft above mean sea level in 1917 and to 4,515 ft above mean sea level in 1927. Usable capacity, 641,600 acre-ft (revised) between elevations 4,422 (bottom of outlet to river) and 4,474 ft (present upper storage limit). Water is diverted by tunnel and penstock to Butt Valley Reservoir and powerhouse for use in Caribou powerplants; some water is also released down North Fork Feather River (see following page). Figures given herein represent total contents at 2400 interpolated from readings made at 1700. All contents are available for diversion to Butt Valley Reservoir except 8,230 acre-ft (below elevation 4,422 ft since 1960) which can only be released down river.

Cooperation.--Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in thousands of acre-feet)

4,455	293.8	4,459	358.9	4,464	447.6
4,456	309.6	4,460	376.0	4,466	485.3
4,457	325.7	4,461	393.4	4,468	524.3
4,458	342.1	4,462	411.2	4,471	585.5

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	337.6	334.5	331.9	326.5	341.1	385.7	410.6	500.9	556.8	528.3	447.4	347.9
2	337.5	333.7	333.7	326.3	341.1	387.5	412.4	502.3	558.3	526.5	443.9	344.4
3	336.8	333.2	335.4	327.0	342.6	389.6	414.2	504.2	558.3	524.3	440.6	341.3
4	336.5	332.9	336.3	327.6	343.1	391.0	416.6	507.0	561.7	521.8	437.1	339.0
5	336.0	332.9	336.0	328.3	341.6	392.7	418.8	509.9	562.3	518.8	433.5	337.6
6	335.5	332.4	335.4	328.6	341.6	395.0	420.9	513.5	562.7	516.6	429.8	336.2
7	335.4	331.2	334.2	329.4	343.3	396.2	423.3	517.0	562.9	514.5	426.2	335.0
8	335.7	330.6	333.1	330.1	346.4	397.5	426.0	519.8	563.1	511.9	423.1	333.9
9	335.4	329.9	332.4	330.1	350.1	398.2	428.7	523.3	564.0	508.7	420.7	332.4
10	334.9	329.4	332.1	330.4	353.6	399.3	431.1	526.1	564.8	506.4	417.9	329.3
11	334.5	329.8	330.3	330.6	356.5	400.5	434.2	529.3	565.2	504.0	414.2	327.6
12	334.5	330.6	327.8	330.8	358.7	400.7	438.2	531.5	566.2	502.3	411.0	325.5
13	334.9	330.4	325.7	331.6	361.6	401.0	441.7	532.4	566.9	499.4	408.5	323.7
14	335.5	329.4	324.1	332.4	364.5	401.2	445.4	533.4	566.6	497.2	405.5	322.3
15	336.0	328.0	323.1	332.7	368.3	401.4	448.9	534.2	565.4	494.5	401.9	320.4
16	335.7	326.8	322.3	333.1	369.6	402.1	453.4	534.2	563.4	491.8	398.4	318.3
17	335.0	326.3	321.2	333.2	371.0	402.3	456.7	534.6	561.3	489.3	395.7	316.3
18	334.7	326.7	320.4	333.5	372.4	401.8	459.7	538.4	559.7	486.8	392.5	314.2
19	334.0	327.6	321.2	333.4	373.4	400.9	462.9	538.0	558.3	484.1	389.0	312.2
20	334.0	328.1	322.6	335.0	374.6	400.2	466.4	539.8	556.8	481.1	386.2	310.5
21	334.5	327.3	324.4	334.9	375.6	400.3	469.5	541.2	554.8	478.2	384.7	309.1
22	334.9	327.0	325.0	339.0	377.3	400.9	472.1	542.0	552.3	475.6	381.4	307.1
23	334.4	327.0	326.0	339.5	378.4	401.0	474.8	543.0	549.3	472.3	377.9	305.0
24	334.0	327.1	327.3	339.1	379.6	401.2	478.6	544.2	546.6	469.9	374.4	303.3
25	334.0	328.0	328.3	339.6	380.7	402.3	481.8	545.6	543.4	467.2	371.5	302.0
26	334.5	327.6	328.8	340.1	381.9	403.2	485.1	547.6	541.0	464.0	366.4	300.6
27	335.4	326.8	329.1	340.8	383.1	403.9	488.9	549.5	538.6	461.4	364.5	299.3
28	335.5	326.2	328.5	341.8	383.6	404.6	492.6	550.9	536.2	459.9	360.9	298.2
29	335.5	326.3	327.5	342.8	—	406.0	495.9	552.3	533.4	456.2	357.8	297.7
30	335.0	327.5	327.0	342.9	—	407.4	499.8	553.8	531.3	453.2	354.8	296.9
31	335.2	—	325.8	342.8	—	408.9	—	556.4	—	450.4	351.5	—
(+)	4,457.58	4,457.11	4,457.01	4,458.04	4,460.44	4,461.87	4,466.75	4,469.59	4,468.35	4,464.15	4,458.56	4,455.20
(+)	-2,100	-7,700	-1,700	+17,000	+40,800	+25,300	+90,900	+56,600	-25,100	-80,900	-98,900	-54,600

Calendar year 1961..... † +52,000
Water year 1961-62..... † -40,400

† Elevation, in feet, at end of month.

† Change in contents, in acre-feet.

11-3995. North Fork Feather River near Prattville, Calif.

Location.--Lat 40°10'10", long 121°05'29", in NE 1/4 SW 1/4 sec. 28, T. 27 N., R. 8 E., on left bank 0.5 mile downstream from Almanor Dam, 4.5 miles southeast of Prattville, and 9 miles upstream from Butt Creek.

Drainage area.--493 sq mi.

Records available.--June 1905 to September 1962 (daily discharges for July 1921 to September 1936 include water diverted through Almanor-Butt Creek tunnel). Records for water year 1911 incomplete, yearly estimate published in WSP 1315-A. Published as "below Prattville" prior to 1911. Supplemental records for Almanor-Butt Creek tunnel diversion computed November 1924 to Dec. 30, 1958, as difference of flow between Butt Creek above Almanor-Butt Creek tunnel, see following page (unpublished prior to 1936), and Butt Creek below Almanor-Butt Creek tunnel (unpublished prior to 1936 and since 1959).

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 4,380 ft (from topographic map). Prior to Oct. 1, 1936, staff gages or water-stage recorders at several sites within half a mile of present site at various datums.

Average discharge.--57 years, 901 cfs (652,300 acre-ft per year), including diversion from Lake Almanor through Butt Creek tunnel.

Extremes.--Maximum daily discharge during year, 36 cfs Oct. 8-13, 27, May 6-9; minimum daily, 9.5 cfs Nov. 5-12, Apr. 19. Extremes do not include diversions through Butt Valley powerhouse.

1905-62: Maximum discharge, 10,000 cfs Mar. 19, 1907, before construction of dam (gage height, 16.2 ft, at former site), from rating curve extended above 3,700 cfs; no flow Apr. 15, 16, 1914, at times January to April 1919, Apr. 21, 1923.

Remarks.--Records good. Flow regulated by Lake Almanor beginning in 1913 (see preceding page). Water diverted for power from Lake Almanor through old Almanor-Butt Creek tunnel to Butt Creek until Dec. 30, 1958. Diversion through new tunnel and Butt Valley powerhouse began Dec. 31, 1958.

Cooperation.--Water-stage-recorder graph, 12 discharge measurements, and diversion through Butt Valley powerhouse furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.7	8.0
1.9	14
2.3	30
2.5	38

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	20	11	10	* 9.8	10	11	26	34	33	34	34
2	35	10	11	10	9.8	10	11	* 35	33	33	34	34
3	35	10	11	10	9.8	10	11	35	33	34	33	34
4	35	9.8	11	10	9.8	10	12	* 35	33	34	33	35
5	35	9.5	10	10	9.8	10	12	35	* 33	34	33	34
6	35	9.5	11	10	9.8	10	12	36	33	34	33	33
7	35	9.5	11	10	10	10	12	36	33	34	34	33
8	36	9.5	11	9.8	10	10	12	36	33	34	34	33
9	36	9.5	11	9.8	11	10	12	36	33	34	34	33
10	36	9.5	11	9.8	10	10	11	33	33	34	34	33
11	36	9.5	11	9.8	10	10	10	35	33	34	34	33
12	36	9.5	11	9.8	10	10	9.8	35	33	34	33	33
13	36	9.8	11	9.8	10	10	9.8	35	33	34	33	34
14	35	9.8	11	9.8	10	10	10	35	33	34	33	* 34
15	35	* 10	11	9.8	11	* 11	10	35	33	34	33	34
16	35	11	11	9.8	10	11	10	35	33	34	33	34
17	35	11	11	9.8	10	11	9.8	34	32	34	33	34
18	35	11	11	9.8	10	11	9.8	34	32	* 34	33	34
19	35	11	11	10	10	10	9.5	34	32	33	33	33
20	35	11	11	10	10	10	10	34	32	33	33	34
21	35	11	11	10	10	10	10	34	32	33	33	34
22	35	11	* 10	9.8	10	10	10	34	33	33	34	33
23	35	11	10	10	10	10	10	34	33	34	34	34
24	35	11	10	9.8	10	10	10	34	33	34	34	33
25	35	11	10	10	10	10	10	34	32	34	34	34
26	35	11	10	10	10	10	11	34	33	34	33	34
27	36	11	10	10	10	11	11	34	33	34	33	34
28	35	11	11	10	10	11	12	34	33	34	34	* 34
29	35	11	11	10	-	11	12	34	33	34	* 35	34
30	35	11	10	10	-----	11	12	34	33	34	35	34
31	35	-----	10	10	-----	11	-----	34	-----	34	35	-----
Total	1,092	320.4	332	307.4	280.8	319	322.7	1,063	985	1,048	1,041	1,011
Mean	35.2	10.7	10.7	9.92	10.0	10.3	10.8	34.3	32.8	33.8	33.6	33.7
Max.	36	20	11	10	11	11	12	36	34	34	35	35
Min.	35	9.5	10	9.8	9.8	10	9.5	26	32	33	33	33
Ac-ft	2,170	636	659	610	557	633	640	2,110	1,950	2,080	2,060	2,010
(+)	25,610	36,600	41,780	16,220	7,570	20,710	16	25,220	65,180	103,500	119,900	70,390
Mean†	452	626	690	274	146	347	11.0	444	1,128	1,717	1,984	1,216
Ac-ft‡	27,780	37,240	42,440	16,830	8,130	21,340	656	27,330	67,130	105,600	122,000	72,400

Calendar year 1961: Max 37 Min 9.2 Mean 23.0 Ac-ft 16,690 Mean† 574 Ac-ft‡ 415,800
 Water year 1961-62: Max 36 Min 9.5 Mean 22.3 Ac-ft 16,120 Mean† 758 Ac-ft‡ 548,900

* Discharge measurement made on this day.

† Diversion, in acre-feet, through Butt Valley powerhouse, furnished by Pacific Gas & Electric Co.

‡ Adjusted for diversion.

SACRAMENTO RIVER BASIN

11-4000. Butt Creek above Almanor-Butt Creek tunnel, near Prattville, Calif.

Location.--Lat 40°11'23", long 121°11'23", in NW¼ sec.22, T.27 N., R.7 E., on left bank 0.2 mile upstream from outlet of old tunnel from Lake Almanor to Butt Creek and 2.2 miles southwest of Prattville.

Drainage area.--68.6 sq mi.

Records available.--October 1936 to September 1962. Published as "above tunnel No. 1" 1936-40. Records for water year 1938 published in WSP 1515.

Gage.--Water-stage recorder. Altitude of gage is 4,400 ft (from topographic map). Prior to Nov. 12, 1948, at site 1.5 miles upstream at different datum.

Average discharge.--26 years, 76.5 cfs (55,380 acre-ft per year).

Extremes.--Maximum discharge during year, 401 cfs Apr. 14 (gage height, 2.14 ft); minimum, 24 cfs Nov. 17, Aug. 19-21.

1936-62: Maximum discharge, 2,320 cfs Dec. 11, 1937 (gage height, 6.48 ft, site and datum then in use), from rating curve extended above 170 cfs on basis of shape of later ratings; minimum, 3.2 cfs Dec. 11, 1936.

Remarks.--Records excellent except those for periods of no gage-height record, which are good. No storage above station. Wallack ditch, above station, diverts several cubic feet per second during each irrigation season into Yellow Creek basin.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.3	22	1.1	111
.5	35	1.5	201
.7	56	2.0	350
.9	81		

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	25	28	34	33	33	44	97	191	117	41	27	25
2	25	28	38	31	33	42	105	* 204	117	39	27	26
3	26	27	42	32	34	44	117	222	117	39	27	26
4	26	27	37	31	34	43	139	241	106	39	28	26
5	25	26	37	32	34	43	159	241	95	37	28	26
6	25	26	33	32	36	45	176	233	*92	35	27	25
7	25	26	31	32	45	45	209	233	88	34	27	25
8	25	27	32	34	58	43	230	233	85	34	27	25
9	26	27	28	34	68	44	235	230	85	34	28	A25
10	26	26	31	34	98	41	219	201	84	32	29	A26
11	31	27	26	28	100	42	214	179	81	31	27	27
12	28	26	34	36	72	40	233	166	78	31	26	27
13	27	27	32	26	61	40	267	157	77	30	26	26
14	26	27	31	25	73	40	300	145	89	30	25	24
15	26	* 27	31	31	63	* 40	319	141	81	29	25	27
16	28	26	31	28	67	41	303	139	73	28	25	28
17	27	24	31	32	63	A41	* 288	134	68	29	25	27
18	28	28	32	33	58	A41	* 273	130	66	*29	25	28
19	28	28	35	31	53	A42	258	128	63	30	24	28
20	31	28	* 62	28	51	A43	222	115	61	29	24	28
21	31	28	67	31	45	A43	222	108	60	27	A24	29
22	28	30	46	28	46	A46	241	111	58	28	A25	24
23	28	34	40	31	46	A45	261	117	55	28	25	24
24	28	36	35	34	44	A44	273	111	53	27	25	28
25	28	60	35	34	39	47	264	108	49	28	25	28
26	29	45	34	33	35	56	244	121	49	28	25	29
27	32	38	33	33	A36	63	285	108	47	28	25	30
28	34	32	31	32	43	72	276	106	44	28	25	*32
29	29	32	32	33	-----	75	211	113	40	28	*25	35
30	28	47	29	33	-----	81	189	A115	40	28	25	30
31	28	-----	31	*32	-----	88	-----	A117	-----	27	25	-----
TOTAL	857	918	1,101	977	1,468	1,504	6,829	4,898	2,218	965	801	826
MEAN	27.6	30.6	35.5	31.5	52.4	48.5	228	158	73.9	31.1	25.8	27.5
MAX	34	60	67	36	100	88	319	241	117	41	29	35
MIN	25	24	26	25	33	40	97	106	40	27	24	25
AC-FT	1,730	1,820	2,180	1,940	2,910	2,980	13,550	9,720	4,400	1,910	1,590	1,640

CALENDAR YEAR 1961: MAX 199 MIN 23 MEAN 51.7 AC-FT 37,410
 WATER YEAR 1961-62: MAX 319 MIN 24 MEAN 64.0 AC-FT 46,340

Peak discharge (base, 310 cfs).--Apr. 14 (2200) 401 cfs (2.14 ft); Apr. 27 (2030) 397 cfs (2.13 ft).

* Discharge measurement made on this day.

A No gage-height record.

11-4011.5. Red Clover Creek near Genesee, Calif.

Location.--Lat 40°03'00", long 120°39'50", in NW¼SW¼ sec.5, T.25 N., R.12 E., 0.3 mile downstream from Rock Creek, 4.5 miles east of Genesee, and 9.5 miles east of Taylorsville.

Drainage area.--122 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,830 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,160 cfs Apr. 8 (gage height, 5.56 ft); minimum daily, 6.7 cfs Aug. 24, 31.

1958-62: Maximum discharge, 2,150 cfs, Feb. 8, 1960 (gage height, 6.58 ft); minimum, 5.3 cfs Jan. 19, 20, Aug. 1, 2, 1961.

Flood of Feb. 24, 1958, reached a stage of 7.56 ft (discharge, about 4,000 cfs).

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by the California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	10	17	11	11	30	442	139	41	12	9.6	6.9
2	10	10	17	11	12	25	491	140	40	12	9.5	7.0
3	10	10	15	11	12	23	541	146	39	12	9.8	7.3
4	10	9.8	13	10	12	25	603	151	37	12	10	7.5
5	9.5	9.8	12	11	13	32	*674	144	34	11	11	7.8
6	10	9.2	11	11	14	53	706	134	*31	11	11	7.8
7	10	9.4	10	11	*19	51	755	133	30	11	*9.9	7.7
8	11	9.5	10	11	28	50	842	123	29	11	9.5	7.9
9	11	10	9.5	12	79	53	906	*113	27	10	12	7.6
10	11	9.5	9.5	12	128	52	781	101	25	11	11	7.5
11	13	9.0	9.0	9.0	100	49	689	93	24	10	9.5	7.1
12	12	8.6	9.0	12	93	*46	696	86	23	11	8.5	7.4
13	11	8.6	9.5	10	102	45	725	79	23	11	8.3	7.8
14	10	*8.3	9.5	9.0	127	44	783	75	24	11	*8.5	7.8
15	9.7	8.2	9.5	8.0	141	44	786	82	25	10	7.5	7.8
16	9.9	8.2	10	8.5	75	44	618	94	23	11	7.3	7.4
17	9.7	7.0	11	10	70	44	*519	110	21	12	7.4	7.3
18	9.8	7.5	12	12	65	45	468	79	20	11	7.4	7.3
19	9.8	8.5	12	15	58	51	427	68	19	11	7.5	*7.3
20	11	10	16	12	52	59	367	62	19	10	7.8	7.6
21	11	11	*24	10	49	60	305	59	19	10	7.3	8.0
22	11	11	18	9.0	45	62	286	56	17	9.6	7.3	8.1
23	11	11	15		43	59	293	55	16	10	7.1	8.0
24	12	12	14		41	61	292	60	16	9.3	6.7	8.1
25	12	12	14		35	76	272	58	17	10	6.8	8.3
26	13	13	13		28	108	234	58	16	11	6.8	8.9
27	14	12	13	10	25	171	226	59	*15	11	6.8	9.1
28	17	11	12		30	211	222	57	15	10	6.8	10
29	13	11	11			234	177	49	13	10	7.0	9.9
30	11	15	12		-----	311	150	44	13	10	7.6	9.3
31	11	-----	12		-----	380	-----	42	-----	9.7	6.7	-----
Total	344.2	300.1	389.5	325.5	1507	2598	15276	2749	711	331.6	259.9	237.5
Mean	11.1	10.0	12.6	10.5	53.8	83.8	509	88.7	23.7	10.7	8.38	7.92
Max	17	15	24	15	141	380	906	151	41	12	12	10
Min	9.5	7.0	9.0	8.0	11	23	150	42	13	9.3	6.7	6.9
Ac-ft	683	595	773	646	2,990	5,150	30,300	5,450	1,410	658	516	471

Calendar year 1961: Max 68 Min 5.8 Mean 18.1 Ac-ft 13,090

Water year 1961-62: Max 906 Min 6.7 Mean 68.6 Ac-ft 49,640

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 16-21, Dec. 6-17, 28-31, Jan. 4, 5, Jan. 10 to Feb. 1, Feb. 25 to Mar. 5.

SACRAMENTO RIVER BASIN

11-4012. Indian Creek near Taylorsville, Calif.

Location.--Lat 40°03'35", long 120°49'15", in SW¹/₄ NW¹/₄ sec.1, T.25 N., R.10 E., on right bank 0.7 mile downstream from Montgomery Creek and 1.5 miles southeast of Taylorsville.

Drainage area.--533 sq mi.

Records available.--May 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,560 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,090 cfs Apr. 9 (gage height, 5.69 ft); minimum daily, 17 cfs Sept. 10.

1957-62: Maximum discharge, 14,000 cfs Feb. 25, 1958 (gage height, 9.75 ft), from rating curve extended above 3,000 cfs; minimum daily, 13 cfs Aug. 2-4, 1961.

Flood of Dec. 23, 1955 reached a stage of 11.5 ft.

Remarks.--Some diversions for irrigation upstream.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	42	91	49	44	127	1,230	722	328	72	33	20
2	22	40	92	44	44	113	1,330	738	323	69	32	19
3	22	39	79	44	47	100	1,460	826	316	65	32	20
4	23	39	66	39	48	101	1,650	895	292	63	34	19
5	22	37	57	41	49	112	1,810	906	266	61	34	21
6	21	37	52	44	52	202	* 1,900	865	245	* 61	33	20
7	22	40	42	44	* 72	209	* 2,070	822	234	57	33	20
8	24	38	42	44	115	210	2,230	785	218	50	* 32	20
9	23	38	41	45	402	223	2,540	764	207	47	39	18
10	22	37	40	47	573	202	2,220	680	196	49	39	17
11	25	37	38	33	407	197	2,030	604	188	48	37	18
12	27	37	38	48	365	* 176	2,060	548	178	* 44	31	20
13	26	36	40	43	511	170	2,150	506	169	43	29	21
14	26	35	40	37	616	174	2,260	469	187	42	* 28	22
15	26	* 35	40	33	780	183	2,370	457	185	41	* 33	21
16	26	35	40	35	543	189	2,060	498	165	38	33	20
17	26	30	41	40	395	172	1,810	545	153	39	32	20
18	24	33	42	46	330	175	1,690	468	144	40	29	* 19
19	25	39	44	62	280	205	1,600	431	* 134	38	29	19
20	29	45	* 54	58	226	247	* 1,380	380	124	* 34	36	20
21	31	46	80	45	212	252	1,210	350	116	32	37	22
22	32	47	78	40	180	278	1,180	* 343	111	31	30	22
23	31	47	66	40	182	250	1,240	356	105	31	28	22
24	34	52	59	40	166	258	1,280	353	98	31	27	22
25	35	56	56	40	130	297	1,210	338	92	30	27	23
26	37	59	51	44	110	403	1,050	345	88	31	26	24
27	46	62	49	44	105	600	1,030	342	83	32	27	26
28	55	54	45	44	127	795	1,060	335	79	34	25	27
29	56	57	45	44	-	832	862	347	74	36	24	28
30	48	84	43	44	-----	932	753	352	72	35	24	28
31	44	-----	43	44	-----	1,040	-----	342	-----	34	25	-----
Total	933	1,313	1,634	1,345	7,111	9,424	48,725	16,712	5,170	1,358	958	638
Mean	30.1	43.8	52.7	43.4	254	304	1,624	539	172	43.8	30.9	21.3
Max	56	84	92	62	780	1,040	2,540	906	328	72	39	28
Min	21	30	38	33	44	100	753	335	72	30	24	17
Ac-ft	1,850	2,600	3,240	2,670	14,100	18,690	96,640	33,150	10,250	2,690	1,900	1,270

Calendar year 1961: Max 438 Min 13 Mean 100 Ac-ft 72,400
 Water year 1961-62: Max 2,540 Min 17 Mean 261 Ac-ft 189,000

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 17, 18, Dec. 8-15, 30-31, Jan. 5, 11, 13-17, Jan. 20 to Feb. 2, Feb. 9, 26, 27.

11-4013. Lights Creek near Taylorsville, Calif.

Location.--Lat 40°10'00", long 120°47'35", in SW¹/₄SW¹/₄ sec.30, T.27 N., R.11 E., on left bank 0.4 mile downstream from Moonlight Creek and 6.7 miles north of Taylorsville.

Drainage area.--57.6 sq mi.

Records available.--July 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,640 ft (from topographic map).

Average discharge.--5 years, 40.5 cfs (29,320 acre-ft per year).

Extremes.--Maximum discharge during year, 463 cfs Apr. 14 (gage height, 3.24 ft); minimum daily, 1.4 cfs Sept. 7, 10.
1957-62: Maximum discharge, 2,120 cfs Feb. 24, 1958 (gage height, 6.24 ft), from rating curve extended above 350 cfs; minimum daily, 0.8 cfs Aug. 11, 1959.

Remarks.--No known storage or diversion above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	3.3	1.1	7.5	8.4	2.1	1.57	1.34	5.9	1.3	4.2	2.0
2	1.6	3.5	1.3	6.7	8.9	2.1	1.65	1.48	5.7	1.2	4.0	1.9
3	1.7	3.4	9.2	6.8	9.5	2.0	1.79	1.63	5.4	1.1	3.9	1.9
4	1.5	3.1	6.7	6.5	1.0	1.9	2.04	1.73	5.0	1.1	4.9	1.8
5	1.5	3.1	5.5	6.5	1.1	1.9	2.34	1.65	4.6	1.0	5.5	1.8
6	1.6	2.8	4.5	7.2	1.1	3.3	* 24.6	1.56	4.3	9.7	4.9	1.5
7	1.6	3.0	4.0	7.2	2.0	3.1	2.71	1.50	* 4.1	* 9.3	4.5	1.4
8	2.0	3.2	4.0	7.5	3.8	3.0	2.79	* 14.4	3.9	9.3	4.1	1.5
9	2.2	3.1	3.8	7.4	1.34	3.4	2.71	1.35	3.7	9.0	7.5	1.5
10	2.5	2.9	3.8	7.0	1.46	3.2	2.30	1.19	3.6	8.6	6.3	1.4
11	3.1	3.2	3.5	5.1	8.6	3.0	2.17	1.08	3.4	8.6	5.5	1.6
12	3.1	3.0	3.8	7.9	6.1	2.7	2.42	1.01	3.2	8.7	4.9	1.6
13	2.7	2.8	4.0	5.6	7.9	* 2.6	2.76	9.0	3.3	8.2	3.9	1.9
14	2.4	3.0	4.5	4.8	8.5	2.7	3.27	8.6	3.7	8.2	* 3.5	2.1
15	2.2	* 3.4	4.9	4.5	1.18	2.9	3.24	8.2	3.4	7.8	3.2	2.1
16	2.2	2.3	5.0	4.8	8.2	2.9	2.82	8.3	2.9	7.4	2.9	2.0
17	2.2	1.9	5.2	5.4	5.6	2.8	* 2.55	7.8	2.7	7.1	2.6	1.8
18	2.2	2.7	5.2	6.2	4.5	3.0	2.48	7.5	2.6	7.0	2.5	* 1.7
19	2.2	3.2	5.7	7.5	3.8	3.9	* 2.32	7.4	2.4	6.6	2.5	1.8
20	3.1	3.8	* 1.3	8.5	3.2	4.7	1.92	6.9	2.3	5.8	2.7	1.9
21	3.7	3.9	2.6	6.0	2.9	4.5	1.81	6.6	2.1	5.4	2.7	2.0
22	3.6	3.9	1.4	5.0	2.7	4.5	1.91	6.5	2.0	5.0	2.4	1.9
23	3.4	4.4	1.1	5.0	* 2.7	3.9	2.11	6.5	1.9	4.7	2.2	1.8
24	3.4	4.4	9.1	* 5.0	2.6	3.8	2.21	6.3	1.8	4.6	2.1	1.7
25	3.4	4.5	8.9	5.3	2.2	4.7	2.03	6.4	1.7	4.5	1.8	1.7
26	4.1	5.9	7.5	5.6	2.0	6.6	1.76	7.1	1.6	4.6	1.6	1.6
27	5.6	5.1	7.7	5.8	2.0	9.6	1.89	6.4	1.6	4.4	1.7	2.3
28	6.1	4.4	6.8	5.9	2.2	1.18	1.87	6.2	1.5	5.0	1.6	3.5
29	4.0	4.9	7.1	6.7	-	1.22	1.48	6.4	1.4	9.3	1.7	4.3
30	3.5	8.2	6.5	7.0	-----	1.30	1.35	6.3	1.3	5.6	1.8	3.2
31	3.4	-----	7.0	7.4	-----	1.40	-----	6.2	-----	* 4.8	1.8	-----
Total	87.4	110.3	231.9	195.3	1,271.8	1,458	6,673	3,042	930	236.2	105.4	59.2
Mean	2.82	3.68	7.48	6.30	45.4	47.0	222	98.1	31.0	7.62	3.40	1.97
Max	6.1	8.2	26	8.5	146	140	327	173	59	13	7.5	4.3
Min	1.5	1.9	3.5	4.5	8.4	19	135	62	13	4.4	1.6	1.4
Ac-ft	173	219	460	387	2,520	2,890	13,240	6,030	1,840	468	209	117

Calendar year 1961: Max 145 Min 1.5 Mean 23.3 Ac-ft 16,860
Water year 1961-62: Max 327 Min 1.4 Mean 39.5 Ac-ft 28,550

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 7-15, Jan. 14-17, Jan. 20 to Feb. 4, Feb. 26-27.

SACRAMENTO RIVER BASIN

11-4015. Indian Creek near Crescent Mills, Calif.

Location.--Lat 40°05', long 120°56', in SW $\frac{1}{4}$ sec.25, T.26 N., R.9 E., on left bank 0.8 mile upstream from Dixie Creek and 1.5 miles south of town of Crescent Mills.

Drainage area.--739 sq mi.

Records available.--January 1906 to December 1909, September 1911 to March 1918, October 1930 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map). Prior to March 1918, staff gage at site 800 ft upstream at different datum.

Average discharge.--41 years (1906-9, 1911-17, 1930-62), 525 cfs (380,100 acre-feet per year).

Extremes.--Maximum discharge during year, 3,540 cfs Apr. 9 (gage height, 8.72 ft); minimum, 4.1 cfs Aug. 31, Sept. 1. 1906-9, 1911-18, 1930-62: Maximum discharge, 31,500 cfs Dec. 24, 1955 (gage height, 17.80 ft), from rating curve extended above 11,000 cfs on basis of slope-area measurement of peak flow; minimum, 1.7 cfs Aug. 25, 1931.

Remarks.--Records good. Storage in Round Valley Reservoir since 1865 and Taylor Lake since 1929 (combined usable capacity, 5,000 acre-ft). Diversions above station for irrigation of about 11,800 acres, of which 9,700 acres is in Indian and Genesee Valleys.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.9	3.5	2.0	71	6.0	1,380
1.0	5.4	2.5	135	7.0	2,050
1.2	11	3.0	220	9.0	3,820
1.4	21	4.0	475		
1.6	34	5.0	850		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	42	218	76	93	295	1,680	955	360	42	9.5	6.5
2	9.6	44	240	72	93	290	1,840	970	350	42	10	7.1
3	13	45	165	72	93	258	2,010	1,090	342	37	13	7.6
4	12	45	124	69	94	268	2,250	1,170	325	37	9.2	8.5
5	10	44	108	66	97	340	2,490	1,210	308	34	13	10
6	10	45	97	70	103	865	2,640	1,120	285	31	12	9.5
7	10	46	86	72	190	682	2,870	1,040	254	31	11	9.8
8	11	49	79	71	485	568	3,090	1,000	240	30	14	10
9	14	48	78	72	1,520	550	*3,430	985	228	26	9.1	10
10	13	47	73	72	*2,290	484	3,280	846	224	22	7.4	11
11	17	46	66	66	1,380	457	2,940	758	*212	*17	9.2	13
12	15	46	66	68	1,120	394	2,830	694	196	19	11	12
13	13	*46	69	72	1,730	352	2,930	618	182	18	13	13
14	12	46	70	56	2,000	350	3,070	*596	212	15	*12	12
15	14	49	70	51	2,590	352	3,370	586	220	16	12	12
16	15	41	69	59	2,210	358	3,160	618	184	15	11	12
17	14	40	71	63	1,310	340	2,700	658	168	12	6.5	12
18	15	42	72	69	900	335	2,370	592	154	15	7.9	12
19	14	47	75	119	*750	254	2,240	547	140	11	8.2	12
20	19	54	80	256	596	454	1,940	484	126	11	7.9	13
21	22	55	116	122	512	454	1,660	451	114	12	11	13
22	25	56	122	*81	442	544	1,570	439	107	9.8	11	14
23	23	66	102	90	430	499	1,650	430	98	12	13	15
24	24	64	93	83	415	478	1,740	412	90	13	16	14
25	25	72	83	86	350	484	1,680	403	84	15	13	7.4
26	30	76	81	84	308	610	1,430	442	73	11	8.5	9.2
27	36	74	75	87	260	855	1,390	451	62	11	13	14
28	40	68	73	86	288	1,120	1,520	415	39	11	12	14
29	39	74	72	89	-	1,170	1,200	418	38	11	10	13
30	40	174	70	89	-----	1,330	1,020	412	40	11	7.4	11
31	40	-----	68	92	-----	1,440	-----	394	-----	10	4.8	-----
Total	604.1	1,691	2,931	2,580	2,264.9	1,723.0	6,799.0	2,120.4	5,455	6,078	3,266	3,376
Mean	19.5	56.4	94.5	83.2	809	556	2,266	684	182	19.6	10.5	11.3
Max	40	174	240	256	2,590	1,440	3,430	1,210	360	42	16	15
Min	9.5	40	66	51	93	254	1,020	394	38	9.8	4.8	6.5
Ac-ft	1,200	3,350	5,810	5,120	44,920	34,180	134,900	42,060	10,820	1,210	648	670
Calendar year 1961:	Max	795	Min	3.6	Mean	162	Ac-ft	117,600				
Water year 1961-62:	Max	3,430	Min	4.8	Mean	393	Ac-ft	284,900				

Peak discharge (base, 1,100 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0100	8.12	2,970	4-9	1400	8.72	3,540
2-15	1800	8.12	2,970				

11-4019. Spanish Creek near Quincy, Calif.

Location.--Lat 39°56'45", long 121°00'20", in SW 1/4 sec. 17, T. 24 N., R. 9 E., on right bank 0.9 mile downstream from Slate Creek and 3.2 miles west of Quincy.

Drainage area.--69.1 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,470 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,520 cfs Feb. 9 (gage height, 6.85 ft); minimum, 8.3 cfs Sept. 18.
1958-62: Maximum discharge, 6,450 cfs Feb. 8, 1960 (gage height, 9.23 ft); minimum daily, 8.0 cfs Aug. 24, 1961.

Remarks.--Flow regulated by four small lakes. Probably minor diversions above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.7	13	314	30	28	94	358	365	144	34	16	12
2	9.7	13	192	29	29	94	388	358	143	33	14	12
3	10	12	102	29	29	86	429	382	135	* 32	* 15	11
4	10	12	70	26	31	84	469	406	119	31	16	12
5	10	12	53	26	33	110	* 511	411	109	28	16	12
6	10	11	46	25	45	270	533	393	106	27	15	13
7	11	12	* 39	26	* 246	199	567	375	* 102	29	15	13
8	11	12	36	27	559	176	606	* 364	101	27	15	13
9	11	12	31	* 30	1,520	171	608	337	97	27	21	13
10	11	12	31	29	890	148	519	297	101	27	19	12
11	* 13	13	28	29	399	132	480	269	92	27	18	12
12	12	12	28	28	349	120	508	240	87	26	* 15	13
13	12	12	25	26	696	* 113	593	226	84	25	15	13
14	12	12	25	20	636	111	666	* 209	93	25	15	13
15	12	* 14	25	21	969	114	667	201	98	22	15	13
16	11	14	25	22	549	119	594	220	87	20	* 14	12
17	12	15	27	23	352	111	545	207	80	22	14	12
18	12	15	27	24	260	123	514	201	72	22	14	* 11
19	13	16	29	49	213	144	505	196	71	22	14	12
20	16	18	67	113	178	165	464	180	68	21	13	13
21	17	17	146	38	153	155	419	167	64	20	14	13
22	17	18	85	23	* 139	183	401	167	59	20	15	13
23	17	22	64	21	136	161	442	171	57	20	15	12
24	16	21	53	20	132	155	497	162	51	18	14	12
25	17	40	46	20	116	168	479	146	50	17	14	12
26	22	45	41	19	105	227	440	143	48	16	13	12
27	29	34	38	19	94	282	455	142	46	16	13	12
28	25	26	35	20	88	297	523	147	40	14	14	13
29	15	46	31	22	-	305	444	162	37	15	13	12
30	14	174	30	25	-----	324	393	157	34	15	12	12
31	13	-----	29	27	-----	335	-----	151	-----	16	12	-----
Total	4 30.4	7 05	1 818	8 86	8 974	5 276	15 017	7 552	2 475	7 14	4 58	3 70
Mean	13.9	23.5	58.6	28.6	320	170	501	244	82.5	23.0	14.8	12.3
Max	29	174	314	113	1,520	335	667	411	144	34	21	13
Min	9.7	11	25	19	28	84	358	142	34	14	12	11
Ac-ft	854	1,400	3,610	1,760	17,800	10,460	29,790	14,980	4,910	1,420	908	734

Calendar year 1961: Max 1,010 Min 8.0 Mean 74.8 Ac-ft 54,160
Water year 1961-62: Max 1,520 Min 9.7 Mean 122 Ac-ft 88,630

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Jan. 14-18, 21-28, Feb. 27.

SACRAMENTO RIVER BASIN

11-4020. Spanish Creek above Blackhawk Creek, at Keddle, Calif.

Location.--Lat 40°00'05", long 120°57'20", in NE¼ sec.27, T.25 N., R.9 E., on right bank 200 ft upstream from Blackhawk Creek and 0.9 mile southeast of Keddle.

Drainage area.--184 sq mi.

Records available.--October 1933 to September 1962. Prior to October 1953, published as "at Keddle." October 1911 to September 1933, at site 1.2 miles downstream; records not equivalent owing to inflow.

Gage.--Water-stage recorder. Altitude of gage is 3,250 ft (from topographic map).

Average discharge.--29 years, 255 cfs (184,600 acre-ft per year).

Extremes.--Maximum discharge during year, 4,930 cfs Feb. 9 (gage height, 7.82 ft); minimum, 9.4 cfs Aug. 29.

1933-62: Maximum discharge, 13,100 cfs Dec. 23, 1955 (gage height, 12.47 ft), from rating curve extended above 4,400 cfs on basis of slope-area measurement of peak flow; minimum, 3.8 cfs Aug. 12, 1934.

Remarks.--Records good except those for periods of ice effect, which are fair, and those for period of no gage-height record, which are poor. Flow regulated by five small reservoirs having a combined capacity of 800 acre-ft. Approximately 4,600 acres irrigated above station (from information furnished by U. S. Forest Service). City of Quincy diverts about 450 acre-ft annually for municipal supply.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9

Feb. 10 to Sept. 30

1.0	19	2.5	151	0.6	10	2.5	154
1.2	26	3.0	291	.7	12	3.0	285
1.4	35	3.5	505	.9	17	3.5	480
1.6	45	4.0	780	1.2	28	4.0	750
1.8	60	5.0	1,530	1.5	41	5.0	1,510
2.1	90	6.0	2,570	1.8	62	6.0	2,570
				2.1	90	7.0	3,810

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	41	420	60	72	185	591	440	212	46	21	13
2	24	40	368	58	73	190	624	480	218	45	20	17
3	22	40	188	58	75	180	679	565	215	40	22	18
4	22	38	127	56	76	178	768	608	198	43	19	18
5	22	38	105	54	78	230	834	608	188	43	23	15
6	24	38	92	54	86	822	858	575	171	41	24	15
7	23	37	82	55	278	480	905	550	164	37	22	15
8	23	37	76	57	758	395	954	545	162	37	22	15
9	25	37	68	58	2,510	379	* 996	530	146	36	26	17
10	28	37	66	58	2,770	306	846	471	150	41	28	16
11	30	38	54	53	999	264	762	415	144	* 38	28	19
12	26	38	62	59	774	234	804	375	133	38	27	19
13	25	* 38	58	58	1,850	215	898	338	131	37	* 24	20
14	25	36	58	b 39	1,500	205	1,030	* 316	141	36	24	20
15	25	38	56	b 42	2,470	212	1,050	306	162	34	22	23
16	25	36	56	b 45	1,390	222	900	359	133	32	20	22
17	25	35	58	b 48	792	212	810	334	130	29	22	22
18	25	35	60	55	545	220	780	306	118	33	22	21
19	26	36	61	102	* 427	249	780	296	107	34	22	18
20	27	41	77	275	352	282	640	270	105	32	17	17
21	28	40	168	124	296	261	565	246	95	28	22	19
22	26	40	119	*b 80	264	344	591	255	90	26	22	22
23	25	47	96	b 75	252	302	674	255	86	28	18	24
24	26	48	86	b 72	255	288	714	243	74	22	14	24
25	35	66	79	b 75	225	310	674	225	62	18	14	25
26	50	79	75	77	198	383	608	225	48	19	15	22
27	60	72	71	76	171	466	657	225	39	19	15	17
28	55	57	68	74	182	510	714	225	44	19	12	25
29	50	64	64	75	-	515	530	234	77	28	15	32
30	45	249	62	72	-----	545	453	222	54	25	11	30
31	42	-----	60	71	-----	550	-----	220	-----	21	10	-----
Total	938	1,516	3,140	2,215	19,718	10,134	22,689	11,262	3,797	1,005	623	600
Mean	30.3	50.5	101	71.5	704	327	756	363	127	32.4	20.1	20
Max	60	249	420	275	2,770	822	1,050	608	218	46	28	32
Min	22	35	54	39	72	178	453	220	39	18	10	13
Ac-ft	1,860	3,010	6,230	4,390	39,110	20,100	45,000	22,340	7,530	1,990	1,240	1,190

Calendar year 1961: Max 1,270 Min 9.6 Mean 121 Ac-ft 87,820

Water year 1961-62: Max 2,770 Min 10 Mean 213 Ac-ft 154,000

Peak discharge (base, 1,700 cfs).--Feb. 9 (2300) 4,930 cfs (7.82 ft); Feb. 13 (1800) 3,100 cfs (6.44 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 9 to Nov. 13.

11-4035. Bucks Lake near Bucks Lodge, Calif.

Location.--Lat 39°53'45", long 121°12'10", in NW¼ sec.33, T.24 N., R.7 E., in intake tower No. 2 upstream from dam on Bucks Creek, 2 miles northwest of Bucks Lodge, and 15 miles west of Quincy.

Drainage area.--28.6 sq mi.

Records available.--1927-28 (year-end contents only, published in WSP 1315-A), October 1928 to September 1962. Prior to October 1954, published as Bucks Creek Reservoir near Bucks Ranch.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Feather River Power Co.).

Extremes.--Maximum contents during year, 102,500 acre-ft June 28-30; maximum elevation, 5,155.30 ft June 29; minimum, 43,970 acre-ft Nov. 18 (elevation, 5,118.90 ft).

1928-62: Maximum contents, 105,800 acre-ft June 23, 1938 (elevation, 5,157.1 ft); minimum, 12,330 acre-ft Feb. 27, 1929 (elevation, 5,090.7 ft).

Remarks.--Reservoir is formed by concrete-faced, rock-fill dam completed in 1927; storage began in May 1927. Capacity, 101,400 acre-ft between elevations 5,064.75 (sill of outlet gate) and 5,154.85 ft (spillway crest) above mean sea level. Released water flows down Bucks Creek to Lower Bucks Lake, where it enters tunnel that discharges into Grizzly Creek, thence to Bucks Creek powerhouse. Figures given herein represent total contents, of which 274 acre-ft is not available for release.

Cooperation.--Records of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Capacity table (elevation, in feet, and contents, in acre-feet)

5,118	42,800	5,140	75,900
5,120	45,500	5,145	84,300
5,125	52,500	5,150	93,000
5,130	60,000	5,156	103,800
5,135	67,800		

Contents, in thousands of acre-feet, at 2400, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	47.1	45.4	45.9	46.6	46.9	54.8	58.5	71.3	91.2	102.4	89.6	82.5
2	47.1	45.0	46.0	46.6	46.9	55.1	58.7	71.9	92.0	102.4	90.8	82.5
3	47.1	44.9	46.1	46.7	47.0	55.2	58.8	72.6	92.7	102.3	88.7	82.5
4	47.1	44.9	46.0	46.7	47.0	55.3	59.0	73.4	93.3	102.0	88.2	82.5
5	47.1	44.9	45.9	46.7	47.1	54.9	59.3	74.1	93.8	101.8	87.9	82.2
6	47.1	44.6	45.8	46.8	47.3	55.8	59.5	74.9	94.4	101.7	87.2	81.7
7	47.1	44.3	45.7	46.8	47.7	55.9	59.8	75.7	95.1	101.5	86.6	81.2
8	47.0	44.1	45.7	46.9	48.2	56.0	60.1	76.6	95.6	101.2	86.1	80.6
9	47.0	44.0	45.7	47.0	49.5	56.2	60.4	77.4	96.2	100.9	85.7	80.1
10	47.0	44.0	45.7	47.0	50.2	56.3	60.7	78.2	96.8	100.5	85.3	79.5
11	47.1	44.0	45.7	47.0	50.5	56.4	61.0	78.9	97.4	100.0	84.7	79.0
12	47.1	44.1	45.4	47.1	50.9	56.5	61.4	79.5	97.8	99.5	84.2	78.5
13	47.1	44.0	45.3	47.2	51.4	56.5	61.8	80.1	98.3	99.1	83.7	78.0
14	47.1	44.0	45.1	47.9	52.0	56.6	62.3	80.6	98.9	98.6	83.3	77.5
15	47.1	44.0	45.0	47.3	52.5	56.7	62.8	81.2	99.4	98.1	83.0	77.0
16	47.1	44.0	45.0	47.3	52.8	56.8	63.3	81.8	99.9	97.6	83.1	76.5
17	47.2	44.0	45.2	47.3	53.0	56.8	63.8	82.4	100.3	97.1	83.1	76.0
18	47.2	44.0	45.3	47.6	53.2	56.9	64.3	83.1	100.7	96.6	83.1	82.2
19	47.2	44.0	45.4	48.2	53.3	57.0	65.0	83.6	101.1	96.1	83.1	75.1
20	47.3	44.1	45.6	48.2	53.5	57.1	65.3	84.1	101.4	95.6	82.9	74.6
21	47.3	44.1	45.8	48.2	53.6	57.2	65.7	84.6	101.7	95.1	82.7	74.1
22	47.3	44.1	46.1	48.2	53.7	57.6	66.2	85.2	102.0	94.6	82.5	73.6
23	47.1	44.2	46.2	48.2	53.9	57.6	66.8	85.8	102.2	94.2	82.5	73.0
24	46.9	44.4	46.2	48.2	54.0	57.7	67.5	86.3	102.3	93.6	82.5	72.5
25	46.7	44.6	46.2	48.1	54.2	57.7	68.1	86.6	102.4	93.1	82.5	72.0
26	46.6	44.9	46.3	48.0	54.3	57.8	68.6	87.1	102.4	92.6	82.5	71.5
27	46.5	44.9	46.3	47.8	54.3	57.9	69.4	87.7	102.4	92.2	82.5	71.0
28	46.6	44.7	46.4	47.6	54.6	58.3	69.9	88.3	102.5	91.6	82.4	70.8
29	46.6	44.8	46.5	47.4	—	58.1	70.4	89.0	102.5	91.1	82.4	70.3
30	46.3	45.2	46.5	47.2	—	58.3	70.8	89.7	102.5	90.6	82.4	69.8
31	45.8	—	46.6	46.9	—	58.4	—	90.4	—	90.1	82.6	—
(†)	5,120.26	5,119.79	5,120.78	5,121.05	5,126.38	5,128.93	5,136.88	5,148.54	5,155.29	5,148.39	5,144.00	5,136.25
(‡)	-1,300	-600	+1,400	+300	+7,700	+3,800	+12,400	+19,600	+12,100	-12,400	-7,500	-12,800

Calendar year 1961..... ‡ +6,600
Water year 1961-62..... ‡ +22,700

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-4045. North Fork Feather River at Big Bar, Calif.

Location.--Lat 39°47'40", long 121°27'00", in NE $\frac{1}{4}$ sec.6, T.22 N., R.5 E., on left bank between railroad and highway bridges, 0.5 mile downstream from Flea Valley Creek and Pulga, 1 mile downstream from Big Bar, and 1.5 miles downstream from Poe Dam.

Drainage area.--1,953 sq mi.

Records available.--October 1910 to September 1962. Monthly discharge only for some periods and yearly estimates for water years 1911 and 1938, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 1,320 ft (from topographic map). Prior to Oct. 1, 1937, at site 1.5 miles upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft higher.

Average discharge.--52 years, 2,877 cfs (2,083,000 acre-ft per year), including diversion through Poe powerplant.

Extremes.--Maximum discharge during year, 12,300 cfs Feb. 9, 10 (gage height, 16.90 ft); minimum daily, 35 cfs Dec. 13.
1910-58 (prior to diversion to Poe powerhouse): Maximum discharge, 72,400 cfs Dec. 23, 1955 (gage height, 35.60 ft, present datum), from rating curve extended above 34,000 cfs; minimum daily, 235 cfs Oct. 31, 1932.
1958-62: Maximum discharge, 34,300 cfs Feb. 8, 1960 (gage height, 25.10 ft); minimum daily, 33 cfs June 25, 1961.

Remarks.--Records good. Flow regulated by Lake Almanor (see p. 830), Bucks Lake (see p. 839), Butt Valley Reservoir, and Cresta, Rock Creek, and Poe powerplants. Diversion through Poe powerplant began on May 29, 1958.

Cooperation.--Water-stage-recorder graph and eight discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 8				Feb. 9 to Sept. 30			
3.3	33	5.0	265	7.0	870	11.0	3,800
3.6	60	6.0	520	8.0	1,400	13.0	6,100
4.0	104	7.0	870	9.0	2,000	15.0	9,000
4.5	174						

Note.--Same as preceding table below 7.0 ft.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	54	184	52	56	129	100	* 80	56	56	58	57
2	55	57	127	50	55	158	98	74	57	56	53	56
3	a 54	56	74	51	55	122	100	272	59	56	54	55
4	a 54	55	60	53	55	109	1,030	668	* 64	55	56	54
5	a 54	54	45	50	59	160	1,630	381	67	56	55	53
6	a 55	55	43	49	64	283	2,120	277	62	58	51	53
7	a 55	54	39	49	104	211	2,340	297	71	58	55	52
8	a 55	54	39	48	575	171	2,830	329	* 57	58	55	52
9	a 55	54	37	50	* 6,060	155	3,300	460	57	58	57	50
10	55	54	37	50	* 8,980	136	2,920	249	57	58	75	54
11	58	53	40	49	3,570	123	2,360	136	56	60	54	56
12	57	52	38	51	1,390	116	2,340	66	55	58	56	58
13	56	53	35	56	3,800	110	2,710	62	52	60	57	57
14	56	53	40	47	4,960	105	3,680	61	60	57	54	56
15	54	54	50	50	6,830	102	3,550	61	58	56	54	55
16	54	52	48	48	4,980	99	3,190	64	55	55	57	57
17	55	* 53	59	48	2,280	93	2,620	63	55	* 57	57	55
18	55	53	52	50	719	91	2,140	63	58	56	56	54
19	56	55	63	161	208	91	1,940	60	54	56	57	56
20	56	56	80	161	177	91	1,230	62	58	55	57	56
21	55	53	89	90	161	97	736	58	59	56	57	55
22	56	55	66	72	147	137	853	77	55	57	58	53
23	54	57	61	68	140	117	885	68	60	63	57	55
24	57	57	56	67	127	109	702	62	61	57	55	55
25	57	65	54	60	114	104	1,030	61	60	56	54	54
26	58	67	52	60	112	102	759	63	59	55	53	54
27	59	58	52	58	105	102	802	65	58	56	53	* 57
28	57	54	51	58	105	102	1,420	64	58	54	* 54	58
29	54	67	52	62	-	100	227	62	58	54	55	57
30	53	131	51	* 60	-----	100	85	61	58	56	55	53
31	54	-----	51	59	-----	100	-----	60	-----	53	54	-----
Total	1,719	1,745	1,825	1,937	45,988	3,825	49,727	4,486	1,754	1,756	1,733	1,647
Mean	55.5	58.2	58.9	62.5	1,642	123	1,658	145	58.5	56.6	55.9	54.9
Max	59	131	184	161	8,980	283	3,680	668	71	63	75	58
Min	53	52	35	47	55	91	85	58	52	53	51	50
Ac-ft	3,410	3,460	3,620	3,840	91,220	7,590	98,630	8,900	3,480	3,480	3,440	3,270
(†)	37,580	48,640	94,470	54,660	150,900	162,600	229,000	201,300	154,600	141,600	153,300	105,100
Mean#	667	876	1,595	951	4,360	2,768	5,066	3,419	2,657	2,360	2,548	1,822
Ac-ft#	40,990	52,100	98,090	58,500	242,100	170,200	327,600	210,200	158,100	145,100	156,700	108,400

Calendar year 1961: Max 1,570 Min 33 Mean 67.2 Ac-ft 48,650 Mean# 1,686 Ac-ft# 1,221,000
Water year 1961-62: Max 8,980 Min 35 Mean 324 Ac-ft 234,300 Mean# 2,442 Ac-ft# 1,768,000

* Discharge measurement made on this day.

† Diversion, in acre-feet, through Poe powerplant, furnished by Pacific Gas & Electric Co.

Adjusted for diversion.

a No gage-height record.

11-4053. West Branch Feather River near Paradise, Calif.

Location.--Lat 39°47'15", long 121°33'40", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.22 N., R.4 E., on left bank 0.6 mile upstream from Griffin Gulch and 4.0 miles northeast of Paradise.

Drainage area.--113 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,370 ft (from topographic map).

Average discharge.--5 years, 258 cfs (186,800 acre-ft per year).

Extremes.--Maximum discharge during year, 4,560 cfs Feb. 9 (gage height, 11.54 ft); minimum, 0.3 cfs Sept. 8.
1957-62: Maximum discharge, 14,000 cfs Feb. 8, 1960 (gage height, 18.55 ft); minimum, 0.3 cfs Aug. 31, Sept. 1, 2, 1960, Sept. 8, 1962.

Remarks.--Records good. Dewey, Miners, and Henricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin (see p. 803) for power development at DeSabra and Centerville plants of Pacific Gas & Electric Co. Upper Miocene Canal diverts about 50 cfs to Lime Saddle powerplant. Flow regulated by Round Valley Reservoir (capacity, 1,284 acre-ft) and Philbrook Reservoir (capacity, 5,010 acre-ft).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9

Feb. 9 to Sept. 30

1.8	0.3	3.5	78	1.77	0.4	3.5	72
1.9	.7	4.0	137	1.8	.5	4.0	132
2.0	1.6	5.0	323	1.9	1.4	4.5	212
2.1	3.1	6.0	630	2.0	2.6	5.0	315
2.2	5.0	7.0	1,070	2.2	5.6	6.0	620
2.4	9.5	8.0	1,660	2.4	10	7.0	1,080
2.7	20	10.0	3,160	2.6	17	8.0	1,650
3.0	37			3.0	35	10.0	3,140

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	3.6	1,380	39	53	297	382	584	471	28	0.6	0.4
2	.6	1.8	855	39	55	350	402	660	486	24	.6	.4
3	.5	1.8	297	39	55	286	414	740	456	26	.5	.4
4	.5	1.7	178	35	53	264	477	812	370	9.0	.5	.4
5	*1.0	1.7	130	30	52	458	538	822	284	4.7	.7	.4
6	1.3	1.8	105	30	53	1,060	592	799	288	1.8	.7	.4
7	1.2	2.0	87	38	400	636	668	794	290	2.1	.7	.4
8	1.1	2.0	69	53	1,170	474	714	835	298	2.3	.7	.4
9	1.0	1.8	59	60	3,130	420	734	885	348	1.6	.8	.4
10	1.2	1.7	56	50	*2.510	358	656	718	348	1.5	1.1	.4
11	1.6	1.8	46	37	1,246	315	644	620	294	*1.6	.8	.4
12	4.6	1.8	49	36	1,150	286	700	562	236	1.3	.7	.5
13	2.6	1.4	40	30	2,630	264	*758	531	221	1.4	.5	.5
14	2.0	1.6	35	24	2,200	246	817	480	292	1.2	.5	.5
15	1.6	2.4	29	27	3,050	236	863	414	*234	2.2	.5	1.1
16	1.4	1.8	28	24	1,720	216	768	465	226	1.0	.5	1.2
17	1.4	1.3	62	25	1,170	203	718	486	270	.9	.5	1.2
18	1.4	1.4	57	27	910	198	700	*517	240	.8	*.5	1.1
19	1.4	1.3	103	650	731	212	736	504	217	.5	.5	1.1
20	1.4	*5.3	352	557	660	228	596	396	194	.7	.5	.4
21	1.4	4.8	354	172	538	217	556	370	176	.7	.5	.4
22	1.6	3.8	237	100	*465	399	632	432	160	.7	.5	.5
23	1.7	2.4	147	91	426	298	736	444	136	.7	.5	.5
24	3.8	3.6	119	67	382	254	804	385	113	.7	.5	.5
25	2.3	1.51	88	58	342	242	799	330	81	.7	.5	.4
26	2.6	2.51	70	*53	300	262	722	325	65	.8	.4	.4
27	7.2	1.28	55	48	278	284	826	358	55	.8	.4	.4
28	1.9	4.6	50	46	266	305	1,000	393	48	.8	.4	.7
29	7.0	1.14	46	49	-	323	656	450	39	.7	.4	.9
30	3.1	5.91	43	60	-----	342	580	471	33	.7	.4	1.0
31	7.0	-----	40	60	-----	348	-----	468	-----	.7	.4	-----
Total	85.4	1,389.6	5,266	2,654	25,995	10,281	20,188	17,050	6,969	120.6	17.3	17.7
Mean	2.75	46.3	170	85.6	928	332	673	550	232	3.89	0.56	0.59
Max	19	591	1,380	650	3,130	1,060	1,000	885	486	28	1.1	1.2
Min	0.3	1.3	28	24	52	198	382	325	33	0.5	0.4	0.4
Ac-ft	169	2,760	10,440	5,260	51,560	20,390	40,040	33,820	13,820	239	34	35

Calendar year 1961: Max 2,350 Min 0.4 Mean 151 Ac-ft 109,400
Water year 1961-62: Max 3,130 Min 0.4 Mean 247 Ac-ft 178,600

Peak discharge (base, 2,000 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1700	8.65	2,120	2-15	0400	10.96	4,000
2-9	2100	11.54	4,560				

11-4065. West Branch Feather River near Yankee Hill, Calif.

Location.--Lat 39°41'55", long 121°33'38", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.6, T.21 N., R.4 E., on right bank 800 ft upstream from highway bridge, 1.7 miles downstream from Concow Creek, 2.1 miles west of Yankee Hill, and 4.9 miles southeast of Paradise.

Drainage area.--149 sq mi.

Records available.--September 1930 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 650 ft (from topographic map).

Average discharge.--32 years, 341 cfs (246,900 acre-ft per year).

Extremes.--Maximum discharge during year, 5,680 cfs Feb. 15 (gage height, 14.42 ft); minimum, 1.7 cfs Sept. 15.
1930-62: Maximum discharge, 21,400 cfs Dec. 11, 1937 (gage height, 30.3 ft), from rating curve extended above 15,000 cfs; minimum, 0.3 cfs Jan. 8, 1937 (gage height, 1.69 ft).

Remarks.--Records good except those for periods of no gage-height record, which are fair. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin (see p. 803) for power development at DeSabra and Centerville plants of Pacific Gas and Electric Co. Upper Miocene Canal diverts from West Branch Feather River, and Spring Valley ditch diverts from Concow Creek above station for power development at Idme Saddle and Coal Canyon plants of Pacific Gas and Electric Co. and for irrigation below powerplants. Flow regulated by Round Valley Reservoir (capacity, 1,285 acre-ft), Philbrook Reservoir (capacity, 5,010 acre-ft), and Lake Wilenor (capacity, 8,210 acre-ft).

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 19-30)

2.0	1.7	3.5	101
2.1	2.9	4.0	177
2.2	4.8	5.0	375
2.3	8.0	7.0	945
2.5	17	9.0	1,780
2.7	28	11.0	2,960
3.0	49	13.0	4,440

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	9.6	a 1,100	48	59	375	401	585	468	33	2.7	2.8
2	5.1	7.7	a 500	64	61	558	431	642	485	26	2.8	2.8
3	4.6	6.4	343	47	61	462	440	714	468	25	2.7	2.8
4	4.6	7.0	201	43	60	405	525	777	395	18	2.8	2.9
5	* 4.4	7.0	138	38	59	703	558	786	299	14	2.9	2.9
6	6.4	6.4	112	37	68	1,880	603	771	295	6.4	2.8	2.9
7	7.7	7.7	91	43	360	1,090	660	762	303	6.1	2.9	2.9
8	8.4	6.7	78	55	1,180	726	699	804	307	5.4	2.5	2.8
9	5.8	6.7	66	69	3,340	612	732	850	351	4.8	2.5	2.8
10	6.1	7.0	61	59	2,700	500	654	711	365	4.4	2.4	2.7
11	7.0	7.0	51	49	1,300	433	639	621	337	4.2	2.5	2.7
12	8.0	7.7	54	42	1,280	383	681	567	241	4.2	2.7	2.7
13	14	7.4	46	40	3,250	343	* 750	495	231	4.2	2.7	2.8
14	7.7	7.4	41	33	2,980	327	780	488	309	4.0	2.5	2.3
15	6.1	6.7	32	32	4,280	287	844	419	* 249	3.5	2.5	1.8
16	6.1	7.7	32	32	2,320	271	762	460	225	3.3	2.7	2.2
17	6.1	7.0	a 50	29	1,460	253	711	485	285	2.9	2.7	2.4
18	6.1	6.4	a 100	32	1,140	243	693	* 516	257	2.9	* 2.5	4.4
19	6.1	6.4	a 200	769	928	233	726	510	229	2.9	2.5	5.4
20	7.0	* 8.4	369	755	872	271	600	405	203	2.9	2.5	4.4
21	7.0	16	577	229	738	261	561	369	182	2.9	2.5	4.2
22	7.4	8.4	277	121	* 633	584	621	425	164	3.1	2.5	4.0
23	6.7	19	179	108	555	241	720	465	143	3.7	2.5	4.4
24	7.7	a 50	141	82	537	459	786	395	130	2.8	2.7	4.4
25	8.0	a 250	109	70	472	327	780	345	91	2.8	2.7	4.0
26	7.7	a 350	138	* 67	409	339	717	331	76	2.9	2.7	4.0
27	11	156	66	68	363	347	783	367	64	2.9	2.7	4.2
28	20	55	60	66	325	357	987	395	57	2.8	2.7	4.6
29	18	103	56	68	-	373	660	448	47	2.8	2.7	5.1
30	10	583	53	66	-----	393	555	462	40	3.1	2.8	5.1
31	9.6	-----	49	57	-----	373	-----	465	-----	2.7	2.8	-----
Total	246.2	1734.7	5370	3318	31790	14409	20059	16835	7296	2106	821	1034
Mean	7.94	57.8	173	107	1,135	465	669	543	243	6.79	2.65	3.45
Max	20	583	1,100	769	4,280	1,880	987	850	485	33	2.9	5.4
Min	4.4	6.4	32	29	59	233	401	331	40	2.7	2.4	1.8
Ac-ft	488	3,440	10,650	6,580	63,050	28,580	39,790	33,390	14,470	418	163	205

Calendar year 1961: Max 2,750 Min 2.7 Mean 164 Ac-ft 118,900
Water year 1961-62: Max 4,280 Min 1.8 Mean 278 Ac-ft 201,200

Peak discharge (base, 3,000 cfs).--Feb. 12 (2100) 4,920 cfs (13.58 ft); Feb. 15 (0300) 5,680 cfs (14.42 ft).

* Discharge measurement made on this day.

a No gage-height record.

SACRAMENTO RIVER BASIN

843

11-4070. Feather River at Oroville, Calif.

Location.--Lat 39°31'06", long 121°32'57", in SW $\frac{1}{4}$ sec. 8, T.19 N., R.4 E., on right bank 200 ft downstream from bridge on Oroville-Chico highway and 0.4 miles northeast of Oroville business district.

Drainage area.--3,632 sq mi; at former site, 3,615 sq mi.

Records available.--October 1901 to September 1962. October 1934 to September 1961 published as "near Oroville." Monthly discharge only for some periods published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Jan. 1, 1902 to Dec. 15, 1912, staff gages at several locations near present site and at various datums. Dec. 16, 1912, to Sept. 30, 1934, water-stage recorder at present site at datum 139.53 ft above mean sea level, datum of 1929. Oct. 1, 1934, to June 30, 1962, water-stage recorder at site 5.2 miles upstream at datum 182.02 ft above mean sea level, datum of 1929.

Average discharge.--61 years, 5,792 cfs (4,193,000 acre-ft per year).

Extremes.--Maximum discharge during year, 43,400 cfs Feb. 9 (gage height, 41.20 ft, site and datum then in use); minimum, 946 cfs Oct. 15 (gage height, 5.36 ft, site and datum then in use).

1901-62: Maximum discharge observed, 230,000 cfs Mar. 19, 1907 (gage height, 28.2 ft, reading on U. S. Weather Bureau staff gage at bridge, equivalent to 39.3 ft at staff gage at cable 1,000 ft upstream; probably had been higher during night); minimum, 300 cfs (estimated), Nov. 9, 1931 (gage height, -1.7 ft, present site, datum then in use).

Remarks.--Records good. Flow partly regulated by powerplants and reservoirs above station. Several diversions above station for power and irrigation. See Remarks for upstream stations.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 25-30)

Oct. 1 to Mar. 6		Mar. 7 to June 30		July 1 to Sept. 30	
5.4	960	9.2	2,750	135.4	1,480
6.0	1,190	10.0	3,230	136.0	2,230
8.0	2,040	16.0	7,170	137.0	3,840
12.0	4,310	20.0	10,660		
20.0	11,000	25.0	15,600		
30.0	23,000				
37.0	34,600				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	964	1,160	6,820	1,440	1,920	* 4,970	8,340	8,260	5,870	3,190	* 3,140	2,460
2	* 1,230	1,420	7,300	1,350	* 1,910	6,700	8,730	* 8,390	5,850	3,180	2,620	2,460
3	1,210	1,350	3,060	* 1,390	1,550	5,380	* 9,000	8,980	5,830	3,130	3,060	2,470
4	1,280	1,070	2,420	1,340	1,480	4,930	9,900	9,650	5,310	3,220	2,640	* 2,520
5	1,310	1,030	2,640	1,460	2,040	5,480	11,000	9,940	4,900	3,220	2,580	2,170
6	1,210	1,030	2,380	1,290	2,170	12,000	11,700	9,690	4,790	3,030	3,060	2,020
7	1,030	* 1,040	2,300	1,300	3,200	9,320	12,300	9,450	4,740	3,000	2,660	1,940
8	1,020	1,130	2,290	1,500	6,710	6,730	12,900	9,620	4,710	2,900	3,100	1,770
9	1,020	1,050	2,220	1,350	2,390	6,480	13,600	9,860	4,670	2,940	3,240	1,670
10	1,030	1,050	2,190	1,370	3,100	5,960	13,200	9,210	4,700	2,860	3,320	1,670
11	1,060	1,060	2,270	1,360	1,640	5,520	12,300	8,520	4,590	2,870	2,700	1,880
12	1,180	1,060	2,220	1,380	13,000	5,320	12,300	8,010	4,420	2,860	2,590	2,050
13	1,080	1,050	2,360	1,140	2,360	5,120	13,100	7,670	4,320	2,810	2,900	2,100
14	1,050	1,050	2,260	1,310	2,460	4,940	13,800	7,330	5,320	2,760	2,580	2,120
15	1,030	1,050	2,270	1,300	3,090	4,850	15,000	7,030	5,910	2,740	2,480	2,010
16	1,120	1,140	2,120	1,290	2,350	4,830	14,300	7,320	5,610	2,730	2,480	2,010
17	1,050	1,170	2,140	1,290	15,600	4,750	13,300	7,150	5,480	2,820	2,780	1,980
18	1,030	1,110	1,960	1,410	12,200	4,680	12,500	6,710	5,230	2,780	2,970	* 2,060
19	1,060	1,100	1,550	4,110	10,200	4,780	12,400	6,350	4,800	2,780	2,790	2,030
20	1,090	1,150	2,620	6,300	9,310	4,980	11,100	5,880	4,720	3,470	2,730	1,960
21	1,090	1,450	4,300	2,490	7,720	5,030	9,740	5,250	5,090	3,080	2,470	2,080
22	1,080	1,650	2,410	2,300	6,400	6,320	9,600	5,460	4,650	2,790	2,470	2,050
23	1,040	1,210	2,090	1,610	6,170	5,690	10,500	6,040	2,860	3,320	2,470	2,050
24	1,020	1,450	1,730	1,670	5,760	5,220	11,100	5,680	2,750	3,440	2,480	2,080
25	1,050	1,810	1,610	1,570	5,370	5,180	10,800	5,120	3,500	2,920	2,470	1,630
26	1,070	1,780	1,530	1,500	4,990	5,820	10,200	4,830	4,700	2,710	2,460	1,560
27	1,110	1,840	1,490	1,470	4,710	6,460	10,000	4,840	4,310	3,270	2,460	1,580
28	1,210	1,840	1,890	1,400	4,590	7,270	12,100	5,270	3,420	2,740	2,470	1,770
29	1,200	1,840	2,360	1,480	-	7,890	9,540	5,960	3,330	2,530	2,460	2,020
30	1,110	3,920	2,120	1,770	-----	7,860	8,500	6,110	3,290	3,100	2,470	1,860
31	1,070	-----	2,220	2,050	-----	8,000	-----	* 5,860	-----	2,740	2,470	-----
Total	34,104	41,060	79,140	53,990	303,000	188,460	342,850	225,440	139,670	91,930	83,570	60,030
Mean	1,100	1,369	2,553	1,742	10,820	6,079	11,430	7,272	4,656	2,965	2,696	2,001
Max	1,310	3,920	7,300	6,300	33,100	12,000	15,000	9,940	5,910	3,470	3,320	2,520
Min	964	1,030	1,490	1,140	1,480	4,680	8,340	4,830	2,750	2,530	2,460	1,560
Ac-ft	67,640	81,440	157,000	107,100	601,000	373,800	680,000	447,200	277,000	182,300	165,800	119,100

Calendar year 1961: Max 14,000 Min 964 Mean 3,019 Ac-ft 2,186,000

Water year 1961-62: Max 33,100 Min 964 Mean 4,502 Ac-ft 3,259,000

Peak discharge (base, 30,000 cfs).--Feb. 9 (2200) 43,400 cfs (41.20 ft); Feb. 15 (0300) 32,000 cfs (35.58 ft).

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-4070. Feather River at Oroville, Calif.--Continued.

Records available.--Water temperatures: October 1960 to September 1962 in reports of Geological Survey. October 1953 to September 1960 are in files of California district office of Geological Survey.

Extremes.--Maximum temperature during year, 74°F July 27; minimum, 35°F Jan. 23-25.
1960-62: Maximum temperature, 76°F Aug. 9, 1961; minimum, that of Jan. 23-25, 1962.

Remarks.--Water temperature records obtained at site 5.2 miles upstream.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1			-	-	45	45	40	39	40	40	39	39	49	48	52	50	59	56	68	66	73	71	69	68
2			-	-	45	44	40	40	41	40	40	39	49	49	53	52	59	57	68	66	72	70	70	68
3			-	-	44	44	40	40	42	41	41	40	51	49	54	53	59	57	68	67	71	69	70	68
4			-	-	44	43	40	39	42	41	42	41	51	50	55	53	58	56	69	67	70	69	70	68
5					43	42	39	39	41	41	43	42	51	50	54	53	57	55	70	68	70	69	69	68
6			-	-	42	42	40	39	41	41	43	43	51	51	54	53	57	55	70	69	70	69	68	67
7			-	-	42	41	41	40	42	41	43	43	51	51	54	53	59	57	70	69	70	68	68	67
8			-	-	41	41	41	40	44	42	44	43	51	51	54	53	60	58	70	69	69	68	68	66
9			-	-	41	40	42	41	45	44	44	44	51	50	53	52	60	58	70	68	69	68	68	67
10			-	-	40	39	43	42	44	43	44	43	50	50	53	51	60	59	69	68	68	67	67	66
11			-	-	39	39	42	41	43	43	43	43	50	50	52	51	60	59	69	68	69	67	67	65
12			-	-	39	38	42	41	44	43	43	42	51	50	52	51	61	59	69	68	70	68	66	65
13			-	-	38	38	-	-	45	44	43	42	52	51	52	51	61	59	69	68	71	68	66	64
14			-	-	38	38	-	-	45	44	44	43	52	51	52	51	61	59	70	68	70	68	66	64
15			-	-	38	38	39	38	45	44	44	43	52	51	52	50	60	59	70	68	70	67	66	64
16			-	-	38	38	38	37	44	44	44	43	51	50	53	51	62	59	70	68	70	68	66	65
17			-	-	38	38	38	37	44	44	44	44	51	50	54	52	64	61	70	69	71	69	66	65
18			-	-	39	38	38	37	44	44	46	44	51	51	55	53	66	63	70	69	71	69	66	65
19			-	-	40	39	41	38	44	43	47	46	51	50	55	53	67	64	70	68	71	69	66	64
20			-	-	42	40	41	40	44	43	47	47	50	49	53	52	67	65	71	69	71	69	66	64
21			-	-	42	42	40	38	43	42	47	46	51	49	52	51	68	65	71	69	71	70	65	64
22			-	-	42	42	38	36	43	43	46	45	52	51	54	52	68	65	70	69	70	69	65	64
23			-	-	42	42	36	35	44	43	45	44	53	52	54	54	68	66	71	69	70	69	65	64
24			45	45	42	41	35	35	44	43	46	45	53	52	54	52	69	67	71	69	71	69	65	64
25			45	45	42	42	36	35	43	42	47	45	53	52	52	52	68	66	71	69	71	70	65	64
26			46	45	42	42	37	36	42	40	48	47	53	52	53	51	67	65	72	70	71	70	65	64
27			46	46	42	41	38	37	40	38	49	48	52	51	53	52	67	65	74	71	71	69	65	64
28			46	45	41	40	39	38	39	38	49	47	51	49	55	53	67	66	73	71	70	69	64	63
29			45	45	40	40	40	39	-	-	48	48	49	48	57	55	67	66	73	71	70	68	64	62
30			45	45	40	39	40	40	-	-	49	48	50	49	57	56	68	66	73	71	70	68	64	62
31			-	-	39	39	40	40	-	-	49	48	-	-	58	56	-	-	73	71	69	68	-	-
Avg			-	-	41	40	-	-	43	42	45	44	51	50	54	52	63	61	70	69	70	69	66	65

SACRAMENTO RIVER BASIN

845

11-4073. North Honcut Creek near Bangor, Calif.

Location.--Lat 39°20'32", long 121°29'25", in SW $\frac{1}{4}$ sec.11, T.17 N., R.4 E., on left bank 0.25 mile upstream from unnamed tributary and 5.7 miles southwest of Bangor.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 125 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,620 cfs Feb. 15 (gage height, 9.08 ft); no flow for several months.

Remarks.--Small diversions above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)	*0	2.2	4.2	90	19	2.7	4.6			
2			1.1	1.9	3.9	593	20	2.6	4.4			
3	(*)		30	1.8	3.7	165	19	2.2	3.6		(*)	
4			12	1.8	3.7	97	17	2.0	3.3			
5			6.5	1.8	3.2	156	15	2.0	3.2			
6			5.2	1.8	3.5	1060	13	1.7	2.7			
7			4.4	1.8	22	346	12	1.6	2.0			
8			40	1.7	216	154	13	1.4	1.6			
9			3.6	1.6	1,210	105	12	1.2	1.0			
10			3.5	1.5	1,340	80	11	1.2	.6			
11			2.9	1.5	396	66	9.7	1.3	.4			
12			2.8	1.9	510	56	8.1	1.2	*.3			
13	(*)		3.0	1.6	*1,540	48	7.5	1.2	.2			(*)
14			*3.1	1.4	1,100	43	8.7	1.5	.1			(*)
15			3.2	1.5	1,890	40	6.9	2.0	0			
16			2.8	1.5	618	37	6.0	4.9	0			
17		(*)	2.5	1.4	198	35	6.5	20	0			
18			2.4	1.5	152	32	6.0	11	0			
19			3.3	70	184	27	6.5	6.2	0			
20			27	286	112	25	7.8	5.7	0			
21			20	57	97	28	8.3	8.4	0			
22			13	32	71	105	6.6	12	0			
23			8.3	*19	57	75	6.9	12	0			
24			5.7	12	52	49	5.9	12	0			
25			4.7	8.7	63	41	4.5	12	0			
26			4.1	7.5	67	35	3.5	8.8	0			
27			3.9	6.0	52	33	*3.0	7.1	0			
28			3.5	5.4	47	*28	2.9	6.5	0			
29			3	4.7	-	26	3.6	6.1	0			
30			2.6	4.7	-----	22	3.0	5.8	0			
31			2.3	4.5	-----	21	-----	5.1	-----			
Total	0	0	204.3	547.7	1001.6	3718	272.9	169.4	28.0	0	0	0
Mean	0	0	6.59	17.7	358	120	9.10	5.46	0.93	0	0	0
Max	0	0	30	286	1,890	1,060	20	20	4.6	0	0	0
Min	0	0	0	1.4	3.2	21	2.9	1.2	0	0	0	0
Ac-ft	0	0	405	1,090	19,870	7,370	541	336	56	0	0	0
Calendar year 1961: Max 809 Min 0 Mean 21.0 Ac-ft 15,180												
Water year 1961-62: Max 1,890 Min 0 Mean 41.0 Ac-ft 29,670												

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

SACRAMENTO RIVER BASIN

11-4075. South Honcut Creek near Bangor, Calif.

Location.--Lat 39°22'05", long 121°22'15", in SE $\frac{1}{4}$ sec.35, T.16 N., R.5 E., on right bank 2.3 miles southeast of Bangor and 3.3 miles upstream from Tennessee Creek.

Drainage area.--30.5 sq mi.

Records available.--October 1950 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 620 ft (from topographic map).

Average discharge.--12 years, 34.4 cfs (24,900 acre-ft per year); median of yearly mean discharges, 25 cfs (18,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,320 cfs Feb. 9 (gage height, 9.70 ft); no flow many days.

1950-62: Maximum discharge, 6,340 cfs Dec. 23, 1955 (gage height, 11.15 ft), from rating curve extended above 2,200 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Remarks.--Records good. Some small diversions upstream for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.55	0	2.3	4.7	4.5	226
1.7	.2	2.4	7.1	5.0	360
1.8	.4	2.6	14	6.0	730
1.9	.7	2.8	24	7.0	1,290
2.0	1.2	3.0	38	8.0	2,260
2.1	1.9	3.5	84		
2.2	3.0	4.0	144		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.2	1.0	2.1	4.9	100	13	4.2	1.7	0.3	0	
2	.1	.3	4.5	* 2.0	4.9	562	14	4.0	1.5	.2	0	
3	.1	.4	4.2	1.7	3.7	138	19	3.8	1.4	.1	0	
4	.1	.5	11	1.6	3.8	96	18	3.8	1.6	.1	0	
5	.1	.5	4.4	1.6	4.7	202	17	3.7	1.3	.1	0	
6	.1	.3	2.8	1.5	4.0	480	9.6	3.3	.8	.1	0	
7	0	.1	2.3	1.5	2.6	210	8.3	3.2	.7	.1	0	
8	.1	.1	2.0	1.4	209	126	9.3	3.0	*.7	.1	.1	
9	.1	.1	1.6	1.4	1320	95	9.9	3.2	.7	* 0	.1	
10	.1	.1	1.4	1.3	1010	75	9.0	3.0	.7	0	.1	
11	.1	.1	1.2	1.3	256	62	8.6	3.0	1.3	0	.1	
12	.1	.1	* 1.2	1.6	435	51	9.0	3.0	2.3	0	.1	
13	.1	.1	1.2	1.6	935	43	7.4	2.9	2.3	0	.1	(*)
14	0	.1	1.1	1.4	713	37	8.0	3.0	2.3	0	.1	
15	0	.1	1.0	1.4	1010	33	7.4	3.5	2.2	0	0	
16	0	.1	1.0	1.4	436	30	7.7	8.6	2.2	0	0	
17	0	.1	1.3	1.4	177	27	7.4	4.9	2.0	0	0	
18	0	.1	1.5	1.4	139	24	* 7.4	3.3	1.9	0	0	
19	0	.1	5.6	199	150	23	11	2.9	1.6	0	0	
20	0	.1	30	220	124	23	14	2.6	1.4	0	0	
21	0	.3	20	28	* 108	21	8.0	2.4	1.2	0	0	
22	0	.3	8.6	12	78	92	6.4	2.3	1.2	0	0	
23	0	.4	5.7	11	60	46	5.7	2.2	1.4	0	0	
24	0	.5	4.4	8.0	55	31	4.7	2.3	1.1	0	0	
25	0	.4	3.8	5.9	51	27	4.9	2.4	.9	0	0	
26	0	.6	3.3	4.4	44	24	4.7	2.5	*.7	0	0	
27	0	.7	2.5	3.8	34	19	6.7	2.6	.6	0	0	
28	0	.7	2.2	3.3	34	17	9.3	2.5	.6	0	0	
29	0	.8	2.1	3.0	-	17	5.2	2.4	.5	0	0	
30	0	3.2	1.9	3.0	-----	17	4.5	2.1	.4	0	0	
31	.1	-----	1.9	3.3	-----	15	-----	1.9	-----	0	0	-----
Total	1.3	11.5	224.0	532.3	7430.0	2763	275.1	98.5	39.2	1.1	0.7	0
Mean	0.04	0.38	7.23	17.2	265	89.1	9.17	3.18	1.31	0.04	0.02	0
Max	0.1	3.2	45	220	1,320	562	19	8.6	2.3	0.3	0.1	0
Min	0	0.1	1.0	1.3	3.7	15	4.5	1.9	0.4	0	0	0
Ac-ft	2.6	23	444	1,060	14,740	5,480	546	195	78	2.2	1.4	0

Calendar year 1961: Max 314 Min 0 Mean 11.9 Ac-ft 8,590

Water year 1961-62: Max 1,320 Min 0 Mean 31.2 Ac-ft 22,570

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1400	9.70	4,320	3-5	2400	7.24	1,490
2-14	2300	7.55	1,780				

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

11-4080. Milton-Bowman tunnel at outlet, Calif.

Location.--39°27'35", long 120°36'40", in sec.3, T.18 N., R.12 E., on right bank 100 ft downstream from tunnel outlet and near upper end of Bowman Lake.

Records available.--May 1928 to September 1930, February 1931 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,600 ft (from topographic map).

Average discharge.--34 years (1928-62), 67.3 cfs (48,720 acre-ft per year).

Extremes.--1928-30; 1931-62: Maximum daily discharge, 492 cfs Feb. 11, 1941; minimum daily, 0.4 cfs Oct. 7, 1944.

Remarks.--Records good. Tunnel diverts from Middle Yuba River at Milton, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake. Practically the entire flow of Middle Yuba River is diverted during low and medium flows.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	5.3	7.6	7.3	7.6	1.9	55	285	408	75	8.7	4.5
2	2.9	5.1	8.3	6.7	7.9	15	62	342	406	67	7.9	4.2
3	2.9	4.9	7.0	* 6.4	7.9	21	69	404	408	62	7.9	4.2
4	2.9	4.9	6.4	6.4	8.3	24	90	408	402	56	7.6	4.0
5	2.9	4.9	5.9	6.1	8.7	22	113	408	376	52	7.9	4.0
6	2.9	4.7	5.6	6.4	9.1	24	129	412	362	48	7.9	3.8
7	2.9	4.5	5.3	6.7	13	25	162	416	372	44	7.9	3.8
8	2.9	4.5	5.3	7.3	15	* 24	187	416	372	40	7.6	3.8
9	2.9	4.5	5.1	7.9	28	23	218	416	378	36	7.6	3.8
10	3.1	4.5	5.1	8.3	60	22	231	416	388	20	7.6	3.6
11	3.4	4.5	5.1	7.9	61	22	232	406	368	6.1	7.6	3.4
12	4.0	4.7	5.1	8.3	57	22	260	382	338	* 6.1	7.6	3.4
13	3.8	4.5	5.1	7.6	51	19	316	317	319	17	7.6	3.3
14	3.6	4.5	5.1	6.7	51	21	358	274	287	25	7.3	3.3
15	3.6	4.5	5.1	6.7	50	21	398	239	248	25	6.7	3.3
16	3.6	4.5	4.9	6.1	44	21	404	247	247	24	6.1	3.3
17	3.6	4.2	5.1	5.9	41	20	398	250	252	22	5.9	3.3
18	3.6	4.2	5.3	6.1	70	19	396	290	260	21	5.6	3.1
19	3.4	4.2	5.3	7.3	50	20	402	316	260	19	5.6	2.9
20	4.0	4.5	9.9	7.3	31	22	326	285	248	18	5.3	2.9
21	5.3	4.7	18	6.7	28	21	283	272	224	16	5.3	2.9
22	5.3	4.7	17	6.7	26	19	326	316	204	14	5.3	2.9
23	5.1	4.9	13	7.0	26	22	392	374	183	13	5.1	2.7
24	4.9	4.9	11	7.3	24	22	406	344	158	12	5.1	2.9
25	4.7	4.9	9.5	7.3	22	22	407	281	138	12	5.1	3.1
26	5.1	5.9	7.9	7.0	23	25	378	244	122	11	4.9	3.4
27	6.4	6.7	7.6	7.0	22	28	386	244	110	11	4.9	3.4
28	9.9	5.9	7.0	7.0	21	32	400	220	100	12	4.7	3.6
29	8.7	6.4	6.7	7.0	-	34	326	374	92	11	4.7	3.6
30	7.0	7.0	6.7	7.0	-----	40	267	404	84	9.5	4.7	3.8
31	* 5.9	-----	7.3	7.3	-----	46	-----	* 406	-----	9.1	4.5	-----
Total	134.1	148.1	229.3	216.7	863.5	737	8,377	10,408	8,114	813.8	198.2	104.2
Mean	4.33	4.94	7.40	6.99	30.8	23.8	279	336	270	26.3	6.39	3.47
Max	9.9	7.0	18	8.3	70	46	407	416	408	75	8.7	4.5
Min	2.9	4.2	4.9	5.9	7.6	15	55	220	84	6.1	4.5	2.7
Ac-ft	266	294	455	430	1,710	1,460	16,620	20,640	16,090	1,610	393	207

Calendar year 1961: Max 390 Min 2.6 Mean 51.9 Ac-ft 37,590
 Water year 1961-62: Max 416 Min 2.7 Mean 83.1 Ac-ft 60,180

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-4085. Middle Yuba River at Milton, Calif.

Location.--Lat 39°31'22", long 120°35'01", in SW $\frac{1}{4}$ sec.12, T.19 N., R.12 E., on right bank at diversion dam of Nevada Irrigation District, at old townsite of Milton, 4 miles southeast of Sierra City, and 8 miles upstream from South Fork of Middle Yuba River.

Drainage area.--39.5 sq mi.

Records available.--December 1925 to September 1962. Prior to October 1949, published as Middle Fork Yuba River at Milton. Yearly and monthly discharges only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder and concrete spillway control. Altitude of gage is 5,700 ft (from topographic map). Prior to June 8, 1928, at site 0.2 mile downstream at different datum.

Average discharge.--36 years (1926-62), 106 cfs (76,740 acre-ft per year), based on combined flow of Middle Yuba River at this station and Milton-Bowman tunnel at outlet.

Extremes.--Maximum discharge during year, 346 cfs May 8 (gage height, 0.69 ft); no flow over dam for long periods. 1925-34, 1935-62: Maximum discharge, 6,800 cfs Dec. 11, 1937 (gage height, 4.18 ft), from rating curve extended above 1,500 cfs on basis of computation of peak flow over dam; practically all low flow diverted after May 23, 1928.

Remarks.--Records good. Milton-Bowman tunnel (see preceding page) diverts above station to Bowman Lake (see p. 857). Flow regulated by Milton Reservoir, capacity, 900 acre-ft.

Cooperation.--Water-stage recorder inspected by employees of Nevada Irrigation District.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0		0	0	* 50			
2					0		0	0	74			
3				(*)	0		0	64	59			
4					0		0	154	8.7			
5					0		0	166	0			
6					0		0	134	0			
7					0		0	146	0			
8					0	(*)	0	215	0			
9					0		0	217	0			
10					5.3		0	76	0			
11					1.5		0	2.5	* 0			
12					0		0	0	0			
13					0		0	0	0	(*)		
14					0		0.9	0	0			
15					0		33	0	0			
16					0		11	0	0			
17					0		1.3	0	0			
18					0		.1	0	0			
19					0		5.1	0	0			
20					0		0	0	0			
21					0		0	0	0			
22					0		0	0	0			
23					0		14	0	0			
24					0		54	0	0			
25					0		20	0	0			
26					0		0	0	0			
27					0		2.6	0	0			
28					0		15	0	0			
29					-		0	12	0			
30							0	47	0			
31	(*)	-----			-----		-----	43	-----			-----
Total	0	0	0	0	6.8	0	157.0	1,276.5	191.7	0	0	0
Mean	0	0	0	0	2.43	0	5.23	41.2	6.39	0	0	0
Max	0	0	0	0	5.3	0	54	217	74	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	0	0	13	0	311	2,530	380	0	0	0
Calendar year 1961: Max	7.0	Min	0	Mean	0.03	Ac-ft	20.2					
Water year 1961-62: Max	217	Min	0	Mean	4.47	Ac-ft	3,230					

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

11-4087. Middle Yuba River near Alleghany, Calif.

Location.--Lat 39°26'19", long 120°48'40", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.12, T.18 N., R.10 E., 0.5 mile downstream from Wolf Creek and 2.8 miles southeast of Alleghany.

Drainage area.--95.8 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,960 ft (from topographic map).

Average discharge.--5 years, 157 cfs (113,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,160 cfs Feb. 9 (gage height, 7.50 ft); minimum, 15 cfs on all or part of Oct. 1-8. 1957-62: Maximum discharge, 6,300 cfs Feb. 8, 1960 (gage height, 10.58 ft), from rating curve extended above 2,100 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs July 6, 1959.

Remarks.--Records good except those for Feb. 10-28, Mar. 9 to June 1, which are fair, and those for period of no gage-height record, which are poor. Milton-Bowman tunnel (see p. 847) diverts above station to Bowman Lake (see p. 857).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.1	14	3.5	147
2.2	18	4.0	243
2.4	28	5.0	550
2.7	49	6.0	1,030
3.0	79	7.0	1,720

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	19	117	37	54	a 140	288	333	* 360	75	32	25
2	16	19	96	35	56	a 160	290	360	429	71	31	24
3	16	18	60	* 35	56	a 135	304	400	439	67	32	24
4	16	18	45	33	54	*a 113	351	566	339	65	32	24
5	16	18	40	32	53	a 180	372	543	272	62	33	24
6	16	18	36	32	61	a 300	384	504	260	58	33	24
7	15	* 18	33	35	151	a 250	423	532	262	55	32	23
8	15	18	31	40	233	a 200	448	574	257	54	32	22
9	16	18	29	44	1,230	168	473	554	260	52	38	22
10	16	18	28	43	1,190	152	419	456	257	50	33	22
11	18	18	26	39	587	144	403	348	234	48	32	22
12	20	18	26	40	384	130	442	336	219	51	31	22
13	18	18	25	37	664	124	498	290	205	49	30	22
14	18	18	25	33	705	124	554	267	193	47	29	22
15	17	18	24	33	850	127	554	245	176	45	28	22
16	17	18	24	32	536	127	501	267	166	44	27	22
17	17	18	30	31	378	127	435	270	165	43	27	22
18	17	18	30	32	293	130	426	283	165	42	27	22
19	16	18	55	54	245	147	410	272	163	40	27	22
20	22	23	144	71	219	157	360	280	158	40	27	22
21	20	22	158	44	191	149	357	248	149	39	27	22
22	18	22	89	37	174	174	363	265	139	38	27	22
23	18	27	68	36	165	160	387	280	128	38	27	22
24	18	24	61	33	153	155	448	262	117	36	* 26	22
25	18	26	54	35	141	161	429	241	107	35	26	22
26	22	41	48	37	131	176	372	228	99	35	26	22
27	27	35	43	37	121	203	413	223	95	34	26	25
28	42	27	41	40	117	219	462	248	89	33	25	27
29	25	37	40	43	-	232	360	280	84	33	25	25
30	21	103	38	47	-----	248	336	324	79	33	25	25
31	20	-----	38	50	-----	262	-----	354	-----	33	25	-----
Total	587	731	1,602	1,207	9,192	5,274	12,262	10,633	6,065	14,45	898	688
Mean	18.9	24.4	51.7	38.9	328	170	409	343	202	46.6	29.0	22.9
Max	42	103	158	71	1,230	300	554	574	439	75	38	27
Min	15	18	24	31	53	113	288	223	79	33	25	22
Ac-ft	1,160	1,450	3,180	2,390	18,230	10,460	24,320	21,090	12,030	2,870	1,780	1,360

Calendar year 1961: Max 372 Min 15 Mean 82.2 Ac-ft 59,500

Water year 1961-62: Max 1,230 Min 15 Mean 139 Ac-ft 100,300

Peak discharge (base, 1,500 cfs).--Feb. 9 (2000) 2,160 cfs (7.50 ft).

* Discharge measurement made on this day.

a No gage-height record.

11-4090. Middle Yuba River above Oregon Creek, Calif.

Location.--Lat 39°23'35", long 121°04'50", in SE $\frac{1}{4}$ sec.28, T.18 N., R.8 E., on left bank 1,000 ft upstream from Oregon Creek and 2 miles northeast of North San Juan.

Drainage area.--162 sq mi.

Records available.--October 1940 to September 1962. Monthly and yearly discharges for water year 1941 published in WSP 1315-A. Prior to October 1949, published as Middle Fork Yuba River above Oregon Creek. If record for Oregon Creek near North San Juan is subtracted from record published as Middle Fork Yuba River near North San Juan, a record equivalent to that at this site can be obtained for the period 1910-41.

Gage.--Water-stage recorder. Altitude of gage is 1,440 ft (from topographic map).

Average discharge.--22 years, 349 cfs (252,700 acre-ft per year).

Extremes.--Maximum discharge during year, 5,030 cfs Feb. 9 (gage height, 9.17 ft); minimum, 20 cfs on all or part of Oct. 1-8. 1910-62: Maximum discharge, 26,400 cfs Dec. 22, 1955 (gage height, 17.25 ft), from rating curve extended above 8,200 cfs on basis of slope-area measurement at gage height 15.25 ft; minimum, 10 cfs Jan. 3, 1950.

Remarks.--Records good. Milton-Bowman tunnel (see p. 847) diverts above station to Bowman Lake (see p. 857); other small diversions above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 22 to Sept. 30)

Oct. 1 to Nov. 30				Dec. 1 to Sept. 30			
2.3	16	3.0	96	2.4	22	5.0	760
2.4	22	3.5	206	2.5	30	6.0	1,380
2.5	30	4.0	350	2.7	52	7.0	2,260
2.7	52	4.5	535	3.0	94	8.0	3,380
				3.5	195	9.0	4,770
				4.0	345		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	28	352	62	100	283	566	482	432	86	37	26
2	22	28	314	61	104	530	588	498	470	82	37	24
3	21	28	172	60	102	359	597	566	518	79	37	24
4	20	27	104	58	97	317	675	740	432	75	39	24
5	21	26	* 82	55	94	351	745	872	338	72	42	24
6	21	26	71	53	99	866	780	878	317	68	45	24
7	20	* 25	61	55	256	606	830	775	314	65	44	24
8	20	25	56	58	478	478	855	860	310	62	44	24
9	21	25	51	66	2,450	450	896	920	310	60	56	23
10	21	24	48	65	* 3,450	394	830	810	310	58	56	24
11	* 25	24	44	61	1,490	356	775	538	289	56	48	24
12	29	25	44	60	1,020	314	800	470	268	57	44	24
13	28	24	42	60	1,820	289	* 878	412	250	57	41	24
14	25	24	42	52	* 1,820	* 286	950	387	* 229	56	40	24
15	23	24	41	53	2,490	289	1,020	* 356	215	52	38	24
16	22	24	40	53	1,680	289	938	390	202	50	36	24
17	22	24	48	52	1,060	283	825	362	195	47	34	23
18	22	25	66	52	790	283	795	362	190	46	35	23
19	22	26	106	* 218	638	314	815	362	188	45	35	23
20	24	38	342	376	584	345	675	342	182	44	34	24
21	28	40	387	142	490	324	592	320	170	42	34	24
22	27	35	212	90	432	440	597	334	161	40	34	24
23	27	40	142	91	415	398	646	373	148	42	* 35	24
24	27	41	117	79	373	356	730	362	136	41	33	24
25	25	39	104	72	334	348	740	334	124	41	31	24
26	28	62	90	73	301	373	610	310	115	* 44	31	24
27	39	69	82	73	271	415	651	304	110	42	29	* 27
28	66	42	75	76	256	462	805	317	102	39	29	37
29	51	66	71	84	-	482	592	345	96	39	28	36
30	33	315	68	91	-----	514	510	401	91	38	28	33
31	29	-----	64	97	-----	526	-----	440	-----	38	28	-----
Total	830	1,269	3,538	2,598	2,349	1,232	2,230	1,522	7,212	1,663	1,162	755
Mean	26.8	42.3	114	83.8	839	397	744	491	240	53.6	37.5	25.2
Max	66	315	387	376	3,450	866	1,020	920	518	86	56	37
Min	20	24	40	52	94	283	510	304	91	38	28	23
Ac-ft	1,650	2,520	7,020	5,150	46,600	24,440	44,240	30,190	14,300	3,300	2,300	1,500

Calendar year 1961: Max 642 Min 20 Mean 135 Ac-ft 98,060
Water year 1961-62: Max 3,450 Min 20 Mean 253 Ac-ft 183,200

Peak discharge (base, 2,400 cfs).--Feb. 9 (2300) 5,030 cfs (9.17 ft); Feb. 15 (1100) 2,810 cfs (7.52 ft).

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

851

11-4095. Oregon Creek near North San Juan, Calif.

Location.--Lat 39°24'10", long 121°04'35", in NW 1/4 sec. 27, T.18 N., R.8 E., on right bank 0.7 mile upstream from mouth and 2.7 miles northeast of North San Juan.

Drainage area.--34.4 sq mi.

Records available.--September 1911 to September 1962.

Gage.--Water-stage recorder (digital). Altitude of gage is 1,580 ft (from topographic map). Prior to October 1933, staff gages at site 0.6 mile downstream at different datums.

Average discharge.--51 years, 76.0 cfs (55,020 acre-ft per year).

Extremes.--Maximum discharge during year, 2,300 cfs Feb. 10 (gage height, 8.73 ft); minimum, 3.7 cfs Sept. 25.

1911-62: Maximum discharge recorded, 5,390 cfs Dec. 22, 1955 (gage height, 11.90 ft), from rating curve extended above 2,300 cfs; minimum, 0.7 cfs several days in July, August 1931, September 1934.

Remarks.--Records good except those for periods of no gage height, which are fair. Small diversions above station for irrigation and mining.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.6	3.7	4.0	169
1.7	6.0	4.5	252
1.9	12	5.0	362
2.2	23	6.0	670
2.5	37	7.0	1,110
3.0	69	8.0	1,750
3.5	111		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.1	6.8	165	27	53	130	232	91	31	11	6.0	4.4
2	5.1	6.8	150	26	53	250	236	89	30	11	6.3	4.6
3	5.1	6.5	75	25	52	170	236	88	29	11	6.3	4.6
4	5.1	6.5	50	23	49	150	245	89	28	11	7.1	4.6
5	4.8	6.5	40	22	48	230	252	90	27	11	7.1	4.4
6	4.8	6.3	30	21	56	350	252	87	26	10	6.8	4.4
7	4.6	* 6.3	25	22	154	230	254	83	24	9.6	6.8	4.6
8	4.6	6.3	23	23	240	160	252	81	23	9.6	6.3	4.6
9	4.4	6.3	21	26	1,090	150	220	79	22	9.6	9.3	4.4
10	4.6	6.3	19	25	1,660	140	185	75	21	9.6	8.2	4.4
11	6.5	6.5	18	25	734	130	190	68	20	9.3	6.8	4.4
12	8.2	6.5	17	24	584	120	194	63	19	9.6	6.5	4.2
13	6.5	6.3	17	23	1,000	118	*198	59	19	9.3	6.3	4.2
14	5.5	6.3	16	20	858	* 118	203	56	* 19	9.3	5.8	4.6
15	5.5	6.3	15	20	1,170	122	200	* 52	20	9.0	5.5	4.8
16	5.3	6.3	15	20	714	119	182	67	19	8.7	5.5	4.6
17	5.3	6.3	22	20	486	118	165	52	19	8.4	5.5	4.6
18	5.1	6.5	30	20	379	124	153	48	18	8.4	5.5	4.2
19	5.1	6.8	50	*120	305	143	156	47	17	7.9	5.5	4.4
20	5.3	10	180	191	266	156	141	45	16	7.6	5.5	4.4
21	6.8	9.6	200	70	220	148	124	42	15	7.6	5.5	4.4
22	6.5	9.3	140	47	197	205	116	41	14	7.4	5.3	4.6
23	6.3	13	90	41	*174	166	116	41	14	7.1	* 5.8	4.8
24	6.3	10	55	37	155	153	118	41	14	7.1	5.3	4.4
25	6.3	9.9	50	38	140	158	118	40	13	* 7.1	5.1	4.2
26	6.5	16	40	40	130	169	109	39	13	7.1	5.1	4.2
27	9.0	14	35	39	115	187	133	37	13	7.4	4.8	4.6
28	18	10	33	43	105	203	137	41	13	6.5	4.6	* 6.0
29	8.7	22	31	47	-	213	116	36	12	6.3	4.4	6.5
30	7.4	125	30	50	-----	225	100	34	12	6.0	4.4	6.0
31	7.1	-----	28	51	-----	227	-----	33	-----	6.3	4.4	-----
Total	195.4	371.2	1,710	1,226	11,187	5,282	5,333	1,834	580	2,668	1,833	139.1
Mean	6.30	12.4	55.2	39.5	400	170	178	59.2	19.3	8.61	5.91	4.64
Max	18	125	200	191	1,660	350	254	91	31	11	7.1	6.5
Min	4.4	6.3	15	20	48	118	100	33	12	6.0	4.4	4.2
Ac-ft	388	736	3,390	2,430	22,190	10,480	10,580	3,640	1,150	529	364	276

Calendar year 1961: Max 328 Min 4.4 Mean 49.8 Ac-ft 36,050

Water year 1961-62: Max 1,660 Min 4.2 Mean 77.6 Ac-ft 56,150

Peak discharge (base, 1,000 cfs).--Feb. 10 (0400) 2,300 cfs (8.73 ft); Feb. 13 (1500) 1,590 cfs (7.77 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 3 to Jan. 18, Feb. 25 to Mar. 13, Apr. 9-12.

SACRAMENTO RIVER BASIN

11-4130. North Yuba River below Goodyears Bar, Calif.

Location.--Lat 39°31'30", long 120°56'13", in SW $\frac{1}{4}$ sec. 11, T.19 N., R.9 E., on right bank 200 ft downstream from St. Catherine Creek, 3.1 miles southwest of Goodyears Bar, and 6.4 miles southwest of Downieville.

Drainage area.--245 sq mi.

Records available.--October 1930 to September 1962. Prior to October 1949, published as North Fork Yuba River below Goodyears Bar. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 2,453 ft above mean sea level (river-profile survey).

Average discharge.--32 years, 716 cfs (518,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,610 cfs Feb. 9 (gage height, 9.79 ft); minimum, 92 cfs Oct. 5-7.

1930-62: Maximum discharge, 26,800 cfs Dec. 23, 1955 (gage height, 19.30 ft), from rating curve extended above 4,300 cfs on basis of one float measurement at gage height 16.0 ft and slope-area measurement at gage height 19.15 ft; minimum, 69 cfs Aug. 26, 1931.

Remarks.--Records good. Several small diversions above station for irrigation and mining.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 24 to Jan. 19, Jan. 21 to Feb. 6, July 26 to Sept. 30)

1.4	93	4.0	620
1.7	116	5.0	1,080
2.0	145	6.0	1,690
2.5	210	8.0	3,420
3.0	310		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	96	110	534	181	224	473	1,010	1,450	1,700	503	188	142
2	94	110	454	178	237	548	1,070	1,630	1,800	470	184	141
3	93	109	268	177	239	479	1,140	1,890	1,770	441	181	140
4	93	109	196	174	233	435	1,290	2,190	1,540	417	184	141
5	93	107	* 173	169	231	512	1,440	2,350	1,440	400	196	138
6	93	106	* 158	171	264	845	1,530	2,300	1,440	378	189	138
7	93	106	147	194	607	696	1,670	2,230	1,450	357	184	137
8	95	106	142	212	886	604	1,810	2,380	1,440	342	182	136
9	95	106	136	220	3,320	604	1,940	2,410	1,480	329	228	134
10	96	106	134	207	* 3,170	552	1,800	2,100	1,480	315	195	135
11	* 108	106	124	189	1,770	520	1,720	* 1,800	1,390	303	185	135
12	117	106	130	195	1,360	470	* 1,840	1,650	1,330	308	177	134
13	106	104	125	178	2,310	444	2,080	1,420	1,270	* 298	171	137
14	102	104	123	166	2,160	441	2,380	1,330	* 1,180	282	167	136
15	101	106	122	168	2,650	441	2,480	1,200	1,100	271	162	135
16	100	104	120	163	1,890	450	2,280	1,300	1,070	260	160	134
17	100	102	137	162	1,320	441	2,140	1,230	1,060	254	157	133
18	99	104	137	164	1,050	447	2,130	1,300	1,070	248	155	131
19	99	106	188	283	890	490	2,130	1,320	1,060	240	154	130
20	106	122	556	439	790	528	1,750	1,200	1,030	237	154	130
21	116	116	784	240	696	524	1,590	1,180	985	228	154	131
22	110	115	411	* 173	640	664	1,700	1,350	930	223	154	131
23	107	135	317	191	608	612	1,960	1,470	875	216	152	130
24	106	127	277	188	576	562	2,130	1,300	798	215	150	129
25	105	130	248	178	528	570	2,040	1,180	740	212	149	128
26	122	189	224	176	483	616	1,840	1,110	692	208	146	129
27	154	162	210	174	450	684	1,970	1,120	640	* 208	145	* 135
28	201	131	200	182	441	758	1,960	1,290	600	206	144	146
29	125	170	194	194	-	808	1,570	1,500	566	198	145	147
30	114	419	188	204	-	875	1,420	1,640	534	196	145	140
31	110	-	184	215	-	910	-	1,680	-	194	143	-
Total	3,349	3,833	7,341	6,105	30,023	18,003	53,810	49,500	34,460	8,957	5,180	4,063
Mean	108	128	237	197	1,072	581	1,794	1,597	1,149	289	167	135
Max	201	419	784	439	3,320	910	2,480	2,410	1,800	503	228	147
Min	93	102	120	162	224	435	1,010	1,110	534	194	143	128
Ac-ft	6,640	7,600	14,560	12,110	59,550	35,710	106,700	98,180	68,350	17,770	10,270	8,060

Calendar year 1961: Max 1,370 Min 93 Mean 378 Ac-ft 273,800
Water year 1961-62: Max 3,320 Min 93 Mean 615 Ac-ft 445,500

Peak discharge (base, 3,200 cfs).--Feb. 9 (2100) 5,610 cfs (9.79 ft); Feb. 13 (1700) 3,210 cfs (7.81 ft).

* Discharge measurement made on this day.

11-4133. Slate Creek below diversion dam, near Strawberry Valley, Calif.

Location.--Lat 39°36'52", long 121°03'04" in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.2, T.20 N., R.8 E., on right bank 300 ft downstream from diversion dam, 0.2 mile upstream from Feney Ravine and 4.5 miles northeast of town of Strawberry Valley.

Drainage area.--49.4 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,300 cfs Feb. 9 (gage height, 9.13 ft); minimum, 0.3 cfs Mar. 4, 5.
1960-62: Maximum discharge, that of Feb. 9, 1962; minimum, that of Mar. 4, 5, 1962.

Remarks.--Records good. At times, Slate Creek Tunnel (maximum capacity about 800 cfs) diverts 300 ft upstream to Sly Creek Reservoir (see p. 822); diversion began in February 1962.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 3-19, Dec. 23 to Feb. 9)

Oct. 1 to Feb. 9

Feb. 9 to Sept. 30

1.8	2.0	2.7	40
1.9	3.0	3.0	72
2.0	4.2	3.5	156
2.1	6.4	4.0	282
2.3	14	4.5	450
2.5	25	5.0	680

1.3	0.2	2.8	48
1.4	.5	3.3	98
1.5	1.0	4.0	210
1.6	1.8	4.5	325
1.7	3.0	5.0	475
1.9	6.6	5.5	670
2.2	15	6.0	940
2.5	29	8.0	2,400

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	9.7	*272	42	58	0.4	368	*500	*345	14	*15	9.3
2	7.4	*9.4	160	*41	*62	.4	*383	562	353	12	15	9.3
3	7.4	9.4	79	40	65	.4	416	634	330	*7.5	15	9.3
4	7.4	9.4	*124	39	64	*.3	486	700	285	3.3	15	9.0
5	7.4	9.0	90	38	64	.4	558	710	262	4.4	16	*8.5
6	7.1	9.0	43	38	83	73	614	675	255	4.4	16	8.3
7	7.4	9.0	*38	41	307	152	670	662	250	22	15	8.3
8	7.4	9.0	24	65	522	142	725	675	246	31	15	8.3
9	7.4	8.7	11	76	*2,070	149	755	670	244	31	18	8.0
10	7.7	8.0	11	68	*908	134	685	590	234	31	19	8.0
11	11	8.7	11	57	63	126	638	510	212	31	16	8.0
12	13	8.7	11	54	5.8	113	720	447	192	30	14	8.3
13	9.7	8.0	9.7	44	237	*66	838	401	176	30	14	8.3
14	8.4	*8.7	18	35	*415	113	988	365	172	30	13	8.3
15	8.4	8.7	7.4	38	*556	112	982	*335	166	29	13	8.3
16	8.4	5.8	7.4	34	*71	109	838	392	152	28	12	8.0
17	*8.4	4.1	21	39	6.0	104	770	362	148	28	12	8.0
18	8.4	5.3	23	39	5.6	110	755	371	140	27	12	7.8
19	8.4	5.5	38	35	5.4	134	735	365	131	26	12	7.6
20	9.0	6.4	206	38	5.4	149	594	330	120	25	12	7.6
21	11	6.4	387	41	4.0	138	550	318	83	24	12	7.8
22	10	4.2	125	38	.8	146	598	335	55	22	12	8.0
23	9.4	2.3	85	36	.7	124	695	359	48	21	11	7.8
24	9.0	2.7	68	36	.7	116	760	345	40	20	11	7.8
25	9.0	2.8	58	36	.5	138	705	310	34	18	10	7.8
26	12	50	51	37	.5	176	638	288	30	17	10	7.8
27	21	41	46	37	.4	222	730	285	26	17	10	8.5
28	28	*25	42	39	.4	250	745	310	22	17	10	10
29	13	26	40	44		280	562	340	20	17	10	12
30	11	96	38	48		315	500	350	17	17	10	10
31	9.7	-----	38	53	-----	335	-----	348	-----	16	10	-----
Total	310.2	416.9	2182.5	1346	5581.2	4027.9	20001	13844	4788	650.6	405	254.0
Mean	10.0	13.9	70.4	43.4	199	130	667	447	160	21.0	13.1	8.47
Max	28	96	387	76	2,070	335	988	710	353	31	19	12
Min	7.1	2.3	7.4	34	0.4	0.3	368	285	17	3.3	10	7.6
Ac-ft	615	827	4,330	2,670	11,070	7,990	39,670	27,460	9,500	1,290	803	504
Meant	-	-	-	-	519	156	667	447	175	31.2	13.1	8.47
Ac-ft†	-	-	-	-	28,830	9,620	39,670	27,460	10,410	1,920	803	504
Calendar year 1961: Max	996	Min	2.3	Mean	110	Ac-ft	79,490	Meant	-	Ac-ft†	-	
Water year 1961-62: Max	2,070	Min	0.3	Mean	147	Ac-ft	106,700	Meant	176	Ac-ft†	127,700	

* Discharge measurement made on this day.

† Adjusted for Slate Creek Tunnel diversion.

SACRAMENTO RIVER BASIN

11-4135. North Yuba River below Bullards Bar Dam, Calif.

Location.--Lat 39°24'15", long 121°08'30", in SW $\frac{1}{4}$ sec.24, T.18 N., R.7 E., on right bank 2,000 ft downstream from Bullards Bar Dam, 3 miles upstream from confluence with Middle Yuba River, and 3 miles northwest of North San Juan.

Drainage area.--487 sq mi (revised).

Records available.--October 1940 to September 1962. Prior to October 1949, published as North Fork Yuba River at Colgate diversion dam and October 1949 to September 1950 as North Yuba River at Colgate diversion dam. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 1,390 ft (from river-profile map). Prior to Oct. 1, 1950, at site 1 mile downstream at different datum.

Average discharge.--22 years, 1,491 cfs (1,079,000 acre-ft per year).

Extremes.--Maximum discharge during year, 21,000 cfs Feb. 9 (gage height, 20.20 ft); minimum daily, 3.9 cfs Oct. 3. 1940-62: Maximum discharge, 70,000 cfs Dec. 23, 1955 (gage height, 39.0 ft, from floodmark), from rating curve extended above 32,000 cfs on basis of computation of flow over dam at gage height 29.5 ft; no flow at times in 1949, 1956-57.

Remarks.--Records good. Flow usually completely regulated below 650 cfs by Bullards Bar powerhouse, otherwise slightly regulated by Bullards Bar Reservoir. Water is diverted out of basin through Slate Creek Tunnel, (see p. 853).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 13 to Feb. 9)

Oct. 1 to Feb. 9

Feb. 9 to Sept. 30

2.2	2.8	5.5	294	4.2	95	8.0	1,650
2.4	6.2	6.0	460	4.5	122	10.0	3,650
2.6	10	7.0	960	5.0	189	12.0	6,470
3.0	22	8.0	1,650	5.5	294	14.0	9,570
3.5	46	10.0	3,650	6.0	460	16.0	12,900
4.0	79	12.0	6,600	7.0	960		
4.5	122	14.0	10,000				
5.0	189						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	171	291	386	528	440	1,060	2,180	2,590	2,420	685	364	308
2	68	251	432	500	440	1,450	2,320	2,760	2,500	645	364	302
3	*3.9	181	469	518	440	1,240	2,430	3,180	2,600	618	339	302
4	9.7	104	528	514	448	1,090	2,720	3,590	2,280	595	267	336
5	11	102	528	500	464	1,100	3,070	3,930	2,070	577	248	345
6	14	169	*532	518	482	2,100	3,290	3,910	2,000	577	310	286
7	15	214	532	514	487	2,060	3,580	3,690	2,000	550	371	196
8	15	*214	528	460	541	1,710	3,810	3,840	1,980	500	368	109
9	15	206	528	500	8,770	1,610	4,080	3,940	1,990	505	371	113
10	15	144	523	487	*11,800	1,480	3,840	3,650	2,030	505	348	258
11	15	101	474	456	5,010	1,380	3,570	*3,010	1,930	496	282	336
12	17	100	518	460	3,100	1,270	*3,690	2,720	1,800	456	272	336
13	89	168	500	440	6,230	1,170	4,150	2,370	1,710	428	330	318
14	276	189	492	409	7,140	1,100	4,650	2,180	1,640	432	368	222
15	282	197	420	388	8,400	1,120	5,140	1,990	1,530	432	364	96
16	297	197	368	361	6,060	1,120	4,580	2,190	1,460	428	364	103
17	305	167	342	342	3,780	1,110	4,190	2,060	1,430	420	324	275
18	313	97	354	327	2,820	1,090	4,060	2,060	*1,430	398	282	339
19	310	93	379	358	*2,280	1,140	4,170	2,130	1,410	398	276	318
20	218	167	436	424	1,990	1,240	3,530	1,960	1,380	391	333	258
21	102	223	466	523	1,710	1,240	3,070	1,850	1,320	395	368	202
22	106	178	541	518	1,500	1,610	3,100	1,950	1,220	384	351	114
23	215	89	546	450	1,380	1,620	3,490	2,210	1,140	395	*365	108
24	302	185	546	518	1,320	1,420	3,890	2,130	1,070	391	321	212
25	299	262	546	518	1,210	1,360	3,870	1,920	984	384	284	253
26	258	297	546	487	1,100	1,420	3,400	1,780	918	384	272	253
27	165	313	541	482	1,010	1,550	3,530	1,740	856	348	354	212
28	102	342	536	456	990	1,700	3,990	1,840	806	299	384	157
29	101	316	536	440	-	1,790	3,110	2,100	760	297	391	100
30	239	358	532	428	-----	1,960	2,690	2,340	725	321	384	100
31	310	-----	528	440	-----	2,020	-----	2,430	-----	371	368	-----
Total	4,678.6	5,915	15,133	14,264	81,342	44,330	107,190	80,040	47,389	14,005	10,387	6,867
Mean	151	197	488	460	2,905	1,430	3,573	2,582	1,580	452	335	229
Max	313	358	554	528	11,800	2,100	5,140	3,940	2,600	685	391	345
Min	3.9	89	342	327	440	1,060	2,180	1,740	725	297	248	96
Ac-ft	9,280	11,730	30,020	28,290	161,300	87,930	212,600	158,800	93,990	27,780	20,600	13,620

Calendar year 1961: Max 3,050 Min 3.9 Mean 725 Ac-ft 524,600
 Water year 1961-62: Max 11,800 Min 3.9 Mean 1,182 Ac-ft 855,900

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

855

11-4139. Upper Castle Creek at Soda Springs, Calif.

Location.--Lat 39°19'30", long 120°22'05", in SW 1/4 sec. 23, T.17 N., R.14 E., on left bank at Central Sierra Snow Laboratory, U. S. Forest Service, 0.25 mile upstream from mouth and 0.6 mile east of Soda Springs.

Drainage area.--3.96 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder, sharp-edged V-notch weir and Parshall flume. Altitude of gage is 6,850 ft (from topographic map).

Extremes.--Maximum discharge during year, 147 cfs May 4 (gage height, 1.97 ft); no flow for many days.

1957-62: Maximum discharge, 261 cfs June 18, 1958 (gage height, 2.88 ft); no flow for many days in each year.

Remarks.--Records good. No regulation or diversion above station. This station is operated in connection with a study of the effects of commercial logging and freeway construction on streamflow and sedimentation.

Cooperation.--Records furnished by the U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.28	0.13	0.86	1.90	1.41	7.05	29.8	80.8	7.96	0.31	
2	0	.28	.14	1.03	2.38	1.64	8.33	53.8	87.3	7.09	.23	
3	0	.36	.16	1.22	2.74	1.49	10.2	74.3	76.4	6.19	.25	
4	0	.44	.18	1.18	2.89	1.44	13.8	94.9	58.3	5.65	.40	
5	0	.44	.21	1.11	3.04	1.44	16.3	92.9	55.2	4.99	.42	
6	0	.30	.24	1.44	2.71	1.52	20.5	79.0	60.3	4.40	.28	
7	0	.39	.25	2.21	2.42	1.39	32.1	85.0	60.4	4.05	.22	
8	0	.37	.26	2.78	2.25	1.36	33.4	97.3	60.4	3.73	.19	
9	0	.32	.27	2.73	2.13	1.48	38.8	92.3	64.3	3.28	.68	
10	0	.25	.27	2.14	1.98	1.39	34.8	57.0	59.0	2.94	.42	
11	0	.24	.25	1.84	2.01	1.34	34.2	42.6	50.7	2.77	.27	
12	0	.18	.23	1.68	1.81	1.33	41.2	34.2	47.9	4.15	.23	
13	0	.12	.23	1.53	1.85	1.30	49.2	22.9	37.6	3.16	.18	
14	0	.14	.23	1.45	1.89	1.35	58.6	19.4	30.4	2.48	.11	
15	0	.16	.23	1.29	1.91	1.32	67.2	16.2	29.4	2.23	.07	
16	0	.10	.23	1.11	1.83	1.33	58.4	18.2	33.4	1.84	.06	
17	0	.07	.23	1.08	1.80	1.32	55.0	26.2	33.2	1.68	.04	
18	0	.10	.21	.97	1.74	1.30	58.5	44.7	33.0	1.45	.03	
19	0	.09	.34	.94	1.71	1.50	47.3	41.1	31.5	1.21	.03	
20	0	.10	1.19	.92	1.69	1.60	25.8	31.5	26.8	1.51	.03	
21	1.24	.13	3.79	.90	1.48	1.49	29.0	42.4	26.5	1.69	.02	
22	.35	.13	2.95	.86	1.43	1.51	48.2	63.1	24.8	1.18	.02	
23	.25	.15	1.86	.84	1.44	1.47	66.0	56.9	21.8	.80	.02	
24	.4	.15	1.58	.89	1.56	1.45	69.1	35.6	18.6	.73	.02	
25	.12	.14	1.46	.81	1.52	1.79	52.9	25.0	16.3	.64	0	
26	.16	.15	1.15	.81	1.44	2.44	43.6	21.7	14.1	.60	0	
27	.38	.18	.99	.84	1.47	3.13	37.9	28.2	12.4	.62	0	
28	.25	.18	1.01	.96	1.46	3.30	22.2	60.8	11.1	.72	0	
29	.19	.17	1.01	1.06	-	3.17	18.5	81.4	10.1	.55	0	
30	.13	.14	1.03	1.27	-----	4.12	19.3	80.9	8.98	.56	0	
31	.16	-----	.99	1.59	-----	5.26	-----	77.1	-----	.38	0	-----
Total	3.53	6.25	23.30	40.34	54.48	57.38	1117.38	1626.4	1180.98	812.3	4.53	0
Mean	0.114	0.208	0.752	1.30	1.95	1.85	37.2	52.5	39.4	2.62	0.146	0
Max	0.91	0.44	3.79	2.78	3.04	5.26	69.1	97.3	87.3	7.96	0.68	0
Min	0	0.09	0.13	0.81	1.43	1.30	7.05	16.2	8.98	0.38	0	0
Ac-ft	7.0	12.4	46.2	80.0	108	114	2,216	3,226	2,342	161	9.0	0

Calendar year 1961: Max 79.6 Min 0 Mean 8.03 Ac-ft 5,811

Water year 1961-62: Max 97.3 Min 0 Mean 11.50 Ac-ft 8,322

SACRAMENTO RIVER BASIN

11-4140. South Yuba River near Cisco, Calif.

Location.--Lat 39°19'12", long 120°33'38", in SW $\frac{1}{4}$ sec.19, T.17 N., R.13 E., on right bank 0.7 mile downstream from Rattlesnake Creek, 1.3 miles west of Cisco Grove, and 1.5 miles northwest of Cisco.

Drainage area.--51.5 sq mi.

Records available.--April 1942 to September 1962. Prior to October 1949, published as South Fork Yuba River near Cisco.

Gage.--Water-stage recorder. Altitude of gage is 5,520 ft (from river-profile map). Prior to October 1945, at site 200 ft upstream at same datum.

Average discharge.--20 years, 188 cfs (136,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,590 cfs May 4 (gage height, 6.62 ft); minimum, 2.6 cfs Aug. 1.

1942-62: Maximum discharge, 11,700 cfs Nov. 20, 1950 (gage height, 15.82 ft), from rating curve extended above 4,600 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.1 cfs Nov. 5-7, 1954.

Remarks.--Records good except those for periods of ice effect, which are fair. Low flow regulated by Lake Van Norden (capacity, 4,320 acre-ft, 5,260 acre-ft with flashboards).

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.8	4.4	3.0	110
1.9	7.0	3.5	220
2.0	10	4.0	380
2.3	27	5.0	775
2.6	54	6.0	1,250

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	19	29	24	41	b 40	245	522	865	61	8.7	15
2	12	48	29	23	47	b 40	257	757	928	56	8.7	22
3	12	* 49	25	24	49	b 40	294	968	856	51	9.4	26
4	12	48	21	24	48	b 44	390	1,170	674	47	14	29
5	12	47	b 18	22	48	46	458	1,180	622	42	11	39
6	12	47	b 14	26	50	51	490	1,080	666	38	11	49
7	12	46	b 14	39	66	48	562	1,060	682	34	10	52
8	12	44	13	50	73	47	574	1,120	626	31	9.7	60
9	12	41	12	49	393	46	670	1,140	650	29	11	69
10	12	33	11	40	300	45	598	834	650	26	11	69
11	13	23	11	b 34	155	45	* 590	582	578	23	9.7	73
12	14	22	11	32	107	44	686	542	542	38	9.4	72
13	13	21	10	b 28	91	46	802	384	478	96	9.4	67
14	* 13	21	10	b 26	100	45	928	* 338	384	94	9.4	61
15	13	21	9.7	23	96	* 45	932	284	345	90	9.4	60
16	13	20	9.7	21	79	44	798	352	384	84	9.4	58
17	13	b 20	9.7	19	69	42	752	426	373	55	9.0	55
18	13	20	10	19	62	45	798	578	380	26	8.4	52
19	13	20	14	* b 20	59	53	770	602	370	17	8.4	50
20	20	22	57	b 19	55	60	590	490	328	15	8.4	50
21	24	b 22	119	b 18	53	54	574	526	288	14	* 7.7	46
22	16	22	59	b 18	52	51	788	718	254	14	7.0	44
23	14	22	46	b 19	50	49	968	734	220	13	6.7	41
24	14	21	42	b 20	50	49	955	542	184	13	6.5	38
25	14	22	b 38	22	48	61	834	380	* 155	13	6.5	34
26	18	30	b 33	22	b 45	81	678	328	134	12	6.7	20
27	26	26	30	22	b 40	105	775	390	115	12	7.0	16
28	30	23	b 27	24	b 40	130	674	682	102	12	6.2	59
29	18	23	b 26	29	-	159	408	806	90	12	7.7	55
30	16	23	b 26	32	-----	192	390	722	69	11	8.0	50
31	17	-----	25	37	-----	* 207	-----	784	-----	10	10	-----
Total	465	866	809.1	825	2,366	2,054	19,228	21,021	12,992	1,089	275.4	1,431
Mean	15.0	28.9	26.1	26.6	84.5	66.3	641	678	433	35.1	8.88	47.7
Max	30	49	119	50	393	207	968	1,180	928	96	14	73
Min	12	19	9.7	18	40	40	245	284	69	10	6.2	15
Ac-ft	922	1,720	1,600	1,640	4,690	4,070	38,140	41,690	25,770	2,160	546	2,840

Calendar year 1961: Max 746 Min 9.7 Mean 106 Ac-ft 77,060

Water year 1961-62: Max 1,180 Min 6.2 Mean 174 Ac-ft 125,800

Peak discharge (base, 1,500 cfs).--May 4 (2200) 1,590 cfs (6.62 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

11-4155. Bowman Lake near Graniteville, Calif.

Location.--Lat 39°26'55", long 120°39'05", in SE 1/4 sec. 5, T.18N., R.12 E., on rock-fill portion of Bowman Dam on Canyon Creek, 4.5 miles east of Graniteville and 8 miles south of Sierra City.

Drainage area.--29.4 sq mi.

Records available.--December 1926 to September 1962.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

Extremes.--Maximum contents observed during year, 70,400 acre-ft June 9-29 (elevation, 5,565.8 ft); minimum observed, 1,360 acre-ft Mar. 20 (elevation, 5,434.6 ft).
1926-62: Maximum contents observed, 70,500 acre-ft for one or more days in 1937, 1943, 1950-51, 1953-54 (elevation 5,565.9 ft); no contents Nov. 25 to Dec. 9, 1949.

Remarks.--Lake is formed by 1 rock-fill and 1 concrete-arch dam; completed and storage began in November 1926. Capacity, 68,200 acre-ft between elevations 5,400 ft (bottom of outlet tunnel) and 5,563 ft (crest of concrete-arch dam) above mean sea level. Flashboards are occasionally added, increasing elevation to 5,565.8 ft and capacity to 70,400 acre-ft. Lake receives water from Middle Yuba River through Milton-Bowman tunnel (see p. 847), and releases it through Bowman-Spaulding Canal (see following page) which conveys it to reservoirs of Pacific Gas and Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. Figures given herein represent total contents, all of which is available for release.

Cooperation.--Record of gage heights furnished by Nevada Irrigation District.

Capacity table (elevation, in feet, and contents, in acre-ft)

5,434.0	1,300	5,480.0	14,200
5,440.0	2,100	5,510.0	30,000
5,450.0	4,100	5,540.0	49,800
5,460.0	6,900	5,570.0	73,800
5,470.0	10,200		

Contents, in thousands of acre-ft, at 2400 hrs, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31.100	25.800	19.700	14.000	7.980	4.950	3.580	31.400	62.400	70.100	59.500	49.500
2	30.900	25.600	19.600	13.800	7.770	4.800	3.600	32.000	63.800	69.800	59.100	49.200
3	30.900	25.200	19.400	13.600	7.620	4.620	3.580	33.400	65.000	69.600	58.800	48.800
4	30.500	25.000	19.300	13.400	7.440	4.520	3.680	35.000	66.400	69.400	58.700	48.500
5	30.200	24.600	19.100	13.200	7.290	4.350	3.900	36.400	67.000	69.100	58.500	48.100
6	29.800	24.400	19.000	13.000	7.140	4.250	4.200	38.200	67.700	68.800	58.300	47.800
7	29.300	24.100	18.800	12.900	7.020	3.820	4.600	40.000	68.800	68.500	58.000	47.400
8	28.800	23.900	18.600	12.600	6.870	3.580	5.100	41.400	69.600	68.300	57.700	47.000
9	28.600	23.600	18.400	12.200	6.990	3.020	6.180	43.100	70.400	68.000	57.600	46.600
10	28.200	23.400	18.100	12.200	8.400	2.820	6.480	44.800	70.400	67.700	57.300	46.200
11	27.800	23.200	17.900	12.000	8.250	2.620	7.050	45.900	70.400	67.300	57.100	45.700
12	27.500	23.000	17.700	11.800	7.920	2.420	7.650	46.700	70.400	66.900	56.800	45.300
13	27.200	22.700	17.500	11.600	8.100	2.310	8.520	47.700	70.400	66.400	56.500	45.000
14	26.900	22.400	17.300	11.300	7.890	2.100	9.560	48.300	70.400	66.100	56.200	44.700
15	26.600	22.000	17.100	11.100	7.740	1.960	11.000	48.800		65.700	56.000	44.300
16	26.300	21.800	17.000	10.800	7.500	1.760	12.400	49.200		65.500	55.700	44.000
17	26.300	21.600	16.800	10.600	7.320	1.620	13.800	50.000		65.200	55.400	43.300
18	26.200	21.400	16.600	10.400	7.140	1.530	15.000	50.800		64.800	55.000	42.700
19	26.300	21.200	16.400	10.200	6.990	1.450	17.100	51.500		64.400	54.700	42.400
20	26.400	20.900	16.200	9.920	6.810	1.360	17.900	52.600		64.100	54.300	42.000
21	26.600	20.600	16.100	9.680	6.660	4.400	18.900	53.100		63.700	53.900	41.500
22	26.700	20.500	15.900	9.440	6.510	4.200	19.800	53.900	70.400	63.400	53.500	41.200
23	26.800	20.400	15.700	9.200	6.000	3.920	20.900	54.800		63.100	53.200	40.800
24	26.800	20.200	15.500	8.970	5.820	3.680	22.400	55.800		62.800	52.800	40.400
25	26.800	20.200	15.300	8.850	5.640	3.460	24.000	56.400		62.200	52.400	39.900
26	26.800	20.000	15.100	8.700	5.460	3.400	25.600	57.000		61.900	51.900	39.500
27	26.800	20.000	14.900	8.550	5.310	4.100	27.000	57.400		61.400	51.500	39.100
28	26.700	19.800	14.700	8.400	5.100	3.900	28.700	57.900		61.100	51.100	38.700
29	26.700	19.800	14.600	8.460	-	3.880	30.000	59.000		60.600	50.700	38.200
30	26.500	19.600	14.400	8.280	-----	3.780	30.700	60.200	70.300	60.200	50.300	37.800
31	26.200	-----	14.200	8.130	-----	3.700	-----	61.400	-----	59.800	49.900	-----
(†)	5,503.6	5,491.5	5,480.0	5,464.1	5,454.0	5,448.4	5,511.2	5,554.5	5,565.6	5,552.5	5,540.1	5,522.8
(‡)	-5,300	-6,600	-5,400	-6,070	-3,030	-1,400	+27,000	+30,700	+8,900	-10,500	-9,900	-12,100

Calendar year 1960..... ‡ +2,400

Water year 1961-62..... ‡ +6,300

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

Note.--No gage-height record June 15-29.

11-4160. Bowman-Spaulling Canal at intake, Calif.

Location.--Lat 39°26'45", long 120°39'15", in sec.8, T.18 N., R.12 E., on left bank 150 ft downstream from intake, 0.3 mile downstream from Bowman Dam, and 8 miles south of Sierra City.

Records available.--October 1927 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,400 ft (from topographic map).

Average discharge.--35 years, 146 cfs (105,700 acre-ft per year).

Extremes.--1927-62: Maximum daily discharge, 262 cfs Aug. 2-9, 29, Sept. 10-13, 1928; no flow at times in most years.

Remarks.--Records good except those for period of no gage-height record, which are fair. Canal diverts from left bank of Canyon Creek below Bowman Lake. Water is delivered to Lake Spaulding and, after passing through several powerhouses, is used for irrigation by Nevada Irrigation District.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	180	206	104	120	115	198	197	136	120	220	207	212
2	68	206	103	119	115	200	196	119	123	220	212	212
3	48	206	103	*119	114	200	197	105	125	220	215	212
4	184	205	103	118	114	200	193	75	125	220	215	214
5	198	205	102	118	119	200	173	47	143	219	219	218
6	197	205	102	119	127	198	170	45	149	219	220	216
7	196	204	102	118	128	196	155	49	147	219	221	216
8	195	204	102	173	129	* 197	150	48	147	218	221	212
9	193	204	101	135	92	196	144	a 50	163	217	222	207
10	195	203	104	101	102	134	141	a 50	168	* 217	222	203
11	204	202	108	111	153	105	142	a 90	167	216	222	202
12	204	202	108	116	162	106	117	91	176	216	221	201
13	204	202	108	119	173	106	99	118	181	216	221	207
14	204	202	108	122	164	106	76	135	181	216	220	209
15	202	201	108	121	164	106	55	143	181	220	219	204
16	203	201	108	120	171	87	55	150	180	224	217	204
17	203	200	107	120	182	68	56	149	180	224	215	206
18	204	200	107	120	181	68	56	149	78	224	214	209
19	206	199	108	120	186	68	57	150	40	225	212	212
20	207	199	120	119	195	69	57	151	40	226	211	215
21	207	115	123	118	198	69	57	152	40	226	212	215
22	207	78	123	118	200	102	82	152	14	225	215	215
23	207	78	122	118	200	123	65	153	2.2	225	214	216
24	207	78	122	117	200	123	50	155	1.6	224	213	215
25	207	78	122	117	198	123	49	156	1.2	222	213	214
26	207	78	122	117	198	122	74	157	.9	220	214	214
27	208	78	121	117	198	122	60	157	.8	218	214	215
28	207	78	121	116	198	155	49	158	.6	217	214	214
29	207	78	120	116	-	188	84	152	98	211	214	216
30	* 207	89	120	116	-----	186	126	140	207	209	214	218
31	206	-----	120	116	-----	188	-----	* 126	-----	208	213	-----
Total	5,972	4,884	3,452	3,714	4,476	4,309	3,182	3,708	3,180.3	6,801	6,696	6,343
Mean	193	163	111	120	160	139	106	120	106	219	216	211
Max	208	206	123	173	200	200	197	158	207	226	222	218
Min	48	78	101	101	92	68	49	45	0.6	208	207	201
Ac-ft	11,850	9,690	6,850	7,370	8,880	8,550	6,310	7,350	6,310	13,490	13,280	12,580

Calendar year 1961: Max 208 Min 2.0 Mean 114 Ac-ft 82,460

Water year 1961-62: Max 226 Min 0.6 Mean 155 Ac-ft 112,500

* Discharge measurement made on this day.

a No gage-height record.

11-4165. Canyon Creek below Bowman Lake, Calif.

Location.--Lat 39°26'20", long 120°39'40", in SE $\frac{1}{4}$ sec. 7, T.18 N., R.12 E., on left bank 1 mile downstream from Bowman Lake, 3 miles upstream from Texas Creek, and 9 miles south of Sierra City.

Drainage area.--30.4 sq mi.

Records available.--January 1927 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,100 ft (from topographic map).

Average discharge.--35 years, 36.9 cfs (26,710 acre-ft per year).

Extremes.--Maximum discharge during year, 736 cfs June 10 (gage height, 4.43 ft); no flow Aug. 15-22, Sept. 17-27. 1927-62: Maximum discharge, 2,520 cfs Dec. 4, 1950 (gage height, 6.28 ft); no flow at times.

Remarks.--Records good except for periods of no gage-height record, which are poor. Flow regulated by French Lake Reservoir (usable capacity, 13,840 acre-ft), by Bowman Lake (see p. 857), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (see preceding page). Bowman Lake receives water from Middle Yuba River through Milton-Bowman tunnel (see p.847).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.0	0	1.8	12	3.0	172
1.1	.8	2.0	22	3.5	325
1.2	2.0	2.2	38	4.0	520
1.4	4.3	2.4	60	4.5	775
1.6	7.2	2.7	105		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.3	3.6	0.8	1.0	1.2	3.8	3.0	1.0	8.3	0.1	0.1
2	.3	.3	2.8	.8	1.2	1.3	3.7	3.1	1.0	6.8	.1	.1
3	2.6	.3	1.5	*.8	1.2	1.6	4.3	3.1	1.3	5.5	.1	.1
4	.5	.3	1.5	.7	1.2	1.6	5.2	3.6	1.4	4.4	.1	.1
5	.3	.3	1.4	.7	1.2	1.4	5.5	2.8	1.3	3.6	.2	.1
6	.3	.3	1.3	1.2	1.8	3.6	5.5	2.5	1.3	2.8	.2	.1
7	.3	.3	1.0	1.7	4.8	1.5	5.7	2.1	2.5	1.5	.2	.1
8	.4	.3	.9	17	6.7	*1.3	5.7	2.0	8.5	1.4	.2	.1
9	.4	.3	.8	1.7	3.4	1.5	6.2	1.7	133	1.3	.4	.1
10	.5	.3	.8	1	6.3	1.3	4.8	1.4	605	1.2	.2	.1
11	.6	.3	.7	.9	3.3	1.2	4.8	1.3	565	*1.2	.1	.1
12	.6	.3	.6	.8	2.6	1.0	5.6	1.2	480	1.0	.1	.1
13	.4	.3	.6	.6	5.8	1.0	6.2	1.0	459	.7	.1	.1
14	.4	.3	.5	.5	5.9	1.0	7.0	1.2	447	.7	.1	.1
15	.3	.3	.5	.5	4.9	1.2	5.5	1.3	427	.6	0	.1
16	.3	.3	.4	.6	2.9	1.4	4.7	2.6	403	.5	0	.1
17	.3	.3	.7	.7	2.1	1.4	4.4	1.5	388	.5	0	0
18	.3	.3	1	.8	1.8	1.3	4.4	1.3	301	.4	0	0
19	.3	.4	5	2	1.8	1.5	3.6	1.2	192	.4	0	0
20	.7	.4	9	5	1.6	1.6	2.9	1.0	170	.4	0	0
21	.8	.5	9	2	1.4	1.3	3.2	.9	170	.5	0	0
22	.7	.7	6	1	1.4	1.6	3.9	.9	244	.5	0	0
23	.7	1.0	4	.5	1.5	1.3	4.3	.9	345	.4	.1	0
24	.7	.8	2	.5	1.4	1.3	3.8	1.0	328	.3	.1	0
25	.7	1.0	1	.5	1.3	1.8	3.2	1.4	284	.2	.1	0
26	2	3.2	.9	.5	1.3	2.4	2.9	1.2	242	.2	.1	0
27	5	1.2	.9	.5	1.5	3.0	10	1.2	220	.2	.1	0
28	2	.8	.9	.6	1.3	3.0	6.6	1.2	173	.1	.1	.1
29	.5	.8	.8	.8	-	3.1	3.8	1.3	52	.1	.1	.1
30	*.3	1.4	.8	.8	-----	3.5	3.7	1.3	24	.1	.1	.1
31	.3	-----	.8	.9	-----	3.9	-----	*1.6	-----	.1	.1	-----
Total	23.8	17.6	61.7	47.4	103.2	55.1	144.9	51.8	6,670.3	45.9	3.1	1.9
Mean	0.77	0.59	1.99	1.53	3.69	1.78	4.83	1.67	222	1.48	0.10	0.06
Max	5	3.2	9	17	34	3.9	10	3.6	605	8.3	0.4	0.1
Min	0.3	0.3	0.4	0.5	1.0	1.0	2.9	0.9	1.0	0.1	0	0
Ac-ft	47	35	122	94	205	109	287	103	13,230	91	6.1	3.8
Calendar year 1961:	Max	9.3	Min	0	Mean	1.07	Ac-ft	774				
Water year 1961-62:	Max	605	Min	0	Mean	19.8	Ac-ft	14,330				

* Discharge measurement made on this day.

Note.---No gage-height record Oct. 21-29, Dec. 11 to Jan. 2, Jan. 10-22, Aug. 31 to Sept. 30.

SACRAMENTO RIVER BASIN

11-4170. South Yuba River near Washington, Calif.

Location.--Lat 39°21'38", long 120°46'14" on line between secs.5 and 8, T.17 N., R.11 E., on left bank 800 ft upstream from unnamed tributary and 1.5 miles east of Washington.

Drainage area.--199 sq mi.

Records available.--March 1942 to September 1953, October 1956 to September 1962. Prior to October 1949, published as South Fork Yuba River near Washington.

Gage.--Water-stage recorder. Altitude of gage is 2,735 ft, corrected, (from river-profile map). Oct. 1, 1948, to Sept. 30, 1953, water-stage recorder at site 0.8 mile upstream at different datum.

Average discharge.--17 years, 281 cfs (203,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,360 cfs Feb. 9 (gage height, 6.71 ft); minimum, 15 cfs Sept. 18, 19.

1942-53, 1956-62: Maximum discharge, 24,700 cfs Nov. 20, 1950 (gage height, 17.34 ft, present site and datum), from rating curve extended above 4,700 cfs on basis of slope-area measurement of peak flow of Dec. 23, 1955; minimum, 9.1 cfs Oct. 18, 1950.

Maximum stage since March 1942, 17.8 ft Dec. 23, 1955, present site and datum, from floodmarks (discharge, 26,300 cfs, slope-area measurement).

Remarks.--Records good. Natural flow affected by Lake Spaulding beginning in 1912 (capacity, 74,500 acre-ft), Bowman Lake (see p. 857), Fordyce Lake beginning in 1926 (capacity, 46,700 acre-ft), diversions into and out of basin for several powerhouses and for irrigation of about 20,000 acres by Nevada Irrigation District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9				Feb. 9 to Sept. 30			
1.5	15	2.6	149	1.5	16	2.6	140
1.6	20	3.0	246	1.6	20	3.0	226
1.8	33	4.0	586	1.8	32	4.0	550
2.0	52	5.0	1,080	2.0	50	5.0	1,040
2.3	92	6.0	1,760	2.3	88	6.0	1,730

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	22	236	37	63	* 96	305	234	1,170	38	19	18
2	17	22	185	36	65	118	308	252	1,200	36	19	17
3	16	21	94	35	64	154	314	274	1,250	33	18	17
4	16	21	62	34	62	146	354	283	1,000	30	19	17
5	16	21	51	32	58	214	388	316	406	29	20	17
6	16	20	44	32	64	362	394	1,350	247	29	20	17
7	16	21	* 39	36	229	263	412	1,290	518	28	21	17
8	16	22	38	50	* 355	231	422	1,390	630	27	20	16
9	16	* 22	33	41	1,630	226	412	1,420	704	27	24	16
10	16	20	32	37	1,300	200	367	1,340	1,240	26	22	17
11	18	17	28	32	558	187	* 320	830	1,190	27	20	17
12	* 21	17	26	34	366	172	332	725	1,140	27	20	17
13	18	16	25	32	* 941	164	422	538	1,230	27	20	17
14	17	16	25	29	853	160	447	* 419	895	26	19	16
15	17	16	25	27	1,050	* 164	433	288	* 602	26	19	17
16	17	16	24	27	564	164	354	198	550	26	19	16
17	16	18	29	27	364	158	329	317	690	26	20	16
18	16	19	33	29	269	160	320	489	620	26	20	* 16
19	17	19	73	76	221	174	320	685	573	26	20	16
20	20	25	190	120	195	187	269	578	492	26	20	16
21	21	25	208	53	168	176	247	478	302	24	20	16
22	21	24	97	43	152	207	258	703	272	23	20	16
23	21	31	72	41	142	184	286	1,160	314	23	21	16
24	20	29	63	* 39	135	176	311	782	305	23	* 20	16
25	20	28	57	42	120	184	283	558	269	22	20	16
26	26	59	50	45	108	202	249	440	234	* 22	19	16
27	34	41	46	45	98	226	323	370	214	22	19	16
28	46	30	42	48	94	249	489	531	193	21	19	18
29	27	46	38	53	-	266	412	926	74	21	18	19
30	24	190	38	58	-----	280	329	1,060	62	21	19	18
31	23	-----	37	62	-----	286	-----	1,120	-----	21	18	-----
Total	622	894	2,040	1,332	10,288	6,136	10,409	21,344	18,586	809	612	500
Mean	20.1	29.8	65.8	43.0	367	198	347	689	620	26.1	19.7	16.7
Max	46	190	236	120	1,630	362	489	1,420	1,250	38	24	19
Min	16	16	24	27	58	96	247	198	62	21	18	16
Ac-ft	1,230	1,770	4,050	2,640	20,410	12,170	20,650	42,340	36,860	1,600	1,210	992

Calendar year 1961: Max 463 Min 14 Mean 62.2 Ac-ft 45,010
 Water year 1961-62: Max 1,630 Min 16 Mean 202 Ac-ft 145,900

* Discharge measurement made on this day.

11-4171. Poorman Creek near Washington, Calif.

Location.--Lat 39°21'36", long 120°48'24", in SW $\frac{1}{4}$ sec.1, T.17 N., R.10 E., on left bank just downstream from U. S. Forest Service road bridge, 0.4 mile west of Washington, and 1.4 miles downstream from Deadman Creek.

Drainage area.--23.2 sq mi.

Records available.--July 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 2,600 ft (from topographic map).

Extremes.--1961: Maximum daily discharge for period July to September, 10 cfs July 18, 19; minimum daily, 6.1 cfs for several days.

1961-62: Maximum discharge during water year, 960 cfs Feb. 9 (gage height, 6.46 ft); minimum, 5.9 cfs Oct. 4.

Remarks.--Records good. No known diversion or storage above the station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.1	5.5	3.0	39	4.5	250
2.3	10	3.3	60	5.0	390
2.5	16	3.6	87	5.5	555
2.7	24	4.0	143	6.0	750

Discharge, in cubic feet per second, 1961

Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.	Day	July	Aug.	Sept.
1	-	8.0	6.1	7	-	8.0	6.5	13	-	8.2	6.3	19	*10	7.1	7.1	25	9.0	6.1	6.7
2	-	8.0	6.3	8	-	7.8	6.5	14	-	7.5	6.5	20	9.8	7.5	6.9	26	8.8	6.1	6.5
3	-	8.0	6.3	9	-	7.8	6.5	15	-	7.3	*6.4	21	9.5	6.9	6.9	27	8.5	6.3	6.5
4	-	7.8	6.3	10	-	7.5	6.5	16	-	7.1	6.7	22	9.2	6.5	6.9	28	8.2	6.3	6.5
5	-	7.8	6.3	11	-	7.3	6.7	17	-	*7.1	7.8	23	9.0	6.3	6.9	29	8.2	6.3	6.5
6	-	7.8	6.3	12	-	7.5	6.5	18	10	7.1	7.8	24	9.0	6.3	6.7	30	8.2	6.2	6.5
																31	8.2	6.1	-

Total.....	-	221.6	198.9
Mean.....	-	7.15	6.63
Max.....	-	8.2	7.8
Min.....	-	6.1	6.1
Runoff in acre-feet.....	-	440	395

Peak discharge (base, 500 cfs).--No peak above base.

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.5	8.5	58	14	24	* 50	94	120	71	17	9.5	8.0
2	6.3	8.5	50	13	23	57	95	129	70	17	9.5	7.8
3	6.3	8.5	27	13	22	51	97	* 143	69	16	9.5	7.5
4	6.3	8.2	20	13	21	48	108	154	62	15	10	7.5
5	6.1	8.2	18	12	20	69	120	160	57	15	11	7.5
6	6.1	8.0	16	12	23	123	126	154	53	15	10	7.8
7	6.3	8.0	* 14	14	64	88	136	151	50	14	9.8	7.8
8	6.3	8.0	13	18	* 102	74	140	151	48	14	10	7.8
9	6.5	* 8.0	12	18	* 583	74	147	152	46	14	12	7.8
10	6.5	8.0	12	16	* 561	66	138	133	44	13	12	7.8
11	8.2	8.2	11	14	246	61	* 138	116	41	13	11	7.8
12	* 9.5	8.0	12	14	157	54	147	102	39	15	10	8.0
13	7.8	7.8	11	12	* 350	51	164	90	37	14	9.5	8.0
14	7.1	7.8	11	12	362	52	184	* 85	37	13	9.2	8.0
15	7.1	7.8	11	12	427	* 53	182	75	* 35	13	9.2	8.0
16	6.9	7.8	11	12	270	54	172	80	32	12	9.0	7.8
17	6.9	8.0	14	12	176	54	164	81	30	12	8.8	7.8
18	6.9	8.2	14	12	131	57	164	82	28	12	8.8	* 7.8
19	7.1	8.2	45	32	108	62	156	78	27	12	8.8	7.5
20	8.2	11	77	52	96	66	128	73	25	12	9.0	7.5
21	9.0	9.8	63	23	83	62	123	74	24	11	9.0	7.8
22	8.2	11	31	18	74	72	136	80	23	11	9.0	7.8
23	8.0	13	24	17	70	66	149	81	22	11	9.0	7.5
24	7.8	12	21	* 16	65	62	153	77	21	11	* 9.0	7.5
25	7.5	13	19	17	59	66	149	73	20	11	8.8	7.5
26	10	23	18	18	55	72	136	67	20	* 10	8.8	7.5
27	16	16	16	19	51	79	166	67	19	10	8.5	8.2
28	16	12	15	18	48	84	184	66	19	10	8.2	9.5
29	10	18	14	22	-	85	128	69	18	9.8	8.2	9.2
30	9.2	48	14	23	-----	87	116	71	18	9.5	8.2	8.5
31	9.0	-----	14	24	-----	88	-----	71	-----	9.8	8.5	-----
Total	249.6	340.5	706	542	4,271	2,087	4,240	3,105	1,105	392.1	291.8	236.5
Mean	8.05	11.4	22.8	17.5	153	67.3	141	100	36.8	12.6	9.41	7.88
Max	16	48	77	52	583	123	184	160	71	17	12	9.5
Min	6.1	7.8	11	12	20	48	94	66	18	9.5	8.2	7.5
Ac-ft	495	675	1,400	1,080	8,470	4,140	8,410	6,160	2,190	778	579	469

Calendar year 1961: Max - Min - Mean - Ac-ft -
 Water year 1961-62: Max 583 Min 6.1 Mean 48.1 Ac-ft 34,850

Peak discharge (base, 500 cfs).--Feb. 9 (2100) 960 cfs (6.46 ft); Feb. 13 (1500) 544 cfs (5.47 ft).

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-4175. South Yuba River at Jones Bar, Calif.

Location.--Lat 39°17'32", long 121°06'13", near center of sec.32, T.17 N., R.8 E., on left bank, 100 ft upstream from Rush Creek, 0.9 mile downstream from bridge on State Highway 49, and 5 miles northwest of Grass Valley.

Drainage area.--310 sq mi (revised).

Records available.--October 1940 to September 1948 (published as South Fork Yuba River at Jones Bar), April 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,060 ft, corrected, (from river profile map). Oct. 1, 1940, to Sept. 30, 1948, water-stage recorder at site 150 ft upstream at datum 2.00 ft higher.

Average discharge.--11 years, 432 cfs (312,800 acre-ft per year). The average runoff figure published in 1961 Surface Water Records of Calif., Vol. 2, has been corrected to 320,000 acre-ft.

Extremes.--Maximum discharge during year, 6,930 cfs Feb. 10 (gage height, 12.65 ft); minimum, 4.3 cfs Oct. 8, 9.

1940-48, 1959-62: Maximum discharge, 19,000 cfs Jan. 22, 1943 (gage height, 17.60 ft, site and datum then in use); minimum, 1.0 cfs Sept. 10-13, 1944.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Lake Spaulding (capacity, 74,500 acre-ft), Fordyce Lake (capacity, 46,700 acre-ft), Bowman Lake (see p. 857), and many smaller reservoirs. Diversions into and out of basin for several powerhouses, and for irrigation of about 20,000 acres by the Nevada Irrigation District.

Note.--The runoff for the water year 1961 has been corrected to 89,170 acre-ft, superseding figure published in 1961 Surface Water Records of Calif., Vol. 2.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 6-10, June 13)

1.7	3.4	3.0	54	6.0	548
1.8	5.2	3.5	84	7.0	940
2.0	10	4.0	126	8.0	1,500
2.3	20	4.5	190	10.0	3,200
2.6	32	5.0	278	12.0	5,850

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	33	492	76	122	320	601	423	1,240	75	20	14
2	5.0	33	462	76	123	370	615	444	1,270	61	19	14
3	4.8	32	252	74	122	480	608	462	1,320	58	17	13
4	4.7	32	* 148	72	116	500	643	468	1,060	53	17	13
5	4.5	31	114	70	112	640	678	483	460	50	20	13
6	4.7	* 30	97	68	114	1,200	689	1,170	300	46	21	13
7	4.5	29	86	69	295	1,400	713	1,400	570	41	20	13
8	4.3	30	80	74	580	840	701	1,410	680	39	21	12
9	4.5	31	75	89	* 3,750	720	713	1,490	750	36	27	12
10	* 4.8	31	69	* 79	4,600	620	660	* 1,440	1,280	36	30	12
11	7.0	31	65	73	1,780	560	608	1,010	1,230	35	24	13
12	12	28	62	72	1,220	510	574	828	1,180	36	22	13
13	14	28	61	74	2,850	* 468	646	693	* 1,220	39	20	13
14	9.6	28	60	65	* 2,490	456	685	548	965	36	19	13
15	8.0	28	59	61	3,580	453	725	474	682	35	17	13
16	8.8	28	58	60	2,180	444	643	337	538	32	17	13
17	13	29	64	62	1,350	435	598	404	664	31	17	12
18	13	29	84	64	995	426	577	526	693	30	17	12
19	13	31	114	389	823	441	* 594	709	513	30	16	12
20	13	48	347	745	777	462	538	678	574	29	16	* 12
21	16	56	362	220	632	450	483	550	362	28	17	13
22	18	46	224	141	542	697	486	780	309	26	* 16	16
23	16	53	159	118	486	587	495	1,240	325	25	* 17	13
24	16	58	133	107	465	501	532	860	339	25	17	12
25	16	52	117	101	426	489	510	630	307	* 24	16	14
26	21	79	106	101	390	495	450	510	274	23	15	14
27	47	101	97	101	350	519	492	440	245	22	14	13
28	74	68	90	101	320	564	749	600	235	22	14	20
29	56	92	84	108	-	570	654	1,000	162	20	13	21
30	40	413	81	115	-----	587	558	1,130	96	20	14	19
31	34	-----	79	118	-----	584	-----	1,190	-----	20	14	-----
Total	51,222	1,638	4,381	3,743	31,590	17,788	18,218	24,327	19,843	1,083	564	410
Mean	16.5	54.6	141	121	1,130	574	607	785	661	34.9	18.2	13.7
Max	74	413	492	745	4,600	1,400	725	1,490	1,320	75	30	21
Min	4.3	28	58	60	112	320	450	337	96	20	13	12
Ac-ft	1,020	3,250	8,690	7,420	62,660	35,280	36,130	48,250	39,360	2,150	1,120	813
Calendar year 1961:	Max	652	Min	4.3	Mean	119	Ac-ft	86,000				
Water year 1961-62:	Max	4,600	Min	4.3	Mean	340	Ac-ft	246,100				

* Discharge measurement made on this day.

Note.--No gage-height record Feb. 27 to Mar. 12, May 21 to June 12.

11-4180. Yuba River at Englebright Dam, Calif.

Location.--Lat 39°14'22", long 121°16'00", in SW 1/4 Sec. 14, T.16 N., R.6 E., on left bank upstream from spillway of Englebright Dam, 1 mile upstream from Deer Creek and 2.5 miles northeast of Smartville.

Drainage area.--1,104 sq mi.

Records available.--October 1941 to September 1962. Prior to October 1953, published as "at Narrows Dam." If record for Deer Creek near Smartville since 1941 is added to record at this site, a record equivalent to that published from 1903 to 1941 as Yuba River at Smartville can be obtained.

Gage.--Water-stage recorder, flow meter in penstock and watt meters in powerhouse just below dam. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Sept. 19, 1958, at datum 526.99 ft higher.

Average discharge.--21 years, 2,475 cfs (1,792,000 acre-ft per year).

Extremes.--Maximum discharge during year, 35,800 cfs Feb. 10, including flow through powerhouse; minimum daily, 230 cfs Oct. 9. 1941-62: Maximum discharge, 148,000 cfs Dec. 23, 1955, including flow through powerhouse, from rating curve extended above 25,000 cfs on basis of computation of peak flow over spillway of dam; no flow at times in 1942, 1949, 1956, 1958-61.

Remarks.--Records good. Diversions for power and irrigation above station. Up to 250 cfs can bypass station and up to 670 cfs can be diverted into Bear River basin. Flow regulated by Lake Spaulding beginning in 1912 (capacity, 74,500 acre-ft), Englebright Reservoir beginning in 1941 (capacity, 70,000 acre-ft), Bowman Lake (see p. 857), Fordyce Lake beginning in 1926 (capacity, 46,700 acre-ft), and many smaller reservoirs. Records given herein show total flow over Englebright Dam spillway and through and past powerplant.

Cooperation.--Records of flow through powerplant furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	248	340	550	600	675	2,130	3,720	3,750	4,140	897	500	490
2	248	450	570	605	675	5,100	4,000	3,880	4,240	839	502	490
3	243	470	585	610	680	3,010	4,060	4,330	4,490	792	505	490
4	240	340	600	610	680	2,370	4,380	4,970	3,980	753	506	460
5	240	340	600	610	680	2,390	4,940	5,570	3,240	665	508	440
6	240	345	600	610	678	5,930	5,220	6,220	2,600	657	509	445
7	235	350	540	610	680	4,820	5,580	6,270	2,800	686	506	445
8	245	350	580	610	685	3,690	5,780	6,420	2,960	611	505	450
9	230	325	600	605	6,320	3,280	6,140	6,640	2,970	585	505	440
10	240	325	600	600	2,910	2,960	5,900	6,340	3,360	585	505	435
11	250	330	600	600	11,500	2,640	5,400	5,080	3,500	575	505	445
12	250	335	605	600	6,680	2,400	5,360	4,340	3,300	530	501	455
13	270	340	610	600	12,100	2,200	6,020	3,800	3,130	500	501	450
14	290	350	615	600	14,400	2,080	6,650	3,340	3,020	500	500	450
15	290	350	610	600	18,600	2,080	7,330	3,030	2,580	500	502	450
16	290	350	610	600	12,800	2,080	6,740	3,030	2,270	500	510	450
17	290	350	610	600	7,820	2,060	6,090	2,920	2,280	500	510	450
18	290	345	610	600	5,690	1,990	5,800	2,970	2,320	500	510	450
19	290	340	620	600	4,660	2,080	5,870	3,200	2,140	500	510	450
20	290	340	630	600	4,260	2,260	5,240	3,200	2,210	500	510	450
21	290	360	640	600	3,120	2,280	4,480	2,880	1,950	500	510	455
22	270	375	650	600	3,000	3,020	4,410	3,010	1,750	500	510	455
23	265	370	650	645	2,660	3,100	4,820	3,620	1,740	500	510	455
24	265	365	655	680	2,520	2,600	5,440	3,680	1,580	500	510	450
25	265	360	660	685	2,270	2,460	5,480	3,060	1,470	490	510	455
26	265	360	660	690	2,070	2,540	4,870	2,760	1,370	475	510	465
27	265	365	660	690	1,860	2,760	4,770	2,580	1,260	500	504	460
28	265	365	630	685	1,780	3,000	6,050	2,680	1,190	510	508	465
29	260	450	600	680	-	3,180	4,910	3,240	1,090	510	495	425
30	265	500	600	680	-----	3,460	4,150	3,820	971	510	490	420
31	270	-----	610	680	-----	3,510	-----	4,020	-----	500	490	-----
Total	8,154	10,935	18,960	19,385	158,643	89,460	159,600	124,650	75,901	17,670	15,657	13,590
Mean	263	364	612	625	5,666	2,886	5,320	4,021	2,530	570	505	453
Max	290	500	660	690	29,100	5,930	7,330	6,640	4,490	897	510	490
Min	230	325	540	600	675	1,990	3,720	2,580	971	475	490	420
Ac-ft	16,170	21,690	37,610	38,450	314,700	177,400	316,600	247,200	150,500	35,050	31,060	26,960

Calendar year 1961: Max 5,220 Min 0 Mean 1,069 Ac-ft 774,200

Water year 1961-62: Max 29,100 Min 230 Mean 1,952 Ac-ft 1,413,000

Peak discharge (base, 13,000 cfs)---Feb. 10 (0700), 35,800 cfs; Feb. 15 (1400) 20,500 cfs.

11-4185. Deer Creek near Smartville, Calif.

Location.--Lat 39°13'28", long 121°16'03", in SW 1/4 sec. 23, T.16 N., R.6 E., on left bank 400 ft upstream from county road bridge, 0.9 mile upstream from mouth, and 2 miles northeast of Smartville.

Drainage area.--84.6 sq mi.

Records available.--June 1935 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 630 ft (from river-profile map). June 21, 1935, to Nov. 30, 1938, staff gage at same site and datum.

Average discharge.--27 years, 134 cfs (97,010 acre-ft per year).

Extremes.--Maximum discharge during year, 8,690 cfs Feb. 9 (gage height, 12.14 ft); minimum, 1.4 cfs Oct. 5, 8, 9.

1935-62: Maximum discharge, 11,300 cfs Mar. 9, 1943, Dec. 23, 1955, from rating curve extended above 5,200 cfs; maximum gage height, 13.62 ft Mar. 9, 1943; minimum discharge, 0.1 cfs Aug. 4-6, 15, 1940.

Remarks.--Records good. Natural flow of stream is affected by Scotts Flat Reservoir beginning in 1949 (usable capacity, 26,300 acre-ft), Deer Creek Reservoir (capacity, 1,400 acre-ft), power developments, and diversion for irrigation. At times, water from South Yuba River is diverted into Deer Creek and water from Deer Creek is diverted to Bear River.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 9

Feb. 10 to Sept. 30

0.9	1.1	3.0	172
1.0	2.4	3.5	254
1.2	6.8	4.0	366
1.4	13	5.0	745
1.7	30	6.0	1,310
2.0	54	7.0	2,070
2.5	105	9.0	4,200

2.5	105	5.0	775
3.0	178	6.0	1,310
3.5	275	7.0	2,070
4.0	411	9.0	4,200

Note.--Same as preceding table below 2.5 ft.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	2.0	2.31	1.4	*1.9	*671	217	*84	10	3.4	*2.8	4.2
2	*2.0	2.0	2.20	*1.4	20	1,490	*217	75	15	3.4	3.2	4.8
3	2.0	2.1	84	1.4	20	303	190	71	18	3.4	3.2	4.8
4	1.8	2.1	38	1.3	20	188	153	70	18	2.8	3.2	*5.3
5	1.6	2.3	27	1.2	18	324	135	62	13	3.0	3.4	5.5
6	1.7	2.3	22	1.2	19	1,170	128	58	7.3	2.8	3.4	6.5
7	1.7	2.1	17	1.2	98	600	126	58	6.0	3.0	3.4	7.7
8	1.7	2.1	17	1.2	126	444	128	54	5.8	3.8	3.2	5.5
9	1.4	2.0	17	1.3	2,930	405	128	43	5.5	*3.8	3.6	5.3
10	1.7	1.8	15	1.1	*3,960	333	129	42	5.1	8.2	3.6	5.3
11	2.6	1.8	14	1.1	741	302	121	35	5.1	5.2	2.8	5.1
12	4.0	2.0	14	1.2	678	271	58	33	5.1	3.2	3.0	4.8
13	3.0	*1.9	13	1.3	*1,830	247	50	35	4.0	3.2	3.2	5.1
14	3.4	1.8	14	1.3	1,100	237	38	36	2.3	3.6	3.2	5.8
15	3.0	2.6	13	1.3	2,100	229	30	42	2.4	6.3	3.0	4.6
16	2.8	2.6	13	1.2	694	223	27	60	3.4	6.0	2.6	4.6
17	2.6	3.4	14	1.2	390	217	27	47	3.8	4.8	3.2	4.4
18	2.3	4.6	23	1.2	266	206	54	42	4.4	3.8	3.2	4.4
19	1.7	6.0	53	677	247	206	121	38	3.8	3.0	3.2	3.6
20	1.7	13	123	1,060	321	208	147	32	2.6	3.2	2.6	3.2
21	2.1	13	86	111	228	209	124	30	2.3	3.2	2.8	3.2
22	6.3	7.6	41	59	154	478	117	29	2.4	2.6	3.4	3.6
23	7.1	7.3	28	45	119	342	109	27	3.6	2.8	4.2	4.2
24	8.2	7.3	23	37	108	271	108	29	3.4	2.8	4.4	4.6
25	9.3	7.6	20	32	100	249	97	33	3.8	2.8	4.4	4.4
26	13	14	17	28	97	239	91	29	2.8	2.0	4.8	3.8
27	6.0	13	16	25	85	235	96	23	3.0	2.0	4.6	4.2
28	4.6	9.3	16	23	81	229	135	25	3.4	2.4	4.6	6.5
29	6.0	30	15	21	-	227	106	26	3.4	2.6	4.6	8.2
30	2.6	195	14	21	-----	227	95	20	3.8	2.6	4.0	7.9
31	2.1	-----	14	20	-----	219	-----	*1.6	-----	2.6	4.0	-----
Total	111.7	364.6	1,272	2,384	165.69	11,199	3,302	1,304	172.5	1,083	1,088	151.1
Mean	3.60	12.2	41.0	76.9	592	361	110	42.1	5.75	3.49	3.51	5.04
Max	13	195	231	1,060	3,960	1,490	217	84	18	8.2	4.8	8.2
Min	1.4	1.8	13	11	18	188	27	16	2.3	2.0	2.6	3.2
Ac-ft	222	723	2,520	4,730	32,860	22,210	6,550	2,590	342	215	216	300

Calendar year 1961: Max 568 Min 1.0 Mean 28.9 Ac-ft 20,920
 Water year 1961-62: Max 3,960 Min 1.4 Mean 101 Ac-ft 73,480

Peak discharge (base, 3,500 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	0200	9.15	4,400	2-15	0200	8.45	3,540
2-9	1900	12.14	8,690				

SACRAMENTO RIVER BASIN

865

11-4210. Yuba River near Marysville, Calif.

Location.--Lat 39°10'35", long 121°31'25", on left bank in New Helvetia land grant, 4.2 miles northeast of Marysville, Yuba County, and 5 miles downstream from Dry Creek.

Drainage area.--1,335 sq mi.

Records available.--October 1940 to September 1962 (1940-43, 1945, low-water periods only). Published as "at Marysville" October 1940 to September 1957. Records published for two sites August 1954 to September 1955. Yearly discharge for the 1945 water year published in WSP 1315-A.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers. Prior to Oct. 1, 1956, at Simpson Lane Bridge in Marysville 4.2 miles downstream at same datum. Gages operated simultaneously at Simpson Lane Bridge and at present site August 1954 to September 1955. Oct. 1, 1956, to Sept. 30, 1957, at site 4.2 miles downstream at same datum.

Average discharge.--19 years (1943-1962), 2,485 cfs (1,799,000 acre-ft per year).

Extremes.--Maximum discharge during year, 48,700 cfs Feb. 10 (gage height, 77.33 ft); minimum, 14 cfs Oct. 16.

1943-62: Maximum daily discharge, 136,000 cfs Dec. 23, 1955; maximum gage height, 82.5 ft probably Dec. 23, 1955 (at former site), from floodmarks.

1940-62: Minimum discharge recorded, 10 cfs July 2, 1959.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by several reservoirs above station. Many diversions above station for power. Diversions for irrigation of about 13,000 acres between stations at Englebright Dam and near Marysville.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 1-30)

60.1	12	61.3	240	65.0	6,700
60.3	23	61.6	420	67.0	12,900
60.5	41	62.0	760	70.0	22,900
60.7	67	63.0	1,890	73.0	33,100
61.0	130	64.0	3,860	76.0	43,900

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	154	823	524	697	2,790	3,960	3,200	3,600	524	37	84
2	21	175	900	524	706	8,690	4,200	3,100	3,670	420	37	88
3	21	332	751	524	697	4,280	4,300	3,600	3,960	344	40	101
4	21	210	598	524	697	3,140	4,440	3,800	3,550	290	41	136
5	21	160	556	516	697	2,940	4,830	4,500	2,920	250	43	108
6	* 21	* 160	540	589	706	8,350	5,250	5,200	2,320	167	46	122
7	20	164	532	706	796	6,760	5,250	5,300	2,320	178	42	128
8	21	171	508	706	1,010	4,740	5,680	5,400	2,480	186	45	130
9	20	171	492	706	9,140	4,040	6,160	5,400	2,530	142	49	128
10	* 21	142	492	706	* 4,140	3,600	6,010	5,700	2,760	133	43	125
11	21	167	492	697	* 15,300	3,230	5,220	4,800	2,920	115	40	125
12	21	167	468	706	8,980	2,960	5,020	4,100	* 2,720	108	47	120
13	20	167	* 476	706	* 16,500	2,700	5,560	3,400	2,590	82	46	128
14	18	175	468	697	* 18,200	2,440	6,100	3,000	2,570	69	* 46	122
15	16	178	476	697	24,700	2,460	6,820	* 2,600	2,230	64	48	122
16	15	175	476	688	17,000	2,420	6,340	2,630	1,920	60	48	125
17	15	182	476	688	10,100	2,420	* 5,620	2,590	1,890	* 57	49	125
18	15	182	492	* 697	7,420	2,350	5,080	2,570	1,940	56	47	* 128
19	15	186	516	1,070	6,120	2,390	5,160	2,820	1,810	49	45	145
20	40	193	634	2,990	5,440	* 2,510	4,910	2,840	1,850	47	42	186
21	88	206	616	1,050	4,880	2,610	4,040	2,550	1,650	42	46	197
22	97	214	607	860	3,860	3,400	3,810	2,510	1,500	46	43	197
23	103	218	556	805	3,310	3,860	4,090	2,980	1,380	45	46	197
24	105	218	540	769	3,070	3,180	4,580	3,290	1,310	42	46	193
25	110	227	532	751	2,900	2,960	4,860	2,760	1,170	43	45	190
26	115	240	524	742	2,660	2,960	4,350	2,480	1,060	40	59	193
27	118	245	524	724	2,370	3,090	3,990	2,300	940	40	67	218
28	110	231	524	724	2,200	3,340	5,330	2,340	850	43	92	245
29	108	255	532	697	-	3,450	4,550	2,780	760	46	97	245
30	105	625	524	697	-----	3,690	3,720	3,200	616	41	74	193
31	105	-----	532	706	-----	3,840	-----	3,450	-----	39	76	-----
Total	1,566	6,290	17,177	24,186	211,556	111,590	149,230	107,190	63,786	3,808	1,572	4,544
Mean	50.5	210	554	780	7,556	3,600	4,974	3,458	2,126	123	50.7	151
Max	118	625	900	2,990	41,400	8,690	6,820	5,700	3,960	524	97	245
Min	15	142	468	516	697	2,350	3,720	2,300	616	39	37	84
Ac-ft	3,110	12,480	34,070	47,970	419,600	221,300	296,000	212,600	126,500	7,550	3,120	9,010

Calendar year 1961: Max 4,870 Min 15 Mean 859 Ac-ft 622,000
Water year 1961-62: Max 41,400 Min 15 Mean 1,925 Ac-ft 1,393,000

* Discharge measurement made on this day.

Note.--No gage-height record May 1-15.

11-4230. Bear River near Auburn, Calif.

Location.--Lat 39°00'45", long 121°06'10", in NE¼ sec. 5, T.13 N., R.8 E., on right bank 200 ft upstream from bridge on State Highway 49, 2.6 miles upstream from Wolf Creek, and 8 miles north of Auburn. Prior to Nov. 21, 1961, at site 300 ft downstream.

Drainage area.--140 sq mi.

Records available.--December 1940 to September 1962 in reports of Geological Survey. In reports of California Department of Water Resources 1922, 1925-28, 1929-33 (gage heights for high-water periods only).

Gage.--Water-stage recorder. Altitude of gage is 1,250 ft (from topographic map). Prior to July 13, 1946, at datum 3.40 ft higher. June 28, 1961 to Nov. 21, 1961, staff gage at site 300 ft downstream at different datum.

Average discharge.--21 years, 272 cfs (196,900 acre-ft per year).

Extremes.--Maximum discharge during year, 7,230 cfs Feb. 10 (gage height, 10.94 ft); minimum daily, 2.2 cfs Oct. 24, 25.

1940-62: Maximum discharge, 19,700 cfs Dec. 22, 1955 (gage height, 16.56 ft), from rating curve extended above 4,600 cfs on basis of computed flow over Van Giesen Dam, 3 miles upstream from station; minimum, 0.1 cfs Nov. 9, 10, 1953.

Remarks.--Records good except those for period Oct. 1 to Nov. 21, which are fair, and those for period Nov. 22 to Dec. 17, which are poor. Natural flow of stream affected by inflow from Yuba River and American River basins. Flow regulated by Lake Combie (capacity, 7,840 acre-ft) and other reservoirs. Several diversions upstream from power development and irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 12

Dec. 13 to Feb. 10

Feb. 10 to Sept. 30

0.7	2.2	3.5	2.3	3.2	3.4	5.0	249
.8	4.1	3.6	6.0	3.3	4.9	5.5	424
.9	7.4	3.8	15	3.4	7.5	6.0	665
1.0	12	4.0	28	3.5	12	7.0	1,280
		4.3	55	3.7	29	8.0	2,170
		4.6	91	4.0	65	9.0	3,520
		5.0	163	4.5	139	11.0	7,360
		5.5	301				
		6.0	515				
		6.5	790				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a 8.0	g 2.8	a 8	58	91	4 64	2 97	1 63	55	5.5	6.8	5.1
2	g 8.4	g 3.0	a 12	65	90	4 92	3 20	1 50	1 63	5.5	6.4	5.1
3	g 8.4	g 3.0	a 8	64	88	4 82	4 33	1 46	1 11	5.5	6.4	9.2
4	g 8.4	a 3.0	*a 5	63	87	4 92	4 46	1 34	61	5.5	6.4	5.9
5	g 8.8	a 3.0	a 5	63	56	5 45	4 64	1 37	23	5.5	6.4	5.5
6	g 8.8	*g 2.8	a 5	63	12	1 800	4 82	1 17	24	5.3	6.4	5.5
7	a 8.0	g 2.8	a 5	62	15	1 370	4 87	98	25	5.3	6.2	5.3
8	a 7.5	g 3.0	a 4	39	* 15	9 14	4 87	1 10	24	5.3	6.2	5.3
9	g 6.6	g 2.8	a 4	13	* 730	7 26	5 25	1 14	21	5.3	6.8	4.9
10	*g 5.5	g 2.8	a 4	* 12	* 5,900	5 95	4 77	* 112	21	5.3	9.4	4.9
11	g 6.2	a 3.0	a 4	12	* 2,110	5 15	4 46	1 28	21	5.5	18	4.9
12	g 4.6	a 3.0	a 4	13	1 230	6 55	3 34	1 44	21	5.5	17	4.7
13	g 4.6	g 2.8	a 4	12	* 3,120	* 7 97	3 60	96	* 21	5.7	17	4.7
14	a 4.5	g 2.8	a 4	12	2 810	7 80	3 60	57	21	5.9	17	4.7
15	a 4.0	g 2.8	a 4	12	* 4,570	7 86	2 46	78	21	6.8	18	4.4
16	g 4.1	g 2.8	a 4	12	2 850	7 58	2 42	1 05	21	8.3	25	4.4
17	g 2.8	g 2.8	a 4	13	1 710	7 48	3 68	94	26	8.3	22	* 4.4
18	g 2.6	a 3.0	4.4	13	1 150	7 31	2 09	89	33	8.3	23	4.4
19	g 2.5	a 4.0	5.6	39	9 32	7 31	* 1 28	86	31	8.3	23	4.4
20	g 2.5	g 4.4	13	55	7 31	7 26	1 37	90	32	8.3	23	4.4
21	a 2.5	g 3.2	14	98	6 00	6 15	1 57	90	20	7.9	23	4.2
22	a 2.5	a 3	11	* 98	5 01	4 92	4 68	83	10	7.5	* 24	4.2
23	a 2.5	a 3	8.2	98	* 4 77	2 86	2 72	66	8.3	7.5	28	3.9
24	g 2.2	a 3	8.2	98	4 77	2 94	1 95	59	8.3	7.5	28	3.9
25	g 2.2	a 3	8.2	97	4 68	2 84	4 46	53	9.2	* 7.5	28	3.8
26	g 2.8	a 3	14	97	4 68	2 58	2 30	80	9.7	7.1	28	3.8
27	g 3.4	a 3	14	96	4 59	* 2 55	1 91	68	8.3	7.1	28	3.6
28	a 3.0	a 5	13	96	4 55	3 38	3 67	87	6.8	7.1	27	3.6
29	a 3.0	a 3	25	94	2 81	2 13	2 13	92	* 5.3	7.1	24	3.5
30	g 2.8	a 8	42	94	-----	3 10	1 79	73	5.3	7.1	15	3.6
31	g 2.8	-----	42	92	-----	3 07	-----	60	-----	7.1	5.1	-----
Total	146.5	97.6	310.6	1752	32202	18827	9966	3059	8672	205.4	528.5	140.2
Mean	4.73	3.25	10.0	56.5	1,150	607	332	98.7	28.9	6.63	17.0	4.67
Max	8.8	8	42	98	5,900	1,800	525	163	163	8.3	28	9.2
Min	2.2	2.8	12	12	12	255	128	53	5.3	5.3	5.1	3.5
Ac-ft	291	194	616	3,480	63,870	37,340	19,770	6,070	1,720	407	1,050	278

Calendar year 1961: Max 770 Min 2.2 Mean 29.8 Ac-ft 21,610

Water year 1961-62: Max 5,900 Min 2.2 Mean 187 Ac-ft 135,100

Peak discharge (base, 3,700 cfs).--Feb. 10 (0600) 7,230 cfs (10.94 ft); Feb. 15 (1800) 5,500 cfs (10.09 ft).

* Discharge measurement made on this day.

a No gage-height record.

g Computed from twice-daily staff gage readings.

11-4240. Bear River near Wheatland, Calif.

Location.--Lat 39°00'01", long 121°24'20", in sec.3, T.13 N., R.5 E., in midstream on downstream side of bridge on U. S. Highway 99E, 1 mile southeast of Wheatland and 6.5 miles downstream from Rock Creek.

Drainage area.--295 sq mi.

Records available.--October 1928 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 78.92 ft above mean sea level (levels by California Department of Water Resources). Prior to July 17, 1929, staff gage at about same site and at datum 2.58 ft higher. July 17, 1929, to Oct. 22, 1943, water-stage recorder at several sites within 300 ft of present site at datum 2.58 ft higher.

Average discharge.--33 years (1929-62), 417 cfs (301,900 acre-ft per year).

Extremes.--Maximum discharge during year, 16,100 cfs Feb. 10 (gage height, 12.79 ft); minimum, 2.7 cfs Oct. 11, 12. 1928-62: Maximum discharge, 33,000 cfs Dec. 22, 1955 (gage height, 19.30 ft); maximum gage height, 20.83 ft Nov. 21, 1950; no flow at times.

Remarks.--Records good. Medium and low flows affected by Camp Par West Reservoir (capacity, 5,000 acre-ft), Combie Reservoir (capacity, 7,840 acre-ft), diversions for irrigation, and return flow from irrigated areas between stations near Auburn and near Wheatland. See Remarks for station near Auburn.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 4-7, 15-26, Sept. 18-30)

0.3	2.0	0.9	29	4.0	1,660
.4	3.6	1.1	58	6.0	3,580
.5	5.7	1.5	160	8.0	6,140
.6	8.6	2.0	350	12.0	14,200
.7	13	2.5	620		
.8	20	3.0	935		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.2	8.2	350	76	* 130	* 662	360	218	44	8.0	56	9.0
2	* 5.0	6.8	310	* 85	125	1,920	390	197	42	8.0	62	8.2
3	4.2	6.2	225	98	120	1,060	488	181	122	6.2	48	9.3
4	4.0	6.4	110	90	118	837	522	169	69	5.2	24	* 9.0
5	4.0	8.6	67	90	115	824	516	151	27	5.0	12	9.0
6	3.4	5.4	52	88	69	3,140	532	154	9.3	5.0	15	7.0
7	4.0	4.2	47	85	88	2,350	544	133	9.3	5.0	37	6.2
8	4.2	6.8	41	82	175	1,410	544	122	12	5.7	30	6.2
9	5.2	5.0	36	53	3,760	1,060	549	105	10	* 5.4	16	7.0
10	3.8	3.8	30	36	14,000	857	532	120	10	5.4	29	6.4
11	5.2	4.3	28	34	4,570	760	500	139	9.3	6.4	42	6.8
12	4.6	4.0	27	32	2,480	760	430	169	7.0	6.4	22	6.4
13	4.0	* 3.8	26	36	* 5,560	916	365	139	7.6	7.0	20	6.4
14	4.6	3.6	25	38	* 4,970	883	430	108	9.7	6.0	14	6.4
15	4.8	3.4	24	33	8,070	870	355	78	6.4	5.4	8.6	6.0
16	4.8	3.4	23	33	5,040	844	218	98	6.0	5.4	8.0	5.4
17	4.4	3.2	23	32	3,020	805	323	118	9.6	5.7	10	4.2
18	4.8	3.8	30	30	1,860	805	440	102	11	6.0	11	3.6
19	5.2	3.4	52	322	1,550	779	204	85	7.6	5.4	10	3.2
20	8.3	5.0	191	1,770	1,140	779	233	80	6.0	* 5.4	9.7	8.0
21	6.0	13	* 175	375	948	740	197	80	6.4	5.2	9.7	8.6
22	5.8	20	122	257	746	728	288	80	6.2	5.0	9.3	8.6
23	5.7	14	78	211	686	620	466	71	6.2	5.0	9.7	5.0
24	6.0	18	58	187	668	430	257	53	6.4	5.0	9.3	4.6
25	5.7	15	50	172	644	435	273	53	6.4	5.0	9.7	4.2
26	5.2	15	47	163	632	341	425	52	6.0	4.8	9.7	4.0
27	5.0	24	48	154	602	* 76	225	80	6.0	7.3	9.7	3.8
28	5.0	28	47	148	590	16	430	71	6.0	9.2	12	3.6
29	4.8	38	47	139	-	13	332	88	8.2	8.5	13	3.2
30	4.2	220	56	136	-----	14	253	92	7.4	7.3	13	3.2
31	4.7	-----	69	133	-----	19	-----	* 65	-----	* 67	12	-----
Total	151.8	504.3	251.4	521.8	624.56	257.53	1162.1	345.1	500.0	538.0	601.4	182.5
Mean	4.90	16.8	81.1	168	2,231	831	387	111	16.7	17.4	19.4	6.08
Max	8.3	220	350	1,770	14,000	3,140	549	218	122	92	62	9.0
Min	3.4	3.2	23	30	69	13	197	52	6.0	4.8	8.0	3.2
Ac-ft	301	1,000	4,990	10,350	123,900	51,080	23,050	6,840	992	1,070	1,190	362

Calendar year 1961: Max 983 Min 2.4 Mean 68.0 Ac-ft 49,220
Water year 1961-62: Max 14,000 Min 3.2 Mean 311 Ac-ft 225,100

Peak discharge (base, 3,100 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-20	0700	6.28	3,890	2-15	1600	9.53	8,810
2-10	1200	12.79	16,100	3-6	1700	6.04	3,620

SACRAMENTO RIVER BASIN

11-4245. Dry Creek near Wheatland, Calif.

Location.--Lat 39°01'35", long 121°26'10", in Johnson Rancho land grant, on left bank 2,300 ft upstream from bridge on U. S. Highway 99E, 1.3 miles northwest of Wheatland, and 5 miles upstream from mouth.

Drainage area.--99.5 sq mi.

Records available.--October 1946 to September 1962 (discontinued).

Gage.--Water-stage recorder and concrete control. Datum of gage is 62.83 ft above mean sea level (levels by California Department of Water Resources).

Average discharge.--16 years, 55.2 cfs (39,960 acre-ft per year); median of yearly mean discharges, 39 cfs (28,200 acre-ft per year).

Extremes.--Maximum discharge during year, 5,000 cfs Feb. 10 (gage height, 11.50 ft); no flow for many days.

1946-62: Maximum discharge, 8,790 cfs Dec. 23, 1955 (gage height, 13.45 ft); no flow at times in each year.

Remarks.--Records good except those for period of no gage-height record, which are poor. Portion of flow from Dry Creek drainage area may overflow or percolate into Best Slough above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

2.95	0	4.0	113
3.0	.4	4.5	235
3.1	2.4	5.0	390
3.2	6.8	6.0	795
3.3	14	7.0	1,280
3.5	33	9.0	2,640
3.7	59	11.0	4,500

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.8	1.3	3.2	92	30	3.5	1.5		0	0
2	(*)		6.9	1.1	3.2	617	31	4.3	.9		0	0
3			7.3	.9	3.2	191	29	4.3	.5		0	0
4			6.4	.8	3.2	111	20	4.3	.4		0	0
5			2.4	.8	2.8	130	16	3.5	.4		0	0
6			11	.8	3.2	884	13	3.2	.5		0	0
7			7.0	.8	2.2	472	8.1	3.5	.4		0	0
8			4.5	.9	3.5	*199	6.2	2.0	.4		0	0
9			3.0	.8	1.030	131	5.7	.1	.4		0	0
10			2.2	.6	*3,900	97	6.2	0	.2		0	0
11			2.2	.6	*723	79	7.5	0	.2		0	0
12			2.2	.8	4.41	69	7.5	0	*.4		0	0
13		(*)	2.1	1.1	1.410	58	4.7	0	.4		0	*0
14			2.1	1.1	913	52	3.9	0	.2		0	0
15			2.0	1.1	2,340	48	3.5	0	.2		0	0
16			2.0	.9	579	44	3.2	.1	.1		0	0
17			3.5	.9	358	41	2.8	.2	0		0	0
18			5.5	.8	202	38	1.8	.3	0		0	0
19			9.0	1.3	229	34	2.8	.4	0		0	0
20			15	402	133	32	3.9	.5	0	(*)	0	0
21			*22	57	133	33	2.8	.5	0		0	0
22			20	*20	86	62	2.8	.4	0		0	0
23			9.5	9.5	70	75	2.8	.3	0		*0	0
24			5.7	5.7	59	45	2.1	.4	0		0	.2
25			5.2	4.7	56	38	1.5	.9	0		0	.1
26			4.7	3.5	56	33	1.5	4.7	0		0	0
27			3.7	2.8	49	30	2.1	2.1	0		.3	0
28			3.2	3.2	43	27	3.5	2.4	0		.4	0
29			2.6	2.8	-	26	5.5	2.1	0		.4	.1
30			2.1	2.8	-	26	2.5	1.5	0		.2	.2
31			1.7	3.2	-	29	-	9	-		.1	-
Total	0	0	384.5	534.6	12,885.8	3,843	233.9	46.4	7.1	0	1.4	0.6
Mean	0	0	12.4	17.2	460	124	7.80	1.50	0.24	0	0.05	0.02
Max	0	0	73	402	3,900	884	31	4.7	1.5	0	0.4	0.2
Min	0	0	0.8	0.6	2.8	26	1.5	0	0	0	0	0
Ac-ft	0	0	763	1,060	25,560	7,620	464	92	14	0	2.8	1.2

Calendar year 1961: Max 503 Min 0 Mean 18.1 Ac-ft 13,090

Water year 1961-62: Max 3,900 Min 0 Mean 49.1 Ac-ft 35,580

Peak discharge (base, 2,000 cfs).--Feb. 10 (0900) 5,000 cfs (11.50 ft); Feb. 15 (0500) 4,300 cfs (10.80 ft).

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

Note.--No gage-height record Dec. 6-20, Dec. 27 to Jan. 1, Apr. 28-30.

11-4250. Feather River at Nicolaus, Calif.

Location.--Lat 38°54'00", long 121°35'00", on left bank at Nicolaus, Sutter County, at highway bridge 2.9 miles downstream from Bear River.

Drainage area.--5,920 sq mi, approximately.

Records available.--June 1921 to December 1942 (low-water periods only), April 1943 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Gage is set to datum of Corps of Engineers. Prior to November 1931, on middle fender pier of bridge 0.3 mile upstream at same datum.

Average discharge.--19 years (1943-62), 7,663 cfs (5,548,000 acre-ft per year).

Extremes.--Maximum discharge during year, 82,200 cfs Feb. 11 (gage height, 43.29 ft); minimum, 460 cfs Oct. 3 (gage height, 20.50 ft).
1943-61: Maximum discharge, 357,000 cfs Dec. 23, 1955; maximum gage height, 51.60 ft Dec. 23, 1955.
1921-61: Minimum discharge, no flow Aug. 2-18, 1924; July 11-22, 24, 26, Aug. 1, 1931.

Remarks.--Records good except those for periods of indefinite stage-discharge relation, which are fair. Flow partly regulated by reservoirs and powerplants. Diversions for irrigation of about 87,000 acres between stations at Oroville and at Nicolaus.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	472	715	4,580	2,880	3,140	8,300	12,100	10,200	7,550	1,430	911	927
2	478	743	7,430	2,540	3,090	11,500	12,700	9,690	7,430	1,370	654	669
3	466	951	8,640	2,230	3,100	17,500	13,200	9,870	7,580	1,220	911	1,070
4	582	1,220	6,900	2,150	2,900	12,400	13,600	10,700	7,620	1,160	641	1,110
5	622	1,040	5,270	2,150	2,710	10,900	14,800	11,800	6,560	1,210	991	1,180
6	* 648	* 835	4,090	2,230	3,080	14,500	16,100	12,400	5,490	1,160	680	1,160
7	715	828	3,280	2,310	3,400	24,000	16,900	12,900	4,720	943	715	1,040
8	660	872	2,970	2,310	4,650	17,000	17,700	12,500	4,860	806	1,090	975
9	563	888	2,880	2,420	10,900	*13,800	18,600	13,000	4,900	764	888	935
10	520	935	2,820	2,350	50,800	12,800	19,400	13,200	4,920	641	1,230	799
11	538	903	2,760	2,300	*70,600	11,900	18,600	12,400	5,370	660	1,390	828
12	570	927	2,770	2,290	43,300	10,700	17,300	10,800	*5,140	622	1,280	1,070
13	596	911	* 2,760	2,340	*38,000	10,000	17,200	10,100	4,790	608	865	1,330
14	687	951	2,820	2,240	52,200	9,600	18,200	9,210	4,690	589	* 842	1,510
15	641	1,100	2,790	2,140	53,000	9,300	19,300	* 8,560	5,170	576	927	1,580
16	602	1,060	2,790	2,160	60,000	9,000	20,600	8,120	5,520	563	701	1,580
17	582	1,030	2,700	2,150	46,000	8,800	*19,200	8,440	5,070	* 538	596	1,600
18	743	1,100	2,680	* 2,120	38,500	8,600	17,700	8,210	5,090	687	694	1,570
19	743	1,110	2,660	2,160	26,500	8,700	16,500	7,850	4,830	582	1,070	1,640
20	622	1,110	2,470	8,090	19,100	* 8,760	16,300	7,790	4,270	514	1,070	* 1,610
21	628	1,170	3,380	8,430	*17,500	9,000	14,300	7,070	4,090	680	991	1,620
22	674	1,220	4,860	4,860	15,300	9,100	12,500	6,320	4,020	1,060	799	1,700
23	674	1,560	3,750	3,910	13,100	11,700	12,500	6,580	3,570	694	701	1,620
24	667	1,410	3,060	3,280	10,900	10,200	13,300	7,560	2,140	674	750	1,660
25	641	1,380	2,650	2,970	9,850	9,340	13,900	6,880	1,710	1,220	806	1,700
26	634	1,750	2,400	2,900	9,200	9,020	13,700	6,120	1,630	1,170	828	1,370
27	694	2,110	2,310	2,780	8,600	9,440	12,200	5,700	2,840	654	835	1,160
28	785	2,080	2,250	2,700	8,200	10,100	12,900	5,560	2,710	628	872	1,130
29	778	2,080	2,380	2,620	-	10,900	14,600	5,980	1,860	967	872	1,220
30	799	2,370	2,920	2,600	-----	11,500	11,800	7,120	1,530	654	911	1,470
31	764	-----	2,840	2,840	-----	11,700	-----	7,700	-----	602	927	-----
Total	19,788	36,359	108,860	91,450	627,620	350,060	467,700	280,330	137,670	25,646	27,438	39,163
Mean	638	1,212	3,512	2,950	22,420	11,290	15,590	9,043	4,589	827	885	1,305
Max	799	2,370	8,640	8,430	70,600	24,000	20,600	13,200	7,680	1,430	1,390	1,700
Min	466	715	2,250	2,120	2,710	8,300	11,800	5,560	1,530	514	596	799
Ac-ft	39,200	72,100	215,900	181,400	1,245,000	694,300	927,700	556,000	273,100	50,870	54,420	77,680
Calendar year 1961:	Max	19,000	Min	250	Mean	3,318	Ac-ft	2,402,000				
Water year 1961-62:	Max	70,600	Min	466	Mean	6,060	Ac-ft	4,388,000				

* Discharge measurement made on this day.

Note.--Stage-discharge relation indefinite Feb. 15-19, Feb. 25 to Mar. 8, Mar. 10-19.

SACRAMENTO RIVER BASIN

11-4250. Feather River at Nicolaus, Calif.--Continued.

Records available.--Water temperatures: November 1961 to September 1962.

Extremes.--Maximum temperature during period, 89°F, July 16, 21; minimum, 36°F, Jan. 23, 24.

Note.--Recorded temperatures June through September may not represent temperature in river because of ponded condition at the gage.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1			57	57	54	54	47	46	42	40	43	42	52	52	58	55	65	64	78	74	80	75	82	75
2			57	56	54	53	46	46	42	42	44	43	53	52	59	58	66	65	80	76	79	75	81	75
3			57	56	53	53	46	46	42	42	45	44	54	53	60	59	66	65	82	77	77	74	77	74
4			57	56	53	53	46	45	42	42	45	44	54	54	60	60	65	64	84	79	79	73	76	73
5			57	56	53	52	45	45	42	42	47	45	54	54	60	60	66	64	85	79	79	73	75	72
6			57	56	52	52	45	45	43	42	47	47	54	54	60	60	66	64	83	79	76	71	76	73
7			56	56	52	52	45	45	45	43	48	47	54	54	60	60	66	65	83	78	77	70	77	71
8			56	56	52	50	45	45	46	45	49	48	54	54	60	60	68	66	83	78	77	74	79	72
9			56	56	50	49	46	45	47	46	49	49	54	54	60	58	68	67	83	78	80	74	77	73
10			56	55	49	49	45	45	48	47	49	48	54	53	58	58	68	66	83	76	80	76	75	71
11			56	56	49	47	45	45	48	48	48	47	54	54	58	58	68	66	81	77	81	77	74	69
12			56	54	47	47	45	45	48	47	48	48	54	54	58	58	69	66	80	75	82	76	74	70
13			55	53	47	47	45	45	47	47	48	47	54	54	58	58	69	67	82	74	78	78	73	69
14			54	53	47	47	45	44	47	47	48	47	55	54	58	58	68	66	86	77	86	78	75	72
15			54	53	47	47	44	43	47	47	48	47	55	55	58	58	69	66	87	79	86	79	75	73
16			53	51	47	47	43	43	47	46	48	48	55	54	59	58	70	69	89	80	86	78	75	73
17			51	50	47	47	43	43	46	46	48	48	55	55	60	59	72	68	85	79	83	77	76	74
18			50	50	47	47	43	42	47	46	50	48	55	55	60	60	73	70	81	77	84	75	75	72
19			50	49	48	47	42	42	47	47	51	50	55	54	60	60	74	72	83	76	82	77	73	71
20			50	50	48	48	42	42	47	47	50	50	54	53	60	59	76	74	87	76	84	79	73	71
21			50	50	50	48	42	40	47	47	50	49	54	54	61	60	77	75	89	78	84	79	72	71
22			51	50	50	49	40	37	47	47	49	49	55	54	62	61	77	76	86	83	84	76	72	71
23			52	51	49	49	37	36	47	46	50	49	56	55	62	62	77	73	88	81	82	76	73	72
24			53	52	49	48	37	36	47	47	50	49	57	56	62	61	75	74	86	80	84	75	73	72
25			54	53	48	48	38	37	47	46	51	50	57	57	62	61	76	74	84	80	84	76	73	72
26			54	54	48	48	38	38	46	43	52	51	57	57	62	61	77	74	85	80	83	77	73	72
27			54	54	48	48	39	38	43	42	52	52	57	56	63	62	77	75	83	79	83	76	72	69
28			54	54	48	48	40	39	42	42	52	52	56	55	64	62	77	76	85	77	82	76	69	68
29			54	54	48	48	40	40			52	52	55	55	64	62	77	74	83	77	79	74	70	68
30			54	54	48	47	41	40			52	52	55	55	64	63	76	74	81	75	81	73	70	69
31					47	47	41	41			52	52			64	63			81	75	81	75		
Avg			54	54	49	49	48	47	47	47	49	48	55	54	60	60	71	69	84	78	81	76	74	71

SACRAMENTO RIVER BASIN

871

11-4255. Sacramento River at Verona, Calif.

Location.--Lat 38°46'50", long 121°36'10", in SE $\frac{1}{4}$ sec.23, T.11 N., R.3 E., on left bank 0.8 mile southeast of Verona, 1 mile downstream from Feather River, 6.2 miles east of Knights Landing, and at mile 19.6 upstream from Sacramento.

Records available.--May 1926 to September 1929 (low-water periods only), October 1929 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 0.06 ft below datum of Corps of Engineers. Auxiliary water-stage recorder 16 miles downstream from base gage since Oct. 1, 1944, at datum of Corps of Engineers. Prior to Oct. 1, 1944, auxiliary water-stage recorder at site 19.2 miles downstream at datum 0.12 ft above mean sea level, datum of 1929.

Average discharge.--33 years (1929-62), 17,630 cfs (12,760,000 acre-ft per year).

Extremes.--Maximum discharge during year, 62,300 cfs Feb. 16 (gage height, 35.55 ft); minimum, 6,090 cfs Oct. 11.
 1926-62: Maximum discharge, 79,200 cfs Mar. 1, 1940 (gage height, 41.20 ft); minimum daily, 304 cfs July 23, 24, 1931;
 maximum reverse flow, 16,800 cfs Dec. 4, 1950, backwater from American River.
 1934-62: Maximum combined discharge of Sacramento River at Verona and Fremont weir, about 315,000 cfs Mar. 1, 1940.

Remarks.--Records excellent. Flow regulated by Shasta Lake beginning Dec. 30, 1943, and several other reservoirs and powerplants above station, and bypassing for flood control. Many diversions above station for irrigation. When discharge exceeds about 55,000 cfs, flow begins over Fremont weir (just upstream) into Yolo bypass (see p. 926). Elevation of crest of Fremont weir is 33.5 ft (datum of Corps of Engineers).

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,400	7,220	13,600	8,930	8,540	29,700	22,400	16,500	15,100	7,320	7,340	9,110
2	7,220	7,160	19,900	8,740	8,560	31,000	23,000	15,600	14,500	7,380	7,220	9,240
3	6,880	7,180	30,300	8,230	8,520	34,800	23,600	15,300	14,400	7,260	7,400	9,560
4	6,600	7,260	32,100	8,020	8,440	33,600	23,900	16,100	14,000	7,250	7,320	9,830
5	6,460	7,300	29,300	8,100	8,160	31,600	24,600	17,400	13,000	7,310	7,680	10,400
6	6,400	7,080	25,000	8,300	8,160	32,900	25,500	18,800	11,400	7,220	7,810	11,000
7	6,460	6,950	21,000	8,320	8,700	42,500	26,300	19,400	10,300	6,840	7,720	11,100
8	6,240	6,940	17,800	8,250	9,640	48,300	27,000	19,700	10,200	6,600	8,130	11,100
9	6,230	* 6,950	15,300	8,420	15,200	51,200	27,600	20,200	10,200	6,720	8,160	11,400
10	6,140	7,000	13,600	8,470	39,800	52,300	28,100	20,900	10,000	6,720	8,610	11,200
11	6,120	6,940	12,100	8,300	57,500	50,700	27,700	21,000	10,600	6,720	8,860	10,400
12	* 6,170	6,900	11,100	* 8,350	57,200	47,300	26,200	19,500	10,800	6,600	9,010	10,100
13	6,330	6,900	10,400	8,330	55,600	42,600	24,400	18,300	10,700	6,720	8,920	10,200
14	6,520	6,950	* 9,710	8,180	57,700	37,600	24,100	17,400	* 10,500	6,770	8,790	10,300
15	6,560	7,140	9,460	7,940	60,200	33,300	24,900	16,900	10,700	6,820	8,840	10,100
16	6,480	7,140	9,350	7,890	62,100	30,500	26,200	16,400	11,900	6,840	* 8,490	10,000
17	6,500	7,100	9,280	7,760	* 61,600	28,000	25,600	16,900	11,900	6,840	8,350	9,740
18	6,470	7,100	9,150	7,670	60,000	25,600	24,800	* 16,900	12,100	6,960	8,250	9,240
19	6,640	7,180	9,130	7,720	57,900	23,600	* 21,500	16,200	11,900	* 6,920	8,500	* 9,220
20	6,460	7,320	9,150	10,900	56,300	22,400	20,200	16,300	11,300	6,710	8,810	9,200
21	6,410	7,620	12,400	19,300	55,000	21,700	18,900	15,200	11,000	6,680	8,770	9,010
22	6,480	7,760	20,900	21,600	53,100	21,000	16,900	14,100	10,600	7,040	8,700	8,880
23	6,540	7,940	21,900	17,400	50,300	* 22,600	15,900	13,800	10,300	7,080	8,570	9,010
24	6,590	8,100	17,700	13,600	46,300	22,600	16,400	14,600	8,750	6,940	8,540	8,950
25	6,700	8,100	14,300	11,200	42,200	22,100	17,100	14,300	7,720	7,220	8,610	8,810
26	6,800	8,750	12,000	10,100	38,200	21,100	17,300	13,500	7,460	7,360	8,930	8,470
27	6,920	12,000	10,600	9,490	34,500	20,500	16,300	13,400	8,080	6,950	9,080	8,000
28	7,020	14,000	9,730	8,930	31,600	20,800	16,400	13,300	8,560	6,860	9,170	7,900
29	7,080	12,900	9,170	8,570	-	21,200	19,300	13,600	7,910	7,190	9,280	7,800
30	7,180	12,000	9,290	8,330	-----	21,500	18,400	14,800	7,380	7,260	9,260	7,700
31	7,240	-----	9,190	8,350	-----	21,900	-----	15,200	-----	7,180	9,280	-----
Total	205,240	240,880	463,910	303,690	1,061,020	966,500	670,500	511,500	323,260	216,280	262,400	286,970
Mean	6,621	8,029	14,960	9,796	37,890	31,180	22,350	16,500	10,780	6,977	8,465	9,566
Max	7,400	14,000	32,100	21,600	62,100	52,300	28,100	21,000	15,100	7,380	9,280	11,400
Min	6,120	6,900	9,130	7,670	8,160	20,500	15,900	13,300	7,380	6,600	7,220	7,700
Ac-ft	407,100	477,800	920,200	602,400	2,105,000	1,917,000	1,330,000	1,015,000	641,200	429,000	520,500	569,200
Calendar year 1961:	Max 48,100	Min 6,120	Mean 13,960	Ac-ft 10,110,000								
Water year 1961-62:	Max 62,100	Min 6,120	Mean 15,100	Ac-ft 10,930,000								

* Discharge measurement made on this day.

Note.--Stage-discharge relation indefinite Sept. 7-18, 20-22.

SACRAMENTO RIVER BASIN

11-4260. Sacramento Weir Spill to Yolo Bypass, near Sacramento, Calif.
(Formerly published as Sacramento weir near Sacramento)

Location.--Lat 38°36'25", long 121°33'15", on left bank of Sacramento River opposite center of Sacramento weir, 3.2 miles upstream from American River, 4 miles northwest of Sacramento, and at mile 4.2 upstream from Sacramento.

Records available.--October 1939 to September 1962. Published as "Sacramento weir near Sacramento" 1939-61. Monthly discharge only for water years 1940-51, published in WSP 1735. Gage-height records collected at same site February 1926 to September 1934 and major flood flows only October 1934 to September 1939 are contained in reports of California Department of Water Resources.

Gage.--Water-stage recorder and concrete weir crest. Gage is set to datum of Corps of Engineers. Prior to October 1942, water-stage recorder or staff gage at downstream end of weir at same datum.

Average discharge.--23 years, 204 cfs (147,700 acre-ft per year).

Extremes.--Maximum discharge during year, 543 cfs Feb. 16 (gage height, 27.49 ft); no flow most of year.
1926-62: Maximum discharge, 118,000 cfs Mar. 26, 1928; maximum gage height, 33.01 ft Dec. 23, 1955; no flow during all or most of each year.

Remarks.--Crest of weir is at elevation 25.0 ft and top of moveable gates at 31.0 ft. Weir consists of 48 gates each 38.1 ft long. Flow over weir enters Yolo bypass by way of Sacramento bypass. Flow regulated by weir gates.

Cooperation.--Records collected and prepared in cooperation with California Department of Water Resources.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0							
2					0							
3					0							
4					0							
5					0							
6					0							
7					0							
8					0							
9					0							
10					0							
11					69							
12					100							
13					80							
14					148							
15					419							
16					528							
17					521							
18					427							
19					298							
20					170							
21					60							
22					0							
23					0							
24					0							
25					0							
26					0							
27					0							
28					0							
29					-							
30												
31												
Total	0	0	0	0	2,748.0	0	0	0	0	0	0	0
Mean					98.1							
Max					528							
Min					0							
Ac-ft					5,450							
Calendar year 1961:	Max	0	Min	0	Mean	0	Ac-ft	0				
Water year 1961-62:	Max	528	Min	0	Mean	7.53	Ac-ft	5,450				

11-4261.1. Onion Creek tributary No. 3 near Soda Springs, Calif.

Location.--Lat 39°17'04", long 120°21'20", in E 1/4 sec. 1, T.16 N., R.14 E., 0.8 mile upstream from Onion Creek Campground and 3.0 miles southeast of Soda Springs.

Drainage area.--0.65 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder and 120° sharp-edged V-notch weir. Altitude of gage is 6,300 ft (from topographic map).

Extremes.--Maximum discharge during year, 12.8 cfs May 5 (gage height, 1.538 ft); minimum daily, 0.01 cfs Oct. 1-9.

1958-62: Maximum discharge, 10.7 cfs Apr. 9, 1960 (gage height, 1.430 ft); minimum daily, 0.01 cfs for many days in each year.

Remarks.--Records excellent except those for periods of doubtful or no gage-height record, which are fair. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield.

Cooperation.--Records of daily discharge furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.01	0.06	0.07	0.14	0.24	0.20	1.00	5.98	5.53	0.85	0.15	0.04
2	.01	.06	.06	.14	.26	.20	1.20	7.15	5.70	.80	.14	.03
3	.01	.05	.06	.14	.27	.19	1.48	8.36	5.38	.74	.14	.03
4	.01	.06	.06	.14	.28	.20	1.98	9.72	4.88	.70	.16	.03
5	.01	.06	.07	.14	.28	.20	2.52	10.2	4.38	.69	.16	.03
6	.01	.05	.07	.22	.28	.19	3.07	9.67	4.36	.61	.15	.03
7	.01	.05	.06	.24	.27	.19	3.56	10.3	4.12	.57	.14	.03
8	.01	.05	.06	.26	.26	.19	3.87	10.6	3.94	.54	.14	.02
9	.01	.05	.06	.25	.41	.20	4.54	10.5	3.82	.51	.18	.02
10	.02	.05	.06	.22	.40	.20	4.29	8.72	3.66	.49	.13	.02
11	.02	.05	.06	.20	.33	.20	4.51	7.73	3.44	.46	.12	.02
12	.02	.04	.06	.19	.30	.19	5.48	6.71	3.25	.54	.11	.02
13	.02	.04	.05	.17	.28	.20	6.52	5.89	3.07	.46	.09	.03
14	.02	.04	.05	.22	.27	.20	8.21	5.30	2.86	.41	.09	.03
15	.02	.04	.05	.19	.26	.20	8.53	4.85	2.66	.39	.08	.02
16	.02	.03	.05	.17	.25	.21	7.85	4.75	2.50	.36	.08	.02
17	.02	.03	.05	.16	.24	.20	7.77	5.16	2.33	.34	.07	.02
18	.02	.03	.06	.15	.24	.21	8.72	5.56	2.16	.32	.08	.02
19	.02	.04	.15	.15	.23	.22	7.63	5.21	2.02	.31	.08	.02
20	.12	.04	.39	.17	.22	.24	6.22	4.90	1.89	.29	.07	.02
21	.14	.04	.28	.17	.22	.23	6.33	4.97	1.77	.27	.06	.02
22	.06	.05	.18	.16	.22	.24	7.39	5.33	1.65	.26	.07	.02
23	.05	.05	.16	.16	.22	.24	8.73	5.30	1.53	.24	.06	.02
24	.04	.05	.16	.16	.22	.25	9.14	4.74	1.41	.23	.06	.02
25	.04	.06	.15	.16	.22	.30	7.86	4.30	1.31	.22	.05	.02
26	.06	.07	.14	.16	.20	.40	7.22	4.12	1.21	.21	.05	.02
27	.12	.06	.13	.16	.20	.50	6.64	4.19	1.13	.21	.05	.02
28	.10	.06	.14	.17	.20	.60	6.02	4.74	1.04	.20	.05	.03
29	.06	.06	.14	.18	-	.70	5.23	5.22	.97	.18	.04	.03
30	.06	.07	.14	.19	-----	.80	5.26	5.37	.91	.17	.04	.03
31	.06	-----	.14	.21	-----	.90	-----	5.38	-----	.16	.04	-----
Total	1.20	1.49	3.36	5.54	7.27	9.19	168.77	200.92	84.88	12.73	2.93	0.73
Mean	0.039	0.050	0.108	0.179	0.260	0.296	5.63	6.48	2.83	0.411	0.095	0.024
Max	0.14	0.07	0.39	0.26	0.41	0.90	9.14	10.6	5.70	0.85	0.18	0.04
Min	0.01	0.03	0.05	0.14	0.20	0.19	1.00	4.12	0.91	0.16	0.04	0.02
Ac-ft	2.4	3.0	6.7	11.0	14.4	18.2	335	399	168	25.2	5.8	1.4

Calendar year 1961: Max 4.48 Min 0.01 Mean 0.756 Ac-ft 548

Water year 1961-62: Max 0.6 Min 0.01 Mean 1.37 Ac-ft 990

Note.---Doubtful or no gage-height record Feb. 22 to Apr. 2, Aug. 31 to Sept. 3.

11-4261.2. Onion Creek tributary No. 5A near Soda Springs, Calif.

Location.--Lat 39°17'04", long 120°20'44", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.1, T.16 N., R.14 E., 1.1 miles upstream from Onion Creek Campground and 3.3 miles southeast of Soda Springs.

Drainage area.--0.39 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder and 120° sharp-edged V-notch weir. Altitude of gage is 6,520 ft (from topographic map).

Extremes.--Maximum discharge during year, 10.8 cfs May 4 (gage height, 1.43 $\frac{1}{2}$ ft); no flow Oct. 1-19, Sept. 11-30.
1958-62: Maximum discharge, 16.9 cfs Feb. 8, 1960 (gage height, 1.72 ft); no flow for many days in each year.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. No regulation or diversion. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield.

Cooperation.--Records of daily discharge furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.08	0.06	0.35	0.67	0.20	1.97	4.02	3.29	0.42	0.08	0.01
2	0	.10	.06	.41	.72	.19	2.16	5.25	3.39	.40	.07	.01
3	0	.13	.05	.42	.69	.18	2.75	6.16	2.93	.37	.07	.01
4	0	.09	.08	.37	.69	.18	3.48	7.06	2.39	.35	.08	.01
5	0	.06	.12	.39	.64	.19	3.72	6.78	2.30	.33	.08	.01
6	0	.05	.12	.59	.55	.18	4.29	5.69	2.48	.30	.08	.01
7	0	.05	.10	.64	.48	.18	4.44	5.94	2.24	.28	.07	.01
8	0	.05	.10	.64	.42	.18	4.93	6.18	2.30	.26	.07	0
9	0	.04	.09	.57	.44	.19	5.09	5.84	2.36	.25	.12	0
10	0	.03	.09	.45	.40	.18	4.46	4.27	2.13	.24	.07	0
11	0	.03	.08	.38	.37	.18	4.78	3.44	1.89	.23	.06	0
12	0	.02	.08	.35	.34	.17	5.87	2.93	1.78	.46	.06	0
13	0	.03	.07	.29	.32	.17	6.80	2.45	1.51	.24	.05	0
14	0	.02	.07	.26	.30	.18	7.40	2.15	1.22	.22	.05	0
15	0	.03	.07	.25	.29	.21	7.60	1.97	1.20	.20	.04	0
16	0	.02	.07	.23	.27	.20	6.20	1.97	1.32	.18	.04	0
17	0	.02	.07	.22	.26	.19	6.00	2.72	1.32	.18	.04	0
18	0	.02	.07	.20	.26	.21	6.71	3.20	1.35	.16	.03	0
19	0	.02	.75	.20	.25	.30	5.00	2.64	1.25	.15	.03	0
20	.7	.03	2.57	.20	.24	.32	3.84	2.26	1.00	.14	.04	0
21	.21	.03	.58	.18	.23	.27	4.33	2.74	.98	.13	.03	0
22	.02	.03	.43	.17	.23	.26	5.56	3.33	.89	.13	.03	0
23	.01	.03	.56	.17	.23	.25	6.29	2.81	.79	.12	.02	0
24	.01	.03	.54	.16	.22	.33	6.09	2.29	.70	.11	.02	0
25	.01	.03	.40	.15	.22	.56	4.71	1.96	.66	.11	.02	0
26	.01	.03	.32	.15	.21	.74	4.29	1.78	.60	.10	.02	0
27	.08	.04	.37	.21	.20	.94	3.69	1.97	.56	.22	.02	0
28	.08	.05	.37	.30	.20	1.05	2.90	2.57	.53	.12	.02	0
29	.03	.06	.40	.40	-	1.02	2.66	3.46	.49	.10	.02	0
30	.03	.06	.40	.53	-----	1.24	3.05	3.44	.46	.09	.01	0
31	.13	-----	.36	.59	-----	1.84	-----	3.24	-----	.08	.01	-----
Total	1.32	1.31	9.50	10.42	10.34	12.48	141.06	112.51	46.31	6.67	1.45	0.07
Mean	0.043	0.044	0.306	0.336	0.369	0.403	4.70	3.63	1.54	0.215	0.047	0.002
Max	0.70	0.13	2.57	0.64	0.72	1.84	7.60	7.06	3.39	0.46	0.12	0.01
Min	0	0.02	0.05	0.15	0.20	0.17	1.97	1.78	0.46	0.08	0.01	0
Ac-ft	2.6	2.6	18.8	20.7	20.5	24.8	280	223	91.9	13.2	2.9	0.1

Calendar year 1961: Max 6.20 Min 0 Mean 0.656 Ac-ft 474

Water year 1961-62: Max 7.60 Min 0 Mean 0.968 Ac-ft 701

Note.--No gage-height record Mar. 12-14, Apr. 13-17, Aug. 21 to Sept. 20.

11-4261.3. Onion Creek tributary No. 2 near Soda Springs, Calif.

Location.--Lat 39°16'34", long 120°21'57", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.2, T.16 N., R.14 E., 0.25 mile above junction with Onion Creek and 3.4 miles southeast of Soda Springs.

Drainage area.--0.48 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder and 120° sharp-edged V-notch weir. Altitude of gage is 6,160 ft (from topographic map).

Extremes.--Maximum discharge during year, 15.8 cfs Apr. 14 (gage height, 1.670 ft); no flow for many days.

1958-62: Maximum discharge, 27.9 cfs May 18, 1958 (gage height, 3.100 ft); no flow for many days in each year.

Remarks.--Records excellent. This station is operated in connection with studies to develop and test methods of managing forests and other lands for improved water yield.

Cooperation.--Records furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.01	0.08	0.26	0.25	1.97	5.40	3.11	0.19	0.02	0
2	0	0	.01	.08	.29	.26	2.12	7.20	2.96	.18	.02	0
3	0	0	.01	.08	.29	.25	2.56	7.88	2.62	.16	.02	0
4	0	0	.01	.08	.29	.25	3.37	8.81	2.22	.15	.02	0
5	0	0	.02	.08	.28	.25	4.06	8.79	1.95	.14	.02	0
6	0	0	.02	.09	.28	.25	4.85	7.79	1.80	.13	.02	0
7	0	0	.02	.12	.28	.24	5.36	8.02	1.64	.12	.02	0
8	0	0	.01	.16	.27	.25	5.76	8.07	1.48	.11	.02	0
9	0	0	.02	.16	.75	.26	6.68	7.72	1.35	.10	.02	0
10	0	0	.02	.14	.68	.26	6.08	5.91	1.22	.09	.02	0
11	0	0	.02	.11	.46	.25	6.25	4.94	1.10	.09	.01	0
12	0	0	.02	.11	.38	.25	7.68	4.15	1.00	.09	.01	0
13	0	0	.02	.09	.35	.25	8.90	3.60	.91	.09	.01	0
14	0	0	.02	.09	.33	.26	11.0	3.23	.91	.08	.01	0
15	0	0	.02	.08	.32	.27	11.0	2.97	.88	.07	.01	0
16	0	0	.02	.08	.30	.27	9.50	3.38	.79	.07	.01	0
17	0	0	.02	.08	.29	.27	8.99	3.62	.71	.06	.01	0
18	0	0	.02	.08	.28	.27	9.41	4.02	.63	.06	.01	0
19	0	0	.06	.08	.27	.31	7.64	3.80	.56	.05	.01	0
20	.01	.01	.14	.08	.27	.34	5.84	3.46	.51	.05	a.01	0
21	.01	.01	.18	.08	.26	.33	6.05	3.54	.47	.05	a.01	a.0
22	0	.01	.11	.08	.26	.34	7.33	3.90	.43	.04	a.01	a.0
23	0	.01	.09	.08	.26	.33	8.74	3.80	.39	.04	a.01	a.0
24	0	.01	.10	.08	.26	.34	8.96	3.12	.35	.04	a.01	a.0
25	0	.01	.10	.08	.25	.46	7.07	2.74	.32	.03	a.01	a.01
26	.01	.02	.08	.08	.25	.61	6.28	2.62	.29	.03	a.01	a.01
27	0	.01	.07	.09	.25	.80	5.94	2.79	.27	.04	a.0	a.01
28	.01	.01	.07	.10	.25	.96	5.53	3.18	.24	.03	a.0	a.01
29	.01	.01	.07	.12	-	1.13	4.45	3.56	.22	.03	a.0	a.02
30	.01	.01	.08	.16	-----	1.36	4.52	3.48	.21	.02	0	a.01
31	.01	-----	.08	.21	-----	1.59	-----	3.23	-----	.02	0	-----
Total	0.07	0.12	1.54	3.11	8.96	13.51	193.89	148.72	31.54	2.45	0.36	0.07
Mean	0.002	0.004	0.050	0.100	0.320	0.436	6.46	4.80	1.05	0.079	0.012	0.002
Max	0.03	0.02	0.18	0.21	0.75	1.59	11.0	8.81	3.11	0.19	0.02	0.02
Min	0	0	0.01	0.08	0.25	0.24	1.97	2.62	0.21	0.02	0	0
Ac-ft	0.1	0.2	3.1	6.2	17.8	26.8	385	295	62.6	4.9	0.7	0.1

Calendar year 1961: Max 4.95 Min 0 Mean 0.611 Ac-ft 442

Water year 1961-62: Max 11.0 Min 0 Mean 1.11 Ac-ft 802

a No gage-height record.

SACRAMENTO RIVER BASIN

11-4261.4. Onion Creek tributary No. 1 near Soda Springs, Calif.

Location.--Lat 39°16'30", long 120°21'58", in SE $\frac{1}{4}$ sec.2, T.16 N., R.14 E., 0.25 mile west of Onion Creek Campground and 3.4 miles southeast of Soda Springs.

Drainage area.--0.19 sq mi.

Records available.--October 1957 to September 1962.

Gage.--Water-stage recorder and 120° sharp-edged V-notch weir. Altitude of gage is 6,200 ft (from topographic map).

Extremes.--Maximum discharge during year, 4.17 cfs May 4, 5 (gage height, 0.979 ft); no flow for many days.

1957-62: Maximum discharge, 10.2 cfs May 24, 1958 (gage height, 1.40 ft, present datum); no flow for many days in 1959-62.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are good. No regulation or diversion. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield.

Cooperation.--Records of daily discharge furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.01	0.01	0.01	0.03	a 0.04	0.36	1.71	1.81	0.07	0.02	0.01
2	0	.01	.01	.01	.03	a .04	.38	2.32	1.85	.07	.01	.01
3	0	.01	.01	.01	.04	a .04	.47	2.84	1.64	.06	.01	.01
4	0	.01	.02	.01	.04	a .04	.61	3.31	1.29	.06	.02	.01
5	0	.01	.02	.01	.04	a .04	.76	3.42	1.14	.05	.02	.01
6	0	.01	a .02	.02	.04	.04	.88	3.10	1.11	.05	.01	.01
7	0	.01	a .02	.02	.04	.04	.98	3.21	1.05	.05	.01	.01
8	0	.01	a .01	.04	.04	.04	1.07	3.37	.96	.05	.01	.01
9	0	.01	a .01	.04	.18	.04	1.26	3.31	.92	.04	.02	0
10	0	.01	a .01	.03	.15	.04	1.15	2.49	.82	.04	.01	.01
11	0	.01	a .01	.03	.10	.04	1.14	1.95	.70	.04	.01	.01
12	.01	.01	a .01	.02	.08	.04	1.44	1.66	.62	.05	.01	.01
13	0	.01	a .01	.02	.07	.04	1.82	1.42	.55	.04	.01	.01
14	0	.01	a .01	b .02	b .06	.05	2.35	1.26	.51	.04	.01	.01
15	0	.01	a .01	b .02	b .06	.05	2.52	1.15	.48	.03	.01	0
16	0	.01	.01	b .01	b .05	.05	2.19	1.20	.43	.03	.01	0
17	0	.01	.01	b .01	.05	.05	2.16	1.33	.37	.03	.01	0
18	0	.01	.01	b .01	b .05	.05	2.46	1.64	.32	.03	.01	0
19	0	.01	.06	.01	.05	.05	2.20	1.64	.27	.03	.01	0
20	.02	.01	.11	.01	.05	.06	1.62	1.47	.24	.03	.01	0
21	.02	.01	.06	.01	.04	.06	1.60	1.52	.21	.02	a .01	0
22	.01	.01	.02	.01	.04	.06	2.00	1.77	.19	.02	a .01	0
23	.01	.01	.02	.01	.04	.06	2.62	1.82	.16	.02	a .01	0
24	.01	.01	.02	.01	.04	.06	2.87	1.43	.15	.02	a .01	0
25	0	.01	.02	.01	.04	.09	2.34	1.17	.13	.02	a .01	.01
26	.01	.02	.02	.01	.04	.12	1.90	1.08	.12	.02	a .01	.01
27	.04	.02	.01	.01	.04	.15	1.87	1.19	.10	.02	.01	.01
28	.02	.01	.01	.01	.04	.18	1.96	1.52	.09	.02	.01	.01
29	.01	.01	.01	.01	-	.22	1.49	1.86	.08	.02	.01	.02
30	.01	.01	.01	.01	-----	.26	1.42	1.88	.08	.02	.01	.02
31	.01	-----	.01	.02	-----	.30	-----	1.77	-----	.02	.01	-----
Total	0.20	0.32	0.60	0.48	1.57	2.44	47.89	60.81	18.39	1.11	0.35	0.21
Mean	0.006	.011	0.019	0.015	0.056	0.079	1.60	1.96	0.613	0.036	0.011	0.007
Max	0.04	0.02	0.11	0.04	0.18	0.30	2.87	3.42	1.85	0.07	0.02	0.02
Min	0	0.01	0.01	0.01	0.03	0.04	0.36	1.08	0.08	0.02	0.01	0
Ac-ft	0.4	0.6	1.2	1.0	3.1	4.8	95.0	121	36.5	2.2	0.7	0.4

Calendar year 1961: Max 1.55 Min 0 Mean 0.191 Ac-ft 138
 Water year 1961-62: Max 3.42 Min 0 Mean 0.368 Ac-ft 267

a No gage-height record.

b Stage-discharge relation affected by ice.

11-4261.5. Onion Creek near Soda Springs, Calif.

Location.--Lat 39°16'00", long 120°21'50", in SE 1/4 sec. 11, T. 16 N., R. 14 E., on right bank 0.3 mile upstream from unnamed tributary, 1 mile upstream from mouth, and 4.0 mile south of Soda Springs.

Drainage area.--3.58 sq mi.

Records available.--August 1959 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,900 ft (from topographic map).

Extremes.--Maximum discharge during year, 79 cfs Apr. 14 (gage height, 2.20 ft), from rating curve extended above 30 cfs; minimum, 0.1 cfs for many days in August and September.

1959-62: Maximum discharge, that of Apr. 14, 1962; minimum, 0.1 cfs on many days in each year.

Remarks.--Records excellent except those for periods of ice effect, which are fair. No regulation or diversion.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.30	0.2	1.7	12
1.35	0.5	1.8	18
1.40	1.0	1.9	28
1.45	1.7	2.0	42
1.5	2.8	2.1	59
1.6	6.3		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0.5	b 0.7	1.3	2.3	1.9	12	33	28	2.8	0.6	0.2
2	.2	*.4	.7	1.3	2.5	b1.8	13	38	28	2.5	.5	.2
3	.2	.5	.6	1.4	2.5	b1.7	15	45	26	2.3	.5	.2
4	*.2	.5	.6	1.3	2.5	1.7	19	52	24	2.3	.6	.2
5	.2	.5	.7	1.1	2.5	1.7	23	50	22	2.1	.6	.2
6	.2	.5	.8	1.6	2.3	1.7	26	49	22	2.1	.6	.2
7	.2	.6	.7	1.9	2.3	1.7	30	49	21	1.7	.5	.2
8	.3	.6	.7	2.3	2.3	1.7	31	50	20	1.7	.6	.2
9	.3	b .6	b .7	1.9	6.1	1.6	* 34	50	19	1.6	.7	.2
10	.3	.6	.7	1.7	5.4	1.6	30	42	18	1.6	.6	.2
11	.3	b .5	b .7	1.6	3.3	1.6	31	34	17	1.6	.5	.2
12	.3	b .5	b .6	1.6	2.8	1.6	38	30	16	1.9	.4	.2
13	.3	.5	.6	1.3	2.8	1.6	44	26	14	1.6	.4	.2
14	.3	.4	.6	b 1.1	b 2.6	1.6	54	23	13	1.4	.4	.2
15	.3	.4	*.6	b 1.0	b 2.4	1.6	54	21	12	1.3	.4	.2
16	.3	.4	.6	b 1.0	b 2.3	1.6	49	22	12	1.1	.3	.2
17	.3	1.2	.6	b 1.0	b 2.2	1.6	49	24	12	1.1	.3	.2
18	.3	.5	.6	b 1.0	2.1	1.7	50	25	12	1.0	.4	.2
19	.3	.5	1.6	1.0	2.1	1.9	44	25	10	1.0	.3	.2
20	1.9	.5	7.7	b 1.0	1.9	1.9	34	23	9.4	.9	.3	.2
21	1.5	.6	3.6	b 1.0	1.9	1.7	34	22	8.8	.9	*.4	.2
22	.4	.6	2.1	1.0	1.7	1.7	41	25	7.7	.8	.3	.2
23	.4	.5	1.9	.8	1.9	1.6	49	26	6.7	.8	.3	.2
24	.4	.5	2.1	*.9	b 1.8	1.7	50	24	6.3	.8	.2	.2
25	.4	.5	1.6	1.0	1.7	2.5	42	21	* 5.4	.7	.2	.2
26	.5	.6	1.3	1.0	1.7	3.9	38	20	5.0	.7	.2	.3
27	1.2	.7	1.4	1.1	b 1.7	4.6	35	19	4.3	1.0	.2	.2
28	.8	.6	1.4	1.4	1.9	5.4	34	* 24	3.6	.9	.2	.3
29	.5	b .6	1.4	1.6	-	6.3	27	27	3.6	.8	.2	.3
30	.4	b .6	1.3	1.9	-----	7.7	27	28	2.8	.7	.2	.3
31	.5	-----	1.3	2.1	-----	1.1	-----	28	-----	.6	.2	-----
Total	13.9	16.5	40.5	41.2	69.5	81.9	1,057	975	409.6	42.3	12.1	6.4
Mean	0.45	0.55	1.31	1.33	2.48	2.64	35.2	31.5	13.7	1.36	0.39	0.21
Max	1.9	1.2	7.7	2.3	6.1	11	54	52	28	2.8	0.7	0.3
Min	0.2	0.4	0.6	0.8	1.7	1.6	12	19	2.8	0.6	0.2	0.2
Ac-ft	28	33	80	82	138	162	2,100	1,930	812	84	24	13

Calendar year 1961: Max 27 Min 0.1 Mean 4.43 Ac-ft 3,210

Water year 1961-62: Max 54 Min 0.2 Mean 7.58 Ac-ft 5,490

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-14	1800 to 1900	2.20	79	5-4	1900 to 2000	2.14	67
4-23	1800 to 1900	2.11	61				

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

SACRAMENTO RIVER BASIN

11-4261.6. Onion Creek tributary No. 7 near Soda Springs, Calif.

Location.--Lat 39°15'58", long 120°21'19", in NE 1/4 sec. 12, T.16 N., R.14 E., 0.4 mile upstream from junction with Onion Creek, 0.6 mile southeast of Onion Creek Campground, and 4.1 miles southeast of Soda Springs.

Drainage area.--0.80 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder and 120° sharp-edged V-notch weir. Altitude of gage is 6,120 ft (from topographic map).

Extremes.--Maximum discharge during year, 19.3 cfs May 4, 5 (gage height, 1.810 ft); no flow for many days in October, August, and September.

1958-62: Maximum discharge, 19.8 cfs Feb. 8, 1960 (gage height, 1.83 ft); no flow at times in each year.

Remarks.--Records excellent except those for periods of no gage-height record, which are fair. No regulation or diversion. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield.

Cooperation.--Records of daily discharge furnished by U. S. Forest Service and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.04	0.11	0.14	0.24	0.19	1.09	6.32	10.4	0.93	0.08	
2	0	.04	.10	.15	.25	.19	1.16	8.79	11.3	.84	.08	
3	.01	.03	.10	.17	.24	.19	1.58	11.1	10.5	.77	.07	
4	.01	.04	.10	.16	.24	.19	2.15	13.5	8.28	.71	.08	
5	0	.03	.11	.16	.23	.20	2.52	13.7	7.55	.65	.10	
6	0	.03	.11	.21	.23	.20	3.09	12.2	7.73	.60	.08	
7	0	.03	.09	.26	.23	.19	3.50	12.9	7.39	.54	.08	
8	0	.03	.09	.29	.23	.19	3.83	14.0	7.09	.49	.07	
9	0	.03	.08	.25	.57	.20	4.67	14.5	7.08	.45	.12	
10	0	.03	.07	.21	.36	.19	4.19	10.2	6.45	.41	.08	
11	0	.03	.07	.19	.29	.19	4.54	8.02	5.70	.39	.06	
12	0	.03	.06	.19	.26	.18	5.81	6.68	5.27	.48	.05	
13	0	.04	.06	.17	.25	.18	7.07	5.37	4.40	.38	.04	
14	0	.04	.06	.24	.24	.19	9.18	4.74	3.96	.34	.03	
15	0	.04	.05	.17	.24	.20	9.46	4.15	3.78	.31	.03	
16	0	.05	.05	.15	.23	.18	8.41	4.15	3.51	.28	.02	
17	0	.05	.05	.16	.23	.18	8.30	5.64	3.39	.26	.03	
18	0	.05	.05	.15	.22	.18	9.29	6.73	3.33	.24	.03	
19	0	.06	.21	.15	.22	.20	7.80	6.54	3.16	.22	.03	
20	.07	.06	1.15	.15	.21	.21	5.36	5.66	2.88	.20	.02	
21	.18	.08	.34	.14	.21	.20	5.78	6.17	2.65	.18	.02	
22	.04	.09	.19	.14	.20	.20	7.89	8.05	2.38	.16	.01	
23	.03	.09	.22	.14	.20	.20	9.76	7.52	2.14	.15	.01	
24	.02	.09	.22	.14	.20	.22	10.2	6.01	1.87	.14	.01	
25	.02	.09	.16	.14	.20	.29	8.19	5.14	1.67	.13	.01	
26	.04	.12	.13	.14	.19	.38	7.01	4.58	1.50	.12	.01	
27	.14	.11	.15	.14	.19	.47	6.74	5.40	1.35	.21	.01	
28	.09	.09	.15	.15	.19	.55	5.84	6.90	1.22	.17	0	
29	.05	.09	.16	.18	-	.57	4.53	8.77	1.11	.13	0	
30	.04	.11	.16	.20	-----	.63	4.79	9.70	1.01	.11	0	
31	.03	-----	.15	.22	-----	.92	-----	9.66	-----	.10	0	-----
Total	0.77	1.74	4.80	5.45	6.79	8.45	173.73	252.79	140.05	11.09	1.26	0
Mean	0.025	0.058	0.155	0.176	0.242	0.273	5.79	8.15	4.67	0.358	0.041	0
Max	0.18	0.12	1.15	0.29	0.57	0.92	10.2	14.5	11.3	0.93	0.12	0
Min	0	0.03	0.05	0.14	0.19	0.18	1.09	4.15	1.01	0.10	0	0
Ac-ft	1.5	3.5	9.5	10.8	13.5	16.8	345	501	278	22.0	2.5	0
Calendar year 1961: Max	7.58	Min	0	Mean	0.959	Ac-ft	695					
Water year 1961-62: Max	14.5	Min	0	Mean	1.66	Ac-ft	1,204					

Note.--No gage-height record Nov. 6-20, Mar. 15, Aug. 22 to Sept. 7.

11-4262. North Fork Forbes Creek near Dutch Flat, Calif.

Location.--Lat 39°08'37", long 120°45'30", in SE $\frac{1}{4}$ sec.17, T.15 N., R.11 E., on right bank 0.2 mile downstream from Big Reservoir and 6.0 miles southeast of Dutch Flat.

Drainage area.--1.68 sq mi.

Records available.--July 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,980 ft (from topographic map).

Average discharge.--6 years, 3.35 cfs (2,430 acre-ft per year).

Extremes.--Maximum discharge during year, 91 cfs Feb. 14 (gage height, 3.64 ft), from rating curve extended above 35 cfs; minimum daily, 0.8 cfs Nov. 26-28, Dec. 4-16.

1956-62: Maximum discharge, that of Feb. 14, 1962; minimum daily, 0.8 cfs for many days in 1957, 1962.

Remarks.--Flow regulated by Big Reservoir.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-17

Oct. 18 to Sept. 30

1.5	0.7	1.5	0.8	2.0	6.2
1.6	1.2	1.6	1.4	2.5	19
		1.7	2.3	3.0	42
		1.8	3.3	3.6	86

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	1.0	* 1.1	0.9	1.2	13	24	4.0	1.4	1.4	1.3	1.4
2	1.1	1.0	1.0	.9	1.2	15	24	3.6	1.4	1.4	1.4	1.4
3	1.1	1.0	.9	.9	1.2	12	23	3.4	1.4	1.4	1.4	1.4
4	1.1	1.0	.8	.9	1.2	9.8	23	3.2	1.4	1.4	1.4	* 1.3
5	1.1	1.0	.8	* .9	1.1	10	23	3.1	1.4	1.4	1.5	1.4
6	1.1	1.0	.8	.9	1.2	18	23	2.9	1.4	1.4	1.5	1.4
7	1.1	1.0	.8	.9	1.5	15	22	* 2.1	1.4	1.4	* 1.4	1.4
8	1.1	1.0	.8	.9	1.5	13	21	1.7	1.4	1.4	1.4	1.3
9	1.0	1.0	.8	.9	3.2	12	20	1.7	1.4	1.4	1.4	1.3
10	1.0	1.0	.8	.9	3.9	12	18	1.7	1.4	1.4	1.4	1.3
11	1.0	1.0	.8	.9	7.6	12	16	1.7	1.4	1.4	1.4	1.3
12	1.0	1.0	.8	1.0	5.7	11	14	1.7	* 1.4	1.5	1.4	1.3
13	1.0	1.0	.8	1.0	6.3	10	13	1.7	1.4	1.4	1.4	1.3
14	1.0	1.0	.8	1.0	8.0	9.8	11	1.6	1.4	1.4	1.4	1.3
15	1.0	1.0	.8	1.0	7.9	9.7	11	1.6	1.4	1.4	1.4	1.3
16	* 1.0	1.0	.8	1.0	6.5	9.8	9.3	1.6	1.5	1.4	1.4	1.3
17	* 1.0	1.0	.9	1.0	5.2	9.7	7.3	1.6	1.4	* 1.4	1.4	1.3
18	1.0	.9	.9	1.0	4.0	9.6	7.6	1.6	1.4	1.5	1.4	1.3
19	1.0	.9	1.0	1.4	3.4	10	8.2	1.6	1.4	1.5	1.4	1.3
20	1.1	1.0	1.0	1.3	2.9	11	7.8	1.5	1.3	1.5	1.4	1.3
21	1.1	* .9	1.0	1.1	2.5	11	6.6	1.5	1.3	1.4	1.4	1.3
22	1.1	.9	.9	1.0	2.1	13	5.8	1.5	1.4	1.4	1.4	1.2
23	1.0	.9	.9	1.0	1.9	13	5.4	1.6	1.8	1.4	1.4	1.2
24	1.0	.9	.9	1.1	1.8	13	4.9	1.6	1.5	1.3	1.4	1.2
25	1.0	.9	.9	1.1	1.6	12	4.6	1.6	1.4	1.3	1.4	1.2
26	1.0	.8	.9	1.1	1.4	13	4.3	1.5	1.4	1.3	1.4	1.2
27	1.1	.8	.9	1.1	1.3	14	5.0	1.6	1.4	1.3	1.4	1.2
28	1.0	.8	.9	1.1	1.2	15	6.4	1.5	1.4	1.3	1.4	1.2
29	.9	1.0	.9	1.1	-	16	5.5	1.5	1.4	1.3	1.4	1.2
30	1.0	1.2	.9	* 1.1	-----	* 1.9	4.7	1.4	1.4	1.3	1.4	1.1
31	1.0	-----	.9	1.2	-----	2.0	-----	1.4	-----	1.3	1.4	-----
Total	32.1	28.9	27.2	31.6	765.3	391.4	379.4	60.3	42.4	43.0	43.5	38.6
Mean	1.04	0.96	0.88	1.02	27.3	12.6	12.6	1.95	1.41	1.39	1.40	1.29
Max	1.1	1.2	1.1	1.4	8.0	20	24	4.0	1.8	1.5	1.5	1.4
Min	0.9	0.8	0.8	0.9	1.1	9.6	4.3	1.4	1.3	1.3	1.3	1.1
Ac-ft	64	57	54	63	1,520	776	753	120	84	85	86	77

Calendar year 1961: Max 5.7 Min 0.8 Mean 1.67 Ac-ft 1,210

Water year 1961-62: Max 8.0 Min 0.8 Mean 5.16 Ac-ft 3,740

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-4264. North Shirltail Creek near Dutch Flat, Calif.

Location.--Lat 39°07'49", long 120°47'44", in SE $\frac{1}{4}$ sec.24, T.15 N., R.10 E., on right bank 200 ft downstream from Forbes Creek and 7.0 miles southeast of Dutch Flat.

Drainage area.--9.10 sq mi.

Records available.--July 1956 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

Average discharge.--6 years, 15.0 cfs (10,860 acre-ft per year).

Extremes.--Maximum discharge during year, 495 cfs Feb. 10 (gage height, 4.45 ft), from rating curve extended above 210 cfs; minimum daily, 0.3 cfs Oct. 3-6, 14-16.
1956-62: Maximum discharge, 561 cfs Feb. 8, 1960 (gage height, 4.87 ft), from rating curve extended above 170 cfs; minimum daily, 0.2 cfs many days in 1959-60.

Remarks.--Flow slightly regulated by Big Reservoir.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-16

Oct. 17 to Sept. 30

0.6 0.3
.7 .8

0.6 0.3
.7 .8
.8 1.6
.9 2.7
1.0 4.2
1.2 8.5
1.5 18

1.7 27
2.0 46
2.5 91
3.0 158
3.5 248
4.1 391

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.7	* 1.7	3.5	7.3	4.3	8.1	1.7	4.7	2.0	1.0	0.4
2	.4	.6	1.5	3.2	7.2	4.6	8.2	1.6	4.5	2.0	1.0	.4
3	.3	.6	9.2	3.2	6.8	3.8	8.0	1.5	4.3	1.9	1.0	.4
4	.3	.6	6.2	3.0	6.5	3.5	8.0	1.4	4.3	1.9	.9	* .5
5	.3	.5	4.3	* 3.0	6.1	4.6	8.1	1.3	4.0	2.0	1.0	.5
6	.3	.5	3.4	2.9	6.4	9.4	7.8	1.2	3.9	2.0	.9	.5
7	.4	.5	2.9	2.7	1.8	6.8	7.6	* 1.1	4.0	2.1	* .8	.5
8	.4	.5	2.6	2.5	4.0	6.0	7.1	9.8	3.6	2.1	.8	.5
9	.4	.5	2.3	2.4	* 2.1	5.7	6.7	8.9	3.8	2.1	.8	.5
10	.4	.5	2.2	2.2	3.7	5.2	6.0	7.3	3.6	2.0	.8	.5
11	.4	.4	1.8	2.2	2.3	4.7	5.4	7.2	2.9	2.1	.7	.5
12	.4	.4	1.9	2.4	1.7	4.3	4.9	7.0	* 2.8	2.3	.7	.5
13	.4	.4	1.9	2.2	2.6	4.1	4.3	7.1	2.9	2.4	.6	.4
14	.3	.4	1.8	2.2	2.9	4.1	3.8	7.2	3.1	2.3	.6	.4
15	.3	.4	1.8	2.2	3.3	4.2	3.4	7.2	3.4	2.2	.6	.5
16	* .3	.4	1.7	2.5	2.6	4.2	3.0	7.2	3.3	2.1	.7	.5
17	* .4	.4	2.7	2.0	1.8	4.2	2.6	6.5	3.1	* 1.9	.7	.4
18	.4	.4	3.3	2.2	1.4	4.5	2.4	6.3	2.9	1.8	.7	.5
19	.4	.4	8.1	1.7	1.1	5.0	2.8	6.2	2.6	1.7	.6	.5
20	.5	.8	1.5	4.0	1.0	5.6	2.6	6.0	2.3	1.8	.6	.5
21	.7	* .7	1.1	1.5	8.9	5.6	2.3	5.7	2.2	1.7	.6	.5
22	.6	1.0	8.3	1.0	7.9	6.4	2.1	5.5	2.2	1.7	.5	.5
23	.6	1.1	6.9	8.3	7.1	5.9	2.0	5.5	2.2	1.5	.5	.5
24	.6	.9	6.0	7.2	6.6	5.6	1.9	5.4	2.3	1.4	.5	.5
25	.5	1.1	5.5	6.8	5.9	5.8	1.9	5.5	2.1	1.4	.5	.5
26	.7	2.0	4.9	6.8	5.2	6.1	1.9	5.6	2.2	1.3	.5	.5
27	1.2	1.4	4.4	6.7	4.6	6.4	2.4	8.9	2.1	1.3	.4	.5
28	1.4	1.1	4.1	7.1	4.2	6.9	2.5	6.7	2.1	1.3	.4	.7
29	.8	3.1	3.9	7.3	-	7.3	2.0	5.8	2.1	1.3	.4	.7
30	.7	1.9	3.6	7.4	-----	* 7.7	1.9	5.3	2.1	1.2	.4	.7
31	.7	-----	3.5	7.4	-----	7.8	-----	5.0	-----	1.2	.4	-----
Total	15.9	41.3	167.2	193.5	3.322.3	1.70.3	1.31.7	256.8	91.6	56.0	20.6	15.0
Mean	0.51	1.38	5.39	6.24	119	54.9	43.9	8.28	3.05	1.81	0.66	0.50
Max	1.4	1.9	17	40	379	94	82	17	4.7	2.4	1.0	0.7
Min	0.3	0.4	1.7	2.0	6.1	35	19	5.0	2.1	1.2	0.4	0.4
Ac-ft	32	82	332	384	6,590	3,380	2,610	509	182	111	41	30

Calendar year 1961: Max 43 Min 0.3 Mean 6.52 Ac-ft 4,720

Water year 1961-62: Max 379 Min 0.3 Mean 19.7 Ac-ft 14,280

Peak discharge (base, 180 cfs).--Feb. 10 (0200) 495 cfs (4.45 ft).

* Discharge measurement made on this day.

11-4270. North Fork American River at North Fork Dam, Calif.

Location.--Lat 38°56'15", long 121°01'25", in SW¹/₄ sec.31, T.13 N., R.9 E., on left bank 50 ft upstream from spillway of North Fork Dam, 2 miles upstream from Middle Fork, and 4 miles northeast of Auburn.

Drainage area.--343 sq mi.

Records available.--October 1941 to September 1962.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 715.0 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--21 years, 788 cfs (570,500 acre-ft per year).

Extremes.--Maximum discharge during year, 12,500 cfs Feb. 10 (gage height, 5.40 ft); minimum, 20 cfs Oct. 7.

1941-62: Maximum discharge, 49,100 cfs Dec. 23, 1955 (gage height, 10.22 ft), from rating curve extended above 22,000 cfs on basis of computed flow over spillway of dam; no flow Aug. 27-30, Sept. 2-11, 1944, caused by operation of valves in North Fork Dam.

Remarks.--Records good. Flow regulated by Lake Clementine (capacity, 12,800 acre-ft) formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir (combined capacity, 10,300 acre-ft) above station. Lake Valley Canal diverts from North Fork of North Fork American River into Bear River basin for power development in Alta powerhouse of Pacific Gas and Electric Co. Combined storage and diversion have small effect on natural flow.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.2	25	2.0	1,570
.3	55	2.5	2,220
.4	93	3.0	3,080
.6	194	3.5	4,320
.8	325	4.0	6,000
1.2	665	5.0	10,400
1.6	1,080		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	43	*442	131	*213	732	1430	1340	1310	225	*61	37
2	*28	40	434	*126	219	1730	1500	1560	1380	206	61	37
3	28	43	338	121	225	1330	1510	1830	1420	194	61	37
4	28	40	200	121	219	981	1670	2080	1220	182	58	34
5	28	40	160	116	206	904	1870	2220	1070	176	61	34
6	28	40	141	111	213	2520	1940	2170	992	170	61	34
7	25	40	126	111	304	2120	2070	1910	1020	160	61	34
8	25	43	116	126	647	1520	2040	2060	981	150	61	34
9	28	43	106	141	4210	1280	2210	2080	970	141	65	34
10	31	40	101	150	9020	1100	2110	1940	1000	136	61	34
11	37	*40	93	141	*4180	981	1910	1410	959	131	61	34
12	37	40	89	131	2510	871	2000	1280	850	131	58	34
13	40	37	89	131	4510	800	2310	1070	790	141	55	34
14	37	37	89	116	5270	770	2550	959	694	131	52	34
15	34	37	93	106	6610	760	2840	871	611	121	52	34
16	34	37	89	101	4560	741	2480	882	602	116	46	34
17	28	34	89	101	3200	712	2210	937	620	106	46	34
18	28	34	106	106	2270	694	2200	1040	629	101	46	34
19	28	34	136	308	1800	732	2340	1150	611	97	46	34
20	31	50	397	1180	1540	800	1780	1050	593	93	43	31
21	34	58	593	426	1280	800	1540	937	539	89	43	31
22	40	55	408	270	1100	948	1630	1060	494	85	43	34
23	40	49	270	200	992	959	1980	1280	451	81	43	34
24	34	52	225	182	937	871	2110	1120	392	81	43	31
25	34	52	200	170	860	871	2040	904	348	77	40	31
26	37	61	182	165	780	937	1680	810	318	73	40	31
27	43	85	165	165	694	1010	1690	800	297	73	37	31
28	61	79	150	165	*665	1130	2480	937	270	69	37	34
29	81	74	145	176	-	1200	1610	1130	*250	69	37	34
30	55	303	136	188	-----	*1330	*1340	1260	231	69	*34	37
31	46	-----	131	194	-----	1320	-----	*1340	-----	65	37	-----
Total	1116	1660	6039	5976	59234	33454	59070	41417	21912	3739	1550	1014
Mean	36.0	55.3	195	193	2,116	1,079	1,969	1,336	730	121	50.0	33.8
Max	81	303	593	1,180	9,020	2,520	2,840	2,220	1,420	225	65	37
Min	25	34	89	101	206	694	1,340	800	231	65	34	31
Ac-ft	2,210	3,290	11,980	11,850	117,500	66,360	117,200	82,150	43,460	7,420	3,070	2,010

Calendar year 1961: Max 1,920 Min 22 Mean 320 Ac-ft 231,300

Water year 1961-62: Max 9,020 Min 25 Mean 647 Ac-ft 468,500

Peak discharge (base 4,300 cfs).--Feb. 10 (0500) 12,500 cfs (5.40 ft); Feb. 15 (1500) 7,410 cfs (4.41 ft).

* Discharge measurement made on this day.

11-4270. North Fork American River at North Fork Dam, Calif.--Continued

Records available.--Water temperatures: November 1959 to September 1962.

Extremes.--Maximum temperature during year, 77°F July 21, 22, July 24 to Aug. 3; minimum, 45°F Jan. 1 to Feb. 8, Mar. 1-5.
 1959-62: Maximum temperature, 80°F Aug. 10-14, 1961; minimum, 43°F Jan. 6-9, 1961.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	67	67	58	58	52	52	46	45	45	45	45	45	52	52	57	55	60	58	74	73	77	75	75	74
2	67	67	58	57	52	52	45	45	45	45	45	45	52	52	59	57	61	58	75	73	77	76	75	74
3	67	67	57	57	52	52	45	45	45	45	45	45	53	52	59	58	60	58	75	74	77	75	75	74
4	67	67	57	57	52	52	45	45	45	45	46	45	54	53	59	58	60	58	76	74	76	75	75	74
5	67	67	57	57	52	51	45	45	45	45	46	45	55	54	59	58	60	58	76	74	76	74	74	74
6	67	67	57	57	51	51	45	45	45	45	46	46	55	54	60	58	61	60	76	74	75	74	74	74
7	67	67	57	57	51	51	45	45	45	45	47	46	54	54	59	57	62	60	76	74	75	74	74	74
8	67	66	57	56	51	51	45	45	46	45	47	47	54	53	59	57	63	62	75	74	75	73	74	74
9	66	66	56	56	51	51	45	45	48	46	48	47	54	53	58	58	63	61	75	74	74	73	74	73
10	66	65	56	56	51	49	45	45	51	48	49	48	54	53	58	57	63	62	75	74	74	73	74	73
11	65	64	56	55	49	49	45	45	-	-	49	48	54	54	57	56	65	62	75	74	74	73	73	73
12	64	64	55	55	49	49	45	45	-	-	48	48	55	54	58	56	64	62	75	74	74	73	73	73
13	64	64	55	55	49	48	45	45	-	-	48	48	55	55	56	55	65	62	75	74	74	73	73	72
14	64	64	55	55	48	48	45	45	-	-	49	48	56	55	56	55	65	62	75	74	75	74	73	72
15	64	64	55	54	48	48	45	45	-	-	48	47	55	55	56	54	66	64	76	74	75	74	73	72
16	64	64	54	54	48	48	45	45	-	-	48	48	55	54	57	54	65	62	75	74	76	75	72	71
17	64	64	54	54	48	48	45	45	-	-	48	48	55	54	57	56	66	62	76	74	76	75	71	71
18	64	64	54	53	48	47	45	45	-	-	48	48	56	55	58	56	68	66	76	74	76	75	71	71
19	64	64	53	53	47	47	45	45	-	-	49	48	55	55	59	58	70	68	76	75	76	75	71	71
20	64	64	53	53	47	47	45	45	-	-	49	48	55	53	59	57	71	70	76	75	76	75	71	70
21	64	64	53	52	47	46	45	45	-	-	49	49	54	53	57	57	72	71	77	75	76	75	71	70
22	64	63	52	52	46	46	45	45	-	-	49	49	56	54	57	57	73	71	77	75	76	75	70	70
23	63	62	52	52	46	46	45	45	-	-	49	49	57	56	59	57	72	71	76	75	76	75	70	70
24	62	62	52	52	46	46	45	45	-	-	49	48	57	57	58	57	73	72	77	75	76	75	70	70
25	62	61	52	52	46	46	45	45	-	-	48	48	57	57	58	57	74	73	77	75	76	75	70	70
26	61	61	52	52	46	46	45	45	-	-	49	48	58	57	58	56	74	73	77	75	76	75	70	70
27	61	60	52	52	46	46	45	45	-	-	50	49	58	56	59	57	75	73	77	76	76	75	70	69
28	60	59	52	52	46	46	45	45	-	-	51	50	56	55	59	56	75	74	77	76	76	75	69	69
29	59	59	52	52	46	46	45	45	-	-	52	51	55	54	58	56	74	72	77	76	75	74	69	69
30	59	59	52	52	46	46	45	45	-	-	52	52	55	54	59	57	74	72	77	76	75	74	69	69
31	59	58	-	-	46	46	45	45	-	-	52	52	-	-	60	57	-	-	77	76	75	74	-	-
Avg	64	64	54	54	48	48	45	45	-	-	48	48	55	54	58	57	67	65	76	75	76	74	72	72

11-4275. Middle Fork American River at French Meadows, Calif.

Location.--Lat 39°06'43", long 120°28'00", in NE $\frac{1}{4}$ sec.36, T.15 N., R.13 E., on left bank at downstream end of French Meadows, 4.9 miles upstream from Chipmunk Creek, and 14 miles south of Cisco.

Drainage area.--46.7 sq mi.

Records available.--October 1951 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,050 ft (from Bureau of Reclamation reservoir map).

Average discharge.--11 years, 147 cfs (106,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,190 cfs Apr. 28 (gage height, 6.84 ft); minimum, 0.3 cfs Oct. 5, 6.

1951-62: Maximum discharge, 16,300 cfs Dec. 23, 1955 (gage height, 14.95 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement of peak flow; minimum, 0.3 cfs Oct. 4, 5, 21-25, 1950, Oct. 5, 6, 1961.

Remarks.--Records good. No storage or diversion above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 28				Apr. 28 to Sept. 30			
1.45	0.3	3.3	50	1.5	0.6	3.5	70
1.5	.5	3.6	75	1.6	1.2	4.0	121
1.6	.8	4.0	118	1.8	2.7	4.5	196
1.8	1.7	4.5	189	2.0	4.6	5.0	320
2.0	3.4	5.0	294	2.2	7.5	5.5	495
2.2	5.9	5.5	460	2.5	14	6.0	705
2.4	9.4	6.0	680	2.8	25	6.5	960
2.7	18	6.5	960	3.1	41		
3.0	32						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	3.5	12	15	22	b 38	184	515	495	73	6.1	2.6
2	.4	3.5	17	13	26	b 33	191	615	523	67	5.9	2.5
3	.4	3.5	14	14	29	32	217	710	491	60	5.6	2.3
4	.4	3.6	12	*13	28	37	272	810	410	56	5.6	2.2
5	.4	3.6	11	13	30	41	326	850	364	53	5.2	2.1
6	.4	3.6	10	14	32	48	374	790	360	48	5.0	2.1
7	.4	3.8	9.4	20	44	49	424	775	360	42	4.9	2.1
8	.4	3.8	9.0	25	54	46	440	820	344	37	4.7	2.1
9	.5	3.8	8.3	28	302	46	520	830	368	34	4.6	1.8
10	.5	3.8	8.3	24	368	46	484	678	368	30	4.4	1.8
11	.5	3.8	7.5	18	166	42	452	531	326	27	4.3	1.8
12	.5	3.8	7.3	16	119	40	562	463	305	32	4.3	1.7
13	* .5	3.8	7.5	14	104	* 39	685	378	270	28	* 4.1	1.6
14	.5	3.8	7.3	12	131	39	812	335	222	24	3.9	1.6
15	.5	3.7	7.2	13	135	39	834	290	200	21	3.9	1.7
16	.6	3.8	6.9	12	97	40	725	* 326	204	19	3.5	1.4
17	.6	* 3.8	7.2	12	80	38	685	* 332	211	17	3.8	1.3
18	.6	3.8	7.2	13	73	38	730	382	222	15	3.9	1.3
19	.6	3.8	8.1	13	66	40	665	396	230	* 14	3.6	1.3
20	.7	3.9	56	11	59	45	476	341	209	12	3.5	1.2
21	.7	3.7	75	9.9	51	46	460	335	196	11	3.4	1.2
22	.7	3.8	37	12	50	41	558	416	* 182	10	3.4	1.3
23	.7	3.7	27	13	52	40	* 685	448	160	9.4	3.3	1.1
24	.7	3.7	25	12	46	43	725	357	141	8.8	3.2	1.1
25	.8	3.9	22	12	39	50	626	296	126	8.3	3.2	1.1
26	.9	4.5	18	12	b 36	64	508	273	114	7.7	3.1	1.1
27	1.2	6.5	16	12	b 38	81	655	293	104	7.2	2.9	1.1
28	1.2	7.5	15	13	40	102	845	388	95	7.0	* 2.9	1.1
29	1.6	7.5	14	13	-	128	527	444	90	7.0	2.8	1.1
30	2.6	8.6	14	16	-----	147	463	483	82	6.7	2.7	1.0
31	3.2	-----	15	18	-----	152	-----	487	-----	6.4	2.5	-----
Total	24.2	127.9	511.2	455.9	2,317	1,710	16,110	15,387	7,772	7,985	124.2	47.7
Mean	0.78	4.26	16.5	14.7	82.8	55.2	537	496	259	25.8	4.01	1.59
Max	3.2	8.6	75	28	368	152	845	850	523	73	6.1	2.6
Min	0.4	3.5	6.9	9.9	22	32	184	273	82	6.4	2.5	1.0
Ac-ft	48	254	1,010	904	4,600	3,390	31,950	30,520	15,420	1,580	246	95
Calendar year 1961: Max	460	Min	0.4	Mean	69.1	Ac-ft	50,040					
Water year 1961-62: Max	850	Min	0.4	Mean	124	Ac-ft	90,020					

Peak discharge (base, 1,400 cfs).--No peak above base.

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER BASIN

11-4277. Duncan Creek near French Meadows, Calif.

Location.--Lat 39°08'10", long 122°28'39", in SW¼NW¼ sec.24, T.15 N., R.13 E., on right bank 0.5 mile downstream from Little Duncan Creek, 2 miles northwest of French Meadows, and 20 miles northeast of Foresthill.

Drainage area.--9.94 sq mi.

Records available.--August 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 5,280 ft (from topographic map).

Extremes.--Maximum discharge during year, 250 cfs Apr. 27 (gage height, 4.45 ft); minimum, 0.4 cfs Oct. 1-7, 8.
1960-62: Maximum discharge, 260 cfs Feb. 9, 1961 (gage height, 4.42 ft); minimum, 0.2 cfs Sept. 19, 20, 27, 28, 1960.

Remarks.--Records good except those for periods of ice effect, which are poor. No storage or diversion above station.

Rating table, except periods of ice effect (gage height, in feet,
and discharge, in cubic feet per second)

1.61	0.4	2.4	8.4
1.7	.5	2.6	15
1.8	.8	2.9	31
1.9	1.3	3.2	55
2.0	2.0	3.5	88
2.1	3.0	4.0	160
2.2	4.5	4.5	261

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	1.6	6.2	5.2	8.6	b 10	40	122	125	10	1.6	0.6
2	.4	1.4	5.3	5.0	8.9	b 12	44	141	132	9.4	1.6	.6
3	.4	1.4	3.8	5.2	8.6	b 10	51	160	126	8.9	1.5	.6
4	.4	1.3	3.8	* 5.0	8.6	11	63	183	108	8.1	1.6	.6
5	.4	1.3	4.2	4.6	8.6	11	74	196	94	7.7	1.8	.6
6	.4	1.2	4.0	5.9	9.7	12	84	185	93	7.2	1.7	.6
7	.4	1.2	3.7	7.2	12	10	92	* 186	91	7.0	1.6	.6
8	.5	1.1	3.2	8.4	16	10	100	190	89	6.4	1.6	.6
9	.5	1.1	3.1	7.9	b 108	10	111	192	91	6.1	2.0	.6
10	.5	1.1	2.6	7.0	76	9.7	105	160	86	5.7	1.6	.6
11	.6	1.2	2.6	6.2	39	9.4	107	135	77	5.5	1.4	.6
12	.7	1.1	2.5	6.2	29	8.9	111	112	72	6.2	1.3	.6
13	*.6	1.1	2.3	5.2	26	* 8.9	149	93	63	5.3	1.2	.6
14	.6	1.1	2.3	b 5.0	26	9.1	172	81	55	5.0	1.1	.6
15	.5	1.1	2.2	b 5.0	23	9.1	181	72	50	4.5	1.1	.6
16	.5	1.0	2.1	b 5.0	20	8.9	163	75	48	4.2	1.0	.6
17	.5	*.9	2.3	b 5.0	b 18	8.6	* 154	81	48	4.0	1.0	.6
18	.5	.9	2.3	5.0	16	9.1	167	91	46	* 3.7	.9	.5
19	.5	.9	b 16	4.5	15	11	154	94	43	3.5	.9	.5
20	4.9	1.3	b 55	4.8	13	12	122	87	38	3.2	.9	.6
21	4.7	1.2	25	4.6	13	10	114	89	34	3.1	.9	.6
22	1.3	2.6	11	4.3	12	11	129	102	* 30	2.8	.9	.6
23	1.1	3.2	8.6	4.3	13	10	* 150	107	26	2.6	.8	.6
24	1.0	2.3	8.1	4.3	12	10	162	93	22	2.5	.8	.5
25	1.0	2.9	7.2	4.6	b 11	13	150	80	20	2.3	.7	.5
26	2.5	6.4	5.9	5.3	b 10	16	136	73	18	2.2	.7	.6
27	11	4.3	5.7	5.5	b 10	19	159	78	16	2.0	*.7	.6
28	5.2	3.0	b 5.5	6.4	10	24	177	93	14	2.0	.7	.7
29	2.1	2.9	b 5.5	7.0	-	28	132	108	13	1.9	.7	.8
30	1.6	2.9	b 5.5	7.2	-----	32	116	118	12	1.8	.7	.7
31	1.4	-----	5.3	7.9	-----	35	-----	119	-----	1.6	.7	-----
Total	47.1	55.0	222.8	174.7	581.0	408.7	3669	3696	1780	146.4	35.7	18.0
Mean	1.52	1.83	7.19	5.64	20.8	13.2	122	119	59.3	4.72	1.15	0.60
Max	11	6.4	55	8.4	108	35	181	196	132	10	2.0	0.8
Min	0.4	0.9	2.1	4.3	8.6	8.6	40	72	12	1.6	0.7	0.5
Ac-ft	93	109	442	347	1,150	811	7,280	7,330	3,530	290	71	36

Calendar year 1961: Max 102 Min 0.3 Mean 15.9 Ac-ft 11,540
Water year 1961-62: Max 196 Min 0.4 Mean 29.7 Ac-ft 21,490

Peak discharge (base, 250 cfs, revised).--Apr. 27 (2300) 250 cfs (4.45 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

11-4280. Rubicon River at Rubicon Springs, near Meeks Bay, Calif.

Location.--Lat 39°01'10", long 120°14'46", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.31, T.14 N., R.16 E., on right bank 200 ft downstream from Rubicon Springs, 0.7 mile upstream from Miller Creek, and 7 miles west of Meeks Bay.

Drainage area.--31.4 sq mi.

Records available.--February 1910 to March 1914 (published as "at Rubicon Springs"), October 1956 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 6,052.97 ft above mean sea level, datum of 1929. Feb. 1, 1910, to Mar. 31, 1914, staff gage or water-stage recorder at site 0.4 mile downstream at different datum.

Average discharge.--9 years (1910-13, 1956-62), 105 cfs (76,020 acre-ft per year).

Extremes.--Maximum discharge during year, 960 cfs May 8 (gage height, 5.68 ft); minimum, 0.3 cfs Sept. 6-10, 23, 24, 25.

1910-14, 1956-62: Maximum discharge, 3,030 cfs May 18, 1957 (gage height 8.27 ft), from rating curve extended above 1,200 cfs; no flow at times in some years.

Flood of December 1955 reached a stage of 13.0 ft, from floodmarks, present site and datum (discharge unknown).

Remarks.--Records good. Low summer flow, beginning in 1950, augmented by release from streamflow maintenance dams on Lakes Clyde, Lois, Middle Velma, and Schmidell (total controlled capacity, 555 acre-ft).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.4	.3	2.6	58
1.5	.7	3.0	106
1.6	1.8	3.5	184
1.7	3.4	4.0	298
1.8	5.4	4.5	442
1.9	8.3	5.0	630
2.0	13	5.5	870
2.2	24		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	1.5	1.5	1.6	2.8	2.6	1.24	2.50	5.45	1.53	1.4	0.7
2	1.5	1.6	2.1	1.4	3.0	3.0	1.21	3.85	5.89	1.42	1.2	.6
3	1.5	1.6	2.1	1.5	3.0	3.3	1.36	4.91	5.28	1.33	9.1	.6
4	1.5	1.7	2.0	* 1.4	2.9	3.6	1.73	5.96	3.83	1.30	8.3	* .6
5	1.5	1.6	2.2	1.2	3.0	3.4	2.08	6.49	3.58	1.33	8.7	.4
6	1.5	1.2	2.2	1.4	3.0	3.7	2.33	5.63	4.07	1.23	7.6	.3
7	1.5	1.1	1.9	2.0	3.4	3.6	2.55	5.19	4.36	1.06	7.0	.3
8	1.4	1.2	1.8	2.8	3.2	3.1	2.80	6.70	4.50	.94	6.7	.3
9	1.2	1.2	1.6	2.9	2.41	3.0	3.49	6.26	5.12	.87	8.7	.3
10	1.3	1.1	1.4	2.4	1.84	2.8	3.08	4.39	5.33	7.5	9.5	.3
11	1.5	9.1	1.4	1.6	9.1	2.7	2.88	* 2.95	4.56	7.0	6.7	.4
12	1.8	7.9	1.4	1.6	6.6	2.7	3.38	2.55	4.20	7.2	5.4	.4
13	1.9	6.7	1.3	1.4	6.9	* 2.6	3.89	1.71	3.77	7.0	4.7	.6
14	1.9	5.9	1.3	1.2	6.4	2.5	5.05	1.55	2.80	6.4	3.9	.5
15	1.8	5.6	1.2	1.2	5.9	2.5	6.48	1.36	2.00	5.8	3.4	.4
16	1.7	5.9	1.2	9.5	5.3	2.5	4.98	1.63	2.72	5.3	3.0	.4
17	1.4	4.7	1.2	9.1	4.9	2.3	4.32	1.56	3.52	4.9	3.0	.5
18	1.4	4.7	1.3	9.5	5.5	2.3	4.42	2.13	3.86	4.7	2.9	.4
19	1.3	4.7	1.8	1.0	4.6	2.5	3.95	2.44	4.01	4.2	2.5	.4
20	1.28	5.4	2.74	1.0	3.8	2.9	2.26	2.02	3.77	4.0	2.2	.4
21	2.36	5.2	1.56	1.4	3.4	2.8	2.19	2.06	3.55	3.7	2.1	.4
22	3.0	7.3	6.7	1.4	3.1	2.7	3.40	3.36	3.27	3.5	1.8	.4
23	1.6	1.0	4.5	1.1	3.0	3.0	4.49	3.63	2.98	3.3	1.5	.3
24	1.1	9.5	4.0	1.1	3.0	3.0	5.05	2.28	2.60	2.8	1.4	.3
25	9.5	1.0	3.3	1.0	2.8	3.9	3.83	1.77	2.35	2.5	1.3	.4
26	1.0	1.4	2.7	1.2	2.8	5.5	2.88	1.45	* 2.13	2.4	1.2	2.2
27	* 2.8	1.4	2.3	1.2	2.8	7.9	3.74	1.53	2.04	2.3	1.1	2.9
28	4.6	1.0	2.0	1.5	2.7	8.6	2.80	3.41	1.90	2.2	.9	1.4
29	2.3	1.2	2.0	1.9	-	10.1	1.61	4.84	1.88	2.0	.8	1.0
30	1.4	1.0	1.8	1.9	-----	10.6	1.64	5.56	1.71	1.7	.7	.7
31	1.2	-----	1.6	2.4	-----	10.1	-----	5.41	-----	1.5	.7	-----
Total	593.0	300.6	1.048	465.1	1.494	1.258	9.511	10.708	10.703	2.020	142.8	18.8
Mean	19.1	10.0	33.8	15.0	53.4	40.6	317	345	357	65.2	4.61	0.63
Max	236	17	274	29	241	106	648	670	589	153	14	2.9
Min	1.2	4.7	12	9.1	27	23	121	136	171	15	0.7	0.3
Ac-ft	1,180	596	2,080	923	2,960	2,500	18,860	21,240	21,230	4,010	283	37
Calendar year 1961:	Max	441	Min	0.1	Mean	73.4	Ac-ft	53,120				
Water year 1961-62:	Max	670	Min	0.3	Mean	105	Ac-ft	75,900				

Peak discharge (base, 700 cfs).--Oct. 21 (0100) 720 cfs (5.20 ft); May 8 (2000) 960 cfs (5.68 ft).

* Discharge measurement made on this day.

11-4300. South Fork Rubicon River below Gerle Creek, near Georgetown, Calif.

Location.--Lat 38°57'15", long 120°24'00", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.22, T.13 N., R.14 E., on left bank 600 ft downstream from Gerle Creek and 18 miles east of Georgetown.

Drainage area.--47.6 sq mi.

Records available.--February 1910 to June 1914 (published as Little South Fork Rubicon River below Gerle Creek near Quintette), August 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,970 ft (from topographic map). Feb. 1, 1910 to June 21, 1914, at site about 700 ft downstream at different datum.

Extremes.--1961: Maximum discharge during period August to September, 11 cfs Sept. 16 (gage height, 1.67 ft); minimum, 4.3 cfs Sept. 27.

1961-62: Maximum discharge during water year, 1,170 cfs Apr.28 (gage height, 6.15 ft); minimum, 0.8 cfs Sept. 21.

1910-14, 1961-62: Maximum daily discharge, 1,450 cfs Dec. 31, 1913, at former site; minimum, that of Sept. 21, 1962.

Flood of December 1955 reached a stage of 11.0 ft, present site, from floodmarks.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Flow regulated, beginning 1884, by Loon Lake (Usable capacity 8,000 acre-ft). Prior to Dec. 3, 1961, water stored in Loon Lake was diverted out of the basin in Georgetown Divide ditch (see p.889).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.1	1.7	2.0	21	3.5	156
1.3	4.0	2.3	34	4.0	256
1.5	7.6	2.6	53	5.0	585
1.7	12	3.0	88	6.0	1,080

Discharge, in cubic feet per second, 1961

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	7	6.8	6	7	6.8	11	8	6.0	16	7.8	7.8	21	7.2	5.6
2	7	6.8	7	7	6.4	12	8	5.8	17	7.6	7.6	22	7.4	5.6
3	7	6.6	8	7	6.4	13	9	5.5	18	7.2	* 6.0	23	7.6	5.6
4	7	6.6	9	7	6.4	14	8	5.5	19	7.4	5.8	24	7.8	5.6
5	7	6.8	10	8	6.4	15	* 8	5.8	20	7.2	5.6	25	7.2	5.3
												31	7.0	-
Total													228.6	182.8
Mean													7.37	6.09
Max													9	7.8
Min													6.8	5.1
Runoff in acre-feet													453	363

Peak discharge (base, 800 cfs).--No peak above base.

* Discharge measurement made on this day.

Note.--No gage-height record Aug. 1-15.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.1	2.5	1.0	1.2	2.4	4.1	2.25	4.88	2.32	2.6	5.6	2.5
2	4.3	2.6	1.6	1.1	2.6	4.2	2.34	5.77	2.39	2.5	5.3	2.5
3	5.0	3.7	1.2	1.1	2.6	4.6	2.54	6.17	2.51	2.3	5.1	2.5
4	3.4	3.6	1.0	* 1.0	2.4	4.3	3.25	6.61	1.85	2.1	5.3	2.5
5	3.2	3.4	9	9.3	* 2.4	4.5	3.85	6.88	1.62	* 2.0	5.5	2.5
6	2.9	3.4	8	9.3	2.4	5.7	4.14	6.17	1.64	1.9	5.3	2.4
7	2.9	3.3	7	1.7	4.0	5.5	4.46	5.81	1.67	1.8	5.3	2.2
8	2.8	3.3	7	2.4	5.5	4.9	4.80	6.13	1.61	1.7	5.1	2.2
9	2.8	3.2	6	2.5	4.68	5.1	5.45	6.34	1.59	1.5	5.5	2.2
10	2.7	3.0	6	2.0	3.21	4.7	5.02	5.02	1.58	1.4	5.3	2.2
11	2.8	3.0	5	1.5	1.70	4.4	4.88	* 4.10	1.42	1.4	5.3	2.0
12	* 2.4	3.1	6	1.2	1.27	4.4	5.49	3.55	1.30	1.5	5.0	2.2
13	2.4	3.2	5	1.1	1.20	* 4.3	6.21	2.88	* 1.19	1.5	4.5	2.2
14	2.5	3.2	5	1.0	1.39	4.3	7.03	2.61	1.07	1.3	3.9	2.2
15	2.5	3.0	5	1.2	1.45	4.4	7.38	2.32	9.8	1.2	3.9	2.2
16	2.4	* 2.8	4	1.1	1.00	4.4	* 6.17	2.88	9.2	1.2	3.9	2.2
17	2.6	7.4	5	1.1	8.0	4.1	5.85	2.82	9.2	1.1	3.7	2.0
18	2.5	7.9	7	1.2	7.2	4.2	6.70	3.02	8.9	1.0	3.9	2.0
19	2.5	6.4	1.0	1.3	6.5	5.0	5.93	2.64	8.8	9.9	3.9	1.8
20	3.7	6.4	3.5	1.2	5.9	5.8	4.35	2.23	7.8	9.3	3.7	1.8
21	4.0	5.6	5.0	1.1	5.3	5.3	4.32	1.88	7.1	8.9	3.6	1.8
22	2.8	5.3	3.2	1.4	5.1	5.2	5.53	2.30	6.5	8.9	3.6	1.8
23	2.7	5.0	2.6	1.4	5.1	5.4	* 6.70	2.61	5.6	8.2	3.4	1.8
24	2.2	4.5	2.4	1.3	4.9	4.8	6.79	2.06	4.7	7.8	3.4	2.0
25	2.5	4.6	2.0	1.3	5.4	6.9	5.93	1.61	4.4	7.4	3.2	1.8
26	2.9	5.3	1.7	1.2	5.2	8.9	4.88	1.54	3.9	7.0	3.3	1.8
27	3.6	4.6	1.5	1.3	4.8	10.8	6.11	1.59	3.6	6.6	2.9	1.8
28	4.5	3.6	1.4	1.4	4.2	14.4	8.14	2.23	3.4	6.6	2.8	2.0
29	2.9	3.2	1.3	1.6	-	1.56	4.66	2.46	3.2	6.4	2.7	2.2
30	3.2	6.2	1.3	2.0	-----	1.86	4.24	2.56	2.9	6.0	* 2.7	2.2
31	2.5	-----	1.2	2.2	-----	1.88	-----	2.39	-----	5.8	2.6	-----
Total	95.2	126.3	41.4	429.6	2.509	2.076	1.5539	1.206	3.366	398.8	129.2	63.5
Mean	3.07	4.21	13.4	13.9	89.6	67.0	518	361	112	12.9	4.17	2.12
Max	5.1	7.9	50	25	468	188	814	688	251	26	5.6	2.5
Min	2.2	2.5	4	9.3	24	41	225	154	29	5.8	2.6	1.8
Ac-ft	189	251	821	852	4,980	4,120	30,820	22,230	6,680	791	256	126

Calendar year 1961: Max - Min - Mean - Ac-ft -

Water year 1961-62: Max 814 Min 1.8 Mean 99.6 Ac-ft 72,120

Peak discharge (base, 800 cfs).--Feb. 9 (1600) 916 cfs (5.71 ft); Apr. 28 (0200) 1,170 cfs (6.15 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 10-15, Dec. 1 to Jan. 4, Jan. 10 to Feb. 4.

11-4305. South Fork Rubicon River at mouth, near Georgetown, Calif.

Location.--Lat 38°58'05", long 120°27'55", in SE $\frac{1}{4}$ sec.13, T.13 N., R.13 E., on left bank 0.2 mile upstream from mouth, 0.4 mile downstream from South Creek, and 21 miles east of Georgetown.

Drainage area.--56.9 sq mi.

Records available.--November 1909 to December 1911 (published as Little South Fork Rubicon River at mouth near Quintette), July 1956 to September 1962 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 3,600 ft (from topographic map). Nov. 29, 1909, to Dec. 7, 1911, staff gage at site 30 ft downstream at different datum.

Average discharge.--6 years (1956-62), 120 cfs (86,900 acre-ft per year). The average discharge figures published in the 1961 Surface Water Records of Calif., Vol. 2, have been corrected to 120 cfs (86,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,400 cfs Apr. 28 (gage height, 5.33 ft); minimum, 1.8 cfs Sept. 22, 23.
1909-11, 1956-62: Maximum discharge, 2,940 cfs Feb. 24, 1958 (gage height, 7.83 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement at gage height 19.2 ft for flood of Dec. 23, 1955; minimum, 0.8 cfs Dec. 6, 1959.
Flood of Dec. 23, 1955, reached a stage of 19.2 ft, from floodmarks, present site and datum (discharge, 11,700 cfs from slope-area measurement of peak flow).

Remarks.--Records good. Flow regulated, beginning in 1884, by Loon Lake (usable capacity, 8,000 acre-ft) on Gerle Creek where most of stored water was diverted out of watershed in Georgetown Divide ditch (see p. 889). Georgetown Divide ditch was abandoned Dec. 3, 1961; no diversion thereafter.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.4	1.8	1.6	77
.5	3.7	2.0	131
.6	6.3	3.0	330
.8	14	4.0	680
1.0	26	5.0	1,190
1.3	47		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.2	4.0	2.2	1.5	3.0	5.6	2.46	5.60	2.67	3.6	6.6	3.0
2	6.9	3.7	2.6	1.4	3.3	5.2	2.76	6.56	2.70	3.4	6.3	2.7
3	6.6	4.0	1.8	1.4	3.4	5.6	2.95	6.96	2.66	3.1	6.0	2.5
4	6.6	4.7	1.5	* 1.3	3.4	5.3	3.66	7.44	2.20	2.9	6.0	2.5
5	5.0	4.4	1.3	1.2	3.3	6.1	4.30	7.65	1.93	2.7	6.3	2.5
6	5.2	4.4	1.2	1.2	3.3	7.5	4.69	7.08	1.92	2.6	6.3	2.5
7	4.4	4.4	1.1	1.8	5.2	7.4	5.11	6.56	1.95	2.4	6.0	2.5
8	4.4	4.4	1.0	3.0	7.4	6.7	5.32	6.92	1.86	2.2	5.7	2.3
9	4.2	4.2	.9	3.4	5.12	6.9	6.12	7.08	1.86	2.1	6.3	2.3
10	4.2	4.2	.9	2.8	4.82	6.5	5.72	5.76	1.82	1.9	6.3	2.3
11	4.2	4.4	.8	2.1	2.42	6.1	* 5.50	* 4.69	1.62	1.8	6.0	2.3
12	4.2	4.7	.9	1.8	1.77	5.7	6.24	4.08	1.47	2.0	5.7	2.2
13	4.0	4.7	.8	1.4	2.05	* 5.7	7.00	3.33	1.36	2.0	5.4	2.2
14	3.7	4.7	.8	1.2	2.28	5.8	7.85	3.05	1.22	1.7	5.2	2.3
15	3.7	* 4.4	.8	1.5	2.62	5.9	8.15	2.78	1.12	1.6	4.7	2.3
16	3.7	4.7	.7	1.3	1.66	5.9	7.04	3.28	1.05	1.5	4.2	2.3
17	3.4	6.5	.8	1.4	1.25	5.7	6.52	3.20	1.03	1.4	4.2	2.2
18	3.4	1.6	.9	1.5	1.08	5.8	7.32	3.36	1.02	1.2	4.2	2.2
19	3.4	1.5	1.1	1.6	.97	6.5	6.80	3.02	* 1.01	1.2	4.4	2.0
20	4.7	1.3	6.0	1.6	.85	7.5	5.08	2.66	.93	1.1	4.4	2.0
21	6.9	1.8	8.0	1.3	7.7	6.9	5.28	2.28	.81	1.0	4.2	2.0
22	5.0	1.7	5.0	1.8	7.4	7.2	6.36	2.68	.76	1.0	4.0	2.0
23	4.4	1.2	4.0	1.8	7.3	7.0	7.44	2.98	.67	.94	4.0	1.9
24	4.2	.9.7	3.5	1.6	6.8	6.6	7.48	2.48	.60	.9.0	3.7	1.9
25	4.0	.9.0	3.0	1.6	5.9	8.4	6.64	1.99	.55	8.6	3.7	1.9
26	4.7	1.1	2.5	1.4	6.3	10.8	5.64	1.92	.51	8.3	3.7	1.9
27	6.0	.9.0	2.0	1.5	5.8	12.8	6.98	1.93	.46	8.0	3.7	1.9
28	7.6	7.2	1.8	1.7	5.8	17.1	9.48	2.62	.44	7.6	3.4	1.9
29	8.3	7.6	1.6	2.0	-	19.2	5.53	2.78	.41	7.6	* 3.2	2.0
30	4.2	1.7	1.6	2.4	-----	2.24	4.97	2.88	.38	7.2	3.0	2.2
31	4.2	-----	1.5	2.7	-----	2.34	-----	2.76	-----	6.6	3.0	-----
Total	152.6	238.0	62.6	54.2	354.2	2,652	17,639	12,836	3,898	51.63	149.8	66.7
Mean	4.92	7.93	20.2	17.5	126	85.5	588	414	130	16.7	4.83	2.22
Max	8.3	18	80	34	512	234	948	765	270	36	6.6	3.0
Min	3.4	3.7	.7	1.2	30	5.2	246	192	.38	6.6	3.0	1.9
Ac-ft	303	472	1,240	1,080	7,030	5,260	34,990	25,460	7,730	1,020	297	132

Calendar year 1961: Max 378 Min 3.4 Mean 53.3 Ac-ft 38,580
Water year 1961-62: Max 948 Min 1.9 Mean 117 Ac-ft 85,010

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1900	4.79	1,060	4-28	0200	5.33	1,400
4-14	2100	4.95	1,160				

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 3 to Jan. 3.

SACRAMENTO RIVER BASIN

11-4310. Rubicon River near Georgetown, Calif.

Location.--Lat 38°57'30", long 120°29'05", in SE $\frac{1}{4}$ sec.23, T.13 N., R.13 E., on left bank 1.3 miles downstream from South Fork and 20 miles east of Georgetown.

Drainage area.--198 sq mi.

Records available.--November 1909 to June 1914 (published as "near Quintette"), May 1943 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,350 ft (from topographic map). Nov. 21, 1909, to June 8, 1914, at site 0.4 mile upstream at different datum.

Average discharge.--22 years (1910-13, 1943-62), 562 cfs (406,900 acre-ft per year); median of yearly mean discharges, 500 cfs (362,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,750 cfs Apr. 28 (gage height, 8.66 ft); minimum, 3.5 cfs Sept. 23.

1943-62: Maximum discharge, 51,000 cfs Dec. 23, 1955 (gage height, 18.76 ft in gage well, 21.5 ft outside, from floodmarks), from rating curve extended above 11,000 cfs on basis of slope-area measurement at gage height 18.10 ft; minimum, 3.4 cfs Nov. 10-13, 1955.

Remarks.--Records good. Flow regulated, beginning in 1884, by Loon Lake (usable capacity, 8,000 acre-ft) on Gerle Creek. Low summer flows augmented by release from streamflow maintenance dams built in 1950-56 on eight small headwater lakes (total controlled capacity, 1,295 acre-ft). Stored water is diverted out of the watershed in Georgetown Divide ditch (see following page). Diversion ceased and ditch abandoned Dec. 3, 1961.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 25 to Feb. 5)

Oct. 1 to Apr. 27

Apr. 28 to Sept. 30

0.9	5.8	3.5	266	0.8	3.3	2.5	108
1.1	11	4.0	380	.9	4.9	3.0	178
1.3	18	5.0	730	1.0	7.0	4.0	380
1.6	30	6.0	1,230	1.2	13	5.0	715
2.0	54	8.0	3,000	1.4	20	6.0	1,220
2.5	104	8.5	3,560	1.7	35	8.0	3,000
3.0	176			2.0	56		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	2.7	9.0	8.0	1.37	2.24	9.00	1.530	1.800	3.55	3.2	7.3
2	1.3	2.6	1.41	7.6	1.57	2.14	9.20	1.960	1.920	3.19	3.0	7.0
3	1.4	2.8	9.6	7.4	1.66	2.35	9.80	2.330	1.880	2.95	2.8	6.3
4	1.3	2.8	6.8	* 7.2	1.55	2.26	1.190	2.630	1.480	2.74	2.6	6.1
5	1.1	2.8	6.4	6.8	1.55	2.46	1.500	2.850	1.260	2.72	2.5	5.7
6	1.0	2.7	6.0	6.6	1.60	3.68	1.630	2.700	1.300	2.56	2.5	5.7
7	9.8	2.6	5.6	1.02	2.98	3.10	1.770	2.450	1.400	2.26	2.4	5.5
8	9.5	2.4	5.0	1.33	3.89	2.82	1.820	2.720	1.350	2.02	2.3	5.1
9	9.2	2.3	4.6	1.60	2.040	2.90	2.120	2.860	1.420	1.84	2.4	4.9
10	8.9	2.3	4.5	1.36	1.750	2.62	1.990	2.290	1.520	1.64	2.5	4.7
11	9.2	2.3	3.7	1.05	9.15	2.48	1.820	*1.680	1.360	1.52	2.5	4.5
12	9.5	2.2	4.3	9.7	6.14	2.35	2.050	1.490	1.230	1.55	2.3	4.5
13	9.2	2.1	3.9	8.4	7.46	*2.30	2.390	1.120	1.140	1.67	2.0	4.3
14	8.9	2.0	3.8	6.6	8.34	2.35	2.700	9.75	9.65	1.38	1.8	4.5
15	8.6	* 1.9	3.7	7.4	9.55	2.35	3.030	8.72	7.60	1.27	1.6	4.5
16	8.6	1.8	3.5	6.9	6.06	2.32	2.690	9.95	7.86	1.13	1.4	4.5
17	8.0	1.8	3.7	6.4	4.70	2.32	2.390	9.75	9.05	1.03	1.4	4.3
18	8.0	2.5	4.3	6.6	4.04	2.39	2.530	1.170	9.55	9.5	1.3	4.2
19	7.8	2.6	4.9	7.4	3.65	2.80	2.430	1.250	*9.85	8.8	1.2	4.0
20	9.5	2.6	4.95	9.7	3.32	3.06	1.670	1.100	9.40	8.0	1.2	3.8
21	2.97	3.0	6.02	8.5	2.95	2.86	1.510	9.50	8.63	7.5	1.2	3.7
22	1.07	3.1	3.06	8.6	2.82	3.08	1.910	1.300	8.09	6.8	1.1	3.7
23	4.3	3.0	2.08	1.02	2.82	2.86	2.440	1.570	7.31	6.3	1.0	3.7
24	3.0	3.2	1.71	8.3	2.70	2.82	2.550	1.140	6.55	5.8	1.0	3.7
25	2.5	3.2	1.50	7.3	2.41	3.40	2.300	8.95	5.68	5.1	9.1	3.7
26	2.4	4.2	1.29	7.7	2.46	4.28	1.790	8.00	5.12	4.8	8.9	3.7
27	2.8	6.0	1.09	7.9	2.30	5.19	2.150	7.86	4.74	4.4	8.3	3.7
28	1.08	4.1	9.8	9.1	2.26	6.10	2.670	1.240	4.38	4.4	7.8	3.8
29	6.2	3.7	9.1	1.09	-	7.02	1.480	1.660	4.11	4.3	*7.8	4.5
30	3.9	7.2	8.8	1.15	-----	7.82	1.260	1.870	3.95	3.8	7.5	4.5
31	3.1	-----	8.5	1.26	-----	7.66	-----	1.840	-----	3.4	7.3	-----
Total	993.7	8.85	3.606	2.789	1.3720	10.438	58.580	49.998	31.212	4.331	5.28.7	140.1
Mean	32.1	29.5	116	90.0	490	337	1,953	1,613	1,040	140	17.1	4.67
Max	297	72	602	160	2,040	782	3,030	2,860	1,920	355	32	7.3
Min	7.8	1.8	3.5	6.4	1.37	2.14	900	786	395	34	7.3	3.7
Ac-ft	1,970	1,760	7,150	5,530	27,210	20,700	116,200	99,170	61,910	8,590	1,050	278

Calendar year 1961: Max 1,770 Min 7.8 Mean 288 Ac-ft 208,600
Water year 1961-62: Max 3,030 Min 3.7 Mean 486 Ac-ft 351,500

Peak discharge (base, 3,500 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2000	8.61	3,690	4-28	0300	8.66	3,750
4-14	2300	8.58	3,660	5-4	2400	8.48	3,540

11-4315. Georgetown Divide ditch above Pilot Creek, near Georgetown, Calif.

Location.--Lat 38°56'18", long 120°28'42", in SE $\frac{1}{4}$ sec.26, T.13 N., R.13 E., on left bank 0.7 mile northeast of Uncle Toms Cabin and 20 miles east of Georgetown.

Records available.--May 1910 to November 1913, May 1947 to December 1961 (discontinued). Irrigation seasons only prior to October 1949. Published as Little South Fork ditch at Sawmill, near Quintette 1910-13 and as Georgetown ditch above Pilot Creek near Georgetown 1947-54.

Gage.--Water-stage recorder and wooden control. Altitude of gage is 5,080 ft (from topographic map). Prior to June 10, 1949, staff gage at same site at different datum.

Average discharge.--12 years (1949-61), 6.57 cfs (4,760 acre-ft per year).

Extremes.--1947-61: Maximum daily discharge, 27 cfs Aug. 15-19, 1949, Sept. 30, 1950; no flow for several months in each year.

Remarks.--Records good. Ditch receives water from Loon Lake (capacity, 8,000 acre-ft) via Gerle Creek, Rubicon River basin, and at times from South Fork Rubicon River, and discharges into Pilot Creek. Flow is then diverted from Pilot Creek, about 8 miles downstream, for domestic and irrigation purposes in vicinity of Georgetown. Ditch abandoned Dec. 3, 1961.

Discharge, in cubic feet per second, for period October to December 1961

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	1.0	0.1									
2	1.3	9.9	0									
3	1.1	9.2	0									
4	7.9	9.4	0									
5	6.0	6.8	0									
6	6.0	6.1	0									
7	6.0	6.2	0									
8	6.7	6.1	0									
9	6.7	6.1	0									
10	6.8	7.6	0									
11	6.8	9.7	0									
12	6.9	9.9	0									
13	6.3	9.8	0									
14	6.2	* 9.8	* 0									
15	6.1	9.8	0									
16	5.8	9.7	0									
17	5.5	1.2	0									
18	5.7	8.0	0									
19	5.7	7.8	0									
20	6.7	4.8	0									
21	8.7	3.2	0									
22	7.5	4.3	0									
23	7.9	6.6	0									
24	8.1	8.0	0									
25	7.9	8.8	0									
26	8.5	9.0	0									
27	9.0	8.6	0									
28	1.0	5.2	0									
29	8.2	2.0	0									
30	7.9	.1	0									
31	9.1	-----	0									
Total	239.6	224.5	0.1									
Mean	7.73	7.48	0.003									
Max	15	12	0.1									
Min	5.5	0.1	0									
Ac-ft	475	445	0.2									

Calendar year 1961: Max 16 Min 0 Mean 6.92 Ac-ft 5,000
 Water year 1961-62: Max - Min - Mean - Ac-ft -

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

11-4318. Pilot Creek above Stumpy Meadows Reservoir, Calif.

Location.--Lat 38°53'41", long 120°34'02", in NE 1/4 sec. 18, T.12 N., R.13 E., on right bank 2.1 miles upstream from Stumpy Meadows dam, and 12.5 miles east of Georgetown.

Drainage area.--11.7 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,280 ft (from topographic map).

Extremes.--Maximum discharge during year, 205 cfs Feb. 10 (gage height, 4.07 ft), from rating curve extended above 90 cfs on basis of velocity-area studies; minimum, 2.7 cfs Sept. 9, 10.

1960-62: Maximum discharge, that of Feb. 10, 1962; minimum, that of Sept. 9-10, 1962.

Revisions.--The maximum discharge for the water year 1961 has been revised to 57 cfs Dec. 1, 1961 (gage height, 2.82 ft), superseding figure published in 1961 report Surface Water Records of Calif. (Vol. 2).

Remarks.--Records good except those for periods of ice effect, which are fair. Diversion into Pilot Creek from Georgetown Divide ditch (p. 889) ceased Dec. 3, 1961.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.8	2.6	2.5	31
1.9	4.3	2.7	47
2.1	10	3.0	72
2.3	18	3.7	153

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	1.3	1.6	4.3	4.6	1.8	4.1	4.3	1.4	8.2	4.6	3.0
2	1.6	1.2	1.6	4.3	* 4.8	b 1.6	4.5	4.3	1.3	7.9	4.3	3.0
3	1.6	1.1	1.1	4.3	4.8	b 1.8	5.0	4.3	1.3	7.9	4.3	3.0
4	1.4	1.1	7.9	* 4.3	4.8	1.7	5.6	4.3	1.3	7.6	4.6	3.0
5	1.0	1.1	6.7	4.0	4.8	1.8	* 6.3	4.1	1.3	7.3	4.8	3.0
6	1.0	1.1	5.9	4.0	5.4	2.3	6.9	3.9	1.2	7.3	4.8	3.0
7	1.0	1.1	5.4	4.3	1.4	1.9	7.4	3.7	1.2	7.0	4.6	3.0
8	1.0	1.1	4.8	4.8	2.8	1.8	7.9	* 3.4	1.1	7.0	4.6	2.8
9	1.1	1.1	b 4.6	4.8	12.9	* 1.8	8.3	3.3	1.1	6.7	4.8	2.8
10	1.1	1.1	b 3.5	4.6	14.3	1.7	8.1	3.1	1.1	6.7	4.6	3.0
11	* 1.1	1.3	b 5.1	4.3	7.9	1.6	7.9	2.8	1.1	6.7	4.0	2.8
12	1.1	1.3	4.8	4.3	5.7	1.6	8.0	2.7	1.0	9.3	3.8	3.0
13	1.1	1.3	4.3	b 4.3	10.6	1.6	* 8.4	2.6	1.0	7.9	3.6	3.2
14	1.0	* 1.3	* 4.0	b 4.0	14.0	1.6	8.8	2.5	1.1	7.3	3.4	3.2
15	1.0	1.2	3.8	b 4.6	15.3	1.6	8.8	2.4	1.1	7.0	3.4	3.2
16	9.6	1.2	4.3	4.8	10.4	1.5	8.0	2.4	1.1	6.7	3.3	3.0
17	9.3	1.1	4.8	5.1	7.5	1.5	7.3	2.2	1.1	* 6.5	3.3	3.0
18	9.3	1.0	5.1	4.6	6.0	1.5	7.2	2.1	1.0	6.5	3.3	2.8
19	9.3	1.1	5.6	1.1	5.1	1.6	7.0	2.0	9.6	6.2	3.3	2.8
20	1.1	1.2	8.2	3.1	4.3	1.8	6.1	2.0	* 9.3	6.2	3.3	3.0
21	1.4	8.4	8.7	8.4	3.7	1.7	5.7	1.8	9.3	6.2	3.2	3.2
22	1.2	8.2	7.0	6.2	3.2	1.9	5.5	1.8	9.0	5.9	3.2	3.0
23	1.2	1.1	6.2	5.4	2.9	1.8	5.5	1.8	8.7	5.6	3.2	3.0
24	1.1	1.2	5.6	5.1	2.6	1.8	5.3	1.7	8.7	5.6	3.2	3.0
25	1.1	1.3	5.4	4.8	2.4	1.8	4.9	1.7	8.7	5.4	3.0	3.0
26	1.2	1.5	5.4	4.6	2.2	2.0	4.5	1.8	8.4	5.4	3.0	3.0
27	1.4	1.4	4.8	4.3	b 1.9	2.2	5.1	1.8	8.4	5.4	3.0	3.2
28	1.7	1.1	4.8	4.3	1.9	2.5	7.0	1.8	8.4	5.1	3.0	3.3
29	1.4	9.0	4.6	4.3	-	2.8	5.3	1.6	8.2	4.8	3.0	3.4
30	1.3	1.3	4.3	4.6	-----	3.3	4.6	1.5	8.2	4.8	3.0	3.4
31	1.3	-----	4.3	4.6	-----	3.6	-----	1.4	-----	4.8	* 3.0	-----
Total	368.5	347.6	192.9	178.3	1419.2	595	1950	811	312.9	202.9	114.5	91.1
Mean	11.9	11.6	6.22	5.75	50.7	19.2	65.0	26.2	10.4	6.55	3.69	3.04
Max	17	15	16	31	143	36	88	43	14	8.2	4.8	3.4
Min	9.3	8.2	3.5	4.0	4.6	15	41	14	8.2	4.8	3.0	2.8
Ac-ft	731	689	383	354	2,810	1,180	3,870	1,610	621	402	227	181

Calendar year 1961: Max 39 Min 3.5 Mean 14.9 Ac-ft 10,810

Water year 1961-62: Max 143 Min 2.8 Mean 18.0 Ac-ft 13,060

Peak discharge (base, 100 cfs).--Feb. 10 (0300) 205 cfs (4.07 ft); Feb. 13 (1900) 177 cfs (3.88 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

11-4330.4. Pilot Creek below Mutton Canyon, near Georgetown, Calif.

Location.--Lat 38°55'25", long 120°38'27", in NE 1/4 NW 1/4, Sec. 4, T. 12 N., R. 12 E., 1/450 ft downstream from Mutton Canyon, 500 ft downstream from Georgetown Divide diversion dam, 2.5 miles downstream from Stumpy Meadows dam, and 10 miles east of Georgetown.

Drainage area.--21.1 sq mi.

Records available.--June 1961 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 3,760 ft (from topographic map).

Extremes.--1961: Maximum daily discharge during period June to September, 0.6 cfs June 29 to July 7, July 25-29; minimum daily, 0.3 cfs July 31.

1962: Maximum discharge during water year, 59 cfs Feb. 13, May 15 (gage heights, 2.83 ft), from rating curve extended above 12 cfs; minimum daily, 0.4 cfs for many days.

Remarks.--Records good. Flow regulated by Stumpy Meadows Reservoir (capacity, 20,000 acre-ft) completed in November 1961. Georgetown Irrigation District ditch (capacity, about 20 cfs) diverts water out of Pilot Creek, 500 ft above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.3	0.1	1.8	5.4
1.4	.5	2.0	10
1.5	1.2	2.2	17
1.6	2.2	2.4	26
1.7	3.6	2.7	47

Discharge, in cubic feet per second, 1961

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	-	0.6	0.4	0.4	11	-	0.5	0.5	0.4	21	-	0.5	0.5	0.4
2	-	.6	.4	.4	12	-	.5	.5	.4	22	-	.5	.5	.4
3	-	.6	.4	.4	13	-	.5	.5	.4	23	-	.5	.5	.4
4	-	.6	.4	.4	14	-	.5	.5	.4	24	-	.5	.5	.4
5	-	.6	.4	.4	15	-	.4	.5	.4	25	-	.6	.5	.4
6	-	*.6	.4	.4	16	-	.4	*.5	.4	26	-	.6	.5	.4
7	-	.6	.4	.4	17	-	*.4	.5	.4	27	-	.6	.5	.4
8	-	.5	.5	.4	18	-	.4	.5	.4	28	-	.6	.5	.5
9	-	.5	.5	.4	19	-	.4	.5	.4	29	0.6	.6	.5	.5
10	-	.5	.5	.4	20	-	.4	.5	.4	30	.6	.4	*.5	.4
										31	-	.3	.4	-
Total												15.8	14.7	12.2
Mean												0.51	0.47	0.41
Max.												0.6	0.5	0.5
Min.												0.3	0.4	0.4
Runoff in acre-feet												31	29	24

* Discharge measurement made on this day.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.4	0.9	0.5	* 0.5	8.4	5.8	2.0	1.6	0.7	0.8	0.6
2	.5	.4	1.0	.5	.5	9.3	6.1	1.9	1.3	.9	1.0	.6
3	.5	.4	.6	.5	.5	8.7	6.5	1.8	1.0	.9	.9	.6
4	.5	.4	.5	*.5	.5	8.2	7.0	1.6	.9	.9	1.0	.6
5	.5	.4	.5	.4	.5	9.8	* 7.2	1.8	.9	.9	1.0	.6
6	.5	.4	.5	.4	.6	13	8.2	1.6	.9	.9	.9	1.9
7	.5	.4	.4	.5	1.2	9.8	8.4	1.4	.9	.8	.9	3.3
8	.5	.4	.4	.5	1.4	9.5	9.5	* 1.4	.8	.9	.9	3.3
9	.4	.4	.4	.5	3.5	* 9.5	1.0	1.4	.8	.8	1.1	3.3
10	.4	.5	.4	.4	8.6	9.0	1.0	1.3	.9	.7	.9	3.3
11	*.4	.4	.4	.4	3.3	8.7	1.0	1.2	.9	.9	.9	3.3
12	.4	.4	.4	.5	5.4	8.4	1.1	1.2	.8	1.8	.9	3.3
13	.4	.4	*.4	.5	3.2	8.4	* 1.1	1.2	.8	1.1	.8	3.0
14	.4	*.4	.5	.4	2.9	8.2	1.1	1.1	.9	1.0	.8	2.8
15	.4	.4	.5	.4	4.2	8.4	1.0	6.5	.9	.9	.7	2.8
16	.4	.4	.5	.4	2.6	8.4	9.5	2.5	.9	.9	.6	2.8
17	.4	.4	.6	.4	2.0	8.4	8.7	1.6	.9	* 1.0	.6	2.6
18	.4	.4	.6	.5	1.7	8.4	7.9	1.6	1.0	1.2	.6	2.2
19	.4	.4	.6	1.0	1.5	8.7	8.7	1.4	.9	1.1	.6	1.9
20	.5	.4	.7	1.4	1.3	9.0	7.7	1.4	.7	1.1	.6	1.9
21	.5	.4	.6	.7	1.2	9.3	6.7	1.1	*.7	1.0	.6	1.9
22	.5	.4	.6	.6	1.1	9.8	6.3	1.0	.7	1.0	.6	1.9
23	.5	.4	.6	.6	1.0	6.0	4.3	.9	.7	1.0	.6	1.9
24	.5	.4	.5	.5	9.8	2.9	2.2	.9	.6	.9	.6	1.8
25	.5	.5	.5	.5	9.3	3.2	2.1	1.0	.7	.9	.6	1.8
26	.6	.5	.5	.5	8.7	3.2	2.1	1.9	.7	.9	.6	1.8
27	.6	.4	.5	.5	8.2	3.5	4.2	1.9	.6	.9	.6	1.9
28	.5	.4	.5	.5	8.4	3.8	5.2	1.6	.6	.8	*.6	2.0
29	.5	.6	.5	.5	-	4.1	2.2	1.2	.6	.7	.6	2.0
30	.4	1.6	.5	.5	-----	4.5	2.1	1.0	.6	.7	.6	2.2
31	.4	-----	.5	.5	-----	5.0	-----	1.3	-----	.7	.6	-----
Total	14.4	13.7	16.6	16.5	297.9	235.5	211.6	49.7	25.2	28.9	23.1	63.9
Mean	0.46	0.46	0.54	0.53	10.6	7.60	7.05	1.60	0.84	0.93	0.75	2.13
Max	0.6	1.6	1.0	1.4	42	13	11	6.5	1.6	1.2	1.1	3.3
Min	0.4	0.4	0.4	0.4	0.5	2.9	2.1	0.9	0.6	0.7	0.6	0.6
Ac-ft	29	27	33	33	591	467	420	99	50	57	46	127

Calendar year 1961: Max - Min - Mean - Ac-ft -
 Water year 1961-62: Max 42 Min 0.4 Mean 2.73 Ac-ft 1,980

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-4331. Long Canyon Creek near French Meadows, Calif.

Location.--Lat 39°01'16", long 120°30'53", in SE 1/4 sec. 34, T.14 N., R.13 E., on right bank 75 ft downstream from North Fork Long Canyon, 6 1/2 miles south of French Meadows, and 18 miles east of Foresthill.

Drainage area.--18.0 sq mi.

Records available.--August 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 4,100 ft (from topographic map).

Extremes.--Maximum discharge during year, 340 cfs Feb. 9 (gage height, 5.73 ft); minimum, 0.4 cfs Oct. 4-7.
1960-62: Maximum discharge, that of Feb. 9, 1962; minimum, 0.2 cfs Sept. 4, 5, 7, 1961.

Remarks.--Records good except those for period of ice effect, which are fair. No regulation or diversion above station.

Rating table, except periods of ice effect (gage height, in feet,
and discharge, in cubic feet per second)

1.8	0.4	3.2	16
1.9	.6	3.5	26
2.0	.9	4.0	54
2.2	1.8	4.5	102
2.4	3.1	5.0	180
2.6	5.1	5.5	282
2.9	9.6		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.8	8.2	3.7	9.4	b 22	94	108	36	6.4	1.6	0.6
2	.5	.8	9.1	3.6	9.8	b 25	98	106	36	5.8	1.5	.6
3	.5	.8	5.3	3.4	9.2	22	108	106	36	5.5	1.5	.6
4	.4	.8	3.4	* 3.3	8.5	20	130	106	33	5.0	1.5	.6
5	.4	.8	3.1	3.1	8.4	22	144	106	31	4.7	1.5	.5
6	.4	.8	2.7	3.1	8.9	30	157	100	30	4.3	1.5	.5
7	.4	.8	2.5	3.3	19	25	169	* 95	28	4.1	1.6	.5
8	.5	.8	2.2	3.9	29	24	173	94	26	3.8	1.6	.5
9	.5	.8	1.9	4.2	218	26	178	90	26	3.5	1.6	.5
10	.5	.8	1.8	3.8	204	24	162	82	25	3.3	1.5	.5
11	.6	.8	1.6	3.3	100	24	156	72	23	3.2	1.3	.5
12	.7	.8	1.6	3.3	64	22	167	66	21	3.9	1.2	.5
13	*.6	.8	1.5	2.8	126	*22	182	60	20	3.3	1.1	.5
14	.5	.8	1.5	2.8	172	22	193	56	20	3.1	1.1	.5
15	.5	.8	1.4	2.8	189	22	189	50	20	2.9	1.1	.5
16	.5	.8	1.4	2.6	96	22	169	51	18	2.7	1.0	.5
17	.5	*.8	1.8	2.7	65	22	159	47	17	2.6	.9	.5
18	.5	.8	1.9	2.6	51	23	* 162	46	16	* 2.5	.9	.5
19	.5	.9	4.5	3.1	44	26	154	44	15	2.4	.9	.5
20	.8	1.2	24	5.4	39	30	130	42	14	2.4	.9	.5
21	1.2	1.1	21	3.7	34	29	112	40	* 13	2.3	.8	.5
22	.8	1.3	12	b 3.0	32	32	126	40	12	2.2	.8	.5
23	.8	1.3	8.9	2.9	30	28	* 130	40	12	2.1	.8	.5
24	.7	1.0	7.9	2.9	28	28	127	39	11	2.0	.8	.5
25	.7	1.3	7.1	2.9	26	33	117	38	10	1.9	.8	.5
26	1.0	2.8	5.7	3.1	24	40	106	37	9.2	1.8	.7	.5
27	2.1	2.2	4.7	3.3	23	48	140	37	8.7	1.8	.7	.5
28	2.0	1.3	4.5	4.3	22	57	191	38	8.2	1.8	*.6	.5
29	1.0	1.8	4.2	6.0	-	68	128	36	7.4	1.6	.6	.6
30	.9	6.8	4.0	7.4	-----	78	112	36	6.8	1.6	.6	.6
31	.8	-----	3.8	8.7	-----	84	-----	36	-----	1.6	.6	-----
Total	22.3	37.4	165.2	115.0	1689.2	1000	4363	1944	589.3	96.1	33.6	15.6
Mean	0.72	1.25	5.33	3.71	60.3	32.3	145	62.7	19.6	3.10	1.08	0.52
Max	2.1	6.8	24	8.7	218	84	193	108	36	6.4	1.6	0.6
Min	0.4	0.8	1.4	2.6	8.4	20	94	36	6.8	1.6	0.6	0.5
Ac-ft	44	74	328	228	3,350	1,980	8,650	3,860	1,170	191	67	31
Calendar year 1961:	Max 78	Min 0.3	Mean 12.0	Ac-ft 8,710								
Water year 1961-62:	Max 218	Min 0.4	Mean 27.6	Ac-ft 19,970								

Peak discharge (base 150 cfs).

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	2200	5.73	340	4-27	2400	5.53	289
2-15	0100	5.31	240				

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER BASIN

893

11-4332. Rubicon River near Foresthill, Calif.

Location.--Lat 38°59'23", long 120°41'15", in NW 1/4 sec. 7, T.13 N., R.12 E., on right bank 150 ft downstream from Ralston Bridge, 400 ft downstream from Long Canyon Creek, and 7.3 miles southeast of Foresthill.

Drainage area.--312 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,362.20 ft (corrected) above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 4,390 cfs Feb. 9 (gage height, 11.18 ft); minimum daily, 10 cfs Sept. 20-27.

1958-62: Maximum discharge, 16,500 cfs Feb. 8, 1960 (gage height, 15.55 ft), from rating curve extended above 3,800 cfs on basis of slope-area measurement of peak flow; minimum daily, that of Sept. 20-27, 1962.

Remarks.--Records good except those for period of no gage-height record, which are fair. Some regulation by Loon Lake (see Remarks for Rubicon River near Georgetown, p. 888).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 21

Dec. 21 to Sept. 30

3.5	12	3.4	10	5.5	330
3.6	16	3.6	17	6.0	510
4.0	36	3.9	32	7.0	950
4.4	70	4.2	56	9.0	2,300
4.8	134	4.5	95	11.0	4,170
5.4	280	5.0	190		
6.0	485				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	36	132	89	* 142	365	1,210	1,830	1,920	390	46	17
2	20	32	188	84	159	482	1,240	2,270	2,010	348	44	16
3	19	32	145	80	167	421	1,290	2,630	2,030	318	41	16
4	19	34	96	79	163	382	1,580	2,940	1,650	294	39	16
5	19	34	75	76	161	435	1,840	3,140	1,390	285	38	16
6	18	34	73	74	163	930	2,040	3,040	1,420	264	38	16
7	17	32	69	80	288	742	2,180	2,710	1,510	240	37	17
8	16	31	64	122	466	594	2,210	* 2,960	1,470	215	36	17
9	16	30	58	156	2,370	* 578	2,560	3,120	1,540	195	37	17
10	16	30	55	144	3,010	498	2,480	2,670	1,630	181	37	16
11	16	31	51	124	1,580	466	2,220	1,960	1,490	163	38	15
12	16	30	47	102	1,020	404	2,430	1,770	1,350	169	36	14
13	17	28	* 52	100	1,480	393	2,780	1,380	1,280	178	33	14
14	16	28	50	76	1,850	390	3,060	1,210	1,100	156	31	14
15	16	26	49	71	2,390	400	3,400	1,080	855	142	28	14
16	16	* 26	47	72	1,570	396	3,120	1,150	860	131	26	13
17	15	25	49	68	1,040	379	2,780	1,170	995	118	24	13
18	15	26	57	74	814	379	2,870	1,290	1,050	110	23	12
19	15	31	62	138	702	428	2,940	1,450	1,090	106	23	11
20	16	41	364	281	638	482	2,100	1,310	1,080	* 96	23	10
21	167	41	753	124	538	460	1,840	1,080	* 975	89	22	10
22	170	41	393	89	490	582	2,160	1,420	920	82	21	10
23	65	42	235	95	470	526	2,770	1,770	832	77	20	10
24	43	40	185	100	452	490	2,920	1,350	751	72	20	10
25	34	43	161	90	393	546	2,710	1,070	654	67	19	10
26	32	50	142	90	379	646	2,070	955	590	62	19	10
27	33	62	122	90	330	760	2,360	910	534	57	18	10
28	66	58	110	94	344	880	3,180	1,320	498	54	* 17	11
29	94	56	100	112	-	975	1,890	1,760	460	53	17	12
30	62	133	96	124	-----	1,080	1,630	2,000	435	52	17	12
31	43	-----	92	129	-----	1,060	-----	1,980	-----	49	17	-----
Total	1,148	1,183	4,172	3,227	2,356	1,754	6,986	5,669	34,369	4,813	885	399
Mean	37.0	39.4	135	104	842	566	2,329	1,829	1,146	155	28.5	13.3
Max	170	133	753	281	3,010	1,080	3,400	3,140	2,030	390	46	17
Min	15	25	47	68	142	365	1,210	910	435	49	17	10
Ac-ft	2,280	2,350	8,280	6,400	46,750	34,810	138,600	112,500	68,170	9,550	1,760	791

Calendar year 1961: Max 1,950 Min 15 Mean 331 Ac-ft 239,700

Water year 1961-62: Max 3,400 Min 10 Mean 597 Ac-ft 432,200

Peak discharge (base, 4,000 cfs, revised).--Feb. 9 (2100 to 2300) 4,390 cfs (11.18 ft); Apr. 28 (0400) 4,100 cfs (10.93 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Sept. 10-30.

SACRAMENTO RIVER BASIN

11-4333. Middle Fork American River near Foresthill, Calif.

Location.--Lat 38°59'58", long 120°47'27", near center sec.6, T.13 N., R.11 E., on right bank 800 ft downstream from Josephine Canyon and 2 miles southeast of Foresthill.

Drainage area.--539 sq mi.

Records available.--October 1958 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 940 ft (from topographic map).

Extremes.--Maximum discharge during year, 11,350 cfs Feb. 10 (gage height, 14.70 ft), from rating curve extended above 4,400 cfs on basis of slope-area measurement at gage height 20.12 ft; minimum, 35 cfs Oct. 19, 20.
1958-1962: Maximum discharge, 39,000 cfs Feb. 8, 1960 (gage height, 20.12 ft), from rating curve extended above 4,400 cfs on basis of slope-area measurement of peak flow; minimum, that of Oct. 19, 20, 1961.

Remarks.--Records good. Small storage and diversions above station. See Remarks for Rubicon River near Georgetown, p. 888.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

4.8	32	7.0	463	11.0	3,900
5.2	67	7.5	690	12.0	5,400
5.5	103	8.0	1,000	13.0	7,200
6.0	183	9.0	1,770	13.5	8,200
6.5	298	10.0	2,700		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	78	352	172	274	822	2,430	2,940	2,600	580	98	48
2	43	72	432	165	304	1,260	2,510	3,500	2,760	528	93	46
3	42	71	346	158	318	1,040	2,620	4,040	2,770	493	89	46
4	40	72	215	156	315	894	3,070	4,560	2,330	463	89	45
5	39	72	174	151	307	1,000	3,570	4,940	2,000	444	90	45
6	39	71	160	145	315	2,080	3,830	4,790	2,000	422	89	44
7	38	70	150	146	513	1,710	4,150	4,190	2,070	388	88	44
8	37	69	140	200	919	1,340	4,180	4,520	2,020	349	85	46
9	37	66	129	244	4,990	1,240	4,680	4,790	2,080	315	86	46
10	38	64	120	246	7,720	1,100	4,490	4,140	2,190	295	* 90	45
11	39	66	117	217	* 3,700	1,020	4,040	3,000	2,040	268	88	45
12	42	66	* 103	187	2,390	912	4,420	2,700	1,800	290	83	44
13	42	61	110	187	3,760	864	5,130	2,220	1,770	295	78	45
14	41	60	104	153	4,930	846	5,690	1,990	1,530	271	74	44
15	38	59	102	134	5,750	852	6,280	1,770	1,260	239	69	44
16	* 38	58	99	142	3,870	852	5,660	1,840	1,240	221	65	43
17	37	57	106	134	2,540	834	4,970	1,870	1,360	204	63	42
18	36	57	134	143	2,050	828	5,080	2,020	1,420	192	61	42
19	35	62	156	345	1,660	900	5,210	2,200	1,460	181	60	41
20	38	88	567	689	1,490	1,020	* 3,690	2,060	1,440	170	59	40
21	135	95	1,120	297	1,260	958	3,200	1,700	* 1,310	162	58	40
22	273	86	664	200	1,130	1,240	3,550	2,100	1,240	153	57	41
23	126	94	430	192	1,070	1,150	4,470	2,520	1,150	145	56	40
24	86	91	342	196	1,030	1,080	4,740	2,110	1,040	137	55	38
25	70	91	298	179	912	1,130	4,520	1,700	918	129	53	38
26	67	117	264	178	852	1,270	3,450	1,540	846	122	52	38
27	94	137	230	178	774	1,470	3,870	1,500	780	118	51	38
28	134	122	206	185	786	1,720	5,760	1,920	726	111	50	40
29	174	129	192	208	-	1,970	3,380	2,420	668	107	48	42
30	120	362	183	234	-----	2,180	2,820	2,700	635	107	48	43
31	89	-----	176	251	-----	2,180	-----	2,700	-----	102	49	-----
Total	2,152	2,663	7,921	6,412	55,929	37,762	125,460	86,990	47,453	8,001	2,174	1,283
Mean	69.4	88.8	256	207	2,000	1,218	4,182	2,806	1,582	258	70.1	42.8
Max	273	362	1,120	689	7,720	2,180	6,280	4,940	2,770	580	98	48
Min	35	57	99	134	274	822	2,430	1,500	635	102	48	38
Ac-ft	4,270	5,280	15,710	12,720	110,900	74,900	248,800	172,500	94,120	15,870	4,310	2,540
Calendar year 1961: Max 3,150 Min 35 Mean 568 Ac-ft 411,600												
Water year 1961-62: Max 7,720 Min 35 Mean 1,053 Ac-ft 761,900												

Peak discharge (base, 6,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0200	14.70	11,350	4-28	0400-0500	13.20	7,600
2-13	2000	12.65	6,530	5-5	0200	12.42	6,120
4-15	0100	13.15	7,500				

* Discharge measurement made on this day.

11-4335. Middle Fork American River near Auburn, Calif.

Location.--Lat 38°55'05", long 121°00'20", in SE $\frac{1}{4}$ sec.6, T.12 N., R.9 E., on left bank 0.5 mile upstream from Mountain Quarry Co. plant, 1.9 miles upstream from mouth, and 3.5 miles northeast of Auburn.

Drainage area.--612 sq mi (revised).

Records available.--October 1911 to September 1962. Prior to October 1934, published as "near East Auburn."

Gage.--Water-stage recorder. Datum of gage is 568.5 ft above mean sea level (river-profile survey). Prior to December 1930, staff gages at site half a mile downstream at different datums.

Average discharge.--51 years, 1,342 cfs (971,600 acre-ft per year).

Extremes.--Maximum discharge during year, 14,000 cfs Feb. 10 (gage height, 15.27 ft); minimum, 36 cfs Oct. 10, 11, 18, 19, 20.

1911-62: Maximum discharge, 79,000 cfs Dec. 23, 1955 (gage height, 33.9 ft), from rating curve extended above 32,000 cfs on basis of one float measurement at 68,200 cfs; minimum, 20 cfs Sept. 6, 1931, Sept. 19, 1934.

Remarks.--Records good. Small storage and diversions above station. See Remarks for Rubicon River near Georgetown, p. 888.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 25-27, Nov. 1-20)

Oct. 1 to Apr. 28

Apr. 28 to Sept. 30

0.4	36	7.0	2,070	1.0	38	4.0	610
1.0	101	9.0	3,510	1.5	62	5.0	1,010
2.0	244	11.0	5,660	2.0	104	7.0	2,060
3.0	454	13.0	8,780	2.5	178	Note.--Same as preceding table above 7.0 ft.	
5.0	1,140	13.5	9,820	3.0	290		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	* 94	*4 38	181	* 271	954	2,420	2,980	2,630	596	*93	50
2	*46	89	409	* 174	294	2,110	2,540	3,400	2,740	550	90	50
3	44	84	414	167	314	1,520	2,600	3,970	2,800	512	88	51
4	42	84	264	161	316	1,180	2,950	4,340	2,430	480	85	48
5	41	86	202	158	308	2,060	3,380	4,780	2,080	448	87	44
6	40	86	176	153	312	2,910	3,600	4,760	2,010	428	88	43
7	39	84	164	148	399	2,460	3,890	4,090	2,100	400	87	43
8	38	84	153	175	828	1,850	3,860	4,340	2,070	361	85	42
9	37	83	140	225	4,090	1,600	4,200	4,700	2,080	324	87	43
10	36	82	131	260	9,650	1,370	4,260	4,270	2,200	301	* 86	43
11	37	81	127	233	* 4,280	1,240	3,820	3,120	2,110	274	86	43
12	38	81	118	206	2,750	1,120	4,040	2,790	1,890	272	83	42
13	40	81	118	199	4,240	1,040	4,680	2,370	1,800	287	80	42
14	40	77	117	178	5,560	999	5,170	2,100	1,570	282	77	43
15	39	76	114	141	6,400	988	5,830	1,870	1,280	242	73	43
16	38	76	111	146	4,750	984	5,490	1,870	1,190	222	70	43
17	37	75	114	141	3,490	973	4,810	1,960	1,300	204	67	42
18	37	74	130	144	2,540	946	4,800	2,040	1,380	188	64	41
19	36	74	161	325	2,070	992	5,100	2,250	1,440	174	63	40
20	37	92	321	992	1,840	1,090	* 3,790	2,170	1,430	164	62	40
21	40	110	1,020	431	1,500	1,110	3,270	1,840	* 1,300	154	61	39
22	241	104	771	274	1,300	1,330	3,450	2,080	1,190	143	60	40
23	171	98	477	207	1,190	1,320	4,310	2,520	1,100	134	59	40
24	110	104	365	218	1,160	1,240	4,650	2,270	1,000	129	58	39
25	89	102	314	204	1,060	1,220	4,500	1,820	884	123	56	39
26	80	113	280	195	984	1,340	3,550	1,600	815	116	54	38
27	82	132	250	193	897	1,540	3,600	1,550	751	110	51	38
28	108	143	222	193	* 870	1,770	5,590	1,870	704	105	49	39
29	176	135	204	207	-	2,010	3,560	2,410	662	101	47	41
30	141	292	192	238	-----	* 2,220	* 2,940	2,710	648	100	* 47	43
31	113	-----	186	254	-----	2,240	-----	* 2,710	-----	97	48	-----
Total	2,141	2,976	8,203	7,121	63,663	45,726	120,650	87,550	47,584	8,021	2,191	12,72
Mean	69.1	99.2	265	230	2,274	1,475	4,022	1,586	259	70.7	42.4	-----
Max	241	292	1,020	992	9,650	2,910	5,830	4,780	2,800	596	93	51
Min	36	74	111	141	271	946	2,420	1,550	648	97	47	38
Ac-ft	4,250	5,900	16,270	14,120	126,300	90,700	239,300	173,700	94,380	15,910	4,350	2,520

Calendar year 1961: Max 3,060 Min 36 Mean 575 Ac-ft 416,400
Water year 1961-62: Max 5,830 Min 36 Mean 1,088 Ac-ft 787,700

Peak discharge (base 6,500 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-10	0400	15.27	14,000	4-15	0500	11.75	6,610
2-13	2200	12.07	7,090				

SACRAMENTO RIVER BASIN

11-4345. Echo Lake conduit near Phillips, Calif.

Location.--Lat 38°49'52", long 120°02'12", in NW $\frac{1}{4}$ sec.6, T.11 N., R.18 E., on right bank in Berkeley Municipal Camp, 0.5 mile downstream from intake and 2.4 miles northeast of Phillips.

Records available.--August 1923 to November 1962 (diversion seasons only). Monthly discharge only for July 1933, published in WSP 1315-A. Published as Echo Lake flume near Vade prior to 1943 and as Echo Lake conduit near Vade for seasons 1944-53.

Gage.--Water-stage recorder. Altitude of gage is 7,420 ft (from topographic map). Prior to July 16, 1929, staff gage at site 0.4 mile upstream at different datum.

Extremes.--1923-62: Maximum daily discharge, 30 cfs Sept. 7, 8, 1962; no flow for most of each year.

Remarks.--Records good. No flow except during diversion season for which discharge is published. Conduit diverts from Echo Lake (capacity, 1,900 acre-ft) in Truckee River basin into basin of South Fork American River for power and irrigation.

Cooperation.--Water-stage-recorder graph and six discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, September to November 1962 .

Day								Sept.	Oct.	Nov.	
1								0	12	3.7	
2								0	12	3.5	
3								0	11	3.4	
4								18	* 9.9	3.3	
5								29	8.7	3.0	
6								* 28	7.9	2.8	
7								30	6.7	2.5	
8								30	6.4	2.2	
9								29	6.1	1.9	
10								28	4.6	1.7	
11								29	4.0	1.5	
12								* 29	3.3	1.1	
13								28	3.6	.4	
14								27	8.2	.1	
15								27	9.5	.1	
16								26	11	.1	
17								26	14	.1	
18								26	15	.1	
19								25	14	0	
20								25	14	0	
21								24	13	0	
22								23	12	0	
23								22	12	0	
24								21	11	0	
25								20	8.9	0	
26								19	7.5	0	
27								17	6.7	0	
28								16	5.8	0	
29								14	5.0	0	
30								13	4.5	0	
31									4.1		
Total								649	272.4	31.5	
Mean								21.6	8.79	1.05	
Max								30	15	3.7	
Min								0	3.3	0	
Ac-ft								1,290	540	62	

Calendar year 1961: Max Min Mean Ac-ft
 Water year 1961-62: Max Min Mean Ac-ft

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

897

11-4350. Pyramid Creek near Phillips, Calif.

Location.--Lat 38°50'55", long 120°07'40", in N $\frac{1}{2}$ sec. 32, T.12 N., R.17 E., on left bank 0.9 mile southeast of Lake Aloha dam, 1.6 miles east of Pyramid Peak, 3.4 miles northwest of Phillips, and 4.6 miles west of Echo Lake Resort.

Drainage area.--3.73 sq mi.

Records available.--September 1922 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1952, published as Medley Lakes Outlet near Wade and October 1952 to September 1955 as Medley Lakes Outlet near Phillips.

Gage.--Water-stage recorder. Altitude of gage is 8,050 ft (from topographic map).

Average discharge.--40 years, 17.5 cfs (12,670 acre-ft per year).

Extremes.--Maximum discharge during year, 104 cfs June 21 (gage height, 2.45 ft); minimum daily, 4.1 cfs Oct. 16-19.

1922-62: Maximum discharge, 388 cfs Dec. 8, 1950 (gage height, 4.80 ft), from rating curve extended above 130 cfs; no flow at times in some years.

Remarks.--Records good except those for periods of ice effect, which are fair, and those for period of no gage-height record, which are poor. Flow regulated by Lake Aloha (capacity, 5,000 acre-ft); contents, 306 acre-ft Sept. 30, 1961, and 1,000 acre-ft Sept. 30, 1962.

Cooperation.--Water-stage-recorder graph and three discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission Project.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	3.5	1.3	22
.8	5.2	1.8	51
1.0	9.6	2.4	100

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	5.4	6.4	6.2				8.1	33	36	28	26
2	14	5.2	6.4	6.2				10	33	27	24	26
3	14	5.2	6.0	6.0				11	32	33	27	26
4	14	5.4	5.8	5.4	a6		a9	14	35	40	27	26
5	14	5.4	5.6	5.4				16	30	41	27	26
6	14	5.4	5.6	5.2				15	31	40	27	26
7	14	5.4	5.6	5.2	a7			14	*31	40	27	26
8	14	5.4	5.6	5.4	a7			16	31	36	27	26
9	13	5.4	5.4	5.4			a10	16	33	34	27	25
10	13	5.4	5.4	5.2				13	34	*31	27	25
11	13	5.2	5.4	5.2				15	33	28	27	25
12	13	5.2	5.4	5.6				32	33	30	27	25
13	10	5.0	5.4	5.6		a7	a12	31	31	28	27	*27
14	5.6	4.8	5.4	5.6	a9		12	31	27	27	*27	31
15	4.4	5.0	5.4	5.6			13	30	28	26	26	31
16	4.1	5.2	5.4	5.6			12	30	31	26	26	31
17	4.1	5.2	5.4	5.6			11	29	32	25	27	30
18	4.1	5.0	5.4	5.6			11	30	36	24	27	30
19	4.1	5.0	b5.6	5.6			11	31	53	23	27	30
20	8.1	6.0	b5.6				8.6	30	73	22	27	29
21	11	5.4	b6.0				7.9	30	87	24	27	29
22	6.4	5.4	b6.2				8.9	34	94	28	27	29
23	5.6	5.4	6.4				b10	33	85	28	26	28
24	5.6	5.2	6.4				b11	31	81	30	26	28
25	5.6	5.2	6.2	a6.0	a8		10	30	73	30	26	28
26	5.8	5.2	6.2				8.9	29	68	30	26	28
27	7.0	5.2	6.2			a8	10	30	65	29	26	28
28	7.2	5.2	6.2				b9	35	61	29	26	28
29	6.0	6.0	6.2		-		7.6	39	49	28	26	27
30	5.4	6.8	6.2		-----		7.4	39	33	28	26	27
31	5.4	-----	6.2		-----		-----	36	-----	28	26	-----
Total	280.5	160.2	180.6	177.6	222	225	296.3	788.1	1396	929	824	827
Mean	9.05	5.34	5.82	5.73	7.9	7.3	9.88	25.4	46.5	30.0	26.6	27.6
Max	15	6.8	6.4	6.2	-	-	13	39	94	41	28	31
Min	4.1	4.8	5.4	5.2	-	-	7.4	8.1	27	22	24	25
Ac-ft	556	318	358	352	440	446	588	1560	2770	1840	1630	1640

Calendar year 1961: Max 49 Min - Mean 12.1 Ac-ft 8,730
 Water year 1961-62: Max 94 Min 4.1 Mean 17.3 Ac-ft 12,500

* Discharge measurement made on this day.

a No gage-height record.

b Stage-discharge relation affected by ice.

SACRAMENTO RIVER BASIN

11-4360. Silver Lake Outlet near Kirkwood, Calif.

Location.--Lat 38°40'17", long 120°07'18", in SW $\frac{1}{4}$ sec.32, T.10 N., R.17 E., on right bank 1,000 ft downstream from Silver Lake Dam and 3.5 miles southwest of Kirkwood.

Drainage area.--15.2 sq mi (revised).

Records available.--September 1922 to September 1962. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 7,200 ft (from topographic map).

Average discharge.--40 years, 33.0 cfs (23,890 acre-ft per year).

Extremes.--Maximum discharge during year, 268 cfs May 9 (gage height, 3.54 ft); minimum daily, 0.3 cfs Nov. 30 to Dec. 3.

1922-62: Maximum discharge, 676 cfs Nov. 21, 1950 (gage height, 6.03 ft), from rating curve extended above 200 cfs; no flow for many days in February, March 1948, Jan. 13, 14, 1954, Nov. 3, 1959, to Feb. 5, 1960.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow regulated by Silver Lake (capacity, 3,840 acre-ft at spillway level and 8,590 acre-ft with 11 ft of flashboards); contents in Silver Lake, 1,450 acre-ft Sept. 30, 1961, and 2,110 acre-ft Sept. 30, 1962. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation.

Cooperation.--Water-stage-recorder graph and nine discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.5	0.1	1.0	12
.6	.6	1.5	47
.7	1.6	2.0	91
.8	3.6	3.0	196
.9	7.2	4.0	332

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	6.5	0.3	2.6	4.7	7	14	97	93	38	3.0	2.6
2	26	6.1	.3	2.6	4.7	7	17	120	132	36	3.0	2.6
3	26	5.8	.3	2.6	4.7	7	18	159	158	24	3.0	2.6
4	24	5.0	.4	2.6	4.7	7	21	196	159	16	3.0	28
5	24	4.7	1.1	2.4	4.7	7	25	231	161	15	3.6	75
6	23	4.0	4.7	2.4	5.0	7	29	245	*162	11	5.4	81
7	24	4.0	7.2	2.6	5.0	8	32	237	169	4.3	5.4	*88
8	22	3.6	4.3	2.8	6.0	*8.5	35	252	175	2.8	4.7	91
9	25	*3.4	3.4	3.0	10	8.5	38	258	182	4.3	3.6	90
10	30	3.2	3.2	3.0	12	8	43	237	192	5.8	3.4	87
11	29	3.2	3.2	3.0	11	8	45	192	198	*4.7	3.4	83
12	25	2.4	2.8	3.0	11	8	49	165	194	4.3	3.4	*81
13	*22	1.3	2.6	3.0	11	7	53	131	188	4.3	3.4	80
14	20	1.4	2.4	3.0	11	7	56	108	135	3.4	3.4	78
15	17	1.3	2.4	3.0	11	7	59	90	77	3.2	*3.2	77
16	10	.5	2.2	3.0	11	7	63	82	55	4.0	3.4	73
17	.4	.4	2.2	2.0	10	7	66	68	33	6.1	3.6	70
18	4.9	.4	2.2	1.0	10	7	68	59	35	5.4	3.2	68
19	17	.4	2.4	.8	9.5	7	77	61	35	4.3	3.2	68
20	16	.4	2.6	.6	9.0	7	93	62	35	3.4	3.2	67
21	16	1.2	3.0	.8	8.5	7	101	62	36	2.8	2.4	65
22	14	1.5	3.2	1.0	8	9	116	63	32	2.2	1.2	62
23	7.4	1.5	3.2	1.5	8	8.5	151	64	29	2.8	2.0	62
24	.5	1.4	3.2	2.0	8	8.2	*175	63	31	3.6	2.8	60
25	.5	1.4	3.2	3.0	7	8.2	177	61	18	3.0	2.8	58
26	7.3	1.4	3.2	6.0	7	8.2	150	61	4.7	2.4	2.8	57
27	12	1.4	3.2	5.5	7	8.6	140	61	5.8	1.8	*2.8	56
28	11	1.4	3.0	5.0	7	8.6	129	61	8.6	1.4	2.8	55
29	11	.9	3.0	4.7	-	9.6	108	61	23	1.1	2.6	53
30	8.6	.3	3.0	4.7	-----	11	94	63	38	1.6	2.6	49
31	7.7	-----	2.8	4.7	-----	13	-----	68	-----	3.0	2.6	-----
Total	508.3	70.4	84.2	87.9	226.5	246.9	2,242	3,738	2,794.1	226.0	98.9	1,869.8
Mean	16.4	2.35	2.72	2.84	8.09	7.96	74.7	121	93.1	7.29	3.19	62.3
Max	30	6.5	7.2	6.0	12	13	177	258	198	38	5.4	91
Min	0.4	0.3	0.3	0.6	4.7	7	14	59	4.7	1.1	1.2	2.6
Ac-ft	1,010	140	167	174	449	490	4,450	7,410	5,540	448	196	3,710

Calendar year 1961: Max 136 Min 0.3 Mean 15.3 Ac-ft 11,090

Water year 1961-62: Max 258 Min 0.3 Mean 33.4 Ac-ft 24,180

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 16-19, 29, 30, Jan. 12-27, Feb. 7 to Mar. 23.

11-4370. Twin Lakes Outlet near Kirkwood, Calif.

Location.--Lat 38°42'29", long 120°03'00", in SW $\frac{1}{4}$ sec.18, T.10 N., R.18 E., on right bank 500 ft downstream from main dam and outlet gate of Twin Lakes and 1.3 miles east of Kirkwood.

Drainage area.--13.5 sq mi (revised).

Records available.--September 1922 to September 1962. Records for water year 1945 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder and concrete control for outlet, and staff gage with once-daily readings for spillway. Altitude of gage is 7,700 ft (from topographic map).

Average discharge.--40 years, 35.2 cfs (25,480 acre-ft per year), including flow over Twin Lakes spillway.

Extremes.--Maximum combined daily discharge during year for outlet and spillway, 258 cfs June 20, 21; minimum daily, 1.4 cfs Oct. 24, 25.

1922-62: Maximum combined daily discharge for outlet and spillway, 405 cfs Dec. 8, 1950; minimum daily, 0.1 cfs Mar. 25-31, 1944, Nov. 27, 28, 1956.

Remarks.--Records excellent. No diversion. Flow regulated by Twin Lakes (capacity, 19,750 acre-ft at spillway level, 21,580 acre-ft with 3 ft of flashboards), contents of which were 13,500 acre-ft on Sept. 30, 1961, and 13,200 acre-ft on Sept. 30, 1962. Flow over Twin Lakes spillway occurred June 14-24, and is included in table below.

Cooperation.--Water-stage-recorder graph and seven discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	14	32	22	7.9	3.4	9.2	3.1	3.4	93	81	125
2	28	46	32	22	5.1	11	9.2	3.4	3.4	84	85	125
3	32	71	32	22	5.1	22	9.2	3.8	3.1	80	88	125
4	32	71	32	22	4.1	22	9.2	3.8	3.1	79	88	57
5	38	71	32	22	3.4	17	5.8	4.1	3.4	79	88	3.8
6	42	71	32	22	3.4	3.1	3.1	4.1	* 3.4	79	87	3.4
7	42	71	32	22	3.4	3.8	3.1	4.1	3.1	77	85	*3.1
8	42	71	43	22	3.4	15	3.1	3.8	2.7	77	85	3.1
9	49	*72	53	13	3.8	22	3.1	3.4	2.7	65	85	3.1
10	52	76	53	3.4	3.4	28	3.1	3.4	2.7	59	85	3.1
11	45	76	52	7.1	3.4	33	3.1	3.4	2.7	* 61	85	3.1
12	39	76	52	17	3.4	33	3.4	3.1	3.8	46	90	*2.7
13	*39	75	52	17	3.4	33	3.4	3.1	9.6	34	59	3.1
14	39	66	52	37	3.4	33	3.4	3.1	11	34	102	3.1
15	39	66	47	65	3.4	32	3.4	3.1	10	34	*103	3.1
16	47	66	42	65	3.4	32	3.4	3.1	12	34	103	3.1
17	60	53	37	65	3.4	32	3.4	3.1	70	34	106	6.6
18	59	46	24	65	3.4	32	3.1	3.1	166	33	108	15
19	47	46	22	59	3.4	32	3.1	3.4	254	32	108	15
20	47	46	22	62	3.4	32	2.7	3.4	258	32	108	22
21	47	46	22	67	3.4	32	3.4	3.4	258	30	108	26
22	47	45	22	77	3.4	33	4.1	3.8	241	29	110	26
23	25	45	22	72	3.4	33	4.1	3.4	194	30	110	26
24	1.4	45	22	65	3.4	33	3.4	3.4	144	41	114	26
25	1.4	46	22	65	3.4	33	2.7	3.1	131	50	118	26
26	13	47	22	55	3.1	33	3.1	3.4	131	60	119	26
27	14	40	22	39	3.1	19	3.1	3.8	131	67	119	33
28	14	32	22	22	3.4	9.2	2.7	3.8	131	64	*119	37
29	14	32	22	14	-	9.2	2.7	3.8	116	66	119	37
30	14	32	22	14	-----	9.2	3.1	4.1	97	75	125	11
31	14	-----	22	14	-----	9.2	-----	3.4	-----	82	126	-----
Total	1,043.8	1,660	1,017	1,155.5	103.6	724.1	122.9	108.3	2,402.1	1,740	3,116	802.4
Mean	33.7	55.3	32.8	37.3	3.70	23.4	4.10	3.49	80.1	56.1	101	26.7
Max	60	76	53	77	7.9	33	9.2	4.1	258	93	126	125
Min	1.4	14	22	3.4	3.1	3.1	2.7	3.1	2.7	29	59	2.7
Ac-ft	2,070	3,290	2,020	2,290	205	1,440	244	215	4,760	3,450	6,180	1,590

Calendar year 1961: Max 76 Min 1.4 Mean 19.3 Ac-ft 13,940
 Water year 1961-62: Max 258 Min 1.4 Mean 38.3 Ac-ft 27,750

* Discharge measurement made on this day.

11-4395. South Fork American River near Kyburz, Calif.

Location.--Lat 38°45'49", long 120°19'39", in SW¼SW¼ sec.29, T.11 N., R.15 E., on right bank beside U. S. Highway 50, 0.8 mile downstream from Silver Fork of South Fork and 1.9 miles southwest of Kyburz.

Drainage area.--193 sq mi (revised).

Records available.--August to December 1907, October 1922 to September 1962. Prior to October 1956, records for river and El Dorado Canal published separately.

Gage.--Water-stage recorder. Altitude of gage is 3,840 ft (from topographic map).

Average discharge.--40 years (1922-62), 388 cfs (280,900 acre-ft per year) combined flow of South Fork American River near Kyburz and El Dorado Canal.

Extremes (river only).--Maximum discharge during year, 2,190 cfs May 8 (gage height, 5.23 ft); minimum daily, 2.6 cfs Mar. 7.

1907, 1922-62: Maximum discharge, 14,500 cfs Nov. 21, 1950 (gage height, 9.40 ft), from rating curve extended above 6,500 cfs on basis of contracted-opening measurement of peak flow; minimum daily, 0.3 cfs Nov. 9-11, 1928.

Remarks.--Records good except those for periods of ice effect, which are fair. Flow at low and medium stages greatly regulated by four reservoirs since beginning of record (total usable capacity, 37,100 acre-ft). Echo Lake conduit (see p. 896) imports up to 2,000 acre-ft each year from Truckee River basin. Records given herein, except extremes, include flow of El Dorado Canal, which diverts 0.5 mile above station, from left bank of South Fork American River in sec.29, T.11 N., R.15 E., for power and irrigation; water is returned to river 20 miles below station.

Cooperation.--Water-stage-recorder graph and 11 discharge measurements for river and water-stage-recorder graph and eight discharge measurements for canal furnished by the Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	54	78	68	81	108	416	1,050	1,260	478	171	169
2	97	53	82	68	77	105	430	1,260	1,380	446	170	168
3	102	100	69	68	75	112	471	1,480	1,320	404	171	167
4	102	110	65	66	71	119	582	1,630	1,130	383	175	161
5	98	109	65	65	73	142	706	1,780	1,090	374	178	157
6	105	106	65	65	71	156	747	1,750	1,120	355	178	160
7	105	105	61	75	94	125	842	* 1,710	1,180	324	172	167
8	98	104	62	85	107	119	872	1,870	* 1,170	313	169	169
9	94	103	76	88	511	126	1,010	1,870	1,250	* 298	177	169
10	116	107	78	* 73	432	133	* 1,000	1,600	1,270	269	172	166
11	118	108	82	52	260	137	957	1,260	1,210	247	166	164
12	100	105	82	56	189	138	1,120	1,180	1,160	293	164	162
13	92	103	84	58	204	137	1,260	919	1,090	252	* 148	* 160
14	90	96	87	57	* 220	* 138	1,380	821	917	225	160	162
15	83	89	80	98	261	138	1,580	755	763	209	168	160
16	68	89	73	100	204	136	1,440	785	778	194	167	155
17	75	81	71	105	173	134	1,360	740	778	184	171	151
18	78	70	64	105	155	135	1,400	833	917	185	171	154
19	82	69	61	106	144	145	* 1,330	887	1,040	176	169	157
20	87	75	195	98	138	152	999	785	1,060	170	169	154
21	128	71	169	110	127	146	958	736	1,040	162	168	162
22	105	* 76	117	114	123	154	1,140	893	1,000	154	165	161
23	90	78	100	* 122	124	152	1,410	975	896	153	165	157
24	56	75	91	125	121	150	1,540	809	791	151	166	155
25	29	74	88	118	116	176	1,420	710	706	162	170	153
26	* 26	82	82	112	121	215	1,170	667	633	165	169	153
27	37	79	76	94	114	251	1,250	658	599	169	168	148
28	83	63	70	90	115	268	1,310	851	575	180	168	155
29	65	65	73	72	-	310	949	975	543	164	167	152
30	59	72	74	69	-----	329	853	1,140	503	165	158	142
31	54	-----	69	73	-----	353	-----	1,230	-----	174	174	-----
Total	2,622	2,571	2,589	2,655	4,501	5,139	31,902	34,609	29,169	7,578	5,224	4,770
Mean	84.6	85.7	83.5	85.6	161	166	1,063	1,116	972	244	169	159
Max	128	110	195	125	511	353	1,580	1,870	1,380	478	178	169
Min	26	53	61	52	71	105	416	658	503	151	148	142
Ac-ft	5,200	5,100	5,140	5,270	8,930	10,190	63,280	68,650	57,860	15,030	10,360	9,460

Calendar year 1961: Max 889 Min 26 Mean 178 Ac-ft 129,000

Water year 1961-62: Max 1,870 Min 26 Mean 365 Ac-ft 264,500

Peak discharge (base, 2,000 cfs).--May 8 (2130) 2190 cfs (5.23 ft).

* Discharge measurement of river made on this day.

Note.--Stage-discharge relation affected by ice at river station Jan. 22-24, Feb. 27; at canal station Dec. 10-13, Jan. 15-19, 23, 24.

11-4400. Alder Creek near White Hall, Calif.

Location.--Lat 38°45'19", long 120°22'17", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.35, T.11 N., R.14 E., on right bank 0.9 mile upstream from mouth and 2.2 miles southeast of White Hall.

Drainage area.--22.1 sq mi (revised).

Records available.--October 1922 to September 1962 (include diversions by pipeline). Published as "near Whitehall" prior to October 1953.

Gage.--Water-stage recorder. Altitude of gage is 3,840 ft (from topographic map). Prior to July 23, 1924, staff gage at same site and datum.

Average discharge.--40 years, 36.1 cfs (26,140 acre-ft per year), including diversions by pipeline.

Extremes (creek only).--Maximum discharge during year, 535 cfs Feb. 9 (gage height, 3.50 ft); no flow many days.
1922-62: Maximum discharge, 5,500 cfs Dec. 23, 1955 (gage height, 8.40 ft, from floodmarks), from rating curve extended above 500 cfs; no flow at times in several years.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Records, except extremes, include computed flow in feeder pipeline that is diverted 1,300 ft (revised) above station into El Dorado Canal Oct. 1 to June 14.

Cooperation.--Water-stage-recorder graph, 10 discharge measurements on Alder Creek, and readings of head on diversion dam and valve opening to feeder pipeline furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.1		1.4	2.6	20	95	139	57	4.6	1.4	0.3
2	.5	.1		1.4	3.0	20	102	142	55	4.0	1.4	.3
3	.5	.1	1.5	1.4	3.3	20	113	146	53	3.4	1.4	.3
4	.4			1.4	3.5	20	128	147	46	3.4	1.4	.3
5	.4	.1		1.4	3.7	20	147	151	41	3.2	1.2	.3
6	.2	.1	2.0	1.5	4.1	26	160	144	37	3.2	1.2	.3
7	.1	.1		1.8	7.1	25	175	*139	33	3.4	1.2	.3
8	.1	.1	2.5	2.5	29	23	188	135	*29	3.4	1.2	.3
9	.1	.1		2.1	308	22	198	130	28	*3.7	1.5	.2
10	.1	.1		*1.7	246	21	198	118	26	3.7	1.5	.2
11	.1	.1	2.4	1.6	124	21	*193	107	24	3.7	1.2	.2
12	.1	.1	2.2	1.6	86	21	201	103	23	5.3	1.1	.2
13	.1	.1	2.0	1.6	101	20	221	87	22	4.6	*1.0	.2
14	.1	.1	1.8	1.6	125	*20	243	78	20	4.0	.8	*.2
15	.1	.1	1.7	1.6	151	20	249	72	19	3.2	.8	.2
16	.1	.1	1.5	1.6	97	20	229	71	17	3.2	.7	.2
17	.1	.1	1.5	1.6	73	20	208	68	14	2.7	.6	.2
18	.1	.1	1.6	1.6	56	20	206	67	13	2.5	.6	.2
19	.1	.1	2.0	1.6	47	20	*191	67	11	2.5	.6	.2
20	*.1	.1	3.5	1.7	39	22	158	66	9.8	2.5	.6	.2
21	.1	*.1	2.6	1.7	31	22	149	62	9.0	2.3	.6	.2
22	.1	.1	1.6	1.7	28	22	153	62	7.7	2.1	.5	.2
23	.1	.1	1.6	1.7	26	24	158	62	6.8	2.1	.5	.1
24	.1	.1	1.5	1.7	25	22	160	60	6.4	1.9	.5	.1
25	.1	.1	1.5	1.9	23	26	155	56	6.4	1.9	.4	.1
26	.1	.1	1.5	2.0	22	33	140	53	6.0	1.7	.3	.2
27	.1	.1	1.5	2.0	22	45	163	54	5.7	1.7	.3	.2
28	.2	.1	1.5	2.0	21	59	216	61	5.3	1.7	.3	.3
29	.2	.1	1.5	2.5	-	70	164	60	5.0	1.7	.3	.3
30	.2	1.8	1.5	2.5	-----	77	145	60	5.0	1.5	.3	.3
31	.2	-----	1.5	2.5	-----	85	-----	60	-----	1.5	.3	-----
Total	5.3	4.7	57.5	54.9	1,707.3	906	5,206	2,827	641.1	90.3	25.7	6.8
Mean	0.17	0.16	1.86	1.77	61.0	29.2	174	91.2	21.4	2.91	0.83	0.23
Max	0.6	1.8	3.5	2.5	308	85	249	151	57	5.3	1.5	0.3
Min	0.1	0.1	-	1.4	2.6	20	95	53	5.0	1.5	0.3	0.1
Ac-ft	11	9.3	114	109	3,390	1,800	10,330	5,610	1,270	179	51	13
Calendar year 1961:	Max 55	Min 0.1	Mean 8.41	Ac-ft 6,090								
Water year 1961-62:	Max 308	Min 0.1	Mean 31.6	Ac-ft 22,890								

Peak discharge (base, 120 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1700	3.50	535	4-14	2200	2.88	262
2-15	0200	2.52	173	4-28	0200	2.89	256

* Discharge measurement made on this day.

Note.--No gage-height record on pipeline Nov. 30 to Dec. 20, Jan. 7-10, Jan. 21 to Feb. 7, Feb. 18-20, Mar. 9-15, June 3-14.

SACRAMENTO RIVER BASIN

11-4411. Ice House Reservoir near Kyburz, Calif.

Location.--Lat 38°49'26", long 120°21'34", in SE 1/4 sec. 1, T.11 N., R.14 E., on left bank at Ice House Dam on South Fork Silver Creek, 0.5 mile upstream from Peavine Creek and 4.75 miles northwest of Kyburz.

Drainage area.--27.2 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (datum of Sacramento Municipal Utility District).

Extremes.--Maximum contents during year, 44,100 acre-ft, June 11 (elevation, 5,447.40 ft); minimum, 2,110 acre-ft Sept. 30 (elevation, 5,352.05 ft).

1959-62: Maximum contents, 46,100 acre-ft, for several days in May and June 1961 (elevation, 5,450.24 ft, from high-water marks); minimum since appreciable storage was first obtained, that of Sept. 30, 1962.

Remarks.--Reservoir is formed by earth-fill dam. Storage began December 15, 1959. Usable capacity, 45,800 acre-ft between elevations 5,327.5 (centerline of fish water outlet) and 5,450.0 ft (top of spillway gates). Dead storage, 160 acre-ft. Records show total contents at 2400 hours.

Note.--Records of contents for 1959-60 have been found in error. Revised records available in files of district office and will be published in a future water-supply paper.

Capacity table (elevation, in feet, and contents, in acre-ft)

5,352	2,100	5,400	17,600
5,360	3,840	5,420	27,400
5,380	9,600	5,450	46,000

Contents, in acre-feet, at 2400 hrs, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16,500	14,100	11,400	10,200	8,830	10,700	11,800	24,200	38,900	31,400	26,000	13,000
2	16,400	14,100	11,400	10,200	8,860	10,800	11,900	24,700	39,600	31,500	26,000	12,700
3	16,300	14,100	11,500	10,200	8,900	10,800	12,100	25,300	40,200	31,200	26,000	12,500
4	16,000	14,100	11,500	9,980	8,940	10,900	12,200	26,000	40,700	30,700	26,000	12,000
5	15,800	14,100	11,500	9,950	8,940	10,900	12,400	26,700	41,200	30,000	26,000	11,500
6	15,700	14,100	11,400	9,880	8,970	11,000	12,700	27,400	41,700	29,800	26,000	11,000
7	15,600	14,000	11,200	9,880	9,040	11,000	13,000	28,100	42,200	29,900	25,900	10,600
8	15,600	13,700	11,000	9,880	9,140	11,000	13,300	28,900	42,700	29,500	25,900	10,400
9	15,600	13,500	10,900	9,740	9,420	11,000	13,600	29,600	43,300	28,800	25,900	10,200
10	15,500	13,300	10,800	9,670	9,600	11,100	14,000	30,200	43,800	28,000	25,700	9,740
11	15,500	13,200	10,700	9,700	9,670	11,100	14,400	30,600	44,000	27,100	25,400	9,170
12	15,500	13,000	10,400	9,700	9,740	11,100	14,700	31,000	43,400	26,100	25,000	8,620
13	15,500	12,900	10,200	9,700	9,880	11,200	15,200	31,300	42,600	26,000	24,400	8,060
14	15,500	12,800	9,980	9,700	9,980	11,200	15,700	31,600	42,000	26,000	23,600	7,760
15	15,500	12,700	9,900	9,700	10,100	11,200	16,300	31,800	41,500	26,000	22,700	7,630
16	15,400	12,600	9,880	9,740	10,200	11,200	16,900	32,000	40,900	26,100	21,900	7,500
17	15,200	12,400	9,870	9,740	10,200	11,200	17,500	32,300	40,300	26,100	21,300	7,160
18	15,100	12,300	9,860	9,780	10,300	11,300	18,100	32,600	39,500	26,100	21,000	6,660
19	15,000	12,200	9,880	9,840	10,300	11,300	18,600	33,000	38,700	26,100	20,700	6,140
20	14,900	12,100	9,880	9,840	10,400	11,300	19,000	33,300	37,800	26,100	20,100	5,630
21	14,700	12,100	9,900	9,840	10,400	11,300	19,400	33,600	37,000	26,100	19,300	5,320
22	14,600	12,100	9,950	9,810	10,400	11,400	19,900	34,100	36,000	26,100	18,500	5,100
23	14,500	12,000	9,980	9,810	10,500	11,400	20,500	34,500	35,100	26,100	17,800	4,890
24	14,300	11,900	10,000	9,700	10,500	11,500	21,100	34,900	34,100	26,100	17,200	4,510
25	14,300	11,900	10,100	9,600	10,500	11,500	21,600	35,200	33,200	26,100	16,900	4,000
26	14,200	11,900	10,100	9,420	10,600	11,500	22,100	35,500	32,300	26,100	16,600	3,380
27	14,200	11,900	10,100	9,250	10,600	11,600	22,600	35,800	31,500	26,100	16,000	2,880
28	14,200	11,800	10,100	9,040	10,600	11,600	23,100	36,200	31,100	26,100	15,200	2,520
29	14,200	11,600	10,100	8,860	-	11,700	23,400	36,700	31,200	26,100	14,500	2,300
30	14,100	11,500	10,200	8,800	-----	11,700	23,800	37,400	31,300	26,100	13,700	2,110
31	14,100	-----	10,200	8,830	-----	11,800	-----	38,100	-----	26,100	13,200	-----
(†)	5,391.57	5,384.89	5,381.6	5,377.8	5,382.85	5,385.70	5,412.80	5,438.23	5,427.25	5,417.32	5,389.35	5,352.05
(‡)	-2,600	-2,600	-1,300	-1,370	+1,770	+1,200	+12,000	+14,300	-6,800	-5,200	-12,900	-11,090

Calendar year 1961..... ‡ -19,700
Water year 1961-62..... ‡ -14,590

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

g Computed from staff gage readings.

11-4415. South Fork Silver Creek near Ice House, Calif.

Location.--Lat 38°49'08", long 120°21'51", in NW1/4 sec.12, T.11 N., R.14 E., on right bank 300 ft upstream from Peavine Creek, 0.4 mile downstream from Ice House Dam, and 4.8 miles northwest of town of Kyburz.

Drainage area.--27.5 sq mi.

Records available.--October 1924 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,290 ft (from topographic map). Prior to Oct. 1, 1959, at site 0.3 mile upstream at different datum.

Average discharge.--38 years, 72.5 cfs (52,490 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 802 cfs June 11 (gage height, 4.72 ft); minimum 3.6 cfs Dec. 21.

1924-62: Maximum discharge, 3,940 cfs Dec. 23, 1955 (gage height, 6.71 ft, site and datum then in use), from rating curve extended above 540 cfs on basis of slope-area measurement at gage height 6.69 ft; no flow Oct. 31 to Nov. 9, 1958.

Remarks.--Records good. Flow regulated by Ice House Reservoir beginning in December 1959 (see preceding page).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 31

June 1 to Sept. 30

2.3	4.0	3.0	43	2.4	6.4	3.4	87
2.4	6.4	3.3	79	2.5	9.6	3.8	175
2.5	9.6	3.6	140	2.8	24	4.2	330
2.6	14	4.0	290	3.1	48	4.6	630
2.8	26						

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	8.6	43	5.1	6.1	9.0	1.0	6.4	9.0	14	12	130
2	79	8.6	17	5.1	5.8	9.0	11	6.4	10	14	12	128
3	67	8.6	17	*5.3	5.8	8.6	11	6.4	9.0	216	*12	128
4	52	8.6	16	114	5.8	8.6	11	6.1	9.3	320	12	196
5	149	8.6	16	71	5.8	9.0	11	9.0	9.6	*411	12	240
6	78	8.6	64	5.3	6.1	9.3	11	13	9.6	127	12	236
7	14	80	90	5.3	6.4	*9.0	11	13	9.6	19	12	168
8	13	125	58	49	7.0	9.0	12	13	9.6	170	12	113
9	13	122	34	71	10	9.3	9.3	13	9.6	468	12	111
10	13	77	34	50	8.3	9.3	7.7	13	9.6	492	115	225
11	13	54	82	5.3	6.7	9.3	7.4	13	149	532	187	280
12	13	55	113	5.3	8	9.0	*7.7	14	*556	524	184	264
13	13	55	113	5.3	10	9.0	7.7	14	621	142	338	244
14	13	55	111	5.3	10	9.0	7.7	14	476	9.3	425	160
15	13	55	25	5.3	10	9.0	7.7	14	411	9.3	425	64
16	43	54	17	5.3	9.3	9.0	7.4	14	468	10	425	63
17	71	54	18	5.3	9.3	9.0	7.0	14	468	13	*280	170
18	71	54	18	5.3	9.0	9.0	7.4	14	567	13	152	248
19	71	54	18	5.3	9.0	9.3	7.4	14	630	13	152	244
20	71	43	56	5.6	9.0	9.3	7.0	14	612	13	305	236
21	69	16	37	5.6	9.0	9.3	7.0	12	594	13	384	170
22	69	55	5.3	5.6	9.0	9.3	6.7	8.3	*621	13	378	101
23	69	57	5.3	35	9.0	9.3	6.7	8.0	612	13	372	101
24	65	104	5.3	69	9.0	9.3	6.7	8.0	612	13	265	190
25	41	16	5.3	73	9.0	9.3	6.4	8.0	612	13	160	240
26	*1.7	16	5.3	89	9.0	9.3	6.4	9.3	549	13	160	236
27	18	16	5.3	89	8.6	9.6	7.4	10	411	13	321	230
28	17	*35	5.1	87	8.6	10	7.4	10	363	13	404	142
29	17	84	5.1	87	-	10	6.7	10	*14	13	397	94
30	17	84	5.1	52	-----	10	6.7	10	14	13	*390	81
31	13	-----	5.1	61	-----	10	-----	8.0	-----	12	257	-----
Total	1361	1471.6	1049.2	1032.7	228.6	286.4	247.5	339.9	9454.9	3671.6	6584	5233
Mean	43.9	49.1	33.8	33.3	8.16	9.24	8.25	11.0	315	118	212	174
Max	149	125	113	114	10	10	12	14	630	532	425	280
Min	13	8.6	5.1	5.1	5.8	8.6	6.4	6.1	9.0	9.3	12	63
Ac-ft	2,700	2,920	2,080	2,050	453	568	491	674	18,750	7,280	13,060	10,380
Meant	1.63	5.38	12.7	11.1	40.0	28.8	210	243	201	33.8	2.60	-11.9
Ac-ftt	100	320	780	680	2,220	1,770	12,490	14,970	11,950	2,080	160	-710
Calendar year 1961:	Max	258	Min	5.1	Mean	61.8	Ac-ft	44,710	Meant	34.5	Ac-ftt	25,000
Water year 1961-62:	Max	630	Min	5.1	Mean	84.8	Ac-ft	61,410	Meant	64.7	Ac-ftt	46,810

* Discharge measurement made on this day.

† Adjusted for change in contents in Ice House Reservoir.

Note.--When inflow to the reservoir is small and other quantities are large, discordant figures of net runoff may appear. This arises primarily from the difficulty of computing net runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

SACRAMENTO RIVER BASIN

11-4419. Silver Creek below Camino diversion dam, Calif.

Location.--Lat 38°49'26", long 120°32'18", on line between secs.4 and 5, T.11 N., R.13 E., on right bank 300 feet downstream from Round Tent Canyon, 0.4 mile downstream from diversion dam and 5 miles northeast of Pollock Pines.

Drainage area.--171 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 2,754.06 ft above mean sea level (Bechtel Engineering Co. bench mark).

Extremes.--Maximum discharge during year, 2,310 cfs Apr. 15 (gage height, 7.05 ft); minimum, 10 cfs Oct. 4.

1960-62: Maximum discharge, that of Apr. 15, 1962; minimum, 7.5 cfs June 12, 1961.

Revisions.--The maximum discharge for the water year 1961 has been revised to 1,540 cfs May 23, 1961 (gage height, 6.23 ft), superseding figure published in Surface Water Records of California.

Remarks.--Records fair. Flow regulated by Ice House Reservoir (see p. 902), Junction Reservoir (capacity, 3,250 acre-ft) and one powerplant.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 22 to Nov. 30)

Oct. 1 to Nov. 30

Dec. 1 to Sept. 30

2.0	12	2.4	24	3.5	133
2.3	24	2.5	29	4.0	265
2.6	40	2.6	34	4.5	460
3.0	72	2.9	52	5.5	1,000
3.5	138	3.2	82	6.5	1,780
4.0	265				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	107	164	27	70	191	521	727	60	51	572	60
2	25	113	59	59	198	194	719	863	57	48	572	55
3	14	101	51	139	55	174	707	1,110	54	45	572	51
4	16	55	*98	129	42	189	660	964	52	43	572	221
5	90	38	127	128	78	161	682	1,250	71	430	59	257
6	188	44	137	54	181	296	810	1,190	61	504	569	267
7	57	101	138	40	281	281	833	1,210	58	58	569	266
8	38	103	138	73	292	164	804	911	56	54	564	58
9	28	106	54	141	639	216	923	1,100	53	450	572	54
10	41	103	39	135	936	197	1,200	898	52	490	339	223
11	43	55	70	133	804	161	*1,030	632	339	488	58	274
12	126	39	132	133	744	153	1,090	561	563	496	53	265
13	112	59	123	54	834	199	1,190	512	587	533	370	274
14	56	104	138	39	* 907	197	1,300	* 451	596	58	406	276
15	39	110	141	30	974	200	1,510	277	*590	54	406	58
16	49	101	55	41	875	198	1,240	645	578	450	406	54
17	112	118	41	44	386	199	1,150	401	275	438	406	244
18	106	56	86	* 52	438	122	1,140	544	685	490	58	275
19	85	40	151	78	350	205	1,140	623	652	511	54	277
20	93	53	167	66	245	208	899	481	639	498	370	282
21	56	108	258	53	309	208	845	489	588	58	406	269
22	39	110	226	47	267	222	771	412	640	52	406	59
23	48	102	55	117	241	212	1,020	80	609	499	406	54
24	100	106	42	129	253	207	1,060	435	60	563	406	237
25	*101	56	77	162	174	211	*1,050	325	638	564	58	275
26	111	41	137	153	157	241	757	144	646	562	54	272
27	120	51	136	54	169	424	889	144	593	576	370	271
28	57	112	135	42	187	145	1,200	141	292	563	406	286
29	42	114	136	167	-	485	821	137	79	58	406	82
30	59	146	54	55	-----	690	727	124	56	559	406	57
31	110	-----	41	150	-----	591	-----	63	-----	* 567	* 406	-----
Total	2,203	2,552	3,406	2,724	11,086	7,541	28,688	17,844	10,279	10,810	11,277	5,653
Mean	71.1	85.1	110	87.9	396	243	956	576	343	349	364	188
Max	188	146	258	167	974	690	1,510	1,250	685	576	572	286
Min	14	38	39	27	42	122	521	63	52	43	53	51
Ac-ft	4,370	5,060	6,760	5,400	21,990	14,960	56,900	35,390	20,390	21,440	22,370	11,210
Calendar year 1961: Max	773	Min	12	Mean	214	Ac-ft	154,800					
Water year 1961-62: Max	1,510	Min	14	Mean	313	Ac-ft	226,200					

* Discharge measurement made on this day.

11-4435. South Fork American River near Camino, Calif.

Location.--Lat 38°46'20", long 120°42'05", in SE¼NW¼ sec.25, T.11 N., R.11 E., on right bank 400 ft upstream from Iowa Canyon Creek, 1.1 miles downstream from intake of American River flume, and 2.8 miles northwest of Camino.

Drainage area.--493 sq mi (revised).

Records available.--October 1922 to September 1962. Monthly discharge only for October 1922, published in WSP 1315-A. Prior to October 1956, records for river and American River flume published separately.

Gage.--Water-stage recorder. Altitude of gage is 1,630 ft (from topographic map). Nov. 1, 1950, to Dec. 5, 1951, staff gage at same site and datum.

Average discharge.--37 years (1922-59, prior to regulation by Ice House Reservoir), 961 cfs (695,700 acre-ft per year), combined flow of South Fork American River near Camino and American River flume.

Extremes (river only).--Maximum discharge during year, 4,410 cfs Apr. 15 (gage height, 9.96 ft); minimum daily, 4.2 cfs Dec. 25, Jan. 14, 15.

1922-62: Maximum discharge, 49,800 cfs Dec. 23, 1955 (gage height, 32.6 ft, from floodmarks), from rating curve extended above 24,000 cfs on basis of computation of peak flow over dam; minimum daily, 1.3 cfs Aug. 24, 1931.

Remarks.--Records good. Records of daily discharge given herein include flow of American River flume which diverts 1.1 miles above station, from right bank of South Fork American River in sec.24, T.11 N., R.11 E., for power development; water is returned to river at Rock Creek powerhouse 5.4 miles below station. Flow partly regulated by five reservoirs (total usable capacity, 82,900 acre-ft). See records for Ice House Reservoir, page 902. Echo Lake conduit (see p. 896) imports up to 2,000 acre-ft each year from Truckee River basin. Flow affected by regulation by Jaybird powerhouse on Silver Creek since April 1961. Water diverted by El Dorado Canal used for power and returned to river above station except for a variable amount up to 40 cfs, May to October, and about 7 cfs for remainder of year, which is used for irrigation and domestic use in vicinity of Placerville.

Cooperation.--Water-stage-recorder graph and nine discharge measurements for river and water-stage-recorder graph and seven discharge measurements for the flume furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission Project.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	145	186	252	113	261	476	1,370	1,980	1,420	516	794	249
2	104	185	171	96	206	587	1,600	2,360	1,580	483	812	190
3	98	177	171	181	267	512	1,610	2,910	1,600	442	789	178
4	89	164	192	224	152	473	1,700	2,910	1,360	411	799	322
5	97	166	226	210	139	558	1,860	3,580	1,300	850	272	382
6	271	126	212	186	246	1,120	1,940	3,530	1,300	914	681	384
7	186	204	214	131	449	931	1,940	3,390	1,380	411	794	395
8	151	228	198	122	498	639	1,990	* 3,160	1,360	351	780	218
9	129	239	183	223	1,800	658	2,410	3,370	1,420	731	788	187
10	117	238	137	228	3,060	597	2,880	3,050	1,440	798	548	324
11	131	212	107	200	1,940	497	* 2,510	2,230	1,650	750	243	392
12	163	150	207	193	1,480	515	2,710	2,090	1,870	796	188	396
13	215	133	248	187	1,780	* 541	3,030	1,750	1,830	842	465	392
14	199	179	* 231	98	2,120	552	3,270	1,520	1,760	325	503	396
15	115	216	234	79	* 2,860	540	3,860	1,240	1,510	251	596	213
16	90	206	204	122	2,200	547	3,430	1,710	1,500	601	560	184
17	136	195	142	140	1,310	536	3,110	1,360	1,120	648	541	327
18	212	203	134	192	1,120	512	3,070	1,570	1,750	684	241	383
19	201	124	223	284	842	470	3,130	1,720	1,780	687	192	395
20	192	144	342	362	754	605	2,370	1,590	1,860	672	465	401
21	202	167	528	202	724	601	2,170	1,390	1,740	258	553	414
22	197	226	419	158	661	712	1,970	1,500	1,750	192	550	195
23	151	183	230	180	595	650	2,830	1,300	1,650	579	548	179
24	189	198	165	* 275	589	648	3,050	1,400	956	804	566	320
25	171	190	142	317	453	648	* 2,990	1,300	* 1,380	762	244	398
26	* 168	142	210	288	450	715	2,290	978	1,420	765	191	398
27	181	161	226	257	400	1,010	2,530	944	1,320	763	470	399
28	210	191	217	166	450	815	3,210	1,060	910	757	553	418
29	177	242	226	177	-	1,110	2,220	1,200	652	279	557	281
30	122	292	191	250	-----	1,460	1,920	1,400	557	663	556	207
31	148	-----	133	152	-----	1,370	-----	1,420	-----	787	543	-----
Total	4,957	5,667	6,715	5,993	27,806	21,605	74,970	60,912	43,125	18,772	16,382	9,517
Mean	160	189	217	193	993	697	2,499	1,965	1,438	606	528	317
Max	271	292	528	362	3,060	1,460	3,860	3,580	1,870	914	812	418
Min	89	124	107	79	139	470	1,370	944	557	192	188	178
Ac-ft	9,830	11,240	13,320	11,890	55,150	42,850	148,700	120,800	85,540	37,230	32,490	18,880

Calendar year 1961: Max 1,670 Min 76 Mean 436 Ac-ft 315,300
 Water year 1961-62: Max 3,860 Min 79 Mean 812 Ac-ft 588,000

* Discharge measurement of river made on this day.

Note.--No gage-height record at flume station Nov. 6-10, 13-18.

SACRAMENTO RIVER BASIN

11-4455. South Fork American River near Lotus, Calif.

Location.--Lat 38°49'05", long 120°56'45", in SW $\frac{1}{4}$ sec. 11, T.11 N., R.9 E., on left bank 0.4 mile downstream from Greenwood Creek, 2.4 miles northwest of Lotus, and 3.3 miles northwest of Coloma.

Drainage area.--678 sq mi.

Records available.--May 1951 to September 1962.

Gage.--Water-stage recorder and thermograph attachment. Altitude of gage is 635 ft (from topographic map).

Extremes.--Maximum discharge during year, 8,170 cfs Feb. 10 (gage height, 9.91 ft); minimum, 70 cfs Nov. 7.

1951-62: Maximum discharge, 71,800 cfs Dec. 23, 1955 (gage height, 21.37 ft); minimum, 75 cfs Jan. 2, 1960.

Maximum stage known since 1862 and prior to beginning of record in May 1951, 20.4 ft Nov. 21, 1950, from floodmarks (discharge, 64,500 cfs, from rating developed in 1955-56).

Remarks.--Records good. Flow partly regulated (see Remarks for station near Camino on p. 905). Diversions above station for power, irrigation, and domestic use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

4.0	95	6.0	1,030
4.1	110	7.0	2,090
4.3	155	8.0	3,580
4.6	240	9.0	5,640
5.0	385	10.0	8,440
5.5	655		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	183	201	482	160	* 274	633	1,470	2,040	1,410	524	788	512
2	135	201	424	140	207	1,660	1,710	2,360	1,540	486	792	216
3	114	210	320	150	328	1,110	1,720	2,820	1,680	450	789	192
4	107	172	231	237	204	814	1,760	2,930	1,390	412	799	186
5	98	178	234	240	170	848	* 1,920	3,460	1,290	504	660	349
6	112	170	258	231	198	2,860	2,030	3,510	1,290	900	310	394
7	290	141	250	170	344	2,030	2,380	3,360	* 1,330	744	796	407
8	162	234	240	152	544	1,330	2,260	3,250	1,350	353	785	407
9	152	237	237	183	1,980	1,040	2,420	3,280	1,370	387	789	204
10	122	240	175	254	6,530	950	2,900	3,250	1,420	796	713	192
11	140	244	165	244	* 3,170	854	2,590	2,340	1,420	754	447	360
12	150	192	165	216	2,120	790	2,700	2,130	1,850	783	213	* 395
13	198	168	275	231	3,230	707	3,010	1,810	1,840	843	195	400
14	210	148	272	165	3,850	740	3,280	1,330	1,830	654	507	395
15	162	231	275	118	5,210	727	3,770	1,370	1,570	264	570	400
16	126	234	258	122	4,040	727	3,500	1,520	1,340	288	544	198
17	107	216	189	160	2,550	707	3,170	1,440	1,220	654	555	192
18	180	228	180	152	1,630	673	3,110	1,520	1,520	682	511	352
19	216	165	225	324	1,280	589	3,170	1,700	1,680	712	210	382
20	201	165	369	862	1,190	738	2,590	1,650	1,810	729	198	385
21	216	183	458	390	910	746	2,260	1,490	1,770	637	539	395
22	201	* 212	537	268	862	903	2,280	1,540	1,710	216	569	399
23	180	254	418	213	838	981	2,780	1,300	1,660	195	548	186
24	162	198	228	286	741	830	3,060	1,340	1,220	783	536	183
25	199	231	195	331	662	798	3,040	1,400	1,040	758	495	347
26	181	186	198	338	613	822	2,460	1,010	1,380	754	207	397
27	188	175	258	331	555	1,060	2,520	974	1,290	773	201	397
28	216	189	247	231	546	1,040	3,280	1,050	1,080	761	536	398
29	192	240	247	204	-	1,030	2,450	1,180	762	628	566	440
30	178	354	247	300	-----	1,590	2,040	1,380	565	323	570	244
31	135	-----	178	201	-----	1,450	-----	1,420	-----	* 782	533	-----
Total	5,213	6,197	8,435	7,604	44,776	31,777	77,630	61,154	42,627	18,529	16,471	9,904
Mean	168	207	272	245	1,599	1,025	2,588	1,973	1,421	598	531	330
Max	290	354	537	862	6,530	2,860	3,770	3,510	1,850	900	799	512
Min	98	141	165	118	170	589	1,470	974	565	195	195	183
Ac-ft	10,340	12,290	16,730	15,080	88,810	63,030	154,000	121,300	84,550	36,750	32,670	19,640
Calendar year 1961: Max	1,630	Min	98	Mean	453	Ac-ft	328,200					
Water year 1961-62: Max	6,530	Min	98	Mean	905	Ac-ft	655,200					

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

907

11-4455. South Fork American River near Lotus, Calif.--Continued.

Records available.--Water temperatures: October 1960 to September 1962 in reports of Geological Survey. December 1959 to September 1960 are in files of California district office of Geological Survey.

Extremes.--Maximum water temperature during year, 75°F July 22, Aug. 13; minimum, 35°F Feb. 28.

1960-62: Maximum, 82°F June 26, Aug. 7, 1961; minimum, 35°F Jan. 3-8, 1961, Feb. 28, 1962.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	64	62	50	49	45	45	41	41	40	40	38	37	48	47	51	49	59	57	65	63	71	67	70	67
2	66	62	49	47	45	45	41	41	41	40	40	38	48	48	52	51	59	57	66	64	71	67	72	69
3	66	62	47	47	45	45	41	41	41	40	38	38	48	48	52	52	59	57	67	65	71	68	72	69
4	66	62	48	47	45	44	41	41	41	40	40	38	50	48	52	52	59	56	69	67	71	69	73	69
5	66	62	48	48	45	44	41	40	41	41	42	40	50	49	52	52	58	56	70	67	70	68	72	69
6	64	62	48	48	44	44	40	40	41	41	42	40	50	49	52	52	59	56	70	67	71	69	71	68
7	64	61	48	47	44	44	40	40	42	41	42	42	49	49	52	51	60	57	67	62	71	68	71	69
8	61	58	47	46	44	41	40	40	42	42	43	42	49	49	53	52	60	56	67	63	71	68	71	68
9	58	56	46	46	41	40	40	40	44	42	43	42	50	49	52	52	61	59	69	67	70	68	71	67
10	58	56	46	46	40	40	40	40	44	44	43	42	49	49	52	50	61	59	69	66	71	67	70	66
11	58	58	46	46	40	38	40	40	44	42	42	42	49	49	52	50	61	59	68	64	71	69	68	64
12	60	58	46	46	38	38	40	40	42	42	42	40	50	49	51	50	60	59	66	64	73	70	68	64
13	60	58	46	46	38	38	40	40	43	42	43	41	50	49	50	48	59	58	65	63	75	71	68	67
14	60	58	46	44	38	38	40	39	43	43	43	42	50	49	50	49	59	58	67	64	74	71	68	67
15	62	59	45	44	38	38	39	38	44	43	43	43	49	49	50	48	58	57	70	66	73	69	68	67
16	64	60	44	44	38	38	38	37	43	43	43	43	49	49	52	49	57	54	71	68	71	68	69	67
17	66	60	44	42	39	38	37	37	43	43	43	43	49	49	53	50	59	56	72	69	71	67	70	68
18	64	60	42	42	39	39	37	37	43	43	45	43	49	49	54	52	62	59	71	68	70	67	69	67
19	62	60	42	42	40	39	38	37	43	43	45	44	49	49	54	53	62	59	72	67	72	68	68	66
20	60	58	42	42	43	41	40	38	43	42	45	45	49	47	53	52	61	58	69	66	74	70	66	65
21	58	56	43	42	45	43	39	39	42	42	45	43	49	47	54	52	61	58	72	68	74	71	66	64
22	56	55	43	43	45	44	39	37	42	39	45	44	51	49	55	53	61	59	75	70	73	68	66	64
23	55	53	43	43	44	42	37	37	42	42	44	43	51	50	56	54	61	58	74	71	71	68	67	64
24	53	51	44	43	42	41	37	36	42	42	44	43	51	50	56	54	61	58	73	67	71	68	67	66
25	52	52	44	44	41	41	36	36	42	42	46	44	51	51	55	54	64	61	71	67	72	68	66	65
26	52	52	46	44	42	41	37	36	42	42	48	46	51	49	54	52	63	59	71	68	73	70	66	65
27	52	52	47	46	41	41	38	37	42	36	49	47	50	49	54	52	61	58	71	68	73	70	66	65
28	52	52	46	46	41	41	39	38	37	35	49	47	49	48	55	52	62	59	71	68	73	68	65	65
29	52	51	46	45	41	41	39	39	-	-	49	48	48	47	58	54	63	61	71	68	71	66	66	65
30	51	51	45	45	41	41	39	38	-	-	49	47	50	48	58	56	64	62	72	70	69	66	66	64
31	51	49	-	-	41	41	40	39	-	-	48	47	-	-	59	56	-	-	72	68	69	67	-	-
Avg	59	57	46	45	42	41	39	39	42	41	44	43	49	49	53	52	60	58	70	67	72	68	69	66

SACRAMENTO RIVER BASIN

11-4462. Folsom Lake near Folsom, Calif.

Location.--Lat 38°42'29", long 121°09'22", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.24, T.10 N., R.7 E., 0.7 mile downstream from South Fork American River and 2.3 miles northeast of Folsom.

Drainage area.--1,875 sq mi.

Records available.--February 1955 to September 1962. Prior to October 1959, published as Folsom Reservoir near Folsom.

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

Extremes.--Maximum contents during year, 950,900 acre-ft June 27 (elevation, 460.74 ft); minimum, 356,600 acre-ft Nov. 22-24 (elevation, 394.54 ft).
1955-62: Maximum contents, 1,020,500 acre-ft June 3, 1960 (elevation, 466.89 ft); minimum, 156,600 acre-ft Nov. 10, 1955 (elevation, 352.70 ft).

Remarks.--Reservoir is formed by concrete gravity-type dam with rolled-earth wing dams, auxiliary dams, and dikes, completed May 14, 1956; storage began Feb. 25, 1955. Spillway gates installed July 31, 1955; control valves installed July 23, 1956. Usable capacity, 1,010,300 (corrected) acre-ft between elevations 205.5 (invert of lower tier of river outlets) and 466.0 ft (gross pool elevation) above mean sea-level, practically all of which is available for release. Spillway design flood pool elevation, 475.4 ft (capacity, 1,120,200 acre-ft). Figures given herein represent usable contents. Folsom Lake is one of the storage units in the Central Valley project.

Cooperation.--Record of contents furnished by Bureau of Reclamation.

Capacity table (elevation in feet, and contents, in acre-feet)

390	327,800	440	732,900
400	393,300	450	834,700
410	466,800	460	942,600
420	548,300	466	1,010,300
430	637,300		

Contents, in thousands of acre-ft, at 2400 hrs, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	387.8	362.8	363.1	399.2	445.3	622.6	454.8	649.0	852.6	944.3	778.4	588.0
2	386.7	362.6	366.3	399.8	446.5	625.2	456.4	653.5	859.8	940.2	772.7	582.8
3	385.5	362.5	368.7	400.6	448.0	620.3	458.5	661.9	867.8	935.6	767.0	577.6
4	384.4	362.3	369.6	401.5	449.2	612.8	461.7	672.3	874.3	931.4	761.2	572.0
5	383.1	361.8	370.6	402.6	450.4	605.2	466.7	685.6	879.2	927.0	755.4	567.0
6	381.9	361.4	371.4	403.6	451.7	611.9	472.6	699.7	883.6	923.3	748.5	562.2
7	380.9	360.9	372.2	404.5	453.7	614.1	480.2	709.8	887.9	919.9	742.4	557.4
8	379.7	360.6	372.9	405.4	458.9	610.6	487.9	720.0	892.3	915.2	736.7	553.0
9	378.5	360.2	373.6	406.5	481.8	605.1	496.3	733.4	897.1	910.9	731.4	547.8
10	377.2	360.0	374.0	408.0	486.3	598.1	505.7	745.9	902.3	907.1	726.1	542.6
11	376.2	359.8	374.4	409.2	566.2	590.1	512.8	753.2	906.6	902.0	720.1	537.9
12	375.2	359.4	374.9	410.5	575.0	581.1	519.2	759.1	911.3	896.4	713.6	533.2
13	374.3	358.9	375.3	411.7	596.9	571.0	527.2	762.6	916.7	891.4	706.7	528.7
14	373.4	358.4	375.9	412.7	626.4	560.7	537.9	764.9	920.9	886.3	699.7	524.0
15	372.6	358.1	376.6	413.4	664.6	550.5	551.3	767.2	923.9	879.5	692.9	519.4
16	371.5	357.7	377.1	414.1	687.9	540.3	563.1	770.8	926.3	873.5	685.9	514.5
17	370.4	357.4	377.6	414.8	695.1	530.2	572.6	774.9	928.8	867.9	679.3	509.2
18	369.6	357.2	378.2	415.5	695.1	519.7	581.6	779.3	931.7	861.6	673.2	504.8
19	368.8	356.8	379.1	418.0	691.8	509.2	592.2	785.9	935.2	856.1	666.2	500.5
20	368.1	356.8	380.8	425.9	686.9	499.5	597.6	792.1	939.0	850.2	659.5	496.0
21	367.4	356.7	384.8	429.4	679.9	489.9	600.5	796.9	942.3	844.7	653.0	491.8
22	366.9	356.6	388.6	431.1	672.1	482.2	602.9	801.9	945.1	837.8	646.6	487.9
23	366.6	356.6	390.9	432.8	663.6	474.6	609.2	807.7	947.7	831.3	640.5	483.3
24	366.1	356.6	392.4	434.2	655.1	468.4	617.6	812.7	949.3	825.5	634.5	478.5
25	365.6	356.9	393.5	435.7	645.9	463.0	624.7	816.8	949.7	819.8	628.7	474.4
26	365.1	356.8	394.4	437.6	636.3	458.2	628.2	819.7	950.6	814.1	622.0	470.3
27	364.6	356.9	395.4	439.0	631.5	455.6	631.5	822.4	950.9	808.5	615.5	466.1
28	364.2	357.1	396.3	440.2	626.6	454.2	642.4	825.9	950.7	802.9	609.5	462.1
29	363.8	357.7	397.2	441.5	-	453.0	645.6	831.3	949.7	797.0	603.7	458.3
30	363.7	359.9	397.9	442.9	-----	453.8	646.2	838.4	948.2	790.2	598.0	454.2
31	363.1	-----	398.7	444.2	-----	454.0	-----	845.6	-----	783.9	592.4	-----
(†)	395.54	395.05	400.77	407.04	428.84	408.33	430.96	451.04	460.50	445.09	425.06	408.35
(‡)	-25,900	-3,200	+38,800	+45,500	+182,400	-172,600	+192,200	+199,400	+102,600	-164,300	-191,500	-138,200
(††)	2,570	1,170	330	300	560	1,620	3,420	5,230	7,470	7,840	6,020	3,920

Calendar year 1961..... ‡ -33,600

Water year 1961-62..... ‡ +65,200

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet, furnished by Bureau of Reclamation.

11-4465. American River at Fair Oaks, Calif.

Location.--Lat 38°38'08", long 121°13'36", in SE 1/4 sec. 17, T.9 N., R.7 E., on right bank 2,100 ft downstream from Nimbus Dam, 2.4 miles east of Fair Oaks, 8.1 miles downstream from South Fork, and at mile 19.3.

Drainage area.--1,889 sq mi.

Records available.--November 1904 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 77.53 ft above mean sea level. Prior to Nov. 7, 1930, staff gages or water-stage recorders at several sites 2 1/2 miles downstream all at datum 11.74 ft lower. Nov. 7, 1930, to Dec. 31, 1957, at site 2.2 miles downstream at datum 12.74 ft lower.

Average discharge.--58 years, 3,699 cfs (2,678,000 acre-ft per year), adjusted for change in storage, diversions, and evaporation from Folsom Lake since 1955.

Extremes.--Maximum discharge during year, 8,230 cfs Mar. 4 (gage height, 5.12 ft); minimum, 321 cfs Jan. 16.

1904-52 (Prior to regulation by Folsom Lake): Maximum discharge, 180,000 cfs Nov. 21, 1950 (gage height, 31.85 ft, site and datum then in use); minimum, 3.6 cfs Aug. 16, 1924.

1953-62: Maximum discharge, 71,500 cfs (fully regulated) Dec. 24, 1955 (gage height, 20.35 ft, site and datum then in use); minimum, 86 cfs Apr. 7, 1955.

Remarks.--Records good. Flow regulated by Folsom Lake beginning Feb. 25, 1955 (see preceding page). Some minor regulation of high flows by temporary pondage during period of construction January 1953 to February 1955. Diurnal fluctuations from Folsom power-plant re-regulated by Nimbus Reservoir (capacity, 2,800 acre-ft between normal operating elevations 118.5 and 125.0 ft) and power-plant. Many diversions above station for irrigation, municipal, and domestic water supply. Diversions of San Juan Suburban Water District, Natomas Water Co., and State of California are made at Folsom Dam. Some inflow from Bear and Yuba River basins.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 25 to Feb. 10, Feb. 28 to May 31)

Oct. 1 to May 31			June 1 to Sept. 30		
0.4	315	4.0	5,180	2.0	2,040
1.0	750	5.0	7,580	2.6	2,900
2.0	1,810	6.0	10,400	3.3	4,060
3.0	3,240				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Discharge, in cubic feet per second, water year October 1961 to September 1962													
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
1	708	532	482	496	* 382	5,030	5,110	* 5,160	2,070	2,840	3,560	* 2,660	
2	* 609	518	489	* 510	440	* 5,160	5,110	5,140	2,050	3,090	3,570	2,800	
3	609	510	496	* 363	440	7,580	5,110	4,640	2,180	* 3,060	3,570	2,810	
4	609	503	482	345	427	7,710	5,110	4,620	2,120	3,030	3,600	2,820	
5	601	496	475	345	427	7,870	5,110	4,200	2,120	3,030	3,900	2,780	
6	601	510	475	339	427	7,740	5,090	4,280	2,120	3,040	3,460	2,800	
7	609	510	482	333	420	7,760	5,050	4,400	2,120	3,060	3,440	2,810	
8	617	503	482	333	414	7,760	5,050	4,180	2,120	3,060	3,460	2,700	
9	601	503	489	333	420	7,760	5,050	3,540	2,080	3,090	3,440	2,700	
10	609	503	503	327	2,590	7,740	5,200	3,560	2,040	3,160	3,620	2,800	
11	601	503	510	327	4,700	7,680	5,110	3,560	2,050	3,510	3,620	2,760	
12	609	503	496	327	4,870	7,680	6,170	3,560	2,040	3,560	3,640	2,720	
13	601	503	503	327	* 5,050	7,680	6,300	3,650	2,080	3,590	3,700	2,520	
14	601	510	510	339	5,030	7,680	5,980	3,560	2,070	3,590	3,670	2,690	
15	617	510	518	345	5,360	7,530	6,010	2,980	2,040	3,600	3,640	2,680	
16	617	503	510	321	5,710	7,550	5,980	2,560	2,070	3,620	3,570	2,680	
17	609	518	489	333	7,480	7,420	5,960	2,620	2,050	3,640	3,650	2,660	
18	601	525	482	345	7,530	7,480	5,960	2,610	2,070	3,640	3,590	2,640	
19	601	518	503	345	7,530	7,450	5,960	2,140	2,070	3,570	3,600	2,630	
20	601	475	496	339	7,550	7,400	5,960	2,070	2,070	3,600	3,590	2,630	
21	601	525	496	339	7,580	7,350	5,960	2,140	2,070	3,600	3,570	2,630	
22	609	518	503	339	7,580	7,500	6,030	2,140	2,070	3,590	3,570	2,520	
23	609	518	503	339	7,530	7,420	6,200	2,110	2,070	3,600	3,560	2,510	
24	555	518	496	339	7,580	6,390	6,220	2,100	2,100	3,600	3,300	2,570	
25	548	510	503	339	7,630	6,270	6,270	2,100	2,170	3,590	3,380	2,540	
26	555	510	496	345	7,550	* 5,690	6,250	2,100	2,130	3,590	3,350	2,620	
27	555	510	503	345	5,000	5,250	6,340	2,030	2,080	3,600	3,360	* 2,560	
28	562	510	496	345	5,070	5,140	6,390	2,020	2,090	3,590	3,360	2,440	
29	570	* 496	496	345	-	5,110	6,390	2,020	2,090	3,570	3,360	2,540	
30	* 578	496	496	345	-----	5,110	6,180	2,000	2,100	* 3,590	3,360	2,410	
31	570	-----	496	345	-----	5,110	-----	* 2,000	-----	3,520	3,360	-----	
Total	18,543	15,267	15,356	10,837	12,271	12,271	14,000	17,261	95,790	62,600	105,820	109,420	79,630
Mean	598	509	495	350	4,383	6,903	5,754	3,090	2,087	3,414	3,530	2,654	
Max	708	532	518	510	7,630	7,870	6,390	5,160	2,180	3,640	3,900	2,820	
Min	548	475	475	321	382	5,030	5,050	2,000	2,040	2,840	3,300	2,410	
Ac-ft	36,780	30,280	30,460	21,490	243,400	424,500	342,400	190,000	124,200	209,900	217,000	157,900	
(+)	5,710	4,500	3,480	2,580	2,310	2,900	4,810	6,630	7,260	7,400	6,980	6,210	
Mean†	312	550	1,188	1,136	7,719	4,170	9,122	6,527	4,059	989	626	500	
Ac-ft†	19,160	32,750	73,870	69,870	428,700	256,400	542,800	401,300	241,500	60,840	38,500	29,730	
Calendar year 1961:	Max	4,540	Min	475	Mean	1,471	Mean†	1,562	Ac-ft	1,065,000	Ac-ft†	1,131,000	
Water year 1961-62:	Max	7,870	Min	321	Mean	2,802	Mean†	3,032	Ac-ft	2,028,000	Ac-ft†	2,195,000	

* Discharge measurement made on this day.

† Diversion, in acre-feet, to Natomas Water Co., San Juan Suburban Water District, and to State of California; furnished by Bureau of Reclamation.

Adjusted for change in storage, diversions and evaporation from Folsom Lake.

SACRAMENTO RIVER BASIN

11-4465. American River at Fair Oaks, Calif.--Continued.

Records available.--Water temperatures: October 1961 to September 1962.

Extremes.--Maximum temperature during year, 67°F Aug. 20-28, 31, Sept. 3-19, 24-26; minimum, 38°F Jan. 22, 23.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	-	-	59	57	54	53	48	47	48	43	47	46	51	51	54	54	58	57	61	60	64	64	66	66
2	-	-	59	56	54	53	47	47	48	44	47	47	51	50	54	54	58	56	60	59	64	64	66	66
3	-	-	59	56	55	53	47	46	48	44	47	47	50	50	54	54	58	56	61	59	64	64	67	66
4	-	-	61	56	54	52	48	44	48	44	47	47	50	50	54	54	58	56	61	60	64	64	67	66
5	-	-	59	55	53	52	48	44	46	44	47	47	50	50	54	54	58	56	60	60	64	64	67	66
6	-	-	59	55	54	52	47	45	47	46	47	47	51	50	54	54	58	57	61	60	64	64	67	66
7	-	-	59	56	54	52	47	46	49	46	47	46	51	50	54	54	58	57	60	60	64	64	67	66
8	-	-	60	56	53	51	48	44	49	46	47	47	50	50	54	53	58	57	60	60	64	64	67	66
9	-	-	59	56	53	51	48	44	49	48	47	46	50	50	53	52	57	56	60	60	64	64	67	66
10	-	-	58	56	52	50	48	44	50	49	48	47	50	50	53	52	58	56	60	60	64	64	67	67
11	-	-	60	56	51	49	48	44	50	48	48	47	52	50	53	52	58	57	60	60	65	64	67	66
12	-	-	59	54	51	49	45	44	48	47	48	47	52	50	54	52	58	57	60	60	66	65	67	66
13	-	-	57	53	50	49	49	42	47	47	48	47	51	50	54	53	57	56	61	60	66	65	67	66
14	-	-	58	55	51	49	47	41	47	47	48	48	52	51	54	53	58	56	62	60	66	65	67	66
15	-	-	58	54	50	49	48	42	47	47	48	48	51	50	54	53	57	56	62	61	66	65	67	66
16	-	-	57	53	49	48	48	42	47	47	48	48	52	50	55	53	57	56	62	61	66	66	67	66
17	-	-	57	53	48	48	48	42	47	46	48	48	53	52	55	55	58	57	62	61	66	66	67	66
18	-	-	56	53	48	48	44	42	46	46	50	48	53	52	56	55	59	57	62	62	66	66	67	66
19	-	-	54	53	49	48	44	44	46	45	50	49	52	51	56	55	59	58	62	62	66	65	67	66
20	-	-	57	53	49	48	49	42	46	46	50	49	53	51	57	55	59	58	63	62	67	66	66	66
21	-	-	55	53	51	48	45	40	46	46	50	49	53	53	57	55	59	58	63	62	67	66	66	66
22	-	-	55	54	49	48	48	38	46	46	50	49	53	52	57	56	58	58	63	62	67	66	66	66
23	-	-	56	54	50	48	46	38	46	46	50	49	53	52	58	57	59	58	62	62	67	66	66	66
24	-	-	56	54	50	48	46	40	46	46	50	50	53	52	57	56	60	59	62	62	67	66	67	66
25	-	-	55	54	49	49	46	40	46	46	51	50	52	51	57	56	60	59	63	62	67	66	67	66
26	-	-	55	54	49	48	45	40	47	46	52	51	52	52	57	56	60	59	64	63	67	66	67	66
27	-	-	56	54	48	48	48	40	47	46	52	51	52	52	57	56	61	59	64	63	67	66	66	66
28	-	-	56	54	48	48	46	41	46	46	52	52	52	51	57	56	60	59	64	63	67	66	66	65
29	-	-	55	54	48	48	47	42	-	-	52	52	53	52	58	57	60	59	64	63	66	66	66	65
30	-	-	55	54	48	48	47	42	-	-	52	51	54	53	58	57	60	60	64	64	66	66	66	65
31	60	58	-	-	48	47	50	42	-	-	51	51	-	-	58	57	-	-	64	64	67	66	-	-
Avg	-	-	57	54	51	49	47	43	47	46	49	48	52	51	55	55	59	57	62	61	66	65	67	66

11-4475. Sacramento River at Sacramento, Calif.

Location.--Lat 38°35'20", long 121°30'15", on left bank 1,000 ft upstream from I Street Bridge, in city of Sacramento, and 0.5 mile downstream from American River.

Records available.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to September 1962. Gage heights collected in this vicinity November 1879 to May 1888, December 1890 to September 1962 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Oct. 15, 1912, staff gage in vicinity of I Street Bridge. Oct. 15, 1912 to Nov. 16, 1956, water-stage recorder at various sites in vicinity of I Street Bridge. Prior to Nov. 16, 1956, datum of gages at low-water mark of Oct. 23, 1856, 0.12 ft above mean sea level, and 3.10 ft above datum of Corps of Engineers. Auxiliary water-stage recorder on right bank 10.8 miles downstream, near Freepoint.

Average discharge.--14 years (1948-62), 22,700 cfs (16,430,000 acre-ft per year).

Extremes.--Maximum discharge during year, 70,500 cfs Feb. 16 (gage height, 22.85 ft); minimum daily, 6,660 cfs Oct. 9; minimum gage height, 1.31 ft Oct. 8.

1948-62: Maximum discharge, 104,000 cfs Nov. 21, 1950 (gage height 30.14 ft, site and datum then in use); minimum daily, 5,590 cfs July 20, 1949.

Maximum discharge known prior to Nov. 21, 1950, 103,000 cfs Jan. 17, 1909 (gage height, 29.6 ft), from reports of California Department of Water Resources.

Remarks.--Records good. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, and return flow from irrigated areas. A portion of the flow bypasses station during flood periods through Yolo bypass (see p. 926).

Cooperation.--Records collected and prepared in cooperation with the California Department of Water Resources.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,930	7,360	13,500	10,200	9,250	35,100	27,700	22,000	17,400	9,840	10,500	11,700
2	7,540	7,400	19,000	9,910	9,380	35,100	28,100	20,600	16,700	10,400	10,600	11,700
3	7,180	7,400	28,500	8,940	9,380	40,100	28,800	19,800	16,600	10,300	10,700	12,000
4	6,960	7,450	*32,300	9,030	9,470	41,000	29,200	20,300	16,200	10,100	10,700	12,300
5	6,740	7,580	30,900	8,810	9,250	39,800	29,900	21,300	15,400	10,300	11,100	12,600
6	7,010	*7,360	27,200	9,080	8,940	40,000	30,700	22,300	13,800	10,200	11,300	13,100
7	7,100	*7,100	23,900	9,160	8,970	47,700	31,600	23,100	12,600	10,000	11,000	13,600
8	6,700	7,100	18,300	9,210	10,400	54,400	32,200	23,300	12,400	9,810	11,200	13,500
9	6,660	7,010	15,900	9,300	16,700	57,900	32,800	23,400	12,500	9,890	11,300	13,900
10	7,050	7,230	14,400	9,470	38,200	59,700	33,500	23,900	12,400	*9,980	11,700	13,600
11	6,790	7,230	13,200	9,160	60,400	58,900	33,300	24,300	12,800	*10,200	12,100	13,000
12	6,660	7,010	12,000	9,160	*63,300	56,100	32,600	23,200	13,100	10,300	12,400	12,800
13	6,790	7,050	11,500	9,250	62,200	51,700	30,900	22,000	13,000	10,200	12,200	12,600
14	7,010	7,270	10,700	8,810	64,000	46,400	30,400	21,500	12,900	10,300	12,100	13,000
15	7,050	7,400	10,500	8,420	68,200	41,400	30,800	20,600	12,700	10,400	12,000	13,000
16	6,960	7,450	10,300	8,420	70,100	38,000	32,000	19,700	13,800	10,300	11,700	12,800
17	6,880	7,540	10,300	8,200	70,000	35,200	31,800	19,700	14,000	10,300	11,700	12,300
18	6,920	7,450	10,100	8,110	68,700	33,000	30,000	19,900	14,000	10,600	11,300	12,100
19	7,360	7,540	9,980	7,930	66,500	31,300	27,800	19,100	13,800	10,400	11,500	11,800
20	7,100	7,450	10,000	9,790	64,700	29,700	26,300	18,600	13,200	10,100	11,700	*12,000
21	7,050	7,930	11,200	18,000	63,200	28,500	25,000	17,800	12,800	10,100	11,800	*11,600
22	7,010	7,930	19,300	21,500	61,400	27,700	23,100	16,800	12,700	10,300	11,800	11,300
23	7,180	8,060	21,700	18,600	58,900	29,300	22,300	16,300	12,500	10,500	11,600	11,300
24	6,960	8,460	18,500	15,100	55,600	28,900	22,500	16,900	11,300	10,300	11,200	11,300
25	6,960	8,420	15,600	12,400	51,100	28,000	23,200	17,000	10,300	10,400	11,300	11,300
26	7,100	9,270	13,300	11,600	46,700	26,400	23,400	16,400	9,860	10,500	11,700	11,200
27	7,320	11,600	11,900	10,900	41,200	25,500	23,100	16,100	10,300	10,200	11,800	10,700
28	7,540	13,700	11,300	10,200	37,000	25,600	22,700	15,800	10,900	10,200	11,800	10,400
29	7,360	13,100	10,500	9,210	-	26,000	25,600	15,900	10,500	10,300	12,000	10,400
30	7,270	12,600	10,500	9,080	-----	26,400	25,900	17,200	9,870	10,500	12,000	10,500
31	7,490	-----	10,200	9,600	-----	26,700	-----	17,400	-----	10,400	12,000	-----
Total	219,630	247,450	486,480	326,550	1,204,040	1,171,500	847,200	612,200	390,330	317,620	357,800	363,400
Mean	7,085	8,248	15,690	10,530	43,000	37,790	28,240	19,750	13,010	10,250	11,540	12,110
Max	7,930	13,700	32,300	21,500	70,100	59,700	33,500	24,300	17,400	10,600	12,400	13,900
Min	6,660	7,010	9,980	7,930	8,940	25,500	22,300	15,800	9,860	9,810	10,500	10,400
Ac-ft	435,600	490,800	964,900	647,700	2,388,000	2,324,000	1,680,000	1,214,000	774,200	630,000	709,700	720,800

Calendar year 1961: Max 49,500 Min 6,660 Mean 15,170 Ac-ft 10,980,000

Water year 1961-62: Max 70,100 Min 6,660 Mean 17,930 Ac-ft 12,980,000

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-4476. Morrison Creek near Sacramento, Calif.

Location.--Lat 38°29'57", long 121°27'04", in NW 1/4 sec. 32, T.8 N., R.5 E., on right bank 1,100 ft upstream from Florin Road, 1.7 miles upstream from Elder Creek, and 2 miles south of Sacramento city limits.

Drainage area.--40.6 sq mi.

Records available.--July 1959 to September 1962.

Gage.--Water-stage recorder and concrete control since July 10, 1961. Datum of gage is 19.93 ft above mean sea level, datum of 1929. Prior to June 29, 1960, at site 1,000 ft downstream at different datum.

Extremes.--Maximum discharge during year, 985 cfs Feb. 10 (gage height, 6.94 ft); no flow Aug. 2, 3.
1959-62: Maximum discharge, that of Feb. 10, 1962; no flow at times in 1960, 1962.

Remarks.--Records good. No regulation or diversion above station. Summer flow sustained by waste water from domestic and industrial use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

1.34	0	2.1	44
1.4	.6	2.5	104
1.5	1.9	3.0	186
1.6	4.0	4.0	367
1.7	8.1	5.0	567
1.8	14	6.5	888
1.9	21		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	4.0	7.2	3.0	4.0	3.4	4.6	4.6	5.8	5.4	5.8	4.0
2	5.0	3.7	9.3	2.6	5.0	3.0	4.6	* 4.6	6.2	5.4	1.6	3.4
3	4.3	4.0	4.0	4.0	5.0	1.6	* 4.3	4.0	6.6	5.4	3.7	3.0
4	4.3	4.0	1.4	4.0	5.8	1.4	4.3	4.6	6.6	3.7	4.6	* 2.2
5	5.4	3.7	8.6	4.0	4.6	6.7	4.3	5.4	5.4	3.2	5.8	3.0
6	5.0	4.3	7.1	4.0	9.6	11.8	4.6	5.0	4.6	5.8	5.0	3.4
7	4.0	4.3	5.8	4.0	* 4.2	6.2	4.3	4.3	5.0	5.8	5.0	3.4
8	3.2	4.0	5.4	4.0	* 2.7	3.2	4.3	5.4	5.8	5.4	5.0	3.7
9	2.8	4.0	5.4	4.3	* 3.52	2.1	4.0	5.0	6.6	5.0	5.8	4.3
10	2.6	4.3	5.0	4.0	* 8.69	1.4	4.6	4.6	6.6	5.0	5.0	4.0
11	1.7	4.3	4.6	4.0	4.90	1.1	5.8	5.0	5.4	5.8	5.4	4.0
12	1.3	4.3	4.3	5.0	1.12	9.6	7.1	5.0	5.0	5.8	5.0	5.4
13	1.4	4.0	4.3	4.3	2.49	8.6	7.6	5.4	4.6	5.8	5.0	4.6
14	3.0	4.3	4.3	4.6	3.52	7.6	6.6	4.6	4.3	5.4	5.0	4.3
15	4.0	4.0	3.4	4.0	7.15	7.1	5.0	5.0	4.6	5.4	4.3	4.3
16	4.0	3.7	3.0	4.0	3.15	6.6	4.0	4.3	4.6	4.6	5.0	4.3
17	3.4	3.7	2.8	4.0	1.22	6.6	4.3	4.0	5.0	4.6	5.0	4.6
18	3.0	4.0	* 3.0	5.8	8.0	6.6	4.6	4.3	5.4	4.6	4.6	4.3
19	4.0	4.3	3.4	1.8	8.5	6.6	5.8	4.0	6.2	5.4	4.3	4.3
20	4.3	2.0	4.0	5.0	6.0	5.8	5.8	4.3	* 5.8	5.8	4.3	4.3
21	5.0	8.1	5.0	1.6	3.7	7.1	5.0	4.3	5.4	5.0	4.0	4.3
22	5.4	* 8.6	4.3	6.6	2.2	8.1	5.0	4.6	6.2	4.0	3.7	4.3
23	5.0	5.0	4.0	5.4	* 1.8	8.1	5.0	4.6	5.4	3.7	3.7	4.6
24	* 4.3	3.4	4.3	5.0	1.5	5.8	4.0	4.6	5.4	3.7	4.0	5.0
25	4.0	8.2	2.2	5.0	1.4	5.4	3.2	4.6	5.4	3.7	5.0	4.6
26	4.0	1.2	2.6	4.6	1.2	5.4	3.4	5.0	6.2	* 3.7	4.6	4.3
27	3.7	8.6	4.0	4.3	1.0	5.4	4.6	6.2	5.4	3.4	4.3	3.7
28	3.7	7.1	4.0	4.3	1.3	5.4	5.8	1.2	5.0	3.4	4.0	4.6
29	4.0	4.2	4.0	4.3	-	5.4	7.6	7.1	5.0	3.4	3.7	5.0
30	3.7	* 6.0	4.0	4.0	-----	5.0	5.0	4.0	5.0	5.4	3.7	4.3
31	3.7	-----	4.0	4.3	-----	5.4	-----	5.4	-----	6.6	4.0	-----
Total	118.2	259.9	335.8	205.4	404.5	550.6	149.1	155.8	164.5	149.3	139.9	123.5
Mean	3.81	8.66	10.8	6.63	14.4	17.8	4.97	5.03	5.48	4.82	4.51	4.12
Max	5.4	6.0	9.3	5.0	8.69	11.8	7.6	1.2	6.6	6.6	5.8	5.4
Min	1.3	3.4	2.2	2.6	4.0	5.0	3.2	4.0	4.3	3.2	1.6	2.2
Ac-ft	234	516	666	407	8,020	1,090	296	309	326	296	277	245

Calendar year 1961: Max 80 Min 1.3 Mean 7.54 Ac-ft 5,450

Water year 1961-62: Max 869 Min 1.3 Mean 17.5 Ac-ft 12,680

Peak discharge (base 150 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 2	0800	2.95	178	2-15	1200	6.35	855
2-10	1700	6.94	985	3- 6	1800	2.82	156

Supplementary peak discharges not previously published, are shown in table below:

Date	Time	Gage height	Discharge
2-8-60	2200	4.83	347
1-31-61	0930	2.57	168

11-4485. Adobe Creek near Kelseyville, Calif.

Location.--Lat 38°55'40", long 122°52'45", in SE $\frac{1}{4}$ sec.5, T.12 N., R.9 W., on left bank 2.5 miles upstream from Highland Creek and 4.2 miles south of Kelseyville.

Drainage area.--6.39 sq mi.

Records available.--October 1954 to September 1962.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,478.1 ft above mean sea level (levels by Topographic Division).

Average discharge.--8 years, 11.3 cfs (8,180 acre-ft per year).

Extremes.--Maximum discharge during year, 818 cfs Feb. 13 (gage height, 7.55 ft); no flow for several months.
1954-62: Maximum discharge, 1,250 cfs Dec. 21, 1955 (gage height, 8.72 ft); no flow at times in each year.

Remarks.--Records fair above 10 cfs and poor below. Some storage and diversions for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 17 to Mar. 1)

3.86	0	4.3	11	5.0	96
3.9	.1	4.4	19	5.5	194
4.0	.6	4.5	29	6.0	320
4.1	2.4	4.7	52	6.5	470
4.2	5.4				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	254	1.4	1.6	61	3.9	1.1	0.5	0.2		
2	0	0	47	1.4	1.4	*77	3.6	1.1	.4	.2		
3	0	0	16	1.4	1.4	39	3.4	1.1	.4	.1		
4	0	0	8.3	1.2	1.2	27	3.4	a 1	*.4	.1		
5	0	0	5.8	1.2	1.1	154	3.1	a 1	.3	.1		
6	0	0	4.2	1.1	1.4	155	2.8	a 1	.2	0		
7	0	0	3.6	1.1	*11	62	2.8	a 1	.3	0		
8	0	0	3.1	.9	57	38	2.6	a 1	.6	0		
9	0	0	2.6	.9	266	26	2.6	.9	.6	0		
10	*0	0	2.4	.9	91	18	2.4	.9	.6	0		
11	0	0	2.1	.9	38	14	2.4	.8	.6	0		
12	0	0	1.8	1.4	145	11	2.1	.8	.6	0		
13	0	0	1.6	1.2	381	8.9	2.1	.8	.6	0		
14	0	0	1.6	1.1	*294	7.2	1.8	.8	.7	0		
15	0	0	1.4	.9	*304	6.7	1.8	.8	.6	0		
16	0	0	1.2	.9	*123	6.2	1.6	.7	.6	0		
17	0	0	1.6	.9	52	5.8	1.6	.7	.5	0		
18	0	0	1.6	1.1	62	5.0	1.6	.7	.4	*0		
19	0	0	2.1	40	39	4.6	1.6	.6	.4	0		
20	0	1.1	3.9	*32	23	4.2	1.6	.6	.3	0		
21	0	.4	5.4	9.5	15	3.9	1.4	.6	.3	0		
22	0	.3	3.6	5.8	10	39	1.2	.6	.2	0		
23	0	1.2	2.8	4.2	7.7	16	1.2	.6	.2	0		
24	0	22	2.6	3.6	6.2	12	*1.2	.6	.2	0		
25	0	60	2.1	3.1	5.0	10	1.2	.7	.2	0		
26	.6	12	1.8	2.6	4.2	8.3	1.2	1.2	.2	0		
27	0	3.6	*1.8	2.4	3.4	7.2	2.1	.9	.2	0		
28	0	2.1	1.6	2.1	11	6.2	1.8	.7	.2	0		
29	0	*83	1.6	*1.8	-	5.4	1.4	.7	.2	0		
30	0	106	1.6	1.8	-----	4.2	1.2	.6	.2	0		
31	0	-----	1.4	1.6	-----	4.2	-----	.5	-----	0		
Total	0.6	291.7	392.2	130.4	1,956.6	847.0	62.7	25.1	11.9	0.7	0	0
Mean	0.02	9.72	12.7	4.21	69.9	27.3	2.09	0.81	0.40	0.02	0	0
Max	0.6	106	254	40	381	155	3.9	1.2	0.7	0.2	0	0
Min	0	0	1.2	0.9	1.1	4.2	1.2	0.5	0.2	0	0	0
Ac-ft	1.2	579	778	259	3,880	1,680	124	50	24	1.4	0	0

Calendar year 1961: Max 260 Min 0 Mean 7.41 Ac-ft 5,370

Water year 1961-62: Max 381 Min 0 Mean 10.2 Ac-ft 7,380

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	1100	6.51	473	2-13	0900	7.55	818
2-9	1200	6.21	383	3-5	1900	6.68	524

* Discharge measurement or observation of no flow made on this day.
a No gage-height record.

SACRAMENTO RIVER BASIN

11-4490. Highland Creek near Kelseyville, Calif.

Location.--Lat 38°56'10", long 122°54'25", in NW¼ sec.31, T.13 N., R.9 W., on downstream side of middle pier of Highland Springs Road bridge at Highland Springs, 1.6 miles upstream from mouth, and 4.8 miles southwest of Kelseyville.

Drainage area.--12.7 sq mi.

Records available.--October 1954 to September 1962 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 1,444.46 ft above mean sea level (levels by Topographic Division).

Average discharge.--8 years, 20.0 cfs (14,480 acre-ft per year).

Extremes.--Maximum discharge during year not determined, occurred Feb. 13; maximum gage height, 12.08 ft Dec. 1 (backwater from dam construction); no flow Oct. 1 to Nov. 2.

1954-62: Maximum discharge, 2,280 cfs Feb. 24, 1958 (gage height, 12.19 ft); no flow for many days in each year except 1958.

Remarks.--Records fair except those for periods of indefinite stage-discharge relation, which are poor. No regulation or diversion.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June'	July	Aug.	Sept.
1		0	e 420	2.2	1.9	104	15	3.0	1.5	0.6	0.1	0.1
2		0	e 300	2.2	1.6	*108	15	3.0	1.5	.6	.1	.1
3		.1	e 180	2.1	1.4	57	13	3.0	1.5	.6	.1	.1
4		.1	e 30	1.9	1.3	40	12	2.8	*1.5	.5	.1	.1
5		.1	13	a 1.9	1.2	304	11	2.4	1.4	.5	.1	.1
6		.1	8.7	a 1.8	2.1	* 333	11	2.4	1.3	.5	.2	.1
7		.1	5.6	a 1.8	*17	* 154	11	2.4	1.5	.4	.2	.1
8		.1	5.0	a 1.7	*78	112	11	2.6	1.5	.4	.2	.1
9		.1	4.6	1.6	*367	91	11	2.8	1.5	.4	.2	.1
10	(*)	.1	4.6	1.5	*138	76	10	2.6	1.5	.3	.2	.1
11		.1	3.5	1.4	71	64	10	2.6	1.4	.3	.2	.1
12		.2	3.2	1.8	185	47	9.2	2.6	1.4	.3	.2	.1
13		.2	2.9	1.4	*e 560	35	9.2	2.4	1.4	.3	.1	.1
14		.2	2.6	1.3	*e 370	33	9.2	2.4	1.4	.3	.1	.1
15		.2	2.2	1.2	*431	30	8.4	2.3	1.4	.3	.1	.1
16		.2	2.1	1.4	*239	27	7.6	2.3	1.3	.3	.1	.1
17		.2	2.5	2.2	130	25	4.5	2.2	1.2	.2	.1	.1
18		.2	2.6	2.6	162	21	4.5	2.2	1.1	*.2	.1	**1
19		.4	3.7	43	98	20	5.2	2.0	1.0	.2	.1	a.1
20		1.2	5.6	25	65	19	4.5	2.0	.9	.2	.1	a.1
21		*.7	a 12	12	44	19	4.0	1.9	.9	.2	.1	a.1
22		.6	6.3	8.0	33	67	4.0	1.9	.8	.2	.1	a.1
23		1.2	4.6	6.6	27	39	3.5	1.9	.8	.2	.1	a.1
24		4.4	4.1	5.8	24	30	* 3.2	1.9	.8	.2	.1	a.1
25		9.5	4.1	5.4	21	27	3.2	2.2	.8	.2	.1	a.1
26		17	3.7	4.8	18	24	3.2	2.2	.8	.2	.1	a.1
27		6.1	* 2.9	4.1	16	22	4.2	1.8	.7	.2	.1	a.1
28		3.7	2.8	3.5	* 30	20	3.8	1.7	.7	.2	*.1	a.1
29		* 60	2.6	* 2.9	-	18	3.4	1.6	.7	.1	.1	a.1
30		108	2.5	2.6	-----	16	3.2	1.6	.6	.1	.1	a.1
31		-----	2.3	2.2	-----	15	-----	1.6	-----	.1	-----	-----
Total	0	340.2	1,050.3	157.9	3,133.5	1,997	228.0	70.3	34.8	9.3	3.8	3.0
Mean	0	11.3	33.9	5.09	112	64.4	7.60	2.27	1.16	0.30	0.12	0.10
Max	0	108	420	43	560	333	15	3.0	1.5	0.6	0.2	0.1
Min	0	0	2.1	1.2	1.2	15	3.2	1.6	0.6	0.1	0.1	0.1
Ac-ft	0	675	2,080	313	6,220	3,960	452	139	69	18	7.5	6.0

Calendar year 1961: Max 420 Min 0 Mean 12.2 Ac-ft 8,850

Water year 1961-62: Max 560 Min 0 Mean 19.3 Ac-ft 13,940

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

** Field estimate made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.

SACRAMENTO RIVER BASIN

915

11-4491. Scotts Creek near Lakeport, Calif.

Location.--Lat 39°03'45", long 122°56'50", in SW $\frac{1}{4}$ sec.14, T.14 N., R.10 W., 100 ft downstream from bridge on Hartley Cemetery Road and 0.8 mile northwest of Lakeport.

Drainage area.--52.3 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,420 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,910 cfs Feb. 14 (gage height, 10.98 ft); no flow for several months.
1960-62: Maximum discharge, that of Feb. 14, 1962; no flow for several months in each year.

Remarks.--Small diversions above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1,030	7.3	9.4	208	39	8.0	1.0			
2		0	*198	6.9	9.1	370	37	7.6	.8			
3		0	78	6.3	8.9	228	35	6.9	.6			
4		0	41	6.0	8.7	185	33	6.5	.5			
5		0	23	5.0	8.2	898	31	5.7	.3			
6		0	13	4.8	1.1	1,310	28	5.4	.1			
7		0	9.0	4.9	4.1	678	27	4.9	0			
8		0	7.0	4.6	142	332	25	4.7	0			
9		0	5.1	4.4	890	213	25	4.7	0			
10		0	4.3	4.0	394	155	23	4.7	0			
11		0	3.6	3.7	158	130	22	4.5	0			
12		0	3.2	4.7	287	104	19	4.4	0			
13		0	3.6	4.7	*1,710	90	19	4.2	0			
14		0	3.4	3.5	1,170	80	17	4.2	0			
15		0	3.0	3.4	1,610	74	17	3.8	0			
16		0	2.7	3.6	893	72	16	4.2	0			
17		0	4.6	3.8	411	68	15	4.2	0			
18		0	7.2	3.7	431	60	*14	4.2	0			
19		0	53	83	316	58	14	3.8	0			
20		0	94	110	188	*55	14	3.5	0			
21		0	108	50	129	52	12	3.1	0			
22		0	70	*30	98	121	12	2.9	0			
23		0	50	23	81	93	11	*2.6	0			
24		0	37	21	69	79	10	2.4	0			
25		37	28	18	60	70	9.1	2.3	0			
26		2.7	21	14	54	65	8.7	2.3	0			
27		0	*17	13	48	58	8.4	2.5	0			
28		0	13	11	50	51	10	2.5	0			
29		35	11	10	-	47	9.5	2.1	0			
30		209	9.3	10	-----	44	9.0	1.6	0			
31		-----	8.1	9.8	-----	42	-----	1.3	-----			
Total	0	283.7	1,959.1	488.1	9,285.3	6,090	569.7	125.7	3.3	0	0	0
Mean	0	9.46	63.2	15.7	332	196	19.0	4.05	0.11	0	0	0
Max	0	209	1,030	110	1,710	1,310	39	8.0	1.0	0	0	0
Min	0	0	2.7	3.4	8.2	42	8.4	1.3	0	0	0	0
Ac-ft	0	563	3,890	968	18,420	12,080	1,130	249	6.5	0	0	0

Calendar year 1961: Max 1,030 Min 0 Mean 42.9 Ac-ft 31,080

Water year 1961-62: Max 1,710 Min 0 Mean 51.5 Ac-ft 37,310

* Discharge measurement made on this day.

11-4495. Kelsey Creek near Kelseyville, Calif.

Location.--Lat 38°55'45", long 122°50'35", in SE $\frac{1}{4}$ sec.34, T.13 N., R.9 W., on left bank 1.6 miles downstream from Widow Creek and 3.5 miles south of Kelseyville.

Drainage area.--37.2 sq mi.

Records available.--October 1946 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,475.1 ft above mean sea level (levels by Topographic Division). Prior to July 16, 1955, at site 600 ft upstream at different datum.

Average discharge.--16 years, 68.5 cfs (49,590 acre-ft per year); median of yearly mean discharges, 53 cfs (38,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,730 cfs Feb. 14 (gage height, 10.02 ft); minimum, 1.8 cfs Aug. 26.

1946-62: Maximum discharge, 8,800 cfs Dec. 21, 1955 (gage height, 12.80 ft), from rating curve extended above 2,600 cfs on basis of computation of peak flow over dam; minimum, 0.5 cfs Sept. 1, 1950, but may have been less during August 1950.

Remarks.--Records good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	3.1	1,220	16	18	294	47	23	14	5.4	2.9	1.9
2	2.4	3.2	275	15	16	384	46	23	13	5.6	2.7	1.9
3	2.2	3.2	124	15	16	198	44	22	13	5.4	2.7	2.2
4	2.4	3.1	80	14	15	155	43	22	* 13	5.4	3.1	2.3
5	3.0	3.1	61	13	15	865	40	21	12	4.6	4.0	2.4
6	2.7	3.1	50	13	17	851	39	21	12	4.3	4.0	2.6
7	2.6	3.1	42	13	*71	396	39	20	10	4.8	4.3	2.5
8	2.9	3.1	37	13	240	249	37	20	10	4.4	4.5	2.6
9	2.7	3.1	33	12	1,260	185	36	22	9.2	4.3	5.4	2.4
10	*2.9	3.1	30	12	555	151	35	21	9.2	3.8	5.4	2.4
11	3.6	3.3	27	12	225	133	33	21	9.6	3.8	4.5	2.6
12	3.7	3.3	25	12	541	114	32	21	9.6	4.0	4.4	3.2
13	3.4	3.3	23	12	1,810	100	31	20	9.2	4.1	4.0	3.1
14	3.2	3.4	22	12	*1,450	90	30	20	8.4	4.3	3.8	2.9
15	2.7	3.3	21	11	1,510	83	30	19	10	4.1	3.4	2.9
16	2.1	3.3	20	11	*788	79	29	19	9.6	4.0	2.9	2.7
17	2.1	3.4	22	11	399	72	29	18	9.0	3.5	2.8	2.7
18	2.1	3.1	22	11	406	66	28	18	8.0	*3.3	2.8	2.7
19	2.2	4.3	25	153	297	61	28	17	7.7	3.4	2.7	3.2
20	2.3	6.5	30	176	219	*58	28	17	7.1	3.1	2.6	3.4
21	2.4	6.5	47	68	175	56	27	17	6.7	2.8	2.5	3.2
22	2.6	*6.5	34	46	146	148	27	16	6.4	2.9	2.4	2.9
23	2.8	8.4	28	36	128	88	26	16	6.4	2.8	2.3	2.9
24	3.0	66	25	33	113	75	*25	16	6.3	2.6	2.2	3.2
25	2.7	274	23	30	100	69	25	17	5.8	2.6	2.0	3.3
26	2.9	74	21	26	90	64	24	19	6.0	2.5	1.8	3.1
27	3.6	33	*20	23	82	61	27	19	5.8	2.4	1.9	3.2
28	3.6	21	19	21	91	57	30	17	5.6	2.3	*2.2	4.0
29	3.3	287	18	*20	-	54	26	16	5.4	2.2	2.2	4.6
30	3.0	531	17	19	-----	52	24	15	5.6	2.3	2.0	4.3
31	3.0	-----	16	18	-----	49	-----	15	-----	2.6	1.9	-----
Total	86.5	1,375.8	2,457	897	10,793	5,357	965	588	263.6	113.6	96.3	87.3
Mean	2.79	45.9	79.3	28.9	385	173	32.2	19.0	8.79	3.66	3.11	2.91
Max	3.7	531	1,220	176	1,810	865	47	23	14	5.6	5.4	4.6
Min	2.1	3.1	16	11	15	49	24	15	5.4	2.2	1.8	1.9
Ac-ft	172	2,730	4,870	1,780	21,410	10,630	1,910	1,170	523	225	191	173

Calendar year 1961: Max 1,220 Min 1.9 Mean 41.2 Ac-ft 29,810

Water year 1961-62: Max 1,810 Min 1.8 Mean 63.2 Ac-ft 45,780

Peak discharge (base, 1,600 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-1	0900	9.03	2,390	2-14	2000	10.02	3,730
2-9	1100	8.72	2,050	3-5	1900	9.25	2,690

11-4500. Clear Lake at Lakeport, Calif.

Location.--Lat 39°02'40", long 122°54'45", in SE $\frac{1}{4}$ sec.24, T.14 N., R.10 W., on private pier at foot of Fourth Street in Lakeport.Drainage area.--528 sq mi.Records available.--1874-1900 (incomplete), January 1913 to September 1962.Gage.--Water-stage recorder. Datum of gage is 1,318.59 ft above mean sea level, datum of 1929. Prior to July 8, 1947, staff gage and July 8, 1947, to Mar. 17, 1949, water-stage recorder, at municipal wharf at foot of Third Street in Lakeport at same datum.Extremes.--Maximum daily gage height during year, 7.76 ft Mar. 7; minimum, 1.89 ft Nov. 18.

1913-62: Maximum gage height observed, 11.12 ft Jan. 28, 1914; minimum observed, -3.50 ft Sept. 24-27, 1920.

Remarks.--This natural lake is regulated by a concrete overflow at outlet, completed in 1915. Capacity between gage heights 0.00 and 7.56 ft (limits stipulated by court decree of 1920), about 319,000 acre-ft. Water is released down natural channel of Cache Creek from which it is diverted for irrigation (see Cache Creek near Lower Lake, p. 919).Cooperation.--Daily mean gage-height record furnished by Clear Lake Water Co.

Mean gage height, in feet, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.40	1.99	2.65	3.02	3.20	6.94	7.55	7.23	6.37	5.22	3.98	2.86
2	2.39	1.98	2.74	3.02	3.20	7.06	7.56	7.20	6.33	5.18	3.91	2.83
3	2.38	1.98	2.78	3.03	3.20	7.16	7.56	7.18	6.30	5.16	3.87	2.80
4	2.37	1.98	2.80	3.03	3.21	7.26	7.57	7.16	6.25	5.11	3.80	2.77
5	2.36	1.97	2.82	3.04	3.21	7.50	7.57	7.14	6.23	5.06	3.78	2.74
6	2.31	1.97	2.85	3.04	3.26	7.70	7.56	7.12	6.18	5.03	3.74	2.72
7	2.31	1.96	2.85	3.04	3.28	7.76	7.54	7.08	6.14	4.99	3.71	2.69
8	2.28	1.96	2.85	3.04	3.38	7.70	7.52	7.06	6.11	4.94	3.68	2.66
9	2.24	1.95	2.84	3.04	3.68	7.65	7.51	7.03	6.06	4.90	3.64	2.63
10	2.22	1.94	2.84	3.04	3.81	7.59	7.52	7.00	6.03	4.87	3.61	2.60
11	2.21	1.93	2.85	3.04	3.90	7.53	7.53	6.97	6.01	4.83	3.58	2.57
12	2.20	1.93	2.85	3.04	4.08	7.44	7.54	6.93	5.98	4.77	3.54	2.53
13	2.20	1.92	2.85	3.04	4.60	7.41	7.53	6.90	5.95	4.73	3.51	2.50
14	2.19	1.91	2.84	3.04	5.21	7.44	7.52	6.88	5.92	4.70	3.48	2.48
15	2.18	1.90	2.84	3.04	5.71	7.46	7.52	6.84	5.87	4.66	3.44	2.46
16	2.17	1.90	2.84	3.04	6.03	7.50	7.52	6.82	5.83	4.62	3.41	2.44
17	2.16	1.90	2.85	3.04	6.26	7.52	7.52	6.79	5.80	4.58	3.37	2.41
18	2.15	1.89	2.90	3.04	6.45	7.54	7.50	6.75	5.78	4.56	3.33	2.38
19	2.11	1.95	2.92	3.08	6.52	7.54	7.48	6.70	5.75	4.51	3.30	2.35
20	2.10	1.92	2.94	3.13	6.57	7.55	7.47	6.68	5.70	4.47	3.27	2.33
21	2.08	1.93	2.96	3.18	6.63	7.55	7.45	6.66	5.67	4.41	3.25	2.31
22	2.07	1.94	2.97	3.18	6.66	7.55	7.44	6.61	5.62	4.37	3.21	2.29
23	2.06	1.97	2.98	3.15	6.71	7.53	7.39	6.58	5.58	4.33	3.18	2.27
24	2.05	2.04	2.99	3.16	6.75	7.51	7.37	6.57	5.52	4.29	3.15	2.25
25	2.03	2.10	2.99	3.16	6.78	7.49	7.34	6.55	5.45	4.25	3.11	2.23
26	2.04	2.11	3.00	3.17	6.79	7.47	7.32	6.54	5.42	4.21	3.08	2.21
27	2.04	2.12	3.00	3.18	6.80	7.49	7.30	6.51	5.39	4.18	3.03	2.20
28	2.03	2.18	3.01	3.18	6.84	7.51	7.28	6.49	5.34	4.13	2.99	2.18
29	2.02	2.24	3.02	3.19	-----	7.52	7.27	6.46	5.30	4.09	2.96	2.17
30	2.00	2.38	3.02	3.19	-----	7.53	7.25	6.43	5.27	4.06	2.92	2.16
31	2.00	-----	3.02	3.20	-----	7.55	-----	6.40	-----	4.01	2.89	-----

SACRAMENTO RIVER BASIN

11-4506. Copsey Creek near Lower Lake, Calif.

Location.--Lat 38°53'21", long 122°35'47", in NE¼ sec.14, T.12 N., R.7 W., on left bank 1.7 miles southeast of Lower Lake and 2.5 miles upstream from mouth.

Drainage area.--13.2 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,400 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,530 cfs Feb. 14 (gage height, 11.13 ft); no flow for many days.
1960-62: Maximum discharge, that of Feb. 14, 1962; no flow for many days in each year.

Remarks.--Minor diversions above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2	260	0.7	0.8	35	4.9	1.8	1.1	0.2	0.1	
2	0	.4	*55	.7	.8	40	4.8	1.8	1.2	.3	.1	
3	0	.3	21	.7	.7	19	4.4	1.9	1.2	.4	.1	
4	0	.4	7.8	.7	.8	15	4.4	1.9	1.1	.4	.1	(*)
5	*0	.4	4.4	.7	.7	310	4.0	1.8	1.1	.2	.1	
6	0	.3	2.9	.7	.9	256	4.0	1.7	1.1	.4	.1	
7	0	.3	2.0	.7	35	68	3.9	1.6	1.1	.4	.2	
8	0	.3	2.0	.6	66	41	3.9	1.8	1.1	.4	.2	
9	0	.3	1.6	.6	358	30	3.2	1.8	1.1	.2	.2	
10	0	.3	1.4	.6	54	24	2.9	1.5	1.1	.3	.2	
11	0	.5	1.3	.6	28	20	2.8	1.5	1.1	.3	.1	
12	0	.6	1.2	.8	133	16	2.9	1.3	1.0	.4	.1	
13	0	.4	1.2	.8	*554	14	2.9	1.3	.6	.2	.1	
14	0	.3	1.1	.8	534	13	3.1	1.4	.6	.4	.1	
15	0	.4	1.0	.7	357	11	2.9	1.3	.6	.3	.1	
16	0	.3	1.2	.8	94	11	2.8	1.3	.5	.3	0	
17	0	.3	1.2	.8	41	10	2.8	1.0	.4	.3	0	(*)
18	0	.4	1.1	.7	154	93	*2.5	1.0	*.3	.3	0	
19	0	.4	1.2	4.7	50	8.5	2.4	1.0	.3	.3	0	
20	0	.6	1.2	8.2	32	*7.9	2.1	1.2	.2	.4	0	
21	0	*.3	1.1	2.1	24	7.2	2.2	1.1	.3	.3	0	
22	0	.3	1.0	*1.2	19	13	2.1	*.9	.3	.1	0	
23	0	.5	.9	1.0	15	8.2	2.0	1.0	.4	.1	0	
24	0	1.7	.9	1.1	13	7.2	1.9	1.1	.5	.1	0	
25	0	1.9	.8	1.0	11	6.9	1.9	1.5	.4	.2	0	
26	0	.8	.8	1.0	9.1	6.4	1.9	1.4	.3	.1	0	
27	*0	.5	*.8	1.0	8.5	5.7	2.1	1.3	.3	.1	0	
28	0	.5	.8	.9	16	5.5	2.0	1.4	.3	.1	0	
29	0	18	.8	.9	-	5.5	2.0	1.2	.2	.1	0	
30	.1	51	.8	.9	-----	5.3	1.9	1.3	.4	0	0	
31	.2	-----	.7	.8	-----	4.9	-----	1.3	-----	.1	0	-----
Total	0.3	82.9	379.2	37.5	2,610.3	1,034.5	87.6	43.4	20.2	7.7	1.9	0
Mean	0.01	2.76	12.2	1.21	93.2	33.4	2.92	1.40	0.67	0.25	0.06	0
Max	0.2	51	260	8.2	554	310	4.9	1.9	1.2	0.4	0.2	0
Min	0	0.2	0.7	0.6	0.7	4.9	1.9	0.9	0.2	0	0	0
Ac-ft	0.6	164	752	74	5,180	2,050	174	86	40	15	3.8	0

Calendar year 1961: Max 336 Min 0 Mean 5.93 Ac-ft 4,290
Water year 1961-62: Max 554 Min 0 Mean 11.8 Ac-ft 8,540

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

SACRAMENTO RIVER BASIN

919

11-4510. Cache Creek near Lower Lake, Calif.

Location.--Lat 38°55'27", long 122°33'53", in sec.6, T.12 N., R.6 W., on left bank 500 ft downstream from Clear Lake Dam, 1.9 miles downstream from Copsey Creek, and 2.5 miles northeast of Lower Lake.

Drainage area.--528 sq mi.

Records available.--May 1944 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,280.3 ft above mean sea level (river-profile survey).

Average discharge.--18 years, 301 cfs (217,900 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 5,800 cfs Mar. 5 (gage height, 8.45 ft); minimum daily, 1.3 cfs Dec. 31 to Jan. 13. 1944-62: Maximum discharge, 8,000 cfs Feb. 24, 1958 (gage height, 9.40 ft); minimum recorded, 0.2 cfs Mar. 15-23, 1950.

Remarks.--Records good. Flow completely regulated by Clear Lake (see p. 917).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

0.4	1.3	1.5	44	4.0	600
.5	2.4	2.0	96	5.0	1,160
.6	3.8	2.5	170	6.0	2,000
.8	8.4	3.0	270	7.0	3,200
1.0	15	3.5	410	8.0	4,900
1.2	25				

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	2.6	2.5	1.3	3.1	3.8	6.9	335	344	413	344	250
2	52	2.6	1.9	1.3	3.0	4.2	6.6	362	353	392	353	232
3	53	2.6	1.8	1.3	3.0	4.2	75	386	380	380	359	234
4	53	2.6	1.8	1.3	2.8	5.7	135	410	395	392	338	252
5	52	2.5	1.8	1.3	2.8	1,050	135	425	* 374	422	312	266
6	52	2.5	1.7	1.3	2.8	3,290	252	410	365	428	308	258
7	51	2.5	1.6	1.3	2.8	2,880	332	386	359	401	315	238
8	50	2.5	1.6	1.3	2.8	2,850	329	371	386	410	323	212
9	50	2.5	1.6	1.3	3.6	2,820	197	371	419	416	338	200
10	* 50	2.5	1.6	1.3	2.6	2,740	6.9	359	413	407	341	200
11	65	2.5	1.6	1.3	2.5	2,740	6.4	344	428	416	344	196
12	84	2.5	1.6	1.3	2.4	2,620	6.4	338	440	425	335	190
13	83	2.4	1.5	1.3	3.4	1,170	6.1	315	464	413	305	188
14	83	2.4	1.5	1.4	339	66	6.1	305	488	383	310	170
15	83	2.4	1.5	1.4	140	37	94	312	472	374	338	156
16	60	1.8	1.5	1.4	5.2	12	132	341	460	389	353	154
17	50	1.7	1.5	1.4	4.6	11	132	362	422	419	344	154
18	50	1.7	1.5	1.4	4.6	11	221	344	395	440	320	152
19	42	1.8	1.5	1.5	4.4	11	320	310	410	* 440	329	152
20	35	* 1.8	1.5	1.5	4.4	192	350	282	452	452	341	150
21	35	1.8	1.5	1.5	4.4	* 876	377	270	524	444	326	149
22	34	1.8	1.5	1.4	4.0	1,190	377	288	552	428	315	147
23	34	1.9	1.5	1.4	4.0	1,190	386	305	516	437	308	147
24	34	2.1	1.5	1.4	3.8	1,180	386	302	464	460	308	147
25	18	2.1	1.5	1.4	3.8	1,180	* 383	270	452	468	305	135
26	2.2	2.1	1.5	1.4	3.8	645	383	246	422	452	298	118
27	2.2	2.0	* 1.4	1.4	3.8	96	383	246	398	428	290	108
28	2.4	2.0	1.4	1.4	3.8	93	380	250	395	419	300	95
29	2.1	2.0	1.4	1.8	-	8.7	377	270	401	398	* 298	82
30	2.1	2.0	1.4	* 3.2	-----	8.1	359	302	422	371	288	82
31	2.1	-----	1.3	3.1	-----	7.4	-----	332	-----	353	278	-----
Total	1,319.1	66.2	49.0	46.3	571.2	28,822.0	6,540.4	10,149	12,765	12,870	9,964	5,214
Mean	42.6	2.21	1.58	1.49	20.4	930	218	327	426	415	321	174
Max	84	2.6	2.5	3.2	339	3,290	386	425	552	468	359	266
Min	2.1	1.7	1.3	1.3	2.4	3.8	6.1	246	344	353	278	82
Ac-ft	2,620	131	97	92	1,130	57,170	12,970	20,130	25,320	25,530	19,760	10,340
Calendar year 1961:	Max 528	Min 1.3	Mean 146	Ac-ft 105,300								
Water year 1961-62:	Max 3,290	Min 1.3	Mean 242	Ac-ft 175,300								

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

11-4515. North Fork Cache Creek near Lower Lake, Calif.

Location.--Lat 39°01', long 122°33', in NE $\frac{1}{4}$ sec.31, T.14 N., R.6 W., on right bank 500 ft upstream from Sweet Hollow Creek, 5 miles upstream from mouth, and 7 miles northeast of Lower Lake.

Drainage area.--198 sq mi.

Records available.--July 1930 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 1,035.60 ft above mean sea level, preliminary adjustment of 1929. Prior to June 15, 1939, at datum 1.00 ft higher.

Average discharge.--32 years, 185 cfs (133,900 acre-ft per year); median of yearly mean discharges, 122 cfs (88,300 acre-ft per year).

Extremes.--Maximum discharge during year, 7,520 cfs Feb. 13 (gage height, 9.17 ft); minimum daily, 0.8 cfs Sept. 25.

1930-62: Maximum discharge, 20,300 cfs Dec. 11, 1937 (gage height, 13.98 ft, present datum, from floodmarks), from rating curve extended above 7,200 cfs on basis of slope-area measurement at gage height 13.9 ft for peak of Feb. 28, 1940; no flow at times in 1930-36, 1949-50, 1956-57.

Remarks.--Records good except those for periods of fragmentary or no gage-height record and indefinite stage-discharge relation, which are poor. Several small diversions above station.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.9	1.880	31	43	281	213	59	27	7.1	3.3	1.4
2	1.2	2.0	778	28	39	444	204	59	25	6.8	3.2	1.4
3	1.2	2.0	511	26	38	356	190	57	24	6.7	3.1	1.3
4	1.2	2.0	158	24	35	324	173	55	24	6.6	2.9	1.3
5	1.2	1.9	105	22	33	1,050	160	53	*23	6.5	2.8	1.3
6	1.2	1.9	74	21	39	2,560	150	50	22	6.5	2.7	1.2
7	1.2	2.0	53	20	92	1,310	141	50	21	6.4	2.6	1.2
8	1.0	2.0	42	17	277	914	136	49	20	6.3	2.5	1.2
9	1.1	2.0	33	16	*1,240	734	130	50	18	6.2	2.5	1.2
10	1.2	2.2	27	14	666	614	121	50	17	6.1	2.4	1.1
11	*1.6	2.2	25	14	273	520	114	49	16	6.1	2.3	1.1
12	1.8	2.0	20	17	256	452	108	49	16	6.0	2.2	1.1
13	1.5	1.9	*17	18	3,940	403	102	47	15	6.0	2.2	1.1
14	1.5	1.9	*17	16	3,190	373	98	49	16	5.9	2.1	1.0
15	1.4	2.2	16	14	*3,900	348	93	49	18	5.8	2.1	1.0
16	1.4	2.2	20	14	1,940	319	91	45	16	5.7	2.1	1.0
17	1.4	2.3	25	14	1,050	311	87	45	15	5.7	2.0	1.0
18	1.4	2.4	35	16	976	296	83	43	13	5.6	2.0	1.0
19	1.5	2.6	50	103	788	284	82	41	12	*5.6	1.9	.9
20	1.5	4.7	*297	*771	641	281	82	39	12	5.4	1.9	.9
21	1.5	*3.1	129	275	535	*270	80	38	10	5.3	1.8	.9
22	1.6	2.8	114	174	457	434	75	38	9.6	5.1	1.8	e.9
23	1.6	2.9	87	125	394	426	74	38	8.9	4.8	1.8	e.9
24	1.6	3.5	71	103	352	356	69	37	8.9	4.6	1.7	e.9
25	1.6	149	59	85	307	319	*66	39	8.2	4.4	1.7	e.8
26	1.7	132	53	74	266	299	65	41	8.0	4.2	1.6	e.9
27	2.0	52	*49	64	232	284	66	40	7.7	4.0	1.6	e.11
28	1.9	28	43	58	226	273	77	37	7.5	3.8	*1.6	e.12
29	1.7	*88	39	53	-	259	66	34	7.3	3.7	1.5	e.11
30	1.7	*517	35	*50	-----	246	62	32	7.2	3.6	1.5	e.10
31	1.8	-----	32	46	-----	229	-----	29	-----	3.4	1.5	-----
Total	45.4	1,022.6	4,494	2,323	22,225	15,569	3,258	1,391	453.3	169.9	66.9	32.4
Mean	1.46	34.1	145	74.9	794	502	109	44.9	15.1	5.48	2.16	1.08
Max	2.0	517	1,880	771	3,940	2,560	213	59	27	7.1	3.3	1.4
Min	1.0	1.9	16	14	33	229	62	29	7.2	3.4	1.5	0.8
Ac-ft	90	2,030	8,910	4,610	44,080	30,880	6,460	2,760	899	337	133	64

Calendar year 1961: Max 1,880 Min 0.8 Mean 89.3 Ac-ft 64,650
 Water year 1961-62: Max 3,940 Min 0.8 Mean 140 Ac-ft 101,300

Peak discharge (base, 3,500 cfs).--Feb. 13 (1300) 7,520 cfs (9.17 ft); Mar. 5 (2300) 4,780 cfs (7.97 ft).

* Discharge measurement made on this day.

e Stage-discharge relation indefinite.

f Fragmentary gage-height record.

Note.--No gage-height record Dec. 11, 12, 16-19, June 26 to Sept. 21.

SACRAMENTO RIVER BASIN

921

11-4517. Bear Creek tributary near Wilbur Springs, Calif.

Location.--39°00'45", long 122°21'30", in SE $\frac{1}{4}$ sec.36, T.14 N., R.5 W., on State Highway 20, 3.8 miles southeast of Wilbur Springs.

Drainage area.--4.50 sq mi.

Records available.--October 1961 to September 1962.

Gage.--Water-stage recorder, crest-stage gage and tipping-bucket rain gage. Altitude of gage is 1,050 ft (from topographic map).

Extremes.--Maximum discharge during year, 404 cfs Feb. 14 (gage height, 27.92 ft), from rating curve extended above 240 cfs on basis of indirect measurement of peak flow through culvert at gage height 26.62 ft; no flow for several months.

Remarks.--Records good. No storage or diversions above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

20.04	0	20.6	9.0
20.05	0.1	21.0	19
20.1	.6	22.0	52
20.2	1.8	23.0	95
20.4	5.0		

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.5		0	0.2						
2			1.6		0	.4						
3			.1	(*)	0	.1						
4			0		0	0						
5			0		0	28						
6			0		0	9.8						
7			0		* 0	2.4						
8			0		0	1.2						
9			0		* 8.5	.7	(*)					
10			0		.1	.5						
11			0	(*)	* 0	.5						
12			0		.1	.4						
13			0		5.3	.4						
14			0		91	.3			(*)			
15			0		* 19	.3						
16			0		3.0	.3				(*)		
17		(*)	0		.7	.3						
18			* 0		* 7.5	.2						(*)
19			0		2.6	.2						
20			0		1.0	.2						
21			0		.5	.1					(*)	
22			* 0		.4	.4						
23			0		.3	.1						
24			0	(*)	.2	.1						
25			0		.1	.1						
26			0		.1	.1						
27			0		0	.1						
28			0		0	.1						
29			0		-	.1						
30		(*)	0		-----	.1						
31	(*)	-----	0		-----	0	-----		-----			-----
Total	0	0	2.2	0	140.4	47.7	0	0	0	0	0	0
Mean	0	0	0.07	0	5.01	1.54	0	0	0	0	0	0
Max	0	0	1.6	0	91	28	0	0	0	0	0	0
Min	0	0	0	0	0	0	0	0	0	0	0	0
Ac-ft	0	0	4.4	0	278	95	0	0	0	0	0	0
(†)	0.2	2.8	3.0	0.6	6.4	1.9	0	0.3	0	0	0	0.2

Calendar year 1961: Max - Min - Mean - Ac-ft -
Water year 1961-62: Max 91 Min 0 Mean 0.52 Ac-ft 377

Peak discharge (base, 25 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	0300	21.46	32	3-5	2015	24.84	195
2-14	1930	27.92	404				

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

† Precipitation, in inches.

11-4517.2. Bear Creek near Rumsey, Calif.

Location.--Lat 39°56'35", long 122°20'40", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.13 N., R.4 W., on left bank 0.3 mile downstream from Brophy Canyon, 1.4 miles upstream from mouth, and 7.3 miles northwest of Rumsey.

Drainage area.--96.8 sq mi.

Records available.--October 1958 to September 1962.

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

Extremes.--Maximum discharge during year, 7,910 cfs Feb. 14 (gage height, 9.59 ft), from rating curve extended above 2,300 cfs; minimum, 0.6 cfs Aug. 18.

1958-62: Maximum discharge, that of Feb. 14, 1962; no flow July 25, 26, Aug. 20, 1960.
Maximum stage since 1955, 12.33 ft Feb. 24, 1958.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.6	188	3.5	5.4	50	23	10	3.3	1.7	1.0	0.8
2	1.3	1.8	175	3.6	5.4	140	24	9.4	2.9	1.8	1.0	.8
3	1.3	1.7	86	3.3	5.5	90	22	9.1	2.8	1.9	.9	.9
4	1.3	1.7	21	3.1	5.1	71	21	9.0	2.8	1.9	1.0	1.0
5	1.3	1.7	11	2.8	5.7	453	19	8.4	2.8	1.8	1.1	1.1
6	1.3	1.6	7.5	2.8	6.7	839	19	7.9	2.6	1.9	1.1	1.0
7	1.2	1.5	5.6	2.8	9.5	321	18	7.9	2.4	1.8	1.1	1.1
8	1.1	1.5	4.9	2.7	1.9	157	17	8.1	2.6	1.7	1.2	1.5
9	1.0	1.6	4.4	2.7	338	122	18	8.1	2.6	* 1.6	1.2	1.2
10	1.1	1.6	4.1	2.5	123	97	17	7.8	2.5	1.5	1.3	1.0
11	1.3	1.7	3.9	2.5	60	82	15	7.4	2.4	1.5	1.2	1.1
12	1.3	1.7	3.9	2.7	45	72	15	7.6	2.5	1.5	1.2	1.2
13	1.4	1.6	3.7	3.3	997	63	15	7.8	2.5	1.5	1.3	1.2
14	1.3	1.5	3.6	3.2	2,250	* 59	14	8.2	2.3	1.5	1.1	1.2
15	1.2	1.4	3.4	3.0	1,450	57	14	8.5	2.7	1.4	1.0	1.3
16	1.3	1.4	3.2	2.8	304	53	14	8.1	2.7	1.5	.8	1.2
17	1.3	1.5	3.2	2.8	154	50	13	7.5	2.6	1.7	.8	* 1.2
18	1.3	1.5	3.7	2.9	268	47	* 12	6.8	* 2.5	1.6	.7	1.3
19	1.5	1.6	4.0	4.0	189	42	11	6.6	2.2	1.6	.9	1.3
20	1.5	2.3	4.5	1.4	115	40	11	6.6	2.1	1.6	1.0	1.3
21	1.5	* 2.9	4.9	1.6	80	38	11	6.5	1.9	1.5	* .9	1.4
22	1.5	2.3	5.2	* 8.2	60	56	11	* 6.2	2.0	1.5	.9	1.3
23	1.5	2.0	4.7	6.7	50	48	11	5.9	2.0	* 1.4	1.0	1.1
24	1.5	2.0	4.6	7.4	45	35	10	5.5	2.0	1.3	1.0	1.2
25	1.5	3.0	4.6	6.7	42	34	9.4	5.1	1.9	1.2	.9	1.1
26	1.6	4.0	4.4	6.0	40	32	9.8	6.6	1.6	1.1	.9	1.1
27	* 1.9	3.2	* 4.1	5.4	38	30	9.4	5.1	1.7	1.3	.8	1.2
28	1.9	2.1	4.1	5.4	38	29	11	4.9	1.7	1.2	.7	1.4
29	1.7	2.8	4.2	5.4	-	28	11	4.6	1.9	1.1	.7	1.9
30	1.4	8.3	4.1	5.1	-----	* 25	10	3.8	1.6	1.0	.8	1.6
31	1.4	-----	3.9	5.3	-----	24	-----	3.2	-----	1.0	.8	-----
Total	42.9	65.1	593.4	148.6	6,748.3	3,284	435.6	218.2	70.1	46.6	30.3	36.0
Mean	1.38	2.17	19.1	4.79	241	106	14.5	7.04	2.34	1.50	0.98	1.20
Max	1.9	8.3	188	16	2,250	899	24	10	3.3	1.9	1.3	1.9
Min	1.0	1.4	3.2	2.5	5.1	24	9.4	3.2	1.6	1.0	0.7	0.8
Ac-ft	85	129	1,180	295	13,390	6,510	864	433	139	92	60	71
Calendar year 1961: Max 345 Min 0.3 Mean 12.5 Ac-ft 9,020												
Water year 1961-62: Max 2,250 Min 0.7 Mean 32.1 Ac-ft 23,250												

* Discharge measurement made on this day.

SACRAMENTO RIVER BASIN

923

11-4517.6. Cache Creek above Rumsey, Calif.

Location.--Lat 38°54'47", long 122°16'14", in SE $\frac{1}{4}$ sec.2, T.12 N., R.4 W., on right bank 0.4 mile downstream from highway bridge and 2.5 miles northwest of Rumsey.

Drainage area.--954 sq mi.

Records available.--October 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 480 ft (from topographic map).

Extremes.--Maximum discharge during year, not determined; minimum daily, 4.2 cfs for several days in November.
1960-62: Maximum discharge, 13,200 cfs Dec. 1, 1960 (gage height, 12.90 ft); minimum, 3.1 cfs Oct. 29, 1961.

Remarks.--Flow partly regulated by Clear Lake beginning in 1915 (see p. 917).

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74		2,540	41	54	700	289	442	404	451	367	280
2	66		2,340	41	50	1,350	279	450	418	445	367	252
3	62		700	39	48	669	265	490	438	445	373	251
4	62	6.0	280	38	45	590	352	502	483	445	371	252
5	61		150	38	43	1,590	354	530	476	449	348	269
6	60		100	35	41	9,590	388	529	458	476	342	272
7	58		80	33	71	5,940	533	498	425	453	344	270
8	58	4.6	70	32	303	5,090	533	480	* 410	447	346	232
9	58		60	30	2,460	* 4,680	528	455	463	465	353	215
10	60		56	30	1,530	4,230	222	453	475	455	367	214
11	65		52	* 30	770	3,800	176	445	475	455	370	210
12	70		48	30	585	3,600	172	439	485	467	361	202
13	80	4.2	46	31	5,710	3,300	161	424	502	468	346	199
14	80		44	30	* 7,000	* 800	152	399	541	444	325	196
15	80		42	31	13,000	573	156	398	546	414	342	174
16	78		41	32	5,600	484	255	416	537	415	367	174
17	70		41	32	3,500	451	258	439	531	436	370	* 170
18	56		41	33	2,500	416	* 270	426	* 460	481	354	159
19	45	5.5	43	34	2,000	389	451	400	460	488	348	159
20	45	7.6	55	593	1,300	381	464	375	482	489	358	159
21	35	* 8.0	104	349	900	1,030	504	347	535	499	* 360	161
22	30	5.6	130	196	700	1,720	509	* 354	606	470	339	161
23	25	10	110	150	550	1,800	505	378	592	* 471	331	161
24	25	12	91	120	500	1,680	505	378	534	488	331	161
25	25	20	79	104	450	1,620	505	372	502	508	333	159
26	20	250	67	90	420	1,450	505	339	490	506	321	141
27	* 15	150	* 56	81	400	405	502	332	448	484	304	121
28	13	100	54	72	400	361	502	318	448	461	303	113
29	10	70	49	63	-	346	502	329	448	458	304	92
30	7.7	350	48	60	-----	333	482	355	447	436	302	87
31	7.4	-----	45	58	-----	308	-----	387	-----	385	302	-----
Total	1,501.1	1,077.3	7,662	2,576	50,930	59,676	11,279	12,879	14,519	14,254	10,649	5,666
Mean	48.4	35.9	247	83.1	1,819	1,925	376	415	484	460	338	189
Max	80	350	2,540	593	13,000	9,590	533	530	606	508	373	280
Min	7.4	4.2	41	30	41	308	152	318	404	385	302	87
Ac-ft	2,980	2,140	15,200	5,110	101,000	118,400	22,370	25,550	28,800	28,270	20,760	11,240
Calendar year 1961:	Max	3,420	Min	4.2	Mean	312	Ac-ft	226,200				
Water year 1961-62:	Max	13,000	Min	4.2	Mean	527	Ac-ft	381,800				

* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1 to Dec. 15, Feb. 13 to Mar. 2, Mar. 6, 11-14.

SACRAMENTO RIVER BASIN

11-4520. Cache Creek near Capay, Calif.

Location.--Lat 38°43'40", long 122°06'15", in Canada de Capay Grant, in Yolo County, on right bank 1.8 miles upstream from Clear Lake Water Co.'s diversion dam, 3.2 miles northwest of Capay, and 5.4 miles northwest of Esparto.

Drainage area.--1,052 sq mi.

Records available.--May 1942 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 225 ft (from river-profile map).

Average discharge.--20 years, 581 cfs (420,600 acre-ft per year); median of yearly mean discharges, 380 cfs (275,000 acre-ft per year).

Extremes.--Maximum discharge during year, 16,600 cfs Feb. 15 (gage height, 13.91 ft); minimum, 4.1 cfs Nov. 15, 16.

1942-62: Maximum discharge, 51,600 cfs Feb. 24, 1958 (gage height, 20.90 ft), from rating curve extended above 20,000 cfs; minimum, 2.2 cfs Sept. 11, 12, 16, 1947.

Remarks.--Records good. Flow partially regulated by Clear Lake beginning in 1915 (see p. 917). About 3,700 acre-ft diverted annually between stations above Rumsey and near Capay for irrigation of approximately 900 acres, from data furnished by U. S. Soil Conservation Service.

Rating table (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 24 to Mar. 5, Mar. 15-21,
Mar. 27 to May 1, May 21 to June 10)

0.8	4.5	3.5	415
1.0	9.0	4.0	600
1.2	16	5.0	1,120
1.5	34	6.0	1,850
1.8	60	8.0	4,150
2.3	128	10.0	7,450
2.8	225	12.0	11,400

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	11	1,360	48	52	576	312	422	328	397	328	252
2	49	10	2,130	47	49	1,290	300	*412	340	382	325	222
3	44	9.6	831	45	49	810	285	443	346	367	334	202
4	44	9.0	360	44	46	624	325	457	382	358	337	198
5	43	9.0	218	44	47	752	343	482	379	370	320	220
6	42	8.2	155	42	44	7,660	328	488	361	409	298	235
7	40	7.8	123	41	55	5,460	464	464	349	403	290	230
8	40	6.5	102	40	159	4,190	482	443	*340	385	298	202
9	40	6.1	88	38	*1,950	3,650	478	426	388	*397	302	182
10	40	6.1	79	36	*1,860	3,380	325	429	400	388	320	174
11	43	6.8	70	*36	936	3,150	196	409	400	388	318	174
12	44	6.5	65	36	604	3,020	174	394	422	400	325	170
13	62	6.5	59	37	4,120	2,820	160	379	422	409	305	164
14	66	6.5	55	38	5,420	964	146	361	460	388	*280	164
15	66	5.7	52	38	10,100	720	133	355	471	358	288	157
16	66	5.3	48	36	4,530	608	182	361	457	358	312	141
17	62	6.3	48	34	2,660	532	235	388	450	370	320	138
18	47	6.5	47	34	2,300	488	230	394	397	409	312	134
19	42	7.5	47	36	2,180	460	322	367	376	418	300	133
20	43	9.0	48	305	1,550	446	406	340	391	422	310	133
21	38	9.0	71	400	1,250	797	450	310	436	440	312	133
22	32	5.9	105	212	988	1,550	468	298	499	418	308	131
23	30	9.6	109	141	820	1,750	460	318	506	412	298	130
24	30	10	98	114	690	1,630	464	325	464	422	288	130
25	30	12	85	99	608	1,570	457	325	429	446	282	128
26	*30	23	76	88	532	1,540	454	302	422	454	278	125
27	29	9.9	70	79	*468	612	450	282	385	429	270	114
28	22	6.7	*62	72	432	415	460	272	370	406	262	105
29	16	*54	58	65	-----	379	460	275	367	400	278	99
30	14	136	54	58	-----	*352	450	288	379	373	272	82
31	12	-----	51	55	-----	328	-----	310	-----	346	262	-----
Total	12,665	5,754	6,824	24,38	44,499	52,523	10,399	11,519	12,116	12,322	9,332	4,802
Mean	40.8	19.2	220	78.6	1,589	1,694	347	372	404	397	301	160
Max	66	136	2,130	400	10,100	7,660	482	488	506	454	337	252
Min	12	5.3	47	34	44	328	133	272	328	346	262	82
Ac-ft	2,510	1,140	13,540	4,840	88,260	104,200	20,630	22,850	24,030	24,440	18,510	9,520

Calendar year 1961: Max 2,360 Min 5.3 Mean 283 Ac-ft 204,600
Water year 1961-62: Max 10,100 Min 5.3 Mean 462 Ac-ft 334,500

* Discharge measurement made on this day.

11-4525. Cache Creek at Yolo, Calif.

Location.--Lat 38°43'30", long 121°48'25", in Rio Jesus Maria Grant, on left bank 800 ft upstream from highway bridge and 0.5 mile south of Yolo, Yolo County.

Drainage area.--1,137 sq mi.

Records available.--January 1903 to September 1962. Records for water year 1903 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 52.27 ft above mean sea level, adjustment of 1929. Prior to summer of 1930, staff gage at datum 5.97 ft higher. Summer 1930 to June 11, 1954, water-stage recorder at same site, at datum 4.00 ft higher.

Average discharge.--60 years, 507 cfs (367,100 acre-ft per year).

Extremes.--Maximum discharge during year, 17,700 cfs Feb. 15 (gage height, 23.33 ft); no flow for several months.

1903-62: Maximum discharge, 41,400 cfs Feb. 25, 1958 (gage height, 33.11 ft); maximum stage observed, 34.2 ft Mar. 10, 1904, present datum; no flow at times each year.

Remarks.--Records good except those for periods of no gage-height record or those below 20 cfs, which are poor. Flow regulated by Clear Lake beginning in 1915 (see p. 917). Diversions for irrigating up to about 30,000 acres between stations near Capay and at Yolo, from data furnished by Clear Lake Water Co.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	1.0	359	273	25				
2		(*)	1,810	0	.8	890	255	*1.0				
3			776	0	.5	720	240	0				
4			291	0	.4	520	243	0				
5			111	0	.2	481	279	0				
6			41	0	.1	6,900	237	0				
7			16	0	.1	6,480	273	0				
8			4	0	.1	4,770	333	0	(*)	(*)		
9			.5	0	**670	4,220	330	0				
10			0	0	*2,190	3,910	285	0				
11			0	* 0	* 984	3,640	93	0				
12			0	0	570	3,450	* 70	0				
13			0	0	2,190	3,270	48	0			(*)	
14			0	0	*5,630	1,230	12	0				
15			0	0	*1,800	632	0	0				
16			0	0	5,160	540	0	0				
17			0	0	2,690	468	0	0				
18			0	0	1,860	429	0	0				
19			0	0	2,500	390	0	0				
20			0	0	1,490	370	20	0				
21			* 0	109	1,100	477	48	0				
22			0	129	815	1,110	66	0				
23			0	72	*636	1,590	70	0				
24		(*)	0	* 28	548	1,490	59	0				
25			0	15	482	1,420	47	0				
26	(*)		0	6.4	440	1,390	43	0				
27			0	4.6	*380	855	36	0				
28			0	3.9	345	390	36	0				
29			0	2.6	-	336	34	0				
30			0	2.1	-----	*315	34	0				
31		-----	0	1.5	-----	294	-----	0	-----			-----
Total	0	0	3,049.5	374.1	42,483.25	3,336	3,464	26.0	0	0	0	0
Mean	0	0	98.4	12.1	1,517	1,721	115	0.84	0	0	0	0
Max	0	0	1,810	129	11,800	6,900	333	25	0	0	0	0
Min	0	0	0	0	0.1	294	0	0	0	0	0	0
Ac-ft	0	0	6,050	742	84,260	105,800	6,870	52	0	0	0	0

Calendar year 1961: Max 2,270 Min 0 Mean 88.1 Ac-ft 63,770

Water year 1961-62: Max 11,800 Min 0 Mean 281 Ac-ft 203,800

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

** Field estimate made on this day.

Note.--No gage-height record Dec. 8-10, Jan. 27 to Feb. 8.

11-4530. Yolo bypass near Woodland, Calif.

Location.--Lat 38°40'40", long 121°38'35", on left bank just upstream from Sacramento and Woodland railroad bridge, 6 miles upstream from Sacramento bypass, 7 miles downstream from Fremont weir, and 7 miles east of Woodland, Yolo County.

Records available.--October 1939 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers. Prior to Dec. 17, 1941, staff gage, and Dec. 18-31, 1941, water-stage recorder, at datum 0.73 ft higher. Supplementary water-stage recorder 6 miles downstream at same datum.

Average discharge.--23 years, 3,900 cfs (2,823,000 acre-ft per year).

Extremes.--Maximum discharge during year, 72,600 cfs Feb. 16 (gage height, 27.03 ft); minimum, 0.3 cfs June 30.

1939-62: Maximum discharge, 272,000 cfs Feb. 8, 1942 (gage height, 32.00 ft); no flow at times in 1939-40.

Remarks.--Records fair. Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont weir; during summer, flow consists largely of return water from irrigation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	2.1	1.0	6.6	8.4	1.880	277	51	72	.5	29	37
2	4.6		1.00	6.6	9.0	1.880	236	52	72	.5	12	44
3	4.1		830	7.2	17	2.100	*227	51	82	1.2	5.8	65
4	3.7	2	1.850	7.8	16	1.640	233	51	66	2.7	7.4	96
5	3.7		1.930	7.8	15	1.350	224	50	54	* 2.2	10	84
6	4.1		1.380	9.0	16	3.320	178	39	52	1.7	11	79
7	3.7		700	8.4	18	7.880	116	38	45	2.7	11	63
8	3.0	70	318	8.4	19	7.030	152	40	38	2.7	10	56
9	2.4	* 12	125	7.2	46	* 6.540	204	50	42	3.8	8.2	69
10	2.4	8.4	50	9.6	1.100	7.160	186	56	45	3.8	6.9	70
11	2.4	7.2	40	9.0	8.070	6.410	142	60	44	3.2	7.4	68
12	* 2.1	7.2	30	* 12	21.900	5.440	79	58	44	3.2	10	65
13	1.5	4.6	20	10	11.600	4.900	48	60	40	4.3	9.7	54
14	1.5	4.6	* 13	8.4	22.000	3.960	36	66	42	4.8	* 6.4	48
15	1.8	6.1	12	8.4	48.000	2.010	48	74	22	3.2	4.8	51
16	1.5	5.1	10	7.2	67.900	1.490	48	75	20	3.2	3.8	48
17	1.5	3.0	10	6.6	69.800	1.270	40	72	39	3.2	3.2	41
18	1.5	3.3	9.0	5.6	54.500	1.030	44	* 69	54	3.2	3.2	41
19	1.2	3.3	8.4	3.3	6.500	770	* 44	74	62	3.2	4.3	40
20	1.5	5.1	8.4	9.0	25.000	575	45	77	57	3.2	5.3	31
21	1.5	4.1	10	12	18.100	* 479	44	71	50	4.3	4.3	30
22	1.5	4	10	12	11.500	756	34	69	40	6.4	3.2	113
23	1.5	4	9.6	7.2	6.440	* 1.490	24	74	42	13	6.4	83
24	1.8	4	9.6	6.6	4.740	1.800	7.2	63	46	21	18	48
25	1.8	4	9.6	13	4.960	1.760	10	68	39	30	30	37
26	2.1	4	9.6	18	4.460	1.710	12	77	40	41	40	33
27	2.4	5	9.0	16	3.690	1.560	17	74	44	42	48	33
28	3.0	6	7.8	12	2.500	829	34	69	26	40	48	31
29	2.4	7	7.2	10	-	454	79	66	21	47	45	31
30	1.8	10	6.6	9.0	-----	345	51	64	9.5	51	41	30
31	1.8	-----	6.6	9.0	-----	303	-----	69	-----	42	38	-----
Total	75.4	206.1	7,549.4	282.9	422,924.4	80,121	2,919.2	1,927	1,349.5	394.2	491.3	1,619
Mean	2.43	6.87	244	9.13	15,100	2,585	97.3	62.2	45.0	12.7	15.8	54.0
Max	5.6	70	1,930	18	69,800	7,880	277	77	82	51	48	113
Min	1.2	2	6.6	3.3	8.4	303	7.2	38	9.5	0.5	3.2	30
Ac-ft	150	409	14,970	561	838,900	158,900	5,790	3,820	2,680	782	974	3,210

Calendar year 1961: Max 3,880 Min 1.2 Mean 216 Ac-ft 156,200

Water year 1961-62: Max 69,800 Min 0.5 Mean 1,424 Ac-ft 1,031,000

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 2-8, Nov. 22 to Dec. 2, Dec. 11-13, Sept. 30. Stage-discharge relation indefinite Jan. 19, 20, Feb. 9, July 17-19, Aug. 26-30, Sept. 7-12, 17.

11-4532. Dry Creek near Middletown, Calif.

Location.--Lat 38°44'05", long 122°38'50", in NW¼ sec. 9, T.10 N., R.7 W., on right bank 0.3 mile downstream from Kroll Creek, 2.1 miles southwest of Middletown, and 2.7 miles upstream from mouth.

Drainage area.--8.41 sq mi.

Records available.--May 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 1,160 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,300 cfs Feb. 13 (gage height, 8.90 ft), from rating curve extended above 950 cfs; no flow for many days.

1959-62: Maximum discharge, 3,470 cfs Feb. 8, 1960 (gage height, 9.90 ft), from rating curve extended above 950 cfs; no flow for many days in each year.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 4-23, 26-28, Dec. 3-16, Dec. 18
to Jan. 18, Jan. 21 to Feb. 6, Feb. 11)

Oct. 1 to Feb. 12				Feb. 13 to Sept. 30			
2.5	0	4.0	76	2.2	0	4.0	88
2.6	.3	4.5	120	2.3	.6	4.5	142
2.7	1.0	5.0	185	2.4	1.7	5.0	214
2.8	2.8	5.5	280	2.5	3.4	5.5	304
3.0	9.0	6.0	415	2.7	7.2	6.0	430
3.2	18	6.5	590	3.0	15	6.5	600
3.5	38			3.2	23	7.0	850
				3.5	44	8.0	1,500

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

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.2	0.4	380	7.6	7.6	295	10	3.9	1.9	0.7		
2	.1	.5	85	7.0	7.0	*215	9.9	4.1	1.7	.6		
3	0	.5	44	6.6	6.6	88	9.4	3.9	1.7	.5		
4	0	.4	26	6.3	6.3	61	9.0	3.7	1.6	.4		
5	0	.4	18	5.6	6.3	207	8.5	3.5	1.6	.4		
6	0	.4	14	5.3	7.3	*249	8.1	3.4	*1.5	.3		
7	0	.4	11	5.0	69	131	7.6	3.4	1.3	.2		
8	0	.4	9.8	4.8	199	81	7.4	3.9	1.2	.2		
9	0	.4	8.7	4.5	982	58	7.2	3.9	1.2	.2		
10	0	.4	8.0	4.2	*184	42	6.8	3.7	1.1	.2		
11	*.3	.4	7.0	4.2	86	34	6.6	3.7	1.1	.2		
12	.7	.4	6.6	4.8	217	26	6.4	3.5	1.1	.2		
13	.5	.4	5.9	4.5	876	22	6.2	3.4	1.2	.2		
14	.4	.4	5.6	3.9	473	19	6.0	3.4	1.3	.2		
15	.4	.4	5.0	3.6	*336	17	5.8	3.2	1.3	.1		
16	.4	.4	4.8	3.6	165	16	5.8	3.0	1.2	.1		
17	.4	.4	17	3.6	98	14	5.6	2.8	1.1	.1		
18	.4	.4	13	4.2	107	13	5.4	2.8	1.0	.1		
19	.4	.4	29	403	84	12	5.4	2.8	.9	*.1		
20	.4	*.8	52	*123	63	12	5.2	2.7	.8	.1		
21	.5	.7	53	40	46	11	5.0	2.5	.8	0		
22	.4	.7	29	25	35	87	4.8	2.5	.7	0		
23	.5	3.6	21	20	27	27	4.6	2.5	.7	0		
24	.5	46	16	17	22	20	4.5	2.3	.7	0		
25	.5	71	13	14	19	17	*4.5	2.3	.7	0		
26	.5	25	11	12	17	16	4.1	2.8	.7	0		
27	.7	9.0	10	11	15	14	6.3	2.5	.6	0		
28	.8	5.0	*9.8	9.8	34	13	5.4	2.5	.6	0		
29	.6	48	8.7	9.0	-----	12	4.6	2.3	.6	0		
30	.5	*93	8.3	8.3	-----	12	4.1	2.3	.7	0	(*)	
31	.4	-----	8.0	*8.0	-----	11	-----	2.2	-----	0		-----
TOTAL	10.5	310.6	938.2	789.4	3,795.1	1,852	190.2	95.4	32.6	5.1	0	0
MEAN	0.34	10.4	30.3	25.5	136	59.7	6.34	3.08	1.09	0.16	0	0
MAX	0.8	93	380	403	876	295	10	4.1	1.9	0.7	0	0
MIN	0	0.4	4.8	3.6	6.3	11	4.1	2.2	0.6	0	0	0
AC-FT	21	616	1,860	1,570	7,530	3,670	377	189	65	10	0	0

CALENDAR YEAR 1961: MAX 511 MIN 0 MEAN 17.8 AC-FT 12,880
WATER YEAR 1961-62: MAX 876 MIN 0 MEAN 22.0 AC-FT 15,910

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 1	0600	6.90	790	2-13	1000	8.90	2,300
1-19	1700	7.53	1,170	3- 5	1900	6.72	700
2- 9	0800	7.45	1,120				

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

SACRAMENTO RIVER BASIN

11-4535. Putah Creek near Guenoc, Calif.

Location.--Lat 38°46'45", long 122°31'00", in Guenoc land grant, on right bank just upstream from Coyote Valley damsite, 2.8 miles upstream from Soda Creek, 3.2 miles downstream from highway bridge at Guenoc, Lake County, and 5.6 miles northeast of Middletown.

Drainage area.--112 sq mi.

Records available.--February 1904 to Sept. 1906, July 1930 to September 1962. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 913.4 ft above mean sea level (river-profile survey). February 1904 to September 1906, staff gage a quarter of a mile upstream at different datum.

Average discharge.--34 years, 201 cfs (145,500 acre-ft per year); median of yearly mean discharges, 162 cfs (117,000 acre-ft per year).

Extremes.--Maximum discharge during year, 11,800 cfs Feb. 13 (gage height, 14.70 ft); minimum, 0.1 cfs Aug. 5, Sept. 7-9, 25, 26.

1904-6, 1930-62: Maximum discharge, 32,000 cfs Dec. 11, 1937 (gage height, 22.7 ft), from rating curve extended above 7,200 cfs; minimum, that of Aug. 5, Sept. 7-9, 25, 26, 1962.

Remarks.--Records good. Diversions and ground-water withdrawals for irrigation of about 1,600 acres above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 24 to Sept. 30)

Oct. 1 to Feb. 13

Feb. 14 to Sept. 30

0.9	0.1	2.6	109	0.8	0.1	1.6	15
1.0	.4	3.0	187	.9	.4	1.9	36
1.1	.9	4.0	457	1.0	.9	2.2	68
1.2	1.6	5.0	837	1.1	1.7	2.5	112
1.3	3.0	6.0	1,340	1.2	3.0	3.0	200
1.5	8.0	7.0	1,980	1.4	7.2	4.0	457
1.7	15	9.0	3,700				
1.9	27	12.0	7,290				
2.2	54						

Note.--Same as preceding table above 4.0 ft.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.9	1,830	37	50	1,340	130	45	20	6.5	0.8	0.2
2	.7	.9	782	35	47	1,750	123	40	19	5.3	.5	.2
3	.6	.8	368	33	43	778	117	39	19	4.7	.7	.2
4	.6	.8	206	33	41	557	109	36	17	5.0	.3	.2
5	.5	.8	141	31	40	1,800	104	34	*15	5.3	.2	.2
6	.4	.8	109	30	42	2,370	99	32	14	4.4	.7	.2
7	.3	.8	87	29	366	1,230	95	31	11	3.9	.6	.1
8	.3	.8	75	28	1,080	820	92	31	12	5.0	.7	.1
9	.4	.8	66	26	3,460	612	89	34	9.5	4.6	.4	.1
10	.3	.8	56	26	1,410	477	85	32	9.2	3.9	.2	.2
11	*.3	.8	50	26	688	397	81	30	8.8	2.7	.3	.2
12	.3	.8	46	26	1,070	338	78	30	8.2	2.8	.3	.2
13	.4	.8	42	26	6,040	291	75	31	7.9	3.1	.4	.2
14	.4	.9	40	25	4,240	263	71	30	8.2	3.0	.4	.2
15	.5	.9	38	24	4,200	238	68	30	8.5	3.6	.4	.2
16	.7	.8	36	24	1,910	224	67	30	9.8	2.4	.4	.2
17	.7	.8	40	24	1,100	210	64	30	9.2	2.0	.4	.2
18	.6	1.1	48	24	1,400	192	62	28	7.9	2.0	.3	.2
19	.7	1.1	66	453	986	176	60	28	8.2	*1.9	.3	.2
20	.7	*1.2	93	890	753	169	58	28	7.0	1.4	.3	.2
21	.6	.9	197	270	597	*158	56	28	5.0	2.0	.4	.2
22	.8	1.0	118	174	464	459	52	27	5.1	3.0	.4	.2
23	.8	1.0	87	132	382	289	48	25	5.1	2.4	.3	.2
24	.7	1.2	72	111	328	229	45	24	6.5	1.9	.2	.2
25	.8	2.49	64	96	282	204	*45	26	4.8	2.5	.2	.1
26	.9	1.32	55	85	244	188	43	30	5.3	1.9	.2	.1
27	.9	4.6	50	75	218	175	44	30	5.2	1.0	.3	.2
28	.8	2.4	*45	71	258	164	58	25	4.8	.7	.2	.2
29	.8	1.46	42	64	-	151	53	23	4.9	.8	*.3	.2
30	.8	7.99	40	*58	-----	142	48	23	5.1	.9	.3	.2
31	.8	-----	39	54	-----	134	-----	23	-----	.9	.3	-----
Total	18.7	1.4175	5,028	3,040	31,739	16,525	2,219	933	281.2	91.5	11.7	5.5
Mean	0.60	4.72	162	98.1	1,134	533	74.0	30.1	9.37	2.95	0.38	0.18
Max	0.9	7.99	1,830	890	6,040	2,370	130	45	20	6.5	0.8	0.2
Min	0.3	0.8	36	24	40	134	43	23	4.8	0.7	0.2	0.1
Ac-ft	37	2,810	9,970	6,030	62,950	32,780	4,400	1,850	558	181	23	11

Calendar year 1961: Max 3,350 Min 0.3 Mean 107 Ac-ft 77,580

Water year 1961-62: Max 6,040 Min 0.1 Mean 168 Ac-ft 121,600

Peak discharge (base, 5,000 cfs)

* Discharge measurement made on this day.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2-9	1100	10.70	5,580	3-5	2100	10.74	5,630
2-13	1400	14.70	11,800				

11-4535. Putah Creek near Guenoc, Calif.--Continued.

Records available.--Water temperatures: March 1960 to September 1962.

Extremes.--Maximum temperature during year, 83°F July 15-17, Aug. 15; minimum, 41°F Jan. 22, 23.

1960-62: Maximum temperature, 86°F July 20, 1960; minimum, that of Jan. 22, 23, 1962.

Temperature (°F) of water, water year October 1961 to September 1962

Day	Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		Apr.		May		June		July		Aug.		Sept.	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	74	66	60	59	50	50	49	46	51	49	46	46	62	56	70	59	76	66	80	72	81	73	80	72
2	74	67	62	57	50	50	49	46	51	49	48	46	62	56	72	62	75	67	80	72	80	74	80	73
3	74	67	60	57	50	50	49	47	51	49	50	46	64	56	72	63	74	65	81	72	79	73	79	73
4	73	66	60	57	50	48	49	46	51	49	50	47	64	58	71	63	74	65	81	73	78	73	79	73
5	74	66	60	57	50	49	49	46	51	49	49	47	65	58	72	63	75	65	81	73	79	72	79	73
6	73	66	61	56	50	48	49	47	50	50	48	47	67	59	70	63	76	66	81	73	80	73	79	73
7	69	63	60	56	49	48	50	47	50	50	50	48	67	60	73	64	76	66	82	73	78	72	78	73
8	65	61	60	55	49	47	51	49	50	50	52	48	67	59	71	63	76	67	82	73	77	74	79	73
9	68	60	58	55	49	47	51	49	50	50	52	47	66	58	69	62	77	68	82	74	78	72	77	73
10	66	61	58	55	48	46	51	49	50	50	52	46	66	58	67	61	76	67	82	74	80	73	77	72
11	65	63	57	55	47	45	51	47	52	50	50	48	68	58	68	60	76	67	81	74	81	74	75	71
12	68	62	57	55	48	47	49	48	52	49	52	47	69	60	68	61	77	68	82	73	82	74	74	70
13	70	66	57	54	48	46	48	46	50	49	52	47	70	61	66	61	76	68	82	73	82	74	76	70
14	72	65	60	54	48	46	48	44	50	49	52	48	67	61	65	60	74	68	82	74	82	74	76	71
15	73	66	57	54	48	46	47	44	50	48	51	49	69	59	68	60	74	67	83	74	83	74	77	70
16	73	66	54	51	47	45	47	44	50	49	51	49	69	59	69	60	76	67	83	74	80	74	77	70
17	73	66	54	50	49	47	47	45	50	48	52	49	71	59	72	62	78	69	83	74	81	74	76	71
18	71	66	54	52	48	46	47	46	50	47	55	49	68	62	72	64	79	70	82	75	82	74	75	70
19	69	65	54	51	47	46	47	46	50	48	55	50	66	60	70	62	80	71	81	74	81	75	74	69
20	66	64	51	50	49	47	46	44	50	48	54	52	67	57	70	60	81	73	81	71	82	75	74	69
21	65	61	52	49	49	48	45	44	50	47	54	50	70	59	72	62	81	73	81	71	82	75	75	69
22	65	59	54	51	48	46	44	41	52	48	53	50	71	61	71	64	81	73	79	71	81	75	74	69
23	63	59	54	54	48	46	43	41	52	48	53	48	71	62	71	62	81	73	81	71	81	75	74	69
24	65	60	54	54	48	46	44	42	50	47	54	49	70	62	69	62	81	73	81	72	82	75	74	68
25	63	60	54	51	48	46	46	44	50	46	56	50	69	60	67	62	80	72	82	72	82	75	72	68
26	63	61	53	51	48	45	46	46	48	44	58	53	68	59	66	62	80	72	82	73	82	75	73	69
27	62	60	52	50	48	46	48	46	48	44	59	53	66	60	73	63	81	72	81	73	80	74	72	68
28	60	58	52	49	49	46	49	46	48	46	60	54	65	56	74	65	81	72	81	73	79	73	68	67
29	59	56	52	50	49	47	49	47	-	-	60	54	67	56	74	66	80	72	81	74	78	72	72	66
30	58	55	50	49	49	47	51	48	-----	-----	61	54	68	57	74	65	80	71	81	72	79	72	72	66
31	62	56	-----	-----	49	46	51	48	-----	-----	62	54	-----	-----	76	66	-----	-----	81	73	79	72	-----	-----
Avg	68	62	56	53	49	47	48	46	50	48	53	49	67	59	70	62	78	69	81	73	80	74	76	70

SACRAMENTO RIVER BASIN

11-4536. Pope Creek near Pope Valley, Calif.

Location.--Lat 38°37'48", long 122°19'52", in SW $\frac{1}{4}$ sec.17, T.9 N., R.4 W., on left bank 0.2 mile upstream from Lake Berryessa, 0.7 mile downstream from Maxwell Creek, and 5.2 miles east of Pope Valley.

Drainage area.--78.3 sq mi.

Records available.--December 1960 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 450 ft (from topographic map).

Extremes.--Maximum discharge during year, 7,540 cfs Feb. 14 (gage height, 13.58 ft); no flow for many days.
1960-62: Maximum discharge, that of Feb. 14, 1962; no flow for many days in each year.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	*571	5.8	9.6	890	41	12	2.7	0.2	0.1	
2		0	334	5.7	8.7	928	38	12	2.1	.2	.1	
3		0	121	5.8	8.3	345	36	11	1.8	.2	.1	
4		0	42	5.6	7.7	253	34	10	2.0	.2	.1	
5		0	23	4.9	7.3	691	33	9.1	2.8	.2	.1	
6		0	16	4.7	8.1	1,140	31	8.8	2.1	.2	.1	
7		0	11	4.7	128	466	29	8.4	1.7	.2	.1	
8		0	9.6	4.4	311	310	28	8.5	1.5	.2	.1	
9	(*)	*0	7.8	*4.1	1,430	251	27	9.6	1.4	.2	.1	
10		0	6.7	3.9	*398	200	26	8.7	1.3	.2	.1	
11		0	5.7	3.7	209	165	24	8.7	1.3	.2	0	
12		0	5.2	4.0	480	141	23	8.4	1.4	.2	0	
13		0	4.8	4.3	2,880	120	22	7.7	1.3	.2	0	
14		0	4.6	3.8	2,480	105	22	7.4	1.3	.2	0	
15		0	4.3	3.6	2,620	95	21	7.6	1.4	.3	0	
16		0	4.3	3.6	867	88	20	6.8	1.3	.3	0	
17			6.2	3.6	426	85	*19	5.9	1.2	.3	.1	
18			14	3.6	657	75	20	*5.6	1.0	.4	.1	
19			20	192	417	67	19	5.5	.7	.4	.1	
20			33	374	303	*65	18	4.9	.6	.3	.1	
21		.5	9.6	7.9	234	59	17	4.5	.5	.3	.1	
22		.4	35	40	188	191	16	4.3	.5	.3	.1	
23		.4	21	28	153	106	14	4.1	.4	.3	0	
24		.4	16	23	128	76	13	4.0	.4	.3	0	
25		.4	13	19	110	68	13	4.1	.3	.2	.1	
26		1.3	11	17	94	61	13	4.8	.3	.2	0	
27		3.0	*8.9	15	81	57	15	5.5	.2	.2	0	
28		2.1	8.2	13	104	53	17	4.6	.2	.1	0	
29		7.7	7.3	12	-	48	14	4.1	.2	.1	0	
30		8.7	6.9	*11	-----	46	13	3.5	.3	.1	0	
31		-----	6.4	10	-----	43	-----	3.1	-----	.1	0	-----
Total	0	104.3	1,473.9	912.8	14,747.7	7,288	676	213.2	34.2	7.0	1.7	0
Mean	0	3.48	47.5	29.4	527	235	22.5	6.88	1.14	0.23	0.05	0
Max	0	8.7	57.1	37.4	2,880	1,140	41	12	2.8	0.4	0.1	0
Min	0	0	4.3	3.6	7.3	43	13	3.1	0.2	0.1	0	0
Ac-ft	0	207	2,920	1,810	29,250	14,460	1,340	423	68	14	3.4	0
Calendar year 1961: Max 1,380 Min 0 Mean 28.6 Ac-ft 20,700												
Water year 1961-62: Max 2,880 Min 0 Mean 69.8 Ac-ft 50,500												

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

11-4537. Capell Creek tributary near Wooden Valley, Calif.

Location.--Lat 38°26'05", long 122°12'15", in SW $\frac{1}{4}$ sec.21, T.7 N., R.3 W., on State Highway 37, 4 miles north of town of Wooden Valley.

Drainage area.--0.87 sq mi.

Records available.--Water years 1959-61 (annual maximum), October 1961 to September 1962.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 790 ft (from topographic map).
Oct. 17, 1958, to Sept. 27, 1961, crest-stage gage only.Extremes.--Maximum discharge during year, 94 cfs Feb. 13 (gage height, 4.29 ft); no flow for several months.
1958-62: Maximum discharge, 158 cfs Feb. 8, 1960 (gage height, 4.91 ft), by indirect measurement of peak flow through culvert.

Remarks.--Records good. No regulation or diversion.

Rating table (gage height, in feet, and discharge,
in cubic feet per second)

1.8	0
1.9	.2
2.0	1.6
2.5	17
3.0	34

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			*0.3	0	0	3.2	0.2					
2			.4	0	0	6.2	.1					
3			0	0	0	2.6	.1					
4			0	0	0	1.6	.1					
5			0	0	0	*5.5	.1					
6			.2	0	*0	15	.1					
7			0	0	*.4	5.6	.1					
8			0	0	.1	3.2	.1	(*)				
9			0	0	13	2.3	.1					
10			0	0	2.9	1.6	.1					
11	(*)		0	0	.4	1.4	.1					(*)
12			0	0	2.3	.9	.1					
13			0	0	*27	.8	.1		(*)			
14		(*)	0	0	*16	.8	.1					
15			0	0	13	.6	.1					
16			0	0	5.6	.6	.1					
17			0	0	3.5	.5	.1					
18			0	.1	6.6	.4	.1					
19			0	3.9	4.1	.4	.1					
20			0	1.4	2.6	.4	.1					
21			0	.1	1.4	*.5	.1					
22			0	0	.9	3.9	0					
23			0	0	.6	.9	0					
24			0	0	.5	.6	0					
25			0	0	.4	.5	0					
26			*0	0	.5	.4	0					
27			0	0	.5	.4	0			(*)		
28			0	0	.5	.5	0					
29			0	0	-	.5	0					
30			0	0	-----	.2	0					
31			0	0	-----	.2	-----					
Total	0	0	0.9	5.5	102.4	61.6	2.2	0	0	0	0	0
Mean	0	0	0.03	0.18	3.66	1.99	0.07	0	0	0	0	0
Max	0	0	0.4	3.9	27	15	0.2	0	0	0	0	0
Min	0	0	0	0	0	0.2	0	0	0	0	0	0
Ac-ft	0	0	1.8	11	203	122	4.4	0	0	0	0	0
(†)	0.1	5.8	4.2	3.5	15.0	5.8	0.4	0	0	0	0	0.2

Calendar year 1961: Max - Min - Mean - Ac-ft -
 Water year 1961-62: Max 27 Min 0 Mean 0.47 Ac-ft 342

Peak discharge (base, 15 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
2- 9	0500	2.98	34	3-5	2030	2.83	28
2-13	1200	4.29	94				

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

† Precipitation, in inches

SACRAMENTO RIVER BASIN

11-4539. Lake Berryessa near Winters, Calif.

Location.--Lat 38°30'50", long 122°06'15", in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.29, T.8 N., R.2 W., near center of Monticello Dam on Putah Creek, 7.4 miles west of Winters.

Drainage area.--577 sq mi.

Records available.--January 1957 to September 1962.

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

Extremes.--Maximum contents during year, 1,243,400 acre-ft Apr. 3-7 (elevation, 420.43 ft); minimum, 974,000 acre-ft Nov. 23, 24 (elevation, 404.09 ft).

1957-62: Maximum contents, that of Apr. 3-7, 1962; minimum since releases for irrigation began, 951,200 acre-ft Dec. 22, 1959 (elevation, 402.62 ft).

Remarks.--Reservoir is formed by concrete arch-gravity dam, completed November 1956. Usable capacity, 1,592,000 acre-ft between elevations 253.25 (invert of outlet valves) and 440 ft (controlled spillway elevation) above mean sea level. Dead storage, 10,340 acre-ft. Water is released down Putah Creek and is diverted into Putah South diversion canal for irrigation of about 3,000 acres in the lower Sacramento Valley. Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours.

Cooperation.--Records furnished by Bureau of Reclamation.

Capacity table (elevation, in feet, and contents, in acre-ft)

400	911,200
405	988,300
410	1,058,100
415	1,150,700
420	1,236,000
425	1,323,800

Contents, in thousands of acre-feet, at 2400 hrs., water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	989.7	978.1	988.3	995.7	999.9	1170.6	1242.9	1234.2	1206.9	1172.5	1135.2	1104.5
2	989.4	977.9	992.8	995.5	999.8	1179.6	1243.3	1233.9	1206.3	1171.3	1134.0	1103.8
3	988.9	977.8	994.4	995.7	999.8	1182.5	1243.4	1233.2	1205.0	1170.1	1132.7	1103.2
4	988.3	977.6	994.7	994.9	999.6	1184.8	1243.4	1232.5	1203.9	1168.7	1131.2	1101.8
5	987.9	977.5	994.6	995.4	999.6	1193.7	1243.4	1231.6	1202.6	1167.6	1130.3	1100.8
6	987.3	977.3	994.9	995.2	999.9	1210.1	1243.4	1231.0	1201.5	1166.4	1129.2	1100.0
7	985.9	977.3	994.9	995.2	1001.3	1215.8	1243.4	1230.1	1200.5	1165.2	1128.0	1099.0
8	984.8	977.2	994.9	994.9	1005.1	1219.7	1243.3	1229.1	1199.3	1163.8	1126.8	1097.9
9	984.8	977.0	994.7	994.6	1023.7	1222.5	1243.1	1228.4	1198.5	1162.7	1126.0	1097.2
10	984.5	976.8	994.6	994.2	1029.5	1224.4	1243.1	1227.5	1197.3	1161.7	1125.0	1096.2
11	984.0	976.8	994.4	994.2	1031.4	1225.9	1242.7	1226.6	1195.6	1160.1	1124.2	1095.4
12	983.9	976.7	994.4	994.2	1033.9	1227.5	1242.6	1225.6	1194.2	1159.3	1123.3	1094.3
13	983.7	975.9	994.4	994.1	1067.6	1228.5	1242.4	1224.7	1193.0	1158.1	1122.7	1093.3
14	983.7	975.9	994.6	994.1	1097.6	1229.9	1242.0	1224.0	1191.8	1157.3	1121.8	1092.6
15	983.6	975.8	994.7	993.9	1125.5	1230.8	1241.7	1223.2	1190.5	1156.3	1120.7	1092.0
16	983.4	975.1	994.6	993.9	1134.0	1231.6	1241.5	1222.0	1189.4	1154.9	1119.8	1091.5
17	982.9	974.7	994.6	993.9	1138.3	1232.5	1241.2	1221.5	1188.6	1153.7	1118.9	1090.8
18	982.6	974.5	994.7	993.9	1145.9	1233.2	1240.6	1220.4	1187.6	1152.4	1117.5	1090.0
19	982.2	974.8	994.9	997.1	1150.7	1233.7	1240.1	1219.6	1186.9	1151.0	1116.9	1089.2
20	981.7	974.8	994.9	999.1	1154.2	1234.6	1239.8	1218.2	1185.5	1149.4	1116.0	1088.5
21	981.4	974.3	995.7	999.9	1156.8	1234.9	1239.6	1217.3	1184.7	1148.4	1115.0	1088.0
22	981.2	974.2	995.8	999.9	1158.5	1237.3	1239.3	1216.5	1183.8	1147.0	1114.1	1087.2
23	980.9	974.0	996.0	999.6	1159.8	1238.7	1238.7	1215.1	1182.6	1145.9	1113.1	1086.9
24	980.8	974.0	996.0	999.6	1161.0	1239.6	1238.2	1214.2	1181.4	1144.9	1112.1	1086.6
25	980.4	975.0	996.1	999.6	1161.8	1240.1	1237.9	1213.0	1180.1	1143.4	1111.1	1085.6
26	980.1	975.8	995.8	999.8	1162.3	1240.5	1237.0	1212.2	1178.9	1142.2	1109.8	1084.9
27	979.8	975.6	996.0	999.8	1162.7	1241.3	1236.7	1211.0	1177.7	1141.0	1108.8	1084.4
28	979.7	975.4	995.8	999.8	1163.8	1241.7	1236.0	1210.3	1176.4	1140.2	1107.9	1083.9
29	978.9	976.8	995.7	1000.1	-	1241.9	1235.4	1209.6	1174.7	1138.8	1106.8	1083.3
30	978.6	979.5	995.5	1000.1	-----	1242.4	1234.8	1208.4	1173.5	1137.8	1106.0	1082.8
31	978.3	-----	995.7	1000.4	-----	1242.6	-----	1207.7	-----	1136.5	1105.1	-----
(+)	404.36	404.44	405.47	405.77	415.78	420.38	419.93	418.37	416.35	414.15	412.26	410.90
(+)	-12,000	+1,200	+16,200	+4,700	+163,400	+78,800	-7,800	-27,100	-34,200	-37,000	-31,400	-22,300
(+)	6,081	2,797	1,271	2,144	2,156	4,116	7,814	9,697	12,621	13,966	11,933	8,783

Calendar year 1961..... + -46,400

Water year 1961-62..... + -50,400

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation in acre-feet.

11-4540. Putah Creek near Winters, Calif.

Location.--Lat 38°30'55", long 122°04'50", in NE 1/4 sec. 28, T. 8 N., R. 2 W., on left bank 1.3 miles downstream from Monticello Dam, 6 miles west of Winters and 8 miles downstream from Capell Creek.

Drainage area.--577 sq mi.

Records available.--July 1930 to September 1962.

Gage.--Water-stage recorder. Datum of gage is 160.75 ft above mean sea level (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft higher.

Average discharge.--32 years, 471 cfs (341,000 acre-ft per year); median of yearly mean discharges, 340 cfs (246,000 acre-ft per year). Adjusted for storage in and evaporation from Lake Berryessa.

Extremes.--Maximum discharge during year, 524 cfs June 28, 29 (gage height, 7.38 ft); minimum, 7.8 cfs Nov. 1.

1930-62: Maximum discharge, 81,000 cfs Feb. 27, 1940 (gage height, 30.5 ft, present datum), from rating curve extended above 30,000 cfs; no flow Sept. 6-15, 1950, July 26 to Sept. 1, Sept. 6-9, 1955.

Maximum stage known since at least 1905, that of Feb. 27, 1940, on basis of records for station at Winters.

Remarks.--Records good. Low-water records are not equivalent to records at Winters or near Davis. Flow regulated by Lake Berryessa beginning Jan. 11, 1957 (see p. 932).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

3.7	7.8	5.0	78
3.8	10	5.5	134
4.1	19	6.5	306
4.5	39	7.5	560

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	129	8.7	4.7	5.2	6.9	5.3	8.4	317	367	437	416	282
2	124	9.3	3.7	4.2	6.9	3.6	9.6	313	432	401	424	272
3	134	9.8	1.2	3.2	6.9	1.9	*123	313	450	386	429	293
4	129	9.8	1.2	3.2	6.9	1.7	132	328	427	403	403	302
5	124	9.6	4.4	3.2	6.8	4.0	145	337	416	421	364	272
6	124	9.8	7.1	3.2	6.8	9.7	155	343	421	440	321	297
7	108	9.8	6.5	3.2	6.7	4.8	161	328	406	468	324	319
8	75	9.8	6.1	2.5	6.7	3.4	155	339	416	455	341	319
9	67	9.8	6.0	5.3	9.1	2.7	158	348	421	440	343	319
10	58	10	6.0	8.2	2.2	2.3	168	350	455	419	321	278
11	47	10	4.1	*33	3.9	2.1	172	*350	471	408	321	278
12	44	9.8	1.1	2.3	6.0	1.9	186	350	445	408	306	270
13	44	2.2	1.1	1.1	135	1.8	212	350	450	398	299	264
14	44	2.9	1.1	1.1	9.7	1.8	217	364	*473	391	317	244
15	44	2.3	1.1	1.1	113	1.7	187	369	471	376	324	235
16	74	14	2.8	1.1	4.0	3.8	178	372	440	416	*293	195
17	95	9.3	4.5	1.1	24	5.3	195	360	414	460	284	172
18	98	10	3.2	1.1	5.2	4.7	212	355	381	437	293	189
19	90	10	1.1	1.2	5.9	4.4	222	381	372	*460	280	215
20	80	11	1.1	1.3	3.1	4.4	206	376	398	479	293	198
21	65	1.1	*16	1.1	24	6.2	198	388	374	492	324	*186
22	71	10	2.6	4.2	20	4.8	198	432	393	468	326	181
23	56	1.1	2.6	6.7	*18	1.5	198	442	367	450	328	172
24	34	*11	3.3	6.7	2.8	3.3	230	445	393	434	360	159
25	28	1.1	5.2	6.9	5.3	4.8	237	455	434	434	357	155
26	28	10	5.2	6.9	64	5.8	254	455	466	414	321	144
27	*28	10	5.2	6.9	64	5.6	260	424	466	401	330	155
28	28	5.2	5.2	6.9	64	4.5	246	391	502	401	335	152
29	24	8.7	5.2	6.9	-	5.1	274	343	494	381	306	144
30	19	6.2	5.2	6.9	-----	6.3	313	376	460	386	274	142
31	10	-----	5.2	6.9	-----	7.6	-----	343	-----	416	264	-----
Total	2,123	519.5	1,146	1,231	1,644	1,268	5,772	11,437	12,875	13,180	10,221	6,803
Mean	68.5	17.3	37.0	39.7	58.7	40.9	192	369	429	425	330	227
Max	134	87	71	82	135	97	313	455	502	492	429	319
Min	10	8.7	11	11	18	15	84	313	367	376	264	142
Ac-ft	4,210	1,030	2,270	2,440	3,260	2,520	11,450	22,680	25,540	26,140	20,270	13,490
Meant†	-27.8	81.2	321	151	3,039	1,390	193	85.9	66.6	50.6	13.1	-0.45
Ac-ft†	-1,710	4,830	19,740	9,280	168,800	85,440	11,460	5,280	3,960	3,110	803	-27
Calendar year 1961:	Max	520	Min	8.7	Mean	178	Meant	224	Ac-ft	128,700	Ac-ft†	162,100
Water year 1961-62:	Max	502	Min	8.7	Mean	187	Meant	430	Ac-ft	135,300	Ac-ft†	311,000

* Discharge measurement made on this day.

† Adjusted for change in storage and evaporation from Lake Berryessa.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff as the residual of several larger quantities, which are not susceptible to measurement with a precision necessary to produce a final answer within desirable limits of accuracy.

11-4541. Pleasants Creek near Winters, Calif.

Location.--Lat 38°28'40", long 122°01'43", in SW 1/4 sec.1, T.7 N., R.2 W., on left bank 0.2 mile upstream from unnamed tributary, 0.3 mile above bridge on Pleasants Valley road, 1.3 miles northeast of Pleasants Valley School, and 5 miles west of Winters.

Drainage area.--15.9 sq mi.

Records available.--October 1959 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,580 cfs Feb. 9 (gage height, 8.55 ft); no flow for many months.
1959-62: Maximum discharge, that of Feb. 9, 1962; no flow for many months in each year.

Remarks.--Several small reservoirs above station. Minor diversions above station for irrigation.

Cooperation.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)	* 9.6	0	* 0	5.3	5.7	0.8				(*)
2	(*)		4.2	* 0	0	9.2	3.4	.7		(*)	(*)	
3			1.1	0	0	3.0	* 3.4	.6				
4			0	0	0	2.2	3.2	.6				(*)
5			0	0	0	13.1	2.8	.5				
6			0	0	0	*22.4	2.8	.6				
7			0	0	5.9	7.4	2.6	.5				
8			0	0	.2	4.5	2.2	.5				
9			0	0	28.1	3.3	* 2.1	.5				
10			0	0	* 2.4	2.5	2.0	.5				
11			0	0	4.8	2.0	1.8	.5				
12			* 0	0	2.4	1.7	2.0	.5				
13			0	0	*30.6	1.5	2.0	.5				
14			0	0	32.0	1.3	1.9	.5				(*)
15		(*)	0	0	16.6	1.1	1.8	.5				
16	(*)		0	* 0	4.2	9.8	1.6	.4				
17			0	0	2.1	8.8	* 1.6	.4		(*)	(*)	
18			0	0	5.2	8.0	1.5	* .4				
19			0	.3	5.0	7.2	1.6	.3	(*)			(*)
20			0	2.2	2.2	* 6.5	1.6	.2				
21			0	.3	1.5	5.8	1.2	.2				
22			0	0	1.1	1.3	1.1	.1				
23			0	0	9.0	6.4	1.1	.1				
24			0	0	8.5	5.5	1.0	.1				
25			0	0	7.8	5.0	1.0	.1				
26			0	0	6.9	4.8	.9	.1				
27			* 0	0	6.4	4.3	.9	.1				
28			0	0	7.1	4.3	1.1	.1				
29			0	0	-	4.1	.9	.1				
30			0	0	-----	3.8	.9	0				
31		-----	0	0	-----	3.8	-----	0	-----			-----
Total	0	0	52.7	22.6	1,390.6	906.1	55.7	11.0	0	0	0	0
Mean	0	0	1.70	0.73	49.7	29.2	1.86	0.35	0	0	0	0
Max	0	0	4.2	2.2	32.0	22.4	3.7	0.8	0	0	0	0
Min	0	0	0	0	0	3.8	0.9	0	0	0	0	0
Ac-ft	0	0	105	45	2,760	1,800	110	22	0	0	0	0
Calendar year 1961: Max	63	Min	0	Mean	0.86	Ac-ft	626					
Water year 1961-62: Max	320	Min	0	Mean	6.68	Ac-ft	4,840					

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

11-4550. Putah Creek near Davis, Calif.

Location.--Lat 38°31'24", long 121°47'10", in SE $\frac{1}{4}$ sec.19, T.8 N., R.2 E., on right bank in Los Putos Grant, 3.3 miles southwest of Davis, Yolo County, and 9.9 miles east of Winters.

Drainage area.--636 sq mi.

Records available.--May 1948 to September 1962.

Gage.--Water-stage recorder. Altitude of gage is 45 ft (from topographic map). Prior to Dec. 16, 1948, at datum 2.00 ft higher.

Average discharge.--14 years, 292 cfs (211,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,570 cfs Feb. 15 (gage height, 8.03 ft), from rating curve extended above 1,400 cfs; no flow for several months.

1948-62: Maximum discharge, 46,600 cfs Dec. 22, 1955 (gage height, 24.36 ft); no flow for several months in each year.

Remarks.--Records good. Flow regulated by Lake Berryessa (see p. 932). Low-water records are not equivalent to records at Winters or near Winters. Putah South Diversion canal diverted 111,300 acre-ft above the station for irrigation of 38,900 acres in the lower Sacramento Valley. Several small diversions above station for irrigation of about 200 acres between stations near Winters and near Davis. Low flows during summer months due to return flow from irrigation.

Discharge, in cubic feet per second, water year October 1961 to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	28	63	42	27	28	21			
2	0		0	30	63	44	25	* 26	18			
3	0		0	23	70	46	* 24	31	15			
4	0		0	10	72	46	25	30	17			
5	0		7.4	6.2	74	54	24	27	18			
6	0		5.8	.9	81	432	24	26	20			
7	0		6.2	0	87	208	23	31	19			
8	0		14	0	78	108	29	30	* 18			
9	0		17	0	707	44	31	33	16	(*)		
10	.3		19	0	* 345	34	29	37	16			
11	.8		22	* 0	* 64	25	28	37	16			
12	0		26	0	35	21	28	33	15			
13	0		27	0	331	20	27	27	13			
14	0		23	0	* 610	24	27	26	14		(*)	
15	0		18	0	* 1,370	24	30	20	13			
16	0		17	0	228	27	30	12	13			
17	0		8.0	0	83	27	29	20	13			
18	0		1.0	0	46	29	35	22	13			
19	0		11	0	124	30	34	11	5.4			
20	0		3.6	0	56	34	34	12	0			
21	0		* 4	0	41	33	34	10	0			
22	0		0	0	40	35	33	10	0			
23	0		0	0	* 35	33	29	2.0	0			
24	0	(*)	0	0	29	31	31	13	0			
25	0		0	0	29	29	30	18	0			(*)
26	* 0		0	0	29	29	33	19	0			
27	0		0	5.5	* 29	28	33	18	0			
28	0		0	47	35	28	30	21	0			
29	0		9.2	56	-	28	27	23	0			
30	0		26	60	-----	28	26	21	0			
31	0	-----	27	61	-----	27	-----	22	-----			
Total	1.1	0	288.6	327.6	4,854	1,648	869	696.0	293.4	0	0	0
Mean	0.04	0	9.31	10.6	173	53.2	29.0	22.5	9.78	0	0	0
Max	0.8	0	27	61	1,370	432	35	37	21	0	0	0
Min	0	0	0	0	29	20	23	2.0	0	0	0	0
Ac-ft	2.0	0	572	650	9,630	3,270	1,720	1,380	582	0	0	0

Calendar year 1961: Max 118 Min 0 Mean 11.9 Ac-ft 8,620
 Water year 1961-62: Max 1,370 Min 0 Mean 24.6 Ac-ft 17,810

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

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspection of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Buena Vista Lake basin							
1951.50	Bitterwater Creek near Maricopa	W $\frac{1}{2}$ sec.11, T.11 N., R.24 W., 1.0 mile southwest of Maricopa.	18.5	1961-62	2-10-62	14.86	144
1953.00	Santiago Creek near Maricopa	NW $\frac{1}{4}$ sec.36, T.11 N., R.23 W., 8 miles southeast of Maricopa.	34.8	1961-62	2-10-62	15.4	290
1973.70	Bitterwater Creek near Lost Hills	SE $\frac{1}{4}$ sec.20, T.27 S., R.18 E., 0.2 mile downstream from Cedar Canyon, 21 miles west of Lost Hills.	76.4	1961-62	2-1-62	1.86	180
Tulare Lake basin							
2125.00	South Fork Kings River near Cedar Grove	NW $\frac{1}{4}$ sec.8, T.13 S., R.30 E., 0.3 mile below Grizzly Creek and 4.5 miles west of Cedar Grove.	409	1950-57 ⁺ 1961-62	5-6-62	11.5	5,600
2251.00	Los Gatos Creek below Jacalitos Creek, near Coalinga	At intersection of sections 22, 23, 26, 27, T. 20 S., R.16 E., at bridge on El Dorado Avenue, 8 miles east of Coalinga.	407	1959-62	2-9-62	12.44	1,500
2251.30	Zapato Chino Creek near Avenal	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.21 S., R.16 E., 7 miles northwest of Avenal.	44.5	1961-62	2-9-62	11.05	866
San Joaquin River basin							
2533.10	Cantua Creek near Cantua Creek	SE $\frac{1}{4}$ sec.34, T.17 S., R.14 E., 150 ft below road ford and 9.2 miles southwest of Cantua Creek.	46.4	1959-62	2-9-62	2.44	472
2556.05	Little Panoche Creek near Panoche	NW $\frac{1}{4}$ sec.22, T.13 S., R.11 E., 100 ft below road ford and 14 miles northeast of Panoche.	101	1959-62	2-9-62	2.14	40
2630.5	Garzas Creek near Gustine	SW $\frac{1}{4}$ sec.18, T.8 S., R.8 E., above diversion weir, 7.7 miles west of Gustine.	51.2	1959-62	2-9-62	3.64	370
2746.30	Del Puerto Creek near Patterson	SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.15, T.5 S., R.7 E., at Delta-Mendota Canal crossing, 3.9 miles northwest of Patterson.	b69	1959-62	2-16-59 2-9-60 1-26-61 2-15-62	14.68 11.18 10.00 12.87	1,800 164 26 685
3055.00	San Antonio Creek near San Andreas	NE $\frac{1}{4}$ sec.10, T.3 N., R.12 E., 800 ft below highway bridge, 1.9 miles above mouth, 5 miles southeast of San Andreas.	46.6	1950-59 ⁺ 1961-62	2-15-62	4.10	1,200
3070.00	Esperanza Creek near Mokelumne Hill	NW $\frac{1}{4}$ sec.6, T.5 N., R.13 E., 600 ft above mouth and 6 miles east of Mokelumne Hill.	16.7	1951-59 ⁺ 1961-62	2-15-62	4.18	930
3075.00	Jesus Maria Creek near Mokelumne Hill	SE $\frac{1}{4}$ sec.16, T.5 N., R.12 E., 0.6 mile above mouth, 3.2 miles southeast of Mokelumne Hill.	34.7	1950-59 ⁺ 1961-62	2-15-62	4.70	1,100
3085.00	Murray Creek near San Andreas	SW $\frac{1}{4}$ sec.8, T.4 N., R.12 E., 600 ft above bridge on State Highway 49, 1.5 miles above mouth, and 1.1 miles north of San Andreas.	23.5	1950-59 ⁺ 1961-62	2-15-62	4.68	830

b About.

+ Operated as a continuous-record gaging station.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table.

Discharge measurements made at miscellaneous sites during water year 1962

Discharge measurements made at miscellaneous sites during water year 1962						
Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Sacramento River basin						
Stony Creek	Sacramento River	SE $\frac{1}{4}$ sec.35, T.18 N., R.7 W., at East Park feed canal diversion dam 3 miles west of Stonyford.	97	1913-14, 1918-34†, 1959, 1961	9-18-62	20.8
Rock Creek	North Yuba River	SW $\frac{1}{4}$ sec.5, T.19 N., R.10 E., 600 ft above mouth at Goodyears Bar.	10.8	1910-33†, 1960-61	9-27-62	*0.93
Goodyears Creekdo.....	NW $\frac{1}{4}$ sec.5, T.19 N., R.10 E., 300 ft above mouth and 0.5 mile north of Goodyears Bar.	12.2	1910-33†, 1960-61	9-27-62	*4.78
Dry Creek	Yuba River	NW $\frac{1}{4}$ sec.25, T.19 N., R.6 E., 0.2 mile below New York Creek and 9.9 mile northeast of Brownsville.	20.4	1948-60†, 1961	9-13-62	*1.47
Georgetown Ditch	Pilot Creek	NE $\frac{1}{4}$ sec.22, T.13 N., R.14 E., 0.5 mile below Angel Creek and 25 miles east of Georgetown.	-	1961	10-12-61 6-21-62	13.0 19.5
Georgetown Ditchdo.....	SW $\frac{1}{4}$ sec.22, T.13 N., R.14 E., 1.2 miles below Angel Creek and 25 miles east of Georgetown.	-	1961	10-12-61	12.3

* Base flow.

† Operated as a continuous record gaging station.

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