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1966

# Water Resources Data for California

## Part 1. Surface Water Records

### Volume 2: Northern Great Basin and Central Valley

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Prepared in cooperation with the California Department  
of Water Resources and with other agencies



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

WATER RESOURCES DATA  
FOR  
CALIFORNIA  
1966

Part 1: Surface Water Records  
Volume 2: Northern Great Basin and  
Central Valley

Prepared in cooperation with

California Department of Water Resources  
Alameda County Flood Control and Water Conservation District  
Alameda County Water District  
Calaveras County Water District  
Coachella Valley County Water District  
Contra Costa County Flood Control and Water Conservation District  
Lake County Flood Control and Water Conservation 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  
Riverside County Flood Control and Water Conservation District  
San Luis Obispo County Flood Control and Water Conservation District  
San Mateo County  
Santa Barbara County Water Agency  
Santa Cruz County Flood Control and Water Conservation District  
San Francisco (county and city)  
Santa Barbara (city)  
San Diego (city)  
Antelope Valley-East Kern Water Agency  
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  
Corps of Engineers, U.S. Army  
U.S. Navy  
Bureau of Reclamation, U.S. Department of the Interior  
Forest Service, U.S. Department of Agriculture

Copies of this report may be obtained from  
District Chief, Water Resources Division  
U.S. Geological Survey  
345 Middlefield Road  
Menlo Park, California, 94025

Water-resources records, 1966, for California are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for California  
Part 1: Surface Water Records  
Volume 1: Colorado River Basin, Southern Great Basin, and Pacific Slope Basins excluding Central Valley
2. Water Resources Data for California  
Part 1: Surface Water Records  
Volume 2: Northern Great Basin and Central Valley
3. Water Resources Data for California  
Part 2: Water Quality Records



# CALENDAR FOR WATER YEAR 1966

## OCTOBER 1965

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

## NOVEMBER 1965

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

## DECEMBER 1965

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

## JANUARY 1966

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

## FEBRUARY 1966

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

## MARCH 1966

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

## APRIL 1966

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

## MAY 1966

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

## JUNE 1966

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

## JULY 1966

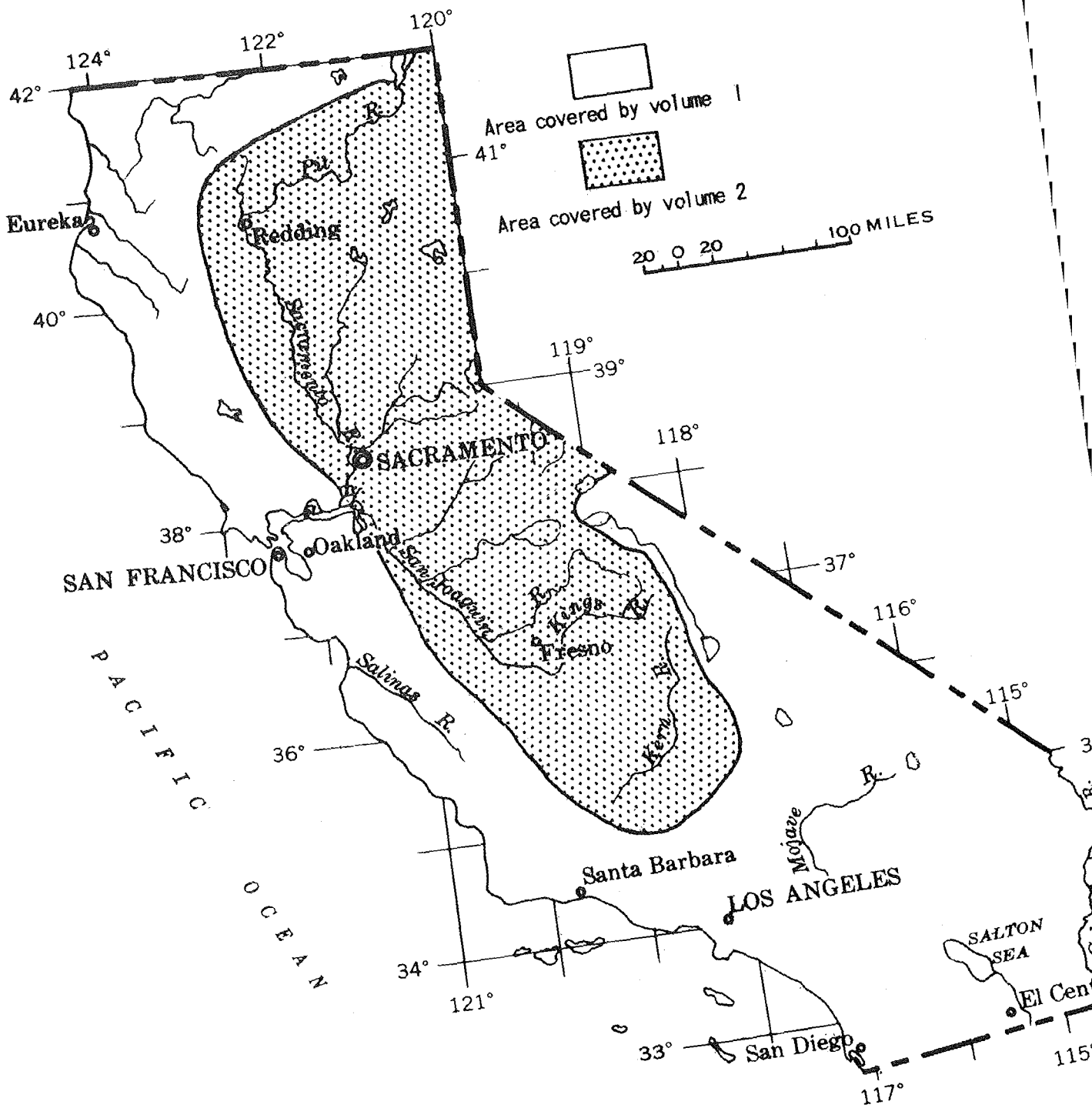
S	M	T	W	T	F	S
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3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

## AUGUST 1966

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

## SEPTEMBER 1966

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
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## WATER RESOURCES DATA FOR CALIFORNIA, 1966

### Part 1. SURFACE WATER RECORDS

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#### INTRODUCTION

The surface-water records for the 1966 water year for gaging stations, partial-record stations, and miscellaneous sites within California are given in this report. For convenience, also included are 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 and R. Stanley Lord, successive district chiefs, Menlo Park, Calif.

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 is made primarily for local needs. The records later will be published in Geological Survey water-supply papers at 5-year intervals. These water-supply papers will show daily discharge and will be compiled for the same geographical areas used for the annual series.

# COOPERATION

In California the work was done under cooperative agreements with:

California Department of Water Resources, W. E. Warne, Director.  
 Alameda County Flood Control and Water Conservation District,  
     Paul E. Lanferman, Engineer-Manager.  
 Alameda County Water District, M. P. Whitfield, General Manager.  
 Calaveras County Water District, T. Stanley Edwards, Secretary-Manager.  
 Coachella Valley County Water District, Lowell O. Weeks,  
     General Manager-Chief Engineer.  
 Contra Costa County Flood Control and Water Conservation District,  
     C. C. Rich, Chief Engineer.  
 Lake County Flood Control and Water Conservation District,  
     Willard D. Hansen, Manager.  
 Montecito County Water District, Delbert D. Smith, General Manager.  
 Monterey County Flood Control and Water Conservation District,  
     Loren Bunte, Jr., District Engineer.  
 Santa Clara County Flood Control and Water Conservation District,  
     Donald K. Currlln, Manager-Counsel.  
 Orange County Flood Control District, H. G. Osborne, Chief Engineer.  
 Riverside County Flood Control and Water Conservation District,  
     J. W. Bryant, Chief Engineer.  
 San Luis Obispo County Flood Control and Water Conservation District,  
     Robert H. Born, County Hydraulic Engineer.  
 Santa Barbara County Water Agency, Curtis Tunnell, Chairman.  
 Santa Cruz County Flood Control and Water Conservation District,  
     Warren M. Harrison, Director of Public Works.  
 San Mateo County, D. S. Wilson, County Engineer and Road Commissioner.  
 San Diego (city), R. E. Graham, Director of Utilities.  
 Santa Barbara City Water Department, Clyde Richardson, Director;  
     succeeded by Neil Mendenall, Superintendent.  
 Antelope Valley-East Kern Water Agency, W. G. Spinarski, Manager.  
 East Bay Municipal Utility District, J. 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, E. F. Dibble, Engineer  
     and Secretary.  
 Santa Maria Valley Water Conservation District, L. H. Adam, President.  
 Ventura River Municipal Water District, L. 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 and National Park Service, U.S. Department of the Interior; Forest Service, U.S. Department of Agriculture; and the city and county of San Francisco.

The following organizations and individuals aided in collecting records: Pacific Power and Light Co., California American Water Co., Irvine Ranch, Kings River Water Association, Los Angeles City Department of Water and Power, Los Angeles County Flood Control District, Rancho California, Pacific Gas and Electric Co., Placer County Water Agency, Sacramento Municipal Utility District, Southern California Edison Co., Kern County Land and Water Co., United Water Conservation District, Ventura County Water Resources Division, Helix, Madera, Merced, Modesto, Nevada, Serrano and Carpenter, Turlock, Oakdale, Oroville-Wyandotte, South San Joaquin, Vista, and Woodbridge Irrigation Districts, and Yuba County Water Agency.

#### 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.

Hydrologic bench mark is an area or basin in which the hydrologic regimen will likely be governed solely by natural conditions. Such a basin provides a reference for separating the effects of cultural changes in other basins with similar climate, physiography, and geology.

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

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

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

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

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

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, 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 an abbreviation for "Water-Supply Paper" in reference 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 the 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 and continuous-record gaging stations, so that the number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence, the numbers are not consecutive.

The complete 8-digit number for each station, such as 11-1208.00 includes the part number "11" plus a 6-digit number. In this report, the nonessential zeros are not 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.

## 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-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.

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 computing the discharge in the usual manner is impossible. 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 can happen when the recorder stops or otherwise fails to operate properly, when intakes are plugged, or when the float is held by ice. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjacent good record, discharge measurements, weather records, and comparison with station records from the same or nearby basins.

The data in this report generally comprise a description of the station and a table showing the daily discharge and monthly and yearly discharge of the stream. Records are published for the water year which begins October 1 and ends September 30. A calendar for the 1966 water year is shown on page III.

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 the periods for which there are published records for the present station or for generally equivalent stations. 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 5 complete years of record or for stations where changes in water development 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."

The daily table gives the discharge corresponding to the daily mean gage height, unless the discharge changes greatly during a day. For days having large or rapid changes, the discharge is computed by averaging the mean discharges for several parts of the day. For digital recorders, the daily mean discharge is 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 "Total" is the sum of the daily figures; it is the total cfs-days for the month. The "Mean" is the average flow in cubic feet per second during the month. Discharge for the month is expressed in acre-feet ("Ac-ft"). For three stations only discharge for the month is expressed in cubic feet per second per square mile ("Cfsm"), in inches ("In."), and in acre-feet ("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 local standard time, for example, 12:30 a.m. is 0030 and 1:30 p.m. is 1330 hours.

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

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given.

#### ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

For most gaging stations equipped with digital recorders the figures of mean daily discharge are shown to the nearest hundredth for discharges less than 1 cfs. This has been done as a matter of uniformity in the computer program and should not be construed to indicate an accuracy greater than that used in the past.



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

## OTHER DATA AVAILABLE

Data from partial-record stations and measurements made at miscellaneous sites are given at the end of this report. Occasionally, 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 also at the end of this report. Data for most crest-stage partial-record stations in California are not included in this report. They are published separately in an annual report, "Floods from Small Drainage Areas," copies of which may be obtained from the district office.

More detailed information than that published for most of the gaging stations is on file in the district office; information, 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 or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. These data are given in part 2 of this report. Under the "Remarks" paragraph of the gaging-station description, reference is made to water-quality records collected on a regular basis.

## HYDROLOGIC CONDITIONS

Runoff for October was deficient in the south, well above normal in the Sierra Nevada, and near normal elsewhere. Heavy storms in November and December produced excessive runoff in all but the extreme northern part of the State. The storms were especially severe in southern California. New record daily and monthly totals of precipitation were reported in many places. Peak discharges at streamflow stations were generally the highest since 1943. The Los Angeles River at Sepulveda Dam and the Santa Clara River at Los Angeles-Ventura County line had peak discharges greater than those of March 1938, the highest previously known. Two Ventura County hydrographers were drowned while measuring the flow of the Santa Clara River. Eleven deaths were attributed to the storm and the resulting floods, and estimates indicated damages in excess of \$11 million. In contrast, below-normal precipitation and above-normal temperatures reduced the runoff in southern California to below normal by February. Runoff was deficient thereafter to the end of the year, with extreme drought conditions prevailing during the summer months. Runoff from the Sierra Nevada was above or near normal in March, April and May because of early snowmelt, but was generally deficient for the remainder of the year. Runoff for the water year was excessive in the south, generally well below normal in the Central Valley and the central coastal areas, and near or somewhat above normal in the north coastal area. Figure 1 shows the runoff for the 1966 water year, in percentage of the 1930-60 median.

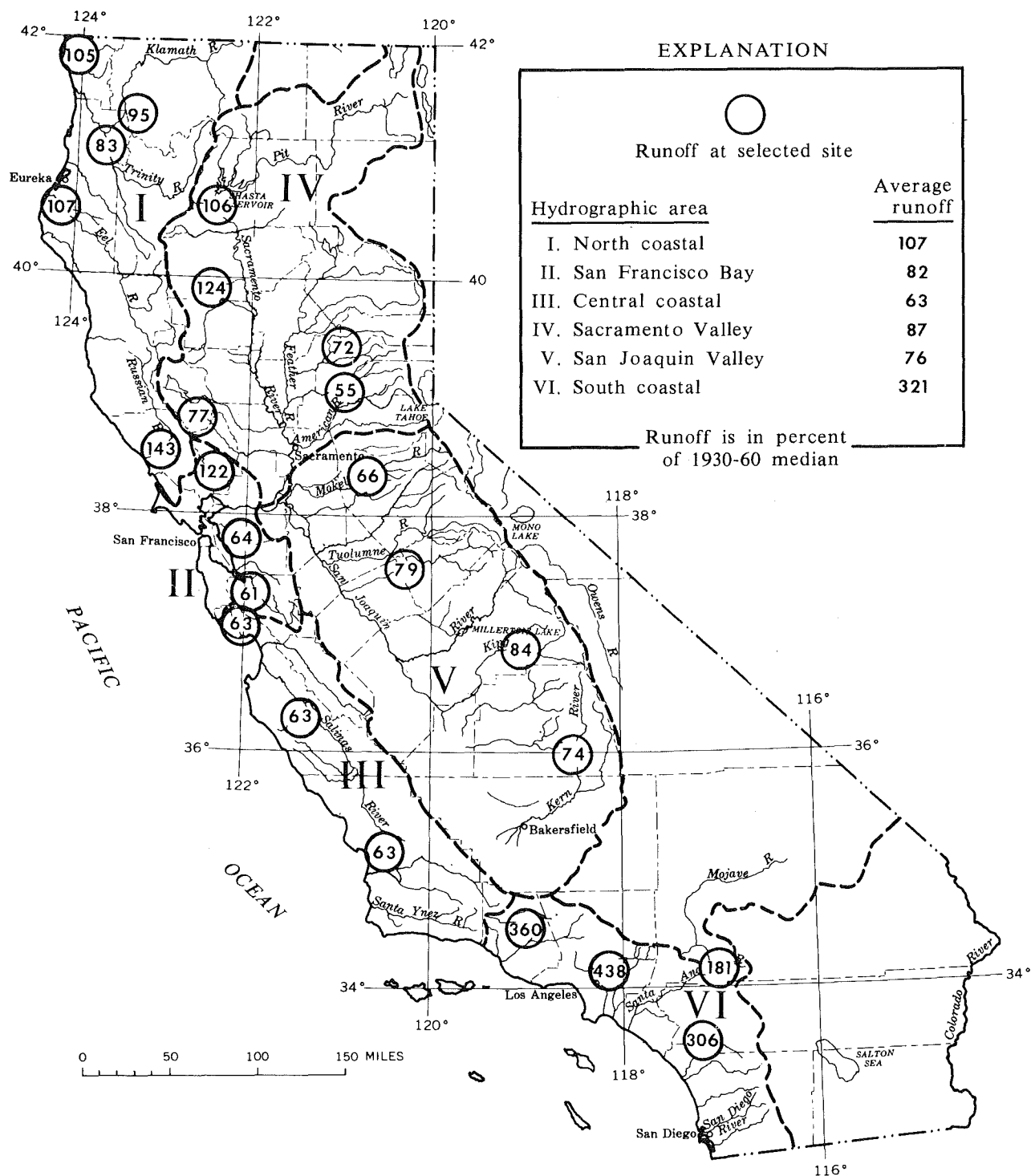


Figure 1.--Runoff for the 1966 water year.

10-2890. Virginia Creek near Bridgeport, Calif.

Location.--Lat 38°11'30", long 119°12'30", near center of W½ sec.22, T.4 N., R.25 E., on right bank 1¼ miles downstream from Clearwater Creek, 3 miles upstream from mouth, and 4¼ miles southeast of Bridgeport.

Drainage area.--63.6 sq mi.

Records available.--October 1953 to September 1966.

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

Average discharge.--13 years, 14.1 cfs (10,210 acre-ft per year).

Extremes.--Maximum discharge during year, 39 cfs Mar. 13 (gage height, 3.34 ft); maximum gage height, 4.34 ft Dec. 26 (backwater from ice); minimum discharge, 1.5 cfs July 27.

1953-66: 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, July 28, 1961.

Remarks.--Records good except those for winter months which are poor. Flow partly regulated by Virginia Lakes and other lakes near headwaters. Diversions for irrigation of about 3,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	11	12	9.0	9.5	10	26	14	9.0	4.3	4.0	4.0
2	14	12	12	8.0	9.0	10	25	16	5.7	4.3	4.6	4.0
3	13	11	12	10	10	9.0	23	17	6.4	4.0	4.6	4.0
4	12	12	15	11	10	8.5	21	20	6.1	3.6	3.6	4.0
5	12	12	13	12	10	9.0	22	20	6.1	3.4	2.8	4.0
6	12	12	13	11	11	9.8	23	20	6.1	3.0	2.6	4.0
7	12	12	12	10	11	12	24	20	6.1	3.0	2.8	4.0
8	12	11	12	11	11	12	24	21	6.4	3.2	2.8	4.0
9	12	11	14	11	10	14	23	21	6.7	3.6	2.6	4.0
10	12	11	14	11	10	17	24	21	6.1	3.2	2.4	4.0
11	12	11	13	11	9.0	17	21	15	4.9	2.8	2.4	4.0
12	12	12	14	11	10	20	18	14	4.9	2.8	2.8	4.3
13	12	14	12	11	8.0	23	17	15	5.5	2.8	2.4	4.6
14	12	16	11	11	9.0	23	17	16	7.0	2.8	1.8	4.6
15	12	18	10	11	9.0	22	18	14	7.4	2.4	3.0	4.9
16	13	19	9.0	11	9.0	20	18	16	7.8	2.4	3.8	4.6
17	12	22	8.0	10	9.0	15	20	17	9.0	2.4	4.0	4.9
18	12	21	8.0	9.5	9.8	17	21	18	7.4	2.6	4.3	5.2
19	12	18	9.0	10	9.4	19	21	18	5.5	3.4	4.0	6.7
20	12	16	9.0	9.5	9.0	17	20	14	5.8	3.4	4.0	6.1
21	11	13	10	9.0	9.4	16	18	14	6.4	2.8	4.0	5.5
22	11	14	11	10	10	17	16	13	6.1	2.8	3.8	5.5
23	11	17	9.0	9.5	11	17	14	13	5.8	2.8	3.8	5.8
24	11	15	9.4	9.8	11	17	14	13	4.9	2.8	3.8	5.5
25	12	18	11	9.5	10	19	15	12	4.3	2.8	3.6	5.8
26	12	13	10	9.8	10	23	15	14	4.9	2.4	3.6	5.8
27	12	11	12	9.8	10	23	15	15	5.2	1.6	4.0	5.8
28	12	11	12	9.0	10	23	14	16	4.0	2.2	4.3	5.5
29	12	11	12	9.4	-----	23	14	14	4.3	2.2	4.3	5.5
30	12	12	12	9.8	-----	23	14	10	4.3	3.0	4.3	5.5
31	11	-----	12	9.0	-----	25	-----	9.8	-----	4.6	4.3	-----
Total	373	417	352.4	313.6	274.1	530.3	575	490.8	181.1	93.4	109.1	146.1
Mean	12.0	13.9	11.4	10.1	9.79	17.1	19.2	15.8	6.04	3.01	3.52	4.87
Ac-ft	740	827	699	622	544	1,050	1,140	973	359	185	216	290

Calendar year 1965: Max 49 Min 7.0 Mean 17.5 Ac-ft 12,630

Water year 1965-66: Max 26 Min 1.6 Mean 10.6 Ac-ft 7,640

Peak discharge (base, 50 cfs).--No peak above base.

10-2895. Green Creek near Bridgeport, Calif.

Location.--Lat 38°10'25", long 119°14'00", in NE¼SE¼ sec.29, T.4 N., R.25 E., on right bank 130 ft downstream from county road bridge, 0.1 mile upstream from diversion to Summers Creek, and 5½ miles south of Bridgeport.

Drainage area.--19.5 sq mi.

Records available.--October 1953 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 6,850 ft (from topographic map). Prior to July 26, 1964, graphic water-stage recorder.

Average discharge.--13 years, 26.9 cfs (19,470 acre-ft per year).

Extremes.--Maximum discharge during year, 78 cfs May 27, 28 (gage height, 2.53 ft); maximum gage height, 3.40 ft Dec. 18 (backwater from ice); minimum discharge, 3.6 cfs Nov. 21, Sept. 18.

1953-66: 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, 4.09 ft Feb. 25, 1962 (backwater from ice); minimum discharge, 1.4 cfs Apr. 4, 1964.

Remarks.--Records good except those for winter months, which are fair. Flow regulated by West, Green, East, Summit, and other lakes.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	11	7.0	6.0	7.5	7.5	23	37	45	42	39	6.8
2	14	11	7.0	6.0	6.5	6.0	26	40	40	40	38	6.5
3	13	11	8.0	8.0	7.5	5.5	25	45	35	37	35	6.2
4	13	11	9.0	10	7.9	5.5	25	51	33	34	33	6.0
5	12	11	8.5	11	8.0	7.3	26	53	33	32	30	5.7
6	12	11	8.5	10	8.1	7.4	29	58	36	31	28	5.1
7	12	10	8.0	9.5	8.2	7.4	31	60	37	30	25	6.0
8	12	10	9.0	9.0	8.3	7.6	34	60	36	28	23	5.4
9	12	8.9	10	10	8.1	7.7	36	61	37	27	20	4.5
10	12	8.9	10	10	8.0	8.4	32	56	36	24	19	4.1
11	12	9.0	9.8	11	6.0	8.9	28	55	40	22	18	4.3
12	12	9.4	9.8	10	6.5	9.4	25	50	44	20	17	4.1
13	11	10	9.9	9.9	5.5	10	23	49	48	20	16	3.9
14	11	11	9.0	9.8	6.0	13	23	53	53	19	15	4.1
15	12	13	8.0	9.8	6.0	14	24	54	60	18	15	4.1
16	12	14	7.0	9.3	6.0	13	27	55	60	17	14	4.1
17	11	16	6.0	8.0	6.0	13	31	58	60	16	13	3.9
18	12	18	6.0	7.0	6.5	12	32	61	57	16	13	4.1
19	11	16	6.5	8.0	7.0	13	30	60	61	17	13	6.8
20	11	15	6.5	7.5	6.5	12	27	62	67	18	12	6.5
21	11	12	8.5	7.0	6.5	12	26	67	61	18	24	5.7
22	11	12	8.5	8.0	7.0	13	24	74	53	19	28	4.5
23	11	11	8.0	7.5	7.4	12	24	71	48	21	26	5.1
24	11	7.2	8.5	8.0	7.4	12	25	66	43	48	28	4.8
25	11	7.0	9.0	7.5	7.0	12	28	68	40	51	19	4.5
26	11	6.0	8.0	8.1	7.6	14	34	70	41	49	14	4.5
27	11	6.0	8.0	7.5	7.0	15	34	76	41	46	11	5.4
28	11	6.0	8.8	7.0	7.0	16	32	77	43	44	9.9	5.4
29	11	6.5	8.0	7.5	-----	17	33	74	46	42	8.5	4.8
30	11	7.0	8.0	7.8	-----	18	34	65	46	42	8.1	4.5
31	11	-----	8.0	7.5	-----	20	-----	54	-----	41	7.8	-----
TOTAL	362	315.9	254.8	263.2	197.0	349.6	851	1,840	1,380	929	620.3	151.4
MEAN	11.7	10.5	8.22	8.49	7.04	11.3	28.4	59.4	46.0	30.0	20.0	5.05
AC-FT	718	627	505	522	391	693	1,690	3,650	2,740	1,840	1,230	300

CALENDAR YEAR	1965	MAX	127	MIN	6.0	MEAN	36.9	AC-FT	26,690
WATER YEAR	1965-66	MAX	77	MIN	3.9	MEAN	20.6	AC-FT	14,910

## WALKER LAKE BASIN

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

Location.--Lat 38°09'10", long 119°21'30", in NE¼NE¼ sec.6, T.3 N., R.24 E., on left bank, three-quarters of a mile above outlet and 10½ miles southwest of Bridgeport.

Drainage area.--29.5 sq mi.

Records available.--December 1961 to February 1964, September 1964 to September 1966.

Gage.--Water-stage recorder. Datum of gage is project datum of U. S. Indian Irrigation Service.

Extremes.--Maximum contents observed during year, 2,300 acre-ft June 13 (elevation, 7,207.71 ft); minimum, g336 acre-ft Sept. 30. 1961-66: Maximum contents observed, 2,870 acre-ft June 20, 1963 (elevation, 7,209.48 ft); minimum contents, 62 acre-ft Oct. 31, Nov. 1, 1964 (elevation, 7,200.22 ft). No contents observed Oct. 17, 1961.

Remarks.--Contents regulated by dam at outlet. Figures given herein represent usable contents. Usable contents, 2,070 acre-ft between elevations 7,200 (natural rim) and 7,207 ft (spillway crest).

Elevations and contents, water year October 1965 to September 1966

Date	Elevation (feet)	Contents (acre-ft)	Change in contents (acre-ft)
Oct. 7 . . . . .	7,206.93	2,050	-100
Calendar year 1965 . . . . .	-	-	-
Feb. 7 . . . . .	7,206.75	1,990	-60
Apr. 22 . . . . .	7,207.09	2,100	+110
May 11 . . . . .	7,207.69	2,290	+190
June 13 . . . . .	7,207.71	2,300	+10
July 11 . . . . .	7,207.29	2,160	-140
Aug. 12 . . . . .	7,203.36	944	-1,220
Sept. 27 . . . . .	7,201.24	347	-597
Sept. 30 . . . . .	-	g336	-11
Water year 1965-66 . . . . .	-	-	-1,810

g Contents interpolated from observations of Sept. 27 and Oct. 11, 1966.

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

Location.--Lat 38°09'20", long 119°20'20", in SW¼SW¼ sec.33, T.4 N., R.24 E., on right bank half a mile above outlet and 10 miles southwest of Bridgeport.

Drainage area.--38.9 sq mi.

Records available.--December 1961 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at project datum of U.S. Indian Irrigation Service.

Extremes.--Maximum contents observed during year, 4,700 acre-ft May 31 (elevation, 7,201.62 ft); minimum, g 200 acre-ft Sept. 30 (elevation, 7,190.50 ft). 1961-66: Maximum contents, 5,270 acre-ft June 20, 1963 (elevation, 7,202.94 ft); minimum, that of Sept. 30, 1966.

Remarks.--Contents regulated by dam at outlet and by Upper Twin Lake. Figures given herein represent usable contents. Usable contents, 4,010 acre-ft between elevations 7,190 (natural rim) and 7,200 ft (spillway crest). One transarea diversion out of Tamarack Creek into Summers Creek.

Month-end elevations and contents, water year October 1965 to September 1966

Date	Elevation (feet)†	Contents (acre-ft)	Change in contents (acre-ft)
Oct. 31 . . . . .	g7,198.02	3,210	+230
Nov. 30 . . . . .	g7,199.82	3,940	+730
Dec. 31 . . . . .	g7,200.56	4,250	+310
Calendar year 1965 . . . . .	---	---	+1,600
Jan. 31 . . . . .	7,200.48	4,210	-40
Feb. 28 . . . . .	7,200.51	4,230	+20
Mar. 31 . . . . .	g7,200.69	4,300	+70
Apr. 30 . . . . .	g7,200.54	4,240	-60
May 31 . . . . .	7,201.55	4,670	+370
June 30 . . . . .	7,200.69	4,300	-370
July 31 . . . . .	7,195.52	2,210	-1,090
Aug. 31 . . . . .	g7,192.37	950	-1,260
Sept. 30 . . . . .	g7,190.50	200	-750
Water year 1965-66 . . . . .	---	---	-2,780

† Elevation at 2400 hrs.

g Elevation interpolated from gage readings near end of month.

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

Location.--Lat 38°10'20", long 119°19'25", in SE $\frac{1}{4}$ 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.--39.1 sq mi.

Records available.--October 1953 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 7,050 ft (from topographic map). Prior to July 27, 1964, graphic water-stage recorder.

Average discharge.--13 years, 54.7 cfs (39,600 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 176 cfs May 29 (gage height, 3.11 ft); minimum, 6.3 cfs Nov. 29.

1953-66: Maximum discharge, 492 cfs June 20, 1963 (gage height, 4.47 ft); no flow for many days in some years.

Maximum discharge known, 660 cfs June 21, 1911 (gage height, 5.2 ft), at site 2½ miles downstream.

Remarks.--Records good. Flow regulated by Twin Lakes.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	24	20	9.7	30	21	17	28	100	150	100	96	42
2	24	19	12	28	22	17	31	99	134	97	95	40
3	24	19	14	26	21	17	34	99	119	92	95	38
4	24	19	18	27	20	17	36	99	109	88	94	36
5	23	19	19	22	20	16	38	99	103	113	94	34
6	23	19	20	22	21	16	42	100	101	135	92	32
7	24	19	20	22	21	16	46	101	100	136	91	30
8	24	19	21	24	20	16	51	100	100	136	90	28
9	24	18	22	20	19	16	56	102	100	133	89	27
10	24	18	22	22	20	16	63	105	100	130	88	26
11	24	18	22	20	19	17	64	109	99	127	87	24
12	24	18	22	20	18	17	60	111	102	125	86	23
13	23	18	22	20	18	18	54	112	106	122	84	21
14	23	18	23	20	18	19	50	113	112	119	83	20
15	22	18	22	20	17	19	45	115	118	116	82	19
16	22	18	22	20	17	19	47	115	122	113	81	18
17	22	18	21	20	17	20	50	117	124	110	79	18
18	22	18	20	20	16	20	52	121	124	107	78	18
19	22	18	20	20	16	20	50	125	125	104	76	18
20	22	18	19	20	16	20	48	131	126	102	74	18
21	22	18	19	20	16	18	50	127	125	102	72	18
22	22	18	19	20	16	19	47	126	119	101	69	18
23	21	18	20	19	16	20	47	141	111	101	65	18
24	21	18	21	19	17	19	46	150	102	101	63	18
25	21	19	23	19	17	20	89	156	111	100	61	18
26	21	19	21	19	17	20	93	163	119	100	58	17
27	21	18	26	19	17	21	81	150	111	98	55	17
28	20	14	22	19	17	22	101	155	107	97	53	17
29	20	6.8	28	18	-----	23	105	170	105	97	50	17
30	20	7.8	32	20	-----	24	102	170	103	96	47	17
31	20	-----	33	21	-----	26	-----	162	-----	96	45	-----
TOTAL	693	525.6	654.7	656	510	585	1,706	3,843	3,387	3,394	2,372	705
MEAN	22.4	17.5	21.1	21.2	18.2	18.9	56.9	124	113	109	76.5	23.5
AC-FT	1,370	1,040	1,300	1,300	1,010	1,160	3,380	7,620	6,720	6,730	4,700	1,400

CALENDAR YEAR 1965	MAX	275	MIN	0	MEAN	71.5	AC-FT	51,770
WATER YEAR 1965-66	MAX	170	MIN	6.8	MEAN	52.1	AC-FT	37,730

## WALKER LAKE BASIN

10-2915. Buckeye Creek near Bridgeport, Calif.

Location.--Lat 38°14'20", long 119°19'30", in NE¼NE¼ sec. 4, T.4 N., R.24 E., on right bank at Buckeye Hot Springs, 0.6 mile downstream from Eagle Creek, and 5½ miles southwest of Bridgeport.

Drainage area.--44.1 sq mi.

Records available.--November 1910 to September 1914 (fragmentary), October 1953 to September 1966.

Gage.--Digital 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. Oct. 1, 1953, to Apr. 13, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--14 years (1911-12, 1953-66), 54.8 cfs (39,670 acre-ft per year).

Extremes.--Maximum discharge during year, 231 cfs May 22, 26, 27 (gage height, 2.94 ft); maximum gage height, 2.99 ft Jan. 18 (back-water from ice); minimum discharge, 5.5 cfs Feb. 2.

1953-66: Maximum discharge, 947 cfs Feb. 1, 1963 (gage height, 4.41 ft) from rating curve extended above 360 cfs on basis of slope-area measurement at gage height 4.00 ft and logarithmic plotting; 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 excellent except those for winter months, which are poor.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	34	24	19	13	17	17	81	120	116	64	37	16
2	33	24	19	13	15	16	87	130	106	61	50	15
3	32	24	20	18	15	15	81	142	99	56	38	15
4	32	23	23	15	15	14	80	156	98	54	34	14
5	31	23	22	20	17	17	87	168	99	53	32	14
6	31	23	22	19	16	17	96	165	103	52	29	14
7	31	23	20	18	19	17	103	165	97	50	28	14
8	30	22	22	17	19	18	106	170	97	48	26	13
9	29	21	26	17	19	18	105	159	98	45	26	13
10	29	21	25	19	15	21	88	141	95	44	25	12
11	29	21	25	20	14	22	75	149	103	43	24	12
12	29	22	25	17	17	25	68	135	102	42	24	12
13	29	24	24	18	13	30	64	143	106	41	23	13
14	28	26	21	20	15	29	66	151	110	40	22	13
15	31	24	18	20	16	29	71	148	107	39	22	13
16	30	27	15	14	15	28	85	150	107	38	22	12
17	30	27	13	16	15	25	96	154	100	37	21	12
18	30	29	13	15	17	27	90	160	101	36	21	17
19	29	25	16	17	16	27	76	173	102	37	20	20
20	28	25	16	16	16	26	68	182	97	37	20	16
21	27	23	21	16	16	26	65	192	89	38	19	14
22	27	25	21	18	17	27	65	188	81	38	18	13
23	27	25	16	17	17	28	66	174	75	36	18	13
24	26	19	19	18	17	32	73	176	71	36	17	12
25	26	23	22	17	16	34	90	179	70	36	16	12
26	26	16	18	19	17	39	105	184	70	35	16	13
27	25	17	21	18	16	44	105	188	70	33	16	14
28	25	16	23	17	16	51	105	180	72	32	16	13
29	25	17	21	18	-----	57	105	168	71	31	16	13
30	25	19	20	18	-----	62	111	147	69	34	16	12
31	24	-----	19	16	-----	71	-----	128	-----	35	16	-----
TOTAL	888	678	625	534	453	909	2,563	4,965	2,781	1,301	728	409
MEAN	28.6	22.6	20.2	17.2	16.2	29.3	85.4	160	92.7	42.0	23.5	13.6
AC-FT	1,760	1,340	1,240	1,060	899	1,800	5,080	9,850	5,520	2,580	1,440	811

CALENDAR YEAR 1965 MAX 342 MIN 13 MEAN 79.4 AC-FT 57,520  
 WATER YEAR 1965-66 MAX 192 MIN 12 MEAN 46.1 AC-FT 23,380

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-8	0330	2.44	117	5-22	0130	2.94	231
4-17	0245	2.37	105	6-14	0215	2.51	124
5-5	2400	2.80	194				



10-2920. Swager Creek near Bridgeport, Calif.

Location.--Lat 38°17'00", long 119°17'50", in SE¼NW¼ 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.--52.8 sq mi.

Records available.--June 1911 to September 1915 (fragmentary), October 1953 to September 1966.

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.--14 years (1911-12, 1953-66), 10.4 cfs (7,530 acre-ft per year).

Extremes.--Maximum discharge during year, 35 cfs Mar. 15 (gage height, 2.78 ft); maximum gage height, 4.36 ft Jan. 2 (backwater from ice); minimum discharge, 1.6 cfs July 27, 28.

1911-15, 1953-66: 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, 0.50 cfs Apr. 20, 1912.

Remarks.--Records good except those for winter months, which are poor. Diversions for irrigation of about 1,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	8.2	6.0	5.0	9.0	9.0	24	17	11	3.5	2.6	4.7
2	8.2	8.2	7.0	5.0	9.0	9.0	26	13	10	2.5	3.3	4.4
3	8.2	8.2	9.0	6.0	9.0	7.5	24	18	10	2.4	2.5	5.0
4	8.2	8.2	11	9.4	9.0	7.0	23	18	10	2.4	2.4	5.8
5	8.2	8.2	10	9.0	9.0	3.6	23	19	10	2.2	2.4	4.7
6	7.8	7.8	9.8	9.0	9.0	9.0	24	17	11	2.4	2.0	3.7
7	7.8	8.2	9.4	9.4	9.0	9.8	24	18	12	3.3	1.9	3.0
8	7.8	8.2	9.4	9.4	9.0	11	24	15	12	3.5	1.9	2.4
9	7.8	7.4	9.8	9.4	8.6	12	24	12	12	2.5	1.6	2.4
10	7.8	7.4	9.4	9.4	8.5	14	24	15	11	2.5	1.8	2.4
11	7.8	7.4	9.0	9.4	7.5	14	22	14	9.4	2.6	1.8	3.3
12	8.2	7.8	9.4	9.0	8.0	15	21	14	9.0	3.3	1.8	1.9
13	8.2	8.2	9.0	9.0	7.0	18	21	14	9.0	3.0	1.4	1.8
14	8.2	8.6	8.6	9.0	7.5	21	21	14	8.6	2.5	1.8	2.2
15	8.2	9.0	7.0	9.0	8.0	22	21	13	8.2	2.5	1.9	1.8
16	8.6	9.8	6.0	8.6	8.0	18	20	13	7.4	3.0	1.9	2.0
17	8.6	9.8	5.0	8.0	8.0	16	21	12	6.4	3.5	1.8	2.4
18	8.6	11	5.0	7.0	9.2	18	22	11	4.7	3.5	1.9	3.5
19	8.6	10	5.5	7.5	8.2	18	21	11	3.5	3.0	2.0	3.3
20	8.2	9.4	5.5	7.0	8.0	16	20	11	2.5	2.2	2.4	2.4
21	8.2	8.2	6.5	7.0	8.2	16	20	11	3.5	2.0	3.3	2.6
22	8.2	9.0	6.5	8.0	8.6	15	19	10	3.7	2.0	3.5	3.7
23	8.2	11	5.5	7.5	9.4	16	17	10	2.6	1.9	2.5	5.0
24	8.2	6.1	6.0	8.5	9.4	16	17	10	3.0	1.9	3.5	4.7
25	8.2	5.8	7.5	7.5	8.6	17	17	10	3.3	1.9	3.3	3.3
26	8.2	5.5	5.5	8.6	9.4	17	18	10	3.9	1.5	3.5	2.0
27	8.2	5.5	5.5	8.6	8.0	18	18	9.4	3.7	1.8	3.9	2.0
28	8.2	5.0	5.6	7.5	8.0	20	18	8.6	3.5	1.8	3.9	2.0
29	8.2	5.5	5.5	8.6	-----	20	18	8.2	3.7	1.8	4.4	1.9
30	8.2	6.5	5.5	8.6	-----	21	18	7.4	3.7	2.0	5.6	2.0
31	8.2	-----	5.5	8.6	-----	22	-----	9.0	-----	2.4	5.5	-----
Total	253.4	239.1	224.9	253.5	237.1	470.9	630	396.6	212.6	78.9	86.2	92.3
Mean	8.17	7.97	7.25	8.18	8.47	15.2	21.0	12.8	7.09	2.55	2.78	3.08
Ac-ft	503	474	446	503	470	934	1,250	787	422	156	171	183

Calendar year 1965: Max 37 Min 4.0 Mean 11.2 Ac-ft 8,080

Water year 1965-66: Max 26 Min 1.8 Mean 8.70 Ac-ft 6,300

Peak discharge (base, 25 cfs).--Mar. 15 (1700) 35 cfs (2.78 ft); Apr. 1 (2200) 32 cfs (2.73 ft).

10-2923. Bridgeport Reservoir tributary near Bridgeport, Calif.

Location.--Lat 38°17'15", long 119°12'50", in SE¼SE¼ sec.16, T.5 N., R.25 E., on left bank on upstream side of State Highway 22, half a mile upstream from Rock Springs Canyon, and 2.4 miles north of Bridgeport.

Drainage area.--0.79 sq mi.

Records available.--Water year 1963 (annual maximum), October 1963 to September 1966.

Gage.--Water-stage recorder with rain-gage attachment and crest-stage gage. Altitude of gage is 6,500 ft (from topographic map). Oct. 1, 1962, to Sept. 30, 1963, crest-stage gage at same site and datum.

Extremes.--Maximum daily discharge during year, 1.3 cfs Mar. 13 (gage height, unknown); no flow most of the time.

1962-66: Maximum discharge, 55.5 cfs Jan. 31, 1963 (gage height, 7.1 ft from flood marks) on basis of indirect measurement of peak flow; no flow most of the time.

Remarks.--Records estimated and are very poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Mar. 8 . . . . .	0.10	Mar. 13 . . . . .	1.3
9 . . . . .	.50	14 . . . . .	1.2
10 . . . . .	1.0	15 . . . . .	1.1
11 . . . . .	1.0	16 . . . . .	.60
12 . . . . .	1.1	17 . . . . .	.10

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
March 1966 . . . . .	8.00	1.3	0	0.26	16
Calendar year 1965 . . . . .	1.6	0.10	0	0.004	3.2
Water year 1965-66 . . . . .	8.00	1.3	0	0.002	16

Note.--Flow occurred only on days listed above. Discharge measurement or observation of no flow generally made once a month.

## 10-2925. Bridgeport Reservoir near Bridgeport, Calif.

Location.--Lat 38°19'30", long 119°12'50", in SE¼NE¼ sec.34, T.6 N., R.25 E., at Bridgeport Dam on East Walker River, 4½ miles north of Bridgeport.

Drainage area.--358 sq mi.

Records available.--March 1926 to September 1966. Month-end 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, 41,580 acre-ft Apr. 7-10 (elevation, 6,459.70 ft); minimum, 5,480 acre-ft Sept. 19, 20. 1926-66: 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 (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.

Contents, in acre-feet, at 0800 hours, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30,240	30,120	32,460	31,700	31,330	34,380	41,150	38,010	34,640	30,360	19,520	9,380
2	30,240	30,240	32,460	31,700	31,450	34,510	41,150	37,730	34,510	30,120	19,330	9,000
3	30,120	30,240	32,590	31,700	31,570	34,640	41,290	37,320	34,240	29,880	19,240	8,690
4	30,120	30,360	32,590	31,820	31,700	34,770	41,290	37,180	33,980	29,640	18,870	8,440
5	30,000	30,490	32,710	31,700	31,820	34,770	41,440	36,900	33,860	29,520	18,610	8,130
6	29,880	30,610	32,710	31,700	31,950	35,040	41,440	36,630	33,730	29,280	18,260	7,890
7	29,880	30,730	32,590	31,700	32,080	35,300	41,580	36,360	33,600	29,040	18,010	7,650
8	29,760	30,850	32,590	31,570	32,200	35,440	41,580	36,100	33,350	28,700	17,660	7,410
9	29,760	30,970	32,590	31,570	32,330	35,830	41,580	35,960	33,220	28,360	17,320	7,120
10	29,640	31,090	32,460	31,570	32,330	36,230	41,580	35,830	33,220	27,900	16,980	6,860
11	29,640	31,210	32,460	31,570	32,460	37,590	41,440	35,570	33,090	27,660	16,660	6,640
12	29,640	31,330	32,330	31,450	32,590	38,150	41,440	35,570	32,970	27,320	16,420	6,420
13	29,640	31,450	32,330	31,330	32,710	38,570	41,290	35,440	32,840	26,980	16,110	6,200
14	29,640	31,820	32,200	31,330	32,710	38,980	41,290	35,440	32,840	26,640	15,790	6,080
15	29,520	32,330	32,200	31,210	32,840	39,260	41,150	35,300	32,840	26,310	15,470	5,840
16	29,520	32,590	32,080	31,210	32,840	39,260	41,000	35,170	32,710	25,870	15,170	5,720
17	29,520	33,350	31,950	31,090	32,970	39,400	40,850	35,170	32,840	25,540	14,880	5,600
18	29,520	33,730	31,820	30,970	33,090	39,400	40,710	35,040	32,840	25,210	14,580	5,520
19	29,520	34,240	31,700	30,850	33,220	39,540	40,560	35,040	32,840	24,770	14,290	5,480
20	29,520	34,510	31,570	30,730	33,220	39,690	40,560	34,900	32,840	24,450	13,990	5,480
21	29,520	34,510	31,570	30,730	33,350	39,690	40,420	34,640	32,590	24,040	13,650	5,560
22	29,640	34,510	31,450	30,730	33,480	39,830	40,270	34,640	32,330	23,620	13,380	5,600
23	29,640	34,770	31,570	30,730	33,600	39,980	39,980	34,510	32,080	23,310	13,110	5,640
24	29,760	35,300	31,570	30,610	33,730	39,980	39,830	34,510	31,950	22,890	12,700	5,680
25	29,760	34,770	31,570	30,610	33,730	40,120	39,690	34,380	31,700	22,380	12,260	5,720
26	29,880	34,380	31,450	30,730	33,860	40,120	39,400	34,380	31,570	21,990	11,820	5,720
27	29,880	33,980	31,450	30,850	34,110	40,270	39,120	34,380	31,330	21,500	11,380	5,760
28	30,000	33,600	31,450	30,970	34,240	40,420	38,840	34,380	31,090	21,110	10,970	5,800
29	30,000	33,220	31,570	31,090	-----	40,560	38,430	34,510	30,850	20,620	10,550	5,840
30	30,120	32,710	31,570	31,210	-----	40,710	38,150	34,640	30,490	20,160	10,140	5,880
31	30,120	-----	31,570	31,210	-----	41,000	-----	34,640	-----	19,880	9,760	-----
(+)	6,455.40	6,456.45	6,456.01	6,455.87	6,457.03	6,459.50	6,458.52	6,457.22	6,455.56	6,450.62	6,443.60	6,439.54
(#)	-240	+2,590	-1,140	-360	+3,030	+6,760	-2,850	-3,510	-4,150	-10,610	-10,120	-3,880

Calendar year 1965 . . . . . † +12,880

Water year 1965-66 . . . . . † -24,480

† Elevation, in feet, at end of month.

# Change in contents, in acre-feet.

## WALKER LAKE BASIN

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

Location.--Lat 38°19'40", long 119°12'50", in SW 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.--359 sq mi.

Records available.--July, 1911 to September 1914 (gage heights only), October 1921 to September 1966.

Gage.--Digital 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, graphic water-stage recorder at site 1 mile downstream at different datum. Feb. 22, 1924, to Sept. 30, 1931, graphic water-stage recorder and Oct. 1, 1931, to May 25, 1939, staff gage at present site at datum 2.34 ft lower. May 26, 1939, to Apr. 13, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--43 years (1922-24, 1925-66), 131 cfs (94,840 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 366 cfs Nov. 24-28 (gage height, 2.02 ft); minimum, 13 cfs Nov. 11-17.

1921-66: Maximum discharge, 1,390 cfs June 19, 1963 (gage height, 4.64 ft); maximum gage height, 4.95 ft Jan. 22, 1943 (top of surge); minimum daily discharge, 0.2 cfs Nov. 2-29, Dec. 1-22, 25-28, 1955, Jan. 17-25, 1956.

Remarks.--Records good. Diversions for irrigation of meadow pasture lands near Bridgeport. Flow regulated by Bridgeport Reservoir.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	142	57	171	123	46	20	139	228	235	181	237	245
2	142	57	107	125	46	20	139	237	235	181	225	231
3	144	37	107	143	46	19	138	255	235	180	225	219
4	144	25	106	162	45	18	138	255	221	180	225	205
5	144	26	125	162	45	18	139	255	197	195	223	205
6	144	18	167	162	45	18	139	256	197	220	223	192
7	144	14	167	162	44	18	138	256	198	220	223	181
8	137	14	167	164	44	18	138	257	198	220	223	180
9	119	14	167	165	44	18	149	257	198	220	225	178
10	119	14	167	165	44	18	174	258	198	218	217	167
11	120	14	166	165	44	18	173	260	198	218	203	155
12	113	14	166	165	44	18	172	251	198	227	199	150
13	101	14	166	162	43	18	163	224	190	241	198	136
14	101	14	169	162	43	18	158	208	177	241	198	114
15	101	14	169	162	43	78	183	209	177	239	198	91
16	101	14	168	160	43	109	183	210	177	239	198	91
17	101	14	167	160	43	109	183	221	178	239	198	91
18	88	65	167	160	43	96	171	230	178	239	198	71
19	74	125	167	158	43	74	141	238	178	239	199	52
20	68	124	142	123	42	74	120	252	195	253	208	24
21	57	123	119	103	42	74	160	251	222	265	221	24
22	57	123	119	101	42	74	171	251	222	262	221	23
23	57	193	119	101	42	74	195	250	214	270	240	23
24	57	302	119	101	28	74	195	261	200	282	273	23
25	57	364	120	70	19	75	206	283	200	281	274	23
26	57	363	123	49	19	74	228	283	201	280	274	23
27	57	363	122	49	19	74	229	275	213	280	272	21
28	57	363	122	49	20	75	228	248	235	280	271	21
29	57	360	123	47	-----	76	228	234	236	277	264	21
30	57	286	123	47	-----	76	228	234	213	260	252	21
31	57	-----	123	47	-----	93	-----	235	-----	244	255	-----
TOTAL	2,974	3,528	4,430	3,874	1,111	1,636	5,146	7,622	6,114	7,371	7,060	3,201
MEAN	95.9	118	143	125	39.7	52.8	172	246	204	238	228	107
AC-FT	5,900	7,000	8,790	7,680	2,200	3,240	10,210	15,120	12,130	14,620	14,000	6,350
CALENDAR YEAR 1965	MAX 533		MIN 6.8		MEAN 179		AC-FT 129,400					
WATER YEAR 1965-66	MAX 364		MIN 14		MEAN 148		AC-FT 107,200					

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

Location.--Lat 38°48'50", long 119°02'50", in NW¼SW¼ 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 13½ miles southeast of Yerington.

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

Records available.--January 1947 to September 1966.

Gage.--Digital 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. Prior to July 22, 1964, graphic water-stage recorder.

Average discharge.--19 years (1947-66), 129 cfs (93,390 acre-ft per year).

Extremes.--Maximum discharge during year, 376 cfs Nov. 28, 30 (gage height, 3.07 ft); minimum daily, 29 cfs Sept. 30.  
1947-66: Maximum discharge, 2,380 cfs Feb. 1, 1963 (gage height, 7.60 ft); minimum, 3.1 cfs Mar. 21, 1948; minimum daily, 3.4 cfs Mar. 21-24, 1948, Apr. 5, 1961.

Remarks.--Records good. Diversions for irrigation above station. Flow regulated by Bridgeport Reservoir.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	161	85	296	138	64	46	62	185	220	133	193	182
2	157	85	224	144	64	46	99	185	218	112	187	176
3	157	84	159	142	64	44	113	188	211	104	181	170
4	155	79	150	163	63	42	112	206	207	103	177	160
5	156	62	145	181	65	43	113	208	189	104	176	148
6	153	59	148	173	65	43	110	213	172	108	170	147
7	150	57	181	170	66	42	113	206	167	133	166	142
8	150	50	185	171	64	41	113	202	163	150	166	129
9	146	45	187	174	65	40	114	203	165	152	164	128
10	140	45	187	171	66	39	116	212	162	155	162	127
11	135	42	185	166	67	40	134	209	155	159	157	114
12	135	42	191	163	64	41	135	213	152	159	145	106
13	125	42	191	162	71	41	119	209	150	166	145	109
14	120	44	187	162	76	39	123	189	148	176	141	108
15	110	53	183	161	69	37	124	179	134	183	140	104
16	114	56	181	160	70	46	145	175	131	179	139	90
17	114	63	183	157	66	95	143	171	129	179	141	87
18	117	60	176	155	66	105	165	172	118	183	145	84
19	117	61	179	154	65	105	166	180	115	176	146	93
20	104	123	181	162	65	85	144	191	114	170	140	78
21	102	133	168	144	65	82	124	207	118	177	143	64
22	105	137	150	124	65	80	144	204	141	187	155	51
23	84	155	143	123	66	74	144	207	146	193	155	42
24	84	220	143	113	68	76	158	209	143	202	161	36
25	82	314	140	111	66	73	157	235	128	208	174	35
26	82	344	129	103	51	72	168	249	118	200	178	35
27	84	355	133	77	47	68	188	256	115	191	190	35
28	82	369	129	70	46	67	193	245	118	200	189	37
29	82	366	143	67	-----	68	193	232	136	200	186	35
30	82	369	147	65	-----	62	189	228	138	212	188	31
31	82	-----	139	65	-----	62	-----	225	-----	208	183	-----
TOTAL	3,667	3,999	5,263	4,291	1,799	1,844	4,121	6,393	4,521	5,162	5,083	2,883
MEAN	118	133	170	138	64.3	59.5	137	206	151	167	164	96.1
AC-FT	7,270	7,930	10,440	8,510	3,570	3,660	8,170	12,680	8,970	10,240	10,030	5,720

CALENDAR YEAR 1965	MAX 615	MIN 18	MEAN 184	AC-FT 133,390
WATER YEAR 1965-66	MAX 369	MIN 31	MEAN 134	AC-FT 97,240

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

Location.--Lat 38°21'30", long 119°26'30", in NW¼ 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.--63.0 sq mi.

Records available.--April to August 1910, October 1944 to September 1966. Prior to October 1958, published as East Fork West Walker River near Bridgeport.

Gage.--Digital 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. Dec. 2, 1944, to July 25, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--22 years (1944-66) 48.0 cfs (34,750 acre-ft per year).

Extremes.--Maximum discharge during year, 163 cfs May 21, 26, 27 (gage height, 1.44 ft); maximum gage height, 2.24 ft Dec. 19 (backwater from ice); minimum, 5.4 cfs Sept. 3.

1910, 1944-66: Maximum discharge, 1,510 cfs Jan. 31, 1963 (gage height, 3.22 ft) from rating curve extended above 350 cfs on basis of slope-area measurement at gage height 2.80 ft and logarithmic plotting; 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 excellent except those for winter months, which are poor. Small diversions above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	31	25	20	17	18	13	55	81	98	44	29	6.7
2	30	24	20	17	16	15	56	87	91	44	35	6.2
3	30	24	21	25	18	15	54	95	85	42	30	5.9
4	29	24	25	27	18	15	54	103	84	40	25	6.4
5	28	24	23	30	18	17	56	113	80	39	24	7.4
6	28	24	23	25	18	17	61	115	79	37	23	8.9
7	28	24	22	23	17	18	65	119	74	38	22	12
8	28	24	23	21	16	19	68	125	72	39	21	12
9	27	23	25	20	16	20	68	123	73	38	20	11
10	26	23	24	22	19	24	65	119	71	36	19	11
11	27	23	22	22	15	27	58	113	72	35	16	12
12	28	24	23	20	17	30	53	106	75	33	15	12
13	28	25	23	21	15	37	50	109	75	32	15	12
14	27	31	22	21	16	36	51	114	79	31	11	12
15	30	30	21	21	17	38	55	114	78	24	7.9	12
16	29	32	18	20	16	31	61	118	78	21	7.4	12
17	30	35	16	18	16	30	66	120	79	19	7.4	12
18	30	34	16	16	17	30	67	124	78	19	7.3	17
19	29	29	18	17	18	30	62	126	72	21	9.1	16
20	28	30	18	16	15	27	54	133	68	27	11	15
21	27	29	21	15	16	27	49	142	64	29	14	13
22	27	35	25	17	17	27	47	139	61	27	15	13
23	27	32	22	16	17	29	48	136	57	25	14	12
24	26	24	25	17	17	30	52	134	56	24	13	12
25	26	23	30	16	15	31	60	135	55	24	13	12
26	26	18	25	19	16	34	65	142	54	23	12	12
27	25	19	30	17	15	37	66	145	53	22	13	13
28	25	18	35	16	15	39	70	139	52	21	12	13
29	25	19	31	18	-----	42	71	132	49	17	12	12
30	25	21	30	19	-----	46	74	119	47	17	12	12
31	25	-----	32	17	-----	50	-----	107	-----	17	8.6	-----
TOTAL	855	770	729	606	464	881	1,781	3,727	2,109	905	493.7	343.5
MEAN	27.6	25.7	23.5	19.5	16.6	28.4	59.4	120	70.3	29.2	15.9	11.5
AC-FT	1,700	1,530	1,450	1,200	920	1,750	3,530	7,390	4,180	1,800	979	681

CALENDAR YEAR 1965	MAX 240	MIN 16	MEAN 64.8	AC-FT 46,890
WATER YEAR 1965-66	MAX 145	MIN 5.9	MEAN 37.4	AC-FT 27,110

Peak discharge (base, 200 cfs).--No peak above base.

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.--180 sq mi.

Records available.--April 1938 to September 1966. 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.--28 years, 250 cfs (181,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,050 cfs May 20 (gage height, 3.67 ft); minimum, 29 cfs Sept. 29, 30.

1938-66: 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 observed prior to 1938, 5,800 cfs Dec. 11, 1937, by slope-area measurement.

Remarks.--Records good except those for winter months, which are poor. Station is above diversions except for 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	53	74	70	59	55	381	614	480	196	97	39
2	83	53	80	60	55	52	430	656	425	183	142	35
3	81	51	85	70	59	50	410	734	390	170	125	35
4	74	51	90	80	55	50	420	806	400	154	94	35
5	70	50	84	80	61	53	455	854	420	151	83	37
6	70	50	80	78	61	55	495	830	430	137	74	39
7	70	48	70	78	58	57	520	842	386	134	70	39
8	68	48	70	84	60	59	525	860	405	137	68	37
9	66	44	78	80	58	68	495	806	415	137	63	35
10	63	46	76	76	64	90	425	704	430	128	59	31
11	66	46	70	72	50	94	354	734	460	125	57	32
12	66	50	69	74	60	112	304	668	435	122	55	34
13	63	53	70	74	50	148	280	704	445	125	53	37
14	63	74	68	70	52	145	280	746	470	115	48	41
15	72	72	64	68	58	151	314	710	450	107	46	44
16	74	85	60	66	52	137	400	734	445	94	48	44
17	72	97	56	66	54	115	480	764	415	90	48	42
18	76	112	53	56	56	122	480	788	420	88	48	55
19	72	94	50	58	58	120	381	830	405	88	51	61
20	68	90	50	54	53	112	327	878	376	94	55	59
21	66	81	60	52	53	112	300	939	345	92	53	51
22	66	76	63	55	55	112	296	911	309	94	46	46
23	63	92	52	58	57	115	309	830	271	81	44	39
24	63	57	54	64	57	125	358	824	248	81	44	35
25	59	68	55	65	55	131	475	836	236	76	42	32
26	61	60	54	60	57	151	560	860	240	74	42	32
27	59	60	58	60	53	170	550	890	232	72	44	35
28	59	60	85	58	53	200	530	860	240	70	44	34
29	57	70	94	62	-----	232	535	794	232	66	48	31
30	55	80	90	58	-----	271	560	668	218	70	47	29
31	55	-----	85	58	-----	314	-----	555	-----	81	44	-----
Total	2,085	1,971	2,147	2,064	1,573	3,778	12,629	24,229	11,073	3,432	1,882	1,175
Mean	67.3	65.7	69.3	66.6	56.2	122	421	782	369	111	60.7	39.2
Ac-ft	4,140	3,910	4,260	4,090	3,120	7,490	25,050	48,060	21,960	6,810	3,730	2,330

Calendar year 1965: Max 1,700 Min 44 Mean 347 Ac-ft 251,400  
 Water year 1965-66: Max 939 Min 29 Mean 186 Ac-ft 135,000

Peak discharge (base, 1,120 cfs).--No peak above base.

## WALKER LAKE BASIN

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

Location.--Lat 38°30'55", long 119°27'15", in NW¼NE¼ 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.--271 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 1966. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Digital 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, graphic water-stage recorder near present site at different datums. Aug. 16, 1919, to Mar. 31, 1938, graphic water-stage recorder at site 1,000 ft upstream at different datum. May 26, 1957, to July 25, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--37 years (1902-7, 1909-10, 1915-37, 1957-66), 267 cfs (193,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,100 cfs May 22 (gage height, 2.79 ft); minimum, 43 cfs Sept. 30, but may have been less during periods of ice effect.

1915-38, 1957-66: 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 winter months, 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.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	97	71	77	78	72	63	363	572	500	202	93	60
2	95	70	80	70	64	62	415	619	439	191	160	57
3	92	69	88	74	72	60	407	720	406	182	167	55
4	90	69	97	83	71	60	410	803	399	169	118	54
5	86	68	97	76	73	62	429	876	418	162	101	54
6	86	67	94	92	74	64	463	871	428	148	92	57
7	86	66	89	92	69	66	490	878	392	146	84	61
8	85	64	89	98	72	68	513	902	400	141	80	56
9	84	62	97	92	69	74	508	876	414	146	74	56
10	83	64	93	88	70	97	449	727	410	136	72	51
11	82	65	87	87	60	105	379	779	448	133	68	51
12	81	68	90	84	64	115	337	693	424	130	66	51
13	81	71	90	86	60	150	309	697	433	129	65	53
14	80	81	84	82	64	156	305	765	449	124	60	57
15	85	83	70	81	68	156	332	737	432	115	55	59
16	89	93	64	74	60	151	390	736	428	106	64	60
17	88	96	60	70	62	126	460	783	407	103	66	57
18	92	96	60	64	64	134	463	799	400	100	65	65
19	88	96	60	67	66	137	382	845	387	99	65	77
20	84	99	66	64	62	127	333	882	362	103	67	72
21	82	94	70	62	62	126	309	965	330	104	66	65
22	81	89	64	66	63	128	301	940	302	106	63	60
23	79	104	68	68	66	129	305	860	266	96	61	56
24	78	86	70	72	66	140	340	850	250	94	59	50
25	77	81	70	70	64	145	426	850	238	89	58	47
26	76	70	66	74	66	161	525	870	240	90	56	47
27	75	70	70	74	62	181	517	900	234	87	59	51
28	74	70	76	75	62	208	499	870	234	84	60	48
29	73	70	82	73	-----	238	499	820	231	80	61	45
30	72	76	77	73	-----	272	520	690	220	85	63	44
31	72	-----	82	72	-----	314	-----	580	-----	94	63	-----
TOTAL	2,573	2,328	2,427	2,381	1,847	4,075	12,378	24,755	10,921	3,774	2,351	1,676
MEAN	83.0	77.6	78.3	76.8	66.0	131	413	799	364	122	75.8	55.9
AC-FT	5,100	4,620	4,810	4,720	3,660	8,080	24,550	49,100	21,660	7,490	4,660	3,320

CALENDAR YEAR	1965	MAX	1,620	MIN	60	MEAN	333	AC-FT	241,100
WATER YEAR	1965-66	MAX	965	MIN	44	MEAN	196	AC-FT	141,800

Peak discharge (base, 1,120 cfs).--No peak above base.



## 10-2970. Topaz Reservoir near Topaz, Calif.

Location.--Lat 38°41'35", long 119°31'10", in NW¼NE¼ sec.33, T.10 N., R.22 E., at outlet works of Topaz Reservoir, 5½ miles north of Topaz.

Records available.--December 1921 to September 1931 (monthly contents only published in WSP 1734), October 1931 to September 1966.

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, 59,620 acre-ft Apr. 7-9 (elevation 5,005.08 ft); minimum observed, 6,390 acre-ft Sept. 30 (elevation, 4,976.41 ft).

1921-66: 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 (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.

Contents, in acre-feet, at about 0700 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40,400	41,570	46,860	48,130	49,980	54,150	59,320	51,630	57,640	45,160	23,920	9,730
2	40,320	41,700	46,730	48,070	50,150	54,240	59,480	51,420	57,160	44,490	23,550	9,440
3	40,260	41,820	46,600	48,130	50,280	54,370	59,510	51,150	56,550	43,680	23,310	9,150
4	40,200	41,940	46,580	48,110	50,480	54,510	59,480	51,040	55,920	42,920	22,980	8,910
5	40,200	42,080	46,520	48,200	50,630	54,640	59,510	51,090	55,420	42,080	22,660	8,700
6	40,140	42,260	46,500	48,260	50,830	54,800	59,580	51,260	55,070	41,170	22,340	8,530
7	40,080	42,450	46,460	48,320	51,000	54,930	59,620	51,370	54,750	40,180	21,940	8,350
8	40,030	42,610	46,440	48,450	51,150	55,080	59,620	51,570	54,440	39,210	21,560	8,150
9	40,010	42,780	46,520	48,450	51,310	55,180	59,620	51,880	54,110	38,310	21,170	7,970
10	39,990	42,940	46,620	48,520	51,440	55,330	59,550	52,200	53,800	37,550	20,760	7,800
11	39,950	43,100	46,730	48,470	51,590	55,510	59,460	52,450	53,510	36,820	20,310	7,620
12	39,870	43,270	46,810	48,500	51,740	55,740	59,350	52,640	53,240	36,100	19,770	7,370
13	39,810	43,430	46,960	48,470	51,880	55,940	59,120	52,760	53,040	35,410	19,280	7,180
14	39,790	43,680	47,050	48,470	52,030	56,210	58,800	53,040	52,890	34,670	18,750	7,000
15	39,710	44,090	47,090	48,470	52,160	56,530	58,340	53,400	52,710	33,940	18,300	6,880
16	39,670	44,450	47,110	48,450	52,290	56,820	57,860	53,730	52,560	33,240	17,780	6,770
17	39,750	44,860	47,110	48,450	52,420	57,000	57,450	53,930	52,400	32,600	17,250	6,690
18	39,830	45,300	47,070	48,450	52,580	57,230	57,110	54,130	52,230	32,030	16,720	6,590
19	39,950	45,700	47,050	48,450	52,710	57,430	57,050	54,400	52,030	31,400	16,110	6,530
20	40,060	46,010	47,050	48,470	52,870	57,590	56,750	54,780	51,830	30,610	15,530	6,500
21	40,200	46,350	47,130	48,500	53,020	57,750	56,350	55,270	51,330	29,850	14,870	6,500
22	40,340	46,580	47,200	48,580	53,150	57,860	55,830	55,810	50,810	29,160	14,280	6,480
23	40,460	46,900	47,240	48,650	53,290	57,980	55,200	56,300	50,260	28,550	13,680	6,470
24	40,630	47,300	47,280	48,800	53,440	58,110	54,570	56,640	49,700	27,960	13,110	6,470
25	40,770	48,280	47,410	48,950	53,600	58,250	54,020	56,960	49,160	27,320	12,540	6,480
26	40,870	47,860	47,560	49,100	53,730	58,410	53,620	57,180	48,560	26,710	11,990	6,450
27	40,970	48,090	47,660	49,230	53,860	58,570	53,180	57,410	47,920	26,170	11,550	6,400
28	41,090	47,710	47,730	49,380	54,000	58,750	52,800	57,640	47,300	25,690	11,180	6,400
29	41,190	47,130	48,000	49,530	-----	58,910	52,340	57,860	46,620	25,260	10,810	6,400
30	41,290	46,860	48,130	49,680	-----	59,120	51,960	57,930	45,910	24,810	10,370	6,390
31	41,390	-----	48,130	49,850	-----	59,230	-----	57,860	-----	24,330	10,030	-----
(+)	4,996.66	4,999.30	4,999.90	5,000.70	5,002.59	5,004.91	5,001.67	5,004.31	4,998.85	4,987.32	4,978.70	4,976.41
(+)	+860	+5,470	+1,270	+1,720	+4,150	+5,230	-7,270	+5,900	-11,950	-21,580	-14,300	-3,640

Calendar year 1965 . . . . . ‡ +22,460

Water year 1965-66 . . . . . ‡ -34,140

† 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 NE¼SE¼ 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 1966. Monthly discharge only for some periods published in WSP 1314.

Gage.--Digital 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, graphic 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, graphic water-stage recorder at same site at different datum. Oct. 1, 1957, to Aug. 12, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--19 years (1920-23, 1925-32, 1957-66), 210 cfs (152,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 685 cfs May 6, 7, 8 (gage height, 5.15 ft); minimum, 23 cfs Nov. 12. 1910, 1920-23, 1924-32, 1957-66: Maximum discharge, 2,180 cfs June 6, 1922; minimum observed, 4.8 cfs Jan. 5, 1961.

Remarks.--Records good. 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.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	145	47	284	100	40	39	188	560	588	438	219	151
2	129	47	247	110	39	39	253	592	610	426	214	147
3	118	47	223	125	38	39	282	640	590	440	194	138
4	109	47	190	123	38	39	282	650	560	458	199	127
5	95	46	188	133	38	39	273	650	530	474	198	109
6	95	28	186	146	38	39	282	662	498	502	199	99
7	95	26	178	150	38	38	367	670	470	485	205	106
8	90	25	155	158	39	39	372	668	470	438	196	104
9	82	24	122	169	38	39	388	655	454	402	202	106
10	82	24	119	167	38	39	390	620	448	392	229	104
11	92	24	119	159	38	39	351	585	432	394	251	109
12	108	24	119	150	38	39	326	568	432	382	260	108
13	106	25	120	150	38	39	342	525	408	376	251	104
14	101	28	119	150	42	39	366	490	428	382	256	91
15	94	31	119	150	38	39	424	479	448	368	246	74
16	65	32	100	146	38	39	442	493	430	353	265	73
17	61	32	90	130	38	39	466	512	430	326	280	80
18	58	33	82	126	38	39	466	532	426	344	302	73
19	52	32	82	120	38	41	448	548	418	384	289	72
20	52	29	82	112	38	60	448	558	428	386	302	58
21	51	28	84	94	38	61	479	565	460	378	307	45
22	50	28	88	81	38	62	512	580	450	353	300	40
23	49	47	87	69	38	62	522	568	428	321	289	39
24	48	174	86	53	38	62	502	575	414	309	269	38
25	48	279	87	52	38	62	508	592	422	307	255	37
26	48	281	87	51	38	62	540	618	444	306	220	38
27	49	313	87	51	38	63	570	640	450	262	200	38
28	51	342	87	49	38	66	570	615	456	258	187	38
29	51	310	94	40	-----	92	575	608	460	247	184	43
30	49	310	129	40	-----	105	562	602	446	233	178	42
31	48	-----	110	40	-----	175	-----	585	-----	228	160	-----
TOTAL	2,371	2,763	3,950	3,394	1,072	1,674	12,496	18,205	13,928	11,352	7,306	2,431
MEAN	76.5	92.1	127	109	38.3	54.0	417	587	464	366	236	81.0
AC-FT	4,700	5,480	7,830	6,730	2,130	3,320	24,790	36,110	27,630	22,520	14,490	4,820

CALENDAR YEAR	1965	MAX	1,300	MIN	24	MEAN	317	AC-FT	229,200
WATER YEAR	1965-66	MAX	670	MIN	24	MEAN	222	AC-FT	160,600

## CARSON RIVER BASIN

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

Location.--Lat 38°36'00", long 119°46'30", in SE¼NE¼ 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 6½ miles south of Markleeville.

Drainage area.--19.6 sq mi.

Records available.--October 1946 to September 1966. October and November 1946 monthly discharge only, published in WSP 1314.

Gage.--Digital water-stage recorder. Altitude of gage is 6,500 ft (from topographic map). Prior to Aug. 3, 1954, graphic water-stage recorder at site 180 ft upstream at datum 5.20 ft higher. Aug. 3, 1954, to Sept. 16, 1957, graphic water-stage recorder at site 30 ft upstream at datum 3.00 ft higher. Sept. 17, 1957, to Aug. 22, 1963, graphic water-stage recorder at present site at datum 2.00 ft higher. Aug. 23, 1963, to Mar. 11, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--20 years, 41.6 cfs (30,120 acre-ft per year).

Extremes.--Maximum discharge during year, 194 cfs May 5 (gage height, 3.33 ft); minimum, 1.5 cfs Sept. 10, 11.

1946-66: Maximum discharge, 2,220 cfs Feb. 1, 1963 (gage height, 5.28 ft, datum then in use), from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; minimum, 0.60 cfs Dec. 5, 1959, Nov. 13, 1961.

Remarks.--Records good. Flow partly regulated by three small reservoirs (total capacity, about 1,700 acre-ft).

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	5.3	11	7.0	6.7	6.7	83	111	66	14	42	15
2	26	5.2	12	7.0	6.7	6.6	81	123	59	13	41	14
3	26	5.1	13	8.5	6.6	6.0	77	137	54	15	39	8.7
4	28	5.0	13	11	6.7	6.0	77	146	51	22	27	2.5
5	30	5.0	12	8.6	6.6	7.0	86	153	50	21	14	2.1
6	30	4.9	12	8.3	6.7	7.4	94	148	48	20	13	2.1
7	30	4.9	12	8.3	6.6	7.7	101	144	47	19	13	1.9
8	29	4.9	12	8.3	6.6	8.1	104	152	52	19	12	1.7
9	29	4.8	12	8.3	6.5	8.6	95	142	51	19	12	1.7
10	28	4.5	11	8.3	6.5	12	80	152	53	18	11	1.7
11	28	4.7	11	8.1	6.0	12	70	136	49	18	10	1.7
12	27	5.4	10	8.1	6.5	20	63	124	47	18	9.5	1.8
13	27	5.9	10	8.1	6.0	27	60	129	46	17	9.1	2.0
14	27	7.4	10	8.3	6.4	24	63	125	45	17	9.2	2.1
15	28	7.9	9.0	8.3	6.3	23	73	121	44	16	8.6	2.1
16	26	8.6	8.5	8.1	6.4	20	88	122	42	16	8.0	2.0
17	20	15	7.0	8.1	6.6	18	100	122	38	23	14	1.9
18	7.3	19	7.5	8.1	6.6	19	89	120	36	29	18	2.8
19	6.9	14	8.0	8.1	6.5	19	73	122	33	34	21	3.7
20	6.5	12	8.0	7.8	6.4	18	66	134	30	24	23	2.7
21	6.4	9.9	8.0	7.6	6.6	19	65	145	27	23	22	2.3
22	6.2	10	8.5	7.6	6.8	19	67	135	25	23	21	2.1
23	6.1	8.9	8.3	7.3	6.8	22	71	117	23	22	20	2.1
24	6.0	9.3	8.1	7.3	6.7	25	84	112	21	21	20	2.1
25	5.9	7.4	8.3	7.3	6.0	29	105	108	20	20	21	2.1
26	5.8	8.1	7.5	7.3	6.5	36	114	111	18	20	22	2.2
27	5.6	8.6	8.0	7.1	6.0	43	104	109	17	19	21	3.7
28	5.6	9.2	10	7.1	6.0	51	100	105	17	19	20	2.7
29	5.5	11	10	7.1	-----	58	101	93	16	19	19	2.4
30	5.4	11	9.0	7.1	-----	64	106	82	15	19	17	2.3
31	5.4	-----	8.0	6.8	-----	71	-----	73	-----	30	16	-----
TOTAL	551.6	242.9	302.7	244.5	181.3	713.1	2,540	3,853	1,140	637	573.4	98.2
MEAN	17.8	8.10	9.77	7.89	6.48	23.0	84.7	124	38.0	20.5	18.5	3.27
AC-FT	1,090	482	600	485	360	1,410	5,040	7,640	2,260	1,260	1,140	195

CALENDAR YEAR 1965	MAX 314	MIN 4.5	MEAN 54.3	AC-FT 39,340
WATER YEAR 1965-66	MAX 153	MIN 1.7	MEAN 30.4	AC-FT 21,960

Peak discharge (base, 190 cfs).--May 5 (1700) 194 cfs (3.33 ft).

## 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 SW¼NE¼ 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.--276 sq mi.

Records available.--August 1960 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 5,400 ft (from topographic map). Prior to Nov. 23, 1963, graphic water-stage recorder.

Average discharge.--6 years, 313 cfs (226,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,240 cfs May 5, 6 (gage height, 2.16 ft); minimum, 37 cfs Sept. 10, 12, 13, 16.  
1960-66: Maximum discharge, 15,100 cfs Jan. 31, 1963 (gage height, 8.21 ft); minimum, 16 cfs Nov. 17, 1961.

Remarks.--Records good. A few small diversions for irrigation above station. Flow slightly regulated by several small reservoirs (total capacity, about 5,000 acre-ft).

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	174	88	140	108	102	114	659	820	509	148	115	70
2	170	87	146	108	100	102	712	881	464	145	121	66
3	166	86	149	120	103	98	673	969	432	155	115	62
4	166	84	186	133	102	101	659	1,050	415	156	100	54
5	159	84	179	151	103	117	688	1,090	400	148	91	52
6	159	82	167	138	104	131	765	1,090	405	142	87	54
7	153	80	160	129	95	147	816	1,060	396	137	83	54
8	135	82	159	131	106	164	842	1,070	393	125	80	52
9	132	79	160	131	91	186	815	1,070	397	123	78	48
10	130	78	155	128	103	250	723	1,070	379	136	78	37
11	129	80	146	125	85	246	610	1,010	379	134	80	38
12	128	84	144	117	111	284	542	883	358	133	78	38
13	127	91	142	119	91	392	507	887	350	135	80	38
14	127	154	132	120	103	355	514	910	360	129	78	40
15	143	132	107	115	105	340	568	863	366	128	76	40
16	135	151	90	113	102	302	665	871	346	129	72	38
17	129	195	78	106	108	250	784	873	323	123	71	39
18	118	297	81	102	109	258	774	870	301	141	78	44
19	112	210	84	115	105	258	610	874	209	131	79	66
20	107	164	84	108	99	238	536	933	270	115	85	58
21	104	140	96	100	102	242	511	999	257	117	83	51
22	103	129	106	131	109	242	517	966	239	125	82	46
23	102	200	100	121	112	242	536	852	222	117	77	44
24	101	186	118	132	109	262	615	794	210	110	74	41
25	99	140	140	120	95	279	746	791	202	106	72	40
26	97	143	122	122	108	315	833	781	193	110	73	43
27	96	150	130	112	100	360	794	785	184	103	73	52
28	95	147	162	105	109	414	724	757	175	98	74	52
29	92	123	152	108	-----	468	757	721	164	94	74	50
30	90	146	147	110	-----	516	773	637	158	88	70	47
31	89	-----	128	106	-----	582	-----	561	-----	99	73	-----
TOTAL	3,867	3,892	4,090	3,684	2,871	8,255	20,268	27,788	9,536	3,880	2,548	1,454
MEAN	125	130	132	119	103	266	676	896	318	125	82.2	48.5
AC-FT	7,670	7,720	8,110	7,310	5,690	16,370	40,200	55,120	18,910	7,700	5,050	2,880

CALENDAR YEAR	1965	MAX	1,920	MIN	78	MEAN	460	AC-FT	333,200
WATER YEAR	1965-66	MAX	1,090	MIN	37	MEAN	252	AC-FT	182,700

Peak discharge (base, 1,300 cfs).--No peak above base.

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

Location.--Lat 38°50'50", long 119°42'10", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.2, T.11 N., R.20 E., on left bank 0.1 mile downstream from Horseshoe Bend, 2 miles east of Mud Lake Reservoir,  $4\frac{1}{2}$  miles downstream from Bryant Creek, and 7 miles southeast of Gardnerville.

Drainage area.--341 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 1966. Monthly discharge only for some periods published in WSP 1314.

Gage.--Water-stage recorder with thermograph attachment. 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.--40 years (1890-93, 1900-1903, 1908-10, 1925-28, 1935-37, 1939-66), 384 cfs (278,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,250 cfs May 6 (gage height, 3.13 ft); minimum, 35 cfs Sept. 12.

1890-93, 1900-1906, 1908-10, 1917, 1924-28, 1929, 1935-37, 1939-66: 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 good. 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). Records of water temperature for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	176	102	159	130	120	138	682	821	522	153	118	71
2	170	102	165	130	116	120	754	877	462	144	126	69
3	167	100	170	150	120	116	688	975	425	156	123	65
4	165	98	195	170	120	116	682	1,050	400	161	105	58
5	162	98	195	183	122	140	706	1,110	381	153	92	53
6	162	96	183	179	130	151	779	1,120	386	147	89	55
7	159	96	170	167	116	167	842	1,090	381	142	85	55
8	140	96	170	170	125	189	870	1,090	368	133	83	53
9	138	96	176	170	111	205	849	1,100	390	131	81	53
10	138	94	170	162	128	272	765	1,080	363	133	81	43
11	135	94	159	153	105	288	640	1,070	368	139	83	39
12	135	96	162	142	128	296	568	919	345	136	81	36
13	132	102	156	145	107	440	517	905	337	139	81	40
14	132	155	145	148	116	415	506	933	345	136	81	42
15	151	153	130	148	120	383	556	884	358	131	79	46
16	148	159	115	142	113	352	646	884	341	133	77	42
17	140	199	94	132	118	280	779	891	324	131	73	43
18	132	300	98	128	125	280	814	884	299	144	79	46
19	122	252	104	145	122	292	634	891	291	144	77	65
20	118	183	104	135	120	264	550	926	272	128	79	64
21	116	156	120	125	122	256	512	996	257	120	79	57
22	111	145	130	162	130	256	517	996	239	131	81	50
23	111	240	120	145	138	252	528	891	221	126	77	47
24	111	230	140	159	135	272	604	800	212	115	73	46
25	109	153	170	138	113	288	724	793	208	110	69	44
26	107	156	150	142	132	320	849	786	198	113	71	46
27	107	167	160	130	118	365	828	800	189	108	73	52
28	105	162	199	120	128	415	730	779	176	103	71	55
29	105	159	180	125	-----	466	758	744	167	101	73	53
30	102	167	170	128	-----	532	765	664	164	92	71	52
31	102	-----	150	122	-----	598	-----	580	-----	98	73	-----
Total	4,108	4,406	4,709	4,525	3,398	8,924	20,642	28,329	9,389	4,031	2,584	1,540
Mean	133	147	152	146	121	288	688	914	313	130	83.4	51.3
Ac-ft	8,150	8,740	9,340	8,980	6,740	17,700	40,940	56,190	18,620	8,000	5,660	3,050

Calendar year 1965: Max 1,950 Min 94 Mean 480 Ac-Ft 347,800  
 Water year 1965-66: Max 1,120 Min 36 Mean 265 Ac-Ft 192,100

Peak discharge (base, 1,300 cfs).--No peak above base.

## CARSON RIVER BASIN

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

Location.--Lat 38°46'10", long 119°49'55", in NW¼SE¼ sec.34, T.11 N., R.19 E., on left bank 0.3 mile downstream from bridge on State Highway 88-89, 0.6 mile southwest of Woodfords, and 3-3/4 miles downstream from Willow Creek.

Drainage area.--65.6 sq mi.

Records available.--October 1900 to May 1907, 1910-11 (fragmentary), October 1938 to September 1966. 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 same site at datum 1.02 ft lower. Nov. 13, 1958, to Jan. 30, 1963, water-stage recorder at site 150 ft downstream at datum 3.06 ft lower.

Average discharge.--35 years (1900-1907, 1938-66), 113 cfs (81,810 acre-ft per year).

Extremes.--Maximum discharge during year, 331 cfs Apr. 7 (gage height, 3.07 ft), minimum daily, 10 cfs Sept. 9-13, 16, 17. 1900-1907, 1910-11, 1938-66: Maximum discharge, 4,890 cfs Feb. 1, 1963 (gage height, 9.0 ft), on basis of slope-area measurement of peak flow; minimum (1900-1907, 1938-66), about 5 cfs Dec. 23, 1961.

Flood of Dec. 11, 1937, reached a stage of 8.0 ft (present datum), from floodmarks (discharge, 3,500 cfs by slope-area measurement).

Remarks.--Records fair except those for period of no gage-height record, which are poor. 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	28	45	25	36	32	264	237	126	34	42	20
2	34	28	46	25	36	30	279	244	95	30	56	17
3	33	28	47	35	36	30	272	259	94	29	50	14
4	32	28	46	45	32	36	266	272	83	51	46	13
5	31	27	45	38	34	34	272	288	82	58	44	12
6	30	27	45	36	34	36	269	274	102	78	41	12
7	30	27	46	36	34	38	290	269	108	84	24	12
8	29	27	46	36	34	37	293	277	104	83	15	11
9	28	27	45	36	39	38	272	282	104	78	14	10
10	27	27	43	36	31	48	266	290	88	59	14	10
11	27	26	39	35	30	46	242	269	87	27	18	10
12	27	28	44	35	33	53	217	242	83	26	17	10
13	28	32	42	35	27	70	206	244	83	27	15	10
14	29	49	41	39	30	77	214	239	87	27	14	12
15	41	46	35	39	30	81	237	223	92	27	26	11
16	36	47	30	38	30	74	264	228	87	27	36	10
17	34	54	25	38	30	62	285	249	82	27	36	10
18	33	116	25	38	31	61	279	242	76	47	37	12
19	32	69	30	38	32	59	230	242	74	62	35	15
20	31	58	30	37	34	63	206	254	70	62	32	15
21	30	50	30	37	34	64	204	261	65	61	23	14
22	30	52	35	37	34	65	208	269	68	58	15	12
23	29	54	35	37	34	66	217	232	64	54	14	12
24	29	50	32	37	33	78	239	219	60	35	14	12
25	29	46	34	37	30	90	272	221	53	23	13	11
26	28	42	30	36	34	105	290	221	45	21	12	12
27	28	41	32	36	30	126	282	219	42	24	13	13
28	28	41	42	36	30	146	256	210	38	25	13	12
29	28	42	42	36	-----	171	256	208	35	26	18	12
30	28	43	35	36	-----	198	246	177	30	26	25	11
31	28	-----	30	35	-----	232	-----	146	-----	27	24	-----
Total	941	1,260	1,172	1,120	912	2,346	7,593	7,507	2,307	1,323	796	367
Mean	30.4	42.0	37.8	36.1	32.6	75.7	253	242	76.9	42.7	25.7	12.2
Ac-ft	1,870	2,500	2,320	2,220	1,810	4,650	15,060	14,890	4,580	2,620	1,580	728

Calendar year 1965: Max 830 Min 25 Mean 152 Ac-ft 110,100  
 Water year 1965-66: Max 293 Min 10 Mean 75.7 Ac-ft 54,830

Peak discharge (base, 500 cfs).--No peak above base.

Note.--No gage-height record Dec. 16 to Feb. 3.

10-3365. Pyramid Lake near Nixon, Nev.

Location.--Lat 39°50'30", long 119°28'00", in SE¼SE¼, sec.24, T.23 N., R.22 E., at southwest corner of concrete bridge No. 296 B, 150 ft southwest of milepost 297, 6 miles west of Nixon, and 11.5 miles south along Southern Pacific Railroad from station at Sutcliffe.

Records available.--1867-1925 (occasional elevations in some years), June 1926 to September 1966 (occasional elevations in each year).

Gage.--Bench mark N-21 of U.S. Coast and Geodetic Survey at elevation of 3,940.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to January 1934, elevations were determined from bench mark No. 1 of General Land Office using elevation of 3,882.26 ft adjustment of 1912 (to convert these records to supplementary adjustment of 1956, add 0.81 ft). January 1934 to September 1955, elevations were determined from bench mark N-21 using elevation of 3,940.04 ft, datum of 1929 (to convert these records to supplementary adjustment of 1956, add 0.25 ft).

Extremes.--1926-66: Maximum elevation observed, 3,848.75 ft June 1926; minimum observed, 3,786.5 ft Sept. 2, 1966. The highest elevation observed since 1867 was 3,884.9 ft in 1871.

Elevation, in feet, water year October 1965 to September 1966

Oct. 5 . . . . .	3,788.4	Apr. 1 . . . . .	3,788.4
Nov. 5 . . . . .	3,788.3	May 5 . . . . .	3,788.2
Dec. 7 . . . . .	3,788.3	June 6 . . . . .	3,787.8
Jan. 6 . . . . .	3,788.3	July 5 . . . . .	3,787.6
Feb. 2 . . . . .	3,788.3	Aug. 4 . . . . .	3,787.4
Mar. 3 . . . . .	3,788.4	Sept. 2 . . . . .	3,786.5

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

Location.--Lat 38°50'35", long 120°01'25", in NE¼SE¼ sec.31, T.12 N., R.18 E., 0.4 mile upstream from mouth of Echo Lake outlet, 1.1 miles southwest of Meyers, and 2.5 miles upstream from Angora Creek.

Drainage area.--33.1 sq mi.

Records available.--October 1960 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 6,325 ft (from topographic map). Prior to Feb. 25, 1964, graphic water-stage recorder.

Average discharge.--6 years, 59.6 cfs (43,150 acre-ft per year).

Extremes.--Maximum discharge during year, 366 cfs May 5 (gage height, 7.05 ft); minimum, 3.2 cfs Sept. 3, 7-12, 17, 18. 1960-66: Maximum discharge, 2,550 cfs Feb. 1, 1963 (gage height, 12.41 ft); minimum, 2.0 cfs Jan. 13, 1961.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	10	18	15	14	16	122	177	78	22	8.2	3.8
2	14	10	18	13	14	14	133	191	71	21	11	3.6
3	14	9.2	18	20	14	14	128	207	66	20	8.2	3.7
4	13	9.2	19	25	14	14	125	227	65	19	7.5	3.5
5	13	8.9	19	24	14	15	140	263	63	18	7.1	3.6
6	13	8.9	20	27	15	16	157	252	63	18	6.5	3.5
7	13	8.6	20	22	15	17	161	232	63	17	6.4	3.4
8	13	8.9	19	17	15	17	157	230	66	17	6.3	3.2
9	13	8.9	18	16	15	17	142	227	69	17	6.2	3.3
10	13	8.9	18	14	14	25	119	259	65	16	6.1	3.3
11	13	8.6	18	14	14	24	101	219	62	15	6.0	3.2
12	12	9.8	18	15	14	25	92	184	58	15	5.9	3.4
13	12	11	18	14	19	37	85	187	56	14	5.5	3.4
14	13	20	17	13	18	38	89	183	57	13	5.2	3.7
15	19	18	18	13	17	36	108	171	56	13	5.0	3.8
16	17	18	16	14	18	32	133	173	54	12	4.9	3.6
17	16	21	14	16	16	31	153	174	50	12	4.8	3.5
18	16	43	12	16	15	30	137	171	46	11	4.7	3.6
19	15	28	9.8	14	15	31	102	172	43	9.7	4.6	4.0
20	14	22	9.8	13	15	30	89	182	40	9.4	4.5	3.9
21	14	20	10	13	15	30	88	184	38	9.6	4.4	4.0
22	13	19	9.8	14	15	30	95	168	35	9.4	4.4	3.7
23	13	22	9.2	16	16	31	107	148	33	9.0	4.4	3.7
24	12	30	9.5	14	16	35	133	139	32	8.5	4.1	3.5
25	12	31	13	15	17	39	166	140	30	8.1	4.2	3.5
26	11	24	13	14	16	44	191	137	28	7.6	3.8	3.5
27	11	19	12	13	16	52	178	132	27	7.5	3.8	3.5
28	11	18	16	13	16	62	158	125	26	7.7	3.7	3.5
29	11	18	17	13	-----	74	158	115	25	7.8	3.7	3.5
30	10	18	17	14	-----	86	165	99	23	7.7	3.7	3.7
31	10	-----	17	14	-----	101	-----	87	-----	8.0	3.9	-----
TOTAL	409	509.9	481.1	498	432	1,063	3,912	5,555	1,488	400.0	168.7	107.1
MEAN	13.2	17.0	15.5	16.1	15.4	34.3	130	179	49.6	12.9	5.44	3.57
AC-FT	811	1,010	954	988	857	2,110	7,760	11,020	2,950	793	335	212

CALENDAR YEAR 1965	MAX	442	MIN	8.6	MEAN	89.0	AC-FT	64,400
WATER YEAR 1965-66	MAX	263	MIN	3.2	MEAN	41.2	AC-FT	29,800

Peak discharge (base, 200 cfs).--Apr. 26 (2115) 233 cfs (6.31 ft), May 5 (2100) 366 cfs (7.05 ft).



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.--11.2 sq mi.

Records available.--October 1960 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,235 ft (from topographic map). Prior to Oct. 1, 1964 at datum 1.75 ft higher.

Average discharge.--6 years, 31.9 cfs (23,090 acre-ft per year).

Extremes.--Maximum discharge during year, 198 cfs May 10 (gage height, 5.21 ft); minimum, 1.0 cfs Sept. 17, 18, 23, 29, 30.  
1960-66: Maximum discharge, 2,100 cfs Dec. 22 or 24, 1964, from indirect measurement of peak flow; maximum gage height, 9.90 ft Dec. 22; minimum discharge, 0.4 cfs Aug. 14, 1961.

Remarks.--Records fair. No known diversion or regulation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.3	3.3	7.8	13	5.6	7.0	99	97	48	8.6	3.3	1.8
2	4.3	3.6	7.8	8.6	5.6	7.8	102	104	42	8.6	2.5	1.8
3	4.3	3.6	7.0	6.5	5.6	10	90	111	42	7.8	2.5	1.8
4	4.0	3.0	6.5	6.5	6.5	7.8	81	119	38	8.6	2.5	1.8
5	4.0	3.0	5.6	13	7.0	6.5	83	128	36	8.6	2.5	1.7
6	4.3	3.0	5.1	15	9.4	4.6	102	121	38	8.6	2.5	1.7
7	4.6	3.0	4.6	13	7.8	5.1	107	121	38	8.6	2.5	1.8
8	4.3	3.0	4.3	5.1	7.8	7.0	109	131	36	8.6	2.5	1.5
9	4.6	3.0	4.3	1.7	6.5	9.6	107	131	34	8.6	2.5	1.7
10	4.3	3.0	4.3	1.5	15	15	102	158	38	8.6	2.5	1.4
11	4.3	3.0	3.6	1.7	7.0	30	70	134	40	7.8	2.5	1.4
12	5.1	3.4	4.0	2.5	9.4	24	54	109	36	7.0	2.5	1.5
13	5.6	4.0	4.6	3.0	6.0	27	44	109	34	7.8	2.5	1.5
14	4.6	8.0	4.6	3.0	5.1	40	44	104	34	7.8	2.5	1.7
15	5.1	7.3	4.3	4.6	5.6	29	54	95	34	7.0	2.5	1.5
16	5.1	7.3	3.6	6.5	5.1	14	74	97	32	6.5	2.5	1.4
17	4.0	8.0	3.3	3.3	4.6	8.6	86	90	30	6.0	2.5	1.2
18	3.6	13	3.3	2.5	4.6	7.8	111	90	27	5.6	2.5	1.2
19	3.3	9.6	4.3	3.6	5.1	8.6	92	97	25	4.6	2.5	1.8
20	3.0	8.4	4.3	5.6	5.1	4.6	67	102	24	3.3	2.5	1.5
21	3.3	7.8	4.0	4.3	6.5	4.6	61	104	18	3.0	2.5	1.4
22	3.3	7.4	3.6	5.6	6.5	8.6	65	92	17	3.0	2.3	1.2
23	3.3	8.0	3.0	5.6	6.0	12	76	86	13	3.0	2.3	1.1
24	3.0	10	1.5	5.6	5.1	12	81	86	13	3.3	2.1	1.2
25	3.6	10	4.6	5.1	4.3	13	88	88	12	3.0	2.0	1.2
26	3.6	8.5	4.6	5.6	4.0	27	104	86	10	3.0	2.0	1.2
27	3.3	7.8	3.3	5.6	4.6	20	114	83	11	3.0	2.0	1.4
28	3.3	7.8	2.5	5.6	5.1	46	86	83	8.6	3.0	2.0	1.4
29	3.6	7.8	7.8	5.6	-----	56	88	79	8.6	3.3	1.8	1.1
30	3.6	7.8	7.8	5.6	-----	79	90	72	8.6	3.6	1.8	1.1
31	3.3	-----	13	5.1	-----	92	-----	59	-----	4.0	1.8	-----
Total	123.9	186.4	152.9	179.5	176.5	643.2	2531	3,166	825.8	183.8	73.4	44.0
Mean	4.00	6.21	4.93	5.79	6.30	20.7	84.4	102	27.5	5.93	2.37	1.47
Ac-ft	246	370	303	356	350	1,280	5,020	6,280	1,640	365	146	87

Calendar year 1965: Max 281 Min 1.5 Mean 41.6 Ac-ft 30,120  
Water year 1965-66: Max 158 Min 1.1 Mean 22.7 Ac-ft 16,440

Peak discharge (base, 200 cfs).--No peak above base.

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

Location.--Lat 38°55'12", long 119°58'17", in SE¼ 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 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 6,250 ft (from topographic map). Prior to Feb. 24, 1965, graphic water-stage recorder.

Average discharge.--6 years, 30.6 cfs (22,150 acre-ft per year).

Extremes.--Maximum discharge during year, 80 cfs May 10 (gage height, 7.20 ft); maximum gage height, 7.59 ft, Dec. 30, Jan. 1 (backwater from ice). No flow for part of Sept. 11.

1960-66: Maximum discharge, 535 cfs Feb. 1, 1963 (gage height, 11.14 ft) from rating curve extended above 110 cfs on basis of computation of peak flow (weir formula) and logarithmic projection; minimum, that of Sept. 11, 1966.

Remarks.--Records good except those for winter months, which are fair. Minor diversion for local water supply.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	24	30	20	20	20	46	48	48	17	11	6.6
2	28	24	27	20	19	19	49	50	43	18	9.9	6.4
3	28	24	28	25	21	18	48	53	41	17	8.0	6.3
4	28	24	28	30	20	18	47	55	39	17	9.7	6.0
5	26	23	28	37	20	21	48	56	37	16	11	7.5
6	27	23	27	25	20	22	51	58	37	17	9.4	6.5
7	27	23	27	23	20	22	53	58	37	20	7.7	6.1
8	27	23	27	22	23	22	53	58	36	19	4.4	5.4
9	26	23	27	23	25	23	52	60	35	18	5.4	5.3
10	26	23	26	22	22	26	53	72	34	15	6.4	4.7
11	26	22	25	21	20	26	49	64	33	16	7.0	3.4
12	26	24	25	24	26	27	47	59	32	15	7.2	6.5
13	26	24	25	21	20	31	43	59	32	14	7.6	6.9
14	27	33	25	20	23	32	44	58	32	14	7.7	7.3
15	30	33	24	20	22	31	46	56	32	14	7.7	7.3
16	28	31	23	26	20	29	50	56	30	13	7.5	8.0
17	28	33	20	24	20	28	53	58	29	13	7.4	7.4
18	28	47	20	23	21	27	52	61	28	13	7.1	8.2
19	27	36	21	25	21	28	45	60	26	13	7.1	12
20	26	32	21	21	23	28	42	62	25	12	7.4	11
21	26	29	23	20	22	27	42	63	25	12	6.9	8.6
22	25	29	24	21	21	27	42	62	24	12	6.9	8.2
23	25	30	22	22	21	27	43	60	23	11	6.3	8.2
24	25	26	25	23	21	28	45	59	23	11	6.4	8.0
25	25	47	35	22	21	30	48	60	23	11	6.4	8.0
26	24	42	25	20	21	31	50	59	22	11	6.7	8.1
27	24	37	27	22	20	33	49	58	21	11	8.0	8.3
28	25	34	28	20	20	35	47	56	19	11	7.7	8.5
29	24	32	29	20	-----	37	47	56	19	11	6.9	8.2
30	24	28	29	20	-----	40	47	54	18	10	6.7	8.1
31	24	-----	28	19	-----	42	-----	52	-----	11	6.9	-----
TOTAL	815	883	799	701	593	855	1,431	1,800	903	433	232.0	221.0
MEAN	26.3	29.4	25.8	22.6	21.2	27.6	47.7	58.1	30.1	14.0	7.48	7.37
AC-FT	1,620	1,750	1,580	1,390	1,180	1,700	2,840	3,570	1,790	859	460	438

CALENDAR YEAR 1965	MAX 193	MIN 20	MEAN 55.9	AC-FT 40,480
WATER YEAR 1965-66	MAX 72	MIN 3.4	MEAN 26.5	AC-FT 19,180

Peak discharge (base, 100 cfs).--No peak above base.

10-3370. Lake Tahoe at Tahoe City, Calif.

Location.--Lat 39°10'04", long 120°08'23", in NE¼ 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 1966. 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 (6,218.86 ft, datum of 1929, supplementary adjustment of 1959). 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, 6,228.43 ft Nov. 25; minimum, 6,226.36 ft Sept. 30.

1900-66: 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 (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.

Elevation, in feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.37	8.13	8.22	8.02	7.60	7.49	7.45	7.75	8.04	7.86	7.48	6.84
2	8.35	8.14	8.20	7.99	7.59	7.48	7.46	7.77	8.04	7.87	7.48	6.82
3	8.36	8.12	8.16	7.98	7.56	7.47	7.47	7.78	8.03	7.86	7.46	6.80
4	8.31	8.12	8.14	8.00	7.57	7.45	7.48	7.80	8.03	7.87	7.44	6.79
5	8.32	8.10	8.12	8.01	7.60	7.46	7.49	7.81	8.02	7.85	7.42	6.78
6	8.29	8.10	8.09	8.00	7.62	7.46	7.50	7.84	8.01	7.83	7.41	6.76
7	8.31	8.08	8.05	7.96	7.62	7.44	7.51	7.86	8.03	7.80	7.40	6.75
8	8.31	8.08	8.02	7.94	7.60	7.43	7.52	7.89	8.02	7.79	7.38	6.71
9	8.31	8.06	7.99	7.93	7.59	7.43	7.55	7.93	8.01	7.76	7.37	6.73
10	8.30	8.05	7.96	7.90	7.56	7.44	7.60	7.96	8.01	7.75	7.35	6.70
11	8.29	8.04	7.94	7.89	7.56	7.44	7.61	7.97	8.01	7.73	7.33	6.65
12	8.29	8.05	7.97	7.87	7.55	7.43	7.63	7.98	8.02	7.73	7.32	6.63
13	8.29	8.04	7.96	7.85	7.54	7.44	7.64	7.98	8.03	7.70	7.30	6.61
14	8.29	8.15	7.95	7.83	7.52	7.45	7.65	8.00	8.03	7.70	7.29	6.58
15	8.26	8.13	7.92	7.85	7.52	7.43	7.66	8.00	8.03	7.67	7.27	6.56
16	8.21	8.18	7.91	7.79	7.52	7.43	7.67	8.01	8.03	7.67	7.26	6.57
17	8.22	8.17	7.86	7.74	7.52	7.44	7.66	8.02	8.03	7.65	7.24	6.52
18	8.20	8.29	7.85	7.72	7.48	7.41	7.67	8.03	8.03	7.65	7.22	6.56
19	8.20	8.26	7.84	7.71	7.50	7.43	7.67	8.04	8.01	7.63	7.20	6.55
20	8.19	8.27	7.84	7.69	7.49	7.42	7.67	8.05	8.00	7.63	7.19	6.52
21	8.20	8.27	7.86	7.67	7.49	7.42	7.67	8.03	7.99	7.61	7.16	6.54
22	8.18	8.27	7.80	7.66	7.48	7.41	7.68	8.06	7.97	7.61	7.14	6.51
23	8.19	8.30	7.78	7.64	7.49	7.41	7.68	8.07	7.97	7.58	7.11	6.48
24	8.18	8.42	7.80	7.62	7.49	7.41	7.69	8.07	7.99	7.56	7.08	6.47
25	8.18	8.40	7.88	7.62	7.49	7.41	7.69	8.07	7.94	7.54	7.02	6.45
26	8.17	8.36	7.87	7.61	7.48	7.42	7.70	8.09	7.96	7.53	7.00	6.49
27	8.17	8.34	7.82	7.60	7.48	7.43	7.70	8.10	7.95	7.51	6.99	6.48
28	8.16	8.32	7.92	7.59	7.47	7.43	7.70	8.10	7.93	7.52	6.94	6.38
29	8.16	8.28	7.95	7.59	-----	7.44	7.72	8.09	7.92	7.50	6.91	6.39
30	8.15	8.25	7.99	7.60	-----	7.45	7.73	8.10	7.90	7.49	6.87	6.36
31	8.15	-----	8.04	7.60	-----	7.45	-----	8.06	-----	7.49	6.85	-----
(†)	627,800	640,000	614,200	560,300	544,300	541,900	576,300	616,700	597,000	546,800	468,500	408,700
(‡)	-27,000	+12,200	-25,800	-53,900	-16,000	-2,400	+34,400	+40,400	-19,700	-50,200	-78,300	-59,800

Calendar year 1965 . . . . . † +160,300

Water year 1965-66 . . . . . ‡ -246,100

† 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.

## 10-3375. Truckee River at Tahoe City, Calif.

Location.--Lat 39°10'00", long 120°08'40", in NE¼NW¼ 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 1966. Monthly discharge only for some periods, published in WSP 1314 and 1734. Prior to October 1961, published as "at Tahoe."

Gage.--Water-stage recorder. 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, 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.--66 years (1900-66), 237 cfs (171,600 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 1,830 cfs Nov. 30 (gage height, 8.20 ft); minimum, 20 cfs Mar. 25. 1895-96, 1900-1966: Maximum discharge, 1,870 cfs Apr. 5, 6, 1958 (gage height, 7.30 ft, site and datum then in use); maximum gage height, that of Nov. 30, 1965; no flow for parts of many years.

Remarks.--Records good. Flow regulated by Lake Tahoe (operating capacity, 744,600 acre-ft).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	48	1,810	698	130	245	27	74	76	207	400	405
2	50	48	1,800	638	167	245	26	73	76	204	398	410
3	47	49	1,800	579	229	245	24	74	76	200	398	408
4	48	49	1,810	516	263	245	25	74	76	202	400	408
5	48	49	1,820	516	285	245	28	75	75	270	400	412
6	51	49	1,800	881	287	245	29	75	76	293	398	166
7	52	49	1,800	1,040	289	245	29	75	76	315	398	52
8	52	49	1,630	1,030	287	245	29	76	53	350	398	56
9	52	49	1,290	1,030	267	245	28	76	60	350	398	56
10	52	49	970	1,030	250	247	28	76	53	352	398	56
11	52	48	630	1,030	249	144	40	76	54	352	398	55
12	52	48	510	1,030	249	47	42	76	54	388	398	123
13	52	49	513	1,030	250	48	60	75	53	398	398	239
14	52	51	510	1,030	249	47	74	75	54	392	398	250
15	53	49	510	1,030	249	46	75	74	54	395	398	217
16	52	50	483	1,030	197	45	75	75	54	400	398	209
17	48	50	415	1,020	85	44	75	76	55	400	400	209
18	48	52	385	679	64	45	74	75	55	400	402	209
19	52	41	390	507	188	44	73	75	55	400	402	212
20	52	31	390	504	238	44	73	75	42	400	402	216
21	52	31	390	504	245	45	74	75	37	400	402	216
22	52	381	388	501	245	47	75	75	38	400	402	216
23	51	648	388	516	243	55	74	74	38	400	402	216
24	48	776	382	528	245	53	74	74	38	400	400	216
25	45	929	382	525	245	44	71	74	37	400	400	217
26	45	1,280	382	393	245	39	73	75	37	398	398	217
27	45	1,400	382	263	245	39	74	75	37	398	395	280
28	47	1,420	378	168	245	39	74	75	60	398	398	332
29	48	1,660	382	118	-----	32	74	75	169	402	400	340
30	48	1,820	385	116	-----	26	74	75	207	405	398	334
31	48	-----	497	125	-----	26	-----	76	-----	400	400	-----
Total	1,553	11,302	25,602	20,605	6,430	3,451	1,671	2,323	1,925	11,069	12,375	6,952
Mean	50.1	377	826	665	230	111	55.7	74.9	64.2	357	399	232
Ac-ft	3,080	22,420	50,780	40,870	12,750	6,840	3,310	4,610	3,820	21,960	24,550	13,790

Calendar year 1965: Max 1,820 Min 21 Mean 190 Ac-ft 137,400  
 Water year 1965-66: Max 1,820 Min 24 Mean 288 Ac-ft 208,800

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

Location.--Lat 39°19'25", long 120°14'00", in SW¼NW¼ 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 1966. 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.--29 years, (1929-35, 1936-37, 1939-42, 1943-52, 1955-57, 1958-66), 30.8 cfs (22,300 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 141 cfs Oct. 22 (gage height, 3.06 ft); minimum, 0.10 cfs Sept. 6, 7.

1909-10, 1929-53, 1955-57, 1958-66: Maximum daily discharge, 700 cfs (estimated) Nov. 21, 1950; maximum gage height observed, 4.55 ft Dec. 25, 1964; no flow at times 1960-62, 1965.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	36	23	21	13	16	59	35	22	2.7	7.0	1.9
2	58	33	22	21	12	16	67	39	22	3.3	10	.70
3	59	30	22	20	12	16	73	42	21	2.7	10	.30
4	58	27	21	20	12	16	76	49	21	2.7	9.0	.20
5	57	24	20	20	13	16	32	53	22	2.7	20	.20
6	56	22	20	20	14	15	3.3	75	21	2.5	29	.10
7	54	22	19	20	14	16	2.9	97	21	2.0	29	.10
8	53	20	19	19	14	17	2.4	97	20	7.0	38	.20
9	53	19	18	18	14	18	1.6	93	20	10	27	.50
10	55	17	18	18	14	21	1.0	90	18	10	11	.40
11	54	15	18	18	14	22	1.9	90	17	9.5	1.6	.50
12	52	14	18	16	13	23	2.9	90	17	9.5	.70	31
13	52	14	17	16	13	26	1.5	86	7.5	8.6	.40	48
14	51	16	16	16	13	28	.90	82	1.8	7.8	.30	47
15	99	18	15	15	12	31	2.2	80	1.5	7.8	.90	46
16	122	18	14	14	12	33	4.0	63	1.2	7.4	2.5	46
17	111	21	14	14	12	34	3.6	49	.90	7.0	2.2	46
18	116	28	13	14	12	34	2.7	37	.70	7.0	2.0	45
19	113	30	12	14	13	34	1.6	35	.70	6.7	1.6	48
20	107	30	12	13	13	33	1.2	28	.70	6.4	1.5	50
21	96	29	12	13	13	33	1.2	23	1.9	6.0	1.6	49
22	116	28	12	13	13	32	2.0	22	3.1	5.7	1.5	48
23	120	28	10	13	14	32	3.3	21	2.2	5.7	1.2	49
24	100	32	6.5	12	15	32	2.9	8.0	4.9	5.7	.70	48
25	84	33	7.6	12	15	33	3.3	1.5	8.2	7.4	.70	49
26	74	31	20	12	16	34	4.6	1.2	8.2	8.2	.40	50
27	64	28	19	12	16	36	20	8.4	4.0	9.5	.20	21
28	57	27	20	11	15	39	29	16	2.0	8.2	.20	.50
29	50	25	22	11	-----	42	30	16	1.6	7.8	.20	.30
30	44	24	22	13	-----	47	34	14	1.2	6.4	.20	.20
31	40	-----	21	13	-----	53	-----	18	-----	5.7	1.2	-----
Total	2,266	739	522.1	482	376	878	471.00	1,459.1	294.30	199.6	211.80	727.10
Mean	73.1	24.6	16.8	15.5	13.4	28.3	15.7	47.1	9.81	6.44	6.83	24.2
Ac-ft	4,490	1,470	1,040	956	746	1,740	934	2,890	584	396	420	1,440

Calendar year 1965: Max 406 Min 0.40 Mean 47.6 Ac-ft 34,460

Water year 1965-66: Max 122 Min 0.10 Mean 23.6 Ac-ft 17,110

## PYRAMID AND WINNEMUCCA LAKES BASIN

10-3394. Martis Creek near Truckee, Calif.

Location.--Lat 39°20'20", long 120°07'00", in SE¼NW¼ 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.--40.8 sq mi.

Records available.--October 1958 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 5,700 ft (from topographic map). Prior to July 24, 1964, graphic water-stage recorder.

Average discharge.--8 years, 17.9 cfs (13,000 acre-ft per year).

Extremes.--Maximum discharge during year, 146 cfs Mar. 13 (gage height, 2.61 ft); maximum gage height, 2.99 ft Feb. 12 (backwater from ice); minimum discharge, 1.8 cfs Aug. 22, 25, 26, 29.

1958-66: Maximum discharge, 1,880 cfs Feb. 1, 1963 (gage height, 6.16 ft); minimum, 1.1 cfs July 19, 20, 1961.

Remarks.--Records excellent except those for winter months, which are poor.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.1	7.4	13	10	10	11	66	11	5.4	2.8	2.6	2.9
2	6.1	7.0	13	8.6	10	11	67	11	5.3	2.8	2.6	2.8
3	6.1	7.0	14	9.5	10	11	62	11	5.4	2.0	2.4	2.7
4	6.1	7.0	14	11	11	12	57	11	5.4	3.0	2.3	2.6
5	6.1	7.0	14	12	11	13	56	11	5.3	2.9	2.2	2.7
6	6.1	7.4	13	15	10	14	57	15	6.3	2.6	2.2	2.7
7	6.4	7.4	12	15	9.0	15	56	14	7.0	2.6	2.2	2.7
8	6.1	8.6	11	15	9.6	18	52	14	9.9	2.7	2.1	2.6
9	6.1	8.6	11	14	11	23	49	23	9.2	2.7	2.1	2.7
10	6.1	8.6	11	14	10	33	60	30	6.6	2.5	2.1	2.7
11	5.8	9.0	11	13	9.0	35	59	17	5.5	2.6	2.1	2.5
12	6.5	9.4	11	12	10	44	45	14	5.1	2.7	2.2	2.8
13	6.7	10	11	12	10	91	39	13	4.8	2.7	2.2	3.2
14	7.4	33	11	13	10	79	37	11	5.0	2.7	2.2	3.5
15	9.0	20	10	13	10	68	37	8.2	5.7	2.6	2.2	3.7
16	8.2	18	10	13	10	45	38	9.7	5.5	2.6	2.2	3.6
17	8.6	30	9.0	14	11	45	34	9.7	4.7	2.6	2.3	3.6
18	8.6	81	8.0	14	11	46	29	9.1	4.3	2.5	2.2	4.3
19	8.6	25	7.6	13	11	40	22	8.7	3.8	2.5	2.2	5.4
20	8.2	17	8.0	12	11	35	19	8.3	3.7	2.4	2.0	4.5
21	7.8	14	8.5	12	11	35	19	7.2	3.7	2.3	2.0	4.2
22	7.8	14	11	12	11	35	17	6.0	3.9	2.3	1.9	4.1
23	7.8	18	9.8	12	11	38	16	6.1	3.8	2.2	1.9	4.0
24	7.8	16	8.2	12	11	40	15	6.1	3.6	2.1	1.9	4.0
25	7.8	14	8.6	12	11	41	15	9.8	3.2	2.1	1.9	4.1
26	7.0	13	9.0	11	11	42	16	5.7	3.1	2.1	1.9	4.3
27	7.0	12	9.0	10	11	45	15	5.2	3.2	2.1	2.1	4.2
28	6.7	12	9.0	10	11	48	14	4.6	3.0	2.2	2.1	4.2
29	7.0	12	15	10	-----	53	13	5.0	2.9	2.1	1.9	4.2
30	7.0	12	13	10	-----	56	12	5.5	2.9	2.2	2.1	3.5
31	7.4	-----	11	10	-----	61	-----	5.7	-----	3.0	2.5	-----
TOTAL	220.0	465.4	334.7	374.1	292.6	1,183	1,093	322.6	147.2	78.2	66.8	104.8
MEAN	7.10	15.5	10.8	12.1	10.5	38.2	36.4	10.4	4.91	2.52	2.16	3.49
AC-FT	436	923	664	742	580	2,350	2,170	640	292	155	132	208

CALENDAR YEAR 1965	MAX	176	MIN	5.0	MEAN	28.8	AC-FT	20,860
WATER YEAR 1965-66	MAX	91	MIN	1.9	MEAN	12.8	AC-FT	9,290

Peak discharge (base, 170 cfs).--No peak above base.

10-3399. Alder Creek near Truckee, Calif.

Location.--Lat 39°22'10", long 120°10'50", in SE¼NE¼ sec.34, T.18 N., R.16 E., on right bank 2 miles upstream from mouth and 2½ miles north of Truckee.

Drainage area.--7.36 sq mi.

Records available.--October 1958 to September 1966.

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

Average discharge.--8 years, 7.55 cfs (5,470 acre-ft per year).

Extremes.--Maximum discharge during year, 52 cfs Apr. 7 (gage height, 1.97 ft); minimum daily, 0.5 cfs for several days in August and September.

1958-66: Maximum discharge, 730 cfs Jan. 31, 1963 (gage height, 5.86 ft), from rating curve extended above 36 cfs on basis of computation of peak flow through culvert; no flow for some periods in most years.

Remarks.--Records good. No upstream diversions or regulation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	1.4	2.4	1.2	1.7	1.8	34	20	4.8	1.6	1.0	0.70
2	1.5	1.3	2.2	1.2	1.7	1.8	36	19	4.6	1.6	.80	.60
3	1.5	1.3	2.0	1.5	1.7	1.8	35	20	4.4	1.7	.70	.60
4	1.5	1.3	2.4	1.7	1.8	1.8	32	20	4.2	1.7	.70	.50
5	1.4	1.3	2.0	1.9	1.8	1.9	34	20	4.0	1.7	.60	.50
6	1.5	1.3	1.9	2.0	1.8	2.4	35	20	4.0	1.7	.60	.50
7	1.5	1.3	1.8	2.5	1.7	3.1	38	18	4.0	1.6	.70	.50
8	1.5	1.6	1.9	2.8	1.7	3.3	39	18	3.8	1.5	.70	.50
9	1.4	1.5	2.2	2.6	1.7	3.6	37	25	3.8	1.5	.70	.50
10	1.4	1.3	2.0	2.5	1.7	5.7	36	26	3.4	1.3	.70	.50
11	1.4	1.3	1.9	2.4	1.7	7.9	32	19	3.3	1.2	.70	.50
12	1.5	1.3	2.0	2.2	1.7	8.5	29	16	3.1	1.3	.70	.60
13	1.4	1.5	2.0	2.0	1.6	14	28	15	3.0	1.3	.70	.60
14	1.5	4.2	2.0	2.2	1.6	16	28	13	3.1	1.2	.70	.70
15	1.8	3.6	1.9	2.0	1.6	16	30	12	3.1	1.1	.70	.70
16	1.6	3.0	1.7	2.0	1.6	13	34	11	3.0	1.1	.70	.70
17	1.5	5.3	1.5	2.0	1.7	11	38	10	2.6	1.0	.70	.60
18	1.5	8.8	1.3	1.9	1.8	10	33	9.4	2.4	1.0	.60	.70
19	1.5	4.8	1.4	1.9	1.8	10	28	9.1	2.2	1.0	.60	.90
20	1.5	3.6	1.5	1.8	1.8	9.7	26	8.5	2.0	1.0	.50	.80
21	1.5	3.0	1.5	1.8	1.8	9.4	26	8.5	1.9	1.0	.50	.70
22	1.5	2.8	1.6	1.7	1.8	9.4	24	7.9	1.8	1.0	.50	.70
23	1.5	2.8	1.3	1.8	1.8	10	24	7.3	1.6	.90	.50	.70
24	1.5	2.6	1.2	1.8	1.8	11	24	7.0	1.6	.80	.50	.70
25	1.5	2.5	1.3	1.8	1.8	13	25	6.5	1.5	.80	.60	.80
26	1.4	2.4	1.3	1.8	1.8	16	25	6.2	1.3	.80	.60	.80
27	1.4	2.5	1.3	1.8	1.8	19	23	6.0	1.3	.80	.70	.90
28	1.4	2.4	1.3	1.8	1.8	21	21	5.7	1.3	.70	.70	1.0
29	1.4	2.3	1.5	1.8	-----	25	21	5.3	1.4	.70	.70	1.1
30	1.3	2.3	1.5	1.8	-----	27	20	5.0	1.6	.60	.70	1.2
31	1.4	-----	1.5	1.8	-----	29	-----	4.8	-----	.90	.80	-----
Total	45.7	76.6	53.3	60.0	48.6	333.1	895	399.2	84.1	36.10	20.60	20.80
Mean	1.47	2.55	1.72	1.94	1.74	10.7	29.8	12.9	2.80	1.16	0.66	0.69
Ac-ft	91	152	106	119	96	661	1,780	792	167	72	41	41

Calendar year 1965: Max 103 Min 1.2 Mean 11.8 Ac-ft 8,560  
 Water year 1965-66: Max 39 Min 0.50 Mean 5.68 Ac-ft 4,120

Peak discharge (base, 25 cfs).--Apr. 7 (1845) 52 cfs (1.97 ft); May 10 (1615) 47 cfs (1.94 ft).

## PYRAMID AND WINNEMUCCA LAKES BASIN

10-3403. Prosser Creek Reservoir near Boca, Calif.

Location.--Lat 39°22'45", long 120°08'25", in NW¼SW¼ sec.30, T.18 N., R.17 E., in control house at Prosser Creek Dam, 1½ miles upstream from mouth of Prosser Creek, and 3 miles west of Boca.

Drainage area.--50 sq mi, approximately.

Records available.--January 1963 to September 1966.

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

Extremes.--Maximum contents observed during year, 19,290 acre-ft Aug. 3-5 (elevation, 5,727.10 ft); minimum observed, 7,850 acre-ft Nov. 22 (elevation 5,701.33 ft).  
1963-66: Maximum contents observed, 30,240 acre-ft June 25, 1965 (elevation, 5,743.28 ft); minimum observed, 6,500 acre-ft Feb. 19, 1965 (elevation, 5,696.85 ft).

Remarks.--Reservoir is formed by rolled earth and rockfill dam. Storage began Jan. 30, 1963. Usable capacity, 28,640 acre-ft between elevations 5,660.6 (top of inactive storage) and 5,741.2 ft (spillway crest). Inactive storage, 1,200 acre-ft (includes 83 acre-ft dead storage) below elevation 5,660.6 ft. Elevation of streambed at dam axis, 5,622 ft. Figures given herein represent usable contents. Reservoir is used for flood control, enhancement of fishery, and recreation.

Cooperation.--Records furnished by Bureau of Reclamation.

Month-end elevations and contents, at 0800 hours, October 1965 to September 1966

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Oct. 31 . . . . .	5,702.80	8,330	-9,380
Nov. 30 . . . . .	5,701.89	8,030	-300
Dec. 31 . . . . .	5,702.86	8,350	+320
Calendar year 1965 . . . . .	-	-	-2,190
Jan. 1 . . . . .	5,702.44	8,210	-140
Feb. 28 . . . . .	5,703.22	8,470	+260
Mar. 31 . . . . .	5,703.76	8,650	+180
Apr. 30 . . . . .	5,712.46	11,960	+3,310
May 31 . . . . .	5,721.68	16,300	+4,340
June 30 . . . . .	5,726.59	19,000	+2,700
July 31 . . . . .	5,727.06	19,270	+270
Aug. 31 . . . . .	5,726.78	19,100	-170
Sept. 30 . . . . .	5,702.26	8,150	-10,950
Water year 1965-66 . . . . .	-	-	-9,560



10-3405. Prosser Creek near Boca, Calif.

Location.--Lat 39°22'10", long 120°07'10", in SW¼NW¼ 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 1966. 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.--23 years (1942-50, 1951-66), 80.6 cfs (58,350 acre-ft per year). Adjusted for storage.

Extremes.--Maximum discharge during year, 381 cfs Sept. 12 (gage height, 3.62 ft); minimum, 1.8 cfs June 27.

1942-66: 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 excellent. Flow regulated by Prosser Creek dam since Jan. 31, 1963.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	230	12	22	34	25	24	245	144	14	7.6	6.3	20
2	228	12	22	34	25	24	283	162	11	7.6	6.3	45
3	228	12	22	34	25	23	298	170	8.9	7.6	6.0	59
4	226	12	22	34	25	23	266	170	7.6	6.9	6.0	58
5	223	12	22	34	25	23	250	170	7.6	6.3	6.0	58
6	221	12	22	34	25	23	237	204	7.9	6.3	6.0	190
7	221	12	22	34	25	24	230	221	8.5	6.3	6.0	342
8	239	12	22	35	25	25	243	221	8.5	6.3	6.0	338
9	248	12	22	35	24	25	252	170	8.5	6.0	6.0	355
10	248	12	22	35	24	26	252	146	8.2	6.0	6.0	358
11	250	12	22	35	24	76	221	128	8.5	6.0	6.0	358
12	250	12	22	36	24	108	206	119	8.5	6.0	6.0	322
13	250	12	22	36	24	112	158	119	8.5	5.8	6.0	243
14	248	13	22	36	24	112	136	119	8.5	5.8	6.0	195
15	248	21	22	36	24	110	117	119	8.9	5.8	6.0	193
16	245	26	22	37	24	138	110	119	8.5	6.0	6.0	170
17	243	98	22	37	24	156	110	119	8.2	6.3	6.0	197
18	241	168	22	37	24	140	91	66	7.9	6.9	6.0	197
19	239	178	22	37	24	132	81	42	7.9	6.9	6.0	195
20	171	178	22	38	24	132	117	69	7.9	6.6	6.0	195
21	136	176	22	38	24	92	140	82	7.9	6.3	6.0	193
22	106	63	22	38	24	77	121	82	7.2	6.3	6.0	193
23	39	12	22	38	24	77	113	82	7.9	6.0	6.0	193
24	39	29	22	26	24	77	113	82	7.9	6.0	6.0	190
25	39	38	34	25	24	110	89	64	7.9	5.8	6.0	190
26	39	38	34	25	24	134	81	56	7.9	6.0	6.0	188
27	39	38	34	25	24	134	53	56	7.3	6.0	6.0	170
28	38	38	34	25	24	166	41	56	8.2	6.0	6.0	128
29	20	30	34	25	-----	180	113	56	7.9	6.0	6.0	110
30	12	22	34	25	-----	180	144	45	7.6	6.3	6.0	70
31	12	-----	34	25	-----	212	-----	28	-----	6.6	15	-----
Total	5,216	1,322	766	1,023	680	2,895	4,911	3,486	251.7	196.3	195.6	5,713
Mean	168	44.1	24.7	33.0	24.3	93.4	164	112	8.39	6.33	6.31	190
Ac-ft	10,350	2,620	1,520	2,030	1,350	5,740	9,740	6,910	499	389	388	11,330

Adjusted for change in storage in Prosser Creek Reservoir

	Mean	Ac-ft	Mean	Ac-ft	Mean	Ac-ft	Mean	Ac-ft	Mean	Ac-ft	Mean	Ac-ft
Calendar year 1965:	15.8	970	39.0	2,320	29.9	1,840	30.7	1,890	29.0	1,610	96.3	5,920
Water year 1965-66:	15.8	970	39.0	2,320	29.9	1,840	30.7	1,890	29.0	1,610	96.3	5,920

Observed

Adjusted

Calendar year 1965:	Max	518	Min	12	Mean	115	Ac-ft	82,950	Mean	112	Ac-ft	80,760
Water year 1965-66:	Max	358	Min	5.8	Mean	73.0	Ac-ft	52,870	Mean	59.8	Ac-ft	43,310

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

Location.--Lat 39°30'05", long 120°16'35", in NE¼NE¼ sec.14, T.19 N., R.15 E., on left bank half a mile upstream from Independence Creek and 7½ miles northwest of Hobart Mills.

Drainage area.--36.6 sq mi.

Records available.--December 1946 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 6,290 ft (from topographic map). Prior to Nov. 9, 1962, graphic water-stage recorder at site 100 ft downstream at datum 0.63 ft lower. Nov. 9, 1962, to Dec. 22, 1964, graphic water-stage recorder at site 100 ft downstream at datum 0.78 ft lower. Dec. 23, 1964, to Aug. 5, 1965, twice monthly observations referred to bridge 75 ft upstream at present datum.

Average discharge.--19 years (1947-66), 85.5 cfs (61,900 acre-ft per year).

Extremes.--Maximum discharge during year, 480 cfs May 10 (gage height, 3.95 ft); minimum, 0.60 cfs Sept. 4, 5.

1946-66: Maximum discharge, 7,910 cfs Feb. 1, 1963 (gage height, 7.76 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurements at gage heights 6.97 and 7.68 ft; minimum, that of Sept. 4, 5, 1966.

Remarks.--Records excellent except those for winter months, which are poor. One transmountain diversion to Sierra Valley above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.5	3.0	2.0	1.3	1.7	1.4	1.08	2.80	8.4	2.9	1.9	0.90
2	3.0	3.2	2.0	1.4	1.7	1.4	1.37	2.99	7.0	2.8	2.0	.90
3	3.0	3.0	2.0	1.5	1.6	1.5	1.60	3.23	6.1	2.7	1.9	.80
4	3.0	3.8	2.0	2.2	1.5	1.5	1.72	3.32	4.7	2.6	1.8	.80
5	2.8	7.4	1.8	2.6	1.6	1.5	1.87	3.60	3.3	2.6	1.8	.70
6	3.0	7.4	1.6	2.6	1.6	1.5	1.94	3.36	3.4	2.5	1.7	.80
7	2.8	7.8	1.6	2.2	1.6	1.6	2.28	3.16	3.2	2.4	1.7	.80
8	2.5	1.0	1.6	2.4	1.6	1.7	2.66	3.37	2.8	2.3	1.7	.80
9	2.8	9.8	1.6	2.0	1.6	1.8	2.65	3.39	4.4	2.3	1.7	.80
10	2.8	8.6	1.6	1.9	1.6	2.2	2.39	4.45	4.1	2.3	1.7	.80
11	2.8	8.6	1.5	1.8	1.5	2.4	1.92	3.99	3.6	2.2	1.7	.80
12	2.8	8.6	1.6	1.7	1.5	2.6	1.65	3.16	2.9	2.2	1.8	.80
13	2.8	9.4	1.6	1.7	1.5	3.1	1.52	2.97	2.5	2.1	1.8	.80
14	3.0	2.3	1.6	1.7	1.5	3.6	1.59	2.88	2.5	2.1	1.8	.90
15	6.1	1.9	1.2	1.7	1.5	3.9	1.85	2.63	2.2	2.0	1.7	.90
16	4.8	1.8	1.1	1.6	1.5	2.7	2.29	2.52	1.7	2.0	1.7	.90
17	4.2	3.9	1.0	1.5	1.5	4.0	2.88	2.45	1.3	2.0	1.7	.90
18	4.2	5.1	1.0	1.6	1.5	3.4	2.83	2.41	8.8	2.0	1.5	1.1
19	3.5	3.9	1.1	1.7	1.5	3.0	2.20	2.48	7.2	2.0	1.5	1.3
20	3.5	3.4	1.2	1.5	1.5	3.0	1.93	2.59	6.5	1.9	1.6	1.4
21	3.2	2.9	1.3	1.5	1.5	2.9	1.91	2.58	5.9	1.9	1.5	1.3
22	3.2	2.7	1.3	1.6	1.5	2.9	1.99	2.37	5.0	1.9	1.4	1.3
23	3.2	2.6	1.0	1.6	1.5	3.0	2.14	2.04	4.5	1.9	1.4	1.3
24	3.0	1.9	1.0	1.6	1.4	3.0	2.51	1.86	4.2	1.8	1.4	1.2
25	3.0	2.0	1.1	1.6	1.4	3.3	2.95	1.88	3.8	1.8	1.3	1.2
26	3.0	2.1	1.1	1.6	1.4	3.7	3.25	1.90	3.6	1.8	1.3	1.2
27	2.8	2.2	1.1	1.6	1.4	4.4	3.02	1.77	3.5	1.8	1.1	1.2
28	3.0	2.1	1.4	1.6	1.4	5.3	2.81	1.60	3.3	1.8	1.1	1.2
29	3.0	2.1	1.3	1.6	-----	6.3	2.81	1.43	3.1	1.7	1.0	1.2
30	3.0	2.0	1.3	1.7	-----	7.4	2.70	1.22	3.0	1.9	1.1	1.2
31	2.8	-----	1.3	1.7	-----	8.8	-----	1.02	-----	2.0	1.1	-----
TOTAL	101.1	539.6	439	543	426	988	6,631	8,142	703.4	66.2	48.4	30.20
MEAN	3.26	18.0	14.2	17.5	15.2	31.9	221	263	23.4	2.14	1.56	1.01
AC-FT	201	1,070	871	1,080	845	1,960	13,150	16,150	1,400	131	96	60

CALENDAR YEAR 1965 MAX 800 MIN 2.5 MEAN 110 AC-FT 79,740  
 WATER YEAR 1965-66 MAX 445 MIN .70 MEAN 51.1 AC-FT 37,010

Peak discharge (base, 500 cfs).--No peak above base.

10-3435. Sagehen Creek near Truckee, Calif.

Location.--Lat 39°25'50", long 120°14'10", in NE¼NE¼ sec.7, T.18 N., R.16 E., on left bank 0.1 mile upstream and 0.1 mile downstream from 2 unnamed right bank tributaries, 2.2 miles upstream from bridge on State Highway 89, and 7.5 miles north of Truckee.

Drainage area.--10.8 sq mi.

Records available.--October 1953 to September 1966.

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.--13 years, 10.8 cfs (7,820 acre-ft per year).

Extremes.--Maximum discharge during year, 46 cfs Apr. 7, 17 (gage height, 2.54 ft); minimum, 1.8 cfs at times.

1953-66: Maximum discharge, 765 cfs Feb. 1, 1963 (gage height, 4.64 ft, from floodmarks), from rating curve extended above 70 cfs on basis of slope-area measurement at gage height 4.28 ft; minimum, 0.6 cfs Aug. 8, 1960, Aug. 7, 1961, result of temporary regulation.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	3.8	4.7	4.4	4.0	3.9	26	23	2.6	3.4	5.8	2.0
2	3.6	3.8	4.7	4.4	4.0	3.9	29	23	7.9	3.4	3.4	2.0
3	3.3	3.8	5.1	4.4	4.0	4.0	28	24	7.9	3.4	2.6	2.0
4	3.3	3.8	5.3	4.4	4.2	4.0	27	23	7.4	3.4	2.3	1.9
5	3.3	3.8	5.3	4.4	4.2	4.4	30	24	7.4	3.3	2.3	2.0
6	3.3	3.8	4.9	5.2	4.2	4.6	33	22	7.6	3.3	2.2	2.0
7	3.3	3.8	4.9	5.3	4.2	4.7	35	21	7.6	3.3	2.1	2.0
8	3.3	4.9	4.9	4.9	4.2	4.6	33	21	7.6	3.3	2.1	2.0
9	3.3	4.2	4.9	4.7	4.2	5.3	33	22	7.6	3.3	2.1	2.0
10	3.3	4.0	4.9	4.7	4.2	7.1	31	22	6.9	3.2	2.1	2.0
11	3.3	4.0	4.9	4.6	4.2	6.7	27	22	6.2	3.2	2.1	2.0
12	3.4	4.2	4.9	4.4	4.2	7.4	25	21	6.0	3.0	2.1	2.3
13	3.4	4.6	4.9	4.4	4.4	11	24	19	5.8	3.0	2.1	2.7
14	3.8	8.9	4.7	4.4	4.4	10	25	18	5.8	2.8	2.1	2.7
15	4.0	7.6	4.2	4.4	4.2	8.9	28	16	5.8	2.8	2.0	2.8
16	3.8	6.2	3.8	4.4	4.0	7.6	33	16	5.4	2.8	2.1	2.7
17	3.8	13	3.5	4.4	4.0	7.1	36	15	5.1	2.7	2.1	2.7
18	3.8	13	3.5	4.4	4.0	7.4	31	14	4.9	2.6	2.1	3.2
19	3.8	7.9	3.8	4.4	4.0	7.4	24	14	4.7	2.7	2.1	3.3
20	3.8	6.7	4.2	4.4	3.9	6.9	24	14	4.6	2.6	2.1	3.0
21	3.8	5.8	4.4	4.2	3.9	6.7	24	14	4.4	2.6	2.1	2.8
22	3.8	5.4	4.4	4.2	3.9	6.9	24	13	4.4	2.6	2.1	2.8
23	3.8	5.4	4.4	4.2	4.0	7.1	24	12	4.4	2.4	2.1	2.8
24	3.8	5.3	4.0	4.2	4.0	7.9	26	12	4.2	2.4	2.0	2.7
25	3.8	5.6	4.4	4.2	3.9	8.9	29	11	4.2	2.3	2.0	2.7
26	3.8	5.3	4.6	4.0	3.9	10	30	11	4.0	2.3	2.0	2.8
27	3.8	5.1	4.4	4.0	4.0	12	26	10	3.8	2.3	2.0	2.8
28	3.8	4.9	4.4	4.0	4.0	14	25	10	3.8	2.3	2.0	2.8
29	3.8	4.9	4.9	4.0	-----	16	24	9.7	3.6	2.3	2.0	2.8
30	3.8	4.9	4.4	4.0	-----	20	24	9.4	3.6	2.3	2.1	2.8
31	3.8	-----	4.4	4.0	-----	22	-----	8.9	-----	2.7	2.1	-----
Total	112.5	168.4	140.7	136.6	114.3	258.4	832	521.0	171.2	88.0	70.4	75.1
Mean	3.63	5.61	4.54	4.41	4.08	8.34	27.9	16.8	5.71	2.84	2.27	2.50
Ac-ft	223	334	279	271	227	513	1,660	1,030	340	175	140	149

Calendar year 1965 : Max 117 Min 3.3 Mean 16.0 Ac-ft 11,600

Water year 1965-66 : Max 36 Min 1.9 Mean 7.38 Ac-ft 5,340

Peak discharge (base, 50 cfs).--No peak above base.

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

Location.--Lat 39°26'10", long 120°05'00", in SW¼SW¼ sec.3, T.18 N., R.17 E., on left bank 1 mile upstream from Boca Reservoir, 1½ miles upstream from Dry Creek, and 3½ miles north of Boca.

Drainage area.--146 sq mi.

Records available.--June 1903 to October 1910, September 1939 to September 1966. 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.--34 years (1903-10, 1939-66), 190 cfs (137,600 acre-ft per year).

Extremes.--Maximum discharge during year, 606 cfs May 10 (gage height, 2.23 ft); minimum, 9.0 cfs Sept. 9-12.

1903-10, 1939-66: Maximum discharge, 13,300 cfs Feb. 1, 1963 (gage height, 9.00 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement of peak flow; minimum recorded, 2.2 cfs Dec. 5, 1959.

Remarks.--Records excellent except those for winter months, which are poor. Flow slightly regulated by Independence Lake (capacity, about 17,500 acre-ft) and one transmountain diversion to Sierra Valley.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	42	58	32	40	42	375	348	125	24	61	14
2	88	36	56	33	40	42	397	364	110	24	70	12
3	86	35	54	34	40	43	397	397	101	23	61	11
4	86	34	58	35	44	46	386	397	92	23	57	10
5	86	34	52	37	42	69	391	430	75	22	56	10
6	86	36	42	45	40	66	419	425	71	22	56	11
7	86	36	41	59	39	73	448	386	73	22	56	10
8	83	40	42	54	39	77	448	402	68	22	54	10
9	83	44	49	50	39	81	442	413	77	46	54	9.0
10	83	40	45	48	39	101	442	552	75	53	54	9.0
11	81	38	40	46	38	115	402	502	70	53	62	9.0
12	81	38	45	42	37	134	348	386	62	53	103	10
13	81	40	52	44	37	199	298	343	56	53	106	11
14	81	68	45	46	37	245	289	338	54	54	106	14
15	87	81	30	44	38	237	308	308	54	54	106	14
16	87	68	27	43	39	188	348	284	51	59	106	14
17	87	94	26	43	40	147	419	276	45	59	106	13
18	86	182	25	43	41	153	442	266	40	59	103	14
19	86	120	27	42	42	166	348	266	36	59	103	17
20	83	98	29	40	42	142	298	276	34	59	103	16
21	81	83	31	40	42	142	289	280	32	59	101	14
22	81	71	33	38	42	142	289	266	31	59	98	14
23	81	77	28	40	41	147	303	237	30	59	96	14
24	81	70	25	40	41	175	364	213	29	59	96	13
25	83	64	26	40	41	192	419	210	28	57	46	13
26	83	64	27	40	41	221	459	210	27	57	23	13
27	83	68	27	40	41	249	448	202	26	57	19	14
28	83	58	29	40	41	266	397	188	26	57	18	14
29	77	56	33	40	-----	293	391	175	25	56	17	13
30	51	55	32	40	-----	313	348	159	25	57	17	13
31	48	-----	31	40	-----	333	-----	139	-----	62	15	-----
Total	2,529	1,870	1,165	1,297	1,123	4,838	11,352	9,638	1,648	1,482	2,129	373.0
Mean	81.6	62.3	37.6	41.8	40.1	156	378	311	54.9	47.8	68.7	12.4
Ac-ft	5,020	3,710	2,310	2,570	2,230	9,600	22,520	19,120	3,270	2,940	4,220	740

Calendar year 1965: Max 1,600 Min 25 Mean 252 Ac-ft 182,400

Water year 1965-66: Max 552 Min 9.0 Mean 108 Ac-ft 78,250

Peak discharge (base, 500 cfs).--May 10 (1200) 606 cfs (2.23 ft).

10-3444.9. Boca Reservoir at Boca, Calif.

Location.--Lat 39°23'20", long 120°05'40", in NE¼ 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 1966. Month-end 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, 29,480 acre-ft May 13, 14 (elevation, 5,592.40 ft); minimum, 1,880 acre-ft Feb. 3 (elevation, 5,537.65 ft).

1939-66: 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 (top of spillway gates). Elevation of spillway (gate open) is 5,589.01 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 Water Conservation District.

Contents, in acre-feet, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17,940	9,460	2,180	2,500	1,900	2,390	4,350	26,080	28,650	13,210	6,890	2,290
2	17,680	8,970	2,210	2,500	1,890	2,380	5,220	26,200	28,450	12,570	6,810	2,220
3	17,320	8,440	2,220	2,500	1,880	2,380	6,140	26,240	28,160	11,920	6,710	2,190
4	17,040	7,950	2,250	2,510	1,890	2,360	7,000	26,310	27,920	11,300	5,990	2,160
5	16,720	7,500	2,280	2,530	1,940	2,350	7,910	26,470	27,630	10,760	5,270	2,120
6	16,440	7,060	2,300	2,520	2,000	2,370	8,750	26,670	27,350	10,300	4,740	2,090
7	16,160	6,600	2,280	2,480	2,040	2,390	9,740	26,910	27,030	9,950	4,220	2,050
8	15,920	6,160	2,230	2,450	2,060	2,450	10,620	27,070	26,710	9,650	3,710	2,010
9	15,860	5,640	2,190	2,440	2,060	2,520	11,600	27,230	26,350	9,400	3,480	1,980
10	15,770	5,320	2,140	2,410	2,070	2,650	12,570	27,750	25,920	9,190	3,380	1,970
11	15,710	5,130	2,080	2,390	2,070	2,820	13,430	28,530	25,490	8,990	3,280	1,950
12	15,680	4,910	2,040	2,340	2,060	3,040	14,330	29,110	25,100	8,830	3,230	1,940
13	15,680	4,660	2,000	2,290	2,060	3,400	14,930	29,480	24,640	8,710	3,230	1,930
14	15,680	4,340	1,990	2,250	2,040	3,980	15,620	29,480	24,220	8,660	3,240	1,930
15	15,650	4,100	1,970	2,200	2,040	4,380	16,160	29,440	23,770	8,610	3,250	1,930
16	15,620	3,830	1,950	2,160	2,040	4,610	16,910	29,360	23,250	8,550	3,250	1,930
17	15,620	3,610	1,980	2,090	2,030	4,280	17,680	29,310	22,800	8,460	3,250	1,920
18	15,590	3,720	2,000	2,020	2,030	4,000	18,460	29,270	22,220	8,380	3,250	1,920
19	15,590	3,890	2,030	1,960	2,110	3,760	19,300	29,230	21,680	8,270	3,240	1,920
20	15,560	3,860	2,050	1,960	2,220	3,460	19,920	29,190	21,070	8,180	3,230	1,930
21	15,200	3,740	2,080	1,940	2,320	3,120	20,500	29,190	20,360	8,120	3,230	1,930
22	14,840	3,590	2,120	1,940	2,330	3,090	21,070	29,190	19,670	8,040	3,220	1,930
23	14,270	3,130	2,170	1,950	2,340	3,060	21,680	29,150	18,930	7,890	3,190	1,930
24	13,710	2,660	2,200	1,950	2,360	3,090	22,290	29,110	18,260	7,740	3,190	1,930
25	13,160	2,500	2,250	1,940	2,360	3,180	23,020	29,070	17,540	7,600	3,130	1,930
26	12,620	2,390	2,280	1,930	2,360	3,220	24,000	29,020	16,850	7,480	3,010	1,930
27	12,040	2,280	2,310	1,930	2,360	3,300	24,800	28,980	16,190	7,360	2,850	1,930
28	11,460	2,180	2,340	1,910	2,370	3,430	25,300	28,980	15,410	7,240	2,700	1,930
29	10,930	2,050	2,370	1,900	-----	3,540	25,690	28,980	14,670	7,160	2,620	1,940
30	10,450	2,110	2,420	1,910	-----	3,660	25,960	28,900	13,870	7,060	2,470	1,950
31	10,000	-----	2,470	1,900	-----	3,830	-----	28,780	-----	6,960	2,360	-----
(+)	5,562.65	5,538.85	5,540.65	5,537.75	5,540.15	5,546.20	5,588.05	5,591.55	5,570.20	5,555.60	5,540.10	5,537.99
(+)	-8,200	-7,890	+360	-570	+470	+1,460	+22,130	+2,820	-14,910	-6,910	-4,600	-410

Calendar year 1965 . . . . . † -23,220

Water year 1965-66 . . . . . † -16,250

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

Location.--Lat 39°23'10", long 120°05'40", in NE¼NW¼ sec.28, T.18 N., R.17 E., on right bank 800 ft upstream from mouth, 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 1966. 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.--31 years (1911-15, 1939-66), 183 cfs (132,500 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 411 cfs Aug. 3 (gage height, 3.12 ft); minimum daily, 1.1 cfs Apr. 3, 4.

1890, 1911-15, 1939-66: 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.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	220	268	38	47	47	43	51	262	186	341	102	48
2	220	265	47	47	47	50	1.2	292	198	339	102	34
3	218	252	47	49	47	50	1.1	310	199	341	306	26
4	220	244	47	48	32	50	1.1	310	196	305	405	26
5	218	242	47	64	25	50	1.2	310	196	268	336	26
6	208	242	61	75	25	50	1.2	275	196	214	300	26
7	204	240	69	75	35	50	1.3	269	196	199	300	26
8	143	256	73	75	45	50	1.3	285	218	161	213	26
9	113	233	73	75	46	51	1.4	220	242	152	102	20
10	113	132	73	75	46	51	1.5	172	242	152	102	15
11	99	130	72	75	46	52	1.5	174	242	134	102	15
12	92	148	72	75	46	53	1.5	174	242	121	100	12
13	93	180	59	74	46	54	1.5	267	242	86	100	9.2
14	93	190	50	74	46	124	1.5	312	242	79	100	14
15	93	186	35	73	46	170	1.5	315	258	87	100	17
16	92	174	25	73	46	258	1.5	285	265	91	100	17
17	92	124	25	73	46	308	1.5	270	275	99	100	16
18	93	92	25	73	21	305	1.5	270	282	102	100	16
19	92	117	25	57	1.2	302	1.5	270	298	100	100	16
20	193	132	25	47	1.2	298	1.5	256	305	100	100	15
21	242	132	25	47	28	218	1.5	252	330	100	100	15
22	300	217	25	47	44	170	1.5	252	342	115	99	14
23	335	278	25	47	44	170	1.6	234	342	123	95	14
24	335	186	25	47	44	172	1.6	222	342	123	89	14
25	332	112	25	47	44	206	1.6	210	342	119	89	12
26	328	111	25	47	44	222	1.6	202	342	116	89	12
27	335	109	25	47	44	224	106	190	378	109	87	11
28	332	108	25	47	44	252	176	184	393	103	87	10
29	292	59	25	47	-----	265	230	184	393	103	80	9.6
30	270	24	25	47	-----	268	262	167	369	103	76	9.2
31	270	-----	36	47	-----	183	-----	159	-----	103	57	-----
Total	6,280	5,183	1,274	1,840	1,076.4	4,774	860.7	7,553	3,292	4,683	4,218	541.0
Mean	203	173	41.1	59.4	38.4	154	28.7	244	276	151	136	18.0
Ac-ft	12,460	10,280	2,530	3,650	2,140	9,470	1,710	14,980	16,450	9,300	8,370	1,070

Calendar year 1965: Max 1,050 Min 24 Mean 293 Ac-ft 212,100

Water year 1965-66: Max 405 Min 1.1 Mean 128 Ac-ft 92,410

10-3460. Truckee River at Farad, Calif.

Location.--Lat 39°25'41", long 120°01'59", in NE¼ sec.12, T.18 N., R.17 E., on left bank half a mile upstream from Mystic Canyon, 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 1966. 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.--Digital 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 present location at different datum. June 1, 1909, to July 31, 1912, staff gage at site about 2½ miles downstream at different datum. Aug. 1, 1912, to Dec. 31, 1937, graphic water-stage recorder at site 4.1 miles upstream at different datum. Jan. 1, 1938, to Aug. 27, 1957, graphic water-stage recorder at approximately present location at different datum. Aug. 28, 1957, to July 24, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--67 years (1899-1966), 779 cfs (564,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,110 cfs Dec. 6, 8 (gage height, 4.74 ft); minimum, 98 cfs Feb. 4, result of upstream regulation.

1899-1966: Maximum discharge, 17,500 cfs Nov. 21, 1950, (gage height, 14.5 ft, present datum, from floodmarks), from slope-area measurement of peak flow; minimum, 28 cfs Dec. 18, 1930.

Remarks.--Records good. Flow regulated by Lake Tahoe, Prosser Creek and Boca Reservoirs, Donner and Independence Lakes, and by several powerplants. Records of chemical analyses and water temperature for the water year 1966 are published in Part 2 of this report for Truckee River at Floriston, California. No appreciable inflow between sampling point and gaging station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	606	453	2,000	837	307	432	868	949	546	629	551	497
2	614	447	2,020	855	304	434	892	1,000	541	627	584	508
3	608	432	2,020	821	377	429	886	1,090	526	624	725	514
4	607	426	2,040	704	384	426	828	1,130	514	590	857	512
5	602	420	2,060	737	429	430	784	1,180	510	565	798	516
6	595	416	2,070	929	434	430	768	1,170	513	572	764	542
7	589	417	2,070	1,280	430	445	773	1,180	510	557	761	478
8	555	430	2,060	1,290	432	455	784	1,240	516	577	700	466
9	523	429	1,700	1,300	429	470	773	1,150	540	575	572	474
10	524	320	1,420	1,300	398	530	773	1,150	530	573	550	477
11	510	318	1,010	1,300	388	565	696	1,080	530	555	533	473
12	499	326	784	1,310	385	430	641	956	519	555	530	459
13	492	361	717	1,320	376	540	570	1,010	508	558	528	522
14	491	427	694	1,340	374	636	551	1,080	500	537	528	541
15	518	431	670	1,330	369	680	561	1,040	513	542	527	516
16	566	404	661	1,310	394	718	595	1,000	520	547	528	473
17	555	453	609	1,300	311	778	674	957	515	557	528	490
18	546	658	555	1,140	242	762	662	902	510	559	531	495
19	550	583	564	763	198	751	538	857	513	558	529	505
20	575	561	561	727	364	724	517	884	515	558	528	505
21	595	543	562	718	393	614	535	905	514	556	527	500
22	602	589	563	709	422	515	523	898	525	566	526	495
23	628	1,050	556	702	430	520	511	818	518	573	523	495
24	612	1,100	565	710	430	545	546	777	512	572	514	500
25	595	1,080	581	692	424	614	585	741	510	568	512	500
26	581	1,380	573	656	426	680	643	738	503	566	511	500
27	573	1,550	579	489	423	718	720	704	519	559	511	490
28	567	1,600	585	413	425	800	744	686	530	553	509	500
29	516	1,700	591	319	-----	886	846	668	572	553	508	500
30	468	1,900	596	316	-----	922	923	616	663	559	505	475
31	461	-----	606	301	-----	910	-----	554	-----	559	499	-----
TOTAL	17,323	21,204	32,642	27,918	10,698	18,789	20,720	29,110	15,755	17,599	17,797	14,918
MEAN	559	707	1,053	901	382	606	691	939	525	568	574	497
AC-FT	34,360	42,060	64,740	55,370	21,220	37,270	41,100	57,740	31,250	34,910	35,300	29,590

CALENDAR YEAR 1965 MAX 3,130 MIN 318 MEAN 935 AC-FT 141,200  
 WATER YEAR 1965-66 MAX 2,070 MIN 198 MEAN 670 AC-FT 484,900

Peak discharge (base, 1,600 cfs).-- December 6 (1930) 2,110 cfs (4.74 ft).

10-3480. Truckee River at Reno, Nev.

Location.--Lat 39°31'55", long 119°47'05", in NW¼ sec.7, T.19 N., R.20 E., on left bank 400 ft downstream from Kietzke Lane bridge, half a mile downstream from Scott Island, ½ miles east of Reno Post Office, 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 1966. Monthly discharge only for some periods, published in WSP 1314 and 1734.

Gage.--Digital 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. Jan. 1, 1947, to Feb. 11, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--40 years (1906-21, 1925-26, 1930-34, 1946-66), 646 cfs (467,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,940 cfs Dec. 6 (gage height, 5.14 ft); minimum, 95 cfs June 17.

1906-21, 1925-26, 1930-35, 1943, 1946-66: Maximum discharge, 20,800 cfs Dec. 23, 1955; maximum gage height, 13.83 ft Nov. 21, 1950; no flow Sept. 12, 14-24, 26-30, 1926.

Remarks.--Records excellent. Flow regulated by Lake Tahoe, Prosser Creek and Boca Reservoirs, Donner and Independence Lakes, and by several powerplants. Many diversions above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	366	366	1,890	764	286	407	782	634	261	278	189	167
2	384	380	1,890	867	290	415	800	676	264	281	201	166
3	393	375	1,880	860	320	407	788	807	242	282	378	181
4	388	375	1,880	716	381	405	716	839	213	273	494	180
5	402	380	1,900	722	410	414	664	886	209	218	451	177
6	406	366	1,900	821	445	416	640	880	226	246	404	193
7	393	366	1,900	1,290	433	429	622	883	233	234	397	205
8	384	370	1,900	1,300	442	446	631	941	202	221	385	146
9	326	398	1,610	1,300	450	458	629	917	235	222	264	126
10	322	306	1,360	1,290	426	514	648	899	221	219	203	148
11	322	254	1,000	1,290	401	581	554	848	220	216	192	149
12	314	246	782	1,290	410	495	448	690	212	207	179	132
13	352	282	698	1,290	400	515	366	695	196	227	170	189
14	326	357	658	1,300	405	630	295	808	182	199	176	245
15	330	420	636	1,290	413	710	267	762	180	193	182	241
16	380	375	620	1,290	401	704	269	729	205	198	172	202
17	384	398	620	1,280	360	794	345	663	190	202	176	187
18	366	636	542	1,220	250	794	395	618	209	203	175	229
19	370	586	526	738	193	782	288	562	176	208	179	257
20	375	526	532	693	283	740	231	585	194	202	174	259
21	429	480	526	685	351	680	246	602	197	196	181	239
22	416	460	500	671	404	520	233	588	202	197	176	229
23	456	888	495	664	410	520	201	537	192	213	183	218
24	442	1,070	500	680	414	542	215	469	188	210	182	218
25	465	1,030	532	675	402	564	261	431	180	202	176	210
26	475	1,310	520	678	410	652	317	403	177	198	177	221
27	460	1,570	537	511	401	680	358	384	158	205	175	233
28	456	1,570	537	420	401	722	434	367	189	206	181	226
29	442	1,700	570	335	-----	812	478	376	206	185	175	225
30	362	1,830	548	291	-----	842	613	360	302	197	197	216
31	352	-----	554	285	-----	842	-----	298	-----	208	183	-----
TOTAL	12,038	19,670	30,543	27,506	10,592	18,432	13,734	20,137	6,261	6,747	7,127	6,044
MEAN	388	656	985	887	378	595	458	650	209	218	230	201
AC-FT	23,880	39,010	60,580	54,560	21,010	36,560	27,240	39,940	12,420	13,380	14,140	11,990

CALENDAR YEAR 1965 MAX 2,970 MIN 177 MEAN 824 AC-FT 596,300  
 WATER YEAR 1965-66 MAX 1,900 MIN 136 MEAN 490 AC-FT 354,700

Peak discharge (base, 1,600 cfs).--December 6 (2230) 1,940 cfs (5.14 ft).



10-3547. Mill Creek at Milford, Calif.

Location.--Lat 40°10'15", long 120°22'14", in SE 1/4 sec. 26, T.27 N., R.14 E., on left bank 20 ft upstream from culvert on U.S. Highway 395 in Milford.

Drainage area.--2.26 sq mi.

Records available.--August 1963 to September 1966.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 4,200 ft (from topographic map).

Extremes.--Maximum discharge during year, 2.5 cfs Dec. 30 (gage height, 2.35 ft); no flow Aug. 28.

1963-66: Maximum discharge, 23 cfs Jan. 5, 1965 (gage height, 3.59 ft, from crest stage-gage), from rating curve extended above 3 cfs on basis of computation of maximum flow through culvert; no flow Aug. 23, 1964, Aug. 28, 1966.

Remarks.--Records fair. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.80	0.90	0.90	1.1	0.90	0.80	1.4	0.30	0.60	0.60	0.60	0.50
2	.70	.90	.90	1.1	.90	.80	1.5	.80	.60	.50	.50	.60
3	.10	.90	.90	1.1	.80	.80	1.2	.70	.60	.20	.40	.40
4	.80	.90	.90	1.1	.80	.80	1.2	.70	.50	.70	.50	.20
5	.80	.90	.90	1.1	.80	.80	1.2	.80	.20	.70	.40	.60
6	.80	.90	.90	1.1	.80	.80	1.2	.60	.60	.70	.40	.60
7	.80	.90	1.0	1.1	.80	.80	1.2	.50	.60	.70	1.0	.60
8	.80	1.0	1.0	1.1	.80	.80	1.2	.20	.60	.70	.60	.60
9	.60	1.1	1.1	1.1	.80	.80	1.0	.60	.60	.60	.50	.70
10	.20	1.0	1.1	1.1	.80	.70	.60	.60	.60	.20	.40	.50
11	.80	1.1	1.1	1.0	.80	.70	.90	.60	.50	.80	.40	1.0
12	.80	1.1	1.1	1.0	.80	.70	.90	.60	.20	.80	.40	.60
13	.80	1.1	1.1	.90	.80	.80	1.0	.60	.70	.70	.30	.60
14	.80	1.1	1.1	.90	.80	.70	1.0	.50	.50	.70	.20	.60
15	.80	.90	1.1	.90	.80	.60	1.0	.20	.60	.60	.50	.70
16	.80	.90	1.1	.90	.80	.60	.80	.60	.60	.50	.40	.80
17	.80	1.1	1.1	.90	.80	.60	.30	.60	.60	1.0	.50	.60
18	.80	1.2	1.1	.90	.80	.90	.90	.60	.40	.50	.50	.20
19	.80	1.1	1.1	.90	.80	1.1	.90	.60	.20	.50	.50	.80
20	.80	1.1	1.1	.90	.80	1.1	1.0	.60	.70	.50	.40	.80
21	.80	1.1	1.1	.90	.80	1.1	1.0	.40	.60	.60	.20	.70
22	.80	1.1	1.1	.90	.80	1.1	1.0	.20	.80	.60	.60	.70
23	.80	1.1	1.1	.90	.80	1.1	.80	.60	.70	.50	.60	.60
24	.80	1.4	1.1	.90	.80	1.1	.30	.60	.70	1.0	.60	.40
25	.80	1.1	1.1	.90	.80	1.2	1.1	.60	.50	.50	.60	.20
26	.80	1.0	1.1	.90	.80	1.2	1.2	.60	.20	.50	.70	.60
27	.80	1.0	1.1	.90	.80	1.2	1.2	.60	.70	.50	.40	.50
28	.80	1.0	1.3	.90	.80	1.3	1.3	.50	.70	.50	0	.50
29	.80	1.0	1.3	.90	-----	1.4	1.4	.20	.70	.50	.30	.60
30	.90	1.0	1.2	.90	-----	1.4	.90	.60	.60	.20	.40	.60
31	.90	-----	1.2	.90	-----	1.4	-----	.60	-----	.20	.50	-----
Total	23.40	30.90	33.30	30.10	22.60	29.20	30.40	16.80	16.70	16.00	13.40	16.50
Mean	0.75	1.03	1.07	0.97	0.81	0.94	1.01	0.54	0.56	0.52	0.43	0.55
Ac-ft	46	61	66	60	45	58	60	33	33	32	27	33
(†)	0	1.88	- - -	- - -	0.11	1.17	- - -	- - -	0	0	0.35	0

Calendar year 1965 Max 1.0 Min 0.1 Mean 1.52 Ac-ft 1100

Water year 1965-66 Max 1.4 Min 0 Mean 0.765 Ac-ft 554

† Precipitation, in inches (some precipitation falling as snow may not be included).

## HONEY LAKE BASIN

10-3565. Susan River at Susanville, Calif.

Location (revised).--Lat 40°25'05", long 120°40'15", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  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.--184 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 1966. 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.--22 years (1900-1901, 1903-5, 1917-20, 1950-66), 93.1 cfs (67,400 acre-ft per year).

Extremes.--Maximum discharge during year, 318 cfs Mar. 13 (gage height, 3.54 ft); minimum daily, 0.8 cfs July 27, 28.

1900-05, 1913, 1917-21, 1950-66: Maximum discharge, 5,100 cfs Dec. 22, 1964 (gage height, 7.30 ft), from rating curve extended above 1,440 cfs on basis of slope-area measurement at gage height 6.62 ft; no flow Aug. 15, 1961.

Remarks.--Records good. Flow regulated by McCoy Flat Reservoir, Hog Flat Reservoir, and Lake Levitt (combined usable capacity, 39,300 acre-ft). Diversions for irrigation of about 1,400 acres above station. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3	9.8	2.0	1.7	1.9	2.8	2.00	7.8	1.76	1.8	1.1	1.8
2	8.5	9.8	1.8	1.9	1.9	2.6	2.06	7.6	1.90	1.3	1.0	1.8
3	8.5	9.8	1.8	1.9	1.9	2.8	1.78	7.6	1.72	1.0	1.2	1.8
4	8.5	1.0	1.8	2.0	2.0	2.8	1.60	8.1	1.60	7.7	1.1	2.0
5	8.5	1.0	1.9	2.4	2.2	2.4	1.56	9.0	1.58	7.3	1.0	2.2
6	8.8	1.0	1.9	3.9	2.4	3.3	1.62	8.2	1.56	6.9	1.0	2.0
7	8.8	1.0	1.8	4.0	2.0	5.9	1.66	7.5	1.58	4.4	1.0	2.2
8	9.0	1.2	1.8	4.4	2.1	6.3	1.60	7.4	1.54	2.6	1.0	2.3
9	9.0	1.2	1.6	4.3	2.2	7.9	1.54	7.4	1.44	2.8	1.0	1.8
10	9.0	1.2	1.6	3.7	2.0	11.8	1.94	8.0	1.44	3.0	1.0	2.3
11	9.2	1.1	1.6	3.1	2.1	9.6	1.78	6.8	1.42	2.9	9.0	2.2
12	9.2	1.2	1.6	3.5	2.2	9.7	1.74	6.1	1.42	2.4	1.0	2.0
13	9.2	1.4	1.6	2.8	2.2	2.52	1.44	5.8	1.42	2.3	1.2	2.5
14	9.5	2.4	1.2	2.6	2.2	1.66	1.33	5.5	1.42	2.0	1.1	3.2
15	1.0	2.4	1.6	2.6	2.2	1.23	1.32	5.3	1.41	1.9	1.1	2.6
16	9.8	1.8	1.6	2.4	2.2	9.4	1.37	4.7	1.41	1.8	1.1	3.4
17	9.8	3.8	1.6	2.4	2.2	7.4	1.54	4.4	1.39	1.7	1.2	3.0
18	1.0	9.6	1.6	2.4	2.4	7.6	1.44	7.5	1.39	1.7	1.3	4.4
19	1.0	4.4	1.6	2.4	2.2	8.6	1.20	1.37	1.35	1.6	1.7	4.0
20	1.0	2.8	1.6	2.4	2.2	7.4	1.09	1.82	1.35	1.9	1.6	3.6
21	1.0	2.4	1.6	2.4	2.4	7.0	1.02	1.82	1.35	2.3	1.7	3.9
22	1.0	1.9	1.6	2.4	2.6	6.7	9.7	1.82	1.33	2.3	1.8	3.2
23	1.0	2.0	1.6	2.2	3.6	6.3	9.4	1.76	1.30	2.5	1.8	2.3
24	1.0	2.5	1.6	2.1	3.9	6.7	9.4	1.72	1.25	2.4	1.5	2.3
25	1.0	2.4	1.7	2.0	2.9	7.6	9.7	1.68	1.20	1.7	1.5	2.3
26	1.0	2.2	1.7	2.0	2.6	9.2	9.9	1.62	1.17	9.0	1.8	2.3
27	9.8	2.2	1.8	2.0	2.6	1.08	9.1	1.68	1.11	8.0	2.3	3.2
28	9.5	1.9	1.8	2.0	2.8	1.25	8.6	1.68	1.04	8.0	2.2	2.9
29	9.5	2.4	1.9	2.0		1.46	8.1	1.68	9.1	9.0	1.7	2.8
30	9.5	2.0	1.9	2.0	-----	1.62	7.8	1.66	4.9	1.0	1.6	2.8
31	9.8	-----	1.8	1.9	-----	1.84	-----	1.62	-----	1.4	1.9	-----
Total	291.7	633.4	52.6	79.8	66.1	2,78.4	4,08.0	3,44.0	4,12.5	11,29.0	42,4.0	79.1
Mean	9.41	21.1	17.0	25.7	23.6	89.8	13.6	11.1	13.8	3.64	1.37	2.64
Ac-ft	579	1,260	1,040	1,580	1,310	5,520	8,090	6,820	8,180	2,24	84	157

Calendar year 1965: Max 640 Min 7.9 Mean 11.6 Ac-ft 83,800

Water year 1965-66: Max 25.2 Min 0.8 Mean 48.1 Ac-ft 34,860

10-3584.7. Willow Creek tributary near Susanville, Calif.

Location.--Lat 40°29'48", long 120°33'30", in SW $\frac{1}{4}$  sec.31, T.31 N., R.13 E., on left bank at culvert on State Highway No. 139 and 7.5 miles northeast of Susanville.

Drainage area.--3.08 sq mi.

Records available.--Water years 1963-65 (annual maximum), October 1965 to September 1966.

Gage.--Water-stage recorder with recording rain gage attachment and crest-stage gages. Altitude of gage is 4,890 ft (from topographic map). July 16, 1962, to Aug. 30, 1965, crest-stage gages at same site and datum.

Extremes.--Maximum discharge during year, 20 cfs Mar. 13 (gage height, 3.07 ft); no flow for several months.  
1962-66: Maximum discharge, 97 cfs Feb. 1, 1963 (gage height, 4.90 ft).

Remarks.--Records fair. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0		0	0	0	0.50					
2		0		0	0	0	.40					
3		0		0	0	0	.40					
4		0		0	0	0	.30					
5		0		0	0	.20	.20					
6		0		.10	.10	.40	.20					
7		0		0	0	.80	.20					
8		0		0	0	1.4	.20					
9		0		0	0	1.6	.20					
10		0		0	0	3.3	.30					
11		0		0	0	2.3	.30					
12		0		0	0	3.5	.20					
13		0		0	0	1.0	.10					
14		0		0	0	3.8	.10					
15		0		0	0	1.4	.10					
16		0		0	0	.80	0					
17		.10		0	0	.50	.10					
18		.10		0	0	.80	.10					
19		0		0	0	.70	0					
20		0		0	.10	.50	0					
21		0		0	.10	.50	0					
22		0		0	.20	.40	0					
23		0		0	.30	.40	0					
24		0		0	0	.50	0					
25		0		0	0	.50	0					
26		0		0	0	.70	0					
27		0		0	.10	.70	0					
28		0		0	0	.70	0					
29		0		0	-----	.60	0					
30		0		0	-----	.60	0					
31		-----		0	-----	.60	-----					
Total	0	0.20	0	0.10	0.90	38.20	3.90	0	0	0	0	0
Mean	0	0.007	0	0.003	0.03	1.23	0.13	0	0	0	0	0
Ac-ft	0	0.4	0	0.2	1.6	7.6	7.7	0	0	0	0	0
(†)	0.05	2.60	0.52	0.69	0.44	0.50	0.26	0.28	0.08	0	0.41	0

Calendar year 1965 Max --- Min --- Mean --- Ac-ft ---  
 Water year 1965-66 Max 10 Min 0 Mean 0.118 Ac-ft 86

† Precipitation, in inches (some precipitation falling as snow may not be included).

## HONEY LAKE BASIN

10-3585. Willow Creek near Susanville, Calif.

Location (revised).--Lat 40°29'20", long 120°32'10", in SW 1/4 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.--90.0 sq mi, excludes that of Eagle Lake basin.

Records available.--October 1950 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 4,836.27 ft above mean sea level, unadjusted. Prior to June 24, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 31.2 cfs (22,590 acre-ft per year).

Extremes.--Maximum discharge during year, 120 cfs Mar. 10 (gage height, 3.38 ft), minimum daily, 9.2 cfs Aug. 19.

1950-66: Maximum discharge, 816 cfs Feb. 1, 1963 (gage height, 5.59 ft), from rating curve extended above 540 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 an abandoned tunnel.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	26	31	12	28	50	18	16	11	9.6	12	9.6
2	25	26	29	12	28	42	18	14	11	9.6	12	9.6
3	24	26	29	12	28	39	17	12	11	9.6	12	9.6
4	22	26	29	12	30	38	16	11	11	9.6	11	9.6
5	21	26	29	13	34	40	16	10	11	9.6	11	9.6
6	21	26	29	21	37	53	15	10	11	9.6	11	9.6
7	23	26	29	42	33	87	15	10	11	9.7	11	9.6
8	24	26	29	47	32	100	16	10	11	9.9	11	9.7
9	23	26	29	39	32	97	16	11	11	10	11	9.7
10	23	26	29	32	31	102	17	10	11	10	11	9.7
11	23	26	29	28	30	93	17	10	11	10	10	9.8
12	23	26	29	29	30	87	18	11	11	11	10	9.8
13	24	26	29	31	28	108	18	11	10	11	9.8	9.8
14	24	27	28	30	29	95	18	11	10	11	9.9	10
15	25	27	27	31	28	83	18	11	10	11	9.9	10
16	24	27	26	29	29	76	19	11	10	11	9.7	10
17	25	29	26	28	29	71	19	11	9.9	11	9.9	10
18	25	31	26	27	29	69	20	11	9.7	11	9.3	10
19	25	31	25	26	29	64	19	11	9.6	11	9.2	10
20	26	31	24	25	29	65	18	11	9.4	11	9.3	11
21	26	32	24	25	33	61	18	11	9.4	11	9.3	11
22	25	32	25	25	45	51	18	11	9.4	11	9.3	11
23	25	32	24	26	68	47	18	11	9.6	11	9.3	11
24	25	30	24	26	77	45	18	11	9.6	11	9.3	11
25	26	29	24	26	63	43	18	11	9.6	11	9.3	11
26	26	29	24	27	50	42	18	11	9.7	11	9.3	11
27	26	32	22	26	48	40	17	11	9.6	11	9.5	11
28	26	32	13	26	49	37	16	11	9.6	12	9.5	11
29	26	31	14	27	-----	24	16	11	9.6	12	9.5	11
30	26	29	13	28	-----	20	16	11	9.6	12	9.5	11
31	26	-----	12	27	-----	19	-----	11	-----	12	9.6	-----
TOTAL	753	849	780	815	1,036	1,889	521	344	306.3	331.2	313.4	306.7
MEAN	24.3	28.3	25.2	26.3	37.0	60.9	17.4	11.1	10.2	10.7	10.1	10.2
AC-FT	1,490	1,680	1,550	1,620	2,050	3,750	1,030	682	608	657	622	608

CALENDAR YEAR 1965 MAX 366 MIN 11 MEAN 41.5 AC-FT 30,020  
 WATER YEAR 1965-66 MAX 108 MIN 9.2 MEAN 22.6 AC-FT 16,350

Peak discharge (base, 200 cfs).--No peak above base.

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.

Extremes.—Maximum discharge during year, 342 cfs Apr. 7 (gauge height, 4.02 ft); no flow for several months.  
1960-66: Maximum discharge, 806 cfs Feb. 1, 1963 (gauge height, 5.37 ft); no flow for several months in each year.

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

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	170	15				
2						0	159	12				
3						0	117	11				
4						0	70	9.9				
5						0	78	9.9				
6						0	213	10				
7						0	317	10				
8						0	264	12				
9						0	238	12				
10						0	254	12				
11						0	270	12				
12						0	249	12				
13						0	193	11				
14						0	131	9.5				
15						0	102	6.5				
16						0	88	5.2				
17						0	76	3.3				
18						0	72	2.2				
19						0	62	1.3				
20						0	48	.80				
21						0	37	.30				
22						2.5	31	0				
23						2.9	27	0				
24						5.4	22	0				
25						33	20	0				
26						142	19	0				
27						165	20	0				
28						148	21	0				
29					-----	171	18	0				
30					-----	183	16	0				
31		-----			-----	181	-----	0	-----			-----
Total	0	0	0	0	0	1,033.8	3,402	177.90	0	0	0	0
Mean	0	0	0	0	0	33.3	113	5.74	0	0	0	0
Ac-ft	0	0	0	0	0	2,050	6,750	353	0	0	0	0

Calendar year 1965	Max	579	Min	0	Mean	42.8	Ac-ft	31000
Water year 1965-66	Max	317	Min	0	Mean	12.6	Ac-ft	9150

## SURPRISE VALLEY BASIN

10-3602.3. Eagle Creek at Eagleville, Calif.

Location.--Lat 41°18'45", long 120°07'26", (revised) in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.23, T.40 N., R.16 E., on left bank 0.6 mile southwest of Eagleville. Prior to September 1964 at site 500 ft upstream.

Drainage area.--6.36 sq mi. (revised).

Records available.--October 1961 to September 1964, October 1965 to September 1966.

Gage.--Graphic water-stage recorder. Altitude of gage is about 4,700 ft (from topographic map). Graphic water-stage recorder October 1961 to September 1964 at site 500 ft upstream at different datum. Digital water-stage recorder Oct. 1, 1965, to Mar. 31, 1966, at present site and datum.

Extremes.--Maximum discharge during year, 19 cfs May 8 (gage height, 2.26 ft); no flow Feb. 6.

1961-64, 1965-66: Maximum daily discharge, 60 cfs Feb. 1, 1963; minimum, that of Feb. 6, 1966.

Flood of Dec. 23, 1964, reached a stage of 4.50 ft, from floodmarks, site and datum then in use, (discharge, 800 cfs).

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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	2.1	2.0	0.70	0.20	0.40	7.4	1.1	1.2	4.6	2.0	.90
2	3.2	2.1	1.3	.60	.30	.30	7.3	1.2	1.0	5.0	2.1	.90
3	3.0	2.1	0.90	.80	.40	.40	6.3	1.4	9.4	4.1	1.9	.90
4	3.0	2.2	1.2	1.0	.50	.50	6.4	1.5	8.6	3.9	1.6	.80
5	3.0	2.4	2.2	1.3	.20	.70	6.9	1.5	8.0	3.7	1.6	.80
6	3.0	2.2	2.2	2.2	0	.70	7.8	1.6	8.2	3.6	1.3	.70
7	2.8	2.1	2.4	2.3	.20	1.6	8.6	1.6	8.2	3.3	1.2	.60
8	2.8	2.2	2.2	2.0	.20	1.7	8.4	1.7	7.9	3.1	1.2	.60
9	2.8	2.1	2.2	1.9	.20	1.7	7.8	1.8	8.3	3.5	1.3	.60
10	2.6	2.1	2.2	1.8	.40	1.7	7.6	1.8	9.1	2.6	1.2	.60
11	2.6	2.4	2.1	1.5	.50	1.7	6.6	1.8	9.2	2.8	1.2	.70
12	2.8	2.8	1.9	1.0	.30	2.1	5.7	1.6	9.1	2.6	1.2	.70
13	2.8	3.0	1.6	.60	.30	2.8	5.4	1.7	8.9	2.5	1.2	.70
14	3.4	2.8	1.4	.40	.30	2.4	6.1	1.6	9.0	2.4	1.2	.80
15	3.2	2.6	1.2	.20	.30	2.4	7.3	1.5	8.8	2.3	1.2	.80
16	3.0	2.8	1.1	1.0	.30	2.3	8.7	1.5	8.7	2.2	1.1	.70
17	3.0	3.7	1.0	1.0	.30	2.2	8.2	1.5	8.0	2.1	1.1	.50
18	3.2	3.9	1.0	1.0	.30	2.1	7.6	1.5	7.8	2.1	.90	.90
19	2.8	2.8	1.1	1.0	.30	1.9	7.4	1.5	7.4	2.2	1.6	1.0
20	2.6	2.4	1.3	1.0	.30	3.4	5.7	1.6	7.2	2.1	1.6	.90
21	2.6	2.4	1.0	1.0	.30	3.7	5.9	1.8	6.6	2.1	1.0	.70
22	2.6	2.4	.90	1.0	.30	5.0	5.7	1.7	6.1	1.9	.90	.70
23	2.4	2.6	.80	1.0	.30	4.7	6.4	1.5	5.9	1.9	.80	.70
24	2.2	2.8	.70	1.0	1.1	4.4	7.4	1.5	5.1	1.8	.80	.70
25	2.2	2.6	.70	1.0	1.0	3.9	8.8	1.5	5.0	1.8	.80	.80
26	2.1	2.4	.70	1.0	.90	4.7	9.4	1.7	4.7	1.8	.90	.90
27	2.2	2.1	.80	1.0	.80	5.0	8.7	1.8	4.7	1.7	.90	.90
28	2.2	1.8	1.0	1.0	.60	5.0	9.2	1.6	4.5	1.9	.80	1.0
29	2.2	1.6	1.0	1.0	-----	5.3	9.2	1.7	4.3	2.0	.80	.90
30	2.2	1.8	1.0	1.0	-----	6.2	9.8	1.5	4.2	2.2	1.0	.90
31	2.1	-----	.80	.20	-----	5.6	-----	1.3	-----	2.3	1.0	-----
Total	83.8	73.3	41.90	20.00	11.10	86.50	223.7	486	224.9	82.1	37.40	23.30
Mean	2.70	2.44	1.35	0.65	0.40	2.79	7.46	15.7	7.50	2.65	1.21	0.78
Ac-ft	166	145	83	40	22	172	444	964	446	163	74	46

Calendar year 1965 Max 18 Min 0 Mean 3.82 Ac-ft 2,760

Water year 1965-66 Max 18 Min 0 Mean 3.82 Ac-ft 2,760

10-3609. Bidwell Creek below Mill 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 0.9 mile downstream from Mill Creek and 2.0 miles northwest of Fort Bidwell.

Drainage area.--25.6 sq mi.

Records available.--October 1960 to September 1966. Prior to October 1961, published as Bidwell Creek near Fort Bidwell, Calif.

Gage.--Graphic water-stage recorder. Altitude of gage is 5,000 ft (from topographic map). Oct. 1, 1965, to Mar. 31, 1966, digital water-stage recorder at same site and datum.

Average discharge.--6 years, 19.8 cfs (14,330 acre-ft per year).

Extremes.--Maximum discharge during year, 69 cfs Apr. 1 (gage height, 3.66 ft); minimum daily, 2.8 cfs Sept. 3-10, 23, 24, 29, 30.  
1960-66: Maximum discharge, 682 cfs Dec. 24, 1964 (gage height, 5.64 ft), from rating curve extended above 70 cfs on basis of slope-area measurement of maximum flow; 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	4.8	8.5	3.5	5.6	5.6	50	27	19	8.7	4.3	3.1
2	5.2	4.8	8.5	3.5	5.8	5.4	52	29	17	9.8	4.3	3.0
3	5.2	4.8	8.5	3.5	6.0	5.6	43	32	17	8.8	4.2	2.8
4	5.0	5.0	7.6	3.6	6.1	5.6	37	40	16	8.2	3.8	2.8
5	5.4	5.0	6.6	4.5	5.9	5.6	34	45	15	7.9	3.4	2.8
6	5.0	5.0	6.6	6.3	5.6	5.9	42	48	15	7.7	3.4	2.8
7	4.6	4.8	6.6	8.2	5.6	5.9	47	47	15	7.5	3.3	2.8
8	4.4	5.4	6.3	6.8	5.4	6.1	48	44	15	7.6	3.3	2.8
9	4.4	5.0	6.3	6.3	5.2	6.3	50	46	17	7.8	3.4	2.8
10	4.6	5.0	5.9	6.3	5.0	7.1	50	46	16	7.5	3.4	2.8
11	4.4	5.9	5.6	5.9	4.8	7.4	42	42	15	7.1	3.4	3.0
12	4.4	7.4	5.6	5.6	4.7	9.1	35	36	15	6.8	3.3	3.1
13	4.4	7.1	5.0	5.6	4.6	15	29	34	14	6.6	3.3	3.1
14	5.0	9.4	4.6	5.6	4.6	14	30	32	13	6.1	3.3	6.1
15	5.6	7.1	4.3	5.6	4.6	13	33	30	14	6.0	3.1	4.2
16	5.4	6.6	4.2	5.6	4.7	10	45	26	13	5.6	3.0	3.6
17	5.6	7.9	4.1	5.5	4.8	8.8	48	25	13	5.5	3.1	3.3
18	5.4	8.8	4.0	5.4	5.0	7.9	43	25	12	5.3	3.8	4.0
19	5.2	6.8	3.9	5.4	5.2	8.2	36	24	12	5.2	3.6	3.4
20	5.0	6.3	4.0	5.4	5.4	8.2	29	23	12	5.2	3.3	3.3
21	4.8	5.9	4.2	5.4	5.6	7.4	25	25	12	5.0	3.1	3.0
22	4.8	5.6	4.0	5.4	5.6	7.9	23	26	12	4.9	3.3	3.0
23	4.4	5.9	3.9	5.4	5.9	8.2	25	24	12	4.7	3.1	2.8
24	4.6	5.9	3.8	5.4	5.6	8.8	25	21	11	4.4	3.1	2.8
25	4.4	6.1	3.7	5.4	5.4	12	32	20	10	4.4	3.1	3.0
26	4.4	5.6	3.7	5.4	5.4	15	33	20	9.7	4.3	3.4	3.0
27	4.6	6.3	3.8	5.4	5.2	17	30	20	9.2	4.1	3.4	3.1
28	5.0	7.9	3.9	5.4	5.4	22	29	18	8.8	4.4	3.1	3.1
29	5.0	8.5	3.8	5.4	-----	26	28	20	8.4	4.2	3.1	2.8
30	4.8	8.5	3.7	5.4	-----	33	28	21	8.3	4.3	3.3	2.8
31	4.8	-----	3.6	5.5	-----	33	-----	19	-----	4.3	3.3	-----
Total	151.2	189.1	158.8	167.6	148.7	351.0	1101	935	396.4	189.9	105.3	95.0
Mean	4.88	6.30	5.12	5.25	5.31	11.3	36.7	30.2	13.2	6.13	3.40	3.17
Ac-ft	300	375	315	323	295	696	2180	1850	786	377	209	188
Calendar year 1965	Max	211	Min	3.6	Mean	31.3	Ac-ft	22680				
Water year 1965-66	Max	52	Min	2.8	Mean	10.9	Ac-ft	7910				

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

Location.--Lat 36°22'20", long 118°17'15", in NW 1/4 sec. 10, T.18 S., R.34 E., on right bank 0.5 mile upstream from Tunnel Ranger Station and 15 miles west of Cartago.

Drainage area.--23.6 sq mi.

Records available.--October 1956 to September 1966.

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

Average discharge.--10 years, 13.8 cfs (9,990 acre-ft per year).

Extremes.--Maximum discharge during year, 51 cfs Aug. 3 (gage height, 2.86 ft); maximum gage height, 3.84 ft Dec. 18 (backwater from ice); minimum daily discharge, 8.7 cfs, many days.

1956-66: Maximum discharge, 182 cfs May 31, 1958 (gage height, 4.05 ft); maximum gage height, 5.24 ft Feb. 12, 1959 (backwater from ice); minimum discharge, 0.2 cfs Feb. 11, 1959.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	12	10	10	10	21	27	15	11	10	9.0
2	11	11	12	10	11	10	22	26	15	10	12	9.0
3	11	11	12	11	10	9.5	24	26	15	10	16	9.0
4	11	12	12	11	10	10	24	26	15	10	13	9.0
5	11	12	12	11	10	9.7	28	26	14	10	11	9.0
6	11	12	12	11	11	9.7	32	26	14	10	9.7	9.0
7	11	11	12	11	11	9.7	32	25	16	10	9.5	9.0
8	11	11	12	11	10	10	32	25	15	10	9.5	8.7
9	11	11	12	11	10	10	31	24	15	12	9.2	8.7
10	11	11	12	11	10	10	28	26	14	11	9.2	8.7
11	11	11	12	11	10	10	26	24	14	10	9.2	8.7
12	11	11	12	11	10	10	26	22	14	10	9.2	8.7
13	11	12	12	11	11	11	27	22	13	9.7	9.2	8.7
14	11	12	11	11	11	11	29	21	13	9.7	9.2	8.7
15	11	12	11	11	10	11	31	21	14	9.7	9.2	8.7
16	11	12	11	11	10	11	34	21	14	9.7	9.5	8.7
17	11	12	11	12	10	11	33	20	14	9.7	9.2	8.7
18	11	12	11	11	10	11	29	20	13	9.7	9.7	9.2
19	11	12	11	11	10	12	26	20	13	9.7	9.2	9.5
20	11	12	11	11	10	12	25	20	13	10	9.2	9.5
21	11	12	11	11	10	12	25	20	12	9.7	9.2	9.2
22	11	13	11	11	10	12	26	19	12	9.7	9.0	9.0
23	11	11	11	11	10	12	27	19	12	10	9.0	9.0
24	11	11	11	11	10	12	29	18	12	10	8.7	9.0
25	11	11	11	11	10	12	32	18	11	9.7	8.7	9.0
26	11	11	11	10	10	13	31	17	11	9.7	8.7	9.0
27	11	11	11	10	10	14	30	17	11	9.7	8.7	9.0
28	11	12	11	10	10	15	29	17	11	9.7	8.7	9.0
29	11	13	8.7	10	-----	16	28	16	11	2.5	8.7	9.0
30	11	13	11	10	-----	17	28	16	11	11	8.7	9.0
31	11	-----	12	10	-----	19	-----	16	-----	10	9.0	-----
Total	341	349	352.7	334	285	362.6	845	661	397	310.6	299.0	268.4
Mean	11.0	11.6	11.4	10.8	10.2	11.7	28.2	21.3	13.2	10.0	9.65	8.95
Ac-ft	676	692	700	662	565	719	1680	1310	787	616	593	532

Calendar year 1965 Max 7.0 Min 7.0 Mean 16.0 Ac-ft 11550

Water year 1965-66 Max 3.4 Min 8.7 Mean 13.2 Ac-ft 9530

Peak discharge (base, 50 cfs).--Aug. 3 (1800 hrs) 51 cfs (2.86 ft).



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

Location.--Lat 36°08'05", long 118°25'45", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.32, T.20 S., 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 1966.

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

Average discharge.--6 years, 426 cfs (308,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,440 cfs May 19 (gage height, 5.10 ft); minimum daily, 122 cfs Sept. 28-30. 1960-66: Maximum discharge, 4,060 cfs June 18, 1963 (gage height, 7.98 ft); minimum, 61 cfs Jan. 20, 1962.

Remarks.--Records excellent. No regulation or diversion above station. Records of temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	212	165	279	237	199	199	583	920	693	497	261	148
2	206	165	273	232	189	194	658	1030	658	451	299	145
3	202	163	270	259	196	189	702	1080	631	414	372	141
4	199	163	267	242	194	194	740	1030	619	393	343	136
5	196	165	265	242	196	206	735	1080	627	379	325	133
6	194	165	262	232	212	202	740	1150	648	372	289	136
7	189	163	259	227	199	204	785	1260	702	358	267	133
8	187	163	256	227	196	212	810	1220	702	342	249	129
9	187	163	259	224	192	214	830	1090	635	348	234	127
10	184	161	256	224	206	232	760	952	607	332	222	127
11	182	161	248	222	182	251	684	870	623	302	211	127
12	182	163	250	219	199	262	635	830	666	286	203	127
13	180	172	248	219	194	270	603	880	745	277	197	129
14	180	219	232	222	189	285	595	953	790	270	192	129
15	182	216	224	222	189	285	599	993	750	264	192	129
16	184	262	212	216	184	294	648	1080	694	258	189	127
17	184	297	204	214	189	291	730	1170	716	252	186	124
18	187	285	209	212	189	300	693	1270	694	249	192	127
19	184	270	222	212	189	310	631	1340	735	246	189	136
20	182	253	227	206	189	313	579	1220	745	246	184	138
21	180	245	227	206	192	316	555	1090	684	252	178	133
22	177	256	219	206	196	322	535	1090	619	252	176	129
23	175	436	209	196	199	346	523	1110	563	249	171	127
24	172	419	216	199	199	352	547	1120	523	258	163	127
25	170	335	212	202	196	335	619	1150	503	258	160	124
26	170	325	206	204	196	335	735	1140	507	252	158	124
27	170	322	206	196	192	352	775	1070	519	246	155	124
28	170	300	204	192	196	380	805	1080	527	243	150	122
29	168	294	235	194	-----	416	800	952	519	240	148	122
30	165	288	229	196	-----	459	830	855	499	252	148	122
31	165	-----	245	192	-----	515	-----	760	-----	277	143	-----
Total	5,665	7,154	7,330	6,693	5,438	9,035	20,469	32,845	19,148	9,305	6,556	3,902
Mean	183	238	236	216	194	291	682	1,060	638	300	211	130
Ac-ft	11,240	14,190	14,540	13,280	10,790	17,920	40,600	65,150	37,980	18,460	13,000	7,740

Calendar year 1965 Max 2,710 Min 161 Mean 590 Ac-ft 427,300  
 Water year 1965-66 Max 1,340 Min 122 Mean 366 Ac-ft 264,900

Peak discharge (base, 1,300 cfs)--May 7 (0700 hrs) 1,340 cfs (4.96 ft); May 19 (0700 hrs) 1,440 cfs (5.10 ft).

## BUENA VISTA LAKE BASIN

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

Location.--Lat 36°08'05", long 118°26'10", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  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.

Records available.--August 1957 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,682 ft above mean sea level (river-profile survey).

Average discharge.--9 years, 91.8 cfs (66,460 acre-ft per year).

Extremes.--Maximum discharge during year, 484 cfs Nov. 23 (gage height, 3.33 ft); minimum daily, 8.0 cfs Sept. 8, 9.  
1957-66: Maximum discharge, 7,370 cfs Feb. 1, 1963 (gage height, 9.19 ft), from rating curve extended above 560 cfs on basis of slope-area measurement of maximum flow; minimum, 3.5 cfs Nov. 18, 1961.  
Flood of Dec. 23, 1955, reached a stage of 12.4 ft, from floodmarks (discharge not determined).

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	16	62	48	45	64	230	269	106	34	16	10
2	20	16	62	52	43	60	263	287	102	33	24	10
3	19	16	62	56	45	58	281	287	98	32	31	9.5
4	19	16	62	56	43	58	284	297	92	31	23	9.0
5	19	16	62	54	45	60	272	304	90	29	17	8.5
6	18	16	62	50	58	64	266	308	88	28	14	8.5
7	18	16	60	56	47	70	275	304	100	27	14	8.5
8	17	16	60	60	43	78	272	290	94	27	13	8.0
9	17	16	62	62	39	82	266	260	90	28	12	8.0
10	17	16	60	60	39	100	257	245	88	27	12	8.5
11	17	16	58	60	34	114	230	227	84	25	12	8.5
12	17	17	56	60	34	120	214	216	78	23	11	9.0
13	17	21	50	58	34	122	198	216	78	23	11	9.5
14	17	70	48	60	34	128	198	222	74	22	10	10
15	17	68	41	60	34	128	211	216	70	21	10	10
16	19	92	39	62	36	130	233	214	67	20	10	9.5
17	19	116	34	54	36	118	251	214	63	19	9.5	9.5
18	19	80	38	48	36	120	239	219	63	18	9.5	10
19	19	62	48	48	38	122	211	214	61	18	9.5	11
20	18	47	52	48	41	124	190	203	61	17	9.5	11
21	17	39	48	46	45	124	183	193	54	17	9.5	10
22	17	76	43	48	50	126	176	186	51	17	9.0	9.5
23	17	278	34	48	62	132	171	178	48	17	9.0	9.5
24	17	251	43	48	60	132	183	168	45	16	8.5	9.5
25	17	132	39	48	60	124	211	159	42	15	8.5	9.0
26	16	96	39	47	58	122	239	154	40	14	9.0	9.0
27	16	82	39	45	58	128	245	143	39	14	9.0	9.0
28	16	74	38	45	60	143	248	134	39	14	8.5	9.0
29	16	68	50	45	-----	164	245	124	37	14	8.5	9.0
30	16	64	76	45	-----	180	257	118	37	14	9.0	9.0
31	16	-----	64	45	-----	203	-----	110	-----	18	10	-----
Total	545	1909	1591	1622	1257	3498	6999	6679	2079	672	3765	2790
Mean	17.6	63.6	51.3	52.3	44.9	113	233	215	69.3	21.7	12.1	9.30
Ac-ft	1080	3790	3160	3220	2490	6940	13880	13250	4120	1330	747	553
Calendar year 1965	Max	605	Min	16	Mean	134	Ac-ft	96670				
Water year 1965-66	Max	308	Min	8.0	Mean	75.4	Ac-ft	54560				

Peak discharge (base, 400 cfs).--Nov. 23 (0130 hrs.) 484 cfs (3.33 ft).

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 1966 (discontinued as a continuous record station; converted to a crest-stage partial-record station).Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 3,600 ft (from topographic map).Average discharge.--7 years, 0.18 cfs (130 acre-ft per year).Extremes.--Maximum discharge during year, 3.4 cfs Nov. 24 (gage height, 3.97 ft); no flow most of year.

1959-66: Maximum discharge, 223 cfs Jan. 31, 1963 (gage height, 9.91 ft in gage well, 10.6 ft outside, from floodmarks), from rating curve extended above 19 cfs on basis of computation of flow through culvert and over highway of maximum flow; no flow for several months in each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0									
2		0	0									
3		0	0									
4		0	0									
5		0	0									
6		0	0									
7		0	0									
8		0	0									
9		0	0									
10		0	0									
11		0	0									
12		0	0									
13		0	0									
14		0	0									
15		0	0									
16		0	0									
17		.10	0									
18		.10	0									
19		.10	0									
20		0	0									
21		0	0									
22		0	0									
23		.10	0									
24		<u>1.5</u>	0									
25		.60	0									
26		.20	0									
27		.10	0									
28		.10	0									
29		0	.50									
30		0	0									
31		-----	0									
Total	0	2.90	0.50	0	0	0	0	0	0	0	0	0
Mean	0	0.10	0.02	0	0	0	0	0	0	0	0	0
Ac-ft	0	5.8	1.0	0	0	0	0	0	0	0	0	0
(†)	0	5.1	2.8	0	0	3.2	0	0	0	0	0.2	0

Calendar year 1965	Max	2.0	Min	0	Mean	0.070	Ac-ft	51
Water year 1965-66	Max	1.5	Min	0	Mean	0.009	Ac-ft	6.7

† Precipitation, in inches.

## BUENA VISTA LAKE BASIN

11-1860. Kern River near Kernville, Calif.

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

Drainage area.--848 sq mi.

Records available.--January 1912 to September 1966. Records for water year 1912 incomplete, yearly estimates published in WSP 1315-A. Prior to October 1953, records for river and canal published separately; combined only, October 1953 to September 1962.

Gage.--Water-stage recorder on river; water-stage recorder and rectangular concrete-lined flume for canal diversion. 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 (river only).--9 years (1911-20), 790 cfs (571,900 acre-ft per year); 45 years (1921-66), 304 cfs (220,100 acre-ft per year); median of yearly mean discharges, 210 cfs (152,000 acre-ft per year).  
(total flow).--55 years (1911-66), 688 cfs (498,100 acre-ft per year); median of yearly mean discharges, 610 cfs (442,000 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 1,010 cfs May 19 (gage height, 6.52 ft); minimum daily, 29 cfs Dec. 17. 1912-66: 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 maximum 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.

(combined).--Maximum discharge during year, 1,590 cfs May 19; minimum daily, 127 cfs Sept. 9, 10, 29, 30.

1912-66: Maximum discharge, 27,400 cfs Nov. 19, 1950, Dec. 23, 1955; minimum daily, 78 cfs Aug. 30, 31, Sept. 17, 19, 1924.

Remarks.--Records good. Since 1921 Kern River No. 3 Canal diverts up to 630 cfs 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. For records of combined discharge of river and canal, see following page. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation.--Gage-height record and 17 discharge measurements for Kern River and gage-height record and 15 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	43	57	48	40	62	294	568	253	102	86	100
2	50	41	48	43	38	66	388	680	199	104	91	76
3	49	41	41	66	40	68	458	756	162	100	88	76
4	49	41	39	57	40	70	515	744	134	98	84	98
5	48	41	39	45	40	75	491	768	138	97	89	109
6	48	40	43	44	41	74	479	830	155	101	96	111
7	48	40	47	42	40	74	509	930	194	104	96	109
8	48	41	46	42	41	70	533	930	257	102	97	107
9	43	41	45	42	42	70	551	805	209	102	96	104
10	44	41	44	41	41	70	515	688	152	102	91	104
11	48	41	44	40	41	70	416	580	152	101	91	104
12	54	41	44	40	40	70	350	509	180	98	91	105
13	51	41	43	41	40	69	280	518	251	101	91	107
14	51	39	43	40	38	68	264	588	298	102	91	109
15	52	39	43	40	40	68	264	640	292	94	91	111
16	52	56	42	40	40	69	315	696	226	89	94	111
17	52	205	29	41	40	68	410	776	201	89	96	108
18	52	96	47	41	40	69	410	870	177	89	92	108
19	51	76	58	37	40	72	355	930	209	91	92	112
20	51	62	60	39	40	70	244	855	234	98	91	118
21	50	62	35	34	40	68	199	736	170	101	91	115
22	48	63	37	34	40	65	175	704	108	94	91	111
23	48	474	45	37	40	69	148	700	92	92	91	108
24	47	562	35	36	40	69	162	712	94	92	91	108
25	46	258	38	34	40	66	232	720	97	91	91	107
26	46	123	38	39	40	66	365	720	97	89	109	105
27	44	39	38	38	40	69	440	664	98	89	125	105
28	50	39	39	38	45	70	473	628	100	88	121	105
29	46	47	93	39	-----	78	479	539	100	87	120	104
30	46	53	83	40	-----	114	500	431	98	89	120	104
31	46	-----	48	40	-----	179	-----	335	-----	91	120	-----
Total	1,522	2,826	1,431	1,278	1,127	2,305	11,214	21,550	5,127	2,967	3,004	3,159
Mean	49.1	94.2	46.2	41.2	40.2	74.4	374	695	171	95.7	96.9	105
Ac-ft	3,020	5,610	2,840	2,530	2,240	4,570	22,240	42,740	10,170	5,880	5,960	6,270
Calendar year 1965	Max	2,420	Min	24	Mean	368	Ac-ft	266,100				
Water year 1965-66	Max	930	Min	29	Mean	158	Ac-ft	114,100				

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

Combined discharge, in cubic feet per second, of Kern River and Kern River No. 3 Canal  
near Kernville, Calif., water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	252	195	373	349	266	297	898	1,150	833	517	269	159
2	249	195	364	332	245	288	974	1,260	780	492	340	151
3	242	194	358	358	267	271	1,050	1,340	743	452	387	145
4	239	195	358	355	266	278	1,100	1,330	715	423	355	138
5	235	195	355	343	273	306	1,070	1,350	720	407	333	132
6	232	193	352	335	350	301	1,060	1,410	735	394	294	134
7	227	192	345	330	310	312	1,090	1,510	778	390	264	133
8	230	190	341	335	282	330	1,120	1,510	840	371	246	131
9	224	191	344	330	262	337	1,140	1,390	788	368	236	127
10	221	192	347	325	298	372	1,100	1,270	735	362	220	127
11	216	192	331	324	242	427	996	1,160	731	328	211	128
12	214	193	332	313	280	459	931	1,090	762	307	203	129
13	212	204	312	313	269	468	862	1,100	832	299	197	131
14	211	324	310	312	258	495	843	1,170	880	290	194	133
15	213	323	290	313	262	495	840	1,220	873	285	191	135
16	217	367	272	309	262	507	896	1,280	805	277	186	135
17	219	558	254	290	265	492	990	1,360	785	270	186	132
18	221	419	264	287	267	498	992	1,450	759	269	186	131
19	219	381	298	287	266	517	909	1,510	793	264	192	135
20	215	334	314	277	267	524	826	1,430	818	257	183	141
21	210	310	300	273	276	521	780	1,310	755	264	179	138
22	205	332	281	276	287	528	754	1,280	691	266	175	134
23	203	823	257	265	298	555	724	1,280	630	262	167	131
24	202	914	272	264	301	562	738	1,290	574	265	163	131
25	200	620	267	269	292	537	809	1,300	543	264	160	130
26	198	511	262	279	290	529	945	1,300	542	259	151	128
27	194	471	261	261	282	551	1,020	1,240	553	253	153	128
28	196	436	259	246	290	601	1,050	1,210	565	246	146	128
29	195	413	390	257	-----	653	1,060	1,120	560	241	145	127
30	196	387	445	266	-----	699	1,080	1,010	535	249	145	127
31	195	-----	385	252	-----	764	-----	915	-----	276	145	-----
Total	6,702	10,444	9,893	9,325	7,773	14,474	28,647	39,545	21,653	9,867	6,602	4,009
Mean	216	348	319	301	278	467	955	1,276	722	318	213	134
Ac-ft	13,290	20,720	19,620	18,500	15,420	28,710	56,820	78,440	42,950	19,570	13,090	7,950

Calendar year 1965	Max	3,020	Min	190	Mean	794	Ac-ft	575,000
Water year 1965-66	Max	1,510	Min	127	Mean	463	Ac-ft	335,100

## BUENA VISTA LAKE BASIN

11-1863.4. Salmon Creek tributary B near Fairview, Calif.

Location.--Lat 35°54'05", long 118°23'05", in SE 1/4 sec. 26, T. 23 S., R. 33 E., on left bank 0.15 mile upstream from junction with Salmon Creek, 6.3 miles east of Fairview, and 10.3 miles north of Kernville.

Drainage area.--0.46 sq mi.

Records available.--October 1962 to September 1966. December 1960 to September 1962 (incomplete) in files of U.S. Forest Service.

Gage.--Water-stage recorder with float-operated recording rain gage and sharp-crested 120° V-notch weir. Altitude of gage is 7,360 ft (from topographic map).

Extremes.--Maximum discharge during year, 0.60 cfs Apr. 3 (gage height, 0.45 ft); minimum daily discharge, 0.002 cfs Aug. 21-23, Sept. 26.

1962-66: Maximum discharge, 3.11 cfs Feb. 1, 1963 (gage height, 0.87 ft); maximum gage height, 0.93 ft Feb. 1, 1963 (back-water from debris; minimum daily, that of Aug. 21-23, Sept. 26, 1966).

Remarks.--Records good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.008	0.006	0.02	0.01	0.01	0.01	0.45	0.13	0.03	0.006	0.003	0.003
2	0.008	0.006	0.02	0.01	0.01	0.01	.51	.13	.03	.006	.004	.003
3	0.008	0.006	.02	.01	.01	.01	.54	.13	.03	.006	.004	.003
4	0.008	0.006	.02	.01	.01	.01	.51	.11	.03	.006	.003	.003
5	0.008	0.006	.02	.01	.01	.01	.45	.11	.03	.006	.003	.003
6	0.008	0.006	.02	.01	.01	.01	.42	.10	.02	.004	.003	.003
7	0.008	0.006	.02	.01	.01	.01	.40	.10	.03	.004	.003	.003
8	0.008	0.006	.02	.01	.01	.01	.40	.09	.02	.004	.003	.003
9	0.008	0.006	.02	.01	.01	.01	.37	.09	.03	.004	.003	.003
10	0.008	0.006	.02	.01	.01	.02	.37	.09	.02	.004	.003	.004
11	0.006	0.006	.02	.01	.01	.02	.32	.08	.02	.004	.003	.004
12	0.006	0.006	.02	.01	.01	.03	.30	.08	.02	.004	.003	.004
13	0.006	0.008	.02	.01	.01	.05	.28	.08	.02	.004	.003	.003
14	0.006	.02	.02	.01	.01	.06	.26	.07	.02	.004	.003	.003
15	0.008	.01	.02	.01	.01	.07	.26	.07	.02	.004	.003	.003
16	.01	.04	.02	.01	.01	.07	.26	.06	.02	.004	.003	.003
17	.01	.04	.01	.01	.01	.07	.26	.06	.01	.004	.003	.003
18	.01	.03	.01	.01	.01	.07	.24	.06	.01	.004	.003	.003
19	.01	.02	.01	.01	.01	.08	.22	.05	.01	.003	.003	.003
20	.01	.02	.01	.01	.01	.08	.20	.05	.01	.004	.003	.003
21	.01	.01	.01	.01	.01	.08	.20	.05	.01	.004	.002	.003
22	.01	.03	.01	.01	.01	.09	.18	.05	.01	.003	.002	.003
23	.01	.05	.01	.01	.01	.09	.17	.05	.01	.003	.002	.003
24	.01	.06	.01	.01	.01	.09	.17	.05	.008	.003	.003	.003
25	0.008	.04	.01	.01	.01	.08	.17	.04	.008	.003	.003	.003
26	0.008	.03	.01	.01	.01	.08	.17	.04	.008	.003	.003	.002
27	0.006	.03	.01	.01	.01	.10	.15	.04	.008	.003	.003	.003
28	0.004	.02	.01	.01	.01	.15	.15	.04	.008	.003	.003	.003
29	0.004	.02	.02	.01	-----	.20	.15	.03	.008	.003	.003	.003
30	0.006	.02	.02	.01	-----	.26	.14	.03	.006	.004	.003	.003
31	0.006	-----	.02	.01	-----	.35	-----	.03	-----	.003	.003	-----
Total	0.244	0.570	0.50	0.31	0.28	2.28	8.67	2.19	0.514	0.124	0.092	0.092
Mean	0.008	0.019	0.016	0.010	0.010	0.074	0.289	0.071	0.017	0.004	0.003	0.003
Ac-ft	0.5	1.1	1.0	0.6	0.6	4.5	17.2	4.3	1.0	0.2	0.2	0.2
Calendar year 1965	Max	2.08	Min	0.004	Mean	0.214	Ac-ft	155				
Water year 1965-66	Max	0.54	Min	0.002	Mean	0.043	Ac-ft	31.5				

† Precipitation in inches (some falling as snow may not be included)

11-1863.6. Salmon Creek tributary C near Fairview, Calif.

Location.--Lat 35°54'15", long 118°23'30", in NE1/4 sec.26, T.23 S., R.33 E., on left bank 0.1 mile upstream from junction with Salmon Creek, 6.0 miles east of Fairview, and 10.5 miles north of Kernville.

Drainage area.--0.30 sq mi.

Records available.--October 1962 to September 1966. December 1960 to September 1962 (incomplete) in the files of U.S. Forest Service.

Gage.--Water-stage recorder and sharp-crested 120° V-notch weir. Altitude of gage is 7,200 ft (from topographic map).

Extremes.--Maximum discharge during year, 0.24 cfs Nov. 24 (gage height, 0.31 ft); minimum daily, 0.004 cfs Aug. 12, 16, 19, 23-27.  
1962-66: Maximum discharge, 2.68 cfs Feb. 1, 1963 (gage height, 1.03 ft); minimum daily, that of Aug. 12, 16, 19, 23-27, 1966.

Remarks.--Records good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.01	0.02	0.05	0.04	0.03	0.04	0.20	0.07	0.03	0.08	0.02	0.006
2	.01	.02	.05	.03	.03	.04	.20	.07	.02	.08	.02	.006
3	.01	.02	.05	.03	.03	.04	.22	.06	.02	.08	.02	.006
4	.01	.02	.05	.03	.03	.04	.20	.07	.02	.08	.01	.006
5	.01	.02	.05	.03	.03	.04	.20	.07	.02	.08	.008	.008
6	.01	.02	.05	.04	.03	.04	.17	.07	.02	.007	.006	.008
7	.01	.02	.05	.04	.03	.05	.17	.06	.02	.008	.006	.008
8	.02	.02	.05	.04	.03	.05	.15	.06	.02	.008	.006	.006
9	.02	.02	.05	.03	.03	.05	.15	.06	.03	.008	.006	.006
10	.02	.02	.05	.03	.03	.05	.15	.05	.03	.008	.006	.006
11	.02	.02	.05	.03	.03	.06	.14	.05	.02	.006	.005	.006
12	.02	.02	.04	.03	.03	.07	.14	.05	.02	.007	.004	.007
13	.02	.02	.04	.03	.03	.09	.13	.05	.02	.008	.006	.006
14	.02	.05	.04	.03	.03	.08	.13	.05	.01	.006	.006	.006
15	.02	.03	.04	.03	.03	.09	.11	.05	.02	.006	.006	.006
16	.02	.09	.04	.03	.03	.09	.11	.05	.01	.006	.004	.006
17	.02	.08	.04	.03	.03	.09	.13	.04	.01	.006	.006	.006
18	.02	.05	.03	.03	.03	.10	.11	.04	.01	.006	.006	.008
19	.02	.03	.03	.04	.03	.10	.11	.04	.01	.008	.004	.01
20	.02	.03	.03	.04	.03	.11	.10	.04	.01	.008	.006	.008
21	.02	.03	.03	.03	.03	.10	.10	.04	.01	.01	.006	.008
22	.02	.06	.03	.03	.03	.11	.10	.04	.01	.01	.006	.008
23	.02	.13	.04	.03	.03	.10	.09	.03	.01	.01	.004	.008
24	.02	.16	.04	.03	.04	.10	.09	.03	.01	.01	.004	.008
25	.03	.07	.04	.03	.04	.10	.09	.03	.01	.01	.004	.006
26	.01	.06	.04	.03	.04	.13	.08	.03	.01	.01	.004	.008
27	.01	.05	.04	.03	.04	.14	.08	.03	.01	.008	.004	.008
28	.01	.05	.04	.03	.04	.15	.08	.03	.01	.008	.006	.008
29	.01	.05	.08	.03	-----	.17	.08	.03	.01	.008	.006	.008
30	.01	.05	.06	.03	-----	.17	.07	.03	.01	.01	.006	.008
31	.01	-----	.05	.03	-----	.18	-----	.03	-----	.01	.006	-----
Total	0.49	1.33	1.37	0.99	0.89	2.77	3.88	1.45	0.47	0.250	0.217	0.213
Mean	0.016	0.044	0.044	0.032	0.032	0.089	0.129	0.047	0.016	0.008	0.007	0.007
Ac-ft	1.0	2.6	2.7	2.0	1.8	5.5	7.7	2.9	0.9	0.5	0.4	0.4
Calendar year 1965	Max	0.82	Min	0.008	Mean	0.097	Ac-ft	70.0				
Water year 1965-66	Max	0.22	Min	0.004	Mean	0.039	Ac-ft	28.4				

## BUENA VISTA BASIN

11-1863.8. Salmon Creek tributary E near Fairview, Calif.

Location--Lat 35°54'15", long 118°23'45", in NW¼ sec.26, T.23 S., R.33 E., on left bank 0.2 mile upstream from junction with Salmon Creek, 5.7 miles east of Fairview, and 10.5 miles north of Kernville.

Drainage area--0.23 sq mi.

Records available--October 1962 to September 1966. July 1961 to September 1962 in files of U.S. Forest Service.

Gage--Water-stage recorder and sharp-crested 120° V-notch weir. Altitude of gage is 7,200 ft (from topographic map).

Extremes--Maximum discharge during year, 0.10 cfs Nov. 24 (gage height, 0.22 ft); minimum daily, 0.001 cfs Aug. 25, 26, Sept. 20-23, 1962-66: Maximum discharge, 1.09 cfs Apr. 29, 1965 (gage height, 0.57 ft); minimum daily, that of Aug. 25, 26, Sept. 20-23, 1966.

Remarks--Records good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.006	0.006	0.01	0.01	0.006	0.004	0.09	0.03	0.008	0.004	0.003	0.002
2	0.06	0.08	0.1	0.08	0.06	0.06	0.9	0.2	0.08	0.03	0.03	0.03
3	0.06	0.08	0.08	0.08	0.06	0.06	0.9	0.2	0.06	0.04	0.03	0.03
4	0.06	0.08	0.08	0.08	0.06	0.04	0.9	0.2	0.06	0.04	0.03	0.03
5	0.06	0.08	0.08	0.06	0.06	0.04	0.7	0.2	0.06	0.03	0.03	0.03
6	0.06	0.06	0.08	0.08	0.06	0.04	0.7	0.2	0.06	0.03	0.03	0.03
7	0.06	0.06	0.08	0.08	0.06	0.04	0.6	0.2	0.06	0.03	0.04	0.03
8	0.06	0.08	0.08	0.08	0.06	0.04	0.5	0.2	0.06	0.03	0.04	0.03
9	0.06	0.08	0.08	0.08	0.06	0.06	0.5	0.2	0.06	0.03	0.04	0.03
10	0.06	0.08	0.08	0.08	0.06	0.06	0.5	0.2	0.06	0.03	0.04	0.02
11	0.06	0.08	0.08	0.06	0.06	0.08	0.5	0.2	0.06	0.03	0.03	0.02
12	0.06	0.08	0.08	0.06	0.06	0.1	0.5	0.2	0.06	0.03	0.02	0.02
13	0.08	0.08	0.08	0.06	0.06	0.2	0.5	0.1	0.06	0.03	0.03	0.02
14	0.08	0.2	0.08	0.06	0.06	0.2	0.4	0.1	0.06	0.03	0.02	0.03
15	0.1	0.1	0.08	0.06	0.06	0.2	0.4	0.1	0.04	0.03	0.02	0.02
16	0.1	0.2	0.08	0.06	0.06	0.2	0.4	0.1	0.04	0.03	0.03	0.02
17	0.1	0.4	0.08	0.06	0.06	0.2	0.4	0.1	0.04	0.03	0.02	0.02
18	0.1	0.2	0.08	0.06	0.06	0.2	0.4	0.1	0.04	0.03	0.02	0.02
19	0.1	0.1	0.08	0.06	0.06	0.2	0.4	0.1	0.04	0.03	0.02	0.02
20	0.1	0.1	0.08	0.06	0.06	0.2	0.4	0.1	0.04	0.03	0.02	0.01
21	0.1	0.08	0.08	0.06	0.04	0.2	0.4	0.1	0.04	0.03	0.02	0.01
22	0.1	0.2	0.08	0.06	0.04	0.2	0.3	0.1	0.04	0.03	0.02	0.01
23	0.06	0.3	0.08	0.06	0.04	0.2	0.3	0.1	0.04	0.04	0.02	0.01
24	0.04	0.6	0.08	0.06	0.06	0.2	0.3	0.1	0.04	0.04	0.02	0.02
25	0.04	0.3	0.08	0.06	0.04	0.2	0.3	0.08	0.04	0.04	0.01	0.02
26	0.04	0.2	0.08	0.06	0.04	0.2	0.3	0.08	0.04	0.04	0.01	0.02
27	0.04	0.1	0.08	0.06	0.04	0.4	0.3	0.08	0.04	0.04	0.02	0.02
28	0.04	0.1	0.08	0.06	0.04	0.5	0.3	0.08	0.04	0.04	0.02	0.02
29	0.04	0.1	0.2	0.06	-----	0.6	0.3	0.08	0.04	0.04	0.02	0.02
30	0.06	0.1	0.1	0.06	-----	0.7	0.3	0.08	0.04	0.03	0.02	0.02
31	0.06	-----	0.1	0.06	-----	0.8	-----	0.08	-----	0.03	0.02	-----
Total	0.210	0.436	0.268	0.206	0.154	0.646	1.45	0.426	0.152	0.103	0.077	0.065
Mean	0.007	0.015	0.009	0.007	0.006	0.021	0.048	0.014	0.005	0.003	0.002	0.002
Ac-ft	0.4	0.9	0.5	0.4	0.3	1.3	2.9	0.8	0.3	0.2	0.2	0.1
Calendar year	: Max	0.95	Min	0.004	Mean	0.076	Ac-ft	54.8				
Water year	: Max	0.09	Min	0.001	Mean	0.011	Ac-ft	8.3				



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

Location.--Lat 35°45'15", long 118°25'25", in NE¼SW¼ sec.15, T.25 S., R.33 E., on right bank 300 ft downstream from highway bridge at Kernville, 1.1 miles upstream from Caldwell Creek, 8.9 miles upstream from Isabelle Dam, and 41 miles northeast of Bakersfield.

Drainage area.--1,009 sq mi.

Records available.--January 1905 to December 1912, October 1953 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. 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 3½ miles downstream at different datums.

Average discharge.--20 years, 804 cfs (582,100 acre-ft per year); median of yearly mean discharges, 690 cfs (499,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,760 cfs May 7 (gage height, 6.82 ft); minimum daily, 117 cfs Sept. 4, 10.  
1905-12, 1953-66: 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 maximum flow; maximum gage height, 16.76 ft in gage well, 17.33 ft outside, from floodmarks Feb. 1, 1963; minimum discharge, 74 cfs Oct. 27, 1954, Aug. 1, Oct. 4, 1961.  
Maximum stage known since at least 1912, 18.4 ft Nov. 19, 1950 (discharge about 38,000 cfs).

Remarks.--Records excellent. 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. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	261	200	419	431	306	355	940	1,240	856	516	264	151
2	249	197	419	391	288	352	1,050	1,360	808	493	276	141
3	237	194	407	399	313	338	1,120	1,450	766	459	379	134
4	251	194	403	411	310	341	1,140	1,440	735	423	348	117
5	228	194	399	407	321	375	1,140	1,460	730	407	324	122
6	228	194	391	395	446	367	1,120	1,520	740	387	285	124
7	222	194	387	387	395	379	1,140	1,630	778	383	261	126
8	228	190	379	391	352	399	1,170	1,640	838	363	237	122
9	219	192	387	383	327	407	1,180	1,500	766	359	222	118
10	219	194	391	379	363	439	1,170	1,360	715	355	208	117
11	211	197	371	375	302	516	1,080	1,240	715	320	197	118
12	208	197	375	367	341	552	996	1,150	745	302	190	120
13	208	205	355	367	327	565	934	1,150	820	288	182	122
14	208	330	344	363	313	596	910	1,240	856	282	177	126
15	214	359	327	363	320	601	904	1,290	838	279	174	128
16	222	379	306	355	320	615	940	1,340	778	267	170	128
17	225	657	296	338	324	601	1,030	1,450	772	258	172	126
18	225	493	279	330	327	601	1,050	1,520	750	255	172	126
19	225	443	302	330	330	625	968	1,600	772	252	174	132
20	219	371	324	324	330	635	904	1,520	750	246	165	141
21	214	341	330	320	338	635	856	1,390	766	252	163	138
22	211	355	320	316	348	635	826	1,350	715	255	160	136
23	208	842	282	302	355	670	796	1,330	630	246	156	132
24	205	1,060	313	302	359	665	796	1,360	574	252	151	130
25	205	745	302	310	355	635	856	1,360	552	252	147	130
26	203	620	299	313	355	625	982	1,360	542	249	136	130
27	203	542	296	306	348	650	1,060	1,300	556	240	143	130
28	197	498	296	288	344	700	1,080	1,240	570	234	141	128
29	197	463	431	299	-----	750	1,090	1,170	565	231	138	126
30	200	439	630	310	-----	796	1,100	1,040	538	240	136	124
31	200	-----	484	299	-----	838	-----	940	-----	267	136	-----
Total	6,730	11,479	11,244	10,851	9,457	17,258	30,328	41,940	21,536	9,612	6,184	3,843
Mean	217	383	363	350	338	557	1,011	1,353	718	310	199	128
Ac-ft	1,3350	2,2770	2,2300	2,1520	1,8760	3,4230	6,0150	8,3190	4,2720	1,9070	1,2270	7,620

Calendar year 1965 Max 3,350 Min 190 Mean 864 Ac-ft 625,700

Water year 1965-66 Max 1,640 Min 117 Mean 494 Ac-ft 357,900

Peak discharge (base, 2,000 cfs).--No peak above base.

## BUENA VISTA LAKE BASIN

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 1966. 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. 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.--45 years, 363 cfs (262,800 acre-ft per year).

Extremes.--1910-14, 1925-66: Maximum daily discharge, 634 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. Water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation.--Water-stage-recorder graph and 23 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	554	541	561	555	331	563	570	569	513	496	543	286
2	553	522	560	555	318	563	571	569	512	498	544	242
3	555	503	516	555	318	563	571	567	513	495	546	257
4	553	484	494	556	317	563	571	567	510	496	549	244
5	554	471	486	556	317	564	571	568	505	495	549	232
6	553	421	459	555	369	564	571	568	502	494	550	219
7	554	370	450	555	396	564	572	569	500	496	549	203
8	553	332	449	554	364	564	569	569	499	500	549	185
9	552	295	449	552	391	565	572	567	497	500	549	173
10	553	305	449	498	407	564	571	566	499	501	549	163
11	551	331	451	459	381	564	572	564	496	501	549	151
12	552	341	451	452	345	564	572	566	492	166	549	139
13	552	328	437	435	329	565	573	531	494	345	548	128
14	553	332	430	427	356	562	571	463	492	501	549	117
15	554	353	430	428	370	564	574	464	495	541	549	108
16	552	464	430	433	370	565	572	505	494	544	548	101
17	554	562	393	412	370	564	572	555	495	544	547	94
18	553	560	346	401	369	563	574	563	493	544	547	86
19	553	560	346	400	368	564	573	561	494	544	549	79
20	554	560	345	401	368	562	571	547	495	544	548	73
21	553	561	366	390	363	563	574	548	495	544	548	67
22	553	560	377	384	368	567	574	550	484	544	547	61
23	553	562	344	384	409	568	572	526	485	544	543	55
24	552	563	327	365	451	568	571	521	483	544	517	49
25	553	562	327	356	481	566	572	514	480	544	483	41
26	553	562	327	355	496	566	573	515	481	544	444	8.0
27	553	561	340	355	539	566	572	514	478	543	417	0
28	552	560	347	355	559	567	570	514	478	543	390	59
29	552	560	448	360	-----	568	567	514	479	543	359	116
30	553	560	558	397	-----	569	569	514	478	543	331	118
31	553	-----	557	371	-----	569	-----	514	-----	543	304	-----
Total	17,142	14,246	13,250	13,811	10,820	17,511	17,147	16,742	14,811	15,724	15,843	3,854.0
Mean	553	475	427	446	386	565	572	540	494	507	511	128
Ac-ft	34,000	28,260	26,280	27,390	21,460	34,730	34,010	33,210	29,380	31,190	31,420	7,640
Calendar year 1965	Max	600	Min	0	Mean	528	Ac-ft	382,000				
Water year 1965-66	Max	574	Min	0	Mean	468	Ac-ft	339,000				

11-1882. South Fork Kern River near Olancha, 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 Olancha.

Drainage area.--146 sq mi.

Records available.--October 1956 to September 1966.

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

Average discharge.--10 years, 42.8 cfs (30,990 acre-ft per year).

Extremes.--Maximum discharge during year, 308 cfs Apr. 4 (gage height, 3.38 ft); maximum gage height, 3.63 ft Mar. 14 (backwater from ice); minimum daily discharge 4.2 cfs Aug. 27, 28.

1956-66: 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 daily discharge 0.1 cfs July 20 to Aug. 3, 1961.

Remarks.--Records good except those for the winter period, which are poor. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	13	32	14	17	24	233	78	29	11	7.5	5.7
2	12	13	30	14	17	22	260	75	28	11	11	6.0
3	12	12	30	15	18	20	258	73	27	10	18	5.7
4	11	13	30	15	18	22	255	72	26	9.7	17	5.5
5	11	13	32	15	18	24	229	70	26	9.4	15	5.2
6	11	12	31	16	18	28	210	68	25	8.8	10	5.5
7	11	12	29	16	18	30	208	67	26	8.1	8.1	5.2
8	11	12	29	17	17	32	199	67	29	8.1	7.0	5.0
9	11	12	27	17	17	35	186	69	29	11	6.5	5.0
10	11	12	27	17	18	60	168	83	28	12	5.7	5.0
11	11	12	26	17	19	90	153	78	25	9.4	5.0	5.2
12	11	13	25	17	20	110	145	66	23	8.1	4.8	5.2
13	12	16	24	17	21	140	136	62	21	7.5	4.6	5.5
14	12	21	23	17	22	150	129	58	21	7.3	4.6	6.0
15	12	24	20	17	22	150	125	55	21	7.0	4.4	6.0
16	12	29	18	16	22	157	123	51	24	6.8	4.4	6.2
17	12	27	18	16	23	159	123	50	26	6.2	4.4	6.2
18	13	37	20	16	23	176	117	48	22	6.0	6.5	6.8
19	12	30	20	16	24	180	111	46	20	5.7	5.7	7.5
20	12	26	19	16	24	170	102	45	20	5.5	5.5	8.4
21	11	27	19	16	25	150	100	44	18	5.5	5.2	8.1
22	11	30	19	16	26	157	96	43	17	5.7	5.2	7.3
23	11	75	18	15	26	152	89	41	16	6.8	5.0	14
24	11	32	18	15	26	141	88	39	16	6.5	4.6	12
25	11	20	17	16	25	121	88	37	15	6.0	4.4	8.8
26	11	18	17	16	24	125	88	36	14	5.5	4.4	8.1
27	12	21	17	17	24	143	86	34	13	5.2	4.2	7.8
28	12	25	17	18	24	152	83	33	12	5.0	4.2	7.5
29	12	30	16	19	-----	162	81	32	12	5.0	4.4	7.5
30	12	33	16	19	-----	178	80	30	11	6.8	4.6	7.5
31	12	-----	15	18	-----	206	-----	29	-----	8.4	4.8	-----
Total	358	670	699	506	596	3466	4349	1679	640	235.0	206.7	205.4
Mean	11.5	22.3	22.5	16.3	21.3	112	145	54.2	21.3	7.58	6.67	6.85
Ac-ft	710	1330	1390	1000	1180	6870	8630	3330	1270	466	410	407

Calendar year 1965 Max 615 Min 11 Mean 53.5 Ac-ft 38700

Water year 1965-66 Max 260 Min 4.2 Mean 37.3 Ac-ft 27000

Peak discharge (base, 150 cfs)--Mar. 19 (1800 hrs) 210 cfs (2.98 ft); Apr. 4 (0430 hrs) 308 cfs (3.38 ft).

## BUENA VISTA LAKE BASIN

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 1966. 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.--41 years (1911-13, 1919-25, 1926-27, 1929-42, 1946-66), 99.3 cfs (71,890 acre-ft per year); median of yearly mean discharges, 75 cfs (54,300 acre-ft per year).

Extremes.--Maximum discharge during year, 351 cfs Nov. 24 (gage height, 3.34 ft); minimum daily, 1.3 cfs, July 21, Aug. 20.

1911-14, 1919-42, 1947-66: Maximum discharge, 3,460 cfs Feb. 1, 1963 (gage height, 6.79 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, 1960-61.

Remarks.--Records good. Lowell and Thomas ditches divert above station for irrigation of about 160 acres below station; combined capacity, about 7 cfs.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	19	66	54	47	53	247	102	36	7.6	4.6	4.1
2	18	22	66	44	39	52	276	99	34	6.0	5.6	2.9
3	18	22	65	45	43	44	300	97	31	5.3	8.3	2.5
4	17	22	61	51	47	46	293	95	29	5.1	1.1	2.7
5	15	22	60	55	46	53	279	94	29	5.3	1.1	2.9
6	15	22	59	56	57	54	247	94	27	5.3	9.9	3.4
7	15	22	55	56	47	54	238	91	26	4.6	8.6	3.6
8	15	22	55	61	46	57	229	91	26	4.1	7.0	3.4
9	15	22	55	56	42	60	220	91	31	4.3	5.3	2.5
10	16	22	61	59	46	67	205	97	32	4.8	5.1	1.8
11	15	22	57	59	40	81	192	102	31	5.1	4.3	1.9
12	15	22	55	54	47	95	175	95	29	5.6	2.9	1.8
13	14	23	50	55	44	106	162	87	27	5.6	2.1	1.9
14	14	32	48	56	46	119	153	83	24	5.6	2.3	2.5
15	14	45	39	56	46	135	147	78	22	6.0	2.3	2.5
16	14	97	45	51	47	145	145	75	22	6.0	2.7	2.3
17	14	207	36	48	50	149	149	73	22	6.3	1.6	2.7
18	15	92	34	51	51	170	145	70	23	4.6	1.6	3.1
19	16	78	34	51	48	192	141	68	22	2.3	1.5	3.9
20	17	67	36	46	50	200	137	67	20	1.9	1.3	3.6
21	18	60	45	41	48	192	133	65	18	1.3	1.6	3.6
22	18	74	43	45	50	190	131	62	18	1.5	2.5	5.1
23	18	153	38	45	51	192	127	60	17	1.8	5.6	6.0
24	19	262	38	44	50	185	121	56	14	2.3	6.0	6.3
25	19	158	43	44	50	165	123	52	12	2.7	6.6	9.0
26	19	94	44	46	48	151	121	50	11	3.6	6.6	11
27	20	75	41	50	48	160	121	45	11	2.5	5.6	11
28	19	66	42	41	50	165	111	43	10	2.1	4.8	10
29	18	60	72	43	-----	188	106	41	10	2.3	5.1	12
30	18	61	97	48	-----	200	102	39	86	2.7	5.3	9.4
31	18	-----	67	41	-----	220	-----	38	-----	3.1	5.6	-----
Total	513	1965	1607	1552	1324	3940	5276	2300	672.6	127.3	154.3	139.4
Mean	16.5	65.5	51.8	50.1	47.3	127	176	74.2	22.4	4.11	4.98	4.65
Ac-ft	1,020	3,900	3,190	3,080	2,630	7,810	10,460	4,560	1,330	252	306	276

Calendar year 1965 Max 615 Min 12 Mean 105 Ac-ft 75,680

Water year 1965-66 Max 300 Min 1.3 Mean 53.6 Ac-ft 38,820

Peak discharge (base, 180 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-17	0500	3.17	290	3-20	1200	2.97	226
11-24	1200	3.34	351	4-4	2030	3.30	335

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 1966.

Gage--Water-stage recorder and sharp-crested steel weir. Altitude of gage is 3,180 ft (from topographic map).

Average discharge--8 years, 1.32 cfs (956 acre-ft per year).

Extremes--Maximum discharge during year, 14 cfs Dec. 30 (gage height, 2.73 ft); minimum daily, 0.70 cfs many days.

1958-66: Maximum discharge, 1,340 cfs Aug. 15, 1965 (gage height, 6.20 ft, from floodmarks), from rating curve extended above 7 cfs on basis of slope-area measurement at gage height 6.00 ft; minimum, 0.50 cfs July 23, 1962.

Remarks--Records good except those above 7 cfs, which are fair. Small diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.90	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.0	0.70	0.70
2	.90	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.0	.80	.70
3	.90	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	.90	.80	.70
4	.90	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	.90	.70	.70
5	1.0	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	.90	.70	.70
6	1.0	1.1	1.1	1.2	1.1	1.1	1.1	1.1	1.1	.90	.80	.70
7	.90	1.1	1.1	1.2	1.1	1.1	1.1	1.1	1.2	.90	.70	.70
8	.90	1.1	1.1	1.2	1.1	1.1	1.1	1.1	1.2	.90	.70	.70
9	.90	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.1	.90	.70	.70
10	.90	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.1	.90	.70	.70
11	.90	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.1	.90	.70	.70
12	1.0	1.1	1.2	1.2	1.1	1.1	1.1	1.1	1.1	.90	.70	.70
13	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.1	.90	.80	.70
14	1.0	1.2	1.2	1.1	1.1	1.2	1.1	1.1	1.1	.90	.80	.70
15	1.0	1.1	1.2	1.1	1.1	1.2	1.1	1.1	1.1	.80	.80	.70
16	1.0	1.2	1.2	1.1	1.2	1.2	1.1	1.0	1.2	.80	.80	.70
17	1.0	1.4	1.2	1.1	1.2	1.1	1.1	1.0	1.2	.80	.80	.70
18	1.0	1.1	1.2	1.1	1.2	1.1	1.1	1.0	1.2	.80	.80	.80
19	1.0	1.1	1.2	1.1	1.2	1.1	1.1	1.0	1.2	.80	.70	.80
20	1.0	1.1	1.2	1.1	1.2	1.1	1.1	1.0	1.2	.80	.70	.80
21	1.0	1.1	1.2	1.1	1.2	1.1	1.1	1.0	1.1	.80	.80	.80
22	1.0	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.1	.80	.80	.80
23	1.0	1.4	1.2	1.1	1.1	1.1	1.1	1.0	1.1	.70	.70	.80
24	1.0	1.3	1.2	1.1	1.1	1.1	1.1	1.0	1.1	.70	.70	.80
25	1.0	1.4	1.2	1.1	1.1	1.1	1.1	1.0	1.1	.70	.70	.90
26	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.0	1.0	.70	.70	.90
27	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.0	.70	.80	.90
28	1.0	1.1	1.2	1.1	1.1	1.1	1.1	1.1	1.2	.70	.70	.90
29	1.0	1.1	1.3	1.1	-----	1.1	1.1	1.1	1.0	.70	.70	.90
30	1.0	1.1	1.1	1.2	-----	1.1	1.1	1.1	1.0	.70	.70	.90
31	1.0	-----	1.2	1.2	-----	1.1	-----	1.1	-----	.70	.70	-----
Total	30.10	33.9	39.4	35.5	31.4	34.4	33.0	33.0	33.4	25.50	22.90	22.90
Mean	0.97	1.13	1.27	1.15	1.12	1.11	1.10	1.06	1.11	0.82	0.74	0.76
Ac-ft	60	67	78	70	62	68	65	65	66	51	45	45

Calendar year 1965 Max 3.6 Min 0.7 Mean 1.06 Ac-ft 767  
 Water year 1965-66 Max 4.1 Min 0.7 Mean 1.03 Ac-ft 745

Peak discharge (base, 10 cfs)--Dec. 30 (0200) 14 cfs (2.73 ft).

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 Isabella and 2.8 miles upstream from Erskine Creek.

Drainage area.--2,074 sq mi.

Records available.--October 1953 to September 1966.

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

Extremes.--Maximum contents during year, 218,300 acre-ft June 8 (elevation, 2,567.05 ft); minimum, 89,180 acre-ft Sept. 30 (elevation, 2,543.19 ft).

1953-66: 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 earthfill dam with sidehill spillway and auxiliary earthfill dam, completed in 1954; regulation 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 (invert of main outlet) and 2,605.5 ft (spillway crest) above mean sea level. Dead storage, 326 acre-ft, not available for release. Surgecharge flood control storage, 271,800 acre-ft between ungated spillway crest and elevation 2,627.0 ft (maximum design spillway flood pool). Records, including extremes, represent total contents at 2400 hours. Water is released to Kern River through tunnel in left abutment of main dam and to Borel Canal (see sta. no. 11-1875) through concrete conduit in auxiliary dam.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in thousands of acre-feet, at 2400 hours, October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	203.1	175.2	170.1	171.2	169.7	153.0	155.4	177.6	217.6	133.6	133.4	101.3
2	207.2	174.6	170.0	171.1	169.7	167.6	155.3	173.8	217.6	137.3	137.5	100.9
3	206.1	174.0	170.0	170.9	169.7	167.1	157.4	180.3	217.8	135.8	136.3	100.4
4	204.8	173.4	170.0	170.7	169.7	166.5	153.7	131.7	217.9	134.2	135.0	99.97
5	203.6	172.9	169.9	170.6	170.0	165.8	159.8	183.2	218.0	132.5	133.8	99.55
6	202.4	172.4	169.9	170.5	170.3	165.2	160.8	184.7	218.1	130.7	132.6	99.01
7	201.2	172.0	169.9	170.3	170.4	164.5	162.0	186.4	218.1	178.9	131.3	99.42
8	200.1	171.7	169.9	170.2	170.4	163.6	163.1	188.2	218.3	177.3	130.0	97.96
9	193.9	171.5	170.0	170.0	170.4	162.9	164.5	189.6	218.2	175.6	123.6	97.42
10	197.9	171.3	170.0	170.0	170.3	162.2	165.5	190.8	217.7	173.9	127.2	96.97
11	195.9	171.0	170.0	170.0	170.2	161.6	166.1	192.0	217.0	172.0	125.7	96.47
12	195.7	170.7	170.0	170.0	170.2	160.8	166.7	193.0	216.1	170.1	124.4	95.98
13	194.6	170.6	169.9	170.0	170.2	160.1	167.1	194.0	215.1	168.2	123.2	95.45
14	193.3	170.7	169.9	170.0	170.2	159.4	167.4	195.5	214.2	166.4	122.0	95.04
15	192.2	170.9	169.7	169.9	170.1	158.6	167.9	196.9	213.1	164.8	120.7	94.71
16	190.9	171.1	169.6	169.9	170.1	157.8	163.6	198.3	211.5	163.2	119.4	94.35
17	189.7	171.4	169.5	169.9	170.1	157.1	169.3	199.8	210.0	161.7	119.2	94.02
18	183.5	171.5	169.5	169.9	170.0	156.3	169.9	201.5	209.4	160.1	116.7	93.58
19	187.6	171.4	169.4	169.9	170.0	155.8	170.3	203.4	206.8	158.5	115.5	93.30
20	186.7	171.1	169.5	169.9	170.0	155.3	170.6	205.1	205.2	156.8	114.2	92.98
21	185.7	170.8	169.4	169.9	170.0	154.8	171.0	206.5	203.5	154.9	113.1	92.65
22	184.8	170.9	169.4	169.8	170.0	154.4	171.3	207.7	201.6	153.1	111.8	92.37
23	183.9	171.6	169.4	169.7	169.9	154.2	171.6	209.0	199.6	151.2	110.7	92.09
24	183	172.8	169.4	169.7	169.8	154.1	171.8	210.2	197.9	149.7	109.5	91.74
25	182.1	173.3	169.4	169.7	169.5	154.1	172.2	211.5	196.4	148.4	108.2	91.30
26	181.2	173.2	169.4	169.7	169.3	154.1	172.8	212.7	195.0	146.9	107.1	90.86
27	180.1	172.7	169.4	169.7	168.9	154.1	173.6	213.9	193.8	145.2	106.0	90.47
28	179.1	171.2	169.4	169.7	168.4	154.2	174.5	215.2	192.7	143.7	105.0	90.08
29	178.1	171.0	170.6	169.6	-----	154.4	175.4	216.2	191.4	142.2	103.9	89.60
30	177.2	170.2	171.0	169.7	-----	154.6	176.5	216.9	190.1	140.9	102.9	89.18
31	176.2	-----	171.2	169.6	-----	155.0	-----	217.4	-----	139.7	102.0	-----
(+)	2,560.57	2,559.58	2,559.75	2,559.49	2,559.29	2,556.93	2,560.62	2,566.92	2,562.80	2,554.20	2,546.32	2,543.19
(+)	-32.300	-6.000	1.000	-1.600	-1.200	-13.400	21.500	40.900	-27.300	-50.400	-37.700	-12.820
(**)	3.110	1.093	6.45	3.35	3.32	1.556	2.625	4.159	5.113	5.246	4.576	2.820

Calendar year 1965 ..... + 52,900

Water year 1965-66 ..... + -119,820

† Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

\*\* Evaporation, in acre-feet.

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.--2,074 sq mi.

Records available.--April 1945 to September 1966. 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.--21 years, 746 cfs (540,100 acre-ft per year), adjusted for diversion to Borel Canal since 1945 and for change in storage and evaporation from Isabella Reservoir since 1954.

Extremes.--Maximum discharge during year, 1,100 cfs June 20, 21 (gage height, 7.95 ft); minimum daily, 4.2 cfs Jan. 26-29. 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 maximum flow; minimum, 2.1 cfs (regulated) Nov. 27, 1951. 1954-66: Maximum discharge, 4,260 cfs June 28, 1958 (gage height, 15.14 ft); no flow Oct. 29, 1954, Mar. 22, 1960.

Remarks.--Records good. Flow regulated by Isabella Reservoir (see sta. no. 11-1905.) beginning Apr. 15, 1954. Borel Canal (see sta. no. 11-1875.) 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 can be irrigated when reservoir stage is low. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	91	6.0	5.0	4.3	33	195	96	99	658	350	148
2	172	6.0	6.0	5.0	4.4	35	139	120	117	622	381	151
3	250	6.0	5.0	5.0	4.4	52	131	114	91	648	421	108
4	269	6.0	5.0	5.0	4.4	74	144	93	78	692	414	94
5	286	6.0	5.0	5.0	4.6	116	150	79	102	718	388	124
6	291	6.0	5.0	5.0	4.6	147	163	74	128	723	355	171
7	280	6.0	5.0	5.0	4.6	190	144	73	175	706	327	190
8	252	6.0	5.0	5.0	4.4	230	98	85	188	702	325	179
9	224	6.0	5.0	5.0	4.4	249	81	84	292	671	337	167
10	186	6.0	5.0	5.0	4.4	292	135	50	455	691	360	166
11	144	6.0	5.0	5.0	4.4	316	179	16	543	692	348	170
12	160	6.0	5.0	5.0	4.4	354	209	53	692	1020	289	179
13	212	6.0	5.0	5.0	4.4	402	236	52	811	820	229	171
14	213	6.0	5.0	5.0	4.4	423	232	52	872	676	234	183
15	212	6.0	5.0	5.0	4.4	444	131	52	978	534	249	195
16	212	6.0	5.0	5.0	4.4	442	73	52	1070	482	252	184
17	212	6.0	5.0	5.0	4.4	442	129	23	1060	461	276	195
18	192	6.0	5.0	5.0	4.4	422	183	34	1050	460	289	240
19	171	6.0	5.0	5.0	4.4	349	193	34	1090	511	260	228
20	160	6.0	5.0	5.0	4.4	332	193	17	1090	581	218	216
21	151	6.0	5.0	5.0	4.4	371	171	10	1090	630	199	215
22	127	6.0	5.0	5.0	4.4	308	143	59	1060	623	199	207
23	121	6.0	5.0	5.0	4.4	239	115	90	992	608	195	227
24	122	159	5.0	4.8	4.4	180	133	109	926	456	213	251
25	115	240	5.0	4.8	4.4	163	138	108	820	380	249	271
26	128	265	5.0	4.2	4.4	143	131	96	728	419	247	309
27	146	382	5.0	4.2	7.3	134	128	42	649	465	234	327
28	152	440	5.0	4.2	2.6	124	85	13	638	423	274	298
29	144	440	5.0	4.2	-----	144	64	27	679	375	295	243
30	141	404	5.0	4.4	-----	185	55	35	680	337	271	217
31	151	-----	5.0	4.4	-----	196	-----	46	-----	330	272	-----
Total	5,686	25,530	157.0	150.2	148.2	7,531	4,301	1,653	19,243	18,114	8,950	6,024
Mean	183	85.1	5.06	4.84	5.29	243	143	53.3	641	584	289	201
Ac-ft	11,280	5,060	311	298	294	14,940	8,530	3,280	38,170	35,930	17,750	11,950
Mean†	254	477	460	438	385	614	1,120	1,326	763	357	261	162
Ac-ft†	15,600	28,410	28,270	26,950	21,400	37,770	66,650	81,550	45,410	21,940	16,040	9,620
Calendar year 1965	Max	1,420	Min	3	Mean	326	Ac-ft	236,200	Mean†	972	Ac-ft†	703,400
Water year 1965-66	Max	1,090	Min	4.2	Mean	204	Ac-ft	147,800	Mean†	552	Ac-ft†	399,600

† Adjusted for change in contents and evaporation from Isabella Reservoir and for diversion to Borel Canal.

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

Location.--Lat 35°31'20", long 118°40'40", in NE¼SE¼ 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.

Records available.--July 1950 to September 1966. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

Gage.--Water-stage recorder on river; water-stage recorder for conduit diversion. Altitude of gage is 1,850 ft (from topographic map).

Average discharge (river only).--16 years, 452 cfs (327,200 acre-ft per year), unadjusted.

(total flow).--16 years, 784 cfs (567,600 acre-ft per year), adjusted for storage.

Extremes (river only).--Maximum discharge during year, 1,200 cfs June 17 (gage height, 9.06 ft); minimum daily discharge, 2.3 cfs Feb. 22.

1950-66: 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 maximum flow over dam (basic data for computation furnished by Southern California Edison Co.); minimum daily, 0.1 cfs Oct. 30 to Nov. 12, 1955.

(combined).--Maximum discharge during year, 1,590 cfs June 17; minimum daily, 258 cfs Sept. 23.

1950-66: Maximum discharge, 40,000 cfs Nov. 19, 1950; minimum daily, 99 cfs Oct. 3, 1961.

Remarks.--Records fair. Kern River No. 1 conduit diverts up to about 420 cfs from left bank of Kern River in sec.13, T.28S., R.30 E., for power development; water is returned to river 7 miles below station. Flow regulated by Isabella Reservoir beginning in 1954 (see sta 11-1905). Many diversions above station for irrigation. For records of combined discharge of river and conduit, see following page.

Cooperation.--Water-stage-recorder graph and 14 discharge measurements for river and water-stage-recorder graph and 15 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	280	340	329	195	5.2	226	411	242	182	750	485	120
2	278	218	195	187	2.9	235	384	294	237	702	490	70
3	402	158	187	184	2.9	239	344	290	231	705	542	60
4	442	134	134	187	2.9	258	356	278	203	754	550	57
5	447	117	130	187	2.9	288	362	246	202	785	530	56
6	470	99	109	186	3.6	336	378	240	233	806	505	56
7	461	26	78	184	32	356	370	237	271	795	478	55
8	454	9.6	76	182	15	411	332	248	310	806	456	52
9	422	6.8	75	182	9.6	426	278	251	338	782	463	51
10	400	6.0	78	163	29	449	296	248	465	778	490	51
11	366	6.0	79	98	25	492	368	194	588	785	490	51
12	328	6.0	88	82	5.6	502	389	175	684	806	458	51
13	382	6.0	79	78	2.9	552	420	166	844	872	402	51
14	393	6.0	56	52	2.9	579	433	78	897	810	368	51
15	391	6.0	56	49	2.9	603	393	58	1,000	699	406	50
16	391	13	56	51	2.6	612	282	67	1,110	630	393	50
17	393	192	49	50	2.6	606	278	135	1,170	609	411	51
18	389	194	11	25	2.6	609	360	175	1,100	588	431	51
19	372	189	4.0	22	2.6	568	382	179	1,150	618	426	52
20	362	189	3.6	21	2.6	475	378	173	1,150	696	384	52
21	352	190	3.6	20	2.6	565	376	141	1,150	764	354	51
22	334	194	3.6	8.8	2.3	515	350	144	1,130	764	352	51
23	318	195	3.6	6.4	4.8	468	320	221	1,060	738	350	51
24	312	231	3.6	6.4	51	389	312	230	1,020	669	334	51
25	310	424	3.6	3.6	93	372	328	257	908	525	350	52
26	304	417	3.6	2.9	102	352	326	235	820	525	310	52
27	324	490	3.6	2.9	140	336	308	226	757	609	270	52
28	338	585	3.2	2.9	195	328	320	146	690	562	246	52
29	342	588	18	2.9	-----	324	246	136	741	522	262	52
30	332	588	210	13	-----	368	244	156	754	492	208	52
31	338	-----	208	22	-----	382	-----	157	-----	458	194	-----
Total	11,427	5,823.4	2,337.0	2,456.8	749.0	13,221	10,324	6,023	21,395	21,404	12,388	1,654
Mean	369	194	75.4	79.3	26.8	426	344	194	713	690	400	55.1
Ac-ft	22,670	11,550	4,640	4,870	1,490	26,220	20,480	11,950	42,440	42,450	24,570	3,280

Calendar year 1965 Max 1.360 Min 3.2 Mean 494 Ac-ft 357,600  
 Water year 1965-66 Max 1.170 Min 2.3 Mean 299 Ac-ft 216,600



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

Combined discharge, in cubic feet per second, of Kern River and Kern River No. 1 conduit  
near Democrat Springs, Calif., water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	674	733	719	585	365	613	801	643	584	1,140	891	495
2	672	610	585	577	331	622	772	697	641	1,100	896	418
3	795	548	576	574	330	626	732	696	634	1,100	947	384
4	836	524	522	577	330	645	744	687	603	1,150	956	352
5	841	506	518	577	330	676	749	659	601	1,180	936	338
6	864	485	499	577	355	723	765	652	633	1,200	909	372
7	854	401	470	575	422	743	764	644	670	1,190	882	391
8	846	382	468	574	397	797	731	656	708	1,200	861	385
9	814	310	467	573	379	812	677	659	736	1,180	869	353
10	791	310	468	554	418	835	695	656	865	1,170	894	337
11	758	328	468	490	411	876	767	599	986	1,180	894	325
12	718	353	474	473	376	886	789	579	1,080	1,200	862	324
13	774	349	466	469	343	938	821	571	1,240	1,270	806	305
14	788	333	444	444	348	965	834	492	1,300	1,210	772	301
15	787	353	443	441	378	989	792	471	1,400	1,100	809	303
16	786	388	443	442	380	998	679	475	1,510	1,030	795	293
17	789	582	435	440	380	992	676	538	1,570	1,000	813	276
18	785	584	369	415	379	996	760	583	1,490	985	833	298
19	762	581	354	412	378	956	783	585	1,550	1,010	828	323
20	754	581	353	411	378	864	779	578	1,550	1,090	786	284
21	746	582	359	410	377	953	777	545	1,540	1,160	756	278
22	739	586	380	397	371	905	750	549	1,530	1,160	754	270
23	713	587	376	394	389	858	719	625	1,460	1,140	752	258
24	706	622	337	390	441	779	711	633	1,420	1,070	734	290
25	704	814	338	366	481	762	726	661	1,300	924	750	290
26	696	807	338	364	490	743	726	637	1,200	926	710	296
27	716	881	341	365	527	726	708	627	1,150	1,010	670	303
28	730	975	354	365	581	718	720	546	1,090	968	645	301
29	734	979	393	365	-----	714	645	535	1,140	928	660	334
30	724	979	597	397	-----	758	643	555	1,150	897	604	346
31	730	-----	595	407	-----	771	-----	556	-----	863	590	-----
Total	23,626	17,053	13,949	14,400	11,065	25,239	22,235	19,589	33,331	33,731	24,864	9,823
Mean	762	568	450	465	395	814	741	600	1,111	1,088	802	327
Ac-ft	49,860	33,820	27,670	29,560	21,950	50,060	44,100	36,870	66,110	66,900	49,320	19,480

Calendar year 1965 Max 1,740 Min 310 Mean 863 Ac-ft 625,000  
 Water year 1965-66 Max 1,570 Min 258 Mean 679 Ac-ft 491,700

## KERN RIVER BASIN

11-1940. Kern River near Bakersfield, Calif.

Location.--Lat 35°25'54", long 118°56'43", in NW¼SW¼ sec.2, T.29 S., R.28 E., on left bank 1.9 miles upstream from Sacramento Gulch, 0.8 mile northeast of Oil City, and 5.8 miles northeast of Bakersfield Post Office.

Drainage area.--2,407 sq mi.

Records available.--October 1893 to September 1966. Daily discharges for period October 1953 to September 1963 are in files of California district office of Geological Survey. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder and wooden control. Altitude of gage is 450 ft (from topographic map).

Average discharge.--73 years, 922 cfs (667,500 acre-ft per year).

Extremes.--Maximum daily discharge during year, 1,580 cfs June 21; minimum daily, 255 cfs Sept. 22.

1893-1954 (prior to regulation by Isabella Reservoir): Maximum discharge, 36,000 cfs Nov. 19, 1950 (gage height, 14.2 ft);

minimum daily, 74 cfs Sept. 19, 1948.

1955-66: Maximum daily discharge, 3,940 cfs June 18, 1958; minimum daily, 103 cfs Oct. 9, 1961.

Remarks.--Flow regulated by Isabella Reservoir beginning in 1954 (see sta. no. 11-1905), and three powerplants; many diversions above station for irrigation. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Cooperation.--Records furnished by Kern County Land Company.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	657	729	682	593	395	625	321	669	595	1180	920	485
2	701	579	634	593	357	640	764	724	546	1130	924	428
3	318	536	571	591	353	639	733	716	636	1160	922	393
4	852	521	531	595	354	657	743	711	614	1200	933	361
5	363	502	525	593	361	696	750	675	611	1210	974	336
6	381	481	518	590	388	736	767	679	633	1230	952	372
7	864	424	495	583	423	764	770	674	673	1210	920	397
8	341	387	493	586	414	821	724	684	716	1220	910	374
9	815	320	496	569	403	834	693	683	764	1200	908	355
10	713	317	490	563	434	870	724	681	923	1210	953	335
11	755	347	493	506	437	905	796	620	1030	1220	937	327
12	727	366	504	483	390	919	812	601	1150	1210	906	326
13	800	367	497	490	361	966	849	594	1270	1180	858	397
14	309	357	480	453	369	990	866	515	1320	1190	914	301
15	306	380	470	486	394	1010	794	480	1420	1120	945	297
16	796	405	471	466	394	1010	686	462	1500	1060	935	296
17	798	567	456	472	391	1000	699	530	1520	1040	956	280
18	783	571	390	450	385	1000	770	577	1520	1020	960	307
19	755	583	376	441	382	936	790	574	1540	1040	949	324
20	745	584	374	450	385	883	792	561	1560	1130	916	290
21	736	589	388	444	379	954	769	531	1580	1180	785	282
22	718	592	410	425	374	901	753	563	1540	1190	777	255
23	713	595	394	431	403	859	719	609	1480	1160	770	262
24	705	655	340	416	437	783	709	612	1420	1070	745	304
25	712	828	357	390	483	767	724	639	1340	948	758	292
26	710	831	357	399	509	756	725	625	1270	957	713	302
27	719	909	360	398	525	741	708	601	1190	1030	703	301
28	740	1000	385	393	586	735	730	535	1150	994	649	287
29	737	997	425	394	-----	726	654	540	1190	949	665	338
30	727	1000	593	420	-----	767	654	553	1190	926	602	345
31	746	-----	604	436	-----	780	-----	567	-----	894	583	-----
Total	23,747	17,319	14,559	15,114	11,471	25,675	22,503	18,800	33,996	34,453	25,768	9,349
Mean	766	577	470	488	410	828	750	606	1,133	1,112	931	328
Ac-ft	47,100	34,350	28,880	29,980	22,750	50,330	44,630	37,290	67,430	68,350	51,110	19,540

Calendar year 1965 Max 1,750 Min 317 Mean 976 Ac-ft 634,300

Water year 1965-66 Max 1,580 Min 255 Mean 694 Ac-ft 502,300

## BUENA VISTA LAKE BASIN

557

11-1942. Wagonwheel Creek near Reward, Calif.

Location.-- Lat 35°19'25", Long 119°44'30", in SE 1/4 sec. 8, T.30 S., R.21 E., at culvert on private road 3.5 miles west of Reward.

Drainage area.-- 1.38 sq mi.

Records available.-- Water year 1958-65 (annual maximum), October 1965 to September 1966.

Gage.-- Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,500 ft (from topographic map).

Extremes.-- Maximum discharge during year, 51 cfs Nov. 25 (gage height, 9.07 ft), from rating curve based on computation of flow through culvert as explained below; no flow most of year.

1959-66: Maximum discharge, 306 cfs Aug. 14, 1965 (gage height, 13.44 ft, from floodmarks), from rating curve based on computation of flow through culvert and over road at gage heights 6.97 ft, 9.05 ft, 9.55 ft, 9.92 ft, and 13.44 ft; no flow for several months of each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0							
2		0	0	0	0							
3		0	0	0	0							
4		0	0	0	0							
5		0	0	0	0							
6		0	0	0	0							
7		0	0	0	0.70							
8		0	0	0	0							
9		0	0	0	0							
10		0	0	0	0							
11		0	.40	0	0							
12		0	1.7	0	0							
13		0	0	0	0							
14		0	0	0	0							
15		0	0	0	0							
16		0	0	0	0							
17		0	0	0	0							
18		0	0	0	0							
19		0	0	0	0							
20		0	0	0	0							
21		0	0	0	0							
22		0	0	0	0							
23		1.0	0	0	0							
24		0	0	0	0							
25		2.1	0	0	0							
26		0	0	0	0							
27		0	2.0	0	0							
28		0	.90	0	0							
29		0	0	0	-----							
30		0	0	1.8	-----							
31		-----	0	0	-----							
Total	0	3.1	5.00	1.8	0.70	0	0	0	0	0	0	0
Mean	0	0.10	0.16	0.06	0.02	0	0	0	0	0	0	0
Ac-ft	0	6.1	9.9	3.6	1.4	0	0	0	0	0	0	0
(†)	0.2	- - -	- - -	- - -	1.0	0.1	0	0	0	0	0	0.1

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max 2.1 Min 0 Mean 0.029 Ac-ft 2.1

† Precipitation, in inches.

## BUENA VISTA LAKE BASIN

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 1966.

Gage.--Water-stage recorder and broad-crested weir with rectangular flume for flows below 15 cfs. Datum of gage is 1,617.57 ft above mean sea level.

Average discharge.--7 years, 1.04 cfs (753 acre-ft per year).

Extremes.--Maximum discharge during year, 24 cfs Nov. 24 (gage height, 10.12 ft, from floodmarks); minimum daily, 0.30 cfs for many days.

1959-66: Maximum discharge, 6,690 cfs Aug. 5, 1961 (gage height, 19.87 ft, from floodmarks), from rating curve extended above 20 cfs on basis of slope-area measurements at gage heights 10.94 ft and 19.87 ft; minimum daily, 0.30 cfs Apr. 23, 24, 1962 and many days in 1965.

Maximum stage known since at least 1938 (from information by local residents), that of Aug. 5, 1961.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	0.30	0.70	0.70	0.70	0.70	0.90	0.60	0.60	0.70	0.70	0.80
2	.40	.30	.70	.70	.70	.80	.90	.60	.60	.70	.70	.80
3	.40	.30	.70	.70	.70	.90	.90	.60	.60	.70	.70	.80
4	.40	.30	.50	.70	.70	1.0	.90	.60	.60	.70	.70	.80
5	.40	.30	.50	.70	.70	.90	.80	.60	.60	.70	.70	.80
6	.40	.30	.60	.70	5.7	.90	.80	.70	.60	.70	.70	.80
7	.40	.30	.60	.60	1.3	.90	.80	.60	.70	.70	.70	.80
8	.40	.30	.70	.60	.90	1.0	.80	.60	.70	.70	.70	.90
9	.40	.30	.70	.60	.90	.90	.70	.60	.60	.70	.70	.90
10	.40	.30	.70	.60	1.0	.90	.80	.70	.70	.70	.70	.90
11	.40	.40	.70	.60	.80	.90	.90	.60	.60	.70	.70	.90
12	.40	.40	.70	.60	.70	.90	.90	.60	.60	.70	.70	.90
13	.40	.40	.90	.60	.70	.90	.90	.50	.60	.70	.70	.90
14	.40	.40	.80	.60	.70	1.0	.80	.50	.60	.70	.70	.90
15	.40	.50	.90	.60	.70	1.0	.70	.50	.70	.70	.70	.90
16	.40	.50	.70	.60	.70	1.1	.70	.50	.70	.70	.70	.80
17	.40	.50	.70	.60	.70	1.1	.70	.50	.70	.70	.70	.80
18	.40	.50	.70	.60	.70	1.0	.70	.50	.70	.70	.70	.80
19	.30	.50	.70	.60	.70	1.0	.70	.50	.70	.70	.70	.80
20	.30	.50	.70	.60	.70	1.0	.70	.50	.70	.70	.70	.90
21	.30	.60	.70	.60	.70	1.1	.70	.50	.70	.70	.80	.80
22	.30	.60	.70	.60	.70	1.1	.70	.50	.70	.70	.80	.80
23	.30	.60	.70	.70	.70	1.1	.70	.50	.70	.70	.80	.90
24	.30	4.7	.70	.70	1.4	1.1	.70	.50	.70	.70	.80	.90
25	.30	.70	.80	.70	1.1	1.1	.70	.50	.70	.70	.70	.90
26	.30	.70	.80	.70	.90	1.0	.70	.50	.70	.70	.80	.90
27	.30	.70	.70	.70	.70	1.1	.70	.50	.70	.70	.80	.90
28	.30	.70	.70	.70	.70	1.1	.60	.60	.70	.70	.80	.80
29	.30	.70	.70	.70	-----	1.0	.60	.60	.70	.70	.80	.90
30	.30	.70	.70	.70	-----	1.0	.60	.60	.70	.80	.80	.90
31	.30	-----	.70	.70	-----	1.0	-----	.60	-----	.70	.90	-----
Total	11.10	18.30	21.40	20.10	27.30	30.50	22.50	17.30	19.90	21.40	22.80	25.60
Mean	0.36	0.61	0.70	0.65	0.99	0.99	0.75	0.56	0.66	0.70	0.74	0.85
Ac-ft	22	36	43	40	54	60	45	34	39	43	45	.51

Calendar year 1965 Max 7.3 Min ----- Mean 0.753 Ac-ft 545

Water year 1965-66 Max ----- Min ----- Mean 0.710 Ac-ft 514

Peak discharge (base, 40 cfs).--No peak above base.

Note.--No gage-height record Oct. 1 to Nov. 23, Dec. 29 to Jan. 30.

11-1956. Pastoria Creek near Lebec, Calif.

Location.--Lat 34°54'35", long 118°48'55", in Los Alamos Y Agua Caliente Grant, on right bank just upstream from unnamed tributary and 5.8 miles northeast of Lebec, Kern County.

Records available.--October 1964 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 1,970.93 ft above mean sea level, unadjusted. Prior to Apr. 20, 1966, graphic water-stage recorder.

Extremes.--Maximum discharge during year, 11 cfs Dec. 29 (gage height, 1.60 ft), from rating curve extended above 1.2 cfs; no flow for much of year.

1964-66: Maximum discharge, that of Dec. 29, 1965; no flow for much of each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0.30	0.20	1.5	0.90	0.50	0.10			
2		0	0	.20	.20	1.6	.90	.50	.10			
3		0	0	.20	.20	1.5	.90	.40	.10			
4		0	0	.20	.20	1.5	.90	.40	.10			
5		0	0	.10	.20	1.5	.90	.40	.20			
6		0	0	.10	1.0	1.5	.90	.30	.20			
7		0	0	.10	.80	1.5	.90	.30	.20			
8		0	0	.10	.60	1.5	.90	.30	.20			
9		0	0	.10	.50	1.5	.90	.30	.20			
10		0	0	.10	.70	1.5	.90	.40	.20			
11		0	0	.10	.70	1.5	.90	.40	.20			
12		0	0	.10	.60	1.5	.90	.40	.20			
13		0	0	.10	.60	1.3	.80	.30	.20			
14		0	0	.10	.60	1.3	.70	.30	.20			
15		0	0	.10	.60	1.3	.70	.30	.20			
16		.10	0	.10	.60	1.3	.70	.20	.10			
17		.20	0	.10	.60	1.3	.70	.20	.10			
18		0	0	.10	.60	1.3	.70	.20	.10			
19		0	0	.10	.60	1.3	.70	.20	.10			
20		0	0	.10	.60	1.3	.60	.20	.10			
21		0	0	.20	.60	1.3	.60	.20	.10			
22		0	0	.20	.60	1.2	.60	.20	.10			
23		0	0	.20	.60	1.1	.60	.20	.10			
24		0	0	.20	.90	1.1	.60	.20	.10			
25		.10	0	.20	1.3	1.0	.60	.20	.10			
26		0	0	.20	1.6	1.0	.60	.10	.10			
27		0	0	.20	1.5	1.0	.60	.10	.10			
28		0	0	.20	1.3	1.0	.60	.10	.10			
29		0	2.5	.20	-----	1.0	.60	.10	0			
30		0	.20	.60	-----	1.0	.50	.10	0			
31		-----	.30	.30	-----	1.0	-----	.10	-----			-----
Total	0	0.40	3.00	5.20	19.10	40.2	22.30	8.10	3.90	0	0	0
Mean	0	0.01	0.10	0.17	0.68	1.30	0.74	0.26	0.13	0	0	0
Ac-ft	0	0.8	6.0	10	38	80	44	16	7.7	0	0	0

Calendar year 1965 Max 2.5 Min 0 Mean 0.19 Ac-ft 137

Water year 1965-66 Max 2.5 Min 0 Mean 0.28 Ac-ft 203

Peak discharge (base, 10 cfs).--Dec. 29 (0200 hrs) 11 cfs (1.60 ft).

## BUENA VISTA LAKE BASIN

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 1966.

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

Average discharge.--5 years, 1.23 cfs (890 acre-ft per year).

Extremes.--Maximum discharge during year, 2.2 cfs Jan. 1 (gage height, 1.40 ft); no flow for several months.  
1961-66: Maximum discharge, 1,410 cfs Aug. 8, 1963 (gage height, 7.48 ft, from floodmarks), from rating curve extended above 51 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0		1.9	0.90	0.70	0.30	0				
2		0	0	1.5	.80	1.1	.30	0				
3		0	0	1.5	.70	1.0	.30	0				
4		0	0	1.5	.50	.90	.20	.10				
5		0	0	1.5	.60	.80	.20	.10				
6		0	0	1.4	1.0	.70	.20	.10				
7		0	1.0	1.3	1.2	.70	.20	.10				
8		0	.20	1.3	1.0	.80	.30	.10				
9		0	.20	1.1	.90	.70	.30	.10				
10		0	.30	1.0	1.0	.70	.30	.10				
11		0	.40	1.0	.90	.70	.30	.10				
12		0	.60	.90	.90	.70	.30	.10				
13		0	.60	.90	.90	.70	.30	.10				
14		0	.50	.80	.90	.70	.30	.10				
15		0	.50	.90	.80	.70	.30	0				
16		0	.50	.80	.80	.70	.20	0				
17		0	.50	.90	.80	.70	.20	0				
18		0	.50	.80	.80	.70	.20	0				
19		0	.60	.70	.70	.70	.30	0				
20		0	.60	.70	.60	.70	.30	0				
21		0	.50	.70	.50	.70	.20	0				
22		0	.70	.70	.40	.70	.20	0				
23		0	.80	.70	.50	.50	.20	0				
24		.10	.80	.70	.50	.40	.10	0				
25		.30	.90	.60	.50	.40	.10	0				
26		0	.90	.50	.70	.40	.10	0				
27		0	.80	.60	.70	.40	.10	0				
28		0	.80	.60	.60	.40	.10	0				
29		0	1.1	.50	-----	.40	.10	0				
30		0	1.5	1.2	-----	.40	.10	0				
31		-----	1.5	1.1	-----	.30	-----	0	-----			-----
Total	0	0.40	16.40	30.30	21.10	20.10	6.60	1.10	0	0	0	0
Mean	0	0.01	0.53	0.98	0.75	0.65	0.22	0.04	0	0	0	0
Ac-ft	0	0.8	33	60	42	40	13	2.2	0	0	0	0

Calendar year 1965 Max 4.7 Min 0 Mean 2.29 Ac-ft 1660  
 Water year 1965-66 Max 1.9 Min 0 Mean 0.263 Ac-ft 190

Peak discharge (base, 50 cfs).--No peak above base.

## BUENA VISTA LAKE BASIN

11-1964.2. Tehachapi Creek near Tehachapi, Calif.

Location.--Lat 35°10'25", long 118°28'45", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.6, T.32 S., R.33 E., on right bank 1.3 miles downstream from Brite Creek and 3.2 miles northwest of Tehachapi.

Drainage area.--53.2 sq mi.

Records available.--September 1962 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 3,534.48 ft above mean sea level. Prior to Aug. 5, 1964, at site 0.2 mile upstream at different datum.

Extremes.--Maximum discharge during year, 0.2 cfs Mar. 2 (gage height, 0.71 ft), from rating curve extended above 0.02 cfs; no flow most of the year.

1962-66: Maximum discharge, 1,700 cfs Aug. 8, 1963 (gage height, 5.30 ft, in gage well, 6.40 ft, outside from floodmarks), from slope-area measurement of maximum flow; no flow for all or part of most years.

Remarks.--Records good. No measurable flow has occurred since Sept. 26, 1963.

11-1972.5. Avenal Creek near Avenal, Calif.

Location.--Lat 35°51'15", long 120°07'35", in NW $\frac{1}{4}$  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 Avenal.

Drainage area.--57.1 sq mi.

Records available.--October 1961 to September 1966.

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

Average discharge.--5 years, 1.06 cfs (767 acre-ft per year).

Extremes.--Maximum discharge during year, 94 cfs Dec. 29 (gage height, 2.36 ft); no flow for several months.

1961-66: Maximum discharge, 400 cfs Feb. 9, 1962 (gage height, 4.10 ft, from floodmarks), from rating curve extended above 90 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

Remarks.--Records good. Minor diversions for stock above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	1.0	1.3	0.40	0					
2		0	0	6.2	1.3	4.0	0					
3		0	0	2.7	.70	4.0	0					
4		0	0	1.3	2.1	4.0	0					
5		0	0	.20	3.0	3.0	0					
6		0	0	.20	2.7	.20	0					
7		0	0	.20	2.4	1.0	0					
8		0	0	.20	2.0	1.0	.10					
9		0	0	.20	1.9	1.0	.10					
10		0	0	.20	1.8	1.0	.10					
11		0	0	.20	1.6	1.0	.10					
12		0	0	.20	1.6	1.0	.10					
13		0	0	.20	1.6	1.0	.10					
14		0	0	.20	1.3	1.0	.10					
15		0	0	.20	1.3	1.0	.10					
16		0	0	.20	.90	1.0	0					
17		0	0	.20	.90	1.0	0					
18		0	0	.30	.90	1.0	0					
19		0	0	.30	.90	1.0	.20					
20		0	0	.30	.70	1.0	.10					
21		0	0	.50	.60	1.0	.10					
22		0	0	.30	.50	1.0	.10					
23		0	0	.20	.50	1.0	.10					
24		.30	0	.20	.50	1.0	0					
25		0	0	.30	.60	1.0	0					
26		0	0	.20	.50	1.0	0					
27		0	0	1.0	.50	1.0	0					
28		0	0	.10	.50	1.0	0					
29		0	.25	.10	-----	1.0	0					
30		0	.42	2.1	-----	1.0	0					
31		-----	3.4	1.1	-----	1.0	-----		-----			-----
Total	0	0.30	1.01	28.90	35.10	4.60	1.40	0	0	0	0	0
Mean	0	0.01	3.26	0.93	1.25	0.15	0.04	0	0	0	0	0
Ac-ft	0	0.6	2.00	57	70	9.1	2.8	0	0	0	0	0

Calendar year 1965 Max 48 Min 0 Mean 0.903 Ac-ft 654

Water year 1965-66 Max 42 Min 0 Mean 0.469 Ac-ft 340

Peak discharge (base, 30 cfs).--Dec. 29 (2000) 94 cfs (2.36 ft).

## TULARE LAKE BASIN

11-1978, Poso Creek near Oildale, Calif.

Location.--Lat 35°30'50", long 118°54'15", in SW<sup>1</sup>/<sub>4</sub> sec.6, T.28 S., R.29 E., on downstream side of highway bridge opposite mouth of Hillvale Canyon, 10 miles northeast of Oildale, and 12 miles northeast of Bakersfield.

Drainage area.--230 sq mi.

Records available.--July 1959 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 700 ft (from topographic map). Prior to Oct. 10, 1962, graphic water-stage recorder at same site and datum.

Average discharge.--7 years, 12.2 cfs (8,830 acre-ft per year).

Extremes.--Maximum discharge during year, 81 cfs Dec. 30 (gage height, 4.46 ft); minimum daily, 2.2 cfs June 6.

1959-66: Maximum discharge, 359 cfs Dec. 28, 1964 (gage height, 6.38 ft); minimum, 0.9 cfs July 26, 1961.

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. Oilfield waste comprises most of low flow.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.5	3.5	5.1	4.9	25	26	14	6.5	2.8	3.0	2.6	4.6
2	3.5	3.5	5.0	3.6	22	29	14	5.9	2.7	3.1	2.6	4.5
3	3.3	3.3	5.1	2.8	19	21	14	5.5	2.7	3.0	3.0	4.2
4	3.5	3.4	5.0	2.4	16	29	12	4.9	2.7	3.0	2.8	3.5
5	3.7	3.2	5.0	2.2	17	29	10	5.1	2.6	2.9	2.8	3.4
6	3.8	3.2	5.0	2.0	3.8	31	10	4.6	2.2	2.8	3.0	3.2
7	3.6	3.3	5.0	1.9	7.4	30	9.3	5.3	2.3	2.9	2.8	3.3
8	3.7	3.1	5.0	1.9	5.8	29	9.5	5.1	2.6	3.0	2.8	3.4
9	3.6	3.2	5.1	2.0	4.1	28	9.7	4.9	2.7	3.0	2.6	3.7
10	3.5	3.3	5.5	1.8	3.4	27	9.8	5.1	2.7	2.8	2.6	3.7
11	3.5	4.2	5.0	1.8	3.1	27	11	5.2	2.6	2.9	2.8	3.6
12	3.8	4.9	5.7	1.8	2.8	28	14	4.6	2.6	2.8	3.0	3.5
13	3.7	4.8	5.3	1.8	2.7	28	13	4.8	2.6	3.0	3.0	3.5
14	3.6	4.1	5.4	1.7	2.5	29	12	4.7	2.7	3.0	3.0	3.5
15	3.6	4.6	5.3	1.8	2.3	30	11	4.2	2.9	3.0	3.0	3.6
16	3.6	3.9	4.8	1.7	2.2	29	10	3.7	2.4	3.0	3.2	3.7
17	3.6	5.7	5.5	1.6	2.2	26	9.3	3.8	2.6	3.1	3.2	3.7
18	3.6	5.3	5.2	1.7	2.2	28	8.8	3.9	2.6	3.0	3.0	3.5
19	3.7	5.0	5.4	1.6	2.0	23	9.6	3.7	2.5	2.9	3.1	3.2
20	3.6	4.2	5.6	1.6	1.9	21	11	3.7	2.4	2.8	3.4	3.2
21	3.6	4.1	5.9	1.5	2.0	20	11	3.6	2.4	2.7	3.4	3.1
22	3.4	4.2	6.0	1.4	2.0	19	11	3.6	2.7	2.6	3.6	2.9
23	3.3	4.9	5.6	1.3	1.9	18	9.8	3.6	3.0	2.5	3.4	3.0
24	3.1	5.7	5.7	1.4	1.9	18	8.6	3.5	3.0	2.6	3.2	3.2
25	3.2	6.0	6.2	1.4	2.1	16	7.8	3.6	3.0	2.6	3.1	3.3
26	3.3	6.0	7.4	1.4	2.4	16	7.0	3.6	3.0	3.0	3.3	3.3
27	3.4	5.4	9.0	1.3	2.6	15	7.0	3.5	2.9	3.0	3.2	3.3
28	3.5	5.1	11	1.1	2.6	15	7.0	3.3	3.0	2.6	3.2	3.3
29	4.4	4.8	16	1.2	-----	15	6.7	3.0	3.0	2.5	3.1	3.3
30	3.9	4.8	4.9	2.2	-----	15	7.0	2.8	3.0	2.6	2.9	3.2
31	3.3	-----	6.2	2.6	-----	14	-----	2.8	-----	2.8	4.0	-----
TOTAL	110.4	130.7	287.8	594	758	741	304.9	132.1	80.9	88.5	94.7	104.4
MEAN	3.56	4.36	9.28	19.2	27.1	23.9	10.2	4.26	2.70	2.86	3.06	3.48
AC-FT	219	259	571	1,180	1,500	1,470	605	262	160	176	188	207

CALENDAR YEAR 1965 MAX 296 MIN 2.7 MEAN 32.2 AC-FT 23,290  
 WATER YEAR 1965-66 MAX 74 MIN 2.2 MEAN 9.39 AC-FT 6,800

Peak discharge (base, 70 cfs).--Dec. 30 (2315) 81 cfs (4.46 ft); Feb. 7 (1730) 79 cfs (4.34 ft).



11-2020. North Fork of Middle Fork Tule River near Springville, Calif.

Location--Lat 36°10'29", long 118°41'41", in 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.

Records available--October 1939 to September 1966. 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; combined only, October 1954 to September 1962.

Gage--Digital water-stage recorder and, since Aug. 6, 1958, concrete control on river; digital water-stage recorder and rectangular concrete channel for conduit diversion. Altitude of gage is 2,920 ft (from topographic map). Prior to Nov. 23, 1965, graphic water-stage recorder at river and conduit at same sites and datums.

Average discharge (river only)--27 years, 22.0 cfs (15,930 acre-ft per year).  
(total flow)--27 years, 53.4 cfs (38,660 acre-ft per year).

Extremes (river only)--Maximum discharge during year, 135 cfs Nov. 23 (gage height, 3.90 ft); minimum daily, 0.20 cfs July 18, Aug. 8, 22, 24.

1939-66: 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; maximum gage height, 13.06 ft Nov. 19, 1950, from floodmarks; no flow Sept. 10, 11, 1955.

(combined)--Maximum discharge during year, 206 cfs Nov. 23; minimum daily, 11 cfs Sept. 7-10, 17, 21-24, 28-30.  
 1939-66: Maximum discharge, 12,400 cfs Dec. 23, 1955; minimum daily, 7.2 cfs Aug. 18, Oct. 17, 1961.

Remarks--Records good. Pacific Gas & Electric Co. conduit diverts 2.5 miles upstream from station; water is returned to North Fork of Middle Fork Tule River 1.1 miles downstream from station. For records of combined discharge of river and conduit, see following page.

Cooperation--Gage-height record and seven discharge measurements for the river and gage-height record and seven 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 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.60	0.80	1.4	8.9	2.5	2.5	8.6	2.2	1.1	0.60	0.30	0.30
2	2.4	.80	1.2	3.2	2.3	2.6	17	2.5	1.0	.70	.30	.40
3	5.2	.80	1.2	2.6	2.2	2.4	20	3.1	1.0	.70	.50	.40
4	5.2	.90	1.1	2.3	2.2	2.3	19	3.7	1.0	.70	.50	.40
5	6.0	.90	1.1	2.3	2.6	2.4	16	4.2	.90	.60	.40	.30
6	1.3	.90	1.1	2.8	9.9	2.4	13	4.7	.90	.60	.40	.40
7	1.1	.90	1.1	3.6	6.1	2.4	12	5.0	1.1	.60	.30	.30
8	1.1	.80	1.1	4.1	4.1	2.3	12	3.6	1.1	.60	.20	.30
9	1.1	.80	1.1	3.5	3.3	2.3	12	2.7	1.1	.50	.40	.30
10	1.1	.90	1.2	3.1	3.3	2.4	17	3.0	1.1	.50	.40	.30
11	1.2	.90	1.2	2.7	3.0	2.5	11	2.4	1.0	.50	.30	.30
12	1.2	.90	1.9	2.0	2.8	2.6	6.5	2.1	1.0	.50	.30	.30
13	1.1	.90	1.6	1.8	2.5	2.6	2.8	1.8	1.0	.60	.30	.30
14	1.1	1.4	1.6	1.7	2.4	2.7	2.5	1.7	.80	.50	.30	.30
15	1.5	1.2	1.6	1.6	2.3	2.6	2.4	1.6	.90	.40	.30	.30
16	1.3	1.1	1.5	2.0	2.2	2.7	2.4	1.5	.80	.30	.30	.30
17	1.2	3.8	1.5	1.8	2.2	2.5	2.6	1.5	.80	.30	.30	.30
18	1.2	1.3	1.5	1.5	2.1	2.4	3.6	1.5	.80	.20	.30	.40
19	1.6	1.2	1.4	1.6	2.1	2.4	4.2	1.5	.80	.30	.30	.40
20	1.1	.90	1.4	1.5	2.0	2.4	3.0	1.4	.70	.30	.30	.40
21	1.0	1.0	1.5	1.5	2.0	2.4	2.7	1.4	.90	.30	.30	.40
22	1.0	1.6	1.5	1.4	2.0	2.3	2.4	1.2	.90	.30	.20	.30
23	.90	2.4	1.4	1.6	2.0	2.4	2.1	1.2	.80	.40	.30	.40
24	.80	16	1.3	1.6	2.2	2.4	2.0	1.2	.80	.40	.20	.40
25	.80	5.0	1.6	1.6	2.1	2.0	2.0	1.1	.70	.40	.30	.50
26	.80	2.3	1.6	1.6	2.4	2.0	2.0	1.1	.70	.40	.30	.50
27	.90	1.9	1.4	1.5	2.2	2.2	2.3	1.1	.70	.40	.40	.50
28	1.4	2.8	1.4	1.4	2.2	2.2	2.3	1.1	.60	.30	.40	.40
29	.80	2.6	17	1.4	-----	2.3	1.9	1.1	.60	.30	.40	.30
30	.80	2.1	13	2.5	-----	2.5	2.1	1.1	.60	.30	.40	.40
31	.80	-----	9.5	2.1	-----	3.0	-----	1.1	-----	.40	.40	-----
TOTAL	47.60	81.40	78.0	72.8	79.2	75.1	209.4	64.4	26.20	13.90	10.30	10.80
MEAN	1.54	2.71	2.52	2.35	2.83	2.42	6.98	2.08	.87	.45	.33	.36
AC-FT	94	161	155	144	157	149	415	128	52	28	20	21

CALENDAR YEAR 1965 MAX 133 MIN .60 MEAN 17.3 AC-FT 12,540  
 WATER YEAR 1965-66 MAX 24 MIN .20 MEAN 2.11 AC-FT 1,520

11-2020. North Fork of Middle Fork Tule River near Springville, Calif.--Continued.

Combined discharge, in cubic feet per second, of North Fork of Middle Fork Tule River and Pacific Gas and Electric Co. conduit near Springville, Calif., water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	15	31	16	26	30	80	66	32	18	14	12
2	16	15	31	24	25	30	88	68	31	18	14	12
3	16	15	32	25	25	29	89	70	31	18	14	12
4	16	15	32	27	25	29	88	73	30	18	14	12
5	17	15	31	27	28	30	85	73	29	18	13	12
6	17	15	30	29	41	30	81	74	28	17	13	12
7	16	15	29	32	33	31	80	73	31	17	13	11
8	16	15	28	33	29	33	80	70	30	17	12	11
9	16	16	28	32	27	34	79	65	29	16	12	11
10	16	16	27	32	27	39	86	64	28	16	12	11
11	16	16	26	32	26	44	74	59	27	16	12	12
12	16	16	29	31	27	48	70	56	26	16	12	12
13	16	17	27	31	26	51	63	55	25	17	12	12
14	16	33	26	31	26	53	62	55	24	16	12	12
15	18	26	26	30	25	53	61	54	24	15	12	12
16	18	30	24	30	26	54	64	54	24	15	12	12
17	17	47	24	29	27	50	67	52	23	15	12	11
18	17	32	24	28	28	50	70	52	23	15	12	12
19	18	26	23	28	28	51	65	52	23	15	12	12
20	17	23	23	26	28	51	61	49	22	14	12	12
21	17	22	24	26	30	50	59	46	22	14	12	11
22	16	33	22	25	32	51	56	46	21	14	12	11
23	16	86	21	25	32	53	54	44	21	14	12	11
24	16	76	22	25	32	53	55	43	21	14	12	11
25	16	49	23	25	30	50	58	41	20	14	12	12
26	16	38	23	25	30	50	62	39	20	13	12	12
27	16	35	22	24	30	52	63	38	20	13	12	12
28	14	34	22	23	30	57	63	37	19	13	12	11
29	16	33	44	23	-----	61	64	36	19	13	12	11
30	16	32	55	26	-----	66	64	35	19	14	12	11
31	15	-----	40	25	-----	70	-----	33	-----	14	12	-----
Total	509	856	869	845	799	1,433	2,091	1,672	742	477	383	348
Mean	16.4	28.5	28.0	27.3	28.5	46.2	69.7	53.9	24.7	15.4	12.4	11.6
Ac-ft	1,010	1,700	1,720	1,680	1,580	2,840	4,150	3,320	1,470	946	760	690
Calendar year 1965	Max	202	Min	15	Mean	57.9	Ac-ft	41,890				
Water year 1965-66	Max	89	Min	11	Mean	30.2	Ac-ft	21,870				

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.--97.6 sq mi.

Records available.--February 1957 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 1,040 ft (from topographic map). Prior to Aug. 2, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 29.6 cfs (21,430 acre-ft per year).

Extremes.--Maximum discharge during year, 240 cfs Dec. 30 (gage height, 6.40 ft); minimum daily, 0.1 cfs Aug. 5-8.  
1957-66: Maximum discharge, 4,600 cfs Jan. 31, 1963 (gage height, 10.29 ft); no flow for many days in 1958, 1960-62, 1964.

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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.80	0.50	17	71	24	31	41	13	1.7	0.60	0.30	0.30
2	.70	.50	16	45	26	32	43	13	2.0	1.0	.40	.40
3	.90	.50	16	39	23	30	43	9.9	1.8	1.4	.40	.60
4	1.1	.60	16	35	24	28	41	8.1	1.7	1.0	.20	.50
5	.80	.70	16	31	24	29	39	8.0	1.3	.60	1.0	.40
6	.50	.50	15	29	63	29	36	8.3	1.2	.40	1.0	.30
7	.50	.90	14	33	55	29	32	9.0	1.5	.40	1.0	.40
8	.60	1.5	14	38	41	29	29	8.1	1.7	3.0	1.0	.60
9	.60	.80	13	40	35	30	28	8.6	1.8	.40	.50	.50
10	.90	.80	13	38	36	31	39	17	1.5	.50	.60	.20
11	1.0	.80	13	36	33	36	37	18	1.1	.50	.30	.20
12	.90	.80	20	34	32	40	31	13	1.0	1.1	.30	.20
13	1.7	.90	16	32	30	43	28	10	.90	.60	.30	.30
14	1.1	1.6	14	31	28	47	23	8.3	.70	.50	.40	.50
15	.70	3.8	13	30	28	44	20	6.4	1.30	.60	.40	.60
16	1.0	4.9	13	30	27	45	17	6.3	.80	.50	.20	.70
17	1.4	15	12	27	27	43	17	5.6	.70	.30	.40	.60
18	1.2	15	12	25	29	40	23	4.3	.80	.40	.40	.60
19	1.0	14	12	23	28	38	28	4.4	.80	.60	.30	.60
20	1.2	12	12	22	28	38	24	4.7	.80	.60	.20	.90
21	.80	9.4	12	21	28	35	21	4.1	.70	.50	.20	.80
22	.90	8.4	11	20	29	35	19	3.2	.60	.40	.20	.60
23	.80	29	11	19	31	36	16	2.2	.70	.50	.20	.60
24	.80	70	11	18	34	36	15	2.3	1.0	.50	.20	.70
25	.90	62	11	18	33	34	14	2.1	.60	.30	.20	.90
26	.90	37	13	18	34	33	14	1.6	.70	.30	.30	.90
27	.90	27	12	17	31	33	15	1.8	.70	.30	.50	.70
28	.80	23	12	16	30	34	16	1.4	.60	.40	.60	.40
29	.80	20	74	15	-----	36	13	1.1	.50	.30	.40	.40
30	.70	18	133	25	-----	38	14	1.1	.50	.30	.40	.40
31	.70	-----	90	25	-----	39	-----	1.4	-----	.30	.40	-----
Total	276.0	379.90	677	901	891	1101	776	206.3	317.0	164.0	96.0	158.0
Mean	0.89	12.7	12.7	29.1	31.8	35.5	25.9	6.65	1.06	0.53	0.31	0.53
Ac-ft	55	754	1340	1790	1770	2180	1540	409	63	33	19	31
Calendar year 1965	Max	378	Min	0.30	Mean	43.1	Ac-ft	31220				
Water year 1965-66	Max	133	Min	0.10	Mean	13.8	Ac-ft	9980				

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.--225 sq mi.

Records available.--October 1957 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 800 ft (from topographic map).

Average discharge.--9 years, 94.1 cfs (68,130 acre-ft per year).

Extremes.--Maximum discharge during year, 689 cfs Dec. 29 (gage height, 4.92 ft); minimum daily, 0.4 cfs Aug. 20, 21.

1957-66: Maximum discharge, 10,100 cfs Jan. 31, 1963 (gage height, 10.80 ft); no flow for many days in 1961.

Flood in December 1955 reached a stage of 13.7 ft, from floodmarks (discharge, 21,000 cfs).

Remarks.--Records good. Many small diversions above station for irrigation. Power is developed on Middle Fork and tributaries.

Records of water temperatures and chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	17	70	180	74	92	155	82	30	7.2	2.8	1.5
2	16	17	67	124	82	95	164	84	30	5.5	2.9	1.5
3	15	17	67	104	76	86	167	82	29	6.3	3.4	1.3
4	14	17	68	95	74	84	170	82	28	5.9	3.7	1.3
5	13	17	67	88	74	86	161	84	27	4.7	3.1	1.3
6	12	17	63	88	181	86	149	84	25	4.0	2.8	1.0
7	11	19	60	95	152	88	143	86	28	3.7	2.0	.80
8	10	19	55	104	116	83	140	86	30	3.7	1.5	.80
9	11	19	53	109	99	90	137	80	31	4.0	1.1	1.1
10	12	22	56	102	99	95	158	25	29	4.3	.80	1.1
11	12	21	56	97	90	108	143	92	26	4.0	.80	1.3
12	13	21	73	92	90	121	124	84	24	3.4	.80	1.5
13	14	22	65	90	84	126	111	74	23	3.1	.80	1.5
14	14	35	56	88	82	137	104	70	20	3.4	.80	1.3
15	16	52	55	86	80	132	97	65	16	3.1	.90	1.3
16	17	38	53	84	80	135	92	55	14	3.1	.70	1.1
17	17	102	50	80	80	126	95	62	14	3.1	.60	1.0
18	17	74	49	74	82	113	104	60	14	3.1	.60	1.3
19	17	62	49	70	82	121	116	58	14	2.8	.50	2.2
20	17	53	48	68	82	124	102	53	12	2.8	.40	3.7
21	17	47	48	67	84	121	97	52	13	4.7	.40	3.4
22	15	46	48	65	88	116	90	48	12	3.7	.60	2.2
23	13	198	47	63	90	121	80	47	12	2.2	.50	1.7
24	13	264	46	60	95	121	78	44	12	1.3	.50	2.0
25	14	204	47	60	97	113	78	40	12	1.3	.80	2.5
26	14	124	50	60	97	111	82	35	12	1.3	.70	3.1
27	14	99	43	58	90	116	84	34	11	1.1	.70	3.7
28	15	90	48	56	88	121	84	31	9.5	1.1	.80	3.1
29	15	84	213	55	-----	132	84	31	9.0	1.1	1.0	2.5
30	15	78	379	74	-----	140	82	31	8.5	1.5	1.1	2.0
31	15	-----	227	80	-----	146	-----	29	-----	2.2	1.3	-----
Total	444	1,894	2,389	2,615	2,588	3,496	3,471	1,940	5,750	102.7	39.40	54.10
Mean	14.3	63.1	77.1	84.4	92.4	113	116	62.6	19.2	3.31	1.27	1.80
Ac-ft	381	3,760	4,740	5,190	5,130	6,930	6,880	3,850	1,140	20.4	78	107

Calendar year 1965 Max 737 Min 10 Mean 137 Ac-ft 99,200  
 Water year 1965-66 Max 379 Min 0.4 Mean 53.7 Ac-ft 38,890

Peak discharge (base, 350 cfs).--Nov. 23 (0400) 370 cfs (4.38 ft); Dec. 29 (2300) 689 cfs (4.92 ft).

11-2045. South Fork Tule River near Success, Calif.

location.--Lat 36°02'30", long 118°51'25", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.4, T.22 S., R.29 E., on left bank 0.5 mile 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 December 1954, January 1956 to September 1966. Monthly and yearly discharge only for some periods published in WSP 1735.

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.--34 years, 37.4 cfs (27,080 acre-ft per year); median of yearly mean discharges, 26 cfs (18,800 acre-ft per year).

Extremes.--Maximum discharge during year, 250 cfs Dec. 29 (gage height, 5.13 ft); no flow for several months.

1930-1954, 1956-66: Maximum discharge, 7,100 cfs Nov. 19, 1950 (gage height, 11.36 ft, present site and datum), from rating curve extended above 3,100 cfs on basis of slope-area measurement of maximum flow; no flow at times in most years.

Remarks.--Records good. Diversions for irrigation of about 1,600 acres above stations.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	1.1	9.9	4.2	1.9	2.2	3.1	7.5	2.1			
2	1.5	1.2	9.5	3.0	1.8	2.3	3.1	8.3	1.6			
3	1.6	1.6	1.1	2.6	1.9	2.3	3.1	6.7	1.6			
4	1.8	1.6	1.2	2.4	1.8	2.3	3.0	5.4	1.4			
5	1.3	1.5	1.1	2.3	1.9	2.4	2.8	5.4	1.3			
6	.90	1.6	1.0	2.3	6.2	2.4	2.6	5.4	1.3			
7	.80	1.6	9.9	2.5	4.2	2.4	2.5	5.4	1.4			
8	.70	1.8	1.0	2.8	3.1	2.4	2.5	5.4	2.1			
9	.80	1.9	1.0	2.6	2.5	2.4	2.4	6.0	2.6			
10	1.8	2.5	1.2	2.4	2.6	2.6	3.3	1.1	2.4			
11	1.9	2.5	1.2	2.2	2.3	2.8	2.6	1.2	1.9			
12	1.6	2.1	1.7	2.1	2.4	3.1	2.1	1.1	1.6			
13	1.5	1.9	1.6	1.8	2.1	3.4	2.0	9.1	1.1			
14	1.5	3.4	1.4	1.8	2.0	3.5	1.8	7.9	4.0			
15	2.1	7.0	1.4	1.8	2.0	3.4	1.6	7.5	2.0			
16	3.4	5.0	1.3	1.6	2.0	3.3	1.6	7.1	2.0			
17	2.7	2.0	1.2	1.6	1.9	3.1	1.5	6.7	1.0			
18	2.5	1.0	1.2	1.6	1.9	2.8	1.6	6.3	1.0			
19	1.9	8.4	1.3	1.4	1.9	3.0	1.8	4.8	1.0			
20	1.6	7.4	1.3	1.6	1.9	3.2	1.6	3.6	1.0			
21	1.4	7.0	1.3	1.4	1.9	3.1	1.6	3.6	1.0			
22	1.1	6.7	1.3	1.5	2.0	2.9	1.4	3.8	1.0			
23	1.1	2.0	1.2	1.6	2.1	3.0	1.3	3.8	1.0			
24	1.5	3.5	1.2	1.5	2.1	2.9	1.2	3.0	2.0			
25	1.4	3.1	1.3	1.6	2.2	2.8	1.1	1.9	2.0			
26	1.4	1.8	1.6	1.6	2.3	2.8	9.1	1.8	1.0			
27	1.2	1.4	1.4	1.6	2.1	2.8	9.1	1.8	1.0			
28	1.4	1.2	1.4	1.6	2.1	3.0	9.1	1.9	0			
29	1.2	1.2	7.9	1.6		3.1	8.8	1.9	0			
30	1.1	1.0	11.9	2.1	-----	3.1	8.4	2.1	0			
31	1.1	-----	5.8	2.1	-----	3.1	-----	2.2	-----			
Total	47.70	249.8	604.3	628	651	879	576.5	170.3	25.40	0	0	0
Mean	1.54	8.33	19.5	20.3	23.2	28.4	19.2	5.49	0.85	0	0	0
Ac-ft	95	495	1,200	1,250	1,290	1,740	1,140	338	50	0	0	0

Calendar year 1965: Max 2.08 Min 0.5 Mean 3.56 Ac-ft 25,740  
 Water year 1965-66: Max 11.9 Min 0 Mean 10.5 Ac-ft 7,600

Peak discharge (base, 200 cfs)--Dec. 29 (2200) 250 cfs (5.13 ft).

## TULARE LAKE BASIN

11-2046.8. Pioneer ditch below Success Dam, Calif.

Location.--Lat 36°03'34", long 118°55'22", in NW $\frac{1}{4}$  sec.35, T.21 S., R.28 E., on left bank 0.1 mile downstream from Success Dam and 5.5 miles east of Porterville.

Records available.--April 1959 to September 1966. 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.

Average discharge.--7 years, 7.88 cfs (5,700 acre-ft per year).

Extremes.--1960-66: Maximum daily discharge, 29 cfs Apr. 15, 1961; no flow at times in most years.

Remarks.--Records excellent. Ditch receives water from Lake Success (usable capacity, 85,400 acre-ft); see station no. 11-2047.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	5.0				0	8.8	5.8	7.3	9.9	17	13
2	13	4.0				0	8.8	5.8	6.0	9.9	15	10
3	13	4.0				0	8.8	5.8	6.0	9.9	12	10
4	13	4.0				0	8.8	7.9	6.0	9.9	13	10
5	13	4.0				0	9.1	10	6.0	9.9	12	10
6	12	1.0				0	9.1	11	6.0	9.9	13	10
7	12	0				0	9.1	11	9.2	14	13	10
8	12	0				0	9.3	11	11	15	9.6	10
9	12	0				0	9.3	11	11	15	10	11
10	12	0				0	9.3	7.5	11	15	11	12
11	12	0				0	9.6	5.8	11	15	11	13
12	12	0				0	9.6	5.8	11	15	13	13
13	12	0				0	9.6	6.0	11	11	13	13
14	12	0				0	9.6	7.8	11	9.6	13	13
15	9.0	0				0	9.6	8.7	7.6	9.6	11	13
16	7.0	0				0	9.6	8.7	9.2	9.6	10	12
17	7.0	0				0	9.6	8.7	11	9.6	10	13
18	6.0	0				0	8.2	8.2	12	13	12	13
19	6.0	0				0	6.8	8.2	12	14	13	13
20	6.0	0				0	6.8	8.2	11	14	14	13
21	8.0	0				5.6	6.8	8.2	11	16	12	12
22	9.0	0				8.1	6.8	8.2	11	16	12	11
23	9.0	0				8.7	6.8	8.2	11	15	14	10
24	9.0	0				8.7	6.8	8.2	8.7	15	15	8.7
25	8.0	0				8.7	6.8	9.6	7.5	15	15	8.0
26	7.0	0				8.8	7.9	10	7.5	15	16	8.0
27	6.0	0				8.8	8.7	10	7.5	15	17	8.0
28	7.0	0				8.8	8.7	10	9.0	15	17	8.0
29	8.0	0			-----	8.8	8.7	10	9.9	15	17	8.0
30	8.0	0			-----	8.8	7.0	10	9.9	16	17	8.1
31	8.0	-----			-----	8.8	-----	10	-----	16	17	-----
Total	301.0	22.0	0	0	0	92.6	254.4	265.3	279.3	407.8	414.6	324.8
Mean	9.71	0.73	0	0	0	2.99	8.48	8.56	9.31	13.2	13.4	10.8
Ac-ft	597	44	0	0	0	184	505	526	554	809	822	644

Calendar year 1965 Max 16 Min 0 Mean 6.70 Ac-ft 4850  
 Water year 1965-66 Max 17 Min 0 Mean 6.47 Ac-ft 4680

## 11-2047. Lake Success near Success, Calif.

Location.--Lat 36°03'40", long 118°55'18", in SE $\frac{1}{4}$  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 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929 (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 26,000 acre-ft May 9-11 (elevation 613.84 ft); minimum, 5,890 acre-ft Sept. 30 (elevation, 584.98 ft).

1961-66: Maximum contents, 66,100 acre-ft June 22-26, 1965 (elevation, 642.74 ft); minimum since initial season of operation, that of Sept. 30, 1966.

Remarks.--Lake is formed by earthfill dam and dike. Storage began November 1961. Usable capacity, 85,400 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, 203,500 acre-ft). Dead storage 720 acre-feet. Records, including extremes, represent usable contents at 2400 hours.

Cooperation.--Records of contents and evaporation furnished by Corps of Engineers.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21,000	6,790	10,100	9,990	9,310	16,200	21,000	25,300	25,600	22,100	10,800	7,280
2	20,300	6,820	10,100	9,990	10,000	16,500	21,300	25,400	25,600	22,000	10,800	7,200
3	20,500	6,950	10,100	10,100	10,200	16,700	21,500	25,500	25,600	21,900	10,700	7,130
4	20,300	6,880	10,200	10,100	10,300	16,900	21,800	25,600	25,600	21,900	10,600	7,080
5	20,100	6,920	10,200	10,100	10,500	17,000	22,100	25,700	25,600	21,700	10,600	7,040
6	19,900	6,960	10,200	10,000	11,000	17,200	22,300	25,800	25,600	21,700	10,300	7,010
7	19,300	7,010	10,100	10,000	11,400	17,300	22,600	25,900	25,600	21,500	10,100	6,980
8	18,500	7,060	10,100	10,000	11,600	17,300	22,800	25,900	25,700	20,700	9,960	6,950
9	17,700	7,100	10,000	10,000	11,800	17,300	23,100	26,000	25,700	20,100	9,540	6,930
10	16,900	7,160	2,230	10,000	12,000	17,400	23,400	26,000	25,600	19,500	9,530	6,860
11	16,000	7,200	10,000	10,000	12,200	17,400	23,600	26,000	25,600	18,900	9,400	6,780
12	15,100	7,260	10,100	10,000	12,400	17,500	23,800	25,900	25,500	18,300	9,290	6,690
13	14,200	7,320	10,100	10,000	12,600	17,600	23,800	25,900	25,400	17,900	9,180	6,590
14	13,300	7,380	10,000	10,000	12,700	17,700	23,900	25,800	25,200	17,400	9,070	6,480
15	12,400	7,500	10,000	9,320	12,900	17,800	24,000	25,800	24,900	16,900	8,950	6,380
16	11,500	7,620	10,000	9,510	13,100	17,900	24,000	25,700	24,600	16,500	8,820	6,280
17	10,700	7,860	10,000	9,230	13,200	18,000	24,100	25,700	24,300	16,000	8,690	6,200
18	9,850	8,030	10,000	8,930	13,400	18,100	24,200	25,600	24,000	15,600	8,550	6,160
19	9,070	8,180	10,000	8,720	13,600	18,200	24,200	25,600	23,800	15,200	8,430	6,140
20	8,780	8,300	10,000	8,740	13,800	18,300	24,300	25,700	23,600	14,900	8,310	6,100
21	8,620	8,410	10,000	8,740	14,000	18,500	24,300	25,700	23,400	14,500	8,190	6,080
22	8,440	8,540	10,000	8,780	14,200	18,600	24,400	25,600	23,300	14,100	8,100	6,060
23	8,270	8,900	10,000	8,820	14,400	18,900	24,400	25,600	23,200	13,700	8,000	6,030
24	8,100	9,450	10,000	8,870	14,600	19,100	24,500	25,600	23,100	13,400	7,920	6,020
25	7,940	9,960	10,000	8,950	14,800	19,300	24,600	25,600	23,000	13,000	7,850	5,990
26	7,770	10,100	10,000	9,020	15,100	19,500	24,700	25,600	23,000	12,600	7,780	5,980
27	7,610	10,200	10,000	9,070	15,300	19,700	24,900	25,600	22,800	12,200	7,720	5,960
28	7,460	10,200	10,000	9,140	15,500	20,000	24,900	25,600	22,700	11,800	7,640	5,930
29	7,300	10,100	10,300	9,230	-----	20,200	25,000	25,600	22,500	11,300	7,580	5,920
30	7,140	10,100	10,500	9,420	-----	20,500	25,200	25,600	22,300	10,900	7,480	5,890
31	6,970	-----	10,200	9,630	-----	20,700	25,600	-----	-----	10,900	7,380	-----
(+)	587.35	593.22	593.43	592.41	601.53	607.72	612.93	613.42	609.64	594.03	588.18	584.98
(*)	-14,200	3,130	100	-570	5,870	5,200	4,500	400	-3,300	-11,400	-3,520	-1,490
(††)	360	101	42	53	89	215	420	555	671	621	526	290

Calendar year 1965 ..... † - 2,400  
 Water year 1965-66 ..... † -15,300

† Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

## TULARE LAKE BASIN

11-2049. Tule River below Success Dam, Calif.

Location.--Lat 36°03'23", long 118°55'22", in SW<sup>1</sup>/<sub>4</sub> 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 1966. Prior to October 1960, published as "at Worth Bridge, near Porterville".

Gage.--Water-stage recorder and broad-crested weir. 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.--13 years, 124 cfs (89,770 acre-ft per year), adjusted for storage, diversion and evaporation.

Extremes.--Maximum discharge during year, 512 cfs July 8,9 (gage height, 5.99 ft); minimum daily, 0.10 cfs Nov. 22-25.

1953-61 (prior to regulation by Lake Success): 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.

1961-66: Maximum discharge, 2,980 cfs Jan. 31, 1963 (gage height, 9.25 ft), from rating curve extended above 1,200 cfs; no flow for several months in 1961-62, 1965.

Remarks.--Records good. Flow regulated by Lake Success beginning Nov. 23, 1961 (see sta. no. 11-2047). Pioneer ditch (see sta. no. 11-2046,8) diverts above station for irrigation. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	103	88	85	368	1.9	0.50	43	22	16	67	10	29
2	103	3.0	68	164	5.0	.50	43	22	16	60	10	29
3	103	.90	62	95	8.0	.50	43	22	18	56	10	21
4	103	.70	62	107	8.0	.50	43	22	14	26	10	10
5	103	.60	62	126	8.0	12	40	22	9.5	9.8	22	6.0
6	103	.60	72	137	9.0	29	34	22	6.7	9.7	88	.50
7	306	.60	85	111	9.0	76	26	30	6.3	55	86	.60
8	399	.70	91	126	12	93	22	34	9.5	370	86	.60
9	399	.50	91	138	28	86	22	56	13	321	96	.60
10	396	.30	84	138	22	96	22	84	13	262	37	16
11	417	.30	63	131	20	96	38	93	42	288	37	24
12	441	.30	58	110	16	104	59	106	56	303	34	24
13	435	.30	75	104	16	107	84	102	56	232	31	31
14	443	.40	84	104	16	107	75	100	90	228	31	36
15	444	.40	78	218	16	107	57	80	132	232	37	34
16	439	.40	67	265	16	108	54	71	146	233	43	28
17	433	.40	69	258	16	108	63	70	143	222	47	24
18	421	.30	69	252	16	108	74	70	132	186	47	10
19	399	.20	69	213	6.0	90	78	55	128	173	39	.70
20	167	.20	69	81	.50	68	78	33	83	173	35	.50
21	89	.20	69	81	.50	62	79	35	59	173	35	.50
22	89	.10	64	68	.50	50	65	40	59	173	31	.50
23	89	.10	60	61	.50	36	55	39	53	171	29	.50
24	89	.10	63	53	.50	27	40	38	22	170	18	.50
25	90	.10	65	44	.50	20	30	38	22	168	10	.60
26	90	54	65	44	.50	17	24	28	40	168	10	.60
27	90	93	62	44	.50	14	21	9.2	56	180	10	.60
28	84	93	60	44	.50	14	22	11	67	187	10	.60
29	82	93	175	32	-----	6.9	22	15	74	187	10	.60
30	85	93	396	12	-----	18	22	15	69	184	21	.60
31	88	-----	417	2.0	-----	43	-----	15	-----	11	29	-----
Total	7,122	525.70	2,959	3,731.0	260.40	1704.90	1,378	1,399.2	1,651.0	5,278.5	1,049	331.0
Mean	230	17.5	95.4	120	9.30	55.0	45.9	45.1	55.0	170	33.8	11.0
Ac-ft	141,300	1,040	5,870	7,400	516	3,380	2,730	2,780	3,270	10,470	2,080	657
Mean†	13.8	72.4	98.2	112	116	138	136	69.9	20.3	73.2	0	1.00
Ac-ft†	847	4,310	6,040	6,870	6,470	8,500	8,080	4,300	1,210	450	0	59
Calendar year 1965	Max	830	Min	0	Mean	162	Ac-ft	117,100	Mean†	17.4	Ac-ft†	126,300
Water year 1965-66	Max	444	Min	0.1	Mean	75.0	Ac-ft	54,320	Mean†	65.1	Ac-ft†	47,140

† Adjusted for change in contents and evaporation from Lake Success and for diversion to Pioneer ditch.



11-2065. Middle Fork Kaweah River near Potwisha Camp, Calif.

Location.--Lat 36°30'45", long 118°47'25", in NW¼ 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.

Records available.--July 1949 to September 1966. Monthly discharge only for water years 1956, 1957, published in WSP 1735. Prior to October 1954, records for No. 3 conduit published separately; combined only, October 1954 to September 1962.

Gage.--Water-stage recorder and concrete control on river; water-stage recorder and concrete-lined channel for conduit diversion. Altitude of gage is 2,100 ft (from topographic map). Prior to October 1955, at datum 0.70 ft higher.

Average discharge (river only).--17 years, 115 cfs (83,260 acre-ft per year).  
(total flow).--17 years, 157 cfs (113,700 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 549 cfs Nov. 22 (gage height, 6.19 ft); minimum daily, 9.6 cfs Oct. 7-9. 1949-66: Maximum discharge, 46,800 cfs Dec. 23, 1955 (gage height, 29.0 ft, from floodmarks, datum then in use), by slope-area measurement of maximum flow; minimum daily, 0.1 cfs Nov. 12-15, 1949.

(combined).--Maximum discharge during year, 604 cfs Nov. 22; minimum daily, 11 cfs Sept. 29. 1949-66: Maximum discharge, 46,800 cfs Dec. 23, 1955; minimum daily, 8.8 cfs Sept. 23-25, 1949.

Remarks.--Records good. Middle Fork No. 3 conduit diverts from left bank of Middle Fork Kaweah River 0.5 mile upstream from station in NE¼ 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. For records of combined discharge of river and conduit, see following page.

Cooperation.--Gage-height record and 14 discharge measurements for river and gage-height record and 15 discharge measurements for conduit furnished by Southern California Edison Co.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	10	40	38	25	25	239	289	133	31	24	14
2	9.9	10	41	37	24	24	273	311	125	26	25	13
3	9.7	10	44	32	25	27	281	320	119	24	26	12
4	9.7	10	45	25	25	28	279	338	119	23	25	12
5	9.7	10	42	26	25	30	269	356	120	22	25	12
6	9.7	10	38	31	41	31	269	356	122	22	24	12
7	9.6	10	34	36	29	32	275	353	167	23	23	12
8	9.6	10	30	38	26	38	271	320	161	23	24	12
9	9.6	10	32	32	25	36	259	283	130	23	24	12
10	9.7	10	30	28	25	49	261	253	116	23	23	12
11	9.7	11	25	25	24	60	201	215	119	23	22	12
12	9.7	11	28	24	24	71	185	213	136	22	22	12
13	9.7	15	19	24	24	76	161	213	136	22	22	12
14	9.9	78	17	24	24	82	160	239	136	22	22	12
15	11	34	14	24	24	82	174	253	115	24	21	12
16	11	30	14	24	25	85	209	267	115	24	20	12
17	11	103	14	22	24	77	235	283	133	24	20	12
18	11	41	14	24	24	83	213	303	122	24	20	12
19	11	31	14	24	24	87	179	299	108	23	19	12
20	10	19	14	24	24	87	158	271	91	23	18	12
21	10	16	14	24	25	87	146	239	83	24	18	12
22	10	82	14	24	25	93	139	239	72	24	18	12
23	11	237	13	24	25	107	142	245	57	24	17	12
24	10	273	13	24	24	111	166	253	51	24	16	12
25	10	135	13	24	23	99	207	265	46	24	16	12
26	10	93	13	24	24	106	243	267	45	24	16	12
27	10	71	13	24	22	122	251	245	45	24	16	12
28	10	59	13	24	22	142	243	229	46	24	16	12
29	11	51	116	24	-----	160	241	195	43	24	15	11
30	10	44	74	25	-----	176	259	164	37	24	14	12
31	10	-----	46	24	-----	203	-----	140	-----	24	14	-----
Total	313.2	1,534	891	827	701	2,516	6,588	8,216	3,048	735	625	362
Mean	10.1	51.1	28.7	26.7	25.0	81.2	220	265	102	23.7	20.2	12.1
Ac-ft	621	3,040	1,770	1,640	1,390	4,990	13,070	16,300	6,050	1,460	1,240	718
Calendar year 1965	Max	671	Min	9.1	Mean	142	Ac-ft	102,700				
Water year 1965-66	Max	356	Min	9.6	Mean	72.2	Ac-ft	52,280				

## TULARE LAKE BASIN

11-2065. Middle Fork Kaweah River near Potwisha Camp, Calif.--Continued.

Combined discharge, in cubic feet per second, of Middle Fork Kaweah River and Middle Fork Kaweah River  
No. 3 conduit near Potwisha Camp, Calif., water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	20	97	97	59	76	290	343	186	91	30	16
2	29	20	98	96	57	70	324	365	178	84	39	14
3	28	19	101	91	59	70	332	374	172	78	43	13
4	27	19	102	85	60	71	330	392	172	72	37	13
5	26	19	99	86	61	78	319	410	173	67	34	13
6	26	19	95	91	96	80	319	410	175	65	31	13
7	25	19	91	97	77	82	325	406	221	63	28	13
8	24	19	88	100	67	89	322	373	214	59	27	13
9	24	19	91	93	62	88	310	336	183	56	26	13
10	23	20	88	88	65	103	312	306	169	52	25	13
11	23	21	83	84	60	114	252	269	173	50	23	13
12	22	21	85	82	61	123	236	267	190	47	23	13
13	22	37	76	80	62	127	212	267	190	46	23	13
14	22	137	75	79	62	132	212	293	190	44	22	13
15	31	88	67	81	61	133	226	306	169	42	22	13
16	29	84	63	77	62	136	261	321	170	40	21	13
17	28	161	60	71	64	128	287	336	189	39	21	12
18	27	97	60	69	66	134	265	357	177	37	21	12
19	26	87	62	66	65	137	231	353	164	35	20	13
20	24	74	60	64	66	137	210	324	147	34	19	13
21	23	69	60	62	71	137	198	292	141	35	19	13
22	22	131	56	61	75	144	191	292	130	34	19	12
23	23	294	52	58	76	158	194	298	115	33	18	12
24	21	330	53	57	78	162	218	306	110	33	17	12
25	21	191	54	55	76	150	260	318	104	32	17	12
26	21	149	53	55	75	157	296	320	103	32	17	12
27	21	127	53	53	71	173	304	297	103	31	17	12
28	21	114	53	52	71	193	296	281	105	30	17	12
29	21	106	176	52	-----	212	294	247	102	29	16	11
30	20	100	135	60	-----	227	312	215	96	31	15	12
31	20	-----	108	58	-----	254	-----	192	-----	32	16	-----
Total	750	2,611	2,494	2,300	1,885	4,075	8,138	9,866	4,711	1,453	723	382
Mean	24.2	87.0	80.5	74.2	67.3	131	271	318	157	46.9	23.3	12.7
Ac-ft	1,490	5,180	4,950	4,560	3,740	8,080	16,140	19,570	9,340	2,880	1,430	758
Calendar year 1965	Max	725	Min	19	Mean	186	Ac-ft	134,600				
Water year 1965-66	Max	410	Min	11	Mean	108	Ac-ft	78,120				

11-2080, Marble Fork Kaweah River at Potwisha Camp, Calif.

Location.--Lat 36°31'10", long 118°48'10", in SE¼ 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.

Records available.--March 1950 to September 1966. Monthly discharge only for March 1950, published in WSP 1315-A. Prior to October 1954, records for river and conduit published separately; combined only, October 1954 to September 1962.

Gage.--Water-stage recorder and concrete control on river; water-stage recorder and concrete control for conduit diversion. Altitude of gage is 2,150 ft (from topographic map).

Average discharge (river only).--16 years, 64.0 cfs (46,330 acre-ft per year); median of yearly mean discharges, 57 cfs (41,300 acre-ft per year).

(total flow).--16 years, 89.9 cfs (65,080 acre-ft per year); median of yearly mean discharges, 83 cfs (60,100 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 402 cfs May 6 (gage height, 4.80 ft); minimum daily, 2.4 cfs Sept. 28.

1950-66: 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 maximum flow; no flow Sept. 5-15, Oct. 24-28, 1953, Oct. 26-31, 1957.

(combined).--Maximum discharge during year, 447 cfs May 6; minimum daily, 3.1 cfs Sept. 29.

1950-66: Maximum discharge, 12,500 cfs Dec. 23, 1955; minimum daily, 1.6 cfs July 30, Sept. 14-16, 1961.

Remarks.--Records good. Marble Fork Kaweah River No. 3 conduit 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. For records of combined discharge of river and conduit, see following page. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation.--Gage-height record and 12 discharge measurements for river and gage-height record and 12 discharge measurements for conduit furnished by Southern California Edison Co.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	3.1	11	8.5	7.4	8.8	181	227	69	14	6.4	4.7
2	3.2	3.1	15	4.0	7.6	9.6	213	247	62	13	6.4	4.7
3	3.1	3.6	17	3.4	7.6	9.9	221	241	61	11	7.4	4.9
4	3.1	3.8	15	4.5	7.6	12	215	237	63	10	7.1	5.1
5	3.0	4.4	12	7.4	7.6	12	209	257	63	9.3	6.7	6.4
6	3.0	4.4	12	8.2	8.8	12	209	267	63	9.3	6.2	6.2
7	3.0	4.4	10	8.5	7.9	12	223	265	91	9.3	5.3	5.3
8	3.0	4.4	10	8.5	7.4	12	225	235	84	9.6	4.4	4.4
9	3.1	4.2	7.9	8.5	7.6	12	205	189	79	9.6	4.2	4.4
10	3.1	3.8	4.4	8.5	7.6	18	191	161	68	9.3	3.8	4.5
11	3.0	4.0	4.5	8.5	7.6	27	137	141	73	9.3	3.6	4.5
12	3.0	4.0	2.6	8.5	7.9	28	128	141	78	9.3	3.4	4.7
13	3.0	4.4	3.1	8.2	7.9	32	107	151	79	6.9	3.4	4.7
14	3.0	26	3.4	8.5	7.6	40	112	179	74	5.5	3.6	4.7
15	3.2	15	3.4	8.2	7.6	40	139	187	52	8.2	4.0	4.9
16	3.2	18	3.4	7.9	7.6	43	185	203	42	7.9	3.6	5.1
17	3.2	42	3.4	7.9	7.6	38	199	209	49	7.9	3.6	5.1
18	3.1	18	3.4	8.2	7.6	42	151	211	50	7.6	3.6	5.1
19	3.1	5.3	3.4	8.2	7.6	44	116	185	43	7.6	3.6	5.3
20	3.2	3.8	3.4	8.2	7.6	44	96	154	38	7.6	3.6	5.5
21	3.2	3.4	3.4	8.2	7.6	45	86	144	35	7.4	3.6	5.5
22	3.4	38	3.2	8.2	7.6	51	83	156	25	7.1	3.2	5.3
23	3.6	149	3.2	7.9	7.9	64	88	161	17	6.9	3.2	6.4
24	3.4	156	3.2	7.9	7.9	66	117	163	16	6.7	3.6	7.6
25	3.2	54	3.2	7.6	7.9	49	161	173	15	6.7	3.8	5.1
26	3.2	30	3.2	7.6	7.9	53	189	175	15	6.7	4.2	4.7
27	3.1	22	3.2	7.6	7.9	71	197	158	14	6.7	4.5	3.6
28	3.1	18	3.2	7.6	7.9	90	189	141	14	6.4	4.5	2.4
29	3.1	16	14	7.6	-----	104	183	113	13	6.0	4.5	2.6
30	3.1	13	16	7.9	-----	120	197	85	13	6.2	4.5	3.0
31	3.1	-----	13	7.6	-----	149	-----	66	-----	6.4	4.7	-----
Total	97.3	679.1	217.1	238.0	216.3	1,358.3	4,952	5,622	1,458	255.4	138.2	146.4
Mean	3.14	22.6	7.00	7.68	7.72	43.8	165	181	48.6	8.24	4.46	4.88
Ac-ft	193	1,350	431	472	429	2,690	9,820	11,150	2,890	507	274	290
Calendar year 1965	Max	504	Min	2.6	Mean	81.0	Ac-ft	58,650				
Water year 1965-66	Max	267	Min	2.4	Mean	42.1	Ac-ft	30,500				

## TULARE LAKE BASIN

11-2080. Marble Fork Kaweah River at Potwisha Camp, Calif.--Continued.

Combined discharge, in cubic feet per second, of Marble Fork Kaweah River and Marble Fork Kaweah River  
No. 3 conduit at Potwisha Camp, Calif., water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	<u>11</u>	<u>6.0</u>	48	48	29	37	223	271	109	36	6.9	5.6
2	10	6.0	52	40	30	35	255	289	102	32	7.6	5.3
3	9.5	6.1	54	36	30	<u>32</u>	263	280	101	28	<u>1.2</u>	5.3
4	9.2	6.3	53	36	30	33	257	276	103	26	9.5	5.5
5	8.8	6.6	50	36	30	33	251	295	103	23	7.5	6.9
6	8.8	6.6	49	40	38	34	251	308	103	22	6.6	7.1
7	8.3	6.4	47	40	34	36	265	309	<u>131</u>	21	5.7	6.1
8	8.0	6.4	47	42	31	38	<u>267</u>	279	124	20	4.8	5.2
9	7.9	6.4	45	40	32	44	247	232	119	19	4.6	5.2
10	7.6	6.5	41	40	30	57	233	203	108	17	4.2	5.3
11	7.5	6.7	42	40	28	67	179	183	113	16	4.0	5.4
12	7.5	6.7	41	40	30	68	170	183	118	15	3.8	5.7
13	7.2	7.9	39	39	29	72	148	193	119	14	3.8	5.7
14	7.2	57	37	40	29	80	154	221	114	13	4.0	5.7
15	9.3	49	33	40	30	80	180	229	92	13	4.4	5.9
16	8.7	52	30	40	30	83	227	245	82	12	4.0	6.0
17	8.2	80	28	38	31	78	237	251	89	11	4.0	6.0
18	7.9	55	28	36	32	82	193	253	90	10	4.0	6.1
19	7.6	41	29	35	32	84	158	227	83	10	4.0	6.7
20	7.4	35	30	35	34	84	138	196	78	10	4.0	7.0
21	7.2	29	31	33	36	85	128	186	74	9.6	4.0	6.5
22	7.1	64	28	32	40	92	<u>125</u>	198	63	8.6	<u>3.6</u>	6.1
23	6.8	190	<u>27</u>	32	40	105	130	203	54	8.1	3.6	7.2
24	6.4	<u>196</u>	27	32	<u>41</u>	107	159	204	52	7.5	3.9	<u>8.3</u>
25	6.2	93	27	30	36	89	205	215	49	7.3	4.0	6.1
26	6.2	68	27	30	36	93	233	217	49	7.1	4.6	6.1
27	6.1	60	27	30	34	113	241	200	48	7.1	5.0	5.0
28	6.1	56	27	29	36	132	233	183	47	6.8	4.9	3.3
29	6.1	54	48	29	-----	146	227	155	43	6.4	5.1	<u>3.1</u>
30	<u>6.0</u>	50	<u>60</u>	32	-----	162	241	126	39	6.8	5.1	3.5
31	6.0	-----	57	30	-----	<u>191</u>	-----	<u>106</u>	-----	7.1	5.5	-----
Total	237.8	1,313.6	1,209	1,120	918	2,472	6,218	6,916	2,599	450.4	158.7	172.9
Mean	7.67	43.8	39.0	36.1	32.8	79.7	207	223	86.6	14.5	5.12	5.76
Ac-ft	472	2,610	2,400	2,220	1,820	4,900	12,330	13,720	5,160	893	315	343
Calendar year 1965	Max	543	Min	6.0	Mean	111	Ac-ft	80,010				
Water year 1965-66	Max	309	Min	3.1	Mean	65.2	Ac-ft	47,180				

Location.--Lat 36°27'05", long 118°47'15", in NW¼ sec.14, T.17 S., R.29 E., on left bank just downstream from diversion dam and 6.6 miles east of Three Rivers.

Records available.--May 1952 to September 1955, October 1957 to September 1966. Prior to October 1962, combined only.

Gate.--Water-stage recorder and Parshall flume on river; water-stage recorder and Parshall flume for conduit diversion. Altitude of gate is 2,500 ft (from topographic map). May 15, 1952, to Sept. 30, 1955, at site 200 ft downstream at different datum.

Average discharge (river only).---12 years, 65.2 cfs (47,200 acre-ft per year).  
(total flow).---12 years, 93.3 cfs (67,550 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 541 cfs Dec. 29 (gage height, 5.18 ft); minimum daily, 0.30 cfs Sept. 26, 1952-55, 1957-66: Maximum discharge, 2,850 cfs Feb. 1, 1963 (gage height, 11.00 ft); no flow Jan. 22, Oct. 18-20, 1962. (combined).--Maximum discharge during year, 565 cfs Dec. 29; minimum daily, 12 cfs Aug. 24, Sept. 12, 14-26, 29. 1952-55, 1957-66: Maximum discharge, 2,850 cfs Feb. 1, 1963; minimum daily, 3.5 cfs Sept. 28, 29, 1960.

Remarks.--East Fork Kaweah River No. 1 conduit diverts up to 30 cfs 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. For records of combined discharge of river and conduit, see following page.

Cooperation.--Records furnished by Southern California Edison Co. and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	0.60	20	37	12	22	140	383	117	20	1.2	0.80
2	3.7	1.0	20	41	11	22	160	376	108	18	1.8	.80
3	3.2	1.1	20	39	11	32	173	389	99	18	1.1	.70
4	2.6	1.1	21	39	12	25	220	395	94	16	2.3	.70
5	2.7	1.1	19	30	13	22	249	377	95	14	.70	.60
6	2.3	1.1	19	18	30	22	248	382	96	13	.60	.60
7	.80	1.1	18	21	19	24	259	377	126	11	.70	.60
8	.80	1.1	17	24	14	25	267	364	110	10	.80	.60
9	.80	1.1	19	19	13	25	257	352	94	10	.70	.60
10	.80	1.1	18	18	12	33	235	328	90	9.6	.70	.60
11	.80	1.1	16	16	10	40	189	291	96	8.7	.70	.60
12	.80	1.1	18	15	11	48	169	290	96	8.3	.70	.50
13	.90	4.9	15	15	10	53	150	309	93	8.2	.60	.50
14	.90	35	15	14	9.8	59	154	330	89	8.1	.70	.50
15	5.0	18	14	14	10	59	200	335	77	8.1	.70	.50
16	3.8	20	19	13	10	60	200	352	73	7.5	.70	.50
17	4.1	59	21	11	11	52	257	365	68	7.3	.70	.50
18	2.0	23	17	11	11	57	234	375	62	7.2	.70	.50
19	1.9	16	15	11	11	61	188	367	58	3.9	.70	.50
20	.70	11	26	11	12	63	155	321	50	.70	.70	.50
21	.90	9.8	22	23	13	65	147	293	44	.80	.60	.50
22	.90	57	14	23	15	72	141	310	37	.80	.60	.50
23	.80	154	20	22	17	81	143	303	31	.70	.60	.40
24	.80	172	25	22	20	79	171	281	29	.80	.60	.40
25	.80	61	26	25	18	66	241	268	25	.70	.60	.40
26	.80	38	26	20	18	62	309	257	24	.60	.60	.30
27	.80	30	15	10	18	77	320	232	23	.60	.60	.60
28	.80	25	9.9	9.8	18	86	326	219	22	.60	.60	.60
29	.80	23	15.8	9.9	-----	94	335	180	22	.60	.70	.60
30	.70	21	69	12	-----	104	356	149	22	.70	.70	.60
31	.70	-----	33	12	-----	122	-----	127	-----	.70	.80	-----
Total	52.80	790.30	784.9	605.7	389.8	1,712	6,593	9,677	2,070	215.20	34.40	16.60
Mean	1.70	26.3	25.3	19.5	13.9	55.2	220	312	69.0	6.94	1.11	.55
Ac-ft	105	1,570	1,560	1,200	773	3,400	13,080	19,190	4,110	427	68	33
Calendar year 1965	Max	700	Min	0.60	Mean	111	Ac-ft	80,640				
Water year 1965-66	Max	395	Min	0.30	Mean	62.9	Ac-ft	45,500				

## TULARE LAKE BASIN

11-2087.3. East Fork Kaweah River near Three Rivers, Calif.--Continued.

Combined discharge, in cubic feet per second, of East Fork Kaweah River and East Fork Kaweah River No. 1 conduit near Three Rivers, Calif., water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	19	40	42	33	36	140	394	139	44	20	16
2	25	18	40	41	32	36	160	387	130	42	26	16
3	24	18	40	39	33	34	173	400	121	42	35	16
4	24	18	41	39	34	34	225	406	116	39	26	15
5	24	18	39	40	35	36	259	388	117	37	23	15
6	24	18	39	42	52	37	264	393	118	36	20	15
7	23	17	38	46	41	39	282	388	148	34	19	15
8	22	18	37	49	36	40	290	375	132	33	18	14
9	22	18	39	44	35	40	280	364	116	33	17	14
10	22	18	38	42	34	48	258	341	112	33	17	13
11	21	18	36	40	32	55	212	304	118	31	16	13
12	21	19	38	39	34	63	192	303	118	30	16	12
13	21	26	35	39	33	68	173	322	115	30	15	14
14	21	59	35	39	32	74	176	343	111	29	15	12
15	28	40	34	39	32	73	222	348	99	28	15	12
16	27	40	31	38	32	73	222	366	95	26	14	12
17	28	80	28	36	33	65	279	381	90	25	14	12
18	25	43	29	36	33	70	256	392	84	25	14	12
19	25	36	33	36	33	74	208	384	80	24	14	12
20	23	31	26	33	34	76	175	339	73	22	13	12
21	22	29	30	23	35	78	167	311	68	21	13	12
22	22	76	29	23	37	83	161	328	61	21	13	12
23	21	170	20	22	37	91	162	322	55	20	13	12
24	21	190	25	22	38	89	190	302	53	20	12	12
25	21	81	26	26	35	76	257	289	48	20	14	12
26	20	58	26	29	35	72	322	279	48	19	15	12
27	20	50	28	30	35	87	333	254	47	19	14	13
28	20	45	31	31	34	90	339	241	46	18	14	13
29	20	43	174	31	-----	94	347	201	46	18	14	12
30	20	41	92	33	-----	104	367	170	46	19	14	13
31	20	-----	56	33	-----	122	-----	148	-----	20	14	-----
Total	703	1,355	1,253	1,102	979	2,057	7,091	10,163	2,750	858	517	395
Mean	22.7	45.2	40.4	35.5	35.0	66.4	236	328	91.7	27.7	16.7	13.2
Ac-ft	1,390	2,690	2,490	2,190	1,940	4,080	14,060	20,160	5,450	1,700	1,030	783

Calendar year 1965 Max 719 Min 17 Mean 131 Ac-ft 95,140  
 Water year 1965-66 Max 406 Min 12 Mean 80.1 Ac-ft 57,960

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 1966.

Gage.--Water-stage recorder. Datum of gage is 809.62 ft above mean sea level, datum of 1929.

Average discharge.--8 years, 357 cfs (258,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,680 cfs Nov. 23 (gage height, 6.28 ft); minimum daily, 24 cfs Sept. 10, 11, 30. 1958-66: Maximum discharge, 30,900 cfs Feb. 1, 1963 (gage height, 13.68 ft), from rating curve extended above 6,000 cfs on basis of slope-area measurement of maximum flow; minimum, 14 cfs Sept. 9, 10, 1959, Oct. 16, 1961. Flood of Dec. 23, 1955, reached a stage of 17.9 ft, from floodmarks.

Remarks.--Records good. Diversions of about 200 acres above station. Power is developed on Middle and East Forks. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	43	250	363	185	225	982	1050	455	161	52	30
2	72	45	242	287	175	215	1070	1110	424	150	65	30
3	68	44	253	261	182	196	1110	1130	408	142	91	29
4	65	45	261	248	182	208	1120	1140	399	132	77	28
5	64	46	255	242	198	223	1070	1180	402	124	66	26
6	64	46	242	253	307	225	1050	1210	399	120	58	27
7	63	46	234	270	238	225	1080	1220	539	115	53	27
8	61	45	225	285	208	253	1080	1110	470	110	49	26
9	60	46	223	276	194	253	1060	996	464	106	48	26
10	59	47	227	255	202	292	1030	920	417	101	42	24
11	59	48	210	246	188	367	888	821	417	95	39	24
12	59	49	225	236	193	383	827	798	424	91	38	25
13	58	55	204	231	186	414	740	798	445	89	37	26
14	58	231	194	229	186	484	720	869	439	86	36	26
15	68	270	185	231	185	455	776	882	360	81	35	26
16	74	180	169	225	186	484	875	927	332	77	34	26
17	70	492	161	208	193	439	968	961	367	74	31	25
18	68	272	161	204	201	458	901	1000	360	73	30	25
19	66	236	161	199	194	474	804	961	330	73	32	28
20	65	180	161	193	198	470	705	875	298	72	29	30
21	63	155	161	182	206	477	660	810	285	67	28	28
22	59	149	161	186	219	491	624	821	257	65	30	26
23	58	951	145	178	227	564	615	821	232	63	29	25
24	57	1180	150	180	238	591	685	821	215	60	30	25
25	55	665	152	175	229	508	815	833	204	59	30	25
26	54	424	159	178	221	512	920	845	198	58	28	25
27	52	342	156	170	210	579	968	788	193	55	30	27
28	52	307	153	164	215	670	940	745	190	51	26	25
29	51	283	495	166	-----	735	940	665	182	48	27	25
30	49	261	734	188	-----	798	940	571	166	51	28	24
31	47	-----	498	188	-----	857	-----	516	-----	57	27	-----
Total	1894	7183	7207	6897	5746	13525	26963	28194	10271	2706	1255	789
Mean	61.1	239	232	222	205	436	899	909	342	87.3	40.5	26.3
Ac-ft	3760	14250	14290	13680	11400	26830	53480	55920	20370	5370	2490	1560

Calendar year 1965 Max 2,320 Min 43 Mean 586 Ac-ft 424,000  
 Water year 1965-66 Max 1,220 Min 24 Mean 309 Ac-ft 223,400

Peak discharge (base, 1,800 cfs).--No peak above base.

11-2101. South Fork Kaweah River at Three Rivers, Calif.

Location.--Lat 36°25'00", long 118°54'48", in SE¼ 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 1966.

Gage.--Water-stage recorder. Datum of gage is 807.22 ft above mean sea level, datum of 1929.

Average discharge.--8 years, 43.2 cfs (31,280 acre-ft per year).

Extremes.--Maximum discharge during year, 377 cfs Dec. 29 (gage height, 3.28 ft); minimum daily, 0.10 cfs many days.

1958-66: Maximum discharge, 2,440 cfs Feb. 1, 1963 (gage height, 4.95 ft); no flow at times in 1960-62.

Flood of Dec. 23, 1955 reached a stage of 9.5 ft, from floodmarks (discharge not determined).

Remarks.--Records excellent. Several small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	2.6	27	50	21	24	93	197	42	3.6	0.30	0.10
2	4.4	2.8	26	38	21	25	112	212	38	3.6	.30	.10
3	3.6	2.8	26	34	21	23	132	215	36	3.6	.30	.10
4	3.4	2.8	26	31	20	24	136	236	33	3.4	.30	.10
5	3.4	3.1	25	30	21	25	127	248	30	3.1	.20	.10
6	3.6	3.1	25	30	46	25	125	242	28	2.8	.20	.10
7	3.1	3.4	24	32	39	25	132	239	33	2.4	.20	.10
8	2.8	3.6	24	34	29	26	134	209	37	1.9	.20	.10
9	2.8	3.6	24	34	27	27	136	175	35	1.9	.20	.10
10	3.1	4.0	24	32	28	29	116	162	31	1.7	.20	.10
11	3.4	4.0	22	31	24	31	99	150	28	1.6	.20	.10
12	3.4	4.0	27	29	26	34	88	143	25	1.6	.20	.10
13	3.6	4.4	23	29	24	36	74	143	21	1.4	.10	.10
14	3.6	10	21	28	24	39	83	153	19	1.3	.10	.20
15	4.4	18	21	25	24	39	104	148	18	1.2	.10	.20
16	5.3	17	20	24	24	40	129	146	17	.90	.10	.20
17	5.3	45	19	23	24	38	148	141	16	.80	.10	.10
18	4.8	29	18	23	24	38	132	146	14	.80	.10	.10
19	4.8	24	18	22	23	38	95	136	12	.60	.10	.10
20	4.4	19	18	21	23	39	76	125	11	.60	.10	.10
21	4.4	17	18	21	23	38	72	106	10	.60	.10	.10
22	4.0	15	17	21	24	38	74	106	10	.60	.10	.10
23	3.6	122	17	20	24	40	70	99	10	.50	.10	.10
24	3.4	134	17	20	25	41	95	93	9.6	.50	.10	.10
25	3.1	76	17	20	25	39	129	83	8.6	.40	.10	.10
26	3.1	48	18	19	27	37	168	78	7.6	.40	.10	.10
27	3.1	39	17	19	25	38	172	70	5.8	.40	.10	.10
28	2.8	34	17	19	25	47	170	64	4.8	.40	.10	.10
29	3.1	31	111	19	-----	58	165	58	4.4	.30	.10	.20
30	3.1	29	107	21	-----	68	165	53	4.4	.30	.20	.10
31	2.8	-----	68	21	-----	78	-----	47	-----	.30	.20	-----
Total	114.1	751.2	882	820	711	1,147	3,551	4,423	599.2	435.0	4.90	3.40
Mean	3.68	25.0	28.4	26.5	25.4	37.0	118	143	20.0	1.40	0.16	0.11
Ac-ft	226	1,490	1,750	1,630	1,410	2,280	7,040	8,770	1,190	86	9.7	6.7

Calendar year 1965 Max 390 Min 2.6 Mean 72.2 Ac-ft 52,290

Water year 1965-66 Max 248 Min 0.10 Mean 35.8 Ac-ft 25,880

Peak discharge (base, 500 cfs).--No peak above base.



11-2108.5. Lemoncove 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., on left bank 250 ft downstream from outlet tunnel of Terminus Dam and 2.4 miles northeast of Lemoncove.

Records available.--June 1962 to September 1966.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 546.3 ft above mean sea level (levels by Corps of Engineers).

Extremes.--1962-66: Maximum daily discharge, 8.4 cfs Sept. 16, 1963, Oct. 24-27, 1964; no flow June 1-3, 23, 1962.

Remarks.--Records excellent. Ditch receives water from Lake Kaweah (sta. no. 11-2109) for irrigation. At times up to 3 cfs is diverted 200 ft upstream into Doffelmyer ditch for irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.0	8.0	1.0	1.1	1.1	1.0	7.1	7.5	7.4	8.0	8.1	8.1
2	8.0	8.0	1.0	1.1	1.1	1.0	7.1	7.4	7.4	8.0	8.1	8.1
3	8.0	8.0	1.0	1.1	1.1	1.0	7.1	7.4	7.4	8.2	8.1	8.1
4	8.0	8.0	1.0	1.1	1.1	1.0	7.1	7.4	7.4	7.1	8.1	8.1
5	8.0	8.0	1.0	1.0	1.2	1.0	7.1	7.4	7.4	7.1	8.1	8.1
6	8.0	8.0	1.0	1.1	1.2	1.0	7.2	7.4	7.5	8.1	8.1	8.1
7	8.0	8.0	1.0	1.2	1.2	1.0	7.2	7.4	8.2	8.1	8.1	8.1
8	8.0	8.0	1.0	1.1	1.2	1.0	7.2	7.4	8.3	8.1	8.1	8.1
9	8.0	8.0	1.3	1.0	1.2	1.0	7.2	7.4	8.3	8.1	8.1	8.1
10	8.0	7.0	1.3	1.0	1.2	1.0	7.3	7.4	8.3	8.1	8.1	8.1
11	8.0	6.0	1.3	1.0	1.2	1.0	7.4	7.4	8.3	8.1	8.1	8.1
12	8.0	6.0	1.3	1.0	1.2	1.0	7.4	7.4	8.3	8.1	8.1	8.1
13	8.0	6.0	1.3	1.0	1.3	1.0	7.4	7.4	8.3	8.1	8.1	8.1
14	8.0	6.0	1.3	1.0	1.3	3.2	7.4	7.4	8.3	8.1	8.1	8.1
15	8.0	6.0	1.3	1.0	1.2	4.3	7.4	7.4	8.2	8.2	8.1	8.1
16	8.0	6.0	1.3	1.0	1.2	5.4	7.5	7.4	8.2	8.2	8.1	8.1
17	8.0	3.0	1.3	1.0	1.2	6.0	7.5	7.4	8.2	8.2	8.1	8.1
18	8.0	1.0	1.1	1.0	1.3	6.0	7.5	7.4	8.2	8.1	8.1	8.1
19	8.0	1.0	1.1	1.0	1.3	6.0	7.5	7.4	8.2	8.1	8.1	8.1
20	8.0	1.0	1.0	1.0	1.3	6.0	7.5	7.3	8.2	8.1	8.1	8.1
21	8.0	1.0	1.1	1.0	2.6	6.8	7.5	7.2	8.2	8.1	8.1	8.1
22	8.0	1.0	1.2	1.0	3.2	7.1	7.5	7.3	8.2	8.1	8.2	8.1
23	8.0	1.0	1.2	1.0	3.2	7.1	7.5	7.2	8.2	8.1	8.2	8.1
24	8.0	1.0	1.2	1.0	1.8	7.1	7.5	7.2	8.2	8.1	8.2	8.1
25	8.0	1.0	1.2	1.0	1.1	7.0	7.5	7.2	8.2	8.1	8.2	8.1
26	8.0	1.0	1.2	1.0	1.0	7.0	7.5	7.3	8.2	8.1	8.2	8.1
27	8.0	1.0	1.2	1.0	1.0	7.0	7.5	7.4	8.2	8.2	8.2	8.1
28	8.0	1.0	1.2	1.0	1.0	7.0	7.5	7.4	8.2	8.3	8.2	8.1
29	8.0	1.0	1.2	1.0	-----	7.0	7.5	7.4	8.2	8.2	8.2	8.1
30	8.0	1.0	1.2	1.1	-----	7.0	7.5	7.4	8.0	8.1	8.2	8.1
31	8.0	-----	1.2	1.1	-----	7.0	-----	7.4	-----	8.1	8.1	-----
Total	248.0	131.0	36.0	32.0	39.0	127.0	221.1	228.4	241.8	251.7	252.0	243.0
Mean	8.00	4.37	1.16	1.03	1.39	4.10	7.37	7.37	8.06	8.12	8.13	8.10
Ac-ft	492	260	71	63	77	252	439	453	480	499	500	482

Calendar year 1965 Max 8.2 Min 0.7 Mean 4.86 Ac-ft 3,520  
 Water year 1965-66 Max 8.3 Min 1.0 Mean 5.62 Ac-ft 4,070

## TULARE LAKE BASIN

11-2109. Lake Kaweah 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 1966. Fragmentary prior to March 1962. Prior to October 1962, published as Terminus Reservoir near Lemoncove.

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, 73,700 acre-ft May 27 (elevation 649.10 ft); minimum, 6,450 acre-ft Sept. 30 (elevation, 564.87 ft).  
1961-66: Maximum contents, 139,900 acre-ft June 14, 1965 (elevation, 688.96 ft); minimum since initial season of operation, 2,870 acre-ft Oct. 11-13, 1962; minimum elevation, 549.62 ft Oct. 13, 1962.

Remarks.--Reservoir is formed by earthfill dam and earthfill auxiliary dam; completed and storage began in February 1962. Usable capacity, 149,400 acre-ft between elevations 520.0 (invert of outlet structure) and 694.0 ft (spillway crest). Dead storage, 166 acre-ft. Spillway design flood pool elevation, 745.1 ft (capacity, 266,000 acre-ft). Records, including extremes, represent total contents at 2400 hours.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,480	9,630	9,120	8,800	8,010	7,390	10,200	45,900	70,800	25,300	7,510	6,640
2	8,250	9,350	9,490	8,590	7,990	7,960	11,400	47,600	69,900	24,100	7,400	6,640
3	8,010	8,980	9,300	8,500	8,000	7,950	12,800	49,400	68,900	23,000	7,380	6,640
4	7,990	8,570	8,380	8,440	7,990	7,950	14,200	51,100	67,800	21,900	7,390	6,630
5	8,060	8,160	8,440	8,420	8,000	7,970	15,600	53,000	66,700	20,800	7,390	6,620
6	8,120	8,050	7,990	8,430	8,320	7,990	17,100	54,900	65,500	19,700	7,390	6,620
7	8,190	8,060	7,830	8,470	8,210	7,990	18,700	56,800	64,300	18,700	7,370	6,600
8	8,250	8,060	7,830	8,340	8,030	8,030	20,400	58,600	63,100	17,700	7,320	6,590
9	8,320	8,040	7,820	8,110	7,970	8,050	22,100	60,000	61,900	16,800	7,260	6,580
10	8,390	8,040	7,840	7,820	7,990	8,110	23,600	61,300	60,500	15,900	7,180	6,570
11	8,460	8,040	7,830	7,710	7,950	8,210	24,900	62,400	59,100	15,000	7,120	6,560
12	8,530	8,040	7,870	7,680	7,950	8,130	26,000	63,500	57,700	14,200	7,050	6,550
13	8,600	8,080	7,820	7,670	7,930	8,020	27,000	64,600	56,300	13,500	6,980	6,540
14	8,650	8,350	7,780	7,660	7,910	8,020	27,900	65,800	54,900	12,800	6,920	6,540
15	8,740	8,480	7,750	7,660	7,930	7,980	28,900	67,100	53,200	12,200	6,850	6,530
16	8,840	8,140	7,710	7,650	7,980	8,010	30,200	68,200	51,400	11,800	6,780	6,530
17	8,940	8,400	7,680	7,610	8,000	7,960	31,800	69,100	49,600	11,400	6,750	6,530
18	9,030	8,270	7,680	7,590	8,020	7,950	33,000	70,000	47,700	11,100	6,730	6,530
19	9,120	8,060	7,710	7,590	8,010	7,970	33,900	70,800	46,000	10,700	6,720	6,530
20	9,200	7,710	7,710	7,570	8,000	7,980	34,600	71,400	44,300	10,400	6,720	6,530
21	9,280	7,300	7,720	7,550	8,010	7,990	35,100	71,700	42,600	10,100	6,700	6,520
22	9,340	7,350	7,710	7,530	8,030	8,010	35,700	72,100	40,700	9,750	6,700	6,510
23	9,410	8,530	7,670	7,500	8,060	8,070	36,200	72,500	38,900	9,430	6,690	6,510
24	9,470	9,440	7,690	7,500	8,060	8,060	36,800	72,800	37,100	9,080	6,680	6,500
25	9,520	8,690	7,720	7,500	8,030	7,920	37,800	73,100	35,300	8,730	6,680	6,490
26	9,580	8,170	7,770	7,510	7,970	7,900	39,000	73,500	33,500	8,460	6,670	6,490
27	9,620	8,020	7,780	7,510	7,880	8,040	40,300	73,700	31,600	8,240	6,660	6,480
28	9,680	8,020	7,780	7,560	7,860	8,220	41,600	73,600	29,900	8,010	6,660	6,470
29	9,720	8,310	8,550	7,660	-----	8,440	42,800	73,100	28,300	7,890	6,660	6,460
30	9,760	8,720	9,190	7,320	-----	8,790	44,200	72,400	26,700	7,760	6,650	6,450
31	9,800	-----	9,080	7,970	-----	9,270	-----	71,700	-----	7,640	6,640	-----
(†)	574.66	571.75	572.73	569.60	569.28	573.25	624.81	647.68	605.67	568.61	565.51	564.87
(*)	+1,080	-1,080	+360	-1,110	-110	+1,410	+34,930	+27,500	-45,000	-19,060	-1,000	-190
(**)	215	67	26	40	44	89	366	750	816	401	298	207

Calendar year 1965 ..... † +2,200

Water year 1965-66 ..... † -2,270

† Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

\*\* Evaporation, in acre-feet.

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., on left bank 0.7 mile downstream from Terminus Dam and 2.1 miles northeast of Lemoncove.

Records available.--October 1961 to September 1966.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 492.8 ft above mean sea level (levels by Corps of Engineers).

Extremes.--1961-66: Maximum daily discharge, 50 cfs Feb. 10, 1962; minimum daily, 1.0 cfs Feb. 1-2, 1962.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	21	20	24	22	20	23	25	27	28	21	18
2	22	21	21	23	22	20	23	25	27	27	20	18
3	22	25	24	23	22	20	23	24	27	27	20	18
4	20	25	24	22	20	20	23	24	27	27	19	18
5	18	25	24	22	20	20	22	24	27	27	18	19
6	17	20	24	21	20	20	24	24	28	26	18	19
7	17	18	23	22	21	20	24	24	28	26	18	18
8	17	18	22	22	21	20	24	24	28	25	18	19
9	17	18	22	23	21	20	24	24	28	25	19	19
10	17	18	22	24	21	20	24	24	28	25	19	18
11	17	18	22	23	21	21	24	24	28	25	19	18
12	16	18	22	23	21	21	24	24	28	25	18	15
13	16	19	22	23	21	22	24	24	28	25	18	15
14	16	19	22	23	21	22	24	24	28	25	18	15
15	16	22	22	23	20	22	24	23	28	25	18	14
16	16	25	22	23	20	22	24	24	29	24	18	14
17	16	24	21	22	20	22	24	26	29	24	18	12
18	16	24	21	22	20	22	24	26	29	24	17	13
19	16	24	21	22	20	22	25	26	29	23	17	14
20	17	24	21	22	20	22	25	26	29	23	17	16
21	17	25	21	22	21	22	25	26	29	24	17	17
22	17	22	21	22	21	22	25	26	29	24	17	17
23	17	23	21	22	21	23	25	26	29	23	17	17
24	17	26	21	22	21	23	25	26	29	23	17	17
25	16	27	21	22	21	23	25	26	29	23	17	18
26	16	24	21	22	21	23	25	26	29	22	16	18
27	17	24	21	22	21	23	25	26	29	22	16	18
28	17	24	21	22	21	23	25	27	28	21	15	17
29	16	22	21	22	-----	23	25	27	28	20	15	17
30	16	21	23	21	-----	23	25	27	28	20	16	17
31	16	-----	24	21	-----	23	-----	27	-----	20	16	-----
Total	533	664	678	692	582	669	726	779	847	748	547	503
Mean	17.2	22.1	21.9	22.3	20.8	21.6	24.2	25.1	28.2	24.1	17.6	16.8
Ac-ft	1,060	1,320	1,340	1,370	1,150	1,330	1,440	1,550	1,680	1,480	1,080	998

Calendar year 1965 Max 31 Min 16 Mean 24.4 Ac-ft 17,670  
 Water year 1965-66 Max 29 Min 12 Mean 21.8 Ac-ft 15,800

## TULARE LAKE BASIN

11-2109.5. Kaweah River below Terminus Dam, Calif.

Location.--Lat 36°24'51", long 119°00'42", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.26, T.17 S., R.27 E., on left bank 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 1966.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 495.90 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1964, graphic water-stage recorder.

Average discharge.--5 years, 510 cfs (369,200 acre-ft per year), adjusted for storage, diversion and evaporation.

Extremes.--Maximum discharge during year, 1,290 cfs June 17, 18 (gage height, 5.22 ft); no flow for many days.  
1961-66: Maximum discharge, 5,080 cfs Jan. 31, 1963 (gage height, 8.28 ft); no flow at times in 1961-62, 1964-66.

Remarks.--Records excellent. Flow regulated by Lake Kaweah (see sta. no. 11-2109). Lemoncove ditch (see sta. no. 11-2108.5) diverts water from Lake Kaweah for irrigation. Foothill ditch (see sta. no. 11-2109.3) 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. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	161	85	76	558	160	216	541	365	891	859	78	0.70
2	157	155	73	441	188	203	490	381	918	753	74	.90
3	157	197	332	335	181	212	479	384	914	645	65	0
4	70	220	479	297	182	214	460	391	923	645	43	0
5	9.0	217	474	267	182	222	437	395	940	637	32	.10
6	7.0	99	467	262	180	227	372	394	1040	607	29	.10
7	5.0	26	332	269	336	232	318	394	1090	592	31	.10
8	5.0	29	239	359	301	239	300	391	1080	540	37	1.1
9	4.0	33	233	410	243	257	298	379	1100	508	40	.80
10	3.0	33	228	411	211	268	294	356	1120	504	45	.10
11	2.0	32	227	327	213	328	290	338	1130	498	40	0
12	2.0	32	229	260	209	429	284	329	1140	442	39	0
13	1.0	32	236	251	204	469	277	310	1140	407	38	0
14	2.0	33	223	242	197	473	264	295	1140	403	36	0
15	3.0	219	204	242	177	473	258	294	1210	354	36	0
16	3.0	366	191	239	171	463	277	455	1250	255	36	0
17	4.0	368	173	230	181	462	284	582	1270	210	21	0
18	4.0	373	155	217	194	448	339	601	1280	209	21	0
19	3.0	372	147	204	203	447	380	610	1190	192	8.5	0
20	3.0	371	154	201	206	453	383	628	1140	186	6.2	0
21	3.0	369	159	195	203	457	375	636	1150	191	4.2	0
22	3.0	174	161	191	206	460	372	640	1160	190	2.5	0
23	3.0	271	159	193	218	487	361	644	1160	181	.80	0
24	3.0	824	134	180	240	555	363	659	1110	190	2.0	0
25	2.0	1060	125	171	263	558	374	663	1080	188	2.4	0
26	2.0	782	125	171	269	490	390	663	1070	150	2.4	0
27	3.0	400	147	171	269	473	399	667	1060	121	1.7	0
28	3.0	335	148	137	228	535	411	801	995	114	0	0
29	3.0	184	163	114	-----	591	392	887	980	80	0	0
30	3.0	80	508	113	-----	595	364	875	910	74	0	0
31	3.0	-----	620	119	-----	617	-----	849	-----	82	0	-----
Total	636.0	7.771	7.321	7.777	6.015	12.553	10.826	16.256	32.581	11.007	755.20	3.90
Mean	20.5	259	236	251	215	405	361	524	1086	355	24.4	0.13
Ac-ft	1260	15410	14520	15430	11930	24900	21470	32240	64620	21830	1500	7.7
Mean†	67.1	269	265	257	236	455	986	1016	380	83.1	38.8	25.2
Ac-ft†	4120	15980	16310	15790	13090	27980	58680	62480	22600	5110	2390	1500
Calendar year 1965	Max	1970	Min	1.0	Mean	612	Ac-ft	442700	Mean†	650	Ac-ft†	470900
Water year 1965-66	Max	1280	Min	0	Mean	311	Ac-ft	225100	Mean†	340	Ac-ft†	246000

† Adjusted for diversion to Lemoncove ditch and Foothill ditch, change in contents and evaporation from Lake Kaweah.

11-2113. Dry Creek near Lemoncove, Calif.

Location.--Lat 36°25'30", long 119°01'20", in NW $\frac{1}{4}$  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 1966.

Gage.--Water-stage recorder. Altitude of gage is 515 ft (from topographic map).

Average discharge.--7 years, 7.85 cfs (5,680 acre-ft per year).

Extremes.--Maximum discharge during year, 112 cfs Dec. 30 (gage height, 2.97 ft); no flow for several months.

1959-66: Maximum discharge, 1,600 cfs Feb. 1, 1963 (gage height, 5.08 ft); no flow for about half of each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	4.5	7.9	5.5	2.8	0.30				
2			0	1.7	8.5	7.4	2.8	.20				
3			0	1.2	6.4	7.4	2.8	.10				
4			0	8.2	5.5	6.4	2.8	0				
5			0	6.4	5.5	5.5	2.8	0				
6			0	6.4	1.7	5.5	2.8	0				
7			0	6.4	2.4	5.5	2.8	0				
8			0	6.4	1.6	5.5	2.8	0				
9			0	6.4	1.2	5.5	2.8	0				
10			0	5.5	1.1	5.5	3.4	0				
11			0	5.5	1.2	5.5	4.7	1.2				
12			0	4.7	9.6	5.5	4.0	1.9				
13			0	4.7	9.6	5.5	3.4	.80				
14			0	4.7	9.6	5.5	3.4	.30				
15			0	4.7	7.4	5.5	2.3	.10				
16			0	4.7	6.4	5.5	2.8	0				
17			0	4.0	6.4	5.5	1.2	0				
18			0	3.4	6.4	4.7	1.6	0				
19			0	3.4	5.5	4.7	4.0	0				
20			0	3.4	4.7	4.7	6.4	0				
21			0	3.4	4.7	4.7	4.0	0				
22			0	3.4	4.0	4.7	2.8	0				
23			.10	3.4	4.0	4.7	2.3	0				
24			.20	2.8	4.0	4.0	2.3	0				
25			.50	2.8	7.4	4.0	1.9	0				
26			1.0	2.8	7.4	4.0	1.6	0				
27			1.6	2.8	6.4	4.0	1.6	0				
28			3.4	2.8	6.4	3.4	1.0	0				
29			1.9	2.8	-----	3.4	.80	0				
30			7.5	4.7	-----	3.4	.50	0				
31			4.8	9.6	-----	3.4	-----	0	-----			-----
Total	0	0	148.80	204.2	235.7	156.0	81.20	4.90	0	0	0	0
Mean	0	0	4.80	6.59	8.42	5.03	2.71	0.16	0	0	0	0
Ac-ft	0	0	295	405	468	309	161	9.7	0	0	0	0

Calendar year 1965 Max 418 Min 0 Mean 17.0 Ac-ft 12290  
 Water year 1965-66 Max 75 Min 0 Mean 2.28 Ac-ft 1650

Peak discharge (base, 50 cfs).--Dec. 30 (0800 to 1100) 112 cfs (2.97 ft).

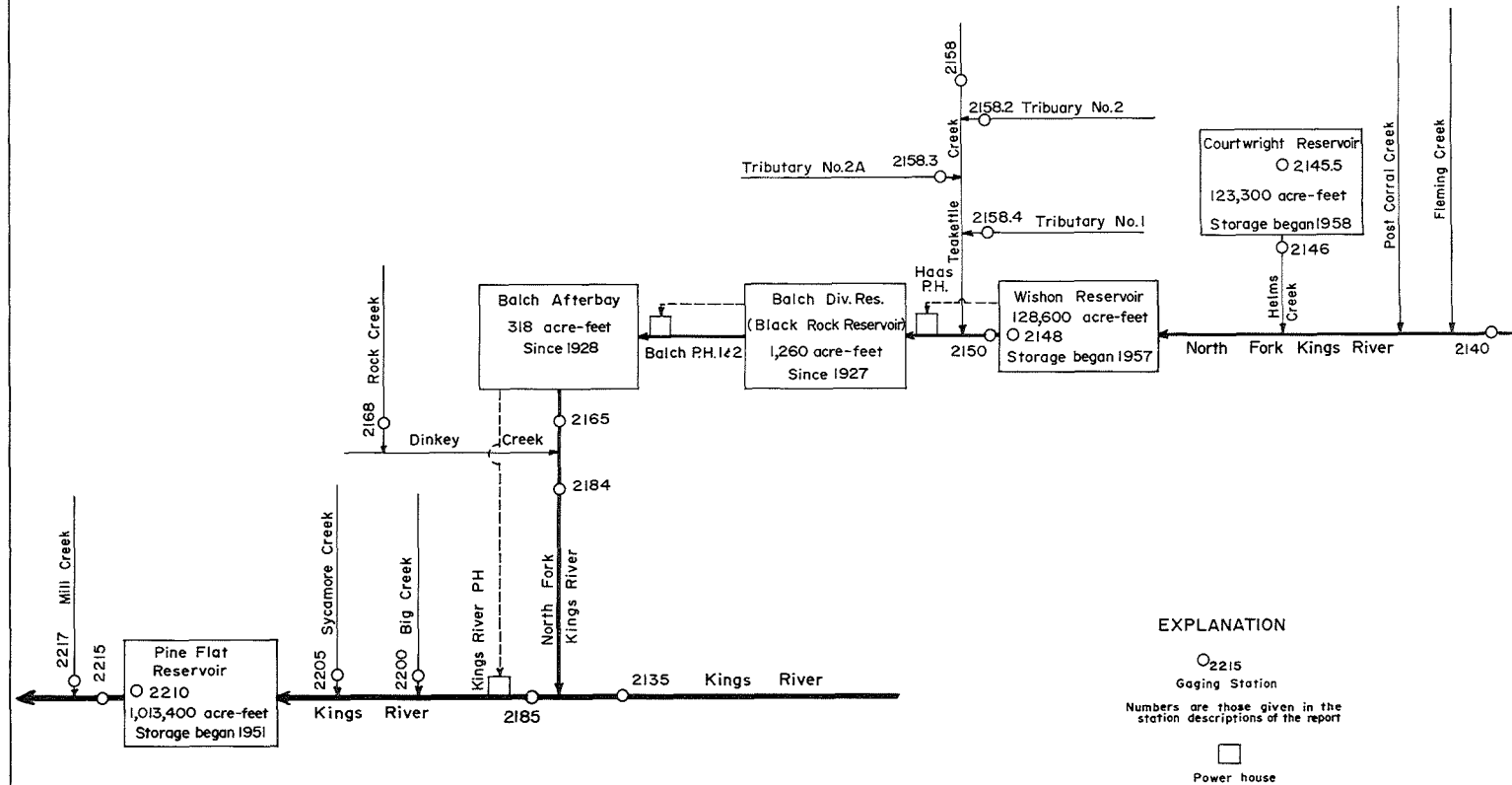


Figure 2.-- Schematic diagram showing diversions and storage in Kings River basin.

11-2135. Kings River above North Fork, near Trimmer, Calif.  
(Formerly published as Kings River above North Fork)

Location (revised).--Lat 36°51'45", long 119°07'25", in NE<sup>1</sup> sec.27, T.12 S., R.26 E., on right bank at Rogers Crossing, 0.9 mile upstream from North Fork, 2.9 miles south of Balch Camp, and 9.6 miles southeast of Trimmer. Prior to October 1, 1965, on left bank.

Drainage area.--952 sq mi.

Records available.--October 1926 to December 1928, October 1931 to September 1966. Prior to September 1965, published as Kings River above North Fork. Monthly figures only for some periods published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 1,001.5 ft above mean sea level (river-profile survey). March 1927 to December 1928, at site 0.5 mile downstream at different datum. October 1931 to September 1965, on left bank at datum 2.00 ft higher.

Average discharge.--37 years, 1,377 cfs (996,900 acre-ft per year).

Extremes.--Maximum discharge during year, 5,460 cfs May 7 (gage height, 7.12 ft); minimum daily, 122 cfs Sept. 18, 30.  
1926-28, 1931-66: 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 maximum flow; minimum daily, 70 cfs Jan. 14, 1963.

Remarks.--Records good. No diversion or regulation above station. See schematic diagram for Kings River basin. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	310	175	683	777	383	440	2,160	3,310	2,270	1,370	464	173
2	292	175	666	711	376	436	2,510	3,920	2,040	1,240	527	170
3	280	172	661	656	383	416	2,760	4,190	1,930	1,100	539	162
4	371	172	661	612	384	420	2,920	4,190	1,920	1,020	644	154
5	263	170	644	580	383	464	2,920	4,340	2,010	960	560	150
6	265	170	628	585	612	472	3,040	4,600	2,160	932	496	143
7	256	163	600	585	519	476	3,180	4,700	2,240	977	443	144
8	250	166	580	590	456	504	3,260	4,480	2,160	907	416	140
9	247	166	580	580	423	504	3,220	3,920	1,990	753	330	136
10	247	166	580	555	440	555	2,950	3,590	1,390	683	359	134
11	244	166	540	532	392	665	2,460	3,060	2,270	622	333	130
12	233	164	570	514	423	759	2,190	3,020	2,330	580	320	123
13	223	182	514	500	403	704	1,930	3,180	2,620	550	307	130
14	220	476	514	496	383	939	1,920	3,560	2,690	540	295	130
15	223	694	463	492	383	934	2,060	3,770	2,380	532	249	123
16	247	536	432	484	383	904	2,440	4,050	2,080	513	230	127
17	244	866	403	460	392	853	2,380	4,260	2,030	514	271	124
18	226	696	404	440	392	864	2,590	4,500	2,160	509	280	122
19	218	623	424	440	392	884	2,140	4,310	2,270	500	277	123
20	215	504	436	416	383	964	1,830	4,050	2,140	504	271	144
21	210	460	448	404	392	954	1,720	3,790	1,990	514	259	146
22	202	432	424	403	412	877	1,670	3,330	1,760	514	247	136
23	195	1,450	392	392	432	931	1,680	4,010	1,530	504	235	130
24	192	1,720	392	373	443	1,090	1,880	3,940	1,390	504	226	130
25	190	1,340	400	376	440	1,030	2,430	4,010	1,320	504	215	127
26	138	1,090	392	373	432	1,050	3,140	4,010	1,360	496	203	127
27	135	960	383	362	416	1,130	3,260	3,990	1,450	476	202	123
28	132	853	388	345	423	1,260	3,300	3,380	1,500	460	192	125
29	173	801	1,110	345	-----	1,420	3,200	3,660	1,480	443	135	125
30	173	753	1,060	392	-----	1,640	3,400	3,120	1,420	452	132	122
31	173	-----	851	392	-----	1,300	-----	2,540	-----	483	173	-----
Total	7,062	16,476	17,233	15,157	11,734	26,354	77,140	120,380	58,730	20,471	10,190	4,103
Mean	223	549	556	439	419	850	2,571	3,333	1,958	560	329	137
Ac-ft	14,010	32,680	34,190	30,080	22,270	52,270	153,000	233,800	116,500	40,600	20,210	8,140
Calendar year 1965	Max	8,070	Min	164	Mean	1,693	Ac-ft	1,226,000				
Water year 1965-66	Max	4,700	Min	122	Mean	1,055	Ac-ft	763,700				

Peak discharge (base, 6,300 cfs).--No peak above base.

11-2140. North Fork Kings River below Meadow Brook, Calif.

Location--Lat 37°04'53", long 118°51'43", in NE¼ 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 1966. Monthly discharge only for some periods and yearly estimates for some incomplete years, published in WSP 1315-B. Records for Jan. 1-23, 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--24 years, 64.9 cfs (46,990 acre-ft per year).

Extremes--Maximum discharge during year, 627 cfs May 23 (gage height, 4.47 ft); minimum, 1.0 cfs Sept. 28.

1921-35, 1956-66: Maximum discharge, 1,280 cfs June 17, 1963 (gage height, 5.26 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 good. No regulation or diversion above station. See schematic diagram of Kings River basin.

Cooperation--Gage-height record and five 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	2.1	2.3	1.6	1.1	1.3	210	366	172	51	42	1.7
2	4.5	2.1	2.2	1.6	1.1	1.3	230	386	161	45	72	1.6
3	4.2	2.1	2.1	1.5	1.1	1.3	245	382	157	40	58	1.4
4	4.0	2.1	2.1	1.4	1.1	1.3	251	382	161	35	47	1.3
5	3.8	2.1	2.1	1.3	1.1	1.2	251	399	170	30	36	1.4
6	3.8	2.1	2.1	1.2	1.2	1.3	260	430	161	30	28	1.8
7	3.5	2.0	2.1	1.3	1.2	1.3	269	425	146	29	21	1.3
8	3.2	2.0	2.1	1.3	1.2	1.4	269	390	159	26	14	1.2
9	3.0	2.0	2.0	1.3	1.2	1.6	240	366	146	25	10	1.2
10	3.0	2.0	1.9	1.3	1.2	2.2	200	358	146	22	8.4	1.1
11	2.8	2.1	1.9	1.3	1.1	2.4	159	286	166	18	7.2	1.1
12	2.8	2.8	1.9	1.3	1.1	2.6	144	278	175	16	6.4	1.1
13	2.6	4.2	1.9	1.3	1.1	3.0	141	300	170	15	5.8	1.2
14	2.6	5.4	1.8	1.4	1.1	3.6	159	342	170	14	5.0	1.2
15	3.5	7.6	1.7	1.4	1.1	3.9	185	362	137	13	4.8	1.2
16	3.8	1.3	1.7	1.4	1.1	4.5	251	378	122	12	4.5	1.2
17	3.8	2.2	1.6	1.3	1.2	4.2	275	404	117	11	4.0	1.2
18	3.8	3.0	1.5	1.3	1.2	4.4	215	417	127	11	5.4	1.3
19	3.5	2.6	1.6	1.2	1.2	4.6	159	374	132	11	4.8	1.8
20	3.0	2.3	1.5	1.2	1.2	4.0	137	362	111	11	4.8	1.8
21	2.8	1.7	1.6	1.2	1.3	4.3	139	354	99	11	4.5	1.4
22	2.6	2.5	1.5	1.2	1.3	5.4	144	354	86	11	3.8	1.3
23	2.6	3.1	1.4	1.2	1.3	7.2	161	378	76	11	3.2	1.3
24	2.4	2.9	1.3	1.2	1.3	7.2	200	390	67	10	2.8	1.2
25	2.4	2.7	1.2	1.2	1.3	6.6	257	374	62	10	2.6	1.2
26	2.4	2.6	1.1	1.2	1.3	7.3	314	358	62	9.7	2.2	1.2
27	2.2	2.5	1.1	1.2	1.3	9.5	318	330	64	9.7	1.8	1.2
28	2.2	2.4	1.1	1.1	1.3	10.5	303	310	65	8.8	1.8	1.1
29	2.2	2.3	1.3	1.1	-----	12.7	300	289	61	8.4	1.7	1.1
30	2.1	2.3	1.4	1.1	-----	14.3	334	230	57	9.2	1.7	1.1
31	2.1	-----	1.6	1.1	-----	17.2	-----	188	-----	11	1.7	-----
Total	96.0	406.7	52.7	39.7	33.3	1,536	6,720	10,943	3,705	574.8	416.9	39.2
Mean	3.10	13.6	1.70	1.28	1.19	49.5	224	353	124	18.5	13.4	1.31
Ac-ft	190	807	1,050	78.7	660	3,050	13,330	21,710	7,350	1,140	82.7	78

Calendar year 1965 Max 536 Min 2.0 Mean 90.7 Ac-ft 65,650  
 Water year 1965-66 Max 430 Min 1.1 Mean 70.4 Ac-ft 50,960

Peak discharge (base, 400 cfs)--May 6 (2000) 558 cfs (4.35 ft); May 23 (2000) 627 cfs (4.47 ft).



11-2146. Helms Creek below Courtright Dam, Calif.

Location.--Lat 37°04'40", long 118°58'05", in NW¼ 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 1966.

Gage.--Water-stage recorder and broad-crested weir with V-notch. Altitude of gage is 7,840 ft (from Pacific Gas & Electric Co. survey).

Average discharge.--8 years, 62.7 cfs (45,390 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 293 cfs July 13 (gage height, 4.36 ft); minimum daily, 26 cfs Feb. 27 to Mar. 3. 1958-66: 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 good. Flow regulated since Oct. 17, 1958, by Courtright Reservoir (see sta. 11-2145.5). No diversion above station. See schematic diagram of Kings River basin.

Cooperations.--Gage-height record and three 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	28	27	28	27	26	27	29	32	34	287	281
2	30	27	27	27	27	26	27	29	33	34	287	281
3	30	27	27	27	27	26	27	29	32	34	287	281
4	30	27	27	27	27	27	27	29	32	34	287	281
5	29	27	27	27	27	27	27	29	32	34	287	281
6	28	27	27	27	27	27	27	29	32	34	287	281
7	28	27	27	27	27	27	27	29	32	34	287	281
8	28	27	27	27	27	27	28	30	32	34	287	281
9	28	27	27	27	27	27	28	30	32	34	287	278
10	28	27	27	27	27	27	28	31	32	34	287	278
11	28	27	27	27	27	27	28	31	32	34	287	278
12	28	27	27	27	27	27	28	31	32	35	287	119
13	28	27	27	27	27	27	28	32	32	185	287	32
14	28	27	27	27	27	27	28	32	33	290	287	32
15	28	27	27	27	27	27	28	32	33	290	284	32
16	28	27	27	27	27	27	28	32	33	290	284	32
17	28	27	27	27	27	27	28	32	33	290	284	32
18	28	28	27	27	27	27	28	32	33	290	284	32
19	28	27	27	27	27	27	28	32	33	290	284	32
20	28	27	27	27	27	27	28	32	33	290	284	32
21	28	27	27	27	27	27	28	32	33	290	284	32
22	28	28	28	27	27	27	28	32	33	290	284	32
23	28	28	28	27	27	27	28	32	33	290	284	32
24	28	28	28	27	27	27	28	32	33	290	284	32
25	28	27	28	27	27	27	29	32	33	290	284	32
26	28	27	28	27	27	27	29	32	33	290	284	32
27	28	27	28	27	26	27	29	32	33	290	284	32
28	28	27	28	27	26	27	29	32	33	290	284	32
29	28	27	28	27	-----	27	29	32	33	290	284	32
30	28	27	28	27	-----	27	29	32	34	290	281	32
31	28	-----	28	27	-----	27	-----	32	-----	287	281	-----
Total	877	815	847	838	754	834	839	964	979	5,811	8,840	3,777
Mean	28.3	27.2	27.3	27.0	26.9	26.9	28.0	31.1	32.6	187	285	126
Ac-ft	1,740	1,620	1,680	1,660	1,500	1,650	1,660	1,910	1,940	11,530	17,530	7,490
Calendar year 1965	Max	739	Min	22	Mean	111	Ac-ft	80,470				
Water year 1965-66	Max	290	Min	26	Mean	71.7	Ac-ft	51,920				

## TULARE LAKE BASIN

## Reservoirs in Tulare Lake basin, Calif.

11-2145.5. Courtright Reservoir.--Lat 37°04'40", long 118°58'05", in NW¼ 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 1966. 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, 94,900 acre-ft June 14-17 (elevation, 8,165.10 ft); minimum, 57,080 acre-ft Mar. 12 (elevation, 8,132.76 ft). Maximum contents during period 1958-66, 115,900 acre-ft July 8, 1965 (elevation, 8,179.35 ft); 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, 123,300 acre-ft between elevations 7,902 (invert of tunnel) and 8,184 ft (elevation of spillway). Dead storage negligible. See schematic diagram of Kings River basin. 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 NW¼ 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 1966. 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, 127,500 acre-ft June 12 (elevation, 6,548.95 ft); minimum, 17,200 acre-ft Jan. 14 (elevation, 6,397.47 ft). Maximum contents during period 1957-66, 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. See schematic diagram of Kings River basin. 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 1965 to September 1966

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)†	Contents (acre-feet)	Change contents (acre-feet)
Courtright Reservoir			Wishon Reservoir			
Sept. 30.....	8,135.8	60,500	-	6,472.3	60,400	-
Oct. 31.....	8,134.0	58,800	-1,700	6,425.0	31,000	-29,400
Nov. 31.....	8,134.3	59,000	+200	6,413.3	24,900	-6,100
Dec. 31.....	8,134.0	58,800	-200	6,401.5	19,100	-5,800
Calendar year 1965	-	-	-5,400	-	-	-7,500
Jan. 31.....	8,133.2	57,900	-900	6,402.0	19,300	+200
Feb. 28.....	8,132.5	57,300	-600	6,403.5	20,000	+700
Mar. 31.....	8,133.6	58,400	+1,100	6,428.2	32,800	+12,800
Apr. 30.....	8,149.6	75,400	+17,000	6,500.1	82,500	+49,700
May 31.....	8,164.4	94,000	+18,600	6,545.8	124,400	+41,900
June 30.....	8,164.7	94,400	+400	6,547.2	125,700	+1,300
July 31.....	8,156.0	83,100	-11,300	6,530.5	109,500	-16,200
Aug. 31.....	8,141.4	66,300	-16,800	6,514.9	95,200	-14,300
Sept. 30.....	8,134.3	59,000	-7,300	6,486.1	71,000	-24,200
Water year 1965-66	-	-	-1,500	-	-	+10,600

† Elevation at 2400 hours.

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 1966. 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.--45 years, 352 cfs (254,800 acre-ft per year), adjusted for storage and diversion.

Extremes.--Maximum discharge during year, 271 cfs Nov. 23 (gage height, 4.75 ft); minimum daily, 7.0 cfs Dec. 10-14.

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.

1957-66: 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 (see sta 11-2148) and Courtright Reservoir since Oct. 17, 1958 (see sta.11-2145.5). Water diverted for power from Wishon Reservoir by tunnel to Haas powerhouse since Dec. 10, 1958. See schematic diagram of Kings River basin.

Cooperation.--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	16	9.4	10	9.2	11	26	11	18	18	18	17
2	16	16	9.0	9.5	9.2	11	24	11	18	18	18	17
3	15	16	9.6	9.0	9.2	10	22	11	18	18	18	17
4	16	16	9.6	9.0	9.2	9.8	21	11	18	18	18	17
5	17	16	9.0	9.3	9.4	10	18	11	18	18	18	17
6	17	16	8.4	9.2	9.6	12	17	11	18	18	18	17
7	16	15	8.0	9.0	9.2	14	16	11	19	18	18	18
8	16	16	7.5	9.0	9.0	15	16	11	19	18	18	18
9	16	17	7.2	9.0	8.8	15	15	12	19	18	18	17
10	16	16	7.0	9.1	8.8	25	41	13	19	18	18	17
11	16	16	7.0	9.2	8.6	24	24	12	18	18	18	17
12	17	16	7.0	9.3	9.0	29	22	12	18	19	18	17
13	17	18	7.0	9.4	9.2	32	17	12	18	17	18	17
14	17	33	7.0	9.4	9.0	27	15	12	18	18	18	17
15	17	32	7.2	9.6	9.2	24	14	12	18	17	18	17
16	17	46	7.3	9.2	9.4	24	14	12	18	17	18	17
17	17	44	7.4	8.8	9.6	20	14	13	18	17	18	17
18	17	44	7.5	8.6	10	20	15	13	18	17	18	17
19	17	26	7.6	8.8	10	19	15	13	18	17	18	17
20	17	21	8.2	9.2	11	20	14	13	18	17	18	17
21	17	19	8.7	9.0	12	20	13	13	18	17	18	17
22	17	38	8.6	9.0	12	21	12	13	18	17	18	17
23	17	130	8.2	8.8	12	22	12	13	18	17	18	17
24	16	75	8.4	8.8	12	20	12	13	18	17	18	17
25	16	35	8.8	8.8	11	19	12	13	18	17	18	17
26	17	29	8.6	8.8	11	21	12	13	18	17	17	17
27	17	28	8.6	8.8	11	24	11	13	18	17	17	17
28	17	26	9.0	8.6	11	26	11	14	18	17	17	17
29	16	26	9.6	8.6	-----	25	11	14	18	17	17	17
30	16	19	12	9.2	-----	26	11	14	18	17	17	17
31	16	-----	11	8.8	-----	26	-----	15	-----	18	17	-----
Total	512	881	259.4	280.8	278.6	621.8	497	385	544	542	552	512
Mean	16.5	29.4	8.37	9.06	9.95	20.1	16.6	12.4	18.1	17.5	17.8	17.1
Ac-ft	1,020	1,750	514	557	553	1,230	986	764	1,080	1,080	1,090	1,020
Calendar year 1965	Max	130	Min	7.0	Mean	16.1	Ac-ft	11,670				
Water year 1965-66	Max	130	Min	7.0	Mean	16.1	Ac-ft	11,650				

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., on left bank 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 1966.

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.

Average discharge.--9 years, 1.07 cfs (775 acre-ft per year).

Extremes.--Maximum discharge during year, 6.58 cfs Nov. 14 (gage height, 1.48 ft); minimum daily, 0.26 cfs for several days in September.

1957-66: Maximum discharge, 99.0 cfs Feb. 1, 1963 (gage height, 3.81 ft); minimum daily, 0.08 cfs Sept. 6, 12-15, 1961.

Remarks.--Records good. 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. See schematic diagram for Kings River Basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.45	0.34	1.22	0.84	0.76	0.76	3.44	2.74	1.30	0.70	0.45	0.31
2	.45	.36	1.18	.84	.76	.73	3.57	2.74	1.26	.70	.45	.29
3	.42	.34	1.18	.80	.76	.73	3.67	2.74	1.22	.70	.42	.29
4	.42	.34	1.14	.80	.76	.73	3.52	2.74	1.22	.67	.40	.29
5	.42	.34	1.14	.90	.76	.73	3.52	2.68	1.18	.67	.38	.27
6	.40	.32	1.10	.92	.76	.76	3.52	2.61	1.22	.64	.38	.27
7	.40	.32	1.06	.86	.76	.82	3.52	2.55	1.34	.64	.36	.27
8	.40	.32	1.02	.86	.73	.79	3.44	2.49	1.30	.67	.36	.26
9	.38	.34	1.02	.82	.70	.82	3.44	2.55	1.26	.64	.36	.26
10	.38	.34	1.02	.82	.70	1.02	3.91	2.68	1.18	.64	.36	.26
11	.38	.34	.99	.82	.70	1.06	3.44	2.42	1.10	.62	.36	.27
12	.38	.36	.96	.82	.70	1.14	3.23	2.30	1.06	.62	.36	.29
13	.38	.71	.92	.82	.70	1.26	3.22	2.25	1.02	.62	.36	.29
14	.40	3.63	.92	.82	.70	1.30	3.01	2.13	.99	.62	.36	.27
15	.56	1.92	.90	.82	.70	1.43	3.15	2.08	.96	.59	.34	.27
16	.56	3.30	.84	.82	.70	1.34	3.37	2.02	.96	.56	.34	.26
17	.49	2.25	.78	.82	.73	1.34	3.37	1.91	.92	.56	.34	.26
18	.47	2.91	.74	.82	.73	1.43	3.15	1.86	.92	.56	.34	.34
19	.45	1.81	.72	.82	.73	1.39	2.94	1.81	.92	.54	.32	.34
20	.42	1.34	.76	.79	.73	1.48	2.87	1.76	.89	.54	.32	.31
21	.40	1.14	.78	.79	.76	1.48	2.74	1.71	.86	.52	.32	.27
22	.40	1.95	.78	.79	.79	1.62	2.74	1.66	.86	.52	.32	.27
23	.38	2.98	.74	.79	.79	1.76	2.74	1.61	.86	.49	.31	.26
24	.38	3.09	.72	.79	.76	1.62	2.81	1.56	.79	.47	.31	.26
25	.38	2.02	.72	.76	.76	1.76	2.87	1.52	.79	.47	.31	.26
26	.36	1.66	.78	.76	.73	1.97	2.94	1.43	.76	.47	.31	.27
27	.36	1.52	.80	.76	.73	2.14	2.94	1.43	.73	.45	.31	.26
28	.36	1.43	.80	.76	.73	2.25	2.81	1.38	.73	.45	.31	.26
29	.36	1.34	.82	.76	-----	2.49	2.81	1.38	.73	.45	.31	.26
30	.36	1.26	.94	.79	-----	2.68	2.74	1.34	.70	.47	.31	.26
31	.36	-----	.88	.76	-----	3.15	-----	1.34	-----	.47	.32	-----
Total	12.71	40.32	23.37	25.14	20.62	43.98	95.54	63.42	30.03	17.73	10.80	3.30
Mean	0.410	1.34	0.915	0.811	0.736	1.42	3.18	2.05	1.00	0.572	0.348	0.277
Ac-ft	25.2	80.0	56.3	49.9	40.9	87.2	190	126	59.6	35.2	21.4	16.5

Calendar year 1965 Max 6.72 Min 0.32 Mean 1.58 Ac-ft 1,146  
 Water year 1965-66 Max 3.91 Min 0.26 Mean 1.09 Ac-ft 787

11-2158.2. Teakettle Creek tributary No. 2 near Patterson Mountain, Calif.

Location.--Lat  $36^{\circ}57'35''$ , long  $119^{\circ}02'00''$ , in SE  $\frac{1}{4}$  NW  $\frac{1}{4}$  sec. 21, T.11 S., R.27 E., on right bank 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 1966.

Gage.--Water-stage recorder, sharp-crested  $90^{\circ}$  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.

Average discharge.--9 years, 0.92 cfs (668 acre-ft per year).

Extremes.--Maximum daily discharge during year, 3.52 cfs May 4, 5; minimum daily, 0.20 cfs Sept. 28-30.

1957-66: Maximum discharge, 53.7 cfs Jan. 31, 1963 (gage height, 3.35 ft); minimum, 0.04 cfs Dec. 5, 1957, Sept. 12, 1961.

Remarks.--Records excellent except those for period of no gage-height record, which are fair. 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. See schematic diagram for Kings River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.38	0.29	0.82	0.59	0.50	0.49	1.92	3.08	1.48	0.73	0.40	0.26
2	.38	.29	.80	.56	.50	.47	2.08	3.23	1.43	.70	.38	.24
3	.38	.29	.80	.56	.50	.47	2.25	3.30	1.39	.70	.38	.24
4	.36	.29	.78	.54	.50	.45	2.19	3.52	1.34	.67	.36	.24
5	.36	.29	.74	.59	.50	.47	2.19	3.52	1.30	.67	.34	.24
6	.34	.29	.71	.59	.50	.47	2.25	3.45	1.34	.64	.32	.23
7	.34	.29	.70	.56	.49	.52	2.31	3.37	1.43	.64	.32	.23
8	.34	.29	.70	.56	.47	.52	2.37	3.30	1.39	.64	.32	.23
9	.34	.28	.70	.56	.45	.54	2.37	3.15	1.30	.62	.32	.23
10	.32	.28	.70	.56	.45	.67	2.55	3.30	1.26	.62	.31	.23
11	.32	.28	.67	.56	.45	.70	2.31	3.01	1.18	.59	.32	.23
12	.32	.29	.67	.56	.47	.73	2.19	2.94	1.14	.59	.32	.24
13	.32	.70	.64	.56	.47	.82	2.14	2.88	1.10	.59	.32	.24
14	.32	2.20	.64	.56	.47	.79	2.14	2.74	1.06	.56	.32	.23
15	.49	1.50	.62	.56	.47	.82	2.31	2.62	1.03	.54	.31	.23
16	.45	2.00	.59	.54	.47	.82	2.55	2.55	1.03	.54	.31	.21
17	.40	1.90	.55	.54	.47	.82	2.62	2.49	.99	.52	.31	.21
18	.40	1.90	.52	.54	.47	.86	2.43	2.37	.96	.52	.29	.27
19	.38	1.30	.50	.54	.47	.82	2.25	2.31	.92	.52	.29	.27
20	.36	.90	.52	.52	.47	.82	2.19	2.25	.92	.52	.29	.26
21	.34	.72	.52	.52	.49	.86	2.14	2.14	.89	.49	.27	.23
22	.32	1.20	.52	.52	.49	.92	2.19	2.08	.86	.47	.27	.21
23	.32	2.50	.50	.52	.49	1.03	2.25	1.97	.86	.47	.27	.21
24	.31	2.70	.52	.52	.49	.96	2.43	1.87	.86	.45	.27	.21
25	.31	1.60	.56	.50	.47	.99	2.62	1.81	.82	.42	.27	.21
26	.31	1.30	.56	.50	.47	1.10	2.81	1.71	.79	.42	.26	.21
27	.31	1.10	.56	.50	.47	1.22	2.88	1.71	.76	.40	.26	.21
28	.29	1.00	.56	.50	.47	1.30	2.88	1.66	.76	.40	.26	.20
29	.29	.90	.47	.50	-----	1.39	2.88	1.57	.73	.40	.26	.20
30	.29	.86	.67	.50	-----	1.52	3.01	1.57	.73	.42	.26	.20
31	.29	-----	.62	.50	-----	1.71	-----	1.52	-----	.42	.27	-----
Total	10.68	29.73	19.43	16.73	13.38	26.07	71.70	78.99	32.05	16.88	9.45	6.85
Mean	0.345	0.991	0.627	0.540	0.478	0.841	2.39	2.54	1.07	0.545	0.305	0.228
Ac-ft	21.2	59.0	38.5	33.2	26.5	51.7	142	157	63.5	33.5	18.7	13.5

Calendar year 1965 Max 6.20 Min 0.28 Mean 1.34 Ac-ft 972  
 Water year 1965-66 Max 3.52 Min 0.20 Mean 0.909 Ac-ft 658

Note.--No gage-height record Nov. 3 to Dec. 7.

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., on left bank 0.1 mile upstream from confluence 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 1966.

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.

Average discharge.--9 years, 0.31 cfs (224 acre-ft per year).

Extremes.--Maximum discharge during year, 2.87 cfs Nov. 23 (gage height, 1.06 ft); minimum daily, 0.04 cfs Sept. 17, 28-30. 1957-66: Maximum discharge, 34.7 cfs Feb. 1, 1963 (gage height, 2.89 ft); minimum daily, 0.01 cfs for many days in 1960-62.

Remarks.--Records 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. See schematic diagram for Kings River Basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.11	0.07	0.31	0.21	0.18	0.18	0.89	0.79	0.40	0.21	0.10	0.06
2	.10	.07	.31	.21	.17	.18	.96	.76	.38	.21	.10	.05
3	.10	.07	.31	.20	.17	.18	.96	.79	.38	.20	.09	.05
4	.09	.07	.29	.20	.17	.17	.89	.76	.36	.20	.08	.05
5	.09	.07	.29	.23	.17	.18	.89	.76	.36	.18	.08	.05
6	.09	.07	.27	.23	.18	.18	.89	.73	.38	.18	.07	.05
7	.08	.07	.27	.21	.17	.21	.89	.70	.40	.18	.07	.05
8	.08	.07	.26	.21	.17	.21	.92	.70	.40	.17	.07	.05
9	.08	.07	.26	.21	.17	.23	.89	.70	.38	.17	.07	.05
10	.08	.07	.26	.21	.17	.31	1.22	.76	.34	.16	.07	.05
11	.08	.07	.24	.21	.17	.32	1.02	.67	.32	.16	.07	.05
12	.08	.08	.24	.20	.17	.36	.96	.64	.32	.16	.07	.05
13	.08	.24	.24	.20	.17	.40	.89	.62	.31	.16	.07	.05
14	.08	1.42	.24	.20	.17	.38	.89	.59	.29	.16	.07	.05
15	.16	.70	.23	.20	.17	.40	.92	.59	.29	.15	.06	.05
16	.15	1.19	.21	.20	.17	.38	.99	.56	.29	.14	.06	.05
17	.13	.98	.20	.20	.17	.38	.99	.56	.27	.14	.06	.04
18	.12	1.05	.18	.20	.18	.40	.89	.54	.27	.14	.06	.07
19	.11	.50	.18	.20	.18	.40	.86	.52	.27	.14	.06	.07
20	.09	.32	.20	.20	.18	.40	.86	.52	.26	.14	.05	.06
21	.09	.27	.20	.18	.18	.40	.82	.49	.26	.13	.05	.05
22	.08	.59	.20	.18	.20	.47	.82	.49	.26	.13	.05	.05
23	.08	1.11	.18	.18	.20	.49	.82	.49	.26	.12	.05	.05
24	.08	1.30	.18	.18	.18	.45	.86	.45	.24	.11	.05	.05
25	.07	.56	.18	.18	.18	.47	.89	.45	.23	.11	.05	.05
26	.07	.47	.20	.18	.18	.54	.89	.42	.23	.11	.05	.05
27	.07	.40	.20	.18	.18	.59	.82	.45	.23	.10	.05	.05
28	.07	.38	.20	.17	.18	.62	.82	.42	.21	.10	.05	.04
29	.07	.36	.20	.17	-----	.67	.79	.42	.21	.10	.06	.04
30	.07	.32	.24	.18	-----	.73	.79	.42	.21	.12	.06	.04
31	.07	-----	.23	.18	-----	.79	-----	.40	-----	.11	.06	-----
Total	28.0	13.01	7.20	6.09	4.93	12.07	26.99	18.16	9.01	4.59	2.01	1.52
Mean	0.090	0.434	0.232	0.196	0.176	0.389	0.900	0.586	0.300	0.148	0.065	0.051
Ac-ft	5.6	25.8	14.3	12.1	9.8	23.9	53.5	36.0	18.0	9.1	4.0	3.0

Calendar year 1965 Max 2.37 Min 0.07 Mean 0.508 Ac-ft 368  
 Water year 1965-66 Max 1.42 Min 0.04 Mean 0.297 Ac-ft 215

11-2158.4. Teakettle Creek tributary No. 1 near Patterson Mountain, Calif.

Location.--36°57'00", long 119°01'10", in NW¼ sec. 27, T.11 S., R.27 E., on left bank 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 1966.

Gage.--Water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,407.7 ft above mean sea level (levels by U. S. Forest Service). Prior to August 1959 at datum 4.0 ft lower.

Average discharge.--9 years, 0.98 (709 acre-ft per year).

Extremes.--Maximum discharge during year, 6.26 cfs Nov. 23 (gage height, 1.45 ft); minimum daily, 0.17 cfs Sept. 29-30.  
1957-66: Maximum discharge, 117 cfs Feb. 1, 1963 (gage height, 4.21 ft); minimum daily, 0.06 cfs Sept. 12, 13, 1961.

Remarks.--Records 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. See schematic diagram for Kings River Basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.34	0.32	0.92	0.67	0.59	0.59	2.55	2.62	1.22	0.64	0.34	0.24
2	.34	.31	.89	.66	.54	.55	2.74	2.49	1.18	.64	.34	.23
3	.34	.29	.89	.64	.54	.59	2.88	2.55	1.14	.64	.32	.23
4	.34	.29	.89	.64	.54	.55	2.80	2.74	1.10	.62	.31	.21
5	.34	.29	.86	.72	.54	.55	2.80	2.74	1.06	.59	.31	.21
6	.36	.27	.82	.74	.56	.59	2.80	2.88	1.14	.56	.29	.21
7	.36	.27	.79	.71	.56	.64	2.80	2.94	1.22	.52	.29	.21
8	.34	.27	.79	.70	.54	.67	2.85	3.01	1.18	.54	.29	.21
9	.34	.27	.82	.70	.54	.67	2.90	2.94	1.18	.52	.29	.18
10	.34	.29	.82	.67	.54	.86	3.50	2.49	1.10	.52	.27	.18
11	.34	.29	.79	.67	.54	.89	3.10	2.25	1.02	.49	.27	.20
12	.34	.29	.76	.67	.54	.99	2.80	2.14	.99	.49	.27	.20
13	.34	.60	.76	.64	.54	1.06	2.80	2.02	.96	.49	.27	.21
14	.34	2.25	.73	.64	.54	1.06	2.70	1.92	.92	.49	.27	.20
15	.49	1.53	.73	.64	.54	1.14	2.90	1.86	.92	.47	.27	.18
16	.47	2.11	.70	.62	.54	1.14	3.01	1.81	.92	.45	.26	.18
17	.45	2.03	.67	.62	.54	1.10	2.94	1.76	.90	.45	.26	.18
18	.42	2.09	.59	.62	.56	1.14	2.81	1.66	.86	.42	.26	.21
19	.40	1.30	.62	.62	.56	1.18	2.62	1.62	.86	.42	.24	.26
20	.36	.96	.67	.62	.56	1.18	2.55	1.56	.82	.42	.24	.23
21	.36	.79	.67	.59	.56	1.18	2.49	1.52	.82	.40	.24	.20
22	.34	1.25	.64	.59	.59	1.30	2.55	1.52	.79	.38	.24	.18
23	.34	2.64	.64	.59	.59	1.34	2.74	1.48	.79	.38	.23	.18
24	.34	3.02	.62	.59	.62	1.30	2.68	1.43	.76	.38	.23	.18
25	.36	1.62	.64	.59	.59	1.34	2.55	1.34	.73	.36	.23	.18
26	.34	1.30	.64	.59	.59	1.48	2.55	1.34	.70	.36	.24	.20
27	.34	1.14	.64	.59	.59	1.62	2.62	1.34	.70	.34	.24	.18
28	.34	1.10	.62	.56	.56	1.76	2.55	1.30	.67	.34	.23	.18
29	.34	1.02	.64	.56	-----	1.86	2.55	1.30	.67	.34	.24	.17
30	.34	.96	.72	.59	-----	2.08	2.74	1.26	.64	.36	.24	.17
31	.32	-----	.69	.56	-----	2.30	-----	1.26	-----	.36	.26	-----
Total	11.15	31.16	22.67	19.61	15.64	34.70	82.87	61.09	27.96	14.38	8.28	5.98
Mean	0.360	1.04	0.731	0.633	0.559	1.12	2.76	1.97	0.932	0.464	0.267	0.199
Ac-ft	22.1	61.8	45.0	38.9	31.0	68.8	164	121	55.6	28.5	16.4	11.9
Calendar year 1965	Max	7.18	Min	0.27	Mean	1.63	Ac-ft	1,180				
Water year 1965-66	Max	3.50	Min	0.17	Mean	0.919	Ac-ft	665				

11-2165. North Fork Kings River above Dinkey Creek, at Balch Camp, 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. Prior to Apr. 15, 1966, at site 100 ft downstream.

Drainage area.--250 sq mi.

Records available.--October 1919 to September 1930, March 1960 to September 1966. Records for water year 1920 incomplete, yearly estimate and monthly discharge only for some months, published in WSP 1315-A. Prior to October 1962, published as "above Dinkey Creek."

Gage.--Water-stage recorder and since Apr. 15, 1966, concrete control. Altitude of gage is 1,240 ft (from river-profile map). October 1919 to Apr. 14, 1966, at site 100 ft downstream at different datum.

Average discharge.--11 years (1919-30), 387 cfs (280,200 acre-ft per year), prior to storage and diversion.

Extremes.--Maximum discharge during year, <sup>838</sup>1,230 cfs May 24 (gage height, 3.16 ft); minimum daily, 7.1 cfs Mar. 12. 1919-30 (prior to regulation by Wishon and Courtright Reservoirs): Maximum discharge, 6,080 cfs June 4, 1922 (gage height, 12.18 ft); minimum, about 4 cfs Aug. 29 to Sept. 1, 1924. 1960-66: Maximum discharge 14,000 cfs Feb. 1, 1963 (gage height, 13.24 ft, backwater from Dinkey Creek), from rating curve extended above 890 cfs; minimum daily, 0.30 cfs Nov. 3, 1964.

Remarks.--Records good except those for periods of backwater from Dinkey Creek and those for flows above 23 cfs for new site, which are fair. Flow regulated by Courtright Reservoir (see sta.11-2145.5) and Wishon Reservoir (see sta.11-2148), 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. See schematic diagram of Kings River basin.

Cooperation.--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	17	12	12	14	8.8	19	10	17	17	17	23
2	16	18	8.2	8.8	13	8.5	20	9.6	16	17	17	23
3	17	18	8.2	8.8	14	8.2	22	10	16	17	17	23
4	17	18	8.0	10	15	8.2	21	9.3	17	17	17	23
5	17	17	8.0	8.2	12	8.0	20	9.3	17	18	16	23
6	17	17	7.8	11	17	8.0	18	9.3	18	18	17	23
7	17	17	7.8	9.2	13	7.8	18	9.3	17	18	17	23
8	17	18	7.8	8.0	11	7.8	19	9.3	16	18	17	23
9	17	18	7.8	7.8	11	7.3	20	9.3	18	18	17	23
10	17	18	8.5	7.5	11	7.3	27	9.6	20	18	17	23
11	17	18	11	7.3	10	7.3	16	9.6	19	18	18	22
12	17	18	12	7.3	10	7.1	14	9.6	17	18	22	22
13	17	18	12	7.5	10	7.3	13	9.3	17	18	23	22
14	15	19	12	7.5	9.0	8.2	12	9.3	21	18	23	22
15	15	18	10	8.2	8.5	8.2	11	9.3	21	16	23	20
16	17	23	8.5	25	8.5	8.2	11	9.1	20	16	23	20
17	17	23	8.2	20	8.5	8.2	12	9.1	18	18	23	20
18	17	24	8.0	19	8.5	8.0	12	8.9	16	18	23	20
19	17	20	8.0	93	8.2	8.0	12	8.9	17	18	23	21
20	17	18	8.2	96	8.2	8.0	11	8.9	17	18	23	20
21	17	17	8.2	80	8.5	8.0	11	8.9	17	18	23	20
22	17	18	8.5	52	8.5	8.0	11	8.9	17	18	23	20
23	17	25	8.5	72	8.2	8.5	11	77	17	18	23	20
24	16	28	8.2	117	9.2	8.5	11	201	17	18	23	20
25	18	19	8.8	93	8.8	8.0	10	11	17	18	23	20
26	18	19	8.0	81	8.5	9.2	10	9.3	17	17	23	20
27	18	18	8.2	137	8.2	12	10	8.9	17	17	23	20
28	18	17	8.8	33	8.2	11	10	8.7	17	17	23	20
29	18	16	19	15	-----	12	10	11	17	17	23	20
30	18	16	16	15	-----	14	11	11	17	17	23	20
31	17	-----	15	14	-----	15	-----	11	-----	17	23	-----
Total	526	568	299.2	1,091.1	288.5	272.6	433	553.7	525	544	646	639
Mean	17.0	18.9	9.65	35.2	10.3	8.79	14.4	17.9	17.5	17.5	20.8	21.3
Ac-ft	1,040	1,130	593	2,160	572	541	859	1,100	1,040	1,080	1,280	1,270

Calendar year 1965 Max 28 Min 5.7 Mean 13.5 Ac-ft 9,770  
 Water year 1965-66 Max 198 Min 7.1 Mean 17.5 Ac-ft 12,670

Note.--Backwater from Dinkey Creek Nov. 14-18, 22-26.



## TULARE LAKE BASIN (Revised)

11-2168. Rock Creek at Dinkey Creek, Calif.

Location.--Lat 37°05'25", long 119°09'40", in SE  $\frac{1}{4}$  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.--7.60 sq mi.

Records available.--July 1960 to September 1966.

Gage.--Water-stage recorder and low-flow concrete control. Altitude of gage is 6,150 ft (from topographic map).

Average discharge.--6 years, 15.2 cfs (11,000 acre-ft per year).

Extremes.--Maximum discharge during year, 408 cfs Nov. 16 (gage height, 5.68 ft); no flow many days.

1960-66: Maximum discharge, 2,850 cfs Feb. 1, 1963 (gage height, 8.68 ft), from rating curve extended above 400 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1961-62, 1964-66.

Remarks.--Records good. No diversions or regulation above station. See schematic diagram for Kings River Basin.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.10	18	12	5.7	8.2	106	34	5.7	1.2	0.30	0.10
2	.20	.10	18	11	5.9	7.8	109	32	5.3	1.2	.20	0
3	.20	.10	18	11	5.7	8.5	107	31	5.1	1.2	.20	0
4	.20	.10	18	11	5.7	7.5	92	30	4.9	1.2	.20	0
5	.10	.10	18	11	5.7	7.2	88	28	4.7	1.0	.10	0
6	.10	.10	17	10	5.9	8.0	84	26	4.7	1.0	.10	0
7	.10	.10	15	10	5.9	9.3	82	23	6.5	1.0	.10	0
8	.10	.10	14	10	5.5	11	81	22	5.3	.90	.10	0
9	.10	.10	14	10	5.5	12	71	21	4.9	1.0	.10	0
10	.10	.10	14	10	6.1	23	107	27	4.7	.90	.10	0
11	.10	.10	12	9.0	5.9	34	69	21	4.2	.80	.10	0
12	.10	.20	12	9.0	6.1	32	62	19	3.9	.70	.10	0
13	.10	1.2	12	8.8	6.1	38	54	18	3.6	.70	.10	0
14	.10	60	11	8.8	6.3	41	57	16	3.2	.70	.10	0
15	.70	58	10	8.8	6.5	44	62	15	3.0	.70	.10	0
16	.70	188	9.9	8.5	6.5	42	68	14	2.8	.60	.10	0
17	.60	91	8.8	8.2	6.8	39	65	13	2.5	.60	.10	0
18	.50	167	8.8	8.0	7.0	41	53	12	2.5	.50	.10	0
19	.40	56	8.2	7.5	6.8	39	46	11	2.4	.50	.10	.10
20	.30	30	7.5	7.2	7.2	39	39	11	2.1	.50	.10	0
21	.30	21	8.0	6.8	8.0	39	37	9.9	1.9	.50	0	0
22	.20	63	7.2	6.8	9.3	44	36	9.3	1.9	.40	0	0
23	.20	162	7.2	6.5	9.0	52	39	9.3	1.8	.40	0	0
24	.20	122	6.5	6.3	8.5	45	44	8.8	1.9	.40	0	0
25	.20	46	6.5	6.1	8.2	42	47	7.8	1.7	.30	0	0
26	.20	33	6.3	6.1	7.5	58	46	7.0	1.6	.30	0	0
27	.20	28	6.5	5.7	7.5	69	42	6.8	1.4	.30	0	0
28	.20	25	6.3	5.7	8.2	77	38	6.5	1.4	.20	0	0
29	.10	22	8.5	5.9	-----	86	36	6.3	1.3	.20	0	0
30	.10	20	12	5.9	-----	90	34	6.3	1.2	.20	0	0
31	.10	-----	12	5.9	-----	99	-----	5.9	-----	.20	0	-----
Total	7.00	1194.50	351.20	257.5	189.0	1192.5	1901	507.9	98.1	203.0	25.0	0.20
Mean	2.26	39.8	11.3	8.31	6.75	38.5	63.4	16.4	3.27	0.65	0.08	0.007
Ac-ft	14	2370	697	511	375	2370	3770	1010	195	40	5.0	0.4

Calendar year 1964 Max 188 Min 0.1 Mean 22.2 Ac-ft 16100  
 Water year 1964-65 Max 188 Min 0 Mean 15.7 Ac-ft 11350

Peak discharge (base, 70 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-14	2000	4.64	154	11-22	2000	5.38	314
11-16	1800	5.68	408	11-23	2300	5.28	285
11-18	1200	5.22	270	11-1	1800	4.90	184

## TULARE LAKE BASIN

11-2184. North Fork Kings River below Dinkey Creek, near Balch Camp, 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 1966. Prior to October 1962, published as "below Dinkey Creek."

Gage--Digital water-stage recorder. Altitude of gage is 1,035 ft (from river-profile map). Prior to Mar. 24, 1966, graphic water-stage recorder at same site and datum.

Extremes--Maximum discharge during year, 2,180 cfs Nov. 24 (gage height, 7.10 ft); minimum daily, 25 cfs Sept. 17, 18, 24-29.

1960-66: Maximum discharge, 18,200 cfs Feb. 1, 1963 (gage height, 19.20 ft), from rating curve extended above 1,900 cfs; minimum daily, 14 cfs Aug. 26-30, 1964.

Remarks--Records good. Flow regulated by Courtright Reservoir (see sta.11-2145.5), Wishon Reservoir (see sta.11-2148), 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. See schematic diagram of Kings River basin.

Cooperation--Gage-height record and nine discharge measurements furnished by Pacific Gas & Electric Co. in cooperation with a Federal Power Commission project.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	32	29	159	150	106	126	743	688	195	57	32	29
2	32	30	154	129	99	120	805	701	181	56	33	29
3	32	30	159	123	103	109	813	691	171	55	32	28
4	31	30	164	121	104	110	783	720	163	53	34	28
5	31	29	157	120	103	113	747	772	157	53	32	27
6	31	29	149	133	167	121	734	771	152	51	29	27
7	31	29	143	133	126	126	735	725	178	50	28	27
8	30	29	135	134	111	149	757	656	162	48	28	27
9	30	30	136	132	107	142	710	598	178	49	27	27
10	30	30	133	127	110	200	831	596	167	48	27	27
11	30	30	125	123	99	262	605	504	147	46	27	27
12	30	31	131	120	106	252	542	479	134	44	30	27
13	30	34	121	119	102	280	469	483	125	44	32	27
14	29	298	117	120	102	313	470	507	120	44	32	27
15	32	395	105	122	100	304	545	495	114	41	31	26
16	45	588	96	133	101	318	657	493	108	40	31	26
17	43	563	92	123	106	282	705	491	103	40	30	25
18	39	628	93	120	110	293	637	499	97	38	29	25
19	37	361	95	156	107	295	514	475	93	38	29	26
20	36	183	97	168	110	280	439	446	89	37	29	28
21	34	133	97	166	116	288	412	422	85	36	28	28
22	33	129	95	136	126	302	399	396	80	35	29	27
23	32	995	84	134	132	355	431	419	78	34	29	26
24	31	1,060	89	179	131	372	507	494	76	33	28	25
25	32	390	93	160	119	311	609	345	73	32	28	25
26	31	271	90	151	120	373	671	328	68	32	28	25
27	31	224	90	191	114	446	669	305	66	32	28	25
28	31	208	92	116	120	500	634	270	63	31	28	25
29	31	190	280	101	-----	546	618	251	61	31	28	25
30	30	174	247	112	-----	591	655	229	59	31	28	26
31	30	-----	224	109	-----	661	-----	205	-----	32	29	-----
TOTAL	1,007	7,180	4,042	4,161	3,157	8,940	18,846	15,454	3,543	1,291	913	797
MEAN	32.5	239	130	134	113	288	628	499	118	41.6	29.5	26.6
AC-FT	2,000	14,240	8,020	8,250	6,260	17,730	37,380	30,650	7,030	2,560	1,810	1,580

CALENDAR YEAR	1965	MAX	1,350	MIN	29	MEAN	295	AC-FT	213,500
WATER YEAR	1965-66	MAX	1,060	MIN	25	MEAN	190	AC-FT	137,500

11-2185. Kings River below North Fork, near Trimmer, Calif.  
(Formerly published as Kings River below North Fork)

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.--1,342 sq mi.

Records available.--October 1951 to September 1966. Prior to January 1952 monthly discharge only, published in WSP-1735. Published as Kings River below North Fork October 1951 to September 1965.

Gage.--Water-stage recorder. Datum of gage is 942.42 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--15 years, 1,974 cfs (1,429,000 acre-ft per year), adjusted for change in contents in Wishon and Courtright Reservoirs and diversion to Kings River powerplant.

Extremes.--Maximum discharge during year, 6,910 cfs May 7; minimum daily, 200 cfs Nov. 11.

1951-66: 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 maximum flow; minimum daily, 97 cfs Jan. 13, 1963.

Flood of Nov. 19, 1950, reached a stage of 21.6 ft, from floodmarks (discharge, 74,200 cfs).

Remarks.--Records good. Flow regulated by Courtright and Wishon Reservoirs (see sta. no. 11-2145.5 and 11-2148). Records include flow diverted to Kings River powerplant since Mar. 1, 1962. This station measures inflow to Pine Flat Reservoir. See schematic diagram for Kings River basin. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Cooperation.--Eleven 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1260	560	1230	983	770	312	3580	4580	2930	1790	1060	742
2	1090	594	1270	396	751	738	3450	5190	2560	1290	890	779
3	1170	581	1270	1250	595	659	3510	5320	2380	1170	1200	701
4	1170	597	966	1160	595	709	3740	5260	2070	1090	1190	703
5	1140	597	813	1080	525	667	3590	5620	2170	1550	1100	649
6	1140	203	1200	1070	359	617	3780	5760	2600	1560	1060	693
7	1140	203	1160	1140	351	340	3350	6100	2740	1530	945	572
8	1100	617	1090	783	795	905	3900	5530	2370	1450	973	636
9	1130	573	1200	765	749	906	3380	4380	2540	1310	926	691
10	1120	588	1210	1140	809	903	3940	4370	2560	1360	931	723
11	907	200	683	989	621	1250	3260	4380	2710	1230	306	474
12	693	602	711	963	560	1150	2960	4250	2910	1340	909	688
13	743	203	932	1030	525	1430	2330	4220	3270	1150	964	641
14	615	966	974	1110	621	1560	2660	4480	3240	952	767	734
15	723	1370	916	730	638	1460	2340	4510	2320	1220	962	732
16	270	1690	369	701	561	1460	3160	5120	2430	1090	927	710
17	563	2130	784	612	669	1360	3540	5520	2380	1030	924	753
18	744	1310	490	590	689	1390	3480	5680	2410	1060	910	612
19	727	1550	510	534	572	1330	3000	5480	2320	1050	885	723
20	723	783	711	622	510	1240	2590	5240	2390	1070	913	667
21	735	561	804	617	789	1510	2470	4930	2260	1030	957	753
22	700	1020	754	575	565	1360	2320	4980	2180	1110	957	761
23	230	3080	779	545	664	1570	2400	5250	1380	1100	931	707
24	224	3700	570	565	820	1690	2380	5320	1740	993	913	516
25	532	1320	482	570	926	1700	3420	5090	1540	1110	304	542
26	685	1730	472	575	640	1480	4000	5100	1480	1020	741	677
27	703	1340	705	500	545	1750	4220	5000	1900	1150	755	617
28	683	1080	892	505	773	1970	4260	4940	1760	1050	669	622
29	663	1390	1340	459	-----	2370	4180	4680	1790	986	723	690
30	485	1340	1330	540	-----	2490	4300	3970	1320	962	733	576
31	206	-----	1270	663	-----	2350	-----	3310	-----	392	729	-----
Total	23,974	34,723	29,437	24,467	19,003	42,126	101,390	154,560	70,750	36,635	27,063	20,284
Mean	773	1153	950	789	679	1359	3330	4986	2353	1182	973	676
Ac-ft	47,550	68,880	58,390	48,530	37,690	83,560	201,100	306,600	140,300	72,660	53,680	40,230
Mean†	263	1053	351	780	632	1582	4501	5972	2386	734	367	147
Ac-ft†	16,460	52,980	52,330	47,930	37,830	97,270	267,800	367,200	142,000	45,140	22,580	17,770

Calendar year 1965	Max	9,300	Min	200	Mean	2,513	Ac-ft	1,892,000	Mean†	2,595	Ac-ft†	1,379,000
Water year 1965-66	Max	6,100	Min	200	Mean	1,601	Ac-ft	1,159,000	Mean†	1,613	Ac-ft†	1,163,000

† Adjusted for change in contents in Wishon and Courtright Reservoirs.

11-2200. Big Creek above Pine Flat Reservoir, near Trimmer, Calif.  
(Formerly published as Big Creek above Pine Flat Reservoir)

Location.--Lat 36°55'05", long 119°14'45", in NW¼ 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.--69.9 sq mi.

Records available.--October 1953 to September 1966. Prior to September 1965 published as Big Creek above Pine Flat Reservoir.

Gage.--Water-stage recorder. Datum of gage is 962.04 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--13 years, 40.8 cfs (29,540 acre-ft per year); median of yearly mean discharge, 30 cfs (21,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,260 cfs Nov. 24 (gage height, 5.15 ft); no flow many days in August and September.

1953-66: Maximum discharge, 10,400 cfs Dec. 23, 1955 (gage height, 9.21 ft, from rating curve extended above 1,300 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1955, 1959-1964, 1966.

Remarks.--Records good. This station measures inflow to Pine Flat Reservoir. No regulation or diversion above station. See schematic diagram, for Kings River basin. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Cooperation.--Seven discharge measurements furnished by Kings River Water Association.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	2.7	2.9	11.1	3.9	4.2	4.7	2.0	1.2	2.9	1.7	0.10
2	2.4	2.7	2.8	7.1	3.6	4.3	4.6	2.0	1.1	2.9	1.1	.40
3	2.0	2.7	2.7	6.0	3.6	3.6	4.3	1.8	1.1	2.9	1.0	.40
4	2.0	2.9	2.6	5.3	3.6	3.6	4.1	1.8	1.0	2.7	.70	.30
5	2.2	3.1	2.4	5.0	4.1	3.8	3.8	1.8	1.0	2.7	.60	.20
6	2.4	3.3	2.1	5.3	24.3	3.8	3.5	1.8	9.8	2.5	.40	.10
7	2.4	3.3	2.0	5.5	10.7	3.8	3.4	1.7	1.2	2.4	.30	.10
8	2.0	3.3	1.9	5.8	7.1	4.1	3.4	1.7	1.4	2.2	.20	0
9	1.9	3.5	1.8	5.7	5.8	4.0	3.3	1.8	1.4	2.4	.20	0
10	2.0	3.8	1.9	4.9	5.7	4.6	5.6	2.8	1.2	2.5	.10	0
11	2.2	4.0	1.8	4.6	4.9	5.5	5.0	2.7	1.1	2.4	.10	.10
12	2.4	4.2	2.9	4.3	4.7	5.3	4.8	2.3	9.1	2.4	.10	.10
13	2.4	4.6	2.5	4.0	4.3	5.3	4.3	2.0	8.4	2.4	.10	.20
14	2.5	3.4	2.1	3.9	4.2	5.7	3.6	1.8	7.4	2.4	.10	.30
15	3.1	6.7	2.0	3.8	3.9	5.5	3.4	1.7	6.4	2.2	.10	.40
16	5.4	6.9	1.7	3.6	3.8	5.4	3.9	1.6	5.6	2.0	.10	.40
17	5.2	13.3	1.4	3.4	3.8	5.1	3.4	1.6	5.6	1.9	.10	.30
18	4.4	7.5	1.4	3.2	3.7	4.9	3.3	1.5	5.6	1.9	0	.30
19	4.0	7.4	1.4	3.2	3.6	4.8	4.1	1.4	5.2	1.7	0	.60
20	3.8	3.2	1.4	3.1	3.6	4.8	3.5	1.4	4.9	1.7	0	.80
21	3.5	2.2	1.6	3.0	3.6	4.7	3.3	1.3	4.4	1.5	0	1.1
22	3.3	1.8	1.6	3.0	3.8	4.7	3.1	1.3	4.4	1.5	0	.80
23	2.9	1.34	1.4	2.9	3.8	4.8	2.9	1.3	4.6	1.3	0	.60
24	2.9	4.82	1.3	2.9	4.7	4.8	2.7	1.2	4.6	1.1	0	.40
25	2.7	1.54	1.8	2.8	5.0	4.4	2.6	1.1	4.9	1.0	0	.40
26	2.7	8.1	2.0	2.8	4.3	4.5	2.5	1.1	4.2	1.0	0	.40
27	2.7	5.3	1.7	2.7	3.9	4.7	2.4	1.1	3.8	1.0	0	.40
28	2.7	4.3	1.8	2.6	3.8	4.8	2.3	1.1	3.3	.80	0	.60
29	2.9	3.7	3.29	2.6	-----	4.9	2.2	1.1	3.1	.80	0	.60
30	2.9	3.3	2.93	3.8	-----	4.8	2.1	1.2	2.7	1.1	0	.60
31	2.7	-----	2.59	3.9	-----	4.7	-----	1.2	-----	1.7	0	-----
Total	89.3	1585.1	1430	1318	1458	1439	1061	502	225.0	599.0	70.0	11.00
Mean	2.88	52.8	46.1	42.5	52.1	46.4	35.4	16.2	7.50	1.93	0.23	0.37
Ac-ft	177	3140	2840	2610	2890	2850	2100	996	446	119	14	22

Calendar year 1965 Max 11.10 Min 1.9 Mean 62.3 Ac-ft 45080  
Water year 1965-66 Max 48.2 Min 0 Mean 25.2 Ac-ft 18220

Peak discharge (base, 500 cfs).--Nov. 24 (0200) 1,260 cfs (5.15 ft); Dec. 29 (0900) 605 cfs (4.17 ft).

11-2205. Sycamore Creek above Pine Flat Reservoir near Trimmer, Calif.

(Formerly published as Sycamore Creek above Pine Flat Reservoir)

Location.--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.--56.1 sq mi.

Records available.--April 1953 to September 1966. Prior to October 1965, published as Sycamore Creek above Pine Flat Reservoir.

Gage.--Water-stage recorder. Datum of gage is 1,141.96 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--13 years, 18.0 cfs (13,030 acre-ft per year), median of yearly mean discharges, 8.5 cfs (6,200 acre-feet per year).

Extremes.--Maximum discharge during year, 463 cfs Dec. 30 (gage height, 3.63 ft); no flow for several months.

1953-66: 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 maximum 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. See schematic diagram for Kings River basin.

Cooperation.--Four discharge measurements furnished by Kings River Water Association.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.30	3.0	7.5	2.4	1.0	4.0	1.9	0.10			
2	0	.30	2.6	3.7	2.1	1.2	4.0	1.9	.10			
3	0	.30	2.4	2.5	1.5	9.5	4.0	1.7	.10			
4	0	.40	2.1	2.0	1.4	8.7	4.0	1.5	.10			
5	0	.40	2.4	1.7	1.6	8.7	4.0	1.3	.10			
6	.10	.30	2.4	1.6	11.2	8.0	4.0	1.3	.10			
7	.10	.30	2.1	1.5	4.3	8.0	4.0	1.3	.10			
8	.10	.30	2.1	1.4	2.7	7.3	4.0	1.3	.20			
9	.10	.30	2.1	1.3	1.9	6.7	4.0	1.3	.20			
10	.10	.40	2.1	1.1	1.8	6.7	1.6	3.2	.10			
11	.10	.40	2.1	1.1	1.6	7.3	1.0	4.7	.10			
12	.10	.40	1.1	9.5	1.4	8.0	8.0	3.2	.10			
13	.10	.50	6.1	8.7	1.3	7.3	7.3	2.1	.10			
14	.10	.90	4.3	8.0	1.2	7.3	5.6	1.7	0			
15	.10	1.0	3.6	8.0	1.2	6.7	5.1	1.3	0			
16	.20	1.3	3.2	7.3	1.1	6.7	4.7	1.2	0			
17	.20	2.9	2.6	6.7	1.0	6.1	4.7	1.2	0			
18	.20	8.6	2.6	6.7	9.5	6.1	4.7	1.0	0			
19	.20	1.0	2.4	6.7	8.7	5.6	8.7	.90	0			
20	.20	1.2	2.6	6.7	8.0	5.6	7.3	.70	0			
21	.20	.60	2.6	6.1	7.3	6.1	5.1	.50	0			
22	.20	.50	2.6	6.1	7.3	6.1	4.7	.50	0			
23	.20	2.3	2.6	6.1	7.3	6.1	4.3	.50	0			
24	.20	.98	2.6	6.1	1.3	6.1	3.6	.50	0			
25	.20	4.3	3.6	5.6	1.8	5.6	3.2	.50	0			
26	.20	2.6	6.7	5.1	1.2	5.1	3.2	.40	0			
27	.20	9.5	4.0	5.1	1.0	4.7	3.0	.20	0			
28	.20	5.6	4.0	5.1	9.5	4.7	2.6	.20	0			
29	.20	4.0	20.1	5.1	-----	4.7	2.4	.20	0			
30	.20	3.2	1.76	2.4	-----	4.7	2.1	.20	0			
31	.20	-----	2.67	2.6	-----	4.7	-----	.20	-----			
Total	4.20	270.00	736.5	422.7	507.6	210.9	152.3	386.0	1.50	0	0	0
Mean	0.14	9.00	23.8	13.6	18.1	6.80	5.08	12.5	0.05	0	0	0
Ac-ft	8.3	536	1460	838	1010	418	302	77	3.0	0	0	0

Calendar year 1965 Max 75.4 Min 0 Mean 25.9 Ac-ft 18,740

Water year 1965-66 Max 26.7 Min 0 Mean 6.42 Ac-ft 4,650

Peak discharge (base, 300 cfs).--Dec. 30 (2400 hrs) 463 cfs (3.63 ft).

## TULARE LAKE BASIN

11-2210. Pine Flat Reservoir near Piedra, Calif.

Location.--Lat 36°49'55", long 119°19'25", in NE<sup>1</sup> sec.2, T.13 S., R.25 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.--1,545 sq mi.

Records available.--October 1951 to September 1966.

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, 697,000 acre-ft May 26 (elevation, 894.92 ft); minimum, 211,200 acre-ft Sept. 30, (elevation, 763.82 ft).

1951-66: 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. Total capacity, 1,001,500 acre-ft between elevation 565.5 ft (bottom of lower tier of river outlets) and 951.5 ft (gross pool elevation). No dead storage. Reservoir is used for flood control and conservation storage. Water is released down Kings River for diversion by the Kings River Water Association. Records, including extremes, show contents at 2400 hours. See schematic diagram for Kings River basin.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	421.3	453.4	525.8	579.7	609.9	613.0	527.9	614.2	581.0	497.5	320.3	263.4
2	423.3	459.3	523.1	581.3	610.6	614.3	527.9	621.2	675.4	489.9	313.7	265.3
3	425.3	459.9	530.5	583.6	611.1	611.4	528.0	627.9	669.2	431.9	317.7	264.1
4	427.4	460.6	532.3	585.4	611.6	607.9	528.5	634.5	662.5	474.1	316.9	261.7
5	429.5	461.4	533.3	587.1	612.1	604.3	530.4	641.4	656.0	467.1	316.0	259.4
6	431.6	461.2	536.0	583.3	614.2	600.5	533.8	643.6	650.0	461.6	315.0	257.1
7	433.6	460.9	533.1	590.6	615.8	597.3	537.5	656.0	645.3	457.6	313.8	254.5
8	435.6	461.6	540.0	591.7	617.1	594.0	541.1	662.0	641.6	453.3	312.5	252.1
9	437.6	462.4	542.1	592.7	613.3	590.8	544.5	666.3	637.2	443.5	311.1	249.7
10	439.6	463.4	544.3	594.5	619.8	587.9	543.3	670.3	632.9	443.7	309.3	247.5
11	441.2	463.6	545.7	595.9	620.8	585.9	551.0	672.6	623.7	423.6	307.2	244.9
12	442.4	464.5	546.9	597.3	621.7	583.7	552.9	674.5	624.6	432.8	305.1	242.7
13	443.7	465.0	543.5	593.7	622.5	582.3	555.0	676.1	620.9	426.4	303.1	240.3
14	444.8	467.0	550.2	600.0	623.5	580.0	556.8	677.8	616.9	419.9	301.0	238.0
15	446.1	470.3	551.8	600.8	624.5	576.6	559.0	679.4	611.2	413.8	299.2	235.6
16	446.4	474.3	553.3	601.8	625.3	573.3	561.9	682.1	603.9	407.5	297.6	233.2
17	446.9	473.8	554.5	602.4	626.0	569.5	565.6	685.2	596.7	401.3	295.9	231.0
18	448.1	482.7	555.0	603.2	626.8	565.6	569.1	683.5	589.8	394.9	294.4	228.7
19	449.3	485.7	555.7	603.8	627.1	561.8	571.7	691.3	582.7	383.3	292.6	226.8
20	450.5	487.2	556.9	604.4	627.0	557.8	573.3	693.5	575.8	381.8	290.6	225.0
21	451.7	488.5	558.1	604.9	627.3	554.3	575.0	694.2	563.7	374.9	283.8	223.4
22	452.8	490.5	559.3	605.4	627.1	550.7	576.4	694.9	561.4	367.9	286.9	221.8
23	452.3	496.9	560.6	605.7	627.0	547.7	577.9	695.8	553.3	361.1	284.8	220.1
24	452.7	505.4	561.3	606.2	627.2	544.8	579.5	696.6	546.4	354.0	283.0	218.3
25	453.6	509.6	561.7	606.6	627.0	541.6	583.1	696.8	533.8	347.2	281.2	216.9
26	454.6	513.3	561.9	607.0	625.5	533.0	587.3	697.0	531.2	340.4	279.4	215.7
27	455.6	516.0	562.6	607.4	623.3	535.1	592.9	696.4	524.6	335.3	277.6	214.4
28	456.5	518.2	563.7	607.5	620.9	532.6	593.1	695.2	517.9	330.6	275.7	213.3
29	457.3	520.9	563.6	607.7	-----	530.8	603.1	693.5	511.1	326.2	273.9	212.1
30	457.8	523.5	573.7	608.7	-----	529.3	603.3	690.5	504.4	322.6	272.0	211.2
31	457.7	-----	577.5	609.3	-----	528.5	-----	686.2	-----	321.6	270.2	-----
†	839.99	856.35	869.01	876.17	873.72	857.56	875.94	892.69	951.71	801.71	785.08	763.82
‡	33.4	65.8	54.0	31.8	11.6	-92.4	79.8	77.9	-181.8	-182.8	-51.4	-59.0
††	1.563	44.9	23.0	33.9	41.4	39.9	1.552	2.263	2.789	2.686	2.504	1.561

Calendar year 1965 ..... ‡ + 189.0

Water year 1965-66 ..... ‡ - 208.1

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

†† Evaporation, in acre-feet.

## 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.--1,545 sq mi.

Records available.--October 1953 to September 1966. Monthly and yearly discharges only and adjusted flow for some periods published in WSP 1735.

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.--13 years, 1,963 cfs (1,421,000 acre-ft per year), adjusted for storage and evaporation.

Extremes.--Maximum discharge during year, 6,050 cfs June 16 (gage height, 7.12 ft); minimum daily, 26 cfs Nov. 26, Dec. 30. 1953-66: Maximum discharge, 12,700 cfs May 3, 1958 (gage height, 9.35 ft); minimum, 1.1 cfs Feb. 26, 27, 1962.

Remarks.--Records excellent. Flow regulated by Pine Flat Reservoir (sta. no. 11-2210) and Wishon and Courtright Reservoirs (see sta. nos. 11-2145,5 and 11-2148). See schematic diagram for Kings River basin. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Cooperation.--Eleven discharge measurements furnished by Kings River Water Association.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	203	264	73	57	473	2,340	3,510	1,650	5,470	5,120	1,750	1,610
2	82	292	74	153	455	2,360	3,590	1,660	5,390	5,100	1,760	1,790
3	76	335	75	170	404	2,430	3,740	1,370	5,400	5,100	1,740	1,860
4	76	335	75	213	403	2,480	3,690	1,990	5,410	4,980	1,570	1,870
5	76	330	76	262	357	2,510	2,700	2,110	5,440	4,990	1,580	1,860
6	76	324	107	266	279	2,610	2,230	2,300	5,590	4,980	1,570	1,860
7	76	324	107	271	216	2,530	2,280	2,360	5,020	3,480	1,560	1,880
8	76	265	107	270	229	2,590	2,350	2,610	4,780	3,550	1,570	1,870
9	95	162	106	269	169	2,620	2,350	2,330	4,770	3,750	1,650	1,850
10	95	114	125	269	167	2,410	2,320	3,030	4,740	3,770	1,710	1,930
11	86	114	122	276	163	2,270	2,060	3,320	4,740	3,780	1,870	1,830
12	76	107	123	302	163	2,270	1,950	3,400	4,970	4,210	1,920	1,820
13	75	92	125	321	163	2,240	1,900	3,470	5,080	4,340	1,900	1,850
14	74	85	123	383	163	2,310	1,370	3,690	5,250	4,220	1,840	1,920
15	74	63	123	336	186	3,160	1,920	3,770	5,690	4,240	1,740	1,940
16	99	56	123	285	257	3,270	1,330	3,370	6,020	4,240	1,660	1,920
17	126	50	142	262	336	3,320	1,360	3,930	5,980	4,250	1,660	1,840
18	121	50	140	213	347	3,400	1,910	4,040	5,330	4,270	1,600	1,800
19	115	50	140	303	474	3,390	1,890	4,090	5,780	4,340	1,790	1,710
20	116	50	140	324	573	3,370	1,860	4,150	5,760	4,440	1,780	1,590
21	116	50	140	324	665	3,360	1,760	4,620	5,740	4,500	1,770	1,590
22	153	50	150	352	695	3,240	1,730	4,650	5,750	4,570	1,800	1,560
23	212	49	150	352	727	3,200	1,700	4,790	5,640	4,590	1,820	1,560
24	206	39	226	352	953	3,310	1,660	4,370	5,410	4,580	1,750	1,470
25	205	28	364	385	965	3,370	1,610	4,960	5,300	4,530	1,660	1,320
26	305	26	363	386	1,530	3,340	1,590	5,000	5,200	4,490	1,640	1,290
27	204	49	363	383	1,740	3,320	1,520	5,280	5,120	3,900	1,650	1,250
28	203	54	356	379	2,040	3,350	1,620	5,460	5,090	3,430	1,640	1,230
29	244	57	203	353	-----	3,360	1,620	5,450	5,110	3,240	1,610	1,190
30	253	64	26	333	-----	3,310	1,600	5,400	5,210	2,860	1,690	1,190
31	264	-----	32	384	-----	3,310	-----	5,380	-----	1,390	1,640	-----
Total	4,169	3,928	4,620	9,623	15,217	90,850	64,320	116,050	160,680	129,030	52,890	50,150
Mean	134	131	149	299	543	2,931	2,144	3,744	5,356	4,162	1,706	1,672
Ac-ft	3,270	7,790	9,160	18,380	30,180	180,200	127,600	230,200	318,700	255,900	104,900	99,470
Mean†	279	1,144	933	313	762	1,665	4,633	6,034	2,373	787	405	177
Ac-ft†	17,130	63,090	57,370	49,960	42,340	102,400	275,700	371,000	141,200	48,370	24,900	10,560
Calendar year 1965	Max	7,150	Min	26	Mean	2,365	Ac-ft	1,712,000	Mean†	2,631	Ac-ft†	1,905,000
Water year 1965-66	Max	6,020	Min	26	Mean	1,670	Ac-ft	1,391,000	Mean†	1,670	Ac-ft†	1,209,000

† Adjusted for changes in contents in Wishon, Courtright, and Pine Flat Reservoir, 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<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 1966 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.--9 years, 24.9 cfs (18,030 acre-ft per year).

Extremes.--Maximum discharge during year, 288 cfs Dec. 30 (gage height, 3.77 ft); no flow for several months.

1957-66: 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. Some small diversions above station for irrigation. See schematic diagram for Kings River basin.

Cooperation.--One discharge measurement furnished by Kings River Water Association.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	6.2	34	20	17	9.8	3.7				
2		0	5.8	49	21	19	9.8	3.3				
3		0	5.3	36	19	19	9.8	2.4				
4		0	4.8	29	17	16	9.5	2.2				
5		0	4.8	26	13	15	7.8	2.0				
6		0	4.8	23	60	15	7.2	1.8				
7		0	4.8	22	63	15	7.2	1.6				
8		0	4.8	23	43	14	7.2	1.4				
9		0	4.8	22	32	14	7.2	1.6				
10		0	4.8	21	30	14	11	2.4				
11		0	4.8	19	29	14	14	4.1				
12		0	9.8	13	27	14	11	3.7				
13		0	10	16	26	15	9.8	2.7				
14		0	3.5	15	23	14	9.2	2.2				
15		0	7.2	15	22	14	7.8	1.6				
16		0	6.7	14	21	13	6.7	1.4				
17		0	6.2	14	19	13	6.2	1.1				
18		1.2	5.8	14	19	13	6.7	1.0				
19		2.2	5.8	14	18	13	10	.60				
20		2.7	5.8	14	18	13	11	.50				
21		2.7	5.8	13	17	13	9.2	.30				
22		2.7	5.8	13	17	11	7.2	.10				
23		4.5	5.8	13	16	11	5.7	.10				
24		15	5.8	13	17	11	6.2	0				
25		29	6.2	13	18	11	5.2	0				
26		23	3.5	13	13	10	4.8	0				
27		14	3.5	13	17	10	6.7	0				
28		9.8	3.5	12	17	9.8	4.4	0				
29		7.8	115	12	-----	9.8	4.1	0				
30		6.7	190	21	-----	9.8	3.7	0				
31		-----	129	27	-----	9.8	-----	0				
Total	0	121.3	610.4	651	682	410.2	236.1	41.30	0	0	0	0
Mean	0	4.04	19.7	21.0	24.4	13.2	7.87	1.35	0	0	0	0
Ac-ft	0	241	1,210	1,290	1,350	314	463	33	0	0	0	0

Calendar year 1965 Max 726 Min 0 Mean 36.5 Ac-ft 26,460  
 Water year 1965-66 Max 190 Min 0 Mean 7.54 Ac-ft 5,460

Peak discharge (base, 250 cfs).--Dec. 30 (0700) 288 cfs (3.77 ft).



11-2245. Los Gatos Creek above Nunez Canyon, near Coalinga, Calif.

Location.--Lat 36°12'55", long 120°28'10", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  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.--95.8 sq mi.

Records available.--May 1945 to September 1966. 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.--21 years, 2.68 cfs (1,940 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

Extremes.--Maximum discharge during year, 894 cfs Nov. 23 (gage height, 5.68 ft, from floodmark, from rating extended above 70 cfs as explained below; no flow for several months.

1949-66: Maximum discharge, 2,560 cfs Apr. 3, 1958, Feb. 9, 1962, from rating curves extended above 110 and 180 cfs on basis of contracted-opening measurements of maximum flow; maximum gage height, 7.25 ft Feb. 9, 1962; no flow for several months in each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.2	9.8	3.8	3.8	0.30	0	0.10			
2		0	1.2	9.8	6.6	4.6	.30	0	.10			
3		0	1.2	8.6	2.4	4.6	.50	0	.10			
4		0	1.2	8.6	5.6	3.8	.50	0	.10			
5		0	1.2	7.6	2.4	3.8	.30	0	.10			
6		0	1.2	6.6	2.0	3.8	.30	0	.10			
7		0	1.0	6.6	1.8	3.0	.30	0	.10			
8		0	1.0	5.6	1.1	3.0	.30	0	.10			
9		0	1.0	4.6	6.6	2.4	.30	0	.10			
10		0	1.0	4.6	6.6	1.2	.50	.10	.10			
11		0	1.0	3.8	6.6	.80	.80	.10	.10			
12		0	1.9	3.8	5.6	.80	.80	0	.10			
13		1.0	3.8	3.8	5.6	.80	.80	0	.10			
14		2.5	1.8	3.8	5.6	.80	.30	0	.10			
15		1.7	1.2	3.8	4.6	.80	.20	0	.10			
16		7.8	1.2	3.0	3.8	.50	.10	0	.10			
17		1.7	1.2	3.0	3.8	.80	.10	0	.10			
18		8.0	1.2	3.0	3.8	.80	.20	0	.10			
19		5.0	1.2	3.0	3.8	.50	.20	0	.10			
20		4.0	1.2	3.0	3.8	.80	.10	0	.10			
21		2.0	1.2	1.8	3.8	.80	.10	0	.10			
22		1.4	1.2	2.4	3.8	.80	.10	0	.10			
23		2.26	1.2	2.4	3.0	.80	0	0	.10			
24		9.9	1.2	3.0	3.8	.80	0	0	.10			
25		4.0	1.2	2.4	4.6	.50	0	0	0			
26		5.6	1.2	2.4	4.6	.30	0	0	0			
27		1.2	1.2	1.8	3.8	.30	0	0	0			
28		1.2	1.2	1.2	3.8	.50	0	0	0			
29		1.2	2.4	1.8	-----	.30	0	0	0			
30		1.2	1.6	1.4	-----	.50	0	.10	0			
31		-----	1.1	3.8	-----	.50	-----	.10	-----			
Total	0	546.4	104.6	143.4	182.8	47.50	7.40	0.40	2.40	0	0	0
Mean	0	18.2	3.37	4.63	6.53	1.53	0.25	0.01	0.08	0	0	0
Ac-ft	0	1080	207	284	363	94	15	0.8	4.8	0	0	0

Calendar year 1965 Max 226 Min 0 Mean 2.24 Ac-ft 1620

Water year 1965-66 Max 226 Min 0 Mean 2.84 Ac-ft 2050

Peak discharge (base, 40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
Nov 16	unknown	4.45	140	Dec 12	1430	4.21	63
23	2200	5.68	894	20	0600	4.12	44

Note.--No gage-height record May 17 to June 30.

## SAN JOAQUIN RIVER BASIN

11-2260. North Fork San Joaquin River below Iron Creek, Calif.

Location.--Lat 37°36'50", long 119°14'00", in SE¼ 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.--35.5 sq mi (revised).

Records available.--October 1920 to September 1928 (fragmentary prior to July 1921), October 1951 to September 1958 (no winter records), October 1958 to September 1966. 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.--15 years (1921-28, 1958-66), 106 cfs (76,740 acre-ft per year).

Extremes.--Maximum discharge during year, 813 cfs Aug. 1 (gage height, 6.37 ft); minimum, 6.6 cfs Nov. 10.

1920-28, 1951-66: 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, Jan. 17, 1963.

Remarks.--Records good. No storage or diversion above station.

Cooperation.--Gage-height record and six 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	11	35	24	22	27	297	405	167	153	204	13
2	21	10	35	21	22	26	309	453	151	134	281	12
3	21	9.7	37	20	22	24	313	420	162	121	155	11
4	20	9.4	37	20	23	24	321	410	185	118	87	12
5	18	9.4	35	21	23	25	330	405	208	118	66	12
6	18	9.0	33	23	25	27	338	448	196	120	54	12
7	20	8.7	31	25	26	29	338	505	217	114	47	12
8	22	8.4	30	26	24	32	348	436	211	98	43	12
9	22	7.8	31	25	23	33	285	343	208	80	43	11
10	22	7.8	30	28	23	49	223	356	238	78	41	11
11	20	7.8	28	28	23	54	160	356	260	81	38	10
12	20	8.4	28	27	23	62	144	330	278	80	36	9.8
13	19	14	27	28	22	78	144	375	297	78	35	9.2
14	18	20	25	29	22	76	177	410	317	80	37	8.2
15	24	43	22	29	22	77	235	400	297	80	38	7.4
16	20	42	21	27	22	74	325	426	297	78	38	6.9
17	20	49	20	26	23	63	321	442	232	76	38	6.6
18	20	8.7	20	25	24	70	229	453	226	77	43	12
19	19	60	20	25	24	65	160	410	301	85	38	19
20	17	47	19	23	25	57	127	431	257	92	31	20
21	15	40	18	23	27	63	129	448	220	94	28	20
22	14	42	18	22	28	77	146	448	174	91	26	17
23	13	52	17	21	29	100	169	436	167	90	26	15
24	13	55	17	21	28	104	235	426	167	90	24	14
25	12	61	19	20	27	98	325	410	177	91	24	14
26	12	46	20	20	27	125	370	442	185	87	22	13
27	12	40	20	20	26	149	366	431	193	77	20	12
28	11	42	19	19	27	174	352	390	196	76	19	10
29	11	40	23	20	-----	196	334	313	185	77	19	8.9
30	11	37	26	22	-----	220	356	241	169	80	18	8.2
31	11	-----	28	22	-----	250	-----	199	-----	77	15	-----
Total	536	924.4	789	730	682	2,528	7,906	12,398	6,538	2,871	1,634	359.2
Mean	17.3	30.8	25.5	23.5	24.4	81.5	264	400	218	92.6	52.7	12.0
Ac-ft	1,060	1,830	1,560	1,450	1,350	5,010	15,680	24,590	12,970	5,690	3,240	712

Calendar year 1965 Max 885 Min 7.8 Mean 133 Ac-ft 96,480  
 Water year 1965-66 Max 505 Min 6.6 Mean 104 Ac-ft 75,160

11-2265. San Joaquin River at Miller Crossing, Calif.

Location.--Lat 37°30'35", long 119°11'50", in NE¼ sec.11, T.5 S., R.25 E., on right bank at Miller Crossing, 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.--249 sq mi (revised).

Records available.--October 1921 to September 1928, October 1951 to September 1966. 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.--22 years, 571 cfs (413,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,980 cfs May 6 (gage height, 15.14 ft); minimum, 52 cfs Sept. 17.  
1921-28, 1951-66: 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 maximum flow; minimum, 19 cfs Nov. 17, 1961.

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

Cooperation.--Gage-height record and seven 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	112	75	246	160	156	189	1,320	1,830	1,020	566	364	76
2	111	74	244	145	153	180	1,410	2,010	934	511	572	71
3	107	73	260	140	156	168	1,410	1,990	855	454	492	68
4	106	72	258	140	159	167	1,470	1,990	880	424	316	66
5	102	72	244	150	161	178	1,490	2,110	940	409	290	66
6	100	70	225	160	176	186	1,550	2,290	970	409	224	68
7	99	69	219	175	180	199	1,550	2,430	1,020	391	198	67
8	100	68	214	181	172	217	1,620	2,220	994	361	179	64
9	100	68	221	176	165	234	1,510	1,860	922	319	167	63
10	100	66	208	198	164	424	1,320	1,840	982	290	160	60
11	98	67	196	198	158	391	1,010	1,760	1,060	280	151	58
12	96	69	201	191	161	409	880	1,680	1,110	270	145	59
13	95	108	189	192	156	511	820	1,790	1,160	260	138	59
14	94	262	175	203	154	484	895	1,940	1,210	256	139	58
15	118	252	154	203	153	475	1,110	1,910	1,110	250	141	56
16	109	372	146	191	153	463	1,420	2,010	1,110	240	139	54
17	106	398	144	180	162	400	1,560	2,100	1,010	238	138	52
18	109	710	142	172	168	412	1,290	2,190	900	238	146	56
19	104	420	140	172	168	409	970	2,100	1,100	242	142	89
20	98	305	132	159	172	370	795	2,090	1,020	258	131	85
21	93	249	128	164	183	385	730	2,080	875	262	120	86
22	91	262	132	158	198	415	755	2,150	725	258	112	78
23	88	817	122	150	201	478	825	2,110	654	252	109	74
24	86	668	124	150	196	524	1,020	2,010	622	254	104	70
25	84	462	136	145	184	517	1,390	1,980	614	260	102	70
26	82	406	146	142	186	598	1,630	1,970	637	256	98	71
27	81	328	140	144	183	686	1,640	1,960	642	234	93	70
28	80	290	138	140	188	790	1,630	1,850	670	226	89	68
29	79	284	162	141	-----	875	1,580	1,650	654	226	87	62
30	78	266	180	153	-----	970	1,670	1,430	602	224	85	59
31	76	-----	200	154	-----	1,130	-----	1,180	-----	224	83	-----
Total	2,982	7,702	5,566	5,127	4,766	13,834	38,270	60,510	27,002	9,342	5,454	2,003
Mean	96.2	257	180	165	170	446	1,276	1,952	900	301	176	66.8
Ac-ft	5,910	15,280	11,040	10,170	9,450	27,440	75,910	120,000	53,560	18,530	10,820	3,970

Calendar year 1965 Max 4,020 Min 66 Mean 774 Ac-ft 560,600

Water year 1965-66 Max 2,430 Min 52 Mean 500 Ac-ft 362,100

Peak discharge (base, 2,000 cfs).--May 6 (2100) 2,980 cfs (15.14 ft); May 22 (2200) 2,580 cfs (14.79 ft).

## SAN JOAQUIN RIVER BASIN

11-2285. Granite Creek near Cattle Mountain, Calif.

Location.--Lat 37°31'35", long 119°15'30", in NE¼ 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 1966 (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, 992 cfs May 6 (gage height, 7.78 ft); minimum daily, 0.20 cfs Sept. 29, 30. 1921-28, 1952-66: Maximum discharge recorded, 3,140 cfs Dec. 23, 1964 (gage height, 9.49 ft), from rating curve extended above 1,100 cfs; no flow at times in 1924, 1926.

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

Cooperation.--Gage-height record and eight 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	1.7					-	600	131	22	2.8	0.60
2	3.1	1.7					-	615	112	18	3.3	.60
3	2.9	1.7					-	595	115	16	4.2	.70
4	2.7	1.6					-	632	126	14	3.7	.60
5	2.6	1.7					-	605	128	13	3.0	.50
6	2.6	1.7					-	610	124	12	2.4	.40
7	2.4	1.7					-	650	158	12	1.8	.40
8	2.3	1.6					-	595	141	11	1.8	.40
9	2.2	1.7					-	505	151	11	1.5	.40
10	2.1	1.7					-	517	166	9.5	1.4	.30
11	2.0	1.7					-	513	149	8.3	1.3	.40
12	2.0	1.8					-	489	133	7.5	1.2	.40
13	2.0	4.6					-	521	133	6.7	1.1	.40
14	2.0	1.2					-	530	126	6.2	1.1	.50
15	3.6	1.4					-	509	113	5.8	1.0	.50
16	3.4	3.2					-	517	106	5.3	1.0	.50
17	3.0	3.4					-	534	92	4.8	.80	.50
18	3.0	9.0					-	561	74	4.5	.60	.60
19	3.2	3.9					-	525	81	4.5	.60	1.4
20	2.9	3.5					-	509	72	4.3	.60	1.7
21	2.8	3.0					-	501	59	4.0	.50	1.2
22	2.5	2.5					-	465	45	3.7	.40	.80
23	2.4	10.0					-	465	37	3.5	.40	.60
24	2.3	8.0					-	438	34	3.3	.30	.50
25	2.1	5.5					-	406	32	3.2	.30	.40
26	2.1	4.0					-	417	32	2.9	.30	.40
27	2.0	3.2					-	389	29	2.5	.30	.30
28	1.9	3.0					-	326	29	2.6	.30	.30
29	1.9	2.8					534	255	27	2.4	.30	.20
30	1.8	2.6					575	199	24	2.2	.30	.20
31	1.8	-----					-----	149	-----	2.5	.30	-----
Total	76.9	726.9	-	-	-	-	-	15,142	2,779	229.2	38.90	16.70
Mean	2.48	24.2	-	-	-	-	-	488	92.6	7.39	1.25	.56
Ac-ft	153	1,440	-	-	-	-	-	30,030	5,510	455	77	33

Calendar year 1965	Max	Min	Mean	Ac-ft
Water year 1965-66	Max	Min	Mean	Ac-ft

11-2295. Ward tunnel intake at Florence Lake, Calif.

Location.--Lat 37°16'25", long 118°58'25", in NW¼ sec.1, T.8 S., R.27 E., in gatehouse at entrance to tunnel.Records available.--April 1925 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A. Published as Florence Lake tunnel at intake 1925-36 and as Ward tunnel at intake 1937-62.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.--41 years, 274 cfs (198,400 acre-ft per year).Extremes.--1925-66: Maximum daily discharge, 1,990 cfs Apr. 30, 1926; no flow at times.Remarks.--Records excellent. Ward tunnel diverts from Florence Lake, a reservoir on South Fork San Joaquin River, to Huntington Lake for use in Big Creek powerplants.Cooperation.--Gage-height record, five 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	524	26	115	103	55	67	409	412	361	398	452	497
2	516	25	39	128	55	63	453	407	363	400	452	529
3	512	26	.80	140	57	59	479	347	363	398	450	521
4	506	26	.80	129	59	60	498	334	363	398	448	515
5	504	25	.70	117	61	64	470	343	364	398	428	471
6	497	25	.50	99	64	65	491	355	364	398	398	450
7	520	24	.80	88	65	70	491	368	368	398	398	446
8	533	22	.90	89	64	81	475	378	368	398	397	444
9	524	22	.90	84	64	84	493	388	368	397	395	441
10	516	22	183	83	63	116	550	397	368	395	395	437
11	508	21	276	81	59	140	577	404	368	395	393	435
12	499	22	250	77	61	157	586	405	579	395	432	477
13	491	30	220	76	58	196	533	459	829	393	502	491
14	482	73	183	76	56	187	491	455	762	393	498	488
15	471	102	123	77	54	161	506	435	438	392	495	482
16	425	146	66	75	54	162	497	416	308	392	493	475
17	409	187	55	72	55	140	502	340	308	388	491	470
18	393	178	56	68	57	146	514	267	310	388	488	466
19	373	146	60	66	58	152	491	294	312	386	486	464
20	351	117	62	63	59	136	522	393	364	386	484	455
21	326	100	62	61	63	127	571	416	505	386	480	452
22	298	99	57	59	69	138	582	373	509	385	479	443
23	262	197	52	57	72	177	580	353	462	383	423	435
24	216	169	53	54	72	200	579	571	462	383	397	432
25	146	190	53	54	67	174	508	672	461	381	395	428
26	54	191	52	53	65	182	489	677	461	435	393	471
27	34	173	54	52	63	209	480	682	461	461	410	484
28	32	150	54	50	65	240	469	685	462	459	428	475
29	30	136	53	49	-----	272	466	700	417	457	426	464
30	28	126	41	50	-----	304	473	720	398	457	426	453
31	26	-----	73	53	-----	350	-----	483	-----	455	434	-----
Total	11,006	2,796	2,297.40	2,383	1,714	4,679	15,225	13,929	12,826	12,528	13,666	13,991
Mean	355	93.2	74.1	76.9	61.2	151	508	449	428	404	441	466
Ac-ft	21,830	5,550	4,560	4,730	3,400	9,280	30,200	27,630	25,440	24,850	27,110	27,750

Calendar year 1965 Max 1,440 Min .50 Mean 416 Ac-ft 301,500  
 Water year 1965-66 Max 829 Min .50 Mean 293 Ac-ft 212,300

## SAN JOAQUIN RIVER BASIN

11-2296. Florence Lake near Big Creek, Calif.

Location--Lat 37°16'25", long 118°58'20", in NW¼ 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 1966.

Gage--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

Extremes--Maximum contents during year, 62,400 acre-ft July 2, 3; maximum elevation, 7,325.40 ft July 3; minimum contents, 259 acre-ft Nov. 11, 12 (elevation, 7,224.74 ft).

1925-66; 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.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18,900	267	406	383	328	336	823	4,620	47,800	62,300	51,800	32,300
2	18,000	267	569	410	328	335	952	5,970	48,300	62,400	51,600	31,300
3	17,100	267	801	410	328	334	1,060	7,250	48,800	62,400	51,200	30,400
4	16,200	267	1,030	410	329	333	1,190	8,900	49,400	62,300	50,700	29,500
5	15,300	267	1,240	406	329	332	1,410	10,600	50,000	62,300	50,300	28,600
6	14,400	265	1,440	381	329	331	1,630	12,300	50,700	62,100	49,800	27,800
7	13,500	263	1,620	371	336	330	1,870	14,200	51,300	62,000	49,400	27,000
8	12,500	263	1,810	368	337	329	2,150	15,800	51,900	61,800	48,900	26,200
9	11,600	263	2,000	365	337	337	2,300	17,200	52,400	61,500	48,400	25,400
10	10,700	261	1,820	361	337	394	2,190	18,500	53,200	61,200	47,800	24,600
11	9,790	259	1,410	357	336	391	1,830	19,500	54,000	60,900	47,300	23,800
12	8,890	264	1,060	353	336	448	1,390	20,400	54,700	60,500	46,700	23,000
13	8,010	290	759	351	336	463	1,010	21,300	54,900	60,100	45,900	22,100
14	7,150	363	511	350	336	426	806	22,500	55,100	59,700	45,200	21,200
15	6,330	365	350	350	336	415	779	23,700	55,800	59,300	44,400	20,200
16	5,540	471	318	349	336	398	926	25,300	56,700	58,800	43,700	19,400
17	4,740	456	313	347	336	388	1,090	27,200	57,500	58,400	42,900	18,500
18	3,910	452	317	345	336	397	1,050	29,400	58,400	57,900	42,200	17,700
19	3,150	404	319	344	336	389	1,040	31,200	59,400	57,500	41,500	16,800
20	2,500	381	319	342	335	374	715	32,800	60,100	57,100	40,700	16,000
21	1,920	366	319	341	335	373	619	34,500	60,500	56,700	40,000	15,200
22	1,390	489	316	340	335	403	588	36,300	60,600	56,400	39,200	14,400
23	946	500	312	337	335	444	602	38,300	60,800	56,000	38,600	13,600
24	581	484	312	335	336	429	680	39,800	60,800	55,600	38,000	12,800
25	335	486	312	333	336	419	923	41,200	60,900	55,300	37,300	12,000
26	287	472	312	331	336	443	1,330	42,700	61,100	54,800	36,700	11,200
27	279	449	312	330	336	484	1,790	44,000	61,300	54,300	36,000	10,300
28	275	433	313	328	336	532	2,280	45,100	61,500	53,700	35,300	9,430
29	272	421	302	327	-----	571	2,720	46,000	61,800	53,200	34,600	8,540
30	270	413	305	327	-----	617	3,450	46,600	62,000	52,700	33,800	7,710
31	268	-----	364	327	-----	700	-----	47,200	-----	52,200	33,100	-----
(†)	7,224.85	7,226.29	7,225.84	7,225.47	7,225.56	7,228.63	7,241.47	7,308.72	7,325.03	7,314.44	7,291.48	7,252.40
(‡)	-19,530	+145	-49	-37	+9	+364	+2,750	+43,750	+14,800	-9,800	-19,100	-25,390

Calendar year 1965..... †- 6,880  
 Water year 1965-66..... †-12,090

† 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 SE¼ 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 1966. 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.--45 years, 306 cfs (221,500 acre-ft per year), combined flow of South Fork San Joaquin River and Ward tunnel at intake.

Extremes.--Maximum discharge during year, 14 cfs Aug. 2 (gage height, 9.40 ft); minimum daily, 2.9 cfs Sept. 12-15.  
1921-66: 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 sta. 11-2296) and by diversion into Ward tunnel (see sta. 11-2295).

Cooperation.--Gage-height record and three 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	4.2	3.4	3.5	3.3	3.4	3.4	3.9	5.2	6.2	6.0	5.3
2	5.2	3.8	3.4	3.4	3.2	3.3	3.4	4.1	5.2	6.2	6.4	5.2
3	5.1	3.4	3.5	3.3	3.2	3.2	3.5	4.2	5.2	6.2	6.0	5.2
4	5.1	3.4	3.7	3.3	3.2	3.2	3.5	4.5	5.2	6.2	5.9	5.1
5	5.4	3.4	3.7	3.5	3.3	3.3	3.6	4.4	5.4	6.2	5.9	5.1
6	5.3	3.4	3.7	3.4	3.3	3.3	3.6	3.9	5.7	6.2	5.8	5.0
7	5.3	3.4	3.8	3.4	3.3	3.4	3.6	3.9	5.7	6.2	5.7	5.0
8	5.2	3.4	3.8	3.4	3.3	3.4	3.7	4.0	5.8	6.2	5.6	5.0
9	5.1	3.4	3.8	3.4	3.3	3.4	3.8	4.2	5.8	6.2	5.6	5.0
10	5.1	3.4	3.8	3.4	3.3	3.6	3.8	4.3	5.8	6.1	5.6	5.0
11	5.4	3.4	3.8	3.4	3.2	3.5	3.8	4.3	6.0	6.1	5.6	3.8
12	5.5	3.4	3.7	3.5	3.1	3.6	3.7	4.3	6.2	6.0	5.6	2.9
13	5.4	3.6	3.6	3.3	3.2	3.5	3.6	4.3	6.2	6.0	5.6	2.9
14	5.4	4.3	3.5	3.2	3.2	3.4	3.5	4.3	6.1	5.9	5.6	2.9
15	5.3	3.7	3.4	3.2	3.2	3.4	3.4	4.3	6.1	5.9	5.6	2.9
16	5.2	4.2	3.4	3.2	3.2	3.4	3.4	4.4	6.1	5.9	5.6	3.0
17	5.1	3.9	3.4	3.2	3.3	3.4	3.5	4.4	6.2	5.9	5.5	3.3
18	5.0	3.8	3.4	3.2	3.3	3.4	3.5	4.5	6.2	5.8	5.5	3.3
19	5.0	3.5	3.4	3.2	3.3	3.4	3.5	4.6	6.2	6.2	5.5	3.2
20	5.0	3.4	3.4	3.1	3.2	3.4	3.4	4.6	6.3	6.9	5.5	3.2
21	4.9	3.4	3.4	3.0	3.2	3.4	3.4	4.7	6.3	6.9	5.5	3.2
22	4.7	3.9	3.4	3.0	3.3	3.4	3.4	4.7	6.2	6.9	5.4	3.2
23	4.5	4.2	3.4	3.0	3.3	3.4	3.4	4.8	6.2	6.9	5.4	3.1
24	4.4	3.8	3.4	3.0	3.3	3.4	3.4	4.9	6.2	6.9	5.4	3.1
25	4.3	3.6	3.4	3.0	3.3	3.4	3.4	5.0	6.2	6.9	5.4	3.1
26	4.2	3.5	3.4	3.1	3.3	3.4	3.5	5.0	6.2	6.9	5.3	3.0
27	4.2	3.5	3.4	3.1	3.3	3.4	3.5	5.0	6.2	6.8	5.3	3.4
28	4.2	3.4	3.3	3.1	3.3	3.4	3.6	5.0	6.2	6.9	5.3	4.4
29	4.2	3.4	3.0	3.1	-----	3.4	3.8	5.1	6.2	6.7	5.3	4.5
30	4.2	3.4	3.2	3.2	-----	3.4	3.8	5.1	6.2	6.7	5.3	4.5
31	4.2	-----	3.4	3.3	-----	3.4	-----	5.1	-----	6.3	5.3	-----
Total	152.4	108.5	108.3	100.4	91.2	105.2	106.4	139.8	178.7	197.3	173.0	117.8
Mean	4.92	3.62	3.49	3.24	3.26	3.40	3.55	4.51	5.96	6.36	5.58	3.93
Ac-ft	302	215	215	199	181	209	211	277	354	391	343	234
Calendar year 1965	Max	9.0	Min	.1	Mean	4.75	Ac-ft	3,440				
Water year 1965-66	Max	6.9	Min	2.9	Mean	4.33	Ac-ft	3,130				

## SAN JOAQUIN RIVER BASIN

11-2305. Bear Creek near Lake Thomas A. Edison, Calif.

Location--Lat 37°20'20", long 118°58'20", in SW¼ 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--52.5 sq mi (revised).

Records available--October 1921 to September 1966. 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 7,366.94 ft above mean sea level (levels by Southern California Edison Co.).

Average discharge--45 years, 86.6 cfs (62,700 acre-ft per year).

Extremes--Maximum discharge during year, 405 cfs May 26 (gage height, 4.93 ft); minimum daily, 4.2 cfs Sept. 17.

1921-66: 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. No storage or diversion above station.

Cooperation--Gage-height record and 13 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	9.5	28	20	12	16	143	217	182	145	45	11
2	14	9.5	27	18	11	16	153	244	150	125	49	9.5
3	14	9.0	29	18	12	15	153	280	150	103	46	9.0
4	13	9.0	31	17	12	15	165	295	157	97	44	8.5
5	13	9.0	30	17	13	16	167	280	172	94	40	8.2
6	13	8.5	27	18	14	16	172	289	180	94	37	7.8
7	13	8.2	26	19	15	17	174	304	172	87	31	7.1
8	13	7.8	25	19	17	19	180	289	180	78	29	6.8
9	13	7.8	24	17	19	19	160	256	160	73	27	6.0
10	12	7.8	24	17	16	24	128	277	170	63	25	5.7
11	12	7.8	22	16	14	30	103	241	209	56	24	5.4
12	12	9.0	22	16	16	32	90	206	232	50	23	5.4
13	12	10	21	16	16	36	85	220	262	48	21	5.4
14	12	16	20	16	15	38	90	235	271	48	21	5.0
15	14	23	18	16	15	36	105	250	241	46	21	4.8
16	13	36	17	15	15	34	141	286	214	44	21	4.5
17	14	37	16	14	15	32	150	310	217	44	22	4.2
18	14	37	17	14	15	34	123	322	217	45	39	4.5
19	12	32	17	13	15	34	99	289	244	46	36	9.5
20	12	30	17	13	16	30	81	262	238	49	31	11
21	12	24	17	12	16	31	77	247	206	52	27	10
22	11	24	16	13	17	39	73	271	172	52	24	9.0
23	11	30	16	12	18	50	75	301	145	52	22	8.5
24	10	32	16	12	17	52	96	280	139	52	20	8.2
25	10	52	15	12	17	49	141	295	145	52	18	7.8
26	10	47	15	12	17	56	172	334	162	48	17	7.8
27	9.5	42	16	11	17	64	177	330	172	45	15	7.8
28	9.5	38	17	11	16	73	177	307	177	43	14	7.8
29	9.5	36	19	12	-----	83	177	295	167	43	14	7.1
30	9.5	32	20	13	-----	96	190	253	155	43	12	6.4
31	9.5	-----	25	12	-----	117	-----	206	-----	44	12	-----
Total	371.5	680.9	651	461	428	1,219	4,017	8,471	5,658	1,961	827	219.7
Mean	12.0	22.7	21.0	14.9	15.3	39.3	134	273	189	63.3	26.7	7.32
Ac-ft	737	1,350	1,290	914	849	2,420	7,970	16,800	11,220	3,890	1,640	436

Calendar year 1965 Max 605 Min 7.8 Mean 11.2 Ac-ft 81,000

Water year 1965-66 Max 334 Min 4.2 Mean 68.4 Ac-ft 49,520

Peak discharge (base, 440 cfs)--No peak above base.



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.--90.0 sq mi (revised).

Records available.--October 1954 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

Extremes.--Maximum contents during year, 108,600 acre-ft Oct. 1 (elevation, 7,633.51 ft); minimum, 32,400 acre-ft Mar. 11-22; minimum elevation, 7,583.43 ft Mar. 15-21.

1954-66: Maximum contents, 125,900 acre-ft Aug. 18, 1958 (elevation, 7,642.95 ft); minimum since appreciable storage was attained, 7,550 acre-ft Apr. 20, 1965 (elevation, 7,557.23 ft).

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.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108.6	98.1	85.1	69.7	48.2	32.9	34.1	48.9	75.2	88.2	91.9	92.6
2	108.5	97.6	84.8	69.0	47.5	32.8	34.6	49.7	75.6	88.4	92.1	92.6
3	108.4	96.9	84.4	68.3	46.8	32.8	35.1	50.6	76.0	88.7	92.2	92.6
4	108.3	96.3	84.0	67.7	46.1	32.7	35.6	51.5	76.4	88.9	92.2	92.6
5	108.2	95.4	83.7	67.0	45.5	32.7	36.1	52.4	76.8	89.1	92.3	92.5
6	108.1	94.5	83.7	66.3	44.8	32.6	36.6	53.4	77.3	89.3	92.4	92.5
7	108.0	93.7	83.7	65.6	44.1	32.7	37.2	54.5	77.8	89.4	92.4	92.4
8	107.9	93.1	83.8	64.9	43.4	32.5	37.8	55.4	78.2	89.6	92.5	92.5
9	107.8	92.6	83.8	64.2	42.7	32.5	38.4	56.3	78.7	89.7	92.5	92.4
10	107.7	92.1	83.6	63.5	42.0	32.5	39.0	57.2	79.1	89.9	92.5	92.4
11	107.6	91.7	83.1	62.8	41.3	32.4	39.4	58.0	79.6	90.0	92.6	92.4
12	107.5	91.3	82.5	62.1	40.6	32.4	39.8	58.6	80.1	90.1	92.6	92.3
13	107.4	91.0	82.0	61.4	39.8	32.4	40.2	59.3	80.7	90.1	92.6	92.3
14	107.1	90.8	81.3	60.6	39.1	32.4	40.5	60.2	81.3	90.2	92.6	92.2
15	106.8	90.5	80.6	59.9	38.4	32.4	41.0	61.0	81.7	90.3	92.6	92.2
16	106.4	90.3	79.9	59.2	37.7	32.4	41.5	61.9	82.3	90.4	92.7	92.2
17	106.1	89.9	79.2	58.6	37.0	32.4	42.0	62.8	82.8	90.5	92.7	92.2
18	105.8	89.6	79.5	57.9	36.3	32.4	42.5	63.8	83.3	90.6	92.7	92.2
19	105.5	89.2	77.8	57.2	35.6	32.4	42.9	64.7	83.9	90.7	92.7	92.2
20	105.2	88.8	77.1	56.4	34.9	32.4	43.3	65.6	84.4	90.8	92.7	92.2
21	105.2	88.4	76.3	55.7	34.2	32.4	43.6	66.4	84.8	90.9	92.7	92.2
22	105.0	88.2	75.6	55.1	33.6	32.4	43.9	67.3	85.2	91.0	92.7	92.2
23	104.3	88.0	74.9	54.3	33.2	32.5	44.2	68.2	85.6	91.1	92.7	92.2
24	103.6	87.7	74.1	53.6	33.2	32.6	44.5	69.0	85.9	91.2	92.7	92.2
25	103.3	87.3	73.4	52.9	33.1	32.6	45.1	70.0	86.2	91.3	92.7	92.2
26	102.8	87.0	72.7	52.2	33.1	32.7	45.6	70.9	86.5	91.4	92.7	92.2
27	102.2	86.6	72.0	51.5	33.0	32.8	46.3	71.7	86.9	91.5	92.7	92.1
28	101.4	86.3	71.5	50.8	32.9	32.9	46.9	72.6	87.3	91.6	92.7	92.1
29	100.6	85.9	71.6	50.2	-----	33.1	47.5	73.4	87.7	91.7	92.7	92.1
30	99.8	85.5	70.9	49.5	-----	33.3	48.2	74.1	88.0	91.7	92.6	92.1
31	99.0	-----	70.4	48.9	-----	33.6	-----	74.6	-----	91.8	92.6	-----
(†)	7,628.07	7,620.29	7,611.10	7,596.43	7,583.86	7,584.44	7,595.92	7,613.75	7,621.75	7,623.98	7,624.43	7,624.13
(‡)	-9,600	-13,500	-15,100	-21,500	-16,000	+700	+14,600	+26,400	+13,400	+3,800	+800	-500

Calendar year 1965..... † + 23,500

Water year 1965-66..... ‡ - 16,500

† 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 SW¼ 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.--92.5 sq mi (revised).

Records available.--October 1921 to September 1966. 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.--45 years, 147 cfs (106,400 acre-ft per year), adjusted for diversion.

Extremes.--Maximum discharge during year, 480 cfs Nov. 5 (gage height, 6.52 ft); minimum daily, 12 cfs for many days in April to June. 1921-66: 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 sta.11-2310). No diversion above station.

Cooperation.--Gage-height record and 10 discharge measurements furnished by Southern California Edison Co. in connection with Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	440	238	410	395	70	16	12	12	13	13	14
2	79	308	238	405	395	70	16	12	12	13	14	14
3	79	329	238	405	395	70	16	12	12	13	14	14
4	79	333	238	400	395	70	15	12	12	13	13	14
5	81	455	207	405	400	70	13	12	12	13	13	14
6	79	445	16	410	400	70	13	12	12	13	13	14
7	81	445	16	410	400	70	13	12	12	13	13	14
8	81	317	16	410	400	70	13	12	12	13	13	14
9	81	249	16	410	400	70	13	12	12	13	13	14
10	81	241	192	405	400	70	12	13	12	13	14	14
11	81	241	309	405	395	70	12	12	12	13	13	14
12	81	241	309	405	395	70	12	12	12	13	13	14
13	81	241	309	405	395	70	12	12	12	13	14	14
14	161	241	348	405	395	70	12	12	12	13	14	14
15	201	238	380	405	390	70	12	12	12	13	14	14
16	198	238	385	405	390	70	12	12	12	13	14	14
17	198	238	390	400	395	70	12	12	12	13	14	14
18	198	238	390	400	395	70	12	20	12	13	14	14
19	198	238	390	400	390	70	12	22	13	13	14	14
20	176	238	385	400	390	70	12	14	13	13	14	14
21	17	238	385	400	390	70	13	12	13	13	14	14
22	151	238	385	395	385	70	12	12	13	13	14	14
23	370	238	395	395	219	70	12	12	13	13	14	14
24	365	238	400	395	70	70	12	12	13	13	14	14
25	173	238	400	395	70	70	12	12	13	13	14	14
26	243	238	400	390	70	70	12	12	13	13	14	14
27	329	238	405	390	70	70	12	12	13	13	14	14
28	405	238	287	390	70	70	12	12	13	13	14	14
29	420	238	200	390	-----	70	12	12	13	13	14	14
30	425	238	410	390	-----	72	12	12	13	13	14	14
31	430	-----	410	390	-----	35	-----	12	-----	13	14	-----
Total	5,701	8,334	9,087	12,420	9,254	2,137	381	393	372	403	425	420
Mean	184	278	293	401	330	68.9	12.7	12.7	12.4	13.0	13.7	14.0
Ac-ft	11,310	16,530	18,020	24,630	18,360	4,240	756	780	738	799	843	833

Calendar year 1965 Max 455 Min 12 Mean 178 Ac-ft 129,000  
 Water year 1965-66 Max 455 Min 12 Mean 135 Ac-ft 97,840

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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.

Records available.--October 1921 to September 1928, November 1951 to September 1966 (no winter records except water year 1963).  
Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "near Jackass Meadow."

Average discharge.--8 years (1921-28, 1962-63), 21.2 cfs (15,350 acre-ft per year).

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	<u>0.10</u>	<u>0.10</u>					-	99	16	<u>1.8</u>		0
2	.10	.10					-	<u>101</u>	14	1.5		0
3	.10	.10					-	97	14	1.2		0
4	.10	.10					-	96	13	.80		0
5	.10	.20					-	95	12	.60		0
6	.10	.20					-	88	13	.40		0
7	.10	.10					-	87	<u>20</u>	.10		0
8	.10	.10					-	82	<u>17</u>	.10		0
9	.10	.10					-	75	17	.20		0
10	.10	.10					-	72	17	.40		0
11	.10	.10					-	70	14	.20		0
12	.20	.10					-	65	12	.10		0
13	.20	1.0					-	62	10	.10		0
14	.10	11					-	59	10	.10		0
15	1.4	32					-	55	9.8	.10		0
16	<u>1.7</u>	54					-	54	9.5			0
17	<u>1.0</u>	74					-	53	8.6	.10		0
18	.60	<u>115</u>					-	51	7.7	<u>0</u>		0
19	.10	40					-	48	7.3	0		<u>10</u>
20	.10	21					-	44	6.7	0		.10
21	.10	14					-	41	6.0	0		.10
22	.10	15					-	38	5.2	0		0
23	.10	60					-	36	4.5	0		0
24	.10	30					-	32	3.8	0		0
25	.10	21					-	29	3.7	0		0
26	.10	17					-	28	3.1	0		0
27	.10	15					-	27	2.8	0		0
28	.10	13					102	24	2.5	0		0
29	.10	12			-----		97	22	2.2	0		0
30	.10	11			-----		99	20	<u>2.1</u>	0		0
31	.10	-----			-----		-----	<u>17</u>	-----	0		-----
Total	7.60	557.40	-	-	-	-	-	1,767	284.5	7.80	-	.30
Mean	.24	18.6	-	-	-	-	-	57.0	9.48	.25	-	.01
Ac-ft	15	1,110	-	-	-	-	-	3,500	564	15	-	.6
Calendar year 1965	Max	Min			Mean		Ac-ft					
Water year 1965-66	Max	Min			Mean		Ac-ft					

## SAN JOAQUIN RIVER BASIN

11-2345. Chiquito Creek near Bass Lake, Calif.

Location.--Lat 37°24'45", long 119°22'50", in NE¼ 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.--60.1 sq mi (revised).

Records available.--September 1921 to September 1928, November 1951 to September 1966 (no winter records 1952-54, 1956). Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "near Arnold Meadow."

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.--18 years (1921-28, 1954-55, 1956-66), 81.2 cfs (58,790 acre-ft per year).

Extremes.--Maximum discharge during year, 494 cfs Nov. 23 (gage height, 6.94 ft, from high-water marks in gage well); minimum, 3.4 cfs Sept. 4.

1921-28, 1951-66: Maximum discharge, 8,630 cfs Dec. 23, 1955 (gage height, 16.38 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of maximum flow; minimum, 1.2 cfs Sept. 7, 9, 1961.

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

Cooperation.--Gage-height record and nine 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.0	7.6	7.2	4.6	4.5	5.6	34.1	26.3	7.4	2.3	8.0	5.6
2	8.0	7.6	7.0	4.6	4.3	4.9	35.3	26.6	7.0	2.3	8.0	5.6
3	7.6	7.6	7.2	4.8	4.5	4.5	35.6	26.0	6.7	2.2	7.6	5.3
4	7.6	7.6	7.2	5.0	4.6	4.5	35.3	26.3	6.5	2.1	6.8	5.0
5	7.6	7.6	7.0	5.4	4.6	5.0	34.4	25.2	6.4	2.0	6.0	5.3
6	7.6	7.6	6.5	5.8	5.0	5.4	33.8	24.0	6.2	2.0	5.6	5.0
7	7.6	7.6	6.4	5.8	4.7	5.8	34.1	24.6	8.2	1.9	5.6	5.0
8	7.2	7.6	6.2	5.8	4.3	6.5	34.7	23.2	7.2	1.8	6.0	4.6
9	7.2	8.0	6.4	5.6	4.3	6.8	32.3	21.6	7.9	2.0	6.0	4.6
10	7.6	8.0	6.0	5.6	4.5	10.6	32.0	22.9	7.4	1.8	5.6	4.6
11	7.6	8.4	5.9	5.4	3.9	11.7	26.0	20.9	6.0	1.7	5.6	4.6
12	7.2	8.9	6.2	5.3	4.2	11.7	23.8	18.9	5.8	1.6	5.6	5.0
13	7.2	1.9	5.9	5.3	4.0	13.1	21.9	17.8	5.4	1.6	5.6	5.3
14	7.6	8.4	5.6	5.4	3.9	13.9	22.7	17.8	5.2	1.6	5.6	5.6
15	11	11.9	4.9	5.6	4.3	14.1	26.3	17.3	4.7	1.5	5.6	5.6
16	1.2	14.1	4.5	5.4	4.4	14.1	30.5	17.1	4.6	1.4	5.3	5.3
17	11	21.4	4.3	5.2	4.6	12.9	30.2	16.9	4.5	1.3	5.3	5.3
18	10	29.0	4.3	4.9	4.9	12.9	26.9	16.9	4.4	1.3	4.6	5.6
19	10	14.1	4.5	4.8	4.9	12.7	21.9	16.0	4.1	1.1	4.6	7.2
20	9.8	8.4	4.6	4.6	4.9	12.3	19.9	15.0	3.8	1.1	4.6	7.2
21	9.8	6.5	4.7	4.4	5.2	12.5	19.4	14.3	3.6	9.8	4.6	6.4
22	8.9	7.1	4.6	4.4	5.8	13.1	19.9	13.9	3.4	9.4	4.6	5.6
23	8.9	32.0	4.4	4.3	5.8	15.4	20.6	13.5	3.3	9.4	4.6	5.3
24	8.4	26.0	4.7	4.2	5.6	16.4	23.5	12.9	3.2	8.4	4.3	5.3
25	8.0	14.7	4.6	4.4	5.3	16.2	26.6	12.1	3.1	8.4	4.3	5.3
26	8.0	11.3	4.6	4.5	5.3	18.0	28.1	11.5	3.0	8.0	4.3	5.3
27	7.6	9.6	4.6	4.5	5.2	20.4	26.9	11.0	2.8	8.0	4.6	5.3
28	7.6	8.9	4.9	4.5	5.6	22.7	26.6	10.0	2.6	7.6	5.0	5.0
29	7.6	8.4	5.8	4.5	-----	24.3	26.4	9.1	2.4	7.6	5.0	4.6
30	7.6	7.7	5.4	4.5	-----	26.6	26.0	8.4	2.4	7.6	5.0	4.6
31	7.6	-----	4.8	4.5	-----	30.2	-----	7.7	-----	8.4	5.3	-----
Total	259.4	2,508.1	1,709	1,536	1,331	4,048	8,357	5,457	1,492	438.6	169.2	160.0
Mean	8.37	83.6	55.1	49.5	47.5	131	279	176	49.7	14.1	5.46	5.33
Ac-ft	515	4,970	3,390	3,050	2,640	8,030	16,580	10,820	2,960	870	336	317

Calendar year 1965 Max 611 Min 7.2 Mean 122 Ac-ft 88,620

Water year 1965-66 Max 356 Min 4.3 Mean 75.2 Ac-ft 54,480

Peak discharge (base, 500 cfs).--No peak above base.

11-2347. Mammoth Pool Reservoir near Big Creek, Calif.

Location.--Lat 37°19'45", long 119°19'15", in SW¼ 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.--995 sq mi (revised).

Records available.--October 1959 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

Extremes.--Maximum contents during year, 120,500 acre-ft May 29 (elevation, 3,330.47 ft); minimum, 4,710 acre-ft Mar. 20 (elevation, 3,140.65 ft).

1959-66: Maximum contents, 123,200 acre-ft June 18, 1963 (elevation, 3,332.93 ft); minimum since appreciable storage was attained, that of Mar. 20, 1966.

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.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40.3	34.0	51.5	23.1	15.7	9.98	13.5	56.8	118.1	92.7	63.2	44.7
2	39.9	33.4	51.0	23.1	15.6	9.67	16.1	59.8	116.8	91.9	62.7	44.2
3	40.1	32.9	50.5	22.7	15.6	9.48	18.6	62.8	115.4	91.0	62.2	44.0
4	39.6	32.2	50.5	22.3	15.5	9.60	21.4	65.9	114.0	89.9	61.3	43.8
5	39.4	31.6	50.0	22.5	15.6	9.58	24.0	69.2	112.8	88.9	60.4	43.6
6	39.6	30.9	48.9	22.4	16.0	9.45	26.7	72.7	111.7	88.3	59.9	43.4
7	39.8	31.0	47.5	22.3	15.9	9.42	29.5	76.7	111.1	87.6	59.5	43.0
8	40.0	30.4	46.0	22.2	15.7	9.51	32.4	80.1	110.4	86.8	58.8	42.7
9	40.3	29.8	44.5	22.1	15.3	9.66	34.7	82.5	109.4	85.9	58.1	42.5
10	40.5	29.2	43.0	21.8	15.0	9.69	36.5	84.8	108.9	85.1	57.4	42.3
11	40.7	28.6	41.3	21.3	14.5	10.1	37.1	86.9	108.6	84.2	56.7	42.2
12	40.9	27.9	40.0	21.0	14.4	11.1	37.1	88.6	108.2	83.3	55.9	41.8
13	41.1	27.5	38.3	20.6	14.0	12.8	36.9	90.4	107.9	82.4	55.2	41.4
14	41.3	29.2	36.7	20.3	13.7	11.9	36.9	92.7	107.6	81.5	54.5	41.2
15	40.8	30.3	34.9	20.0	13.3	10.7	37.7	94.7	107.3	80.4	53.7	41.0
16	40.3	32.6	33.0	20.1	13.0	9.56	39.6	96.9	106.7	79.4	53.0	40.8
17	40.6	34.9	31.2	19.6	12.7	8.02	42.0	99.2	105.9	78.2	52.3	40.5
18	40.1	39.0	29.1	19.0	12.4	6.47	43.5	102.1	105.3	77.1	51.7	40.4
19	39.6	40.0	27.0	18.5	11.5	5.05	43.7	104.5	105.0	76.0	51.1	40.3
20	39.1	40.4	25.2	17.9	11.1	4.83	43.2	106.6	104.2	75.0	50.6	40.2
21	38.6	39.9	23.4	17.4	11.0	4.83	42.5	108.7	103.5	74.1	50.2	40.0
22	38.1	39.6	21.5	16.8	10.9	4.96	42.0	110.8	102.6	73.2	49.7	39.8
23	37.5	46.0	19.9	16.1	10.7	7.68	41.6	112.9	101.4	72.4	49.0	39.7
24	37.7	51.2	19.9	15.8	10.6	9.46	42.0	114.5	100.2	71.4	48.2	39.6
25	37.1	52.3	19.9	15.8	10.0	8.44	43.6	116.0	98.8	70.5	47.5	39.4
26	36.6	52.4	19.9	15.7	9.91	7.81	45.8	117.5	97.6	69.8	46.7	39.0
27	36.0	52.3	19.9	15.7	10.1	7.56	48.1	118.9	96.3	68.7	46.5	38.4
28	35.5	52.3	20.1	15.6	10.2	7.75	50.2	120.0	95.1	67.6	46.3	37.9
29	34.9	52.2	22.0	15.6	-----	8.30	52.0	120.4	94.0	66.5	45.8	37.6
30	34.4	52.0	22.5	15.6	-----	9.19	54.2	120.0	93.4	65.4	45.5	37.2
31	34.6	-----	23.1	15.6	-----	11.2	-----	119.2	-----	64.3	45.1	-----
(†)	3,226.26	3,253.84	3,203.78	3,184.90	3,166.40	3,170.20	3,256.97	3,329.28	3,303.86	3,270.37	3,243.61	3,230.89
(‡)	-7,800	+17,400	-29,900	-7,500	-5,400	+1,000	+43,000	+65,000	-25,800	-29,100	-19,200	-7,900

Calendar year 1965..... †-60,400

Water year 1965-66..... ‡-5,200

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

11-2347.6. San Joaquin River above Shakeflat Creek, near Big Creek, Calif.

Location.--Lat 37°19'05", long 119°19'40", in SW¼ 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 1966.

Gage.--Water-stage recorder. Datum of gage is 2,865.50 ft above mean sea level (levels by Southern California Edison Co.).

Extremes.--Maximum discharge during year, 257 cfs May 29 (gage height, 4.46 ft); minimum daily, 2.8 cfs June 16.  
1959-66: Maximum discharge, 5,780 cfs May 6, 1962 (gage height, 11.90 ft); minimum daily, 0.3 cfs Oct. 14, Dec. 5, 1959.

Remarks.--Records good. Flow regulated by Mammoth Pool Reservoir (see sta.11-2347). Flow partly regulated by Florence Lake (see sta.11-2296), Lake Thomas A. Edison (see sta.11-2310) and diversions through Ward tunnel (see sta.11-2295) and through Mono-Bear conduit to Ward tunnel.

Cooperation.--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	16	12	16	12	12	12	14	13	13	13	14
2	25	9.5	12	15	11	12	12	14	13	13	13	12
3	25	9.5	12	14	11	12	12	14	13	13	13	12
4	25	9.5	12	14	12	12	12	14	13	13	13	12
5	25	10	12	14	13	12	12	14	13	13	13	12
6	25	9.8	12	14	18	12	12	13	13	13	13	12
7	26	9.8	12	13	13	12	13	13	13	13	13	12
8	26	11	12	13	12	12	13	13	13	13	13	12
9	26	11	13	12	12	12	31	13	13	13	13	13
10	26	11	12	12	12	13	47	13	13	13	13	13
11	26	11	12	12	13	13	47	13	13	13	13	13
12	26	11	13	12	13	12	47	13	13	13	13	13
13	25	12	12	12	13	18	35	13	8.3	13	13	13
14	25	22	12	12	13	32	26	13	2.9	13	13	13
15	26	14	12	12	12	25	26	13	2.9	13	13	13
16	26	24	12	12	12	12	20	13	2.8	13	13	13
17	24	17	11	12	6.3	12	13	13	8.9	13	13	13
18	24	17	11	12	5.4	12	13	13	14	13	13	13
19	24	13	11	12	11	12	13	13	13	13	13	13
20	24	12	11	12	12	11	12	39	13	13	13	13
21	24	12	11	12	12	11	13	59	13	13	13	13
22	24	15	11	11	12	11	13	59	14	13	13	12
23	24	46	11	11	12	11	13	59	14	13	13	12
24	24	27	11	11	13	12	13	60	14	13	13	12
25	24	20	12	11	12	12	13	60	14	13	13	12
26	24	15	11	11	12	12	13	60	14	13	14	12
27	24	14	11	11	12	11	13	60	14	13	16	12
28	24	13	13	11	12	11	13	60	14	13	16	13
29	24	13	28	11	-----	11	13	177	14	13	16	13
30	24	13	20	12	-----	12	13	151	13	13	16	15
31	24	-----	21	11	-----	11	-----	47	-----	13	17	-----
Total	767	448.1	398	380	333.7	405	558	1,143	359.8	403	420	380
Mean	24.7	14.9	12.8	12.3	11.9	13.1	18.6	36.9	12.0	13.0	13.5	12.7
Ac-ft	1,520	889	789	754	662	803	1,110	2,270	714	799	833	754

Calendar year 1965 Max 4,300 Min 9.5 Mean 269 Ac-ft 195,000  
Water year 1965-66 Max 177 Min 2.8 Mean 16.4 Ac-ft 11,890

11-2355. Ward tunnel outlet at Huntington Lake, Calif.

Location.--Lat 37°15'15", long 119°09'35", in SW $\frac{1}{4}$  sec.5, T.8 S., R.25 E., at tunnel outlet at east end of Huntington Lake, 3 miles northeast of Big Creek.

Records available.--October 1927 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as Ward tunnel at outlet.

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.--39 years, 467 cfs (338,100 acre-ft per year).

Extremes.--1927-66: Maximum daily discharge, 2,080 cfs June 21, 1935; no flow at times in 1961, 1964-65.

Remarks.--Records fair. 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 11-2295., Ward tunnel intake at Florence Lake.

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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	618	475	446	535	463	154	657	706	579	558	504	521
2	608	344	306	553	462	150	652	717	534	540	521	544
3	604	382	244	565	465	145	646	701	478	515	516	550
4	597	358	284	548	467	151	674	709	554	509	492	554
5	597	471	302	541	475	140	698	713	571	506	461	447
6	588	499	68	529	479	152	740	719	577	506	478	491
7	613	466	42	519	481	152	709	759	574	498	410	464
8	626	371	0	520	482	177	709	747	580	489	474	463
9	617	280	32	513	484	162	711	714	560	483	411	438
10	608	272	379	507	480	199	721	730	561	471	413	500
11	600	164	608	503	470	273	709	745	609	464	449	429
12	591	273	582	499	474	262	717	714	852	458	485	514
13	583	282	551	498	470	293	650	734	1,140	511	524	515
14	654	332	552	498	468	298	583	716	1,050	461	538	500
15	685	436	550	499	460	282	643	737	698	464	523	499
16	635	407	396	496	460	269	714	774	549	434	533	498
17	620	484	467	487	466	239	719	742	551	437	532	487
18	604	478	470	483	468	253	649	679	553	445	528	488
19	582	372	474	480	464	259	627	703	581	429	516	516
20	556	431	470	477	466	232	646	708	668	439	499	479
21	439	340	468	474	470	243	673	723	725	473	556	346
22	357	387	461	468	472	226	714	712	710	482	540	563
23	642	450	465	465	403	314	657	712	610	459	452	456
24	590	457	471	462	148	326	735	966	594	435	430	410
25	346	460	470	462	155	297	704	1,050	624	404	432	441
26	323	456	470	456	165	312	722	1,080	640	487	417	512
27	387	483	477	454	151	335	718	1,070	650	572	426	460
28	437	447	442	452	152	321	716	1,050	655	514	442	518
29	466	380	192	452	-----	444	691	1,060	600	523	478	505
30	502	368	473	454	-----	486	724	1,010	568	512	457	496
31	464	-----	510	456	-----	518	-----	729	-----	500	441	-----
Total	17,139	11,805	12,093.2	15,305	11,520	8,064	20,628	24,629	19,195	14,978	14,878	14,604
Mean	553	394	390	494	411	260	688	794	640	483	480	487
Ac-ft	33,990	23,410	23,990	30,360	22,850	15,990	40,920	48,850	38,070	29,710	29,510	28,970

Calendar year 1965	Max 1,690	Min 0	Mean 714	Ac-ft 516,600
Water year 1965-66	Max 1,140	Min 0	Mean 506	Ac-ft 366,600

## SAN JOAQUIN RIVER BASIN

11-2360. Huntington Lake near Big Creek, Calif.

Location.--Lat 37°14'05", long 119°12'40", in SW¼ 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.--80.5 sq mi (revised).

Records available.--April 1913 to September 1966.

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, 88,600 acre-ft Oct. 18-21; maximum elevation, 6,949.60 ft Oct. 21; minimum contents, 42,200 acre-ft Mar. 26 (elevation, 6,911.97 ft).

1913-66: 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).

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 sta. 11-2390). 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.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88.4	85.2	79.5	80.5	60.9	45.7	44.9	59.7	85.7	88.1	87.6	87.7
2	88.3	84.8	79.3	80.9	60.2	45.2	45.8	60.5	85.8	88.0	87.7	87.8
3	88.3	84.3	79.0	81.3	59.6	44.7	46.9	61.3	85.8	87.9	87.8	87.9
4	88.3	83.9	78.8	81.6	59.0	44.3	48.1	62.2	85.9	87.7	87.9	88.1
5	88.3	83.6	78.6	81.5	58.4	44.6	49.3	63.2	86.0	87.5	87.9	88.0
6	88.2	83.4	78.2	80.3	57.9	44.7	50.6	64.2	86.2	87.3	87.9	88.1
7	88.3	83.2	77.4	79.1	57.2	44.3	52.0	65.2	86.4	87.1	87.7	88.0
8	88.3	82.8	76.6	77.9	56.6	43.9	53.5	65.9	86.6	87.0	87.7	88.0
9	88.4	82.2	75.9	76.7	56.0	43.4	55.0	66.4	86.7	87.1	87.6	87.9
10	88.4	81.6	75.8	75.8	55.4	43.1	56.5	67.1	86.8	87.1	87.5	87.9
11	88.4	80.7	76.3	75.1	54.8	43.1	57.8	67.6	86.9	87.1	87.4	87.8
12	88.3	80.1	76.7	74.4	54.2	43.8	58.6	68.2	87.5	87.1	87.4	87.8
13	88.2	79.7	77.1	73.7	53.6	44.0	58.4	69.0	87.9	87.2	87.5	87.8
14	88.2	79.6	77.4	73.1	53.0	44.0	58.0	69.9	87.9	87.1	87.6	87.9
15	88.4	79.5	77.7	72.4	52.4	43.8	57.7	70.7	87.7	87.2	87.6	87.9
16	88.5	79.5	77.7	71.7	51.8	43.7	57.8	71.6	87.7	87.1	87.7	87.9
17	88.5	79.6	77.8	71.0	51.2	43.5	58.1	72.9	87.7	87.1	87.8	87.9
18	88.6	79.8	78.0	70.3	50.7	43.3	58.3	73.7	87.7	87.1	87.9	88.0
19	88.6	79.6	78.1	69.6	50.1	43.2	58.2	73.2	87.8	87.0	87.9	88.1
20	88.6	79.6	78.3	68.9	49.5	43.0	57.8	72.7	88.0	86.9	88.0	88.1
21	88.3	79.2	78.5	68.2	49.0	42.8	57.3	72.2	87.8	86.9	88.1	87.8
22	87.7	79.1	78.6	67.6	48.5	42.5	56.7	71.7	87.6	86.9	88.2	87.9
23	87.8	79.8	78.7	67.0	47.9	42.5	56.1	72.0	87.6	87.0	88.2	87.8
24	87.8	80.4	78.9	66.3	47.3	42.5	55.9	73.8	87.6	87.0	88.1	87.7
25	87.4	80.3	79.2	65.6	46.8	42.4	56.1	75.6	87.8	86.9	87.9	87.7
26	86.9	80.2	79.3	64.9	46.5	42.4	56.7	77.5	87.9	86.9	87.8	87.7
27	86.5	80.2	79.5	64.2	46.5	42.5	57.2	79.4	88.1	87.1	87.7	87.6
28	86.2	80.1	79.7	63.5	46.1	42.6	57.8	81.1	88.2	87.1	87.6	87.7
29	85.9	79.8	79.6	62.8	-----	43.0	58.4	82.8	88.2	87.2	87.6	87.7
30	85.7	79.4	79.8	62.2	-----	43.4	59.0	84.5	88.2	87.4	87.6	87.7
31	85.5	-----	80.2	61.5	-----	44.0	-----	85.4	-----	87.5	87.6	-----
(†)	6,947.44	6,943.03	6,943.59	6,929.12	6,915.65	6,913.72	6,927.05	6,947.32	6,949.33	6,948.83	6,948.88	6,949.00
(‡)	-2,900	-6,100	+800	-18,700	-15,400	-2,100	+15,000	+26,400	+2,800	-700	+100	+100

Calendar year 1965..... ‡58,100

Water year 1965-66..... ‡-700

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.



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--81.1 sq mi (revised).

Records available--June 1925 to September 1966.

Gage--Water-stage recorder, 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, 8.7 cfs Nov. 24 (gage height, 2.72 ft); minimum daily, 1.0 cfs for many days.  
1925-66: 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 sta.11-2360). During most of year flow is diverted for power development at Big Creek powerhouse No. 1. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation--Gage-height record furnished by Southern California Edison Co. in connection with a Federal Power Commission Project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	2.5	2.7	1.1	1.0	1.0	2.4	2.4	2.3	2.3	2.5	2.4
2	2.7	2.5	2.7	1.1	1.0	1.0	2.5	2.3	2.3	2.3	2.4	2.4
3	2.7	2.6	2.7	1.1	1.0	1.0	2.5	2.3	2.3	2.2	2.4	2.4
4	2.7	2.6	2.7	1.1	1.0	1.0	2.5	2.3	2.2	2.2	2.4	2.4
5	2.7	2.6	2.7	1.1	1.0	1.0	2.4	2.2	2.2	2.2	2.4	2.4
6	2.6	2.5	2.6	1.1	1.0	1.0	2.3	2.2	2.3	2.2	2.4	2.4
7	2.6	2.5	2.6	1.1	1.0	1.1	2.3	2.2	2.4	2.2	2.4	2.4
8	2.6	2.5	2.6	1.1	1.0	1.1	2.2	2.2	2.4	2.1	2.4	2.4
9	2.6	2.5	2.6	1.1	1.0	1.2	2.2	2.2	2.4	2.1	2.4	2.5
10	2.6	2.5	2.4	1.1	1.0	1.6	2.8	2.4	2.4	2.1	2.4	2.4
11	2.6	2.5	2.4	1.1	1.0	1.6	2.4	2.3	2.3	2.3	2.4	2.4
12	2.6	2.5	2.4	1.1	1.0	1.5	2.4	2.2	2.3	2.4	2.4	2.4
13	2.6	2.8	2.4	1.1	1.0	1.8	2.2	2.2	2.3	2.4	2.4	2.4
14	2.6	4.1	2.4	1.1	1.0	1.8	2.2	2.2	2.3	2.4	2.4	2.4
15	2.7	3.1	1.8	1.1	1.0	1.8	2.4	2.3	2.2	2.4	2.4	2.5
16	2.6	4.4	1.1	1.1	1.0	1.8	2.5	2.4	2.3	2.4	2.4	2.4
17	2.6	4.0	1.1	1.1	1.1	1.7	2.4	2.4	2.3	2.3	2.4	2.4
18	2.6	4.4	1.1	1.1	1.1	1.7	2.5	2.4	2.3	2.4	2.4	2.6
19	2.6	3.2	1.1	1.1	1.1	1.7	2.5	2.4	2.3	2.4	2.4	2.5
20	2.6	2.4	1.1	1.0	1.1	1.8	2.5	2.4	2.3	2.4	2.4	2.5
21	2.6	2.3	1.1	1.0	1.1	1.8	2.4	2.3	2.3	2.4	2.4	2.5
22	2.6	2.7	1.1	1.0	1.1	1.8	2.3	2.3	2.2	2.4	2.4	2.4
23	2.6	5.3	1.1	1.0	1.1	1.9	2.5	2.3	2.2	2.4	2.4	2.4
24	2.6	4.9	1.0	1.0	1.1	1.9	2.6	2.2	2.2	2.3	2.4	2.5
25	2.6	3.4	1.1	1.0	1.0	1.9	2.5	2.2	2.2	2.3	2.4	2.4
26	2.6	3.0	1.0	1.0	1.0	2.1	2.6	2.2	2.2	2.2	2.4	2.4
27	2.6	2.9	1.0	1.0	1.0	2.2	2.5	2.3	2.2	2.4	2.4	2.5
28	2.5	2.8	1.1	1.0	1.0	2.2	2.5	2.3	2.2	2.4	2.4	2.4
29	2.5	2.7	1.1	1.0	-----	2.3	2.5	2.3	2.2	2.4	2.4	2.4
30	2.5	2.8	1.1	1.0	-----	2.4	2.4	2.3	2.3	2.4	2.4	2.5
31	2.5	-----	1.1	1.0	-----	2.4	-----	2.3	-----	2.4	2.4	-----
Total	80.7	91.5	55.0	32.9	28.8	51.1	72.9	70.9	68.3	71.7	74.5	73.0
Mean	2.60	3.05	1.77	1.06	1.03	1.65	2.43	2.29	2.28	2.31	2.40	2.43
Ac-ft	160	181	109	65	57	101	145	141	135	142	148	145
Calendar year 1965	Max	5.3	Min	1.0	Mean	2.25	Ac-ft	1,630				
Water year 1965-66	Max	5.3	Min	1.0	Mean	2.11	Ac-ft	1,530				

## SAN JOAQUIN RIVER BASIN

11-2375. Pitman Creek below Tamarack Creek, Calif.

Location.--Lat 37°11'55", long 119°12'45", in NW¼ 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.--22.9 sq mi (revised).

Records available.--October 1927 to September 1966. 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 at same datum.

Average discharge.--39 years, 37.5 cfs (27,150 acre-ft per year).

Extremes.--Maximum discharge during year, 287 cfs Apr. 16 (gage height, 5.49 ft); minimum daily, 0.20 cfs Aug. 17 to Sept. 1, Sept. 3, 7-17.

1927-66: Maximum discharge, 3,670 cfs Dec. 23, 1955 (gage height, 11.20 ft), from rating curve extended above 1,100 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 period of no gage-height record, which are fair. No diversion above station; practically all flow diverted below station to Huntington-Shaver conduit.

Cooperation.--Gage-height record and eight 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	0.70	22	15	11	12	152	192	40	8.6	1.3	0.20
2	1.0	.70	21	15	11	12	167	198	36	8.1	1.4	.30
3	.90	.70	20	15	11	12	179	196	33	8.1	1.2	.20
4	.90	.70	20	14	11	12	180	200	32	7.7	1.0	.30
5	.80	.70	20	12	11	11	184	210	30	7.5	.80	.30
6	.80	.70	20	11	12	12	185	203	30	7.5	.70	.30
7	.80	.70	20	12	12	12	190	188	40	5.5	.60	.20
8	.70	.70	20	12	11	13	196	170	32	5.0	.50	.20
9	.70	.80	19	12	11	13	179	156	30	5.1	.50	.20
10	.70	.80	18	12	11	15	170	179	28	4.3	.40	.20
11	.70	.80	18	12	11	19	143	143	25	3.7	.40	.20
12	.60	.90	18	12	10	20	132	131	24	3.5	.30	.20
13	.60	1.9	18	12	10	24	127	130	22	3.4	.40	.20
14	.60	1.9	17	13	10	28	147	131	21	3.3	.40	.20
15	1.6	2.3	16	13	10	31	173	127	20	3.0	.40	.20
16	2.0	5.3	16	13	10	35	205	124	18	2.7	.30	.20
17	1.7	5.0	15	12	11	33	205	124	17	2.5	.20	.20
18	1.8	7.6	14	12	12	35	169	125	16	2.3	.20	.40
19	1.6	4.1	15	12	11	36	130	121	16	2.1	.20	.50
20	1.4	2.5	14	12	11	34	114	113	15	2.0	.20	.40
21	1.2	2.0	15	12	12	35	112	104	14	1.9	.20	.40
22	1.0	2.9	14	12	12	39	118	95	13	1.7	.20	.40
23	1.0	8.0	14	12	12	47	133	92	13	1.6	.20	.30
24	.90	5.2	13	11	12	51	156	89	12	1.5	.20	.30
25	.90	3.4	14	11	12	45	182	81	11	1.4	.20	.30
26	.80	3.0	14	11	12	55	198	75	11	1.2	.20	.30
27	.80	2.6	13	10	12	69	184	67	9.9	1.1	.20	.30
28	.80	2.5	13	10	12	84	182	60	9.4	1.1	.20	.30
29	.80	2.4	12	10	-----	99	176	53	9.1	1.0	.20	.30
30	.80	2.2	13	11	-----	113	186	48	8.8	1.0	.20	.30
31	.80	-----	15	11	-----	130	-----	43	-----	1.3	.20	-----
Total	30.80	639.80	511	374	314	1,186	4,954	3,968	636.2	110.7	13.60	8.30
Mean	0.99	21.3	16.5	12.1	11.2	38.3	165	128	21.2	3.57	0.44	0.28
Ac-ft	61	1,270	1,010	742	623	2,350	9,830	7,870	1,260	220	27	16

Calendar year 1965 Max 418 Min .60 Mean 52.1 Ac-ft 37,720  
 Water year 1965-66 Max 210 Min .20 Mean 34.9 Ac-ft 25,280

Peak discharge (base, 200 cfs)

Note.--No gage-height record Dec. 22 to Mar. 9.

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-8	1930	5.33	254	5-5	1900	5.37	256
4-16	1900	5.49	287				

Location.--Lat 37°09'15", long 119°13'50", in NW¼ sec.15, T.9 S., R.25 E., on left bank at tunnel outlet, 2.3 miles northeast of Shaver Lake, and 3.5 miles south of town of Big Creek.

Records available---October 1928 to September 1966. Monthly discharge only for October 1928, published in WSP 1315-A. Prior to October 1962, published as Huntington-Shaver conduit at outlet.

Average discharge.--38 years, 213 cfs (154,200 acre-ft per year).

Extremes.--1928-66: 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.--Gage-height record and 14 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	<u>34</u>	<u>1.1</u>	<u>22</u>	<u>16</u>	<u>430</u>	<u>13</u>	<u>152</u>	<u>818</u>	<u>74</u>	<u>8.4</u>	<u>1.9</u>	<u>1.6</u>
2	<u>34</u>	<u>1.1</u>	<u>22</u>	<u>16</u>	<u>428</u>	<u>13</u>	<u>170</u>	<u>831</u>	<u>71</u>	<u>8.0</u>	<u>1.9</u>	<u>1.6</u>
3	<u>34</u>	<u>1.1</u>	<u>22</u>	<u>16</u>	<u>428</u>	<u>13</u>	<u>181</u>	<u>831</u>	<u>68</u>	<u>7.4</u>	<u>1.9</u>	<u>1.6</u>
4	<u>33</u>	<u>1.1</u>	<u>22</u>	<u>15</u>	<u>422</u>	<u>13</u>	<u>186</u>	<u>849</u>	<u>66</u>	<u>7.0</u>	<u>1.9</u>	<u>1.6</u>
5	<u>31</u>	<u>1.1</u>	<u>22</u>	<u>250</u>	<u>420</u>	<u>12</u>	<u>188</u>	<u>864</u>	<u>64</u>	<u>6.4</u>	<u>1.9</u>	<u>1.6</u>
6	17	1.1	21	764	418	13	190	864	63	6.0	1.9	1.6
7	1.4	1.1	20	758	416	13	193	856	74	5.4	1.9	1.6
8	1.4	1.1	20	750	416	14	207	842	67	4.8	1.9	1.6
9	1.4	1.1	20	742	414	14	187	827	64	4.4	1.9	1.6
10	1.4	1.1	20	595	409	16	179	858	61	4.1	1.9	1.6
11	1.4	1.1	19	484	403	20	148	820	57	3.8	1.9	1.6
12	1.4	1.1	19	481	402	21	362	695	55	3.8	1.9	1.9
13	1.4	1.4	19	478	398	25	788	570	360	3.8	<u>2.1</u>	1.9
14	1.4	19	18	475	396	29	804	579	<u>610</u>	3.6	<u>2.1</u>	1.9
15	1.7	26	17	474	392	32	842	574	<u>367</u>	3.8	2.1	1.9
16	1.9	57	17	472	388	36	847	574	50	3.8	1.9	2.1
17	1.7	54	16	469	385	34	820	306	37	3.6	1.9	2.1
18	1.5	82	15	468	382	36	780	567	18	3.6	1.9	2.1
19	1.4	46	16	466	378	37	732	<u>1,160</u>	17	3.3	<u>1.6</u>	2.1
20	1.2	29	15	463	374	35	712	<u>1,150</u>	16	3.1	1.6	2.1
21	1.2	23	16	462	373	36	705	1,140	265	3.1	1.6	2.1
22	1.2	29	15	460	370	40	709	1,120	318	2.8	1.6	2.1
23	<u>1.1</u>	<u>92</u>	15	457	367	48	722	667	35	2.8	1.6	2.1
24	<u>1.1</u>	<u>63</u>	14	454	153	52	750	125	13	2.6	1.6	2.1
25	1.1	41	15	451	<u>13</u>	46	782	116	12	2.6	1.6	2.1
26	1.1	33	15	448	13	56	802	111	11	2.4	1.6	<u>2.4</u>
27	1.1	25	14	445	13	70	800	114	10	2.4	1.6	2.4
28	1.1	24	14	440	13	85	792	96	10	2.4	1.6	2.4
29	1.1	26	<u>13</u>	436	-----	98	790	90	<u>94</u>	<u>2.1</u>	1.6	2.4
30	1.1	24	14	434	-----	112	804	84	<u>91</u>	<u>2.1</u>	1.6	2.4
31	1.1	-----	16	432	-----	<u>131</u>	-----	78	-----	2.1	1.6	-----
Total	215.9	707.6	543	13,571	9,414	1,213	16,324	19,176	2,951.5	125.5	55.6	58.2
Mean	6.96	23.6	17.5	438	336	39.1	544	619	98.4	4.05	1.79	1.94
Ac-ft	428	1,400	1,080	26,920	18,670	2,410	32,380	39,040	5,850	249	110	115

Calendar year 1965	Max	1,550	Min	1.1	Mean	319	Ac-ft	231,100
Water year 1965-66	Max	1,160	Min	1.1	Mean	176	Ac-ft	127,600

## SAN JOAQUIN RIVER BASIN

11-2395. Shaver Lake near Big Creek, Calif.

Location.--Lat 37°08'40", long 119°18'10", in SE¼ 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 1966. 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, 113,900 acre-ft Oct. 1 (elevation, 5,359.85 ft); minimum, 20,900 acre-ft Mar. 24 (elevation, 5,296.60 ft).

1909-66: 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. Original lake formed by rock-filled 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 5,225 (trash-rack 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.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	112.9	79.9	67.9	36.9	28.3	25.8	23.8	60.7	96.6	96.9	86.9	77.2
2	111.9	78.8	67.2	35.8	28.0	25.1	24.4	62.3	96.7	96.6	86.6	76.9
3	110.8	77.6	66.4	34.7	27.6	24.3	24.9	64.0	96.8	96.3	86.4	76.7
4	109.7	76.7	65.6	33.5	27.4	23.8	25.5	65.8	97.0	96.0	86.0	76.5
5	108.6	76.0	64.8	32.8	27.5	23.9	26.0	67.3	97.1	95.7	85.7	76.4
6	107.5	75.4	64.0	33.2	27.9	23.9	26.6	68.9	97.3	95.3	85.3	76.3
7	106.3	74.8	62.9	33.5	27.9	23.3	27.1	70.5	97.4	94.9	84.9	76.0
8	105.2	74.1	61.8	33.8	28.0	22.6	27.7	72.2	97.6	94.6	84.5	75.8
9	104.0	73.5	60.6	34.2	28.2	22.1	28.2	73.8	97.7	94.3	84.2	75.6
10	102.9	72.8	59.6	34.2	28.3	22.0	28.8	75.6	97.8	94.0	83.8	75.6
11	101.9	72.2	58.6	34.0	28.4	22.2	29.3	77.2	97.9	93.7	83.5	75.5
12	100.8	71.6	57.6	34.0	28.7	22.5	30.2	78.5	98.0	93.4	83.2	75.4
13	99.7	71.2	56.4	33.7	28.8	22.6	31.8	79.7	98.6	93.1	82.8	75.1
14	98.6	71.4	55.3	33.5	28.9	22.8	33.5	80.8	99.8	92.8	82.5	75.0
15	97.6	71.0	54.2	33.3	29.0	23.0	35.3	81.9	100.5	92.4	82.2	75.0
16	96.7	71.4	53.0	33.0	29.2	23.1	37.1	83.1	100.6	92.1	81.8	75.0
17	95.8	71.4	51.9	32.8	29.4	23.2	38.8	83.7	100.7	91.8	81.5	75.0
18	94.8	71.4	51.0	32.5	29.5	23.2	40.5	84.7	100.7	91.5	81.2	75.0
19	93.7	71.1	50.1	32.2	29.6	23.2	42.0	86.9	100.7	91.0	80.9	75.0
20	92.6	70.3	48.9	32.0	29.6	23.5	43.5	89.1	100.7	90.7	80.6	75.0
21	91.5	69.8	47.8	31.7	29.7	23.1	45.0	91.3	100.7	90.3	80.3	75.0
22	90.4	69.5	46.6	31.4	29.5	22.3	46.4	93.5	100.8	90.0	79.9	74.9
23	89.3	70.7	45.5	31.1	29.4	21.5	48.0	94.8	100.4	89.8	79.7	74.9
24	88.3	71.2	44.3	30.8	29.0	20.9	49.5	95.1	99.8	89.4	79.3	74.9
25	87.2	70.8	43.3	30.5	28.1	21.2	51.1	95.3	99.4	89.1	78.9	74.9
26	86.1	70.3	42.1	30.2	27.4	21.5	52.7	95.5	98.9	88.8	78.6	74.9
27	85.0	69.9	41.0	29.8	27.4	21.8	54.3	95.7	98.4	88.5	78.4	74.9
28	84.0	69.5	40.0	29.5	26.5	22.1	55.9	95.9	97.9	88.2	78.2	74.9
29	82.9	69.0	39.3	29.2	-----	22.4	57.5	96.1	97.5	87.9	77.9	74.9
30	81.9	68.5	38.5	29.0	-----	22.9	59.1	96.3	97.3	87.6	77.7	74.9
31	80.9	-----	38.0	28.6	-----	23.3	-----	96.4	-----	87.3	77.4	-----
(+)	5,342.45	5,334.92	5,313.00	5,304.66	5,302.57	5,299.26	5,328.78	5,350.97	5,351.42	5,346.07	5,340.39	5,338.87
(+)	-33,000	-12,400	-30,500	-9,400	-2,100	-3,200	+35,800	+37,300	+900	-10,000	-9,900	-2,500

Calendar year 1965..... ++4,200

Water year 1965-66..... +-39,000

† Elevation, in feet, at end of month.

\* Change in contents, in acre-feet.

11-2419.5. Redinger Lake near Auberry, Calif.

Location.--Lat 37°08'40", long 119°27'00", in SW¼ sec.15, T.9 S., R.23 E., on upstream face of dam No. 7 on San Joaquin River, 4.2 miles northeast of Auberry.

Drainage area.--1,295 sq mi.

Records available.--November 1950 to September 1966. Prior to October 1965, collected by Southern California Edison Co., available in files of California district office.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Southern California Edison Co.).

Extremes.--Maximum contents during year, 26,000 acre-ft Nov. 9 (elevation, 1,402.72 ft); minimum, 13,400 acre-ft May 28 (elevation, 1,371.56 ft).

1950-66: Maximum contents, 26,100 acre-ft June 15, 1963, Oct. 29, 1964; maximum elevation, 1,402.95 ft June 15, 1963; minimum contents since appreciable storage was attained, 6,280 acre-ft Mar. 3, 1956 (elevation, 1,347.98 ft).

Remarks.--Lake is formed by a concrete dam; storage began Nov. 19, 1950. Usable capacity, 26,119 acre-ft between elevations 1,320.0 (invert of tunnel) and 1,403.0 ft (top of radial gates). Additional storage of 8,914 acre-ft is not available for release. Water is used for power development in Big Creek powerhouse No. 4. Figures given herein represent usable contents.

Cooperation.--Records of contents furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24.1	25.4	25.4	24.7	25.2	25.4	25.3	25.5	17.6	25.2	25.6	25.6
2	24.3	25.4	25.4	25.0	25.3	25.2	25.4	25.5	18.7	25.1	25.5	25.7
3	24.4	25.5	25.4	25.0	25.3	25.2	25.5	25.6	19.6	25.1	25.6	25.5
4	24.6	25.3	25.4	24.8	25.3	24.9	25.5	25.6	20.5	25.2	25.6	25.5
5	25.0	25.2	25.4	24.8	25.5	24.6	25.5	25.6	21.5	25.3	25.5	25.4
6	25.2	25.1	25.8	24.9	25.2	24.6	25.6	25.6	22.5	25.4	25.6	25.4
7	25.3	25.5	25.7	24.9	25.1	24.7	25.7	25.6	23.3	25.6	25.6	25.4
8	25.1	25.6	25.7	25.0	25.2	25.4	25.7	25.6	24.0	25.6	25.6	25.4
9	25.3	25.6	25.7	25.0	25.3	25.6	25.7	25.7	24.9	25.5	25.5	25.3
10	25.4	25.7	25.6	25.0	25.2	25.6	25.7	25.6	25.3	25.5	25.5	25.4
11	25.3	25.7	25.7	25.0	25.2	25.7	25.6	24.7	25.3	25.7	25.6	25.5
12	25.3	25.7	25.6	25.0	25.3	23.9	25.7	23.4	25.9	25.7	25.6	25.4
13	25.2	25.6	25.8	25.0	25.3	22.0	25.7	22.9	25.9	25.5	25.6	25.6
14	25.4	24.8	25.8	25.0	25.2	23.0	25.7	22.9	25.9	25.5	25.6	25.5
15	25.4	24.1	25.8	24.9	25.3	24.5	25.5	22.9	25.9	25.5	25.6	25.5
16	25.3	24.5	25.8	24.9	25.3	25.0	25.6	22.8	25.9	25.6	25.6	25.4
17	25.4	24.2	25.2	24.9	25.2	24.7	25.6	22.0	25.9	25.6	25.6	25.5
18	25.4	24.1	24.3	24.9	25.2	24.5	25.5	20.7	25.3	25.6	25.6	25.5
19	25.5	24.3	24.3	24.9	25.2	24.9	25.5	19.5	25.4	25.6	25.5	25.5
20	25.4	24.4	25.1	24.9	25.2	24.6	25.5	18.7	25.9	25.7	25.5	25.0
21	25.4	24.4	25.0	24.9	25.2	24.6	25.5	17.5	25.5	25.7	25.6	24.5
22	25.4	24.2	25.0	24.9	25.2	25.0	25.5	16.3	25.5	25.7	25.6	23.7
23	25.4	23.2	25.1	24.9	25.2	23.8	25.5	15.2	25.3	25.6	25.6	22.4
24	25.4	22.9	25.2	25.2	25.1	22.7	25.5	14.1	25.3	25.6	25.6	22.5
25	25.4	24.9	25.3	25.2	25.1	23.8	25.5	13.7	25.3	25.6	25.6	23.6
26	25.4	25.0	25.3	24.4	25.0	24.7	25.5	13.7	25.2	25.6	25.6	24.3
27	25.5	25.3	25.3	24.8	25.1	25.1	25.5	13.8	25.1	25.6	25.4	24.5
28	25.5	25.4	24.2	25.1	25.4	25.4	25.5	13.4	25.1	25.5	25.4	24.8
29	25.4	25.4	24.5	25.2	-----	25.5	25.5	14.4	25.3	25.6	25.4	25.1
30	25.4	25.4	24.0	24.9	-----	25.6	25.5	16.0	25.2	25.5	25.5	25.7
31	25.4	-----	24.0	25.2	-----	25.1	-----	16.6	-----	25.5	25.5	-----
(†)	1,401.39	1,401.40	1,398.42	1,400.96	1,401.52	1,400.87	1,401.73	1,380.50	1,400.90	1,401.75	1,401.66	1,402.06
(‡)	+3,100	0	-1,400	+1,200	+200	-300	+400	-3,900	+3,600	+300	0	+200

Calendar year 1965..... †-500

Water year 1965-66..... ‡+3,400

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

11-2420. San Joaquin River above Willow Creek, near Auberry, Calif.

Location--Lat 37°08'40", long 119°27'00", in SW¼ 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--1,295 sq mi (revised).

Records available--March 1951 to September 1966.

Gage--Water-stage recorder. Datum of gage is 1,175.54 above mean sea level (levels by Southern California Edison Co.).

Average discharge--15 years, 344 cfs (249,000 acre-ft per year).

Extremes--Maximum discharge during year, 27 cfs Oct. 27 (gage height, 3.97 ft); minimum daily, 3.1 cfs Nov. 18-22, Nov. 24 to Dec. 7, Feb. 18-22.

1951-66: 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 good. Flow regulated by nine powerplants and six reservoirs with combined capacity of about 559,900 acre-ft. Conduit to powerhouse No. 4 diverts 1,000 ft above station.

Cooperation--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	19	3.1	3.6	3.5	3.9	4.0	3.6	12	19	19	23
2	18	19	3.1	3.5	3.4	3.9	4.0	4.2	12	19	19	23
3	18	19	3.1	3.5	3.2	4.2	4.0	4.7	12	19	19	23
4	19	19	3.1	3.5	3.3	4.1	4.0	5.9	12	19	19	23
5	19	19	3.1	3.5	3.2	4.6	4.0	6.6	12	20	19	23
6	19	19	3.1	3.5	3.4	4.6	4.0	6.6	13	20	19	23
7	19	19	3.1	3.6	3.3	4.6	4.0	6.5	13	20	19	23
8	19	19	3.4	3.4	3.3	4.0	4.0	6.5	13	20	19	22
9	19	19	3.5	3.4	3.3	4.7	4.4	6.5	13	20	19	22
10	19	19	3.7	3.4	3.3	4.8	5.9	6.7	13	20	19	22
11	19	19	3.9	3.4	3.2	4.9	5.3	6.6	13	20	19	22
12	19	19	4.3	3.4	3.2	4.9	4.0	6.5	13	20	19	22
13	18	19	4.3	3.5	3.2	4.7	3.8	6.3	13	20	19	22
14	20	10	4.5	3.5	3.2	4.1	3.8	6.3	14	20	19	22
15	19	4.5	5.2	3.8	3.2	3.9	4.0	6.6	17	20	19	22
16	18	3.2	6.6	3.6	3.2	4.0	3.7	7.3	17	20	20	22
17	18	3.4	8.0	3.6	3.2	4.0	3.6	7.4	18	20	22	22
18	18	3.1	8.4	3.2	3.1	4.0	3.6	7.4	18	20	23	22
19	18	3.1	8.4	3.3	3.1	4.0	3.7	7.8	17	20	23	21
20	18	3.1	8.4	3.6	3.1	4.0	3.7	8.6	17	20	23	21
21	18	3.1	9.8	5.4	3.1	4.0	3.6	9.3	17	20	23	21
22	18	3.1	8.6	5.5	3.1	4.0	3.6	10	18	20	23	21
23	18	3.3	8.6	5.4	3.4	4.0	3.6	10	18	21	23	21
24	18	3.1	8.6	7.0	4.3	4.0	3.6	10	18	21	23	21
25	18	3.1	8.6	7.3	4.0	3.9	3.6	10	18	21	23	21
26	19	3.1	8.3	6.5	3.9	3.9	3.5	10	18	21	23	21
27	19	3.1	8.1	5.3	3.9	4.0	3.6	11	18	21	23	21
28	18	3.1	8.3	5.4	3.9	4.0	3.5	10	18	21	23	21
29	18	3.1	5.0	4.9	-----	4.0	3.5	10	18	20	23	22
30	18	3.1	3.7	4.3	-----	4.0	3.6	12	19	20	23	22
31	19	-----	3.6	3.5	-----	4.0	-----	12	-----	19	23	-----
Total	573	308.6	175.5	130.3	94.5	129.7	117.2	242.9	462	621	649	657
Mean	18.5	10.3	5.65	4.20	3.38	4.18	3.91	7.84	15.4	20.0	20.9	21.9
Ac-ft	1,140	612	348	258	187	257	232	482	916	1,230	1,290	1,300

Calendar year 1965 Max 3.870 Min 3.1 Mean 205 Ac-ft 148,100  
 Water year 1965-66 Max 23 Min 3.1 Mean 11.4 Ac-ft 8,250

11-2424. North Fork Willow Creek near Sugar Pine, Calif.

Location.--Lat 37°23'50", long 119°33'55", in NE $\frac{1}{4}$  sec. 21, T.6 S., R.22 E., on right bank at road bridge 0.6 mile downstream from Soquel campground, 3.0 miles upstream from Chilkoot Creek, and 4.6 miles southeast of Sugar Pine.

Drainage area.--16.9 sq mi.

Records available.--August 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,200 ft (from topographic map).

Extremes.--Maximum discharge during year, 289 cfs Nov. 23 (gage height, 3.82 ft.); minimum daily, 1.2 cfs Nov. 7-8.

Remarks.--Records good except those for period of no gage-height record, which are fair. No storage above station. Madera Irrigation District diverts up to 50 cfs through Soquel ditch 2.2 miles upstream to the Fresno River basin.

Revisions.--Revised figures of discharge, in cubic feet per second, for the months of August and September, 1965, superseding those published in Surface Water Records of California, Vol. 2, are given herewith:

Discharge, in cubic feet per second, 1965

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1	-	5.2	7	11	8.4	13	12	5.2	19	8.0	6.5	25	6.5	5.0
2	-	5.4	8	11	8.0	14	11	5.2	20	7.4	6.2	26	6.0	5.0
3	-	5.4	9	10	6.8	15	11	5.2	21	7.4	5.7	27	6.0	5.2
4	-	5.4	10	10	6.0	16	9.4	5.2	22	7.4	5.2	28	5.4	6.0
5	-	5.4	11	13	5.7	17	9.0	5.2	23	7.1	5.0	29	5.4	6.0
6	-	5.7	12	13	5.4	18	8.4	5.4	24	6.8	5.0	30	5.4	5.2
												31	5.2	-
Total .....													-	170.2
Mean .....													-	5.67
Runoff in acre-feet .....													-	338

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.7	1.3	26	22	13	15	43		3.0	2.2	2.0	3.0
2	4.7	1.3	26	22	13	15	53	12	3.0	2.2	1.9	2.8
3	4.5	1.3	26	22	13	15	54	12	2.8	2.2	1.9	2.6
4	4.5	1.3	26	21	14	14	54	12	2.8	2.2	1.9	2.6
5	4.0	1.3	24	20	14	14	51	12	3.2	1.9	2.0	2.6
								13				
6	2.8	1.3	22	20	13	15	51		3.2	1.8	3.9	2.8
7	2.1	1.2	21	19	16	17	51	11	3.9	1.7	3.9	2.6
8	1.8	1.2	21	19	14	13	46	9.8	3.7	1.8	3.9	2.6
9	1.7	1.3	20	13	13	6.0	40	9.0	3.7	2.0	3.7	2.6
10	1.7	1.4	20	13	13	17	51	8.0	3.6	2.2	3.7	2.6
								24				
11	1.7	1.5	20	17	13	19	33		3.2	1.7	3.6	2.6
12	1.7	1.6	19	17	13	13	27	3.0	3.2	1.6	3.6	2.8
13	1.7	9.6	19	17	13	26	16	5.7	3.1	1.6	3.6	3.0
14	1.8	62	13	17	13	27	13	5.0	3.1	1.6	3.4	3.1
15	1.9	39	13	17	13	27	16	4.5	3.0	1.5	3.2	3.0
								4.3				
16	1.7	79	13	17	14	24	29		3.2	1.4	3.1	2.8
17	1.6	68	17	17	14	21	32	4.1	3.0	1.5	3.0	2.8
18	1.5	93	17	16	14	20	30	3.9	3.0	1.5	3.0	3.4
19	1.5	47	17	16	14	22	23	3.4	2.8	1.5	3.0	4.1
20	1.5	29	16	16	14	22	15	3.1	2.8	1.5	3.0	3.4
21	1.5	19	16	15	15	20	10	3.1	2.6	1.5	2.8	3.2
22	1.5	30	16	15	16	23	9.4	3.1	2.6	1.5	1.6	2.8
23	1.4	129	15	15	16	30	9.8	3.1	2.6	1.5	1.4	2.6
24	1.3	98	15	14	17	31	13	3.0	2.5	1.8	1.4	2.5
25	1.3	60	15	14	17	32	19	3.0	2.4	1.4	1.3	2.6
26	1.3	46	14	14	16	36	23	2.8	2.2	1.4	1.4	2.6
27	1.3	40	14	14	15	42	25	2.8	2.4	1.3	1.7	2.6
28	1.3	37	14	13	15	47	21	2.6	2.4	1.6	1.4	2.5
29	1.3	32	16	13		51	14	3.0	2.4	2.2	1.5	2.5
30	1.3	29	13	14		45	12	3.1	2.4	1.8	2.8	2.4
31	1.3		21	14		42		3.1		1.9	3.1	
Total	63.9	962.6	535	523	403	766	389.2	200.7	87.8	53.5	81.6	84.1
Mean	2.06	32.1	18.9	16.9	14.4	24.7	24.6	5.47	2.93	1.73	2.63	2.80
Ac-ft	127	1,910	1,160	1,040	799	1,520	1,760	398	174	106	162	167
(†)	56	157	139	366	0	591	2,010	2,450	692	266	16	0

Calendar year 1965 Max Min Mean Ac-ft  
Water year 1965-66 Max 129 Min 1.2 Mean 12.9 Ac-ft 9,320

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	1200	3.38	116	11-23	2030	3.82	289
11-18	1300	3.58	171				

Note.--No gage-height record Dec. 7 to Jan. 12.

† Diversion to Soquel ditch in acre-feet, furnished by Madera Irrigation District.

## SAN JOAQUIN RIVER BASIN

11-2434. Bass Lake near Bass Lake, Calif.

Location.--Lat 37°17'36", long 119°31'40", in NE¼ 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.--50.4 sq mi (revised).

Records available.--January 1912 to September 1966. 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, 41,120 acre-ft June 29 (elevation, 3,372.67 ft); minimum, 20,530 acre-ft Feb. 18 (elevation, 3,351.15 ft).

1911-66: 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 Soquel 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.

Cooperation.--Record of contents furnished by Pacific Gas & Electric Co.

Month-end contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Date	Contents
Sept. 30.....	23,330
Oct. 31.....	20,780
Nov. 30.....	25,420
Dec. 31.....	23,170
Jan. 31.....	22,170
Feb. 28.....	21,630
Mar. 31.....	28,170
Apr. 30.....	36,800
May 31.....	40,710
June 30.....	41,100
July 31.....	36,120
Aug. 31.....	29,990
Sept. 30.....	23,020



11-2435. Pacific Gas &amp; Electric Co. conduit No. 3 near Bass Lake, Calif.

Location.--Lat 37°17'25", long 119°31'45", in SE¼ 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 1966. Prior to October 1954, published as "near Crane Valley Reservoir."

Gage.--Digital water-stage recorder and concrete flume. Altitude of gage is 3,300 ft (from topographic map). Prior to May 13, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--26 years, 66.1 cfs (47,850 acre-ft per year).

Extremes.--1940-66: Maximum daily discharge, 167 cfs June 23, 24, 1965; no flow at times.

Remarks.--Records good. Conduit diverts from Bass Lake in sec.26, T.7 S., R.22 E. Water passed 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.--Gage-height record and eight 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 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	149	58	140	50	0.40	0.40	30	0	76	138
2	0	6.9	149	0	143	48	7.8	.40	19	0	150	105
3	0	0	148	90	143	51	3.6	.40	8.7	7.9	150	0
4	0	6.9	148	135	143	52	.30	.40	0	0	151	7.4
5	0	0	148	135	58	2.7	.40	.50	4.6	101	114	4.7
6	0	5.5	147	134	145	2.8	.40	.50	11	143	0	100
7	0	.20	141	134	145	52	.50	.50	31	143	6.6	140
8	0	6.0	138	134	144	52	.50	.40	22	107	106	140
9	0	.20	137	135	144	52	.50	.40	10	0	147	140
10	0	6.7	137	134	143	48	.50	2.5	12	7.6	146	139
11	0	0	137	134	145	50	.50	1.2	15	103	145	139
12	0	6.6	137	134	145	0	.60	1.2	15	142	109	139
13	0	0	137	134	145	0	.60	1.1	14	141	0	138
14	0	6.3	137	111	113	40	.70	1.1	19	141	7.6	138
15	0	0	136	.10	96	50	.80	1.0	30	105	105	138
16	0	5.9	136	.90	94	50	.80	1.0	0	0	147	137
17	0	0	136	58	96	52	.80	1.0	6.0	6.8	146	137
18	0	86	136	141	94	50	.90	1.0	0	102	146	137
19	0	106	135	141	0	.10	.90	1.0	8.0	143	110	137
20	0	158	136	141	6.8	7.6	1.0	1.0	0	143	0	137
21	0	157	136	105	0	.60	1.0	.50	5.5	143	7.8	137
22	17	157	136	0	5.0	7.0	1.1	0	6.4	108	101	137
23	0	157	136	6.0	96	5.6	1.1	0	0	0	143	100
24	0	157	118	94	95	.60	1.1	0	6.1	6.8	142	0
25	115	157	1.4	141	96	7.6	1.0	0	0	102	141	16
26	160	154	0	141	0	1.0	.70	0	6.2	143	108	135
27	159	151	90	141	5.2	7.8	.60	0	0	143	0	135
28	159	151	135	110	50	.90	.60	5.3	6.6	144	7.6	134
29	97	151	137	0	-----	7.8	.60	0	0	109	99	134
30	0	149	136	76	-----	.80	.60	0	6.4	0	139	103
31	6.8	-----	136	94	-----	8.4	-----	14	-----	8.4	139	-----
TOTAL	713.8	1,942.20	3,966.4	2,992.00	2,630.0	758.30	30.90	36.80	292.5	2,443.5	2,989.6	3,322.1
MEAN	23.0	64.7	128	96.5	93.9	24.5	1.03	1.19	9.75	78.8	96.4	111
AC-FT	1,420	3,850	7,870	5,930	5,220	1,500	61	73	580	4,850	5,930	6,590

CALENDAR YEAR 1965	MAX	167	MIN	0	MEAN	123	AC-FT	88,740
WATER YEAR 1965-66	MAX	160	MIN	0	MEAN	60.6	AC-FT	43,870

## SAN JOAQUIN RIVER BASIN

11-2440. North Fork Willow Creek near Bass Lake, Calif.

Location--Lat 37°17'20", long 119°31'45", in SE¼ sec.26, T.7 S., R.22 E., on right bank 1,500 ft downstream from Bass Lake spillway and 2.5 miles southeast of town of Bass Lake.

Drainage area--50.8 sq mi.

Records available--May 1940 to September 1966. Prior to October 1944, published as Willow Creek below Crane Valley Reservoir. October 1944 to September 1954, published as "below Crane Valley Reservoir."

Gage--Water-stage recorder and, since Dec. 21, 1961, broad-crested weir with V-notch. Altitude of gage is 3,200 ft (from topographic map).

Average discharge--26 years, 14.4 cfs (10,430 acre-ft per year).

Extremes--Maximum discharge during year, 126 cfs Oct. 4 (gage height, 3.53 ft); minimum daily, 0.20 cfs Sept. 24, 25, 27-30. 1940-66: Maximum discharge, 847 cfs Feb. 11, 1941 (gage height, 5.85 ft); minimum daily, 0.1 cfs Nov. 13-16, 1940.

Remarks--Records good. Flow regulated by Bass Lake (see sta.11-2434) and by diversion into Pacific Gas & Electric Co. conduit No. 3 near Bass Lake (see sta.11-2435). At times in October and March to July, up to 50 cfs may be diverted through Sequel ditch into Nelder Creek in Fresno River basin. Brown's ditch diverted 20,560 acre-ft from South Fork Willow Creek into Bass Lake in 1965 last year.

Cooperation--Gage-height record and five 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77	0.40	0.40	1.1	0.50	0.30	0.30	0.80	0.90	0.80	0.60	0.30
2	.50	.50	.40	.80	.50	.30	.30	.80	.90	.80	.60	.30
3	.40	.50	.40	.70	.50	.30	.30	.80	.90	.80	.60	.30
4	89	.40	.40	.60	.50	.30	.30	.80	.90	.80	.60	.30
5	125	.40	.40	.70	.60	.30	.30	.80	.90	.80	.60	.30
6	125	.50	.40	.70	2.0	.30	.40	.80	.90	.80	.60	.30
7	124	.50	.30	.70	.90	.30	.40	.80	.90	.80	.60	.30
8	78	.50	.40	.70	.70	.30	.40	.80	.90	.80	.60	.30
9	.50	.40	.40	.60	.60	.30	.40	.90	1.0	.80	.60	.30
10	.50	.30	.40	.50	.60	.30	.60	1.3	1.0	.80	.60	.30
11	.50	.30	.40	.50	.60	.30	.50	1.0	.90	.80	.60	.30
12	.50	.30	.40	.50	.50	.30	.50	.90	.90	.80	.50	.30
13	.50	.40	.40	.40	.50	.30	.50	.90	.90	.80	.50	.30
14	.50	.80	.40	.40	.40	.30	.50	.90	.90	.80	.50	.30
15	.50	.60	.40	.40	.40	.30	.60	.90	.90	.80	.50	.30
16	.50	1.0	.40	.40	.40	.30	.60	.90	.90	.80	.50	.30
17	.50	.90	.40	.40	.40	.30	.60	.90	.90	.80	.50	.30
18	.50	1.4	.40	.40	.40	.30	.70	.90	.90	.80	.50	.30
19	.50	.60	.30	.40	.30	.30	.70	.90	.90	.80	.40	.30
20	.50	.50	.30	.40	.30	.30	.70	.90	.90	.80	.40	.30
21	.50	.40	.30	.40	.30	.30	.70	.90	.90	.80	.40	.30
22	.40	.60	.30	.30	.30	.30	.70	.90	.90	.80	.40	.30
23	.40	2.0	.30	.30	.30	.30	.70	.90	.90	.70	.40	.30
24	.50	3.4	.30	.30	.60	.30	.70	.90	.90	.70	.40	.20
25	.50	1.8	.40	.30	.40	.30	.70	.90	.80	.70	.40	.20
26	.50	.80	.30	.30	.40	.30	.70	.90	.80	.70	.40	.30
27	.50	.60	.40	.30	.30	.30	.70	.90	.80	.70	.40	.20
28	.50	.50	.60	.30	.30	.30	.70	1.0	.80	.70	.40	.20
29	.50	.50	.55	.30	-----	.30	.80	.90	.80	.70	.40	.20
30	.50	.40	1.8	.50	-----	.30	.80	.90	.80	.70	.40	.20
31	.40	-----	2.1	.50	-----	.30	-----	.90	-----	.60	.40	-----
Total	630.10	22.20	20.00	15.10	14.50	9.30	16.80	39.40	26.60	23.80	15.30	8.40
Mean	20.3	0.74	0.65	0.49	0.52	0.30	0.56	1.27	0.89	0.77	0.49	0.28
Ac-ft	1,250	44	40	30	29	18	33	78	53	47	30	17

Calendar year 1965 Max 145 Min 0.30 Mean 11.4 Ac-ft 3,270  
 Water year 1965-66 Max 125 Min 0.20 Mean 2.31 Ac-ft 1,670

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 1966.

Gage.--Water-stage-recorder and, since Oct. 22, 1964, concrete control. Datum of gage is 1,174.69 ft above mean sea level (levels by Southern California Edison Co.).

Average discharge.--14 years, 44.6 cfs (32,290 acre-ft per year).

Extremes.--Maximum discharge during year, 1,380 cfs Nov. 24 (gage height, 10.22 ft); no flow Aug. 9 to Sept. 18.  
1952-66: Maximum discharge, 15,700 cfs Dec. 23, 1955 (gage height, 28.5 ft, from floodmarks), from rating curve extended above 4,700 cfs; no flow at times in 1953, 1959-62, 1964-66.

Remarks.--Records good. Flow regulated by Bass Lake (see sta.11-2434) and diversion into Pacific Gas & Electric Co. conduit No. 1. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation.--Gage-height record and 15 discharge measurements furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Revisions (water years).--1963 Report: 1956-58(M).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	1.3	56	85	21	21	54	17	8.0	2.8	0.90	0
2	1.4	1.3	55	39	20	21	53	16	7.4	2.9	.50	0
3	1.3	1.3	52	34	19	20	52	15	7.2	2.7	.40	0
4	1.3	1.4	52	29	20	20	46	15	7.1	2.4	.20	0
5	1.3	1.4	49	27	21	20	43	14	7.1	2.2	.20	0
6	1.4	1.4	50	29	115	20	40	14	7.0	2.1	.20	0
7	1.5	1.4	25	28	59	20	38	14	8.6	2.0	.10	0
8	1.3	1.4	18	27	38	21	37	14	8.8	2.0	.10	0
9	1.1	1.5	17	25	33	22	36	14	11	2.2	0	0
10	1.0	1.6	17	23	32	28	58	23	9.0	2.1	0	0
11	1.0	1.9	17	21	28	34	43	19	7.2	2.0	0	0
12	1.1	2.0	23	20	27	32	39	17	6.7	2.0	0	0
13	1.0	2.3	18	20	25	34	36	16	6.0	1.9	0	0
14	1.2	30	17	19	24	38	32	14	5.1	1.9	0	0
15	1.9	70	16	19	21	44	30	13	4.9	1.9	0	0
16	2.6	65	15	18	20	40	28	13	4.7	1.7	0	0
17	2.2	128	14	20	20	36	27	12	4.5	1.5	0	0
18	2.0	288	14	21	20	36	28	12	4.4	1.3	0	0
19	1.9	198	14	17	19	36	34	11	4.3	1.0	0	.10
20	1.8	76	14	17	19	36	31	11	4.1	1.0	0	.10
21	1.7	56	14	16	20	37	29	10	3.9	1.0	0	.10
22	1.6	50	14	16	20	36	27	10	3.9	1.0	0	.10
23	1.5	515	13	16	21	38	24	10	3.9	.90	0	.40
24	1.5	731	13	16	30	40	22	9.7	3.9	.80	0	.40
25	1.5	329	16	16	26	40	21	9.0	3.9	.50	0	.40
26	1.4	146	16	16	23	42	20	8.5	3.5	.50	0	.40
27	1.4	89	16	15	21	45	20	8.3	3.2	.40	0	.20
28	1.4	75	16	15	21	48	19	8.2	3.0	.30	0	.20
29	1.4	68	185	15	-----	64	18	8.2	2.9	.40	0	.20
30	1.4	62	213	23	-----	54	18	8.5	2.9	.40	0	.20
31	1.4	-----	168	21	-----	54	-----	8.5	-----	.60	0	-----
Total	46.1	2,996.2	1,237	723	783	1,077	1,003	392.9	168.1	46.40	2.60	2.80
Mean	1.49	99.9	39.9	23.3	28.0	34.7	33.4	12.7	5.60	1.50	.08	.09
Ac-ft	91	5,940	2,450	1,430	1,550	2,140	1,990	779	333	92	5.2	5.6

Calendar year 1965 Max 1,310 Min 1.0 Mean 87.9 Ac-ft 63,630  
Water year 1965-66 Max 731 Min 0 Mean 23.2 Ac-ft 16,820

## SAN JOAQUIN RIVER BASIN

11-2470. San Joaquin River below Kerckhoff powerhouse, near Prather, 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, 1.4 miles upstream from Big Sandy Creek, and 3.8 miles southeast of Prather.

Drainage area.--1,481 sq mi (revised).

Records available.--April 1910 to September 1914, December 1936 to December 1937, December 1942 to September 1966. Published as "near North Fork" 1910-14 and as "below Kerckhoff powerhouse" 1915-62.

Gage.--Water-stage recorder. 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.--27 years (1910-14, 1943-66), 2,272 cfs (1,645,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,690 cfs Nov. 24 (gage height, 16.60 ft); minimum daily, 24 cfs Sept. 26.

1910-14, 1936-37, 1942-66: 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, that of Sept. 26, 1966.

Remarks.--Records excellent. Flow regulated by 12 powerplants and eight reservoirs with total usable capacity of about 609,300 acre-ft. Earliest storage began in 1901 at Bass Lake (see sta.11-2434). 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. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation.--Gage-height record, telemark readings, and 11 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,700	1,700	1,980	1,830	1,560	1,400	2,640	2,650	2,090	1,820	1,370	1,030
2	1,620	1,720	1,990	1,690	1,680	1,680	2,640	2,680	2,060	1,890	1,400	1,070
3	1,150	1,550	2,000	1,940	1,690	1,570	2,710	2,620	2,120	1,770	1,760	858
4	1,330	1,490	1,880	2,110	1,650	1,660	2,710	2,600	2,070	1,780	1,560	677
5	1,620	1,710	1,940	1,900	1,380	1,410	2,710	2,600	2,120	1,780	1,650	766
6	1,160	1,600	1,970	1,900	2,170	647	2,620	2,590	2,070	1,760	1,200	901
7	1,360	688	2,680	1,980	1,800	940	2,640	2,580	2,040	1,700	1,030	873
8	1,260	1,410	2,620	1,970	1,640	1,160	2,680	2,580	2,060	1,560	1,230	1,020
9	1,240	1,420	2,640	1,960	1,660	1,290	2,710	2,600	2,040	1,540	1,290	904
10	1,190	1,350	2,640	1,980	1,610	1,650	2,780	2,710	2,140	1,740	1,240	801
11	1,200	1,330	2,570	1,990	1,800	2,040	2,730	3,060	2,210	1,240	1,180	724
12	1,100	1,430	2,610	1,950	1,490	1,830	2,710	3,280	2,000	1,520	1,200	979
13	1,240	1,440	2,550	1,940	1,610	1,690	2,630	2,920	2,330	1,450	1,110	1,090
14	1,240	1,670	2,600	1,970	1,560	1,980	2,740	2,590	2,320	1,560	1,070	877
15	1,260	1,610	2,620	1,780	1,620	2,010	2,730	2,600	2,340	1,560	1,110	768
16	1,480	1,220	2,610	1,560	1,500	2,200	2,640	2,580	2,320	1,530	1,290	852
17	1,470	2,400	2,820	1,880	1,590	2,870	2,660	2,940	2,330	1,360	1,290	775
18	1,200	1,760	3,140	1,900	1,570	2,820	2,710	3,230	2,450	1,430	1,210	516
19	1,580	2,410	2,460	1,940	1,820	2,380	2,710	3,180	2,040	1,640	1,270	789
20	1,490	1,840	2,200	1,960	1,370	2,210	2,720	2,960	1,920	1,610	1,070	1,090
21	1,790	1,980	2,520	1,920	1,600	1,810	2,680	3,160	2,600	1,540	885	941
22	1,640	1,990	2,460	1,790	1,450	2,060	2,670	3,160	2,300	1,510	1,130	1,200
23	1,500	3,290	2,460	1,750	1,630	1,920	2,670	3,160	2,340	1,410	1,210	1,520
24	1,430	3,590	1,520	1,700	1,870	1,970	2,660	3,150	2,280	1,130	1,290	1,530
25	1,420	2,090	1,480	1,550	1,920	2,110	2,660	2,850	2,290	1,520	1,330	538
26	1,720	2,640	1,470	1,960	1,680	2,040	2,630	2,540	2,280	1,380	1,010	24
27	1,720	2,220	1,560	1,670	1,040	2,280	2,620	2,550	2,340	1,370	1,120	967
28	1,720	2,030	2,010	1,470	1,250	2,480	2,620	2,750	2,290	1,680	710	924
29	1,720	2,030	2,530	1,440	-----	2,610	2,620	2,240	2,100	1,400	978	812
30	1,720	2,070	2,860	1,880	-----	2,640	2,660	1,760	1,740	1,500	915	375
31	1,310	-----	1,870	1,470	-----	2,610	-----	2,090	-----	1,350	1,040	-----
Total	44,580	55,678	71,260	56,730	45,210	59,967	80,310	84,960	65,630	48,030	37,148	26,191
Mean	1,438	1,856	2,299	1,830	1,615	1,934	2,677	2,741	2,188	1,549	1,198	873
Ac-ft	88,420	110,400	141,300	112,500	89,670	118,900	159,300	168,500	130,200	95,270	73,680	51,950
Calendar year 1965	Max	7,100	Min	688	Mean	2,944	Ac-ft	2,132,000				
Water year 1965-66	Max	3,590	Min	24	Mean	1,851	Ac-ft	1,340,000				

11-2495. Friant-Madera Canal at Friant, Calif.

Location.--Lat 37°00'10", long 119°42'20", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.5, T.11 S., R.21 E., at Friant Dam 0.9 mile northeast of Friant.Records available.--October 1943 to September 1966. 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.--23 years, 250 cfs (181,000 acre-ft per year).Extremes.--1943-66: Maximum daily discharge, 1,322 cfs June 27, 1964; 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	523				102	201	763	0	359	1172	1203	
2	484				152	264	732	0	359	1132	1165	
3	483				153	299	719	0	359	1103	1143	
4	485				153	251	695	0	359	1077	1135	
5	481				153	231	593	0	233	1099	1123	
6	473				153	231	565	0	267	1141	624	
7	473				154	269	566	0	353	1176	416	
8	446				126	338	522	0	622	1185	400	
9	429				110	363	499	0	792	1161	373	
10	426				97	423	481	0	340	1169	375	
11	402				90	502	471	0	333	1173	371	
12	399				90	526	472	0	676	1164	367	
13	395				90	524	473	0	595	1156	364	
14	170				90	522	297	0	680	1143	361	
15	0				90	541	60	0	775	1140	353	
16	0				109	551	0	0	317	1133	356	
17	0				134	549	0	0	364	1125	354	
18	0				164	569	0	0	357	1159	352	
19	0				176	579	0	0	1055	1193	349	
20	0				176	577	0	54	1144	1210	347	
21	0				175	603	0	113	1245	1210	343	
22	0				193	623	0	167	1273	1201	339	
23	0				202	621	0	227	1190	1193	396	
24	0				223	633	0	332	1106	1185	424	
25	0				243	659	0	411	1045	1176	413	
26	0				216	664	0	465	1022	1237	412	
27	0				201	662	0	527	1013	1263	407	
28	0				201	660	0	550	1059	1251	404	
29	0				-----	687	0	394	1114	1231	133	
30	0				-----	750	0	344	1160	1209	0	
31	0	-----			-----	775	-----	359	-----	1207	0	-----
Total	5,879	0	0	0	4,221	15,657	7,913	3,943	24,191	36,334	14,317	0
Mean	190	0	0	0	151	505	264	127	306	1174	473	0
Ac-ft	11,660	0	0	0	3,370	31,060	15,700	7,320	47,930	72,170	29,590	0
Calendar year 1965	Max	1,277	Min	0	Mean	464	Ac-ft	336,100				
Water year 1965-66	Max	1,273	Min	0	Mean	310	Ac-ft	224,100				

## 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 1966.

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.--17 years, 1,226 cfs (887,600 acre-feet per year).

Extremes.--1949-66: 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,614	976	474	0	1,424	1,294	1,813	830	1,904	3,226	1,674	1,224
2	1,474	1,012	479	0	1,349	1,350	1,545	921	1,874	2,975	1,638	990
3	1,513	985	484	0	1,007	1,409	1,604	938	1,747	2,407	1,677	1,096
4	1,603	894	488	0	961	1,457	1,697	953	1,505	2,511	1,648	1,449
5	1,613	932	469	0	951	1,457	1,650	957	1,089	2,550	1,711	1,510
6	1,532	758	395	0	953	1,602	1,292	1,021	1,207	2,524	1,789	1,574
7	1,476	756	384	0	970	1,780	1,173	1,174	1,708	2,527	2,026	1,744
8	1,390	802	384	0	945	1,941	1,009	1,290	1,957	2,527	2,361	1,468
9	1,253	803	370	0	832	2,166	889	1,356	1,981	2,579	2,577	978
10	1,251	788	363	0	806	2,558	971	1,264	1,907	2,943	2,679	857
11	1,245	760	361	0	807	2,789	1,091	1,139	2,369	3,154	2,640	913
12	1,225	689	362	0	909	2,794	1,110	1,104	2,691	2,883	2,560	961
13	1,208	626	351	301	1,047	2,953	1,025	1,025	2,981	2,739	2,263	1,037
14	1,201	619	342	382	1,104	3,108	954	911	3,191	2,740	1,895	1,125
15	1,141	591	345	829	1,491	3,208	994	640	3,428	2,644	1,822	1,102
16	1,099	515	269	932	1,681	3,202	1,130	698	3,526	2,439	1,797	1,025
17	1,150	507	93	1,379	1,770	3,186	1,429	769	3,426	2,502	1,798	971
18	981	475	80	1,821	1,820	3,160	1,602	378	3,078	2,507	1,796	909
19	914	432	81	2,106	1,790	2,958	1,620	929	2,600	2,734	1,777	942
20	971	427	107	3,145	1,784	2,924	1,641	896	2,622	2,785	1,892	840
21	968	435	103	3,247	1,902	2,975	1,581	852	2,573	2,413	2,134	841
22	920	453	80	3,309	1,999	2,996	1,437	992	2,499	2,149	2,456	843
23	885	448	52	3,323	2,174	2,971	1,147	1,135	2,348	2,009	2,605	787
24	917	402	0	3,108	2,331	2,883	801	1,180	2,315	2,136	2,648	722
25	973	340	0	3,006	2,410	2,691	955	1,216	2,505	2,355	2,578	757
26	1,010	305	0	2,991	2,076	2,461	867	1,231	2,708	2,474	2,327	789
27	1,035	353	0	2,775	1,983	2,485	871	1,304	2,979	2,598	1,569	781
28	1,050	394	0	2,616	1,573	2,502	845	1,486	3,246	2,516	1,514	781
29	1,002	383	0	2,431	-----	2,532	768	1,701	3,412	2,373	1,592	780
30	920	406	0	2,165	-----	2,556	724	1,830	3,370	2,032	1,544	736
31	919	-----	0	1,934	-----	2,176	-----	1,878	-----	1,662	1,403	-----
Total	36,453	18,166	6,916	41,800	40,854	76,524	36,135	34,398	74,646	78,814	62,390	30,432
Mean	1,176	606	223	1,348	1,459	2,469	1,204	1,110	2,488	2,542	2,013	1,014
Ac-ft	72,300	36,030	13,720	82,910	81,030	151,800	71,670	68,230	148,100	156,300	123,700	60,360

Calendar year 1965: Max 4,519 Min 0 Mean 2,381 Ac-ft 1,724,000  
 Water year 1965-66: Max 3,526 Min 0 Mean 1,473 Ac-ft 1,066,000

11-2501. Millerton Lake at Friant, Calif.

Location.--Lat 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.--1,637 sq mi.

Records available.--October 1941 to September 1966. 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, 480,700 acre-ft May 28 (elevation, 569.69 ft); minimum, 151,300 acre-ft Oct. 14 (elevation, 475.65 ft).  
1941-66: Maximum contents, 528,200 acre-ft June 20, 1963 (elevation, 579.56 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 represent total contents.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	165.1	167.6	240.6	363.8	393.5	401.7	336.1	401.2	477.9	393.1	260.4	176.5
2	164.3	163.8	243.6	372.3	399.1	401.8	336.6	404.3	477.2	393.6	257.4	176.4
3	162.6	169.8	246.5	376.4	400.4	401.5	337.1	407.1	476.8	389.8	254.9	175.6
4	161.1	170.9	249.1	380.9	401.8	401.4	337.4	409.9	476.9	385.9	252.1	173.9
5	160.2	172.5	252.0	384.9	402.3	400.9	338.0	412.9	473.2	382.0	249.3	172.0
6	153.4	174.0	255.0	388.8	404.9	398.5	339.2	415.7	473.9	377.8	246.9	170.4
7	157.3	173.7	259.4	392.7	406.5	396.3	340.7	413.0	473.4	373.5	243.8	168.4
8	156.1	174.7	263.7	396.7	407.8	394.1	342.6	420.1	476.9	363.9	240.4	167.6
9	155.1	175.7	263.0	400.7	409.3	391.5	344.8	422.2	475.2	364.3	236.8	167.0
10	154.0	176.7	272.3	404.7	410.9	388.8	347.3	424.8	473.7	359.5	233.2	166.8
11	153.0	177.6	276.8	408.7	412.9	386.3	349.3	423.2	471.4	353.2	229.7	166.0
12	152.1	173.9	281.0	412.7	413.7	383.3	351.1	432.1	468.4	343.0	226.2	165.6
13	151.5	180.4	285.2	416.1	414.6	379.7	353.0	435.6	465.6	342.9	223.2	165.6
14	151.3	182.5	289.4	419.3	415.5	376.4	355.5	438.8	462.3	333.1	220.6	164.9
15	151.4	184.6	293.8	421.2	415.7	372.9	353.6	442.3	453.2	333.5	213.3	163.8
16	152.1	185.9	293.2	422.5	415.1	369.8	361.4	445.7	453.9	329.3	216.5	163.2
17	152.6	189.1	303.3	423.6	414.5	368.1	363.4	449.7	449.8	324.6	214.5	162.6
18	152.8	191.6	309.2	423.9	413.7	366.1	365.3	453.9	446.3	319.8	212.5	161.8
19	154.0	195.2	313.8	423.5	413.6	363.8	367.1	453.1	442.8	314.9	210.3	161.5
20	154.9	197.9	317.8	421.3	412.4	361.3	363.8	461.8	439.0	310.0	207.7	161.5
21	156.4	201.0	322.6	413.9	411.5	357.6	370.6	465.8	436.3	305.7	204.1	161.7
22	157.6	204.3	327.2	416.1	410.0	354.5	372.8	469.3	432.9	301.8	200.5	161.9
23	153.6	209.8	331.9	413.0	408.6	351.0	375.4	472.5	430.2	298.1	196.8	163.0
24	159.5	216.1	334.8	410.3	407.4	347.8	378.6	475.3	427.7	293.7	193.0	164.5
25	160.2	219.8	337.7	407.5	406.2	345.2	381.8	477.4	424.9	289.4	189.6	164.2
26	161.4	224.4	340.6	405.6	405.1	343.0	385.0	473.7	421.8	284.8	186.0	162.5
27	162.7	223.1	343.6	403.5	403.0	341.2	388.2	479.7	413.2	279.7	184.3	162.4
28	163.8	231.2	347.9	401.2	401.8	339.9	391.4	480.7	413.9	275.0	181.6	162.4
29	165.0	234.4	353.8	399.2	-----	338.5	394.7	480.6	409.1	270.5	179.8	162.2
30	166.4	237.6	360.1	399.1	-----	337.0	393.1	479.3	403.4	266.7	173.3	161.5
31	167.1	-----	364.7	393.3	-----	336.2	-----	473.7	-----	263.6	177.1	-----
(†)	482.17	507.26	542.96	551.17	551.99	535.67	551.11	569.26	552.33	515.32	486.10	479.92
(‡)	+1.0	+70.5	+127.1	+33.6	+3.5	-65.6	+61.9	+30.6	-75.3	-139.8	-86.5	-15.6
(††)	1.150	490	190	470	690	1380	2390	3660	4280	3540	2320	1450

Calendar year 1965 ..... † + 59.8

Water year 1965-66 ..... ‡ - 4.6

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

## SAN JOAQUIN RIVER BASIN

11-2510. San Joaquin River below Friant, Calif.

Location.--Lat 36°59'04", long 119°43'24", in SW $\frac{1}{4}$  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 1966. 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.--59 years, 2,299 cfs (1,664,000 acre-ft per year), including diversions to Friant-Madera Canal, 1944-66, Friant-Kern Canal, 1949-66, and adjusted for change in contents and evaporation from Millerton Lake 1941-66.

Extremes.--Maximum discharge during year, 161 cfs July 13; maximum gage height, 2.62 ft July 29; minimum daily, 25 cfs Jan. 10, 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.  
1941-66: 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 sta. no. 11-2501) and by other reservoirs described in Remarks for San Joaquin River below Kerkhoff powerhouse. Uncontrolled pondage in Millerton Lake began in September 1941. Diversion for irrigation through Friant-Madera and Friant-Kern Canals (see sta. nos. 11-2495, 11-2500). Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Cooperation.--Twelve discharge measurements furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66	71	29	32	30	28	76	118	131	129	150	129
2	59	71	41	30	30	28	76	118	129	129	152	118
3	53	71	43	30	30	28	76	126	129	126	152	118
4	53	71	43	29	30	26	78	137	129	126	150	113
5	53	71	43	29	32	26	78	143	129	133	146	118
6	53	71	43	27	37	27	78	144	126	146	148	116
7	62	71	43	26	41	26	80	137	126	150	148	116
8	71	71	45	26	40	31	80	137	126	150	150	116
9	73	71	53	26	38	43	78	137	122	150	148	116
10	73	71	53	25	37	43	82	124	116	148	150	116
11	73	71	55	30	36	43	80	112	116	148	150	116
12	73	71	55	32	34	43	80	112	114	148	152	116
13	74	73	55	33	34	41	82	114	114	152	152	116
14	74	74	53	32	34	51	82	110	114	159	150	116
15	74	68	51	32	34	73	82	110	114	159	150	116
16	73	62	51	32	34	73	82	103	114	152	150	116
17	71	59	52	32	34	74	84	103	120	144	150	114
18	71	52	52	32	34	80	86	110	126	139	150	114
19	71	48	52	31	34	89	91	110	126	135	150	114
20	71	38	52	31	33	87	78	112	133	133	150	114
21	71	30	52	30	33	86	86	114	137	133	148	114
22	71	29	51	30	33	86	87	116	139	133	148	114
23	71	29	51	30	33	84	87	116	144	131	148	114
24	71	29	49	30	34	82	87	116	139	129	148	106
25	71	23	49	32	34	82	87	122	133	129	152	97
26	71	27	49	32	33	80	89	131	133	135	157	95
27	71	23	49	31	33	80	87	131	133	141	155	93
28	71	29	46	30	30	80	93	131	133	144	155	82
29	69	29	44	27	-----	80	103	131	129	150	152	91
30	69	29	40	29	-----	80	120	131	129	148	148	93
31	71	-----	33	31	-----	78	-----	131	-----	148	141	-----
Total	2,119	1,613	1,477	929	949	1,353	2,540	3,302	3,803	4,377	4,650	3,339
Mean	68.3	53.8	47.6	30.0	33.9	59.9	84.7	123	127	141	150	111
Ac-ft	4,200	3,200	2,930	1,840	1,880	3,690	5,040	7,540	8,680	9,220	6,620	888
Mean†	1,469	1,852	2,341	1,932	1,719	1,989	2,633	2,729	2,223	1,641	1,279	888
Ac-ft†	90,310	110,200	143,900	118,300	95,470	122,300	156,700	167,300	132,600	100,900	78,630	52,830
Calendar year 1965	Max	212	Min	27	Mean	32.4	Ac-ft	59,660	Mean†	3,039	Ac-ft†	2,200,000
Water year 1965-66	Max	159	Min	25	Mean	36.2	Ac-ft	62,390	Mean†	1,392	Ac-ft†	1,370,000

† Adjusted for change in contents and evaporation from Millerton Lake and for diversions to Friant-Madera and Friant-Kern Canals.



11-2555. Panoche Creek below Silver Creek, near Panoche, Calif.

Location.--Lat 36°37'08", long 120°40'22", in SW 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.--293 sq mi.

Records available.--October 1949 to September 1953, October 1958 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 558.26 ft above mean sea level, datum of 1929.

Average discharge.--12 years, 1.77 cfs (1,280 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).

Extremes.--Maximum discharge during year, 115 cfs Nov. 23 (gage height, 3.20 ft from floodmarks); no flow for several months. 1949-53, 1958-66: 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 measurements at gage heights 6.25 ft and 7.01 ft; no flow for several months in each year. Flood of Apr. 2, 1958, reached a stage of 7.01 ft (discharge, 5,090 cfs, by slope-area measurement).

Remarks.--Records fair. Some small dams for stock use above station. Records of suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.4	3.6	1.5	0.60	0.20					
2		0	1.1	6.0	1.6	.60	.10					
3		0	.80	5.4	1.1	.60	.10					
4		0	.70	4.7	1.5	.50	.10					
5		0	.60	4.3	2.2	.50	.10					
6		0	.60	3.8	1.6	.50	.10					
7		0	.60	3.4	1.6	.50	.10					
8		0	.60	3.0	1.4	.50	.20					
9		0	.60	2.6	1.2	.50	.10					
10		0	.60	2.0	1.1	.50	.20					
11		0	.60	1.6	1.0	.50	.20					
12		0	2.4	1.2	1.1	.50	.20					
13		0	2.3	.90	1.0	.50	.20					
14		0	1.7	1.1	.90	.40	.10					
15		0	1.4	1.1	1.0	.40	.10					
16		0	1.1	1.0	1.0	.40	0					
17		2.8	.80	1.0	1.0	.40	0					
18		1.9	.60	.80	1.2	.60	0					
19		.40	.60	.90	1.1	.60	.10					
20		.10	.50	.80	.80	.70	.10					
21		0	.50	.70	.80	.70	.10					
22		.10	.40	.90	.80	.60	.10					
23		.70	.40	.80	.60	.60	0					
24		.30	.40	.80	.60	.70	0					
25		.10	.40	.80	.60	.60	0					
26		4.7	.40	.80	.60	.60	0					
27		2.9	.30	.60	.60	.50	0					
28		2.2	.30	.30	.60	.40	0					
29		1.7	11	.30	-----	.30	0					
30		1.5	12	1.8	-----	.20	0					
31		-----	10	2.0	-----	.20	-----		-----			-----
Total	0	128.30	55.70	64.00	30.10	15.70	2.50	0	0	0	0	0
Mean	0	4.28	1.80	2.06	1.08	0.51	0.08	0	0	0	0	0
Ac-ft	0	254	110	127	60	31	5.0	0	0	0	0	0

Calendar year 1965 Max 70 Min 0 Mean 0.68 Ac-ft 490  
 Water year 1965-66 Max 70 Min 0 Mean 0.81 Ac-ft 588

Peak discharge (base, 50 cfs).--Nov. 23 (time unknown) 115 cfs (3.20 ft); Dec. 29 (about 1500) 52 cfs (2.85 ft).

## SAN JOAQUIN RIVER BASIN

11-2571. Miami Creek near Oakhurst, Calif.

Location.--Lat 37°23'37", long 119°39'12", in NE 1/4 sec. 22, T.6 S., R.21 E., on left bank 200 ft downstream from county road bridge, and 4.6 miles north of Oakhurst.

Drainage area.--10.6 sq mi.

Records available.--October 1960 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

Average discharge.--6 years, 6.16 cfs (4,460 acre-ft per year).

Extremes.--Maximum discharge during year, 70 cfs Nov. 17 (gage height, 4.21 ft); minimum daily, 0.2 cfs Sept. 11.  
1960-66: Maximum discharge, 1,140 cfs Feb. 1, 1963 (gage height, 9.08 ft), from rating curve extended above 210 cfs; no flow for many days in most years.

Remarks.--No known diversions 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	1.4	6.8	1.1	6.5	7.9	9.1	4.2	3.3	1.5	1.3	0.50
2	1.6	1.4	6.5	1.1	6.1	7.4	3.7	4.1	3.0	1.4	.70	.40
3	1.5	1.5	6.6	1.0	6.1	7.5	3.3	4.0	3.0	1.4	.70	.30
4	1.5	1.5	6.8	9.6	6.8	7.2	7.9	4.0	3.0	1.3	.60	.30
5	1.4	1.6	6.6	9.2	7.3	7.3	7.4	3.9	2.9	1.3	.60	.80
6	1.5	1.5	6.5	3.7	20	7.7	6.9	4.0	2.9	1.2	.60	.50
7	1.4	1.5	6.2	3.6	12	7.7	6.8	3.9	3.4	1.3	.50	.40
8	1.4	1.7	5.9	3.8	9.8	3.3	6.6	3.9	3.5	1.3	.50	.30
9	1.4	1.8	5.7	3.1	3.7	8.5	6.8	4.1	3.4	1.3	.50	.30
10	1.4	2.0	5.9	3.1	7.9	11	10	7.0	3.2	1.2	.50	.30
11	1.5	1.9	5.7	7.7	7.0	12	3.6	5.3	2.9	1.1	.40	.20
12	1.4	2.1	6.7	7.5	7.6	11	3.4	4.7	2.7	1.2	.40	.30
13	1.4	3.6	5.6	7.5	7.3	12	7.3	4.3	2.5	1.2	.50	.30
14	1.7	21	5.7	7.5	7.1	12	6.8	4.0	2.3	1.2	.50	.30
15	2.9	17	5.4	7.4	6.9	11	6.1	3.9	2.2	1.2	.40	.30
16	2.4	27	5.2	7.0	6.8	11	6.1	3.9	2.1	1.1	1.1	.30
17	2.3	36	5.4	7.0	6.2	10	5.9	3.8	2.1	1.1	.60	.30
18	2.0	19	5.9	6.8	6.5	10	6.7	3.6	2.0	1.1	.40	.50
19	2.2	12	5.3	6.6	6.5	10	7.6	3.4	1.9	1.0	.30	.80
20	2.2	8.0	5.4	6.2	6.8	10	6.7	3.5	2.0	1.0	.40	.90
21	1.9	6.4	5.2	6.2	6.8	10	6.2	3.4	1.8	.90	.30	.70
22	1.8	6.7	5.2	6.2	7.3	9.9	5.7	3.3	1.9	.90	.30	.60
23	1.8	32	5.3	6.1	7.7	9.9	5.4	3.2	1.9	.90	.30	.50
24	1.7	39	5.3	5.9	9.2	9.9	5.1	3.1	2.0	.80	.30	.40
25	1.6	19	5.3	5.8	8.3	9.7	5.0	3.0	1.9	.80	.30	.50
26	1.4	12	5.3	5.8	7.5	9.8	4.9	2.8	1.8	.80	.30	.50
27	2.8	9.9	5.3	5.8	7.3	9.8	4.9	3.0	1.6	.70	.30	.50
28	1.8	9.2	6.9	5.7	7.4	9.2	4.7	2.9	1.5	.70	.30	.50
29	2.2	8.0	29	5.8	-----	9.5	3.9	3.1	1.5	.70	.40	.40
30	1.8	7.3	16	6.8	-----	9.2	4.0	3.3	1.5	.70	.40	.40
31	1.6	-----	12	6.8	-----	9.2	-----	3.2	-----	.70	.40	-----
Total	55.2	313.0	220.6	231.2	221.4	295.6	193.5	117.8	71.7	33.00	15.10	13.30
Mean	1.78	10.4	7.12	7.46	7.91	9.54	6.62	3.80	2.39	1.06	0.49	0.44
Ac-ft	109	621	438	459	439	536	394	234	142	65	30	26

Calendar year 1965 Max 19.3 Min 1.4 Mean 10.8 Ac-ft 7,310  
Water year 1965-66 Max 39 Min 0.2 Mean 4.89 Ac-ft 3,540

Note.--No gage-height record Dec. 18 to Jan. 20.

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.--133 sq mi.

Records available.--September 1911 to December 1913, November 1915 to September 1966.

Gage.--Digital 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, graphic water-stage recorder at site 40 ft upstream at datum about 0.34 ft lower. Jan. 13, 1931, to Oct. 24, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--51 years (1911-12, 1916-66), 75.7 cfs (54,800 acre-ft per year); median of yearly mean discharges, 58 cfs (42,000 acre-ft per year).

Extremes.--Maximum discharge during year, 662 cfs Dec. 30 (gage height, 2.94 ft); no flow Aug. 23-26.

1911-13, 1915-66: Maximum discharge, 13,300 cfs Dec. 23, 1955 (gage height, 11.52 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurement of maximum flow; no flow at times in some years.

Remarks.--Records good. 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 60 cfs at times since about 1888 from Merced River basin, for irrigation downstream from station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.4	12	67	247	79	74	102	110	49	13	5.6	1.0
2	8.4	12	61	162	80	74	103	110	47	13	4.9	.70
3	7.9	12	58	134	69	64	102	110	45	12	4.2	.50
4	7.1	12	58	113	68	61	99	109	43	12	3.2	.30
5	6.9	12	56	103	78	59	98	109	40	11	2.8	.20
6	7.3	13	54	105	203	61	99	109	39	11	2.3	.10
7	7.6	12	52	103	169	63	100	108	42	10	2.0	.10
8	7.2	12	50	102	118	66	98	109	47	10	1.0	.10
9	6.7	11	48	97	101	72	93	109	45	11	.60	.30
10	6.6	11	48	88	96	91	109	123	42	10	.40	.40
11	7.0	12	49	80	83	103	102	125	37	9.4	.20	.10
12	10	13	66	75	80	96	98	116	33	9.7	.10	.30
13	9.1	16	59	70	77	97	96	107	30	10	.10	.40
14	11	58	52	66	71	102	94	103	27	10	.10	.40
15	18	126	48	66	69	101	92	99	25	9.7	.30	.50
16	21	128	45	61	67	98	93	96	24	9.1	.60	.80
17	18	209	40	57	67	98	89	91	23	8.2	.90	.80
18	17	115	30	55	67	95	96	91	23	7.6	.90	1.0
19	17	118	32	51	65	95	108	90	21	7.1	.30	.90
20	16	82	37	50	65	94	98	87	20	7.2	.10	.90
21	16	65	41	47	66	93	95	81	20	6.8	.10	.90
22	15	58	40	46	68	90	93	79	19	5.9	.10	.90
23	14	125	38	48	70	89	92	74	19	5.6	0	.90
24	14	309	36	47	84	88	91	69	19	5.3	0	.90
25	14	247	54	45	85	87	90	65	19	4.8	0	.80
26	13	155	54	45	84	85	90	60	18	4.7	0	.80
27	12	121	48	44	75	89	89	58	17	5.0	.10	.80
28	14	100	48	42	72	88	73	54	16	5.3	.50	.80
29	13	87	262	41	-----	87	99	52	14	4.8	.80	.80
30	13	74	408	101	-----	87	99	53	13	4.8	.60	.80
31	13	-----	351	95	-----	101	-----	52	-----	4.9	.80	-----
TOTAL	369.2	2,337	2,390	2,486	2,376	2,648	2,880	2,818	876	258.9	33.60	18.20
MEAN	11.9	77.9	77.1	80.2	84.9	85.4	96.0	90.9	29.2	8.35	1.08	.61
AC-FT	732	4,640	4,740	4,930	4,710	5,250	5,710	5,590	1,740	514	67	36

CALENDAR YEAR 1965 MAX 1,420 MIN 5.9 MEAN 111 AC-FT 80, 140  
 WATER YEAR 1965-66 MAX 408 MIN 0 MEAN 53.4 AC-FT 38,600

Peak discharge (base, 590 cfs).--Dec. 30 (0215) 662 cfs (2.94 ft).

## SAN JOAQUIN RIVER BASIN

11-2577. Picaune Creek near Coarsegold, Calif.

Location.--Lat 37°13'15", long 119°42'25", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.20, T.8 S., R.21 E., at culvert on State Highway 41, 3.0 miles south of Coarsegold.

Drainage area.--8.17 sq mi (revised).

Records available.--Water years 1959-64 (annual maximum), October 1964 to September 1966.

Gage.--Water-stage recorder, crest-stage gages, and tipping bucket rain gage. Altitude of gage is 1,860 ft (from topographic map). Sept. 21, 1959, to Sept. 11, 1964, crest-stage gage at same site and datum.

Extremes.--Maximum discharge during year, 31 cfs Dec. 30 (gage height, 2.56 ft); no flow for several months.

1959-66: Maximum discharge, 216 cfs Feb. 10, 1962 (gage height, 5.12 ft), from rating curve extended above 67 cfs on basis of computation of flow through culvert of maximum flow; no flow for several months of each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.4 0	7.0	3.2	2.5	1.6	0.5 0				
2		0	.2 0	4.5	2.6	2.3	1.6	.4 0				
3		0	.2 0	3.5	2.1	2.1	1.6	.2 0				
4		0	.2 0	3.2	2.5	2.1	1.5	.2 0				
5		0	.2 0	2.8	2.5	2.1	1.5	.4 0				
6		0	.2 0	2.5	7.2	2.1	1.5	.4 0				
7		0	.2 0	9.7	4.9	2.1	1.3	.2 0				
8		0	.2 0	3.9	3.7	2.0	1.3	.2 0				
9		0	.2 0	2.8	3.2	2.1	1.3	.4 0				
10		0	.1 0	2.3	3.0	2.3	2.1	1.2				
11		0	.2 0	1.8	3.0	2.1	1.8	1.2				
12		0	1.3	1.6	5.1	2.1	1.6	.8 0				
13		0	.5 0	1.5	4.7	2.1	1.5	.5 0				
14		0	.4 0	1.5	8.5	2.0	1.5	.4 0				
15		0	.4 0	1.4	8.8	2.0	1.3	.4 0				
16		0	.2 0	1.4	2.5	2.0	1.3	.2 0				
17		0	.2 0	1.3	2.3	2.0	1.2	.2 0				
18		0	.2 0	1.3	2.3	2.0	1.3	.2 0				
19		0	.2 0	1.2	2.3	2.0	1.6	.1 0				
20		0	.2 0	1.2	2.3	1.8	1.5	.1 0				
21		0	.2 0	1.2	2.3	1.8	1.2	.1 0				
22		.1 0	.2 0	1.2	2.3	1.8	1.0	.1 0				
23		.2 0	.2 0	1.2	2.3	1.6	.8 0	.1 0				
24		1.3	.2 0	1.2	3.0	1.6	.8 0	0				
25		2.6	1.0	1.0	2.8	1.6	.7 0	0				
26		1.3	.7 0	1.0	3.0	1.6	.7 0	0				
27		.8 0	.5 0	1.0	2.6	1.6	.7 0	0				
28		.7 0	.8 0	1.0	2.5	1.6	.7 0	0				
29		.5 0	1.1	1.2	-----	1.6	.5 0	0				
30		.4 0	1.3	4.1	-----	1.6	.5 0	0				
31		-----	1.5	2.6	-----	1.6	-----	0	-----			-----
Total	0	7.9 0	48.7 0	73.1	97.5	59.8	37.5 0	8.5 0	0	0	0	0
Mean	0	0.2 6	1.5 7	2.3 6	3.4 8	1.9 3	1.2 5	0.2 7	0	0	0	0
Ac-ft	0	1.6	9.7	14.5	19.3	11.9	7.4	1.7	0	0	0	0
(†)	0.7	6.4	4.1	1.0	1.6	0.2	0.9	0.5	0	0	0	0

Calendar year 1965 Max 85 Min 0 Mean 4.13 Ac-ft 2990  
 Water year 1965-66 Max 15 Min 0 Mean 0.912 Ac-ft 660

Peak discharge (base, 40 cfs).--No peak above base.

† Precipitation, in inches.

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.--258 sq mi.

Records available.--October 1941 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 382.4 ft above mean sea level (levels by Corps of Engineers). October 1941 to Sept. 27, 1946, at site 300 ft downstream and Sept. 27, 1946, to Sept. 28, 1949, at present site, at datum 3.37 ft higher. Sept. 28, 1949, to Mar. 19, 1963, at datum 1.00 ft higher. Prior to Sept. 27, 1963, graphic water-stage recorder at different sites and datums.

Average discharge.--25 years, 95.2 cfs (68,920 acre-ft per year); median of yearly mean discharges, 72 cfs (52,100 acre-ft per year).

Extremes.--Maximum discharge during year, 882 cfs Dec. 30 (gage height, 4.22 ft), no flow Aug. 10 to Sept. 30. 1941-66: Maximum discharge, 17,500 cfs Dec. 23, 1955 (gage height, 12.64 ft, present datum), from rating curve extended above 6,400 cfs; no flow at times most years.

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 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.9	9.8	70	506	114	91	113	107	40	11	1.8	
2	4.6	9.7	59	270	129	94	108	112	38	11	3.5	
3	4.6	10	56	205	99	91	109	111	37	10	3.1	
4	3.9	11	58	172	89	87	113	110	31	11	1.3	
5	4.8	11	56	136	106	81	110	101	29	10	.70	
6	5.9	12	54	132	211	80	103	106	33	9.7	.50	
7	6.6	12	51	125	309	83	103	107	33	9.7	.30	
8	6.2	11	50	127	198	82	104	107	34	9.0	.20	
9	6.6	9.8	48	122	152	82	100	109	29	9.0	.10	
10	6.2	9.6	46	113	141	101	112	127	32	10	0	
11	5.2	11	49	106	132	124	119	143	28	10	0	
12	5.6	12	67	102	117	119	107	130	30	8.7	0	
13	9.2	14	73	95	113	120	105	112	25	8.3	0	
14	7.9	21	59	91	107	122	102	104	23	7.3	0	
15	12	113	54	91	116	123	95	99	23	6.4	0	
16	15	118	52	85	111	120	92	91	19	5.8	0	
17	18	238	50	78	98	115	90	85	17	5.5	0	
18	16	168	44	73	95	111	95	85	18	4.8	0	
19	17	152	39	69	92	108	117	87	17	4.6	0	
20	15	113	42	68	93	112	103	83	15	5.7	0	
21	13	89	48	68	91	110	96	72	16	5.8	0	
22	13	78	50	64	88	101	96	68	14	5.2	0	
23	13	121	48	60	89	97	91	67	15	4.5	0	
24	13	288	41	58	97	98	88	65	15	4.0	0	
25	12	382	47	58	115	97	90	60	14	3.6	0	
26	11	219	60	56	109	97	88	52	12	3.1	0	
27	11	143	55	54	106	98	87	47	12	2.8	0	
28	9.9	116	54	52	95	98	82	45	12	2.6	0	
29	11	93	247	49	-----	95	78	43	11	3.1	0	
30	11	80	625	91	-----	98	93	40	11	1.2	0	
31	9.9	-----	564	160	-----	107	-----	40	-----	1.6	0	-----
TOTAL	305.0	2,674.9	2,916	3,536	3,412	3,142	2,989	2,715	683	205.0	11.50	0
MEAN	9.84	89.2	94.1	114	122	101	99.6	87.6	22.8	6.61	.37	0
AC-FT	605	5,310	5,780	7,010	6,770	6,230	5,930	5,390	1,350	407	23	0

CALENDAR YEAR 1965 MAX 1,970 MIN 3.9 MEAN 142 AC-FT 102,700  
 WATER YEAR 1965-66 MAX 625 MIN 0 MEAN 61.9 AC-FT 44,810

Peak discharge (base, 600 cfs)--Dec. 30 (0830 hours) 882 cfs (4.22 ft).

## SAN JOAQUIN RIVER BASIN

11-2588. East Fork Chowchilla River near Ahwahnee, Calif.

Location.--Lat 37°20'10", long 119°48'55", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  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.--57.8 sq mi.

Records available.--October 1957 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 980 ft (from topographic map).

Average discharge.--9 years, 26.8 cfs (19,400 acre-ft per year).

Extremes.--Maximum discharge during year, 862 cfs Dec. 29 (gage height, 6.67 ft); no flow for many days.  
1957-66: Maximum discharge, 3,710 cfs Jan. 31, 1963 (gage height, 10.34 ft); no flow for many days in 1959-66.

Remarks.--No known diversions 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	2.1	27	126	42	31	17	9.8	6.8	0.80	0.10	
2	2.1	2.1	24	87	36	31	18	9.6	6.2	.80	0	
3	1.8	2.1	21	75	31	28	18	8.9	5.7	.90	0	
4	1.8	2.1	19	66	30	26	16	8.6	5.6	.80	0	
5	1.9	2.2	18	64	35	25	16	9.1	5.7	.90	0	
6	1.8	2.1	18	61	119	25	15	9.6	5.8	.60	0	
7	1.9	2.1	15	64	76	25	15	9.7	5.0	.50	0	
8	1.8	2.1	15	64	56	25	14	9.8	6.1	.30	0	
9	1.5	2.1	14	55	45	25	15	10	5.9	.40	0	
10	1.5	2.3	14	50	43	29	26	28	5.4	.40	0	
11	1.6	2.3	14	46	37	29	21	23	4.6	.40	0	
12	1.8	2.6	21	44	37	26	18	17	4.2	.40	0	
13	1.8	3.4	19	41	34	28	17	13	3.6	.50	0	
14	2.3	26	17	36	33	27	15	13	3.4	.50	0	
15	4.1	48	16	34	31	26	15	12	2.9	.50	0	
16	4.0	79	15	31	31	25	14	10	2.5	.40	0	
17	3.3	222	14	30	30	24	13	9.2	2.4	.30	0	
18	3.1	78	13	30	31	25	14	8.9	2.3	.30	0	
19	2.8	50	13	27	30	23	22	8.4	2.1	.30	0	
20	2.5	28	13	26	30	23	18	7.9	2.0	.20	0	
21	2.9	21	13	24	30	23	15	7.1	1.7	.20	0	
22	2.6	20	13	22	30	23	13	6.9	1.6	.10	0	
23	2.3	134	13	22	29	22	12	6.9	2.0	.10	0	
24	2.2	253	12	23	32	22	13	6.8	1.9	0	0	
25	2.0	152	27	21	32	21	12	6.5	1.8	.10	0	
26	2.1	89	25	20	35	20	11	6.2	1.4	0	0	
27	2.1	54	19	19	32	20	11	5.8	1.3	0	0	
28	2.0	40	24	17	30	19	11	5.5	1.3	0	0	
29	2.2	34	271	16	-----	19	10	5.9	1.1	0	0	
30	2.1	30	261	57	-----	18	10	6.7	1.0	0	0	
31	2.1	-----	260	46	-----	18	-----	7.5	-----	.10	0	-----
Total	70.6	1387.6	1278	1344	1087	751	455	307.3	103.3	10.80	0.10	0
Mean	2.28	46.3	41.2	43.4	38.8	24.2	15.2	9.91	3.44	0.35	0.003	0
Ac-ft	140	2750	2530	2670	2160	1490	902	610	205	21	0.2	0

Calendar year 1965 Max 947 Min 1.0 Mean 46.6 Ac-ft 33,750  
Water year 1965-66 Max 271 Min 0 Mean 13.6 Ac-ft 13,480

## SAN JOAQUIN RIVER BASIN

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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 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,680 ft (from topographic map).

Average discharge.--9 years, 14.5 cfs (10,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,380 cfs Dec. 29 (gage height, 6.95 ft); no flow for many days.

1957-66: Maximum discharge, 3,590 cfs Apr. 3, 1958 (gage height, 8.67 ft), from rating curve extended above 1,500 cfs; no flow for many days in each year.

Remarks.--No known diversions 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.10	10	9.3	19	16	7.0	3.7	0.80			
2	0	.10	9.9	60	16	16	5.7	3.2	.60			
3	0	.10	9.1	4.9	1.3	14	5.5	3.1	.60			
4	0	.10	8.5	40	1.3	14	5.9	3.2	.50			
5	0	.10	7.8	36	15	13	5.5	3.1	.50			
6	0	.10	7.3	34	7.6	13	5.3	2.8	.50			
7	0	.10	6.9	33	4.6	12	5.1	2.6	.50			
8	0	.20	6.2	33	34	11	5.1	2.5	.50			
9	0	.20	6.1	30	27	12	5.3	2.6	.40			
10	0	.20	5.7	26	25	15	9.0	1.2	.30			
11	0	.20	5.7	22	22	13	7.2	6.5	.20			
12	0	.20	15	21	21	12	6.7	4.3	.20			
13	0	.30	10	19	20	11	5.8	3.5	.10			
14	0	3.30	8.1	17	20	11	5.1	2.9	.10			
15	.10	9.70	6.8	16	19	10	4.9	2.3	0			
16	0	33	6.2	15	13	10	4.8	2.0	0			
17	0	110	5.5	13	17	9.6	4.4	1.9	0			
18	0	25	5.2	12	17	9.7	5.1	1.6	0			
19	0	24	4.8	11	16	9.0	8.6	1.5	0			
20	0	5.2	4.9	11	15	8.6	5.3	1.4	0			
21	0	2.9	5.3	10	15	8.5	5.2	1.2	0			
22	0	68	4.9	10	15	9.0	5.0	1.1	0			
23	0	151	4.6	9.8	14	8.2	4.6	1.1	0			
24	0	265	4.2	9.1	14	8.2	4.6	1.0	0			
25	0	85	25	8.6	15	7.7	4.5	.90	0			
26	0	21	14	8.4	21	7.3	4.1	.80	0			
27	0	12	8.6	7.8	17	7.2	4.1	.80	0			
28	0	12	28	6.9	16	7.2	4.2	.70	0			
29	.10	12	37.9	6.9	-----	6.9	4.1	.70	0			
30	.10	11	22.3	36	-----	6.7	4.0	.80	0			
31	.10	-----	195	23	-----	6.8	-----	.80	-----			
Total	0.40	852.10	1041.3	727.5	596	323.6	163.7	76.60	5.80	0	0	0
Mean	0.01	23.4	33.6	23.5	21.3	10.4	5.46	2.47	0.19	0	0	0
Ac-ft	0.8	1690	2070	1440	1180	642.0	325.0	152	12	0	0	0

Calendar year 1965	Max	922	Min	0	Mean	23.3	Ac-ft	20520
Water year 1965-66	Max	379	Min	0	Mean	10.4	Ac-ft	7510

## SAN JOAQUIN RIVER BASIN

11-2589.2. Middle Fork Chowchilla River near Nipinnawasee, Calif.

Location.--Lat 37°23'00", long 119°50'12", in SW 1/4 NE 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 Nipinnawasee.

Drainage area.--13.6 sq mi.

Records available.--October 1958 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,520 ft (from topographic map).

Average discharge.--8 years, 6.36 cfs (4,600 acre-ft per year).

Extremes.--Maximum discharge during year, 502 cfs Dec. 29 (gage height, 5.51 ft); no flow for many days.

1958-66: Maximum discharge, 1,280 cfs Feb. 1, 1963 (gage height, 10.10 ft); no flow for several months in most years.

Remarks.--Small diversion above station for irrigation.

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

Revisions (water years).--1965 Report: 1959(M), 1960(M).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.20	6.3	5.2	15	7.7	3.4	1.7	0.70			
2	.20	.20	5.7	3.4	13	7.6	3.2	1.6	.70			
3	.20	.20	4.7	2.7	10	6.5	3.0	1.5	.60			
4	.20	.20	4.4	2.3	9.4	5.0	3.2	1.5	.60			
5	.20	.20	4.1	2.3	9.5	6.0	2.9	1.4	.50			
6	.20	.20	3.7	2.5	3.7	6.0	2.7	1.4	.50			
7	.20	.20	3.4	2.1	2.3	5.6	2.7	1.4	.50			
8	.20	.20	3.3	1.3	1.7	5.5	2.7	1.4	.40			
9	.20	.30	3.2	1.6	1.4	5.4	3.0	1.5	.40			
10	.20	.30	3.1	1.4	1.2	7.2	5.0	5.7	.30			
11	.20	.40	3.0	1.3	1.0	6.5	4.6	4.8	.30			
12	.20	.50	5.2	1.2	9.5	5.9	3.4	3.1	.20			
13	.20	.80	5.4	1.1	9.0	5.5	3.2	2.2	.20			
14	.20	4.2	4.9	1.0	3.8	5.1	2.9	1.5	.10			
15	.50	7.5	4.5	9.9	3.7	5.1	2.9	1.2	.10			
16	.30	1.7	4.0	3.3	9.1	4.9	2.8	1.1	.10			
17	.30	10.9	3.3	3.1	3.3	4.7	2.6	1.1	.10			
18	.20	2.6	3.7	3.0	7.9	4.7	2.7	.90	.10			
19	.20	1.3	3.6	7.4	7.4	4.4	5.0	.90	.10			
20	.20	6.5	3.5	7.3	7.4	4.3	3.4	.80	.10			
21	.20	4.5	3.7	7.1	7.4	4.1	3.1	.70	0			
22	.20	4.8	3.3	5.3	7.1	4.2	2.9	.80	0			
23	.20	4.4	3.5	5.4	7.0	4.0	2.7	.70	.10			
24	.20	8.0	3.1	6.2	7.1	4.0	2.2	.60	.10			
25	.20	5.3	1.1	5.6	7.6	3.9	2.0	.50	0			
26	.10	3.1	9.9	5.8	9.5	3.7	2.0	.50	0			
27	.10	1.6	7.9	5.7	9.2	3.6	2.1	.40	0			
28	.10	1.2	1.0	5.3	7.3	3.3	2.0	.40	0			
29	.10	9.5	20.1	5.2	-----	3.4	1.9	.50	0			
30	.10	3.1	14.5	2.0	-----	3.3	1.6	.50	0			
31	.20	-----	12.3	1.9	-----	3.1	-----	.60	-----			-----
Total	6.20	455.00	605.4	441.6	303.7	155.2	87.8	43.90	6.80	0	0	0
Mean	0.20	15.2	19.5	14.2	11.0	5.01	2.93	1.42	0.23	0	0	0
Ac-ft	12	902	1,200	876	612	308	174	87	13	0	0	0

Calendar year 1965 Max 371 Min 0.1 Mean 13.9 Ac-ft 10,030  
 Water year 1965-66 Max 201 Min 0 Mean 5.73 Ac-ft 4,190



11-2590. Chowchilla River at Buchanan damsite, near Raymond, Calif.

Location.--Lat 37°13'02", long 119°59'03", in SW 1/4 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.--235 sq mi.

Records available.--October 1921 to September 1923, October 1930 to September 1966. Prior to Oct. 1, 1962, published as "at Buchanan damsite."

Gage.--Digital water-stage recorder. Datum of gage is 407.30 ft above mean sea level, adjustment of 1912 (levels by Merced Irrigation District). Graphic water-stage recorder October 1921 to September 1923 at site 2.5 miles upstream at different datum and October 1923 to September 1963 at present site and datum.

Average discharge.--38 years (1921-23, 1930-66), 95.3 cfs (68,990 acre-ft per year); median of yearly mean discharges, 75 cfs (54,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,460 cfs Dec. 30 (gage height about 7.5 ft); no flow for many days.

1921-23, 1930-66: 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 except those for period of no gage-height record, which are fair. No storage or large diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.1	2.2	57	712	123	75	41	19	6.4			
2	1.0	2.4	51	346	128	77	40	18	6.4			
3	.70	2.6	46	250	101	72	39	17	6.0			
4	.60	2.6	44	201	94	68	38	16	5.5			
5	.50	2.9	43	170	101	66	36	15	5.2			
6	.50	3.1	41	162	204	66	34	15	5.1			
7	.50	3.2	39	151	263	65	32	14	5.0			
8	.50	3.5	37	144	173	63	32	14	5.0			
9	.50	3.5	36	135	137	62	31	14	5.8			
10	.70	3.7	35	124	122	66	37	20	5.5			
11	.70	3.8	40	113	112	74	51	49	4.8			
12	.80	4.2	51	105	102	67	43	35	4.1			
13	.80	5.3	56	99	100	64	39	26	3.3			
14	.90	14	44	93	95	61	36	20	2.7			
15	1.6	62	40	91	92	59	32	17	2.0			
16	2.0	64	39	87	88	57	30	15	1.4			
17	2.9	468	37	81	66	54	29	13	1.0			
18	2.8	136	33	78	85	53	29	12	.60			
19	2.5	132	30	75	81	53	39	11	.50			
20	2.4	69	31	73	78	51	44	10	.30			
21	2.4	44	36	71	76	51	35	9.1	.30			
22	2.3	40	38	68	76	50	30	8.4	.20			
23	2.2	297	37	68	75	49	28	8.0	.20			
24	2.2	634	32	66	75	48	26	7.6	.20			
25	2.1	561	35	64	80	47	25	7.3	.20			
26	1.9	272	44	63	87	45	23	6.7	.10			
27	2.0	139	42	62	87	44	22	6.2	0			
28	2.0	98	41	59	78	44	21	5.9	0			
29	2.0	78	600	57	-----	43	21	5.6	0			
30	2.2	66	1,400	118	-----	43	20	5.7	0			
31	2.2	-----	966	183	-----	42	-----	6.2	-----			
TOTAL	47.50	3,217.0	4,101	4,169	2,999	1,779	983	446.7	77.80	0	0	0
MEAN	1.53	107	132	134	107	57.4	32.8	14.4	2.59	0	0	0
AC-FT	94	6,380	8,130	8,270	5,950	3,530	1,950	886	154	0	0	0

CALENDAR YEAR 1965 MAX 2,450 MIN 0 MEAN 120 AC-FT 87,200  
 WATER YEAR 1965-66 MAX 1,400 MIN 0 MEAN 48.8 AC-FT 35,340

Peak discharge (base, 770 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-17	1045	6.13	1,280	12-30	unknown	about 7.5	2,460
11-24	2230	5.83	1,090				

Note.--No gage-height record Dec. 5-30.

## SAN JOAQUIN RIVER BASIN

11-2602. Bear Creek near Cathays Valley, Calif.

Location.--Lat 37°28'40", long 120°06'45", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 21, T.5 S., R.17 E., on downstream side of bridge, 0.9 mile upstream from Raster Gulch, and 3.3 miles north of town of Cathays Valley.

Drainage area.--24.9 sq mi.

Records available.--January 1958 to September 1966. Prior to October 1963, published as "near Cathay."

Gage.--Water-stage recorder. Altitude of gage is 1,210 ft (from topographic map).

Average discharge.--8 years, 10.8 cfs (7,820 acre-ft per year).

Extremes.--Maximum discharge during year, 1,930 cfs Nov. 23 (gage height, 8.47 ft), from rating curve extended above 800 cfs; no flow for many days.

1958-65: Maximum discharge, 2,250 cfs Feb. 1, 1963 (gage height, 10.07 ft), from rating curve extended above 800 cfs; no flow for many days 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.

Revisions (water years).--1965 Report: 1958(M), 1962(M), 1963.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	6.9	105	24	3.3	0.90	0.30	0.10			
2		0	5.9	45	20	3.2	.80	.20	.10			
3		0	5.0	27	14	2.5	.80	.30	.10			
4		0	4.1	19	12	2.5	.70	.30	.10			
5		0	3.6	15	11	2.6	.60	.20	0			
6		0	3.3	13	105	2.2	.60	.20	0			
7		0	2.9	11	53	2.4	.50	.20	0			
8		0	2.8	9.7	29	2.3	.50	.20	0			
9		0	2.8	8.7	21	2.3	.60	.20	0			
10		0	2.5	8.2	16	3.0	.90	.30	0			
11		0	2.5	7.6	13	2.8	.90	.30	0			
12		0	3.6	6.8	11	2.5	.70	.30	0			
13		0	7.7	6.1	9.9	2.2	.80	.20	0			
14		0	6.4	5.7	3.5	2.1	.60	.20	0			
15		0	5.4	5.2	7.7	2.0	.60	.30	0			
16		0	4.6	4.8	7.2	1.9	.60	.20	0			
17		6.7	3.8	4.3	6.6	1.8	.50	.20	0			
18		137	3.4	4.2	6.3	1.6	.50	.20	0			
19		156	3.1	4.8	5.5	1.6	.50	.20	0			
20		16	2.8	4.3	5.2	1.5	.40	.30	0			
21		8.0	2.6	4.1	4.9	1.4	.40	.20	0			
22		6.9	2.6	4.0	4.4	1.3	.40	.20	0			
23		420	2.5	4.0	4.0	1.3	.30	.20	0			
24		218	2.2	3.8	3.8	1.3	.40	.20	0			
25		192	6.4	3.4	3.8	1.3	.30	.20	0			
26		57	12	3.3	4.9	1.3	.40	.10	0			
27		19	9.9	3.3	4.2	1.2	.30	.10	0			
28		14	7.7	3.2	3.6	1.1	.30	.10	0			
29		10	30.4	5.2	-----	1.1	.30	.10	0			
30		8.3	30.3	23	-----	1.0	.30	.10	0			
31		-----	27.7	41	-----	1.0	-----	.10	-----			-----
Total	0	1,214.6	1,017.0	411.7	419.5	59.6	16.40	6.40	0.40	0	0	0
Mean	0	40.5	32.8	13.3	15.0	1.92	0.55	0.21	0.01	0	0	0
Ac-ft	0	2,410	2,020	317	332	113	33	13	0.8	0	0	0

Calendar year 1965 Max 862 Min 0 Mean 22.1 Ac-ft 15,030  
 Water year 1965-66 Max 420 Min 0 Mean 8.62 Ac-ft 6,240

11-2602.25. Burns Creek at Hornitos, Calif.

Location.--Lat 37°29'52", long 120°14'17", in NW 1/4 sec. 17, T.5 S., R.16 E., on right bank 0.3 mile south of Hornitos and 12.4 miles upstream from Burns Dam.

Drainage area.--26.7 sq mi.

Records available.--October 1964 to September 1966. December 1958 to September 1964 in reports of California Department of Water Resources.

Gage.--Water-stage recorder. Altitude of gage is 780 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,020 cfs Nov. 23 (gage height, 6.92 ft), from rating curve extended above 400 cfs as explained below; no flow for many days.

1964-66: Maximum discharge, 5,900 cfs Jan. 6, 1965 (gage height, 9.30 ft) from rating curve extended above 400 cfs on basis of slope-conveyance computation at gage height 10.66 ft; no flow for many days each year.

Flood of Feb. 15, 1962, reached a stage of 10.66 ft (discharge, 9,200 cfs), from rating curve extended above 400 cfs on basis of slope-conveyance computation of maximum flow.

Remarks.--There is no known 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	2.4	52	15	2.5	0.50	0.30				
2	0	.10	2.2	26	11	2.2	.60	.30				
3	0	0	2.0	13	3.1	2.1	.50	.20				
4	0	0	1.8	14	6.9	1.9	.50	.20				
5	0	0	1.7	11	21	1.8	.50	.20				
6	0	0	1.8	9.1	96	1.8	.40	.20				
7	0	0	1.7	32	22	1.8	.50	.20				
8	0	0	1.6	7.3	12	1.6	.50	.30				
9	0	0	1.7	6.7	3.4	1.8	.80	.30				
10	0	0	1.6	6.0	6.5	2.6	.90	.30				
11	0	0	4.2	5.4	5.5	2.4	.90	.30				
12	0	0	32	5.2	4.6	2.0	.80	.40				
13	0	0	5.5	4.5	3.8	1.9	.70	.50				
14	0	.30	3.7	4.4	3.8	1.8	.60	.20				
15	0	.20	3.2	4.4	3.6	1.7	.50	.20				
16	0	.30	3.0	4.4	3.1	1.3	.70	.20				
17	0	.20	2.4	3.8	2.9	1.0	.50	.20				
18	.10	2.9	2.0	3.9	2.5	1.2	.40	.20				
19	.10	13	2.0	3.1	2.3	1.2	.30	.20				
20	.10	2.4	2.0	2.8	2.0	1.0	.20	.10				
21	.10	1.3	2.1	2.9	2.1	1.0	.30	.10				
22	.10	1.5	2.1	3.1	2.0	1.0	.30	.10				
23	.10	236	1.9	2.8	2.0	1.0	.30	.10				
24	.10	123	1.8	2.8	2.5	.80	.30	.10				
25	.10	122	15	2.8	2.3	.80	.30	.10				
26	.10	19	6.3	2.9	4.3	.80	.30	.10				
27	.10	9.0	4.3	2.7	2.9	.80	.30	.10				
28	.10	5.4	53	2.6	2.7	.70	.30	.10				
29	.10	3.9	282	3.0	-----	.60	.30	.10				
30	.10	3.1	199	79	-----	.70	.30	0				
31	.10	-----	164	45	-----	.50	-----	0				
Total	1.50	524.80	315.0	349.8	261.8	44.30	14.30	5.70	0	0	0	0
Mean	0.05	20.8	26.3	11.3	9.35	1.43	.48	.19	0	0	0	0
Ac-ft	3.0	1,240	1,620	594	519	33	23	11	0	0	0	0

Calendar year 1965 Max 730 Min 0 Mean 11.7 Ac-ft 3,470  
 Water year 1965-66 Max 286 Min 0 Mean 5.80 Ac-ft 4,270

## SAN JOAQUIN RIVER BASIN

11-2604.8. Mariposa Creek near Catheys Valley, 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 5.7 miles southeast of town of Catheys Valley.

Drainage area--65.7 sq mi.

Records available--October 1958 to September 1966. Prior to October 1963, published as "near Cathay."

Gage--Water-stage recorder. Altitude of gage is 1,230 ft (from topographic map).

Average discharge--8 years, 20.2 cfs (14,620 acre-ft per year).

Extremes--Maximum discharge during year, 1,790 cfs Dec. 29 (gage height, 8.33 ft); no flow for many days.

1958-66: Maximum discharge, 5,290 cfs Feb. 1, 1963 (gage height, 10.69 ft); no flow for many days in each year.

Flood of Apr. 3, 1958, reached a stage of 11.62 ft (discharge, 7,180 cfs).

Remarks--Probably minor diversions above the 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	17	187	34	12	5.8	2.5	0.10			
2		0	14	101	32	11	5.5	2.2	.10			
3		0	13	72	26	11	5.4	1.9	.10			
4		0	13	56	25	11	5.2	1.9	.10			
5		0	11	45	25	10	5.0	1.7	.10			
6		0	9.8	37	61	9.5	4.8	1.7	.10			
7		0	9.1	33	60	9.7	4.7	1.6	.10			
8		0	9.7	29	44	9.3	4.8	1.4	.10			
9		0	9.5	26	35	9.3	4.9	1.3	.10			
10		0	8.5	24	31	11	6.9	3.3	.10			
11		0	8.9	23	26	11	7.0	3.8	.10			
12		0	29	21	25	9.9	5.9	2.7	.10			
13		0	13	19	23	9.4	5.2	2.2	.10			
14		7.5	14	13	22	9.0	4.7	1.7	0			
15		12	12	17	21	9.1	4.7	1.7	0			
16		23	11	16	19	8.8	4.5	1.5	0			
17		113	9.6	15	13	8.2	4.0	1.1	0			
18		149	9.0	14	13	9.2	4.0	.90	0			
19		269	8.2	14	16	8.1	5.1	.70	0			
20		30	8.1	13	15	7.7	4.7	.70	0			
21		16	7.6	13	14	7.4	4.2	.50	0			
22		14	7.5	13	14	7.2	3.4	.30	0			
23		251	7.0	13	13	7.4	3.1	.30	0			
24		490	6.6	13	13	7.4	3.6	.20	0			
25		242	34	12	13	6.9	3.4	.20	0			
26		89	33	12	17	6.4	3.0	.20	0			
27		43	22	12	14	6.4	2.9	.20	0			
28		32	24	11	13	6.1	2.9	.10	0			
29		25	52.2	11	-----	5.9	2.8	.10	0			
30		20	52.1	50	-----	5.5	2.7	.10	0			
31		-----	334	45	-----	6.0	-----	.10	-----			
Total	0	1,330.5	1,311.1	985	687	265.8	134.8	33.80	1.30	0	0	0
Mean	0	61.0	53.4	31.8	24.5	8.57	4.49	1.25	0.04	0	0	0
Ac-ft	0	3,530	3,590	1,950	1,360	527	267	77	2.6	0	0	0
Calendar year 1965	Max	1,430	Min	0	Mean	40.5	Ac-ft	29,290				
Water year 1965-66	Max	522	Min	0	Mean	15.8	Ac-ft	11,400				

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 1966. Monthly discharge only for October to December 1940, published in WSP 1315-A.

Gage.-- Digital water-stage recorder. Datum of gage is 70.60 ft above mean sea level (levels by Bureau of Reclamation). Prior to Apr. 15, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--26 years, 199 cfs (144,100 acre-ft per year).

Extremes.--Maximum discharge during year, 217 cfs Nov. 24, 25 (gage height, 4.68 ft); minimum daily, 19 cfs Oct. 13.  
1941-66: Maximum daily discharge, 2,420 cfs Mar. 9, 1941; minimum daily, 4.0 cfs Oct. 27, 1961, and Oct. 20, 1964.

Remarks.--Records good. Flow regulated by irrigation operations above station. Salt Slough is a continuation of Pick Anderson Slough system. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	65	45	197	136	86	118	169	101	56	60	92	77
2	84	45	200	133	71	115	159	99	56	71	103	79
3	87	41	197	130	79	98	153	96	67	71	89	81
4	73	46	194	132	62	87	141	98	80	78	83	83
5	55	52	189	137	96	84	140	92	78	82	78	84
6	44	55	184	132	81	83	134	93	71	82	86	82
7	34	55	180	137	79	90	142	102	77	79	92	82
8	23	53	177	132	79	95	174	115	54	77	80	83
9	25	55	173	131	81	76	174	124	78	75	86	80
10	22	56	179	131	80	74	197	129	54	82	90	88
11	23	62	178	132	80	80	196	124	53	86	103	86
12	28	69	180	130	77	80	194	124	67	87	94	87
13	19	76	173	128	70	79	182	118	70	93	93	82
14	21	83	169	124	66	81	166	112	63	78	98	71
15	25	96	159	122	57	85	153	124	60	74	92	65
16	26	111	149	123	60	96	124	124	57	80	73	57
17	27	125	145	128	67	115	88	104	55	77	62	57
18	34	138	142	125	65	105	97	102	59	64	66	49
19	50	159	140	118	67	101	110	92	56	62	76	54
20	49	159	133	112	71	97	100	76	53	71	62	57
21	36	161	130	116	71	113	105	71	51	61	61	53
22	34	171	127	117	70	131	102	69	49	59	62	60
23	55	193	123	115	67	132	104	74	48	34	65	63
24	52	212	121	112	80	134	101	72	51	38	70	72
25	52	215	125	102	83	151	112	73	49	50	76	76
26	52	214	125	96	91	153	137	66	61	59	92	74
27	52	211	117	90	100	157	115	60	73	65	88	68
28	55	206	115	91	109	153	94	63	59	55	83	66
29	41	206	115	96	-----	146	96	52	43	50	80	56
30	43	203	134	99	-----	160	100	62	38	57	77	41
31	41	-----	138	96	-----	173	-----	66	-----	74	75	-----
TOTAL	1,327	3,573	4,808	3,703	2,165	3,442	4,059	2,884	1,816	2,131	2,529	2,113
MEAN	42.8	119	155	119	77.3	111	135	93.0	60.5	68.7	81.6	70.4
AC-FT	2,630	7,090	9,540	7,340	4,290	6,830	8,050	5,720	3,600	4,230	5,020	4,190

CALENDAR YEAR 1965	MAX 225	MIN 19	MEAN 104	AC-FT 75,180
WATER YEAR 1965-66	MAX 215	MIN 19	MEAN 94.7	AC-FT 68,530

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 30 ft downstream from Fremont Ford Bridge, 2.1 miles downstream from Salt Slough, 4.5 miles west of Stevenson, Merced County, and 6.7 miles upstream from Merced River.

Drainage area.--7,619 sq mi.

Records available.--March 1937 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Digital water-stage recorder. Datum of gage is at mean sea level. March 1937 to Oct. 1, 1959, at datum 3.77 ft below mean sea level. Prior to June 9, 1965, graphic water-stage recorder at same site.

Average discharge.--29 years, 760 cfs (550,200 acre-ft per year).

Extremes.--Maximum discharge during year, 2,210 cfs Jan. 3 (elevation, 62.01 ft); minimum daily, 45 cfs Nov. 2.  
1944-66: Maximum discharge, 5,910 cfs Apr. 6, 1958 (elevation, 67.37 ft present datum); 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 sta. no. 11-3130). During periods of high flow, water bypasses this station through Mud Slough; low flows consist mainly of return water from irrigated areas. Stage affected at times by backwater from the Merced River. Records of chemical analyses for the water year 1966 are published in Part 2 of this report. See Remarks for stations upstream.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	208	47	881	1,550	444	234	269	168	129	91	95	98
2	213	45	860	2,020	442	239	258	173	140	87	109	101
3	222	73	535	2,180	396	230	242	164	141	103	117	103
4	206	60	458	1,940	384	207	235	174	139	108	120	102
5	168	55	471	1,510	375	189	230	175	149	111	105	103
6	137	61	465	1,190	363	184	217	171	160	109	101	103
7	115	68	459	1,010	341	181	212	166	161	100	107	93
8	114	69	421	923	415	187	232	165	161	102	105	75
9	112	70	349	895	424	184	245	178	163	106	100	88
10	112	73	328	854	465	169	253	176	158	101	103	97
11	97	73	322	763	449	155	275	208	134	108	115	98
12	76	81	316	668	392	162	297	219	125	113	119	103
13	74	89	334	607	337	164	300	226	143	107	111	103
14	70	113	377	560	302	158	282	203	136	109	114	109
15	70	148	354	517	279	156	261	191	133	92	121	108
16	69	177	326	490	270	159	249	197	123	89	113	107
17	77	269	300	462	255	172	234	184	113	93	100	104
18	71	321	283	443	247	185	201	176	110	98	85	105
19	67	381	260	418	237	174	183	179	112	107	82	101
20	72	395	240	398	229	166	192	172	110	100	95	95
21	65	399	234	382	227	177	177	164	109	97	92	78
22	64	417	239	369	213	199	182	141	109	101	91	83
23	61	479	235	351	207	219	183	132	103	99	94	84
24	76	580	228	333	204	234	186	131	103	81	96	94
25	77	863	229	318	211	234	186	136	106	71	102	100
26	62	1,060	235	302	217	239	190	153	109	66	113	99
27	47	1,170	245	282	224	240	199	142	115	76	114	92
28	48	1,160	248	263	228	253	184	143	115	68	104	89
29	54	1,010	279	254	-----	264	168	147	110	62	97	87
30	47	881	421	263	-----	263	165	144	97	74	95	75
31	48	-----	800	301	-----	268	-----	133	-----	81	96	-----
TOTAL	2,999	10,687	11,732	22,816	8,777	6,245	6,687	5,231	3,816	2,910	3,211	4,877
MEAN	96.7	356	378	736	313	201	223	169	127	93.9	104	95.9
AC-FT	5,950	21,200	23,270	45,250	17,410	12,390	13,260	10,380	7,570	5,770	6,370	5,710
CALENDAR YEAR 1965	MAX	3,100	MIN	45	MEAN	425	AC-FT	307,600				
WATER YEAR 1965-66	MAX	2,180	MIN	45	MEAN	241	AC-FT	174,500				

11-2628. Los Banos Creek near Los Banos, Calif.

Location.--Lat 37°01'00", long 120°54'05", in SE  $\frac{1}{4}$  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 1966 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 175 ft (from topographic map). Prior to Sept. 9, 1959, at datum 1.00 ft higher.

Average discharge.--8 years (1958-66), 4.71 cfs (3410 acre-ft per year).

Extremes.--No flow during year.

1958-66: Maximum discharge, 2,640 cfs Feb. 1, 1963 (gage height, 4.80 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurement at gage height 12.07 ft; no flow for several months in most years.

Flood of Dec. 23, 1955, reached a stage of 12.07 ft (present datum), from floodmark in well, 14.05 ft outside from profile of floodmarks (discharge, 11,400 cfs by slope-area measurement).

Remarks.--No flow since May 1965. Flow regulated by Los Banos Creek Detention Reservoir (completed November 1965). Figures for calendar year 1965 are as follows: Maximum daily discharge, 336 cfs; minimum, zero; mean, 5.54 cfs; runoff, 4,010 acre-ft.

## 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 footbridge at Happy Isles (revised), 0.4 mile downstream from Illilouette Creek, and 2.0 miles southeast of Yosemite National Park headquarters.

Drainage area.--181 sq mi.

Records available.--August 1915 to September 1966.

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.--51 years, 335 cfs (242,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,640 cfs May 8 (gage height, 5.62 ft); minimum daily, 4.7 cfs Sept. 17.

1915-66: 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 excellent. About 1 cfs diverted from Illilouette Creek above station for Yosemite Valley water supply. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	13	117	73	60	73	350	1,150	536	253	101	14
2	27	12	116	77	57	73	310	1,240	452	222	260	13
3	25	12	117	80	62	70	920	1,340	420	195	271	11
4	23	12	122	81	64	70	983	1,390	432	171	177	10
5	21	12	118	81	62	73	1,010	1,360	460	162	123	9.6
6	20	12	114	81	68	74	1,020	1,330	500	160	93	9.6
7	19	11	110	80	66	74	1,020	1,470	492	153	84	9.6
8	13	11	105	80	62	81	1,040	1,470	473	150	70	9.3
9	13	11	102	76	62	85	964	1,220	460	134	62	9.8
10	13	11	97	76	64	123	910	1,160	460	117	57	7.9
11	17	11	93	74	60	141	640	1,110	523	106	53	7.1
12	17	12	92	73	60	146	554	1,050	523	100	49	5.9
13	17	21	87	74	59	193	500	1,100	563	95	46	6.1
14	16	89	78	76	58	203	536	1,200	604	90	44	5.6
15	24	92	70	79	58	198	655	1,190	595	90	42	5.4
16	24	142	65	74	57	202	955	1,230	582	86	39	5.0
17	22	215	60	69	62	173	970	1,280	603	84	37	4.7
18	22	253	53	63	64	179	960	1,360	487	82	36	5.6
19	22	171	60	66	65	184	640	1,300	487	84	36	12
20	21	139	60	65	63	169	532	1,190	496	93	35	9.0
21	20	117	60	64	63	166	482	1,280	436	101	34	9.5
22	19	112	59	63	76	184	487	1,250	352	102	31	7.9
23	18	215	52	62	73	240	536	1,230	286	102	23	7.9
24	17	195	53	63	78	292	680	1,270	259	100	26	7.9
25	16	162	54	58	69	317	905	1,200	253	97	23	3.5
26	15	154	54	58	74	359	1,050	1,160	277	96	22	3.5
27	15	143	53	57	73	416	1,050	1,190	239	93	20	3.8
28	14	137	59	55	74	496	1,050	1,100	293	86	19	3.8
29	13	134	62	56	-----	559	1,010	935	304	82	13	3.8
30	13	125	67	59	-----	622	1,040	790	230	87	16	3.5
31	13	-----	75	60	-----	725	-----	603	-----	93	15	-----
Total	594	2,756	2,494	2,153	1,823	6,980	24,564	37,153	13,207	3,671	1,972	253.3
Mean	19.2	91.9	80.5	69.6	65.1	225	919	1,193	440	113	53.6	3.44
Ac-ft	1,180	5,470	4,950	4,280	3,620	13,340	48,720	73,690	26,200	7,280	3,910	502

Calendar year 1965 Max 2,460 Min 11 Mean 457 Ac-ft 330,700

Water year 1965-66 Max 1,470 Min 4.7 Mean 267 Ac-ft 193,670

Peak discharge (base, 1,900 cfs).--No peak above base.



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.

Drainage area.--321 sq mi.

Records available.--October 1916 to September 1966. Monthly discharge only for October and November 1916, published in WSP 1315-A.

Gage.--Digital water-stage recorder. Datum of gage is 3,861.66 ft above mean sea level, datum of 1929. Prior to Sept. 5, 1918, graphic water-stage recorder, at datum 1.8 ft higher. Sept. 5, 1918, to Sept. 30, 1955, graphic water-stage recorder, at datum 1.0 ft higher. Oct. 1, 1955, to Oct. 8, 1964, graphic water-stage recorder at present datum.

Average discharge.--50 years, 588 cfs (425,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,670 cfs May 8 (gage height, 6.97 ft); minimum daily, 18 cfs Sept. 17.

1916-66: Maximum discharge, 23,400 cfs Dec. 23, 1955 (gage height, 21.52 ft, from floodmark in well), from rating curve extended above 16,300 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.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	54	30	232	152	135	170	1,600	2,020	778	311	106	31
2	51	30	230	166	124	153	1,710	2,150	681	284	216	29
3	49	30	236	170	136	144	1,720	2,290	623	255	284	28
4	49	29	243	166	141	146	1,870	2,350	620	231	206	26
5	48	29	236	175	139	164	1,880	2,310	631	216	153	25
6	48	29	223	179	155	170	1,910	2,270	658	209	122	24
7	48	29	217	180	146	170	1,910	2,420	696	206	103	24
8	47	28	210	180	135	186	1,950	2,420	657	198	91	23
9	46	28	209	169	138	189	1,860	2,100	642	185	82	22
10	46	28	200	167	140	256	1,640	2,190	618	165	76	22
11	47	28	187	162	125	311	1,370	1,990	659	151	71	21
12	47	31	186	155	138	337	1,190	1,830	622	141	67	20
13	47	43	170	158	130	416	1,060	1,820	673	130	64	20
14	48	181	164	160	128	464	1,090	1,960	713	125	60	20
15	50	241	140	160	130	434	1,290	1,900	710	123	58	20
16	50	288	129	155	128	442	1,620	1,910	677	118	56	19
17	50	550	123	150	134	372	1,840	1,950	699	113	55	18
18	46	700	121	145	141	388	1,710	2,020	606	109	53	19
19	43	413	126	140	144	405	1,280	2,010	571	107	52	22
20	42	295	127	135	139	366	1,070	1,800	577	112	52	23
21	40	238	128	134	146	364	981	1,890	525	122	51	21
22	38	225	126	133	162	399	985	1,820	453	127	48	21
23	37	514	113	129	173	514	1,050	1,750	344	126	45	20
24	36	498	117	127	178	597	1,310	1,780	346	123	42	20
25	35	376	122	127	153	629	1,680	1,650	331	119	40	20
26	34	325	118	129	165	711	1,920	1,590	340	118	38	20
27	33	295	124	126	158	816	1,930	1,590	347	115	37	20
28	32	278	129	123	161	944	1,920	1,480	354	107	35	20
29	32	268	156	125	-----	1,070	1,830	1,290	358	100	33	20
30	31	248	149	135	-----	1,200	1,860	1,080	339	101	33	20
31	31	-----	157	131	-----	1,390	-----	884	-----	111	31	-----
TOTAL	1,335	6,325	5,148	4,643	4,022	14,315	47,036	58,514	16,918	4,758	2,460	658
MEAN	43.1	211	166	150	144	462	1,568	1,888	564	153	79.4	21.9
AC-FT	2,650	12,550	10,210	9,210	7,980	28,390	93,290	116,100	33,560	9,440	4,880	1,310

CALENDAR YEAR 1965 MAX 4,070 MIN 28 MEAN 795 AC-FT 575,200  
 WATER YEAR 1965-66 MAX 2,420 MIN 18 MEAN 455 AC-FT 329,600

Peak discharge (base, 2,900 cfs).--No peak above base.

## 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., on left bank in Yosemite National Park, 1,000 ft downstream from highway bridge at Wawona, and 1,200 ft upstream from Big Creek.

Drainage area.--100 sq mi.

Records available.--October 1958 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 4,030 ft (from topographic map). Prior to June 2, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--8 years, 162 cfs (117,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,310 cfs May 6 (gage height, 4.91 ft); minimum daily, 1.9 cfs Aug. 26, Sept. 7-9, 12, 1958-66; Maximum discharge, 9,030 cfs Dec. 23, 1964 (gage height, 9.83 ft in gage well, 10.5 ft outside, from floodmarks); minimum, 0.6 cfs Sept. 5, 1960.  
Flood of Dec. 23, 1955, reached a stage of 12 ft, from floodmarks (discharge, 15,000 cfs).

Remarks.--Records good. 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.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.8	5.0	90	83	51	69	713	861	169	29	5.4	2.2
2	6.7	5.0	89	75	53	65	748	915	149	25	5.6	2.1
3	6.4	5.0	94	70	52	64	755	875	139	22	5.1	2.1
4	6.0	5.0	97	61	54	61	768	967	138	20	4.8	2.1
5	5.8	5.0	92	69	56	61	737	927	132	18	4.4	1.9
6	5.8	5.0	86	77	78	64	736	908	134	16	4.1	2.0
7	5.6	5.0	83	80	64	67	744	930	160	15	3.9	1.9
8	5.5	5.0	76	82	59	76	781	872	155	14	3.5	1.9
9	5.4	5.0	73	79	56	80	696	753	140	14	3.5	1.9
10	5.4	5.2	70	75	56	152	563	801	148	13	3.4	2.0
11	5.4	5.2	67	71	61	150	433	676	140	12	3.3	2.0
12	5.2	5.4	70	68	55	154	386	611	124	11	3.2	1.9
13	5.2	9.0	66	67	56	193	356	612	120	11	3.2	2.0
14	5.3	156	62	68	60	193	407	676	117	11	3.2	2.1
15	7.0	111	56	70	58	188	549	646	106	11	2.9	2.1
16	7.8	256	51	68	57	183	736	645	97	9.8	2.9	2.1
17	6.8	316	47	66	58	156	768	646	94	8.0	2.6	2.1
18	6.4	415	49	66	60	157	631	680	81	7.8	2.2	2.7
19	6.6	170	48	61	60	161	433	622	81	7.6	2.1	5.5
20	6.7	104	48	61	60	147	355	576	77	7.3	2.2	4.5
21	6.3	79	49	58	62	151	348	549	66	7.2	2.1	3.8
22	5.8	88	47	58	69	168	378	490	55	6.9	2.1	3.3
23	5.8	550	40	55	71	216	460	472	48	6.8	2.0	2.9
24	5.6	368	45	54	81	244	627	449	46	6.6	2.0	2.8
25	5.4	197	47	53	70	246	794	401	44	6.2	2.0	3.1
26	5.4	141	47	51	69	291	830	381	42	6.1	1.9	2.7
27	5.2	121	46	51	66	343	822	346	39	5.9	2.0	2.6
28	5.2	112	57	52	67	402	790	307	38	5.5	2.1	2.6
29	5.2	105	134	49	-----	453	762	258	35	5.2	2.0	2.5
30	5.0	97	104	57	-----	512	824	222	32	5.4	2.0	2.3
31	5.0	-----	84	53	-----	611	-----	181	-----	5.4	2.1	-----
TOTAL	181.7	3,455.8	2,114	2,008	1,719	6,078	18,930	19,250	2,946	349.7	93.8	75.7
MEAN	5.86	115	68.2	64.8	61.4	196	631	621	98.2	11.3	3.03	2.52
AC-FT	360	6,850	4,190	3,980	3,410	12,060	37,550	38,180	5,840	694	186	150

CALENDAR YEAR	1965	MAX	1,640	MIN	5.0	MEAN	263	AC-FT	190,200
WATER YEAR	1965-66	MAX	967	MIN	1.9	MEAN	157	AC-FT	113,500

Peak discharge (base, 1,200 cfs).--May 6 (2115) 1,310 cfs (4.91 ft)

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.--241 sq mi.

Records available.--November 1950 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 1,400 ft (from topographic map). Prior to Dec. 9, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--15 years, 320 cfs (231,700 acre-ft per year); median of yearly mean discharges, 260 cfs (188,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,530 cfs Nov. 24 (gage height, 9.08 ft); minimum daily, 5.7 cfs Sept. 11, 12.  
1950-66: Maximum discharge, 46,500 cfs Dec. 23, 1955 (gage height, 18.70 ft), from rating curve extended above 4,000 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 60 cfs (revised) at times into Fresno River basin. Diversion of 0.5 cfs at Wawona for domestic use and irrigation of golf course.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	18	251	401	143	163	912	969	218	51	16	7.2
2	20	18	234	323	133	160	984	991	194	48	14	7.7
3	18	18	230	284	141	145	968	1,020	179	44	13	7.7
4	18	18	226	260	141	146	1,010	1,020	175	41	13	6.9
5	17	18	215	258	153	152	976	1,060	167	38	12	6.7
6	17	18	197	287	303	150	968	950	167	35	11	6.4
7	17	18	186	296	249	153	952	1,030	184	32	10	6.1
8	16	18	177	295	206	167	984	986	202	31	9.7	6.1
9	16	18	170	278	192	173	976	900	184	31	9.6	5.9
10	16	19	167	247	184	257	850	961	184	31	9.0	5.8
11	16	19	159	228	159	321	664	860	177	28	8.8	5.7
12	16	21	170	211	170	290	588	770	156	28	8.6	5.7
13	16	30	157	201	156	339	530	770	150	26	8.4	6.1
14	16	315	150	193	150	365	535	800	143	25	8.4	6.5
15	25	469	134	191	152	345	646	780	133	26	8.0	7.1
16	30	648	124	184	149	344	854	780	118	25	8.0	7.6
17	28	1,240	114	172	148	303	993	780	119	23	7.6	7.5
18	26	1,030	122	165	149	292	877	820	105	21	7.3	8.8
19	25	597	121	163	147	300	630	780	100	20	7.1	9.3
20	24	310	119	152	146	285	517	700	99	19	6.8	15
21	24	225	118	148	147	290	486	650	89	19	6.7	14
22	23	192	115	149	152	292	498	590	81	18	6.8	12
23	21	1,360	100	143	161	339	543	550	74	17	6.8	10
24	20	1,880	109	137	183	382	694	510	70	16	6.6	8.8
25	20	945	125	135	171	378	897	468	68	15	6.6	8.2
26	19	581	116	135	176	416	993	433	65	15	6.0	8.1
27	18	425	116	129	163	477	965	412	62	14	6.0	8.3
28	18	355	128	125	161	550	961	365	59	13	6.1	7.8
29	18	315	701	127	-----	616	868	319	58	13	6.7	7.6
30	18	285	838	160	-----	683	900	283	55	13	7.0	7.2
31	18	-----	504	153	-----	777	-----	240	-----	14	6.9	-----
TOTAL	616	11,423	6,393	6,330	4,685	10,050	24,219	22,547	3,835	790	268.5	237.8
MEAN	19.9	381	206	204	167	324	807	727	128	25.5	8.66	7.93
AC-FT	1,220	22,660	12,680	12,560	9,290	19,930	48,040	44,720	7,610	1,570	533	472

CALENDAR YEAR 1965 MAX 3,500 MIN 11 MEAN 450 AC-FT 326,200  
WATER YEAR 1965-66 MAX 1,880 MIN 5.7 MEAN 250 AC-FT 181,300

Peak discharge (base, 2,000 cfs)--Nov. 17 (0500 hours) 2,140 cfs (8.80 ft). Nov. 24 (0200 hours) 2,530 cfs (9.08 ft).

## SAN JOAQUIN RIVER BASIN

11-2682. Merced River near Briceburg, Calif.

Location.--Lat 37°38'06", long 119°56'00", in NW 1/4 sec. 36, T.3 S., R.18 E., on left bank 150 ft upstream from Feliciana Creek and 2.8 miles northeast of Briceburg.

Drainage area.--691 sq mi.

Records available.--September 1965 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 1194.98 ft above mean sea level.

Extremes.--1965: Maximum discharge during period in September, 127 cfs (gage height, 3.37 ft), minimum daily, 94 cfs Sept. 30.  
1965-66: Maximum discharge during year 4,400 cfs May 7 (gage height, 8.44 ft); minimum daily, 33 cfs Sept. 12, 13, 29 and 30.

Remarks.--Records excellent. No regulation. Small diversions above station. See 11-2680, 11-2645, 11-2665.

Discharge, in cubic feet per second, 1965

Day	Sept.	Day	Sept.	Day	Sept.	Day	Sept.
14	121	18	100	22	124	26	100
15	113	19	103	23	121	27	97
16	106	20	113	24	113	28	97
17	103	21	119	25	105	29	97
						30	94
Total.....							-
Mean.....							-
Ac-ft.....							-

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	92	60	610	331	355	403	2860	3,330	1,140	387	132	45
2	84	60	575	684	341	399	3,110	3,460	1,010	355	139	44
3	81	60	570	630	344	363	3,070	3,780	978	324	311	43
4	76	60	575	585	344	355	3,300	3,780	880	290	260	41
5	74	60	560	580	371	379	3,290	3,820	901	269	198	39
6	71	59	525	625	600	387	3,290	3,580	908	252	158	38
7	70	59	500	642	535	391	3,280	3,880	971	245	136	37
8	67	58	476	648	462	419	3,330	3,850	971	238	119	36
9	65	58	466	615	431	440	3,290	3,460	936	232	106	36
10	64	59	453	565	419	580	2,930	3,560	894	212	96	35
11	63	60	431	530	375	768	2,360	3,150	908	196	90	34
12	63	60	453	495	387	744	2,070	2,870	894	184	85	33
13	62	63	415	471	371	887	1,950	2,700	866	174	81	33
14	62	160	415	466	359	1,010	1,860	2,960	880	166	78	34
15	75	800	367	462	359	950	2,140	2,860	894	160	73	34
16	89	950	338	453	352	971	2,660	2,850	810	156	72	34
17	86	1,900	311	419	348	852	3,190	2,860	831	148	69	34
18	82	1,700	314	403	363	838	2,970	2,380	756	141	67	36
19	80	1,500	314	399	367	873	2,230	2,930	678	136	64	39
20	79	750	314	375	363	810	1,850	2,730	684	134	61	43
21	76	570	314	363	359	792	1,690	2,750	636	139	61	46
22	74	480	311	363	379	810	1,590	2,640	570	146	59	41
23	71	2,210	287	355	407	978	1,760	2,440	490	148	56	38
24	68	3,500	287	338	431	1,160	2,160	2,520	435	145	54	36
25	67	1,830	324	334	411	1,200	2,770	2,340	415	141	53	35
26	65	1,240	311	334	419	1,320	3,280	2,220	403	137	50	34
27	63	957	308	324	399	1,520	3,220	2,180	419	134	49	35
28	62	824	327	317	395	1,750	3,250	2,010	415	132	48	34
29	62	744	1,240	320	-----	1,960	3,020	1,810	427	124	46	33
30	62	678	1,500	383	-----	2,150	3,070	1,560	415	121	46	33
31	60	-----	1,010	375	-----	2,440	-----	1,300	-----	127	46	-----
Total	2,215	21,574	15,201	14,684	11,046	28,899	80,840	88,960	22,415	5,393	2,963	1,113
Mean	71.5	71.9	49.0	47.4	39.4	93.2	2,695	2,370	747	190	95.6	37.1
Ac-ft	4,390	42,790	30,150	29,130	21,910	57,320	160,300	176,400	44,460	11,590	5,880	2,210

Calendar year 1965 Max --- Min --- Mean --- Ac-ft ---  
Water year 1965-66 Max 3,380 Min 33 Mean 810 Ac-ft 586,700

Peak discharge (base, 5,000 cfs).--No peak above base.

11-2685. Merced River at Bagby, Calif.

Location.--Lat 37°36'40", long 120°07'50", in SE $\frac{1}{4}$  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.--911 sq mi.

Records available.--October 1922 to September 1966 (discontinued). Published as "at Horseshoe Bend" November 1922 to September 1931 and as "at Kittridge" 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 Nov. 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.--44 years, 1,158 cfs (838,400 acre-ft per year).

Extremes.--Maximum discharge during year, 6,900 cfs Nov. 24 (gage height, 5.99 ft); minimum daily, 29 cfs Sept. 15, 16. 1922-66: Maximum discharge, 92,500 cfs Dec. 23, 1955 (gage height, 26.80 ft from floodmark), from rating curve extended above 25,000 cfs on basis of change in contents in Lake McClure; minimum, 13 cfs Oct. 5, 1925.

Remarks.--Records good. No regulation. Some diversion above station (see remarks for sta. no. 11-2680).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	64	694	1560	432	437	2,890	3,400	1,170	390	141	48
2	92	62	642	1,090	442	442	3,200	3,510	1,050	360	141	49
3	83	62	621	902	415	410	3,200	3,870	920	330	242	48
4	84	64	621	790	415	325	3,370	3,800	875	297	302	46
5	80	62	614	726	442	400	3,390	3,920	875	270	234	43
6	78	57	572	782	839	415	3,390	3,740	884	254	183	40
7	76	65	537	814	857	420	3,360	3,940	950	242	156	38
8	72	64	518	793	673	432	3,420	3,960	990	238	135	35
9	68	64	500	766	586	459	3,420	3,650	920	230	120	35
10	67	64	494	686	544	551	3,080	3,640	884	220	108	34
11	67	65	470	635	500	782	2,580	3,340	884	202	100	33
12	67	67	506	586	476	766	2,230	3,050	893	186	94	30
13	65	76	476	551	454	875	1,990	2,830	866	177	90	32
14	65	166	459	530	442	1,040	1,930	3,100	902	168	86	30
15	74	990	426	524	437	1,000	2,200	3,070	920	162	80	29
16	94	864	395	513	420	1,000	2,700	3,000	866	156	76	29
17	98	2,600	360	488	410	893	3,230	3,050	884	150	74	30
18	90	2,200	350	464	415	848	3,120	3,100	830	144	70	30
19	88	2,470	350	448	415	875	2,450	3,180	710	135	68	35
20	86	970	350	432	410	839	2,020	2,860	710	135	65	41
21	84	670	350	415	405	814	1,790	2,890	694	133	64	48
22	82	537	350	410	415	822	1,780	2,800	621	150	64	52
23	78	2,880	335	405	442	970	1,940	2,590	524	156	60	46
24	74	5,580	310	390	464	1,170	2,200	2,650	459	156	57	41
25	72	2,970	385	385	482	1,230	2,800	2,470	426	153	57	37
26	68	1,820	395	380	459	1,330	3,340	2,310	405	150	54	35
27	67	1,260	365	380	448	1,540	3,340	2,280	405	144	51	33
28	65	1,000	385	370	437	1,780	3,340	2,140	410	144	49	33
29	65	866	2,200	365	-----	2,000	3,150	1,900	410	138	49	33
30	65	774	3,080	459	-----	2,210	3,180	1,640	405	130	48	33
31	65	-----	2,100	476	-----	2,480	-----	1,380	-----	132	48	-----
Total	2,382	29,453	20,210	18,525	13,581	29,625	83,930	93,060	22,742	6,037	3,166	1,125
Mean	76.8	982	652	598	485	956	2,799	3,002	758	195	102	37.5
Ac-ft	4,720	58,420	40,090	36,740	26,940	58,760	166,500	184,600	45,110	11,970	6,280	2,230

Calendar year 1965 Max 11,300 Min 57 Mean 1,615 Ac-ft 1,169,000  
 Water year 1965-66 Max 5,580 Min 29 Mean 887 Ac-ft 642,300

Peak discharge (base, 6,000 cfs).--Nov. 24 (1700 hours) 6,900 cfs (5.99 ft).

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, 0.4 mile downstream from Cuneo Creek and 0.5 mile northeast of Coulterville.

Drainage area.--17.0 sq mi.

Records available.--October 1959 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,740 ft (from topographic map).

Average discharge.--7 years, 5.87 cfs (4,250 acre-ft per year).

Extremes.--Maximum discharge during year, 1,750 cfs Nov. 23 (gage height, 5.66 ft), from rating curve extended above 700 cfs; no flow for many days.

1959-66: Maximum discharge, 1,770 cfs Dec. 22, 1964 (gage height, 5.71 ft), from rating curve extended above 700 cfs; no flow for many days each year.

Remarks.--No diversion or storage above station.

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

Revisions (water years).--1965 Report: 1960(M), 1962(M).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.10	3.1	5.3	8.9	3.4	1.5	0.90	0.20	0.10		0
2	0	.10	2.7	2.4	8.4	3.5	1.4	.90	.20	.10		0
3	.10	.10	2.4	1.5	6.9	3.3	1.4	.80	.20	.10		0
4	.10	.10	2.0	1.2	6.1	2.9	1.3	.80	.20	0		0
5	0	.10	2.7	1.2	6.6	3.1	1.4	.90	.20	.10		0
6	0	.10	2.0	1.0	7.3	2.9	1.3	.80	.20	.10		0
7	0	.10	1.7	3.2	3.0	2.8	1.4	.90	.20	0		0
8	0	.10	1.5	7.0	1.9	2.8	1.4	.90	.20	0		0
9	0	.10	1.4	5.8	1.3	2.8	1.5	.80	.20	0		0
10	0	.10	1.4	5.0	9.9	2.8	3.4	1.1	.20	0		0
11	0	.20	1.8	4.4	3.1	2.6	1.9	1.0	.10	0		0
12	0	.20	3.4	4.2	7.2	2.4	1.6	.90	.10	0		0
13	0	.50	2.2	4.0	6.3	2.7	1.4	.80	.10	0		.10
14	.10	2.50	2.1	4.1	5.8	2.5	1.4	.80	.10	0		.10
15	.10	1.8	2.1	4.1	5.5	2.4	1.3	.70	.10	0		.10
16	.10	4.4	2.0	3.7	5.1	2.3	1.2	.60	.10	0		.10
17	.10	3.4	1.8	3.5	4.4	2.4	1.1	.50	.10	0		.10
18	.10	4.9	1.7	3.4	4.3	2.3	1.1	.40	.10	0		.10
19	.10	2.5	1.6	3.6	4.1	2.3	1.2	.40	.10	0		0
20	.10	4.0	1.6	3.6	3.8	2.3	1.1	.40	.10	0		0
21	.10	2.7	1.6	3.6	3.8	2.1	1.4	.40	.10	0		0
22	.10	2.4	1.5	3.6	3.6	2.0	1.3	.30	.10	0		0
23	.10	2.76	1.5	3.7	3.7	1.9	1.2	.30	.10	0		0
24	.10	1.81	1.4	3.6	4.2	2.0	1.2	.30	.10	0		0
25	.10	5.7	3.1	3.5	4.0	2.0	1.1	.30	.10	0		0
26	.10	2.5	3.0	3.0	4.3	2.0	1.1	.30	.10	0		0
27	.10	1.0	2.7	3.0	4.0	1.9	1.1	.20	.10	0		0
28	.10	5.8	2.0	2.8	3.6	1.8	1.2	.20	.10	0		0
29	.10	4.3	1.59	3.0	-----	1.7	1.1	.20	.10	0		0
30	.10	3.5	1.09	3.8	-----	1.6	1.1	.20	.10	0		0
31	.10	-----	1.35	7.9	-----	1.7	-----	.20	-----	0		-----
Total	2.00	659.70	473.0	237.1	266.6	75.2	41.1	18.20	4.00	0.50	0	0.60
Mean	0.06	22.0	15.4	7.65	9.52	2.43	1.37	0.59	0.13	0.02	0	0.02
Ac-ft	4.0	1,310	943	470	529	149	82	36	7.9	1.0	0	1.2

Calendar year 1965 Max 555 Min 0 Mean 12.7 Ac-ft 9,190  
 Water year 1965-66 Max 276 Min 0 Mean 4.88 Ac-ft 3,540

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11-2695. Lake McClure at Exchequer, Calif.

Location (revised).--Lat, 37°35'02", long 120°16'09", NW 1/4 sec. 13, T.4 S., R.15 E., on left end of New Exchequer Dam on Merced River, 0.9 mile east of Exchequer, and 5.5 miles northeast of Merced Falls.

Drainage area.--1,037 sq mi.

Records available.--April 1926 to September 1930 (daily gage heights; also summary of yearly contents in WSP 881), October 1930 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Merced Irrigation District). Prior to Oct. 1, 1964, indicator in powerhouse at same datum. Oct. 1, 1964, to July 31, 1966, staff gage at center of upstream face of dam at same datum.

Extremes.--Maximum contents observed during year, 393,000 acre-ft May 31 (elevation, 743.5 ft); minimum, 88,800 acre-ft Dec. 6, 7 (elevation, 606.9 ft).  
1926-66: Maximum contents, that of May 31, 1966; practically no storage at times in 1926, 1930-31, 1964-65.

Remarks.--Reservoir is formed by a rock-fill dam with a reinforced concrete face, completed in March 1967. Dam is downstream and connected to the original concrete arch and gravity type dam which was completed in April 1926. Usable capacity, 1,024,000 acre-ft between elevations 440.0 (invert entrance to outlet tunnel) and 867.0 ft (top of spillway gates). Dead storage, 300 acre-ft. Water is released through a series of power-plants down the Merced River to a diversion dam of Merced Irrigation District's main canal. Records including extremes represent total contents at 1200 hours from Oct. 1 to July 31.

Contents, in acre-feet, at 1200 hours Oct. 1 to July 31, 2400 hours Aug. 1 to Sept. 30, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101000	102900	134700	105200	139300	168000	229200	304200	392300	340800	275200	266900
2	101100	102900	126300	104200	140400	168900	232200	308500	391200	337700	275000	266900
3	101200	102900	116800	106300	141200	169700	235000	312300	390200	334900	275000	267200
4	101400	102900	107200	108200	141900	170500	240100	316300	389200	331900	275200	267200
5	101500	103100	97700	110000	142900	171200	245600	320800	387800	329100	275200	267200
6	101700	103100	88800	111600	144300	172200	249000	324900	386400	326100	275200	267200
7	101800	103100	88800	113400	146800	172900	252500	328800	385400	323100	275200	267200
8	101800	103100	89800	115100	148500	173700	255800	333100	384400	320200	275000	267200
9	101800	103100	90800	116800	149900	174700	259200	337100	383400	317500	275000	267200
10	101800	103100	91900	118200	151100	175700	262000	340800	382300	314300	275000	267200
11	101800	103100	92900	119600	152100	177300	264300	345100	381000	311700	274700	267200
12	101900	103100	94000	120800	153200	178900	265300	348600	380000	308800	274400	267200
13	101900	103200	95100	122000	154100	180500	266100	351800	379000	305900	274200	267200
14	102100	103200	96100	123100	155000	182500	266600	355000	377600	303100	274200	267200
15	102100	104600	97000	124300	155900	184500	267400	358200	376600	299700	273900	267200
16	102100	106400	98000	125400	156800	186500	269200	361400	375300	296300	273700	267200
17	102100	110400	98700	126500	157700	188500	271800	364700	373300	293000	273400	267200
18	102200	114500	99400	127500	158400	190100	275000	368000	371300	289700	273100	267200
19	102200	121100	100100	128500	159100	192000	280500	371600	369300	286400	272900	267200
20	102400	123900	100800	129200	160000	193700	281300	374900	367300	283200	272600	267200
21	102400	125500	101500	130000	160900	195400	282100	377600	365400	279700	272400	267400
22	102500	126700	102400	131000	161500	197100	282400	380700	363400	276500	272100	267400
23	102500	129900	102900	131800	162600	199000	282600	383000	361100	276000	271800	267400
24	102500	142600	103600	132600	163500	201000	283400	384700	358500	276000	271600	267200
25	102600	152800	104300	133200	164400	203400	285100	386800	356300	275700	271300	267700
26	102600	157900	105200	134000	165300	206000	287800	388100	353700	275700	271100	267700
27	102600	160800	105900	134700	166300	208600	290800	389500	351500	275700	270300	267700
28	102800	158600	106400	135500	167300	211700	293600	390900	349200	275500	269800	267700
29	102800	150700	109200	136100	-----	215700	296300	391900	346400	275500	269000	267700
30	102800	142900	114600	137100	-----	219800	300200	392600	343600	275200	268200	267700
31	102800	-----	110300	138100	-----	224200	-----	393000	-----	275200	267400	-----
(+)	617.2	643.0	622.4	640.2	656.7	683.9	713.9	743.5	4728.5	704.7	701.7	701.8
(+)	+1400	+40100	-32600	+27800	+29100	+57000	+76000	+92800	-49400	-68400	-7800	+300

Calendar year 1965 ..... +110,000  
Water year 1965-66 ..... +166,300

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

11-2709. Merced River below Merced Falls Dam, near Snelling, Calif.  
(Formerly published as 11-2710. Merced River at Merced Falls, Calif.)

Location.--Lat 37°31'15", long 120°19'55", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.4, T.5 S., R.15 E., on right bank 0.15 mile south of Merced Falls, 0.25 mile downstream from Merced Falls Dam, and 5.5 miles east of Snelling.

Drainage area.--1,061 sq mi (revised).

Records available.--April 1901 to September 1966. Records for water years 1914-16 incomplete, yearly estimates published in WSP 1315A. Published as "near Merced Falls" 1901-13; 1923-26, as "at Exchequer" 1916-1964, and as "at Merced Falls" 1965. Records at present site are about equivalent when adjusted for diversion to North Side Canal and change in contents of Lake McClure.

Gage.--Digital water-stage recorder. Datum of gage is 310.55 ft above mean sea level. Apr. 6, 1901, to Nov. 30, 1913, staff gage at site 2 miles upstream at different datum. Nov. 22, 1915, to Apr. 28, 1922, staff gage and Apr. 29 to Oct. 24, 1922, graphic water-stage recorder at site 8 miles upstream at different datum. Oct. 25, 1922, to Sept. 30, 1964, graphic water-stage recorder at site 7 miles upstream at different datum.

Average discharge.--65 years, 1,316 cfs (952,700 acre-ft per year), adjusted for diversion to North Side Canal and change in contents of Lake McClure since 1965.

Extremes.--Maximum discharge during year, 6,970 cfs Dec. 3 (gage height, 10.92 ft); minimum daily, 3.4 cfs Mar. 5.

1901-13, 1915-64: 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. Merced Falls Dam directs water to North Side Canal to irrigate 4,100 acres below station. Flow regulated by Exchequer powerplant and Lake McClure since 1926. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	119	41	4,840	4,860	40	39	51	1,220	1,420	1,680	160	108
2	46	41	5,110	344	43	184	40	1,370	1,430	1,660	151	61
3	33	41	5,380	68	43	158	758	1,520	1,400	1,680	146	38
4	32	46	5,320	52	42	15	1,050	1,540	1,390	1,640	147	39
5	31	46	5,180	48	45	3.4	1,320	1,540	1,400	1,630	154	35
6	31	46	3,630	45	54	4.7	1,490	1,510	1,390	1,630	160	36
7	33	45	142	45	48	24	1,550	1,560	1,410	1,610	162	39
8	35	45	42	43	45	36	1,620	1,520	1,400	1,610	157	40
9	41	46	37	45	45	42	1,630	1,440	1,390	1,580	133	40
10	45	44	38	41	44	46	1,630	1,280	1,390	1,610	131	43
11	45	46	40	43	44	28	1,610	1,240	1,390	1,630	145	45
12	41	47	48	41	42	14	1,500	1,240	1,400	1,680	157	48
13	39	53	38	41	40	9.3	1,480	1,250	1,390	1,700	177	47
14	39	83	38	40	40	7.5	1,470	1,250	1,450	1,700	175	46
15	44	51	37	41	40	52	1,380	1,250	1,530	1,730	173	46
16	45	40	37	42	42	63	1,360	1,270	1,630	1,720	160	46
17	44	55	37	40	41	125	1,360	1,280	1,660	1,730	155	46
18	45	60	39	41	43	415	1,350	1,280	1,650	1,730	155	46
19	44	55	37	40	41	385	1,240	1,270	1,650	1,710	155	46
20	44	50	39	40	39	366	1,370	1,320	1,660	1,700	155	44
21	45	50	37	41	39	408	1,410	1,330	1,660	1,700	155	44
22	45	54	37	41	40	412	1,410	1,380	1,660	1,190	152	45
23	44	201	37	39	40	271	1,410	1,390	1,660	155	152	44
24	44	145	37	38	43	138	1,480	1,410	1,640	154	152	45
25	45	130	49	39	41	182	1,510	1,430	1,630	152	147	45
26	44	77	43	41	45	44	1,590	1,430	1,620	150	146	45
27	41	198	41	40	39	20	1,670	1,430	1,610	156	147	45
28	43	4,030	47	42	40	25	1,630	1,430	1,630	182	150	45
29	43	5,060	447	42	-----	25	1,470	1,430	1,710	189	155	36
30	43	4,980	3,390	71	-----	38	1,220	1,420	1,720	186	159	33
31	42	-----	5,140	54	-----	62	-----	1,420	-----	184	155	-----
Total	1,355	15,906	39,414	6,488	1,188	3,641.9	40,059	42,650	45,970	37,758	4,773	1,366
Mean	4.37	530	1,271	209	42.4	117	1,335	1,376	1,532	1,218	154	45.5
Ac-ft	2,690	31,550	78,180	12,870	2,360	7,220	79,460	84,600	91,180	74,890	9,480	2,710
(†)	367	361	355	246	220	528	2,947	3,455	3,695	3,039	811	54
Mean†	725	1,210	747	665	570	1,053	2,662	2,942	764	155	40.5	59.7
Ac-ft†	4,460	72,010	45,940	40,920	31,680	64,750	158,400	180,900	45,480	9,530	2,490	3,550

Calendar year 1965	Max 14,100	Min 6.6	Mean 1,813	Ac-ft 1,312,000	Mean† 1,694	Ac-ft† 1,226,000
Water year 1965-66	Max 5,380	Min 3.4	Mean 659	Ac-ft 477,200	Mean† 912	Ac-ft† 660,100

† Diversion, in acre-feet, to North Side Canal; furnished by Merced Irrigation District.

‡ Adjusted for change in contents in Lake McClure and diversion to North Side Canal.



11-2712.90. Merced River at Shaffer Bridge, near Cressey, Calif.

Location.--Lat 37°27'16", long 120°36'28", in NW¼SW¼ sec.36, T.5 S., R.12 E., near center of span on downstream side of county road bridge, 0.6 mile upstream from Dry Creek, and 4.0 miles northeast of Cressey.

Drainage area.--1,117 sq mi.

Records available.--October 1965 to September 1966 (low flow only).

Gage.--Water-stage recorder. Altitude of gage is 120 ft (from topographic map).

Remarks.--Records good. Most water released from Lake McClure (see sta. nos. 11-2695 and 11-2709) is diverted upstream to Main Canal of Merced Irrigation District. Flow past station consists of releases from diversion dam, irrigation return flow, and tributary inflow. No records obtained above about 200 cfs.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	27	-	-	112	59	22	62	73	81	37	58
2	65	27	-	-	93	59	20	56	62	62	37	79
3	60	28	-	-	81	56	20	36	65	43	34	52
4	53	29	-	211	79	50	21	43	71	50	30	39
5	56	30	-	164	75	44	20	43	85	62	27	33
6	50	30	-	142	79	41	20	59	120	54	24	29
7	47	31	-	125	79	38	30	65	97	58	39	25
8	43	35	-	115	83	35	35	83	103	54	42	23
9	42	36	207	110	79	33	41	112	101	44	42	22
10	40	37	164	103	75	34	81	120	73	49	43	20
11	38	36	139	99	71	33	103	112	75	60	40	13
12	38	37	139	97	73	39	110	125	67	77	32	13
13	37	47	160	91	75	48	125	120	73	71	24	13
14	37	83	133	89	65	44	93	115	67	85	27	18
15	37	95	120	87	64	39	122	112	69	81	23	13
16	35	154	108	83	60	37	91	115	53	71	33	13
17	33	174	103	79	59	35	99	108	55	97	26	13
18	33	136	97	77	59	43	103	91	89	81	27	17
19	33	130	93	77	59	54	97	79	103	54	29	16
20	34	125	91	73	59	59	81	71	108	36	29	16
21	34	115	95	69	58	49	65	64	110	37	29	16
22	34	108	85	71	56	44	73	56	110	35	33	16
23	34	167	83	71	56	40	97	59	93	33	40	15
24	32	-	79	71	56	39	97	44	93	29	32	16
25	32	-	85	67	54	38	99	38	91	27	26	14
26	29	-	87	65	56	33	85	52	67	28	26	15
27	30	-	89	62	53	37	65	67	71	23	27	15
28	30	-	85	62	58	36	65	93	56	20	27	14
29	27	-	87	60	-----	30	81	103	40	21	33	13
30	27	-	-	87	-----	24	60	99	60	33	37	13
31	26	-----	-	113	-----	23	-----	77	-----	38	39	-----
Total	1,220	-	-	-	1,931	1,274	2,121	2,479	2,420	1,594	993	701
Mean	39.4	-	-	-	69.0	41.1	70.7	80.0	80.7	51.4	32.2	23.4
Ac-ft	2,420	-	-	-	3,330	2,530	4,210	4,920	4,900	3,160	1,980	1,390
(+)	0	0	0	0	0	5,370	70,480	69,550	78,460	65,030	0	0

Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-
Water year 1965-66	Max	-	Min	-	Mean	-	Ac-ft	-

† Diversion in acre-feet, to Main Canal near diversion dam, near Merced Falls; furnished by Merced Irrigation District.

11-2725, Merced River near Stevinson, Calif.

Location.--Lat 37°22'15", long 120°55'45", in SW 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.--1,273 sq mi.

Records available.--October 1940 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is at mean sea level. October 1940 to Aug. 16, 1955, graphic water-stage recorder at datum 55.74 ft higher, Aug. 16, 1955, to Sept. 30, 1959, graphic water-stage recorder at datum 54.74 ft higher, and Sept. 30, 1959, to Apr. 16, 1965, graphic water-stage recorder at same datum.

Average discharge.--26 years, 666 cfs (482,200 acre-ft per year).

Extremes.--Maximum discharge during year, 4,780 cfs Dec. 4 (elevation, 67.60 ft); minimum daily, 34 cfs Aug. 19.  
1940-66: Maximum discharge, 13,600 cfs Dec. 5, 1950 (elevation, 73.79 ft, present datum); no flow July 19 to Aug. 21, 1961, result of temporary dam below station.

Remarks.--Records good. Practically entire flow is diverted above station for irrigation of about 120,000 acres; some return flow enters above station. Flow regulated by Lake McClure (see sta. no. 11-2695). Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	231	128	4,280	4,280	338	148	94	147	130	91	69	72
2	255	128	4,300	4,260	295	150	77	143	166	94	53	72
3	267	127	4,480	1,630	254	152	87	122	147	97	46	80
4	275	130	4,760	818	234	151	101	104	135	116	44	87
5	263	129	4,730	622	219	152	83	104	149	103	54	81
6	250	128	4,680	492	210	153	76	108	155	96	47	72
7	234	127	3,780	416	211	153	85	121	174	101	55	72
8	223	125	1,170	361	272	152	85	139	168	85	58	71
9	204	122	698	333	242	149	106	190	150	95	52	59
10	183	116	540	312	220	131	156	205	146	95	44	58
11	166	120	442	293	208	115	201	207	132	93	61	68
12	153	113	386	282	199	114	198	201	119	77	55	67
13	160	128	368	270	193	120	200	215	114	84	62	75
14	163	145	380	261	191	133	208	207	99	83	65	76
15	174	150	335	252	185	138	182	195	95	97	55	59
16	172	164	292	244	180	137	173	208	118	104	59	54
17	150	175	266	237	176	129	158	184	110	109	47	58
18	136	190	246	230	173	133	177	185	120	114	45	64
19	129	189	233	226	169	135	166	169	115	105	34	60
20	137	177	223	223	166	131	167	167	139	101	45	83
21	147	169	216	219	164	157	171	151	126	87	61	82
22	136	166	211	216	162	164	162	167	124	79	45	76
23	133	174	202	211	159	150	138	173	114	92	43	81
24	131	227	195	210	157	139	151	150	125	106	59	82
25	126	634	191	206	155	130	158	145	135	103	65	79
26	128	517	188	204	152	130	142	141	131	95	58	84
27	127	411	188	202	151	111	138	134	143	91	70	75
28	130	315	195	199	150	116	135	134	103	88	68	87
29	127	1,840	191	198	-----	112	129	146	99	65	64	69
30	126	4,030	378	203	-----	123	156	176	97	58	55	71
31	128	-----	2,720	244	-----	119	-----	157	-----	80	67	-----
TOTAL	5,364	11,294	41,464	18,354	5,585	4,227	4,260	4,995	3,878	2,884	1,705	2,174
MEAN	173	376	1,338	592	199	136	142	161	129	93.0	55.0	72.5
AC-FT	10,640	22,400	82,240	36,400	11,080	8,380	8,450	9,910	7,690	5,720	3,380	4,310
CALENDAR YEAR 1965	MAX	9,280	MIN	113	MEAN	1,049	AC-FT	759,200				
WATER YEAR 1965-66	MAX	4,760	MIN	34	MEAN	291	AC-FT	210,600				

11-2730. Merced River Slough near Newman, Calif.

Location.--Lat 37°21'36", long 121°57'37", in NE<sup>1</sup>/<sub>4</sub> sec. 3, T.7 S., R.9 W., on left bank 0.1 mile downstream from bridge, 0.2 mile downstream from head of slough between Merced and San Joaquin Rivers, and 5 miles northeast of Newman.

Records available.--October 1941 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level. Prior to July 31, 1948, at datum 56.44 ft higher and Aug. 1, 1948, to Sept. 30, 1959, at datum 54.36 ft higher.

Average discharge.--25 years, 59.8 cfs (43,290 acre-ft per year).

Extremes.--Maximum discharge during year, 14 cfs Dec. 5 (elevation, 60.38 ft); no flow most of year.

1941-66: Maximum daily discharge, 7,770 cfs Apr. 6, 1958; no flow for several months in each year.

Remarks.--Records fair. Slough flows from Merced River to San Joaquin River, bypassing gaging station on San Joaquin River near Newman. Flow at times consists of return flow from irrigated fields.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	1.0		0		0	0	0	0	2.5
2		0	1.1	9.4		0		0	0	0	0	.30
3		0	7.0	3.2		0		0	0	0	0	0
4		0	13	1.4		0		0	0	0	0	0
5		0	13	.20		0		0	0	0	0	0
6		0	13	0		0		0	0	0	0	0
7		0	8.9	0		0		0	0	0	0	0
8		0	2.9	0		0		1.0	1.9	0	0	0
9		0	1.0	0		0		0	2.2	.30	0	0
10		0	0	0		0		0	0	3.9	0	0
11		0	0	0		0		0	0	2.6	0.20	0
12		3.0	0	0		0		0	0	.20	7.0	0
13		1.8	0	0		0		0	0	0	8.1	0
14		.20	0	0		0		0	0	0	5.0	0
15		0	0	0		0		0	0	0	2.5	0
16		0	0	0		0		0	0	0	.20	0
17		0	0	0		0		0	0	0	0	0
18		0	0	0		0		0	0	0	0	0
19		0	0	0		0		0	0	0	0	0
20		0	0	0		0		0	0	0	0	0
21		0	0	0		0		0	1.0	0	0	0
22		0	0	0		0		0	0	0	0	0
23		0	0	0		0		0	0	0	0	0
24		0	0	0		0		0	0	0	0	0
25		0	0	0		1.8		0	0	0	0	0
26		0	0	0		.50		0	0	1.2	0	0
27		0	0	0		0		0	0	6.1	0	0
28		0	0	0		0		0	0	6.8	0	0
29		0	0	0	-----	0		0	0	4.5	0	0
30		0	0	0	-----	0		0	0	.70	0	0
31		-----	0	0	-----	0	-----	0	-----	0	2.0	-----
Total	0	5.00	59.9	15.20	0	2.30	0	0.10	5.1	26.30	25.00	2.80
Mean	0	0.17	1.93	0.49	0	0.07	0	0.003	0.17	0.85	0.81	0.09
Ac-ft	0	9.9	119	30	0	4.6	0	0.2	10	52	50	5.6

Calendar year 1965 Max 692 Min 0 Mean 4.50 Ac-ft 3,250  
 Water year 1965-66 Max 13 Min 0 Mean 0.39 Ac-ft 281

## 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 bridge on Hills Ferry road, 500 ft downstream from Merced River, and 3.5 miles northeast of Newman.

Drainage area.--9,524 sq mi.

Records available.--April 1912 to September 1966. 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.--Digital water-stage recorder. Datum of gage is at mean sea level. Prior to Mar. 3, 1931, staff gages at various sites and datums within 240 ft from bridge at datum 47.31 ft higher, Oct. 1, 1959, to Aug. 9, 1960, graphic water-stage recorder at site 70 ft upstream at same datum. Aug. 9, 1960, to July 16, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--54 years, 2,028 cfs (1,468,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,080 cfs Jan. 2 (elevation, 58.94 ft); minimum daily, 148 cfs Aug. 19. 1912-66: 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. 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 sta. no. 11-2730) shows flow bypassing station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	466	232	5,190	4,910	954	476	425	330	282	213	200	194
2	490	234	5,400	5,930	967	485	399	330	331	212	205	203
3	501	254	5,430	4,850	871	480	386	304	313	217	210	209
4	510	273	5,690	3,450	820	450	367	292	292	233	210	205
5	469	279	5,790	2,650	790	425	347	302	297	230	178	205
6	438	286	5,770	2,110	779	413	322	305	334	226	174	200
7	417	281	5,420	1,830	749	400	317	304	356	208	178	190
8	404	273	3,010	1,670	864	402	335	305	362	200	175	180
9	386	259	1,740	1,600	859	394	371	362	338	215	154	170
10	346	245	1,450	1,550	858	369	417	393	330	217	159	180
11	330	256	1,360	1,430	842	332	477	411	309	208	179	190
12	288	271	1,260	1,310	772	318	512	421	280	205	188	200
13	279	304	1,200	1,220	689	338	514	462	295	200	187	210
14	272	380	1,220	1,150	643	364	516	442	270	195	195	217
15	280	457	1,110	1,090	603	337	471	411	252	190	189	192
16	285	529	996	1,040	581	321	439	432	263	190	192	182
17	261	704	903	988	556	337	408	400	256	200	170	178
18	241	819	831	950	536	366	391	372	256	215	157	188
19	220	919	779	906	523	361	365	389	245	230	148	179
20	230	937	739	864	507	338	378	375	256	220	160	187
21	263	926	715	833	513	375	370	357	242	220	175	175
22	251	948	714	805	508	409	371	341	252	220	175	180
23	244	1,010	720	774	492	410	350	346	236	215	167	175
24	243	1,120	686	742	477	430	353	314	237	205	177	183
25	250	1,710	686	713	477	412	364	312	250	190	191	194
26	250	1,940	699	689	476	429	345	321	254	180	196	203
27	245	1,980	720	660	473	403	354	312	276	200	205	186
28	253	1,890	735	625	473	400	335	299	249	180	192	190
29	254	2,460	782	608	-----	429	311	314	233	165	177	178
30	245	4,430	966	631	-----	441	326	334	219	180	178	162
31	229	-----	2,870	692	-----	451	-----	320	-----	195	176	-----
TOTAL	9,840	26,606	65,581	49,270	18,652	12,297	11,636	10,912	8,365	6,374	5,617	5,685
MEAN	317	887	2,116	1,589	666	397	388	352	279	206	181	190
AC-FT	19,520	52,770	130,100	97,730	37,000	24,390	23,080	21,640	16,590	12,640	11,140	11,280

CALENDAR YEAR	1965	MAX	11,100	MIN	220	MEAN	1,586	AC-FT	1,148,000
WATER YEAR	1965-66	MAX	5,930	MIN	148	MEAN	632	AC-FT	457,900

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.--134 sq mi.

Records available.--January 1932 to September 1966.

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.--34 years, 14.4 cfs (10,430 acre-ft per year); median of yearly mean discharges, 7.4 cfs (5,400 acre-ft per year).

Extremes.--Maximum discharge during year, 128 cfs Dec. 30 (gage height, 5.52 ft); no flow for several months.  
1932-66: 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.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	8.5	10	2.5						
2			0	4.5	11	2.5						
3			0	2.7	8.7	2.5						
4			0	1.6	5.5	2.1						
5			0	10	7.5	2.1						
6			0	5.5	2.6	2.1						
7			0	3.0	3.1	2.1						
8			0	2.1	2.2	2.1						
9			0	1.7	1.6	1.4						
10			0	2.9	1.1	1.4						
11			0	3.0	7.5	1.4						
12			0	1.1	7.5	1.7						
13			0	.60	6.4	1.4						
14			0	.20	4.7	1.1						
15			0	.10	4.1	.40						
16			0	0	4.1	0						
17			0	0	4.1	0						
18			0	0	4.1	0						
19			0	0	3.5	0						
20			0	0	4.1	0						
21			0	0	3.5	.40						
22			0	0	4.1	.50						
23			0	0	3.5	0						
24			0	0	3.5	0						
25			0	0	3.5	0						
26			0	0	3.5	0						
27			0	0	3.5	0						
28			0	0	3.5	0						
29			1.2	0	-----	0						
30			9.2	0	-----	0						
31		-----	10.7	5.8	-----	.10	-----		-----			-----
Total	0	0	200.2	209.00	227.4	27.80	0	0	0	0	0	0
Mean	0	0	6.46	6.74	8.12	0.90	0	0	0	0	0	0
Ac-ft	0	0	397	415	451	55	0	0	0	0	0	0

Calendar year 1965 Max 359 Min 0 Mean 8.66 Ac-ft 6,270  
Water year 1965-66 Max 107 Min 0 Mean 1.82 Ac-ft 1,320

Peak discharge (base, 50 cfs).--Dec. 30 (0800) 128 cfs (5.52 ft).

## SAN JOAQUIN RIVER BASIN

11-2746. Del Puerto Creek tributary No. 1 near Patterson, Calif.

Location.--Lat 37°24'15", long 121°26'10", in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.21, T.6 S., R.5 E., at culvert on county road, 300 feet upstream from Del Puerto Creek, and 17.5 miles southwest of Patterson.

Drainage area.--0.71 sq mi.

Records available.--Water years 1959-63 (annual maximum), October 1963 to September 1966.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,760 ft (from topographic map). Oct. 2, 1958, to Oct. 22, 1963, crest-stage gage at same site at datum 85.20 ft lower.

Extremes.--Maximum discharge during water year, 0.30 cfs Jan. 29 (gage height, 7.19 ft); no flow for most of year.

1958-66: Maximum discharge, 20 cfs Feb. 1, 1963 (gage height, 8.53 ft, present datum), from rating curve extended above 7 cfs on basis of computations of flow through culvert at gage heights 8.36 ft, 8.50 ft, 8.85 ft, and 9.40 ft; no flow for most of each year.

Remarks.--No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.10								
2			0	0								
3			0	0								
4			0	0								
5			0	0								
6			0	0								
7			0	0								
8			0	0								
9			0	0								
10			0	0								
11			0	0								
12			0	0								
13			0	0								
14			0	0								
15			0	0								
16			0	0								
17			0	0								
18			0	0								
19			0	0								
20			0	0								
21			0	0								
22			0	0								
23			0	0								
24			0	0								
25			0	0								
26			0	0								
27			0	0								
28			0	0								
29			1.0	0								
30			1.0	1.0								
31			1.0	0								
Total	0	0	0.30	0.20	0	0	0	0	0	0	0	0
Mean	0	0	.01	0.007	0	0	0	0	0	0	0	0
Ac-ft	0	0	.6	.4	0	0	0	0	0	0	0	0
(†)	0	5.4	2.9	1.2	1.1	0.2	0.2	0.3	0.1	0.1	0	0

Calendar year 1965 Max 1.4 Min 0 Mean 0.026 Ac-ft 19  
 Water year 1965-66 Max 0.10 Min 0 Mean 0.001 Ac-ft 1.0

† Precipitation, in inches.

11-2746.3. Del Puerto Creek near Patterson, Calif.

Location.--Lat 37°29'15", long 121°12'25, in SE 1/4 sec. 21, T.5 S., R.7 E., on left bank 1.0 mile upstream from Delta-Mendota Canal crossing, and 4.4 miles west of Patterson.

Drainage area.--73.1 sq mi.

Records available.--October 1958 to May 1965 (maximums only), June 1965 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 200 ft (from topographic map). Prior to June 1965, crest-stage gage at site 1.0 mile downstream at different datum.

Extremes.--Maximum discharge during year, 24 cfs Dec. 29 (gage height, 1.96 ft); no flow for several months.

1958-66: Maximum discharge, 1,800 cfs Feb. 16, 1959 (gage height, 14.68 ft, site and datum then in use), from rating curve extended above 690 cfs; no flow for several months each year.

Remarks.--Records good. Some stock ponds and small diversions above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2.0	1.3	4.1	1.6	0.20	0.10				
2		0	1.8	1.1	3.8	1.6	.20	.10				
3		0	1.6	7.2	3.1	1.4	.20	.10				
4		0	1.6	5.6	2.7	1.4	.20	.10				
5		0	1.4	4.6	3.4	1.3	.30	.10				
6		0	1.4	4.3	5.2	1.1	.30	.10				
7		0	1.4	4.1	5.2	1.1	.30	.10				
8		0	1.4	3.8	4.3	1.1	.40	.10				
9		0	1.4	3.6	3.8	1.3	.30	.20				
10		0	1.3	3.4	3.6	1.4	.40	.30				
11		0	1.3	3.1	3.1	1.3	.50	.30				
12		0	1.8	2.9	2.9	1.3	.60	.20				
13		0	2.0	2.7	2.7	1.3	.50	.10				
14		0	1.8	2.7	2.7	.90	.40	.10				
15		0	1.6	2.7	2.4	.90	.30	.10				
16		0	1.4	2.4	2.2	.90	.30	.10				
17		0	1.3	2.2	2.2	.80	.20	0				
18		0	1.1	2.2	2.2	.60	.30	0				
19		0	1.1	2.2	2.2	.80	.30	0				
20		0	1.1	2.0	2.7	.60	.20	0				
21		0	1.1	1.8	2.4	.60	.20	0				
22		0	1.1	1.8	2.2	.60	.20	0				
23		1.1	.90	2.0	2.2	.40	.10	0				
24		3.4	.60	2.0	1.8	.40	.10	0				
25		7.2	1.4	2.0	1.8	.40	.10	0				
26		5.6	1.8	2.0	2.0	.40	.10	0				
27		3.8	1.6	2.0	1.8	.40	.10	0				
28		2.9	1.6	1.8	1.8	.40	.10	0				
29		2.4	1.4	1.8	-----	.40	.10	0				
30		2.2	1.6	4.3	-----	.40	.10	0				
31		-----	2.0	4.9	-----	.30	-----	0	-----			-----
Total	0	28.6	89.90	117.1	80.5	27.40	7.60	2.20	0	0	0	0
Mean	0	0.95	2.90	3.78	2.88	0.88	0.25	0.07	0	0	0	0
Ac-ft	0	57	178	232.0	160.0	54	15	4.4	0	0	0	0

Calendar year 1965 Max - - - Min - - - Mean - - - Ac-ft - - -  
 Water year 1965-66 Max 20 Min 0 Mean 0.97 Ac-ft 701

Peak discharge (base, 50 cfs).--No peak above base.

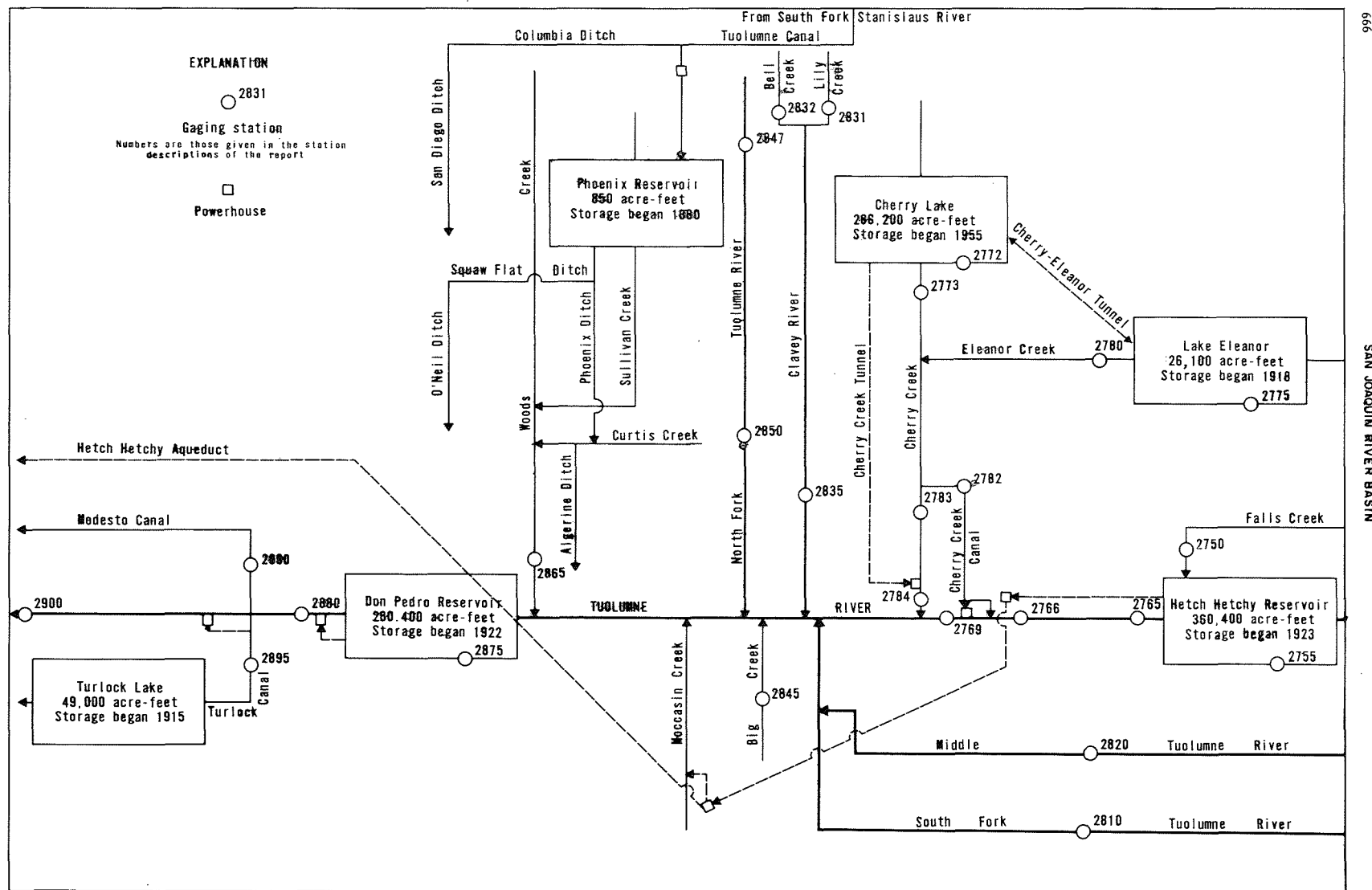


Figure 3.--Schematic diagram showing diversions and storage in Tuolumne River basin



11-2750. Falls Creek near Hetch Hetchy, Calif.

Location.--Lat 37°58'15", long 119°45'45", in SE¼ 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.--46.0 sq mi.

Records available.--October 1915 to September 1966. 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.--51 years, 141 cfs (102,100 acre-ft per year).

Extremes.--Maximum discharge during year, 604 cfs May 8 (gage height, 5.06 ft); no flow Sept. 4-30.  
1915-66: 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. No regulation or diversion above station. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record and nine discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	1.3	53	33	29	35	376	437	149	30	4.5	0.10
2	3.7	1.2	54	29	29	33	418	458	122	27	5.2	.10
3	3.3	1.1	56	27	29	31	403	528	105	23	14	.10
4	2.9	1.1	54	27	29	31	421	556	97	20	14	0
5	2.7	1.1	52	28	30	33	430	568	99	18	11	0
6	2.5	1.0	50	31	32	37	430	540	107	16	9.0	0
7	2.2	1.0	48	34	34	44	424	560	120	16	7.3	0
8	2.0	1.0	47	35	32	54	421	572	124	15	6.1	0
9	1.9	1.0	46	34	30	62	427	516	115	14	5.0	0
10	1.7	1.0	45	38	30	122	421	512	108	13	4.1	0
11	1.6	1.0	43	38	29	110	322	486	112	12	3.4	0
12	1.4	1.3	43	38	30	110	255	444	107	11	2.8	0
13	1.3	7.3	43	38	29	141	192	418	104	10	2.4	0
14	1.5	92	38	39	28	145	175	468	105	10	2.0	0
15	4.9	88	35	40	28	136	192	462	99	9.5	1.7	0
16	3.2	142	33	37	28	120	252	444	90	8.8	1.3	0
17	2.7	155	31	35	30	96	320	451	84	8.2	1.2	0
18	2.7	185	31	34	31	93	332	458	78	7.8	1.0	0
19	3.1	132	28	34	31	94	252	493	74	7.3	.80	0
20	2.9	78	23	29	33	86	172	516	70	6.9	.70	0
21	2.9	56	23	30	35	84	140	520	62	6.5	.60	0
22	2.8	57	23	29	37	91	138	493	55	6.5	.50	0
23	2.7	178	22	28	37	115	151	448	48	6.5	.40	0
24	2.5	127	22	27	36	134	202	412	42	6.5	.40	0
25	2.2	91	23	26	35	157	298	397	37	6.3	.30	0
26	2.0	83	25	26	35	182	394	373	34	5.9	.30	0
27	1.9	74	25	26	35	202	418	364	34	5.7	.20	0
28	1.7	64	26	25	35	235	412	335	33	5.3	.20	0
29	1.7	60	31	25	-----	275	391	305	33	4.9	.10	0
30	1.5	56	35	28	-----	302	388	245	33	4.5	.10	0
31	1.4	-----	38	29	-----	332	-----	182	-----	4.5	.10	-----
Total	75.4	1,738.4	1,146	977	886	3,722	9,567	13,961	2,480	346.6	100.70	0.30
Mean	2.43	57.9	37.0	31.5	31.6	120	319	450	82.7	11.2	3.25	0.01
Ac-ft	150	3,450	2,270	1,940	1,760	7,380	18,980	27,690	4,920	687	200	0.6

Calendar year 1965 Max 1,030 Min 1.0 Mean 166 Ac-ft 120,200  
Water year 1965-66 Max 572 Min 0 Mean 95.9 Ac-ft 69,420

Peak discharge (base, 900 cfs).--No peak above base.

## 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.--455 sq mi.

Records available.--May 1923 to September 1966. 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, 354,900 acre-ft May 27 (elevation, 3,803.2 ft); minimum, 156,100 acre-ft Mar. 23, 24 (elevation, 3,687.1 ft).

1923-66: 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. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record furnished by city and county of San Francisco.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	307.6	265.4	245.2	217.9	190.8	164.9	167.9	258.5	347.6	341.6	292.2	251.8
2	306.3	264.0	244.5	217.1	189.7	164.0	171.3	264.0	346.3	339.9	291.3	250.4
3	305.0	262.6	243.8	216.3	188.8	163.0	174.6	270.1	345.3	337.9	290.4	248.8
4	303.8	261.2	243.5	215.5	188.1	162.1	178.3	276.8	344.1	336.2	289.3	247.4
5	302.4	259.8	243.5	214.8	187.2	161.2	182.3	283.8	343.2	334.3	288.2	246.1
6	300.9	258.4	242.1	213.9	186.4	160.2	186.4	290.6	342.8	332.2	286.9	244.7
7	299.4	257.0	241.4	213.2	185.5	159.5	190.5	297.5	343.5	330.3	285.6	243.7
8	298.1	255.6	240.6	212.3	184.7	158.7	194.9	304.2	344.3	328.2	284.3	242.3
9	296.8	254.0	239.8	211.6	183.7	158.0	199.2	309.8	345.1	326.2	282.9	240.9
10	295.3	252.8	238.9	211.0	182.8	157.7	202.7	315.3	345.7	324.2	281.4	239.6
11	294.0	251.2	238.1	210.3	181.8	157.5	205.4	319.4	346.3	322.1	280.4	238.1
12	292.4	249.7	237.4	209.5	180.9	157.3	207.4	322.2	347.0	320.0	279.1	236.7
13	290.9	248.6	236.5	208.7	180.0	157.4	208.9	325.1	347.6	317.9	277.6	235.2
14	289.6	248.3	235.7	207.9	179.0	157.4	210.3	328.7	348.6	315.6	276.4	233.8
15	288.4	247.8	234.7	207.1	178.0	157.5	211.9	331.8	349.2	313.6	275.1	232.5
16	286.9	247.8	233.7	206.3	177.0	157.7	215.0	334.9	350.0	312.2	273.7	231.0
17	285.4	248.3	232.7	205.5	175.9	157.7	218.4	338.1	350.4	310.9	272.5	229.7
18	284.0	249.0	231.7	204.7	175.0	157.4	221.7	341.4	350.7	309.6	271.0	228.3
19	282.7	249.0	230.7	203.8	174.1	157.3	223.7	344.1	352.2	308.5	269.8	227.0
20	281.3	248.5	229.5	202.8	173.2	157.0	224.8	346.3	351.3	307.2	268.4	225.5
21	280.0	247.6	228.3	201.9	172.3	156.6	225.8	348.6	351.3	306.1	267.0	224.2
22	278.6	246.8	227.3	200.8	171.4	156.4	226.8	350.6	351.1	305.0	265.7	222.9
23	277.1	247.8	226.3	200.0	170.6	156.1	227.7	351.9	350.7	303.7	264.3	221.4
24	275.5	248.5	225.2	198.9	169.7	156.1	229.5	353.1	350.2	302.4	262.9	220.1
25	274.4	248.6	224.0	197.8	168.6	156.4	232.5	354.1	349.8	301.1	261.5	218.6
26	273.2	248.3	223.0	196.8	167.7	156.8	236.4	354.7	349.0	300.0	260.1	217.3
27	271.9	247.8	222.0	195.9	166.7	157.8	240.4	354.5	347.8	298.5	258.7	216.0
28	270.7	247.1	220.7	194.8	166.0	159.1	245.5	354.1	346.3	297.2	257.3	214.5
29	269.3	246.6	220.3	193.7	-----	160.6	249.5	352.7	344.9	296.8	255.9	213.6
30	267.8	245.9	219.6	192.7	-----	162.6	253.8	350.7	343.2	294.8	254.5	211.9
31	266.6	-----	218.9	191.9	-----	164.8	-----	349.0	-----	293.5	253.1	-----
(†)	3,756.0	3,744.1	3,728.0	3,711.1	3,693.9	3,693.1	3,748.7	3,800.2	3,797.2	3,770.9	3,748.3	3,723.7
(‡)	-42,500	-20,700	-27,000	-27,000	-25,900	-1,200	+89,000	+95,200	-5,800	-49,700	-40,400	-41,200

Calendar year 1965..... ‡-41,900

Water year 1965-66..... ‡-97,200

† 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 SW¼SE¼ 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.--457 sq mi.

Records available.--October 1910 to September 1966. 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.--56 years, 997 cfs (721,800 acre-ft per year).

Extremes.--Maximum discharge during year, 3,110 cfs May 26-28 (gage height, 9.65 ft); minimum daily, 652 cfs Oct. 26. 1910-66: 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 sta 11-2755). No diversion above station. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record and 12 discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	754	745	760	724	712	706	736	742	2,040	1,190	748	730
2	751	742	760	721	688	706	742	727	1,770	1,180	751	739
3	751	742	760	721	667	706	727	724	1,540	1,180	751	742
4	748	742	757	718	682	718	724	733	1,540	1,180	748	742
5	748	742	757	724	691	724	733	745	1,530	1,200	748	739
6	745	742	757	721	694	721	739	730	1,220	1,210	745	739
7	742	742	754	718	691	718	724	724	727	1,200	745	736
8	739	739	754	718	676	718	718	736	727	1,200	745	733
9	748	739	745	715	661	715	724	742	730	1,200	742	730
10	751	739	721	715	658	715	733	751	733	1,190	742	739
11	748	766	721	712	679	715	721	1,350	733	1,200	742	739
12	748	763	718	703	700	715	709	1,800	733	1,210	739	736
13	745	763	718	694	697	715	709	1,820	733	1,200	739	736
14	745	763	715	691	694	715	712	1,850	736	1,200	736	736
15	742	763	715	691	694	715	715	1,870	736	1,200	745	733
16	742	763	715	691	691	706	721	1,890	736	842	748	730
17	742	763	718	691	691	703	727	1,910	736	739	745	739
18	739	766	721	691	691	700	736	1,930	739	736	742	742
19	736	769	718	694	694	709	721	2,250	739	736	742	742
20	736	763	718	709	694	715	709	2,630	739	736	739	739
21	757	760	715	700	709	712	712	2,640	739	742	739	739
22	766	760	712	691	715	712	712	2,650	739	748	736	736
23	766	781	712	694	712	712	715	2,670	739	748	733	733
24	736	784	724	703	712	712	718	2,680	739	748	730	730
25	676	775	727	703	712	712	724	2,690	739	745	730	730
26	652	769	724	700	712	712	730	2,920	739	745	736	727
27	673	766	724	697	712	715	721	3,110	1,040	745	739	724
28	688	766	724	712	709	718	718	3,110	1,200	742	736	724
29	688	763	736	718	-----	721	724	3,100	1,200	742	733	721
30	712	763	730	715	-----	724	733	3,070	1,200	742	733	697
31	733	-----	724	715	-----	730	-----	2,360	-----	739	730	-----
Total	22,747	22,743	22,654	21,910	19,438	22,135	21,687	57,654	29,991	29,915	22,957	22,002
Mean	734	758	731	707	694	714	723	1,860	966	965	741	733
Ac-ft	45,120	45,110	44,930	43,460	39,550	43,900	43,010	114,400	57,500	59,340	45,530	43,640

Calendar year 1965 Max 4,730 Min 4.1 Mean 1,346 Ac-ft 974,700  
 Water year 1965-66 Max 3,110 Min 652 Mean 863 Ac-ft 624,500

## 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 1966. 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, 177,000 acre-ft May 31 (elevation, 4,644.7 ft); minimum, 59,400 acre-ft Mar. 12 (elevation, 4,558.7 ft).  
1956-66: Maximum contents, 269,300 acre-ft July 1-3, 1957 (elevation, 4,700.6 ft); minimum, 30 acre-ft Dec. 5, 1964 (elevation, 4,438.0 ft).

Remarks.--Reservoir is formed by a rock-fill dam completed in 1956; storage began in December 1955. Usable capacity, 268,810 acre-ft (revised) 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. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record furnished by city and county of San Francisco.

Contents, in thousands of acre-feet, at 0800 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	169.1	142.3	140.5	119.4	91.5	66.5	72.8	126.8	176.5	158.7	131.5	94.6
2	-	140.9	140.4	118.9	90.2	65.6	75.3	129.8	176.2	157.9	130.2	93.4
3	167.6	139.5	139.9	118.6	88.9	64.6	77.8	132.1	175.9	157.3	129.0	92.1
4	167.4	138.2	139.6	117.8	87.9	63.7	81.0	134.7	175.4	-	127.7	91.1
5	165.7	136.9	139.4	116.9	86.7	62.7	83.5	137.4	175.3	158.8	126.5	-
6	165.6	135.6	139.6	116.1	85.8	62.0	85.9	140.1	175.6	156.2	125.3	89.8
7	164.9	134.5	139.1	115.3	85.1	61.9	88.4	142.6	-	155.5	124.2	88.2
8	164.0	133.9	138.4	114.4	84.0	61.0	90.7	145.5	175.0	154.6	123.5	87.1
9	163.0	132.7	137.8	113.8	82.6	60.2	92.9	148.4	174.7	153.7	122.1	-
10	162.4	131.2	137.1	113.8	81.4	59.7	95.8	150.6	174.2	153.0	120.7	84.5
11	162.3	-	136.4	112.8	80.4	59.5	98.5	152.7	173.7	152.7	119.6	83.5
12	161.2	128.8	135.8	112.0	79.4	59.4	100.0	154.3	173.3	151.7	118.3	82.8
13	160.2	127.5	135.6	110.9	78.7	59.8	101.3	155.8	173.3	150.6	117.1	81.5
14	159.4	127.4	134.9	109.9	78.5	61.1	102.2	157.5	172.6	149.6	116.0	80.2
15	158.5	129.0	133.9	109.1	77.5	61.5	103.2	159.1	171.9	148.6	115.3	78.9
16	157.6	128.8	133.1	108.2	76.3	61.8	104.4	161.4	171.4	147.5	114.0	77.7
17	156.9	130.2	131.9	108.2	75.4	61.8	106.3	162.6	170.8	146.7	112.6	76.4
18	156.6	132.1	131.1	107.3	74.4	61.7	109.1	163.8	170.0	146.2	111.4	75.3
19	155.5	134.4	130.2	105.9	73.6	61.5	110.4	165.2	169.5	145.1	110.2	74.7
20	154.3	134.9	129.8	104.7	72.8	61.7	111.3	166.5	169.2	143.7	108.8	73.3
21	153.6	135.4	128.8	103.6	72.5	62.3	111.5	168.0	168.3	142.7	107.7	71.9
22	152.5	136.2	127.5	102.8	71.6	61.9	112.0	169.5	167.1	141.5	107.0	70.8
23	151.5	136.9	126.5	101.7	70.8	61.8	112.4	171.4	166.2	140.4	105.6	69.5
24	150.5	-	125.4	100.7	70.1	61.9	113.2	172.2	165.2	139.4	104.3	68.3
25	149.9	-	124.6	99.5	69.1	62.3	115.1	172.9	164.3	138.9	103.0	67.1
26	148.7	139.9	124.0	98.1	68.3	63.0	117.1	173.6	163.3	137.8	101.7	66.3
27	147.4	140.2	123.7	96.8	67.6	64.2	119.2	174.2	162.6	136.6	100.4	65.1
28	146.2	140.4	122.8	95.5	67.5	66.1	121.0	174.8	161.5	135.4	99.2	63.7
29	144.9	141.1	-	94.5	-----	67.4	122.8	175.6	160.3	134.1	98.5	62.5
30	143.7	140.9	120.1	93.3	-----	67.8	124.6	-	159.4	132.9	97.2	61.2
31	142.7	-----	119.9	92.7	-----	70.7	-----	177.0	-----	131.9	95.9	-----
(†)	4,621.9	4,620.7	4,605.8	4,585.8	4,565.6	4,568.3	4,609.2	4,644.7	4,633.2	4,614.4	4,588.3	4,560.3
(‡)	-27.300	-1.800	-21.000	-27.200	-25.200	+3.200	+53.900	+52.400	-17.600	-27.500	-36.000	-34.700

Calendar year 1965..... † +23,500

Water year 1965-66..... ‡ -108,800

† Elevation, in feet, at end of month.

‡ Change in contents in acre-feet.

Note.--New capacity table put into use Oct. 1, 1965; contents on Sept. 30, 1965, from new table, 170,000 acre-ft. Change in contents for October 1965, calendar year 1965, and water year 1966 based on new table.

11-2773. Cherry Creek below Cherry Valley Dam, near Hetch Hetchy, Calif.

Location.--Lat 37°58'04", long 119°54'59", in SW¼ 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 1966.

Gage.--Water-stage recorder and concrete control. 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, 18 cfs July 2-4 (gage height, 3.11 ft); minimum daily, 4.3 cfs Oct. 2, 3.  
1956-66: Maximum discharge, 3,830 cfs Apr. 25, 1958 (gage height, 9.95 ft); minimum daily, 1.6 cfs Apr. 10, 1957.

Remarks.--Records fair. Flow regulated by Cherry Lake (see sta 11-2772). Diversion between Lake Eleanor and Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake to Cherry powerhouse began Aug. 1, 1960. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record and eight discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.2	5.3	6.5	6.2	6.0	5.5	5.5	5.5	5.5	11	16	16
2	4.3	5.3	6.5	6.0	6.0	5.5	5.5	5.5	5.5	18	16	16
3	4.3	5.3	6.2	6.0	5.8	5.5	5.5	5.0	5.5	18	16	16
4	5.1	5.3	6.2	6.0	5.8	5.5	5.5	5.0	5.5	17	16	16
5	5.1	5.3	6.2	6.2	5.8	5.5	5.5	5.0	5.5	16	16	16
6	5.1	5.3	6.2	6.2	6.0	5.5	5.5	5.0	5.5	16	16	16
7	5.1	5.3	6.2	6.0	5.8	5.5	5.5	5.0	5.5	16	16	16
8	5.8	5.3	6.2	6.0	5.5	5.5	5.5	5.0	5.5	16	16	16
9	5.5	5.3	6.2	6.0	5.5	5.8	5.8	5.0	5.5	16	16	16
10	5.3	5.3	6.2	6.0	5.5	6.0	6.2	5.3	5.5	16	16	16
11	5.3	5.3	6.2	6.0	5.5	6.0	6.0	5.0	5.5	16	16	16
12	5.3	5.5	6.2	6.0	5.3	6.0	6.0	5.0	5.3	16	16	16
13	5.3	5.5	6.2	6.0	5.3	6.0	6.0	5.0	5.3	16	16	16
14	5.5	7.2	6.2	6.0	5.3	6.0	6.0	5.0	5.3	16	16	16
15	5.5	6.2	6.0	6.0	5.3	6.0	5.7	5.0	5.5	16	16	16
16	5.5	7.0	6.0	6.0	5.3	6.0	5.7	5.3	5.5	16	16	16
17	5.3	6.8	6.0	6.0	5.3	5.8	5.7	5.3	5.7	16	16	16
18	5.3	8.0	6.0	6.0	5.3	5.8	6.0	5.3	5.7	16	16	16
19	5.5	7.5	6.0	6.0	5.3	5.8	6.0	5.3	5.0	16	16	16
20	5.5	6.2	5.8	6.0	5.3	5.8	5.7	5.0	5.5	16	16	16
21	5.3	6.0	5.8	6.0	5.3	5.8	5.7	5.0	5.5	16	16	16
22	5.3	6.0	5.8	6.0	5.5	5.8	5.7	5.3	5.5	16	16	16
23	5.3	9.2	5.8	6.0	5.5	5.5	5.7	5.3	5.5	16	16	16
24	5.3	9.8	5.8	6.0	5.5	5.5	5.7	5.3	5.5	16	16	16
25	5.3	8.3	6.0	6.0	5.5	5.5	5.7	5.3	5.5	16	16	16
26	5.3	7.5	5.8	6.0	5.5	5.5	5.7	5.3	5.5	16	16	16
27	5.3	7.2	5.8	6.0	5.5	5.5	5.7	5.3	5.5	16	16	16
28	5.5	7.0	6.0	6.0	5.5	5.5	5.7	5.5	5.3	16	16	16
29	5.5	6.8	6.8	6.0	-----	5.5	5.7	5.5	5.3	16	16	16
30	5.3	6.8	6.5	6.0	-----	5.5	5.5	5.5	5.3	16	16	16
31	5.3	-----	6.5	6.0	-----	5.5	-----	5.5	-----	16	16	-----
Total	167.5	192.8	189.8	186.6	154.7	176.1	171.6	161.3	163.7	496	496	480
Mean	5.40	6.43	6.12	6.02	5.52	5.68	5.72	5.20	5.46	16.0	16.0	16.0
Ac-ft	332	382	376	370	307	349	340	320	325	984	984	952

Calendar year 1965 Max 22 Min 4.3 Mean 8.99 Ac-ft 6.510  
Water year 1965-66 Max 18 Min 4.3 Mean 8.32 Ac-ft 6.020

## 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.--78.1 sq mi.

Records available.--June 1918 to September 1966. 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, 12,600 acre-ft June 1 (elevation, 4,644.9 ft); minimum, not determined.

1919-66: 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. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record furnished by city and county of San Francisco.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11,200	950	3,460	1,620	1,430	1,620	4,370	3,350	12,600	5,160		
2	10,800	906	3,130	1,620	1,430	1,620	4,540	3,350	12,500	4,760		
3	10,400	961	2,900	1,670	1,430	1,620	4,590	3,460	12,400	4,370		
4	9,900	817	2,790	1,670	1,430	1,580	4,760	3,520	12,300	4,030		
5	9,340	772	2,620	1,670	1,480	1,580	4,870	3,630	12,200	3,750		
6	8,950	772	2,450	1,670	1,530	1,580	4,930	3,690	12,100	3,460		
7	8,500	728	2,350	1,720	1,580	1,620	4,870	3,860	12,100	3,070		
8	8,090	683	2,210	1,770	1,580	1,720	4,820	4,030	12,000	2,730		
9	7,680	683	2,160	1,770	1,530	1,870	4,820	4,200	12,000	2,400		
10	7,260	639	2,060	1,770	1,530	2,260	5,100	4,700	12,000	2,210		
11	6,850	639	1,960	1,720	1,530	2,510	4,930	4,990	11,900	1,960		
12	6,440	594	1,920	1,720	1,480	2,660	4,590	5,100	11,700	1,770		
13	6,020	639	1,870	1,670	1,480	3,010	4,080	5,210	11,600	1,580		
14	5,540	1,630	1,820	1,670	1,480	3,180	3,630	5,480	11,400	1,380		
15	5,100	2,210	1,770	1,670	1,480	3,130	3,460	5,750	11,300	1,290		
16	4,760	3,350	1,670	1,670	1,480	3,010	3,460	6,090	11,000	1,190		
17	4,370	4,480	1,620	1,670	1,480	2,840	3,460	6,440	10,800	1,090		
18	4,030	6,510	1,580	1,620	1,480	2,730	3,580	6,850	10,500	996		
19	3,690	5,780	1,530	1,620	1,480	2,680	3,350	7,330	10,200	906		
20	3,300	6,370	1,480	1,580	1,530	2,560	3,130	7,880	9,900	861		
21	2,900	5,750	1,430	1,580	1,530	2,560	2,900	8,360	9,500	817		
22	2,510	5,160	1,430	1,530	1,580	2,560	2,790	9,180	9,100	772		
23	2,160	6,090	1,380	1,480	1,580	2,580	2,790	9,820	8,710	728		
24	1,920	6,300	1,380	1,480	1,620	2,840	2,900	10,300	8,360	683		
25	1,670	6,090	1,430	1,480	1,620	3,070	3,130	10,700	7,950	639		
26	1,530	5,610	1,430	1,430	1,620	3,240	3,350	11,100	7,610	-		
27	1,380	5,160	1,480	1,430	1,620	3,460	3,410	11,400	7,190	-		
28	1,290	4,700	1,480	1,380	1,620	3,630	3,410	11,700	6,710	-		
29	1,190	4,250	1,530	1,380	-----	3,750	3,350	12,000	6,160	-		
30	1,090	3,860	1,580	1,430	-----	3,860	3,350	12,400	5,680	-		
31	1,040	-----	1,580	1,430	-----	4,080	-----	12,500	-----	-		
(†)	4,627.1	4,632.5	4,628.2	4,627.9	4,628.3	4,632.9	4,631.6	4,644.8	4,635.6	-	-	-
(‡)	-10,560	+2,820	-2,280	-150	+190	+2,460	-730	+9,150	-6,820	-	-	-

Calendar year 1965..... †-20,720

Water year 1965-66..... ‡ -

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

Note.--No reliable capacity table July 26 to Sept. 30.

11-2780. Eleanor Creek near Hetch Hetchy, Calif.

Location.--Lat 37°58'10", long 119°52'50", in SW¼ 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.--78.4 sq mi.

Records available.--October 1909 to September 1966. 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, 66 cfs July 7 (gage height, 2.54 ft); minimum daily, 0.20 cfs Sept. 28-30. 1909-66: 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 sta 11-2775). Diversion from Lake Eleanor to Cherry Lake began in March 1960. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record and 14 discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	4.1	7.1	4.9	4.9	7.1	5.1	5.1	5.1	11	16	1.0
2	3.9	3.9	6.8	5.1	5.4	7.1	5.1	5.1	5.4	15	15	.90
3	3.9	3.9	6.5	5.7	5.7	7.1	5.1	10	5.1	15	15	.90
4	3.9	3.9	6.5	5.7	5.4	7.1	5.1	4.9	5.1	15	15	.70
5	3.9	3.9	6.3	5.7	5.7	7.1	5.1	5.1	5.1	15	15	.70
6	3.9	3.9	6.3	5.7	6.3	7.4	5.1	5.4	5.1	14	16	.70
7	3.9	3.9	6.0	5.7	6.0	6.5	5.1	5.1	5.1	28	16	.60
8	4.3	3.9	6.0	6.3	5.7	6.3	4.9	5.1	5.1	28	16	.60
9	4.1	3.9	6.0	6.0	5.7	6.5	5.1	5.1	5.1	14	15	.50
10	4.1	3.9	5.7	6.0	5.4	6.8	6.0	5.4	5.1	14	15	.50
11	4.1	3.9	5.7	6.0	5.4	6.8	5.7	3.9	5.1	14	15	.50
12	3.9	4.3	5.7	5.4	5.4	6.8	6.0	4.6	5.1	14	16	.50
13	3.9	4.9	5.7	4.6	5.1	6.8	5.7	5.1	5.1	15	15	.40
14	3.9	6.5	6.0	4.6	5.1	7.1	5.7	5.1	5.1	15	14	.40
15	3.9	6.0	6.0	5.4	5.1	7.1	5.4	5.1	5.1	15	8.1	.40
16	3.9	7.4	6.0	5.1	5.1	7.1	5.4	5.1	5.1	15	6.5	.40
17	3.9	7.1	5.7	5.1	5.4	7.1	5.1	5.1	5.1	15	5.7	.30
18	3.9	9.7	5.7	5.1	5.4	7.1	5.4	5.1	5.1	15	5.1	.50
19	3.9	8.1	5.7	5.1	5.7	7.1	5.7	5.1	5.1	16	4.6	.40
20	4.1	6.8	5.4	4.6	5.7	7.1	5.4	5.1	5.1	15	4.1	.40
21	4.1	6.5	5.1	4.9	6.0	6.8	5.4	5.1	5.1	15	3.6	.30
22	4.1	7.1	5.1	5.1	6.3	6.5	5.1	5.1	5.1	15	3.2	.30
23	4.3	14	5.1	5.1	6.5	6.3	5.1	5.1	5.1	15	2.9	.30
24	4.3	11	5.1	5.1	6.5	6.3	5.1	5.1	5.1	15	2.7	.30
25	4.3	7.8	5.1	5.1	6.5	6.0	5.1	5.1	5.1	15	2.5	.30
26	4.3	7.1	5.1	4.6	6.3	5.4	5.1	5.1	5.1	15	2.0	.30
27	4.1	6.8	5.4	4.9	6.0	5.1	5.1	5.1	4.9	15	1.6	.30
28	4.1	6.8	6.0	5.1	6.3	5.1	5.1	5.1	4.9	15	1.5	.20
29	4.1	6.8	6.0	5.1	-----	5.1	5.1	5.1	4.9	15	1.3	.20
30	4.1	7.1	4.9	5.4	-----	5.1	5.1	5.1	5.1	16	1.2	.20
31	4.1	-----	4.6	5.4	-----	5.1	-----	5.1	-----	16	1.0	-----
Total	123.4	184.9	178.3	163.6	160.0	201.9	158.5	161.7	152.7	485	271.6	14.00
Mean	3.98	6.16	5.75	5.28	5.71	6.51	5.28	5.22	5.09	15.6	8.76	0.47
Ac-ft	245	367	354	324	317	400	314	321	303	962	539	28

Calendar year 1965 Max 1.020 Min 0.30 Mean 65.6 Ac-ft 47,470  
 Water year 1965-66 Max 28 Min 0.20 Mean 61.8 Ac-ft 4,470

## SAN JOAQUIN RIVER BASIN

11-2782. Cherry Creek Canal<sup>1</sup> near Early Intake, Calif.

Location.--Lat 37°53'36", long 119°57'15", in S½ 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 2,700 ft (from topographic map).

Extremes.--1956-66: Maximum daily discharge, 194 cfs July 30, 1959; no flow June 19, 20, 23, 1964.

Remarks.--Records good except for periods of no gage-height record, which are fair. Canal diverts from left bank of Cherry Creek in SW¼ sec.31, T.1 N., R.19 E., for domestic use at Early intake and occasional power development at Early Intake powerhouse as part of Hetch Hetchy system of city and county of San Francisco. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record and six discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	6.3	5.6	5.4	10	9.8	10	11	13	20	11	6.0
2	7.8	6.3	5.6	5.4	10	9.8	10	11	13	14	10	6.0
3	7.8	6.2	5.6	5.4	10	9.8	10	11	13	12	8.8	6.0
4	6.9	6.2	5.6	5.5	10	10	10	10	13	18	11	6.0
5	6.3	6.2	5.6	5.5	10	10	10	10	13	14	11	6.0
6	6.1	6.2	5.5	5.4	10	10	10	11	13	7.5	12	6.0
7	6.2	6.2	5.5	5.2	10	10	10	11	13	31	12	6.0
8	6.3	6.2	5.4	5.2	10	10	10	11	13	44	12	6.0
9	6.3	6.2	5.4	5.2	10	10	10	11	13	20	9.5	6.0
10	6.3	6.2	5.5	5.2	10	10	10	11	13	10	10	6.0
11	6.3	6.3	5.5	5.2	10	10	10	10	13	10	10	6.0
12	6.3	6.5	5.6	5.2	10	9.8	11	11	13	11	11	6.0
13	6.2	6.5	5.5	5.2	10	10	10	11	13	11	10	6.0
14	6.2	6.8	5.6	5.2	10	10	10	11	13	10	9.2	6.0
15	6.3	6.8	5.5	5.2	10	10	10	11	13	11	6.2	6.0
16	6.3	6.6	5.5	5.2	10	10	10	11	12	11	10	6.0
17	6.5	6.5	5.5	5.2	10	9.8	10	11	11	11	11	6.0
18	6.5	6.3	5.4	5.2	10	9.8	11	11	9.0	11	11	6.0
19	6.5	6.2	5.4	5.0	10	9.8	11	11	8.9	13	8.4	6.0
20	6.3	6.1	5.4	4.7	10	9.8	10	11	9.0	10	6.8	6.0
21	6.2	6.1	5.4	4.7	10	9.8	10	10	9.0	11	6.8	6.0
22	6.2	6.2	5.4	4.7	10	9.8	10	11	8.7	11	6.8	6.0
23	6.2	6.3	5.4	4.7	10	9.8	10	11	8.5	11	6.9	6.0
24	6.2	6.5	5.4	4.7	9.8	9.8	11	11	8.5	11	6.5	6.0
25	6.2	6.1	5.5	6.2	9.8	9.8	11	11	8.7	11	6.2	6.0
26	6.2	5.8	5.5	8.0	9.8	9.8	11	11	8.8	11	6.0	6.0
27	6.2	5.6	5.5	8.2	9.8	9.8	11	11	8.8	11	6.0	6.0
28	6.2	5.6	5.6	9.4	9.8	9.8	11	11	8.7	11	6.0	6.0
29	6.3	5.6	5.8	10	-----	10	9.9	13	9.0	12	6.0	6.0
30	6.3	5.5	5.6	10	-----	10	11	13	9.1	11	6.0	6.0
31	6.3	-----	5.5	10	-----	10	-----	13	-----	11	6.0	-----
Total	199.7	186.1	170.8	185.3	279.0	306.8	308.9	343	332.7	421.5	270.1	180.0
Mean	6.44	6.20	5.51	5.98	9.96	9.90	10.3	11.1	11.1	13.6	8.71	6.00
Ac-ft	396	369	339	368	553	609	613	680	660	836	536	357

Calendar year 1965 Max 71 Min 0.80 Mean 7.96 Ac-ft 5,760  
 Water year 1965-66 Max 44 Min 4.7 Mean 8.72 Ac-ft 6,320

Note.--No gage-height record June 23 to Aug. 17, Aug. 26 to Sept. 30.





## SAN JOAQUIN RIVER BASIN

11-2784. Cherry Creek below Dion R. Holm powerhouse, near Mather, Calif.  
(Formerly published as Cherry Creek below Cherry powerhouse, near Mather)

Location.--Lat 37°53'25", long 119°58'10", in NW¼ sec.2, T.1 S., R.18 E., on left bank 600 ft upstream from mouth, 0.5 mile downstream from powerhouse, 1.2 mile northwest of Early Intake, and 5.3 miles west of Mather.

Drainage area.--234 sq mi.

Records available.--March 1963 to September 1966. Prior to October 1965, published as "below Cherry powerhouse, near Mather."

Gage.--Digital water-stage recorder. Altitude of gage is 2,150 ft (from topographic map). Prior to May 26, 1966, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 1,150 cfs Nov. 23 (gage height, 8.85 ft); minimum daily, 82 cfs May 22.

1963-66: Maximum discharge, 8,530 cfs Dec. 24, 1964 (gage height, 13.55 ft), from rating curve extended above 1,700 cfs; minimum daily, 3.6 cfs Oct. 26, 27, 1964.

Remarks.--Records good. Flow regulated by Cherry Lake (see sta 11-2772) and Lake Eleanor (see sta 11-2775). Cherry Creek Canal (see sta 11-2782) diverts about 2 miles upstream from station. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record and eight discharge measurements furnished by city and county of San Francisco.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	706	687	718	523	750	690	653	135	630	615	658	651
2	574	696	708	277	769	694	514	593	631	547	653	652
3	268	692	697	686	745	704	200	598	625	178	651	563
4	703	686	612	699	755	701	573	584	498	178	650	315
5	679	681	322	682	700	573	628	556	157	628	664	312
6	696	596	713	704	584	275	626	585	631	626	597	656
7	695	245	700	721	788	716	622	463	629	628	325	653
8	698	661	705	615	790	712	633	129	625	606	654	653
9	577	676	692	300	784	726	502	582	659	538	651	648
10	262	653	688	707	773	739	206	586	767	174	654	557
11	700	577	602	708	760	746	652	585	649	628	652	310
12	696	655	320	707	627	599	652	586	465	617	654	648
13	699	580	708	705	224	300	646	572	765	620	590	641
14	707	252	690	698	671	726	636	459	763	620	309	651
15	708	684	712	602	669	736	629	135	761	628	650	655
16	575	680	709	288	669	727	501	574	764	547	647	652
17	268	692	704	715	671	728	174	545	760	168	642	560
18	708	692	599	723	683	722	619	541	645	633	643	303
19	699	708	312	795	612	586	618	546	469	626	639	651
20	700	600	705	791	228	288	622	546	801	634	587	647
21	699	245	706	622	687	717	610	398	854	636	315	657
22	691	679	707	623	620	721	618	82	858	635	643	658
23	646	767	708	530	688	717	484	598	860	558	642	658
24	407	868	706	793	691	726	188	610	861	177	647	574
25	703	336	322	792	688	697	619	608	757	635	642	382
26	713	710	318	789	627	576	616	608	710	635	650	656
27	713	610	704	779	240	278	616	618	863	630	587	648
28	707	265	700	790	685	697	608	455	864	624	310	661
29	691	710	739	670	-----	692	619	107	863	631	651	653
30	529	688	729	584	-----	685	479	191	844	556	651	654
31	255	-----	727	770	-----	681	-----	619	-----	178	650	-----
TOTAL	19,072	18,271	19,682	20,388	18,178	19,875	16,363	14,794	21,028	16,334	18,558	17,579
MEAN	615	609	635	658	649	641	545	477	701	527	599	586
AC-FT	37,830	36,240	39,040	40,440	36,060	39,420	32,460	29,340	41,710	32,400	36,810	34,870
CALENDAR YEAR 1965		MAX	1,650	MIN	224	MEAN 758		AC-FT 548,400				
WATER YEAR 1965-66		MAX	868	MIN	82	MEAN 603		AC-FT 436,600				

11-2810. South Fork Tuolumne River near Oakland Recreation Camp, Calif.

Location.--Lat 37°49'16", long 120°00'48", in SE¼ 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.--87.0 sq mi.

Records available.--March 1923 to September 1966.

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.--43 years, 89.6 cfs (64,870 acre-ft per year).

Extremes.--Maximum discharge during year, 1,170 cfs Nov. 24 (gage height, 5.26 ft); minimum, 1.9 cfs Aug. 6.

1923-66: 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 measurements at gage heights 7.48 and 10.9 ft; minimum, 0.3 cfs Aug. 23, 1934.

Remarks.--Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record and 11 discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	9.4	77	87	54	66	236	196	49	16	9.6	5.9
2	11	9.4	73	77	50	62	248	200	45	16	8.2	5.8
3	11	9.6	73	78	52	57	250	204	42	16	7.8	5.3
4	11	9.6	76	73	53	58	259	202	41	16	7.2	5.3
5	10	9.6	73	72	58	59	256	208	40	15	5.8	4.8
6	9.6	9.6	70	79	123	62	243	190	38	14	4.1	4.6
7	9.4	9.6	67	80	86	68	240	192	45	14	5.4	4.6
8	9.0	9.8	64	83	71	74	233	178	45	14	5.6	4.7
9	9.0	10	63	83	67	78	236	160	42	14	5.6	6.4
10	9.1	10	62	78	64	112	265	266	39	14	5.3	4.6
11	9.1	10	61	73	53	116	213	178	36	14	5.7	4.6
12	9.1	11	64	68	63	110	192	150	33	13	5.4	4.7
13	9.1	21	58	67	55	132	173	136	31	12	4.8	5.0
14	9.6	14.1	61	66	56	134	169	139	29	13	5.7	5.4
15	14	102	53	66	55	125	182	129	27	13	5.6	5.7
16	13	119	49	64	55	122	208	123	26	12	5.2	5.6
17	12	211	44	60	54	110	226	122	25	12	5.1	5.3
18	12	304	45	56	56	105	219	122	25	12	5.0	6.5
19	12	229	46	58	56	109	173	120	23	11	4.8	9.6
20	11	79	49	55	56	105	150	114	22	11	4.7	8.8
21	11	56	50	51	57	103	140	105	21	11	4.7	7.8
22	11	48	51	56	62	105	138	93	21	10	4.7	6.7
23	11	668	42	55	70	118	146	85	21	9.8	4.7	6.2
24	10	732	49	52	71	126	176	80	20	9.8	4.5	6.1
25	10	256	53	52	65	129	202	76	20	9.7	4.4	5.9
26	10	151	49	52	66	138	213	70	19	9.1	5.1	5.9
27	10	115	49	50	64	153	208	64	18	8.2	5.4	5.8
28	10	102	80	49	64	169	200	59	18	8.1	5.2	5.6
29	9.8	92	294	50	-----	180	190	56	17	7.8	5.2	5.2
30	9.6	83	216	58	-----	196	190	55	16	8.1	5.2	5.2
31	9.6	-----	122	54	-----	213	-----	52	-----	9.7	5.6	-----
Total	324.0	3,626.6	2,283	2,002	1,756	3,494	6,174	4,124	894	373.3	171.3	173.6
Mean	10.5	121	73.6	64.6	62.7	113	206	133	29.8	12.0	5.53	5.79
Ac-ft	643	7,190	4,530	3,970	3,480	6,930	12,250	8,180	1,770	740	340	344

Calendar year 1965 Max 1,090 Min 9.0 Mean 125 Ac-ft 90,450  
 Water year 1965-66 Max 732 Min 4.1 Mean 69.6 Ac-ft 50,370

Peak discharge (base, 370 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-19	0030	4.52	701	12-29	2130	4.19	536
11-24	1200	5.26	1,170	5-10	0900	3.80	375

## SAN JOAQUIN RIVER BASIN

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.--73.5 sq mi.

Records available.--October 1916 to September 1966. 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.--50 years, 72.3 cfs (52,340 acre-ft per year).

Extremes.--Maximum discharge during year, 626 cfs Nov. 23 (gage height, 5.12 ft); minimum, 0.60 cfs Sept. 4.

1916-66: 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 maximum flow; no flow Sept. 4-14, 1924, Aug. 12 to Oct. 5, 1931, Sept. 11-17, 1934, Sept. 7-14, 1961.

Remarks.---Records good. No regulation; small diversion above station for irrigation. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record and 12 discharge measurements furnished by city and county of San Francisco.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	3.9	37	45	30	35	144	228	76	14	3.0	1.1
2	5.0	3.7	36	39	28	33	157	238	71	14	2.8	2.0
3	4.8	3.8	36	41	29	31	157	256	67	13	2.7	1.1
4	4.5	3.8	36	38	29	32	168	252	63	12	2.9	.80
5	4.4	3.8	35	39	33	32	174	262	59	12	2.8	1.0
6	4.2	3.8	34	41	69	34	177	258	55	11	2.3	1.0
7	4.2	3.8	32	42	43	36	182	262	63	10	3.2	.90
8	3.9	3.8	32	44	35	38	187	262	67	9.8	1.9	.80
9	3.9	3.9	32	42	35	39	190	250	69	9.2	1.8	.90
10	3.9	3.9	31	40	34	56	194	313	59	9.4	1.7	1.0
11	3.9	3.9	30	38	28	61	171	250	50	9.0	1.6	.90
12	3.8	4.5	32	36	34	55	162	230	44	8.6	1.5	.90
13	3.8	7.7	30	34	30	66	148	217	40	8.4	1.4	1.0
14	3.8	51	32	34	30	68	147	223	37	8.0	1.4	1.0
15	5.7	64	26	34	30	64	158	204	36	7.6	1.4	1.1
16	7.5	66	24	34	30	64	179	199	34	8.0	1.3	1.1
17	7.1	105	21	32	30	60	203	197	32	7.8	1.3	1.1
18	6.4	156	22	30	30	59	206	194	30	5.2	1.2	1.3
19	6.1	139	23	32	30	59	166	196	28	4.9	1.1	1.6
20	5.9	59	24	29	31	58	147	180	26	5.4	1.1	2.6
21	5.6	40	25	29	31	57	138	176	25	5.0	1.0	2.4
22	5.1	34	25	31	33	58	136	158	23	4.7	1.0	1.9
23	4.8	263	21	29	36	64	138	147	23	4.3	1.0	1.8
24	4.6	273	25	29	36	70	160	140	21	3.9	.90	1.8
25	4.5	112	26	28	31	74	192	128	21	3.4	1.0	1.5
26	4.4	74	24	28	36	78	221	118	19	3.2	1.0	1.4
27	4.1	59	24	28	34	87	225	107	17	3.0	1.0	1.4
28	4.1	49	50	27	34	98	223	98	17	3.0	1.0	1.3
29	4.1	44	169	28	-----	107	213	91	16	3.0	.90	1.3
30	4.1	41	105	32	-----	118	215	87	15	2.8	1.0	1.3
31	4.1	-----	72	30	-----	128	-----	82	-----	3.0	1.1	-----
Total	147.7	1,683.3	1,171	1,063	939	1,919	5,278	6,003	1,203	226.6	493.0	393.0
Mean	4.76	56.1	37.8	34.3	33.5	61.9	176	194	40.1	7.31	1.59	1.31
Ac-ft	293	3,340	2,320	2,110	1,860	3,810	10,470	11,910	2,390	449	98	78

Calendar year 1965 Max 665 Min 3.7 Mean 103 Ac-ft 74,670  
 Water year 1965-66 Max 313 Min 0.80 Mean 54.0 Ac-ft 39,120

Peak discharge (base, 370 cfs).--Nov. 23 (2200) 626 cfs (5.12 ft); May 10 (1000) 390 cfs (4.30 ft).

11-2831. Lily Creek near Pinecrest, Calif.

Location.--Lat 38°08'40", long 119°54'05", in T.3 N., R.19 E., on left bank 1,500 ft downstream from Mud Lake, and 5.7 miles southeast of Pinecrest.

Drainage area.--11.9 sq mi.

Records available.--July 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,990 ft (from topographic map).

Extremes.--Maximum discharge during year, 275 cfs Apr. 1 (gage height, 5.30 ft); minimum daily, 0.10 cfs many days.

1964-66: Maximum discharge, 1,700 cfs Dec. 23, 1964 (gage height, 10.77 ft), from rating curve extended above 180 cfs; minimum daily, 0.10 cfs many days each year.

Flood of Feb. 1, 1963, reached a stage of 11.7 ft, from floodmarks, (discharge, 2,030 cfs).

Remarks.--Records good except those for period of no gage-height record, which are poor. Small regulation by Y-Meadow Reservoir (capacity, 180 acre-ft). No diversions above station. See schematic diagram for Tuolumne River basin. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	0.30	18	12	98	12	187	146	21	0.70	0.30	0.10
2	.40	.30	20	11	99	12	173	160	18	.70	.60	.10
3	.40	.30	23	11	10	12	175	160	16	.70	.30	.10
4	.40	.30	25	11	10	12	193	176	16	.60	.20	.10
5	.30	.30	23	10	11	12	175	182	16	.60	.20	.10
6	.30	.30	21	9.8	12	13	170	164	15	.50	.20	.10
7	.30	.30	20	9.2	12	17	168	161	22	.50	.20	.10
8	.30	.30	19	9.0	12	21	166	152	22	.50	.20	.10
9	.30	.30	17	9.2	11	37	138	131	22	.50	.20	.10
10	.30	.30	16	9.2	11	60	111	196	17	.50	.20	.10
11	.30	.30	14	9.2	11	109	78	127	15	.50	.20	.10
12	.30	.60	14	9.2	11	69	72	106	12	.50	.20	.10
13	.30	2.1	12	9.2	11	177	69	106	10	.40	.20	.10
14	.30	7.5	11	9.1	11	93	80	106	9.0	.40	.20	.20
15	.70	16	10	9.2	11	64	114	98	7.5	.40	.10	.20
16	.50	47	9.0	9.2	11	49	144	98	6.4	.40	.10	.20
17	.40	114	8.5	9.2	11	38	153	95	5.3	.40	.10	.20
18	.40	157	8.2	9.2	11	41	120	99	4.5	.40	.10	.20
19	.40	54	8.2	9.2	11	42	68	99	3.7	.40	.10	.30
20	.40	32	8.0	9.2	11	37	54	94	3.2	.30	.10	.20
21	.30	25	7.8	9.2	12	41	56	89	2.5	.30	.10	.10
22	.30	23	7.5	9.2	12	52	75	83	2.2	.30	.10	.10
23	.30	27	7.3	9.2	12	71	99	75	1.7	.30	.10	.10
24	.30	25	7.1	9.2	12	80	142	68	1.5	.30	.10	.10
25	.30	25	7.1	9.3	12	84	170	65	1.4	.30	.10	.10
26	.30	22	7.1	9.3	12	100	172	67	1.2	.20	.10	.10
27	.30	18	7.1	9.3	12	118	162	53	1.1	.20	.10	.10
28	.30	19	7.1	9.4	12	130	143	47	1.0	.20	.10	.10
29	.30	20	11	9.5	-----	143	137	39	.90	.20	.10	.10
30	.30	19	13	9.6	-----	160	148	30	.80	.20	.10	.10
31	.30	-----	12	9.8	-----	176	-----	26	-----	.30	.10	-----
Total	10.70	656.50	399.0	296.3	314.7	2,082	3,912	3,298	275.90	12.70	5.10	3.80
Mean	0.35	21.9	12.9	9.56	11.2	67.2	130	106	9.20	0.41	0.16	0.13
Ac-ft	21	1,300	792	588	624	4,130	7,760	6,540	547	25	10	7.5

Calendar year 1965 Max 295 Min 0.30 Mean 47.9 Ac-ft 34,670  
 Water year 1965-66 Max 196 Min 0.10 Mean 30.9 Ac-ft 22,350

Peak discharge (base, 160 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-18	0600	5.13	248	4-16	2130	4.91	214
3-13	0200	5.07	238	4-25	2100	5.23	264
4-1	2030	5.30	275				

Note.--No gage-height record Jan. 2 to Mar. 10.

## SAN JOAQUIN RIVER BASIN

11-2832. Bell Creek near Pinecrest, Calif.

Location.--Lat 38°09'45", long 119°56'35", in NE<sup>1</sup>/<sub>4</sub> sec.36, T.4 N., R.18 E., on right bank 1,400 ft downstream from Bell Meadows, and 3 miles southeast of Pinecrest.

Drainage area.--9.11 sq mi.

Records available.--September 1963 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,450 ft (from topographic map).

Extremes.--Maximum discharge during year, 163 cfs Apr. 1 (gage height, 4.40 ft); no flow for many days.

1963-66: Maximum discharge, 93<sup>4</sup> cfs Dec. 23, 1964 (gage height, 7.54 ft), from rating curve extended above 150 cfs on basis of slope-area measurement at gage height 8.79 ft; no flow for many days each year.

Flood of Feb. 1, 1963, reached a stage of 9.79 ft, from floodmarks (discharge, 1,410 cfs), from slope-area measurement of maximum flow.

Remarks.--Records good except those for January and February, which are poor. No storage or diversion above station.

See schematic diagram for Tuolumne River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.50	0.40	9.2	1.8	6.2	7.7	111	85	17	1.6	0.30	0
2	.50	.40	9.8	1.3	6.2	7.8	110	90	15	1.4	.70	0
3	.60	.40	11	9.5	6.2	7.9	111	90	15	1.4	.20	0
4	.50	.40	13	7.5	6.2	8.0	121	97	14	1.3	.20	0
5	.50	.40	12	7.7	6.3	8.3	117	96	13	1.1	.20	0
6	.50	.60	11	6.9	6.3	8.5	113	90	12	1.0	.10	0
7	.50	.40	11	5.3	6.3	8.9	112	89	17	.80	.10	0
8	.50	.30	10	5.6	6.4	9.2	110	86	19	.80	.10	0
9	.40	.40	10	6.0	6.4	10	103	82	18	.80	.10	0
10	.40	.40	9.0	6.5	6.5	19	103	112	13	.70	.10	0
11	.40	.40	8.8	6.6	6.5	21	84	80	11	.60	.10	0
12	.40	.60	8.5	6.5	6.6	26	67	67	10	.60	.10	0
13	.40	2.0	7.9	6.4	6.6	46	60	66	9.0	.50	.10	0
14	.70	8.1	7.5	6.4	6.7	45	63	64	8.5	.50	.10	0
15	1.1	7.3	7.7	6.3	6.9	39	74	60	7.7	.40	.10	0
16	.90	14	7.1	6.2	6.9	30	77	60	6.5	.40	.10	0
17	.80	52	7.3	6.2	7.0	26	91	58	5.8	.40	.10	0
18	.80	96	7.1	6.1	7.0	28	80	59	5.3	.30	.10	1.0
19	.70	29	6.9	6.1	7.1	28	57	58	5.0	.30	.10	1.0
20	.60	17	7.3	6.1	7.1	26	50	58	4.4	.30	.10	1.0
21	.60	12	6.7	6.1	7.2	28	51	54	4.0	.30	0	0
22	.50	11	5.5	6.0	7.2	34	55	50	3.7	.20	0	0
23	.50	20	5.8	6.0	7.2	46	62	45	3.4	.20	0	0
24	.50	14	4.8	6.0	7.3	52	78	43	3.0	.20	0	0
25	.40	14	10	6.0	7.4	54	90	41	2.8	.20	0	0
26	.40	12	10	6.0	7.4	60	94	39	2.5	.20	0	0
27	.40	10	6.2	6.0	7.5	71	92	34	2.3	.20	0	0
28	.40	10	4.7	6.0	7.6	80	87	31	2.0	.10	0	0
29	.40	10	7.7	6.0	-----	88	82	26	1.8	.10	0	0
30	.40	10	10	6.1	-----	97	84	21	1.7	.20	0	0
31	.40	-----	13	6.1	-----	104	-----	19	-----	.20	0	-----
Total	1660	35350	2665	2152	1902	11243	2589	1950	2534	1730	310	030
Mean	0.54	11.8	86.0	69.4	67.9	363	86.3	62.9	84.5	0.56	0.10	0.01
Ac-ft	33	701	529	427	377	2230	5140	3870	503	34	6.1	0.6

Calendar year 1965 Max 182 Min 0.30 Mean 32.9 Ac-ft 23850

Water year 1965-66 Max 121 Min 0 Mean 19.1 Ac-ft 13840

Peak discharge (base, 125 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-18	0800	4.27	145	5-10	0300	4.31	150
4-1	2030	4.40	163				

11-2835. Clavey River near Buck Meadows, Calif.

Location.--Lat 37°54'00", long 120°04'15", in SE  $\frac{1}{4}$  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 1966.

Gage.--Digital water-stage recorder. Datum of gage is 2,374.08 ft above mean sea level. Prior to Aug. 16, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--7 years, 198 cfs (143,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,850 cfs Nov. 18 (gage height, 10.21 ft); minimum daily, 7.7 cfs Sept. 7-8, 10-11. 1959-66: Maximum discharge, 19,200 cfs Feb. 1, 1963 (gage height, 21.40 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement of maximum flow; minimum, 3.4 cfs Sept. 7, 8, 1961.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	18	181	138	115	147	775	442	106	26	15	9.3
2	20	18	175	129	103	142	760	430	96	25	14	8.9
3	19	19	180	129	115	130	690	463	90	24	13	8.4
4	19	18	193	123	112	128	742	448	86	24	12	8.0
5	19	18	190	133	120	135	721	460	83	23	12	7.9
6	19	18	179	151	224	138	692	438	81	22	12	7.8
7	19	18	171	160	163	153	652	425	89	22	11	7.7
8	18	18	164	164	147	181	632	419	100	21	11	7.7
9	18	18	159	162	143	205	618	381	107	24	11	7.8
10	18	19	154	153	134	327	718	535	94	22	11	7.7
11	18	19	147	145	113	385	595	417	81	21	10	7.7
12	18	20	155	138	130	369	542	355	75	20	10	7.9
13	18	31	139	136	113	508	492	318	69	20	10	8.3
14	19	228	138	135	116	530	470	319	63	20	10	8.8
15	26	195	118	138	115	482	502	292	58	19	10	9.0
16	24	199	110	139	117	438	540	283	54	18	9.0	9.0
17	22	548	100	133	119	389	565	276	50	18	9.2	8.6
18	22	1,130	103	127	123	381	575	268	47	17	9.0	9.2
19	21	605	103	129	125	393	448	272	44	17	8.8	13
20	21	314	105	116	123	375	395	255	42	16	8.6	13
21	20	215	107	115	127	365	371	248	39	16	8.4	12
22	20	172	108	120	136	381	371	234	39	15	8.5	10
23	19	574	88	114	152	435	381	215	37	15	8.5	9.6
24	19	721	102	114	163	488	435	198	36	14	8.4	9.3
25	18	423	103	108	143	505	488	184	35	14	8.4	9.0
26	18	304	100	110	149	525	515	177	33	14	8.2	9.0
27	18	250	107	107	142	580	500	163	31	13	8.4	9.0
28	18	229	114	102	145	622	468	150	29	13	8.6	8.7
29	18	213	201	108	-----	658	432	139	28	13	8.6	8.4
30	18	197	204	120	-----	688	435	125	27	13	9.7	8.1
31	18	-----	166	116	-----	745	-----	116	-----	15	9.2	-----
Total	602	6,768	4,364	4,011	3,727	11,928	16,520	9,450	1,849	574	310.5	268.8
Mean	19.4	226	141	129	133	385	551	305	61.6	18.5	10.0	8.96
Ac-ft	1,190	13,420	8,660	7,960	7,390	23,660	32,770	18,740	3,670	1,140	616	533

Calendar year 1965 Max 1,790 Min 18 Mean 333 Ac-ft 241,000

Water year 1965-66 Max 1,130 Min 7.7 Mean 165 Ac-ft 119,700

Peak discharge (base, 1,400 cfs)--Nov. 18 (1200) 1850 cfs (10.21 ft).

11-2845. Big Creek near Groveland, Calif.

Location.--Lat 37°51'28", long 120°12'02", in NE¼ 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.--24.7 sq mi.

Records available.--October 1931 to September 1933, July 1959 to September 1966.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 2,450 ft (from topographic map). Prior to Oct. 10, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 9.25 cfs (6,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,140 cfs Feb. 6 (gage height, 4.90 ft); no flow for several months.

1931-33, 1959-66: Maximum discharge, 4,530 cfs Feb. 1, 1963 (gage height, 7.71 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

Flood of December 1955 reached a stage of 7.6 ft, from floodmarks (discharge, 4,300 cfs).

Remarks.--Records good except those for period Jan. 24 to Mar. 6, which are fair. No storage or diversion above station.

See schematic diagram for Tulumne River basin.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	4.9	71	25	6.9	3.0	1.5	0.30			
2		0	4.2	36	15	6.9	3.0	1.4	.20			
3		0	3.7	24	10	6.5	2.9	1.4	.20			
4		0	3.3	20	9.9	6.5	2.7	1.3	.20			
5		0	3.2	20	40	6.5	2.5	1.3	.20			
6		0	2.9	18	280	6.1	2.2	1.3	.20			
7		0	2.8	15	60	5.6	2.2	1.3	.20			
8		0	2.6	15	30	5.3	2.2	1.2	.20			
9		0	2.6	13	25	5.6	2.7	1.3	.10			
10		0	2.4	12	20	7.4	11	2.1	.10			
11		0	2.5	10	17	6.1	5.8	1.9	.10			
12		0	6.2	9.2	15	5.4	4.7	1.8	.10			
13		.10	5.2	8.8	14	5.1	3.6	1.6	0			
14		4.0	5.1	8.1	12	4.8	3.2	1.3	0			
15		1.3	4.7	7.7	11	4.6	3.0	1.2	0			
16		6.5	3.6	6.7	10	4.4	2.7	1.1	0			
17		5.0	3.0	6.3	9.0	4.2	2.5	1.0	0			
18		57	2.7	6.0	8.0	4.1	2.5	.80	0			
19		29	2.6	5.8	7.5	4.0	2.7	.70	0			
20		5.8	2.6	5.4	7.0	4.3	2.5	.60	0			
21		2.7	2.7	5.2	7.0	4.2	2.5	.60	0			
22		2.3	2.7	5.2	7.2	4.2	2.3	.60	0			
23		202	2.3	5.2	7.2	4.1	2.2	.60	0			
24		261	2.3	5.0	7.4	3.9	2.0	.50	0			
25		75	18	5.2	7.4	3.8	1.9	.40	0			
26		32	9.7	5.0	7.2	3.6	1.8	.40	0			
27		16	7.2	5.0	7.0	3.5	1.7	.30	0			
28		11	43	5.0	6.9	3.5	1.7	.20	0			
29		8.1	213	5.0	-----	3.3	1.6	.20	0			
30		6.3	138	40	-----	3.2	1.5	.30	0			
31		--	146	30	-----	3.2	-----	.40	-----			
TOTAL	0	725.10	655.7	433.8	682.7	150.6	86.8	30.60	2.10	0	0	0
MEAN	0	24.2	21.2	14.0	24.4	4.86	2.89	.99	.07	0	0	0
AC-FT	0	1,440	1,300	860	1,350	299	172	61	4.2	0	0	0

CALENDAR YEAR 1965 MAX 1,020 MIN 0 MEAN 16.8 AC-FT 12,170  
 WATER YEAR 1965-66 MAX 280 MIN 0 MEAN 7.58 AC-FT 5,490

## Peak discharge (base, 220 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-23	2015	4.67	979	2-6	Unknown	4.90	1,140
12-29	0200	3.61	360				



11-2847. North Fork Tuolumne River near Long Barn, Calif.

Location.--Lat 38°05'55", long 120°06'00", in NW 1/4 sec. 22, T.3 N., R.17 E., on right bank 0.6 mile upstream from small tributary 1.5 miles east of Long Barn, and 3.8 miles upstream from Wrights Creek.

Drainage area.--23.1 sq mi.

Records available.--August 1962 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 4,650 ft (from topographic map). Prior to June 9, 1965, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 178 cfs Nov. 23 (gage height, 4.19 ft); maximum gage height, 5.08 ft Jan. 9 (backwater from ice); minimum daily discharge, 0.3 cfs Aug. 26, Sept. 5-8.  
1962-66: Maximum discharge, 1,570 cfs Feb. 1, 1963 (gage height, 7.23 ft), from rating curve extended above 650 cfs on basis of slope-area measurement at gage height 9.8 ft; minimum daily, 0.2 cfs Sept. 18-25, 1962.  
Flood of Dec. 23, 1955, reached a stage of 9.8 ft, from floodmarks (discharge, 2,560 cfs by slope-area measurement).

Remarks.--Records good except those for winter period, which are fair. No storage or diversions above station. See schematic diagram for Tuolumne River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.3	1.2	18	21	9.5	16	78	26	5.7	1.9	1.2	0.60
2	1.3	1.2	17	18	5.4	16	78	24	5.5	1.9	1.0	.50
3	1.2	1.2	17	13	6.0	16	74	23	5.3	1.9	.90	.40
4	1.2	1.2	17	8.0	7.0	15	74	22	5.1	1.8	.80	.40
5	1.2	1.2	17	9.0	11	15	72	21	4.9	1.7	.80	.30
6	1.0	1.2	16	11	15	16	68	20	5.0	1.7	.70	.30
7	1.0	1.2	15	13	14	19	63	19	6.1	1.6	.60	.30
8	1.0	1.2	14	15	13	24	59	18	5.5	1.7	.60	.30
9	1.0	1.2	14	15	13	30	60	18	5.2	1.8	.60	.40
10	1.0	1.3	14	15	12	49	86	24	5.0	1.7	.60	.40
11	1.0	1.3	14	15	12	50	77	19	4.5	1.9	.60	.40
12	1.0	1.8	14	15	12	51	70	17	4.2	1.7	.60	.40
13	1.1	4.5	13	14	12	61	62	15	3.9	1.6	.50	.50
14	1.6	35	13	14	12	62	57	14	3.7	1.5	.50	.50
15	2.5	15	12	14	11	59	53	13	3.5	1.3	.70	.60
16	1.9	20	11	13	11	56	52	12	3.4	1.3	.60	.60
17	1.8	34	10	12	11	50	51	11	3.3	1.2	.50	.60
18	1.7	107	10	11	12	48	54	11	3.1	1.2	.50	.40
19	1.6	58	10	10	12	48	51	9.6	3.0	1.2	.40	.90
20	1.7	26	10	10	12	47	46	9.0	2.8	1.1	.40	.90
21	1.6	17	10	9.5	13	45	42	8.5	2.8	1.0	.40	.80
22	1.6	15	10	9.0	15	45	39	8.2	2.8	1.0	.40	.60
23	1.4	96	9.0	8.5	17	48	36	7.9	2.7	.90	.40	.60
24	1.4	121	10	8.0	18	50	35	7.4	2.4	.90	.40	.60
25	1.3	55	11	8.0	17	51	34	7.0	2.4	.80	.40	.60
26	1.3	35	10	7.5	17	54	33	6.6	2.2	.80	.30	.60
27	1.3	28	14	7.2	16	58	33	6.4	2.2	.80	.40	.60
28	1.3	25	19	7.0	16	62	31	6.0	2.1	.80	.40	.60
29	1.3	22	25	9.7	-----	66	29	5.5	2.0	.80	.40	.60
30	1.2	20	33	10	-----	69	27	6.0	2.0	.90	.50	.60
31	1.2	-----	29	9.4	-----	74	-----	5.9	-----	1.3	.50	-----
TOTAL	42.0	748.7	456.0	359.8	351.9	1,370	1,624	421.0	112.3	41.70	17.60	16.30
MEAN	1.36	25.0	14.7	11.6	12.6	44.2	54.1	13.6	3.74	1.35	.57	.54
AC-FT	83	1,490	904	714	698	2,720	3,220	835	223	83	35	32

CALENDAR YEAR 1965 MAX 227 MIN 1.0 MEAN 33.7 AC-FT 24,370  
WATER YEAR 1965-66 MAX 121 MIN .30 MEAN 15.2 AC-FT 11,040

Peak discharge (base, 150 cfs).--Nov. 23 (2030) 178 cfs (4.19 ft)

## SAN JOAQUIN RIVER BASIN

11-2850. North Fork Tuolumne River above Dyer Creek, near Tuolumne, Calif.

Location.--Lat 37°58'53", long 120°12'20", in NW 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.--69.2 sq mi.

Records available.--October 1958 to September 1966 (discontinued).

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 2,200 ft (from topographic map). Prior to June 24, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--8 years, 53.5 cfs (38,730 acre-ft per year).

Extremes.--Maximum discharge during year, 1,020 cfs Nov. 23 (gage height, 3.59 ft); minimum daily, 2.5 cfs Aug. 20-26.  
1958-66: Maximum discharge, 4,130 cfs Jan. 31, 1963 (gage height, 5.79 ft), from rating curve extended above 2,300 cfs; minimum, 0.3 cfs Aug. 25, 26, 1961.  
Flood of December 1955 reached a stage of 10.7 ft, from floodmarks (discharge unknown).

Remarks.--Records good. No storage or large diversions above station. See schematic diagram for Tuolumne River basin.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.4	8.0	67	66	46	68	131	43	19	9.8	5.3	3.7
2	7.9	7.6	61	56	42	63	131	41	18	9.9	4.8	3.7
3	7.7	10	58	54	44	58	124	39	18	10	4.3	3.2
4	7.7	9.6	57	51	45	57	119	38	17	9.7	4.0	3.2
5	7.6	8.4	55	60	57	57	114	37	17	9.1	3.7	3.1
6	8.1	8.4	52	68	183	59	106	36	17	8.6	3.4	3.1
7	7.7	8.4	49	75	107	68	99	34	19	8.2	3.3	3.2
8	7.4	8.4	47	81	85	77	92	33	20	7.9	3.2	3.0
9	7.4	9.5	44	78	76	90	90	33	18	8.9	3.2	3.2
10	7.4	11	44	71	69	146	156	47	17	8.7	3.1	3.0
11	7.8	9.6	43	64	60	154	138	39	16	8.5	3.0	3.1
12	7.6	11	48	59	61	149	121	36	16	8.4	3.1	3.5
13	8.7	18	44	57	54	174	105	33	15	8.0	2.8	3.7
14	9.2	95	43	56	55	176	94	31	14	7.8	2.8	4.0
15	19	53	38	56	53	169	88	30	13	7.6	2.8	4.1
16	12	54	35	54	54	155	83	28	12	7.3	2.8	4.1
17	11	83	32	51	53	140	80	27	12	7.1	2.8	3.7
18	11	292	33	49	54	131	87	25	12	7.0	2.8	4.6
19	10	201	32	49	54	129	90	24	11	6.8	2.8	6.2
20	10	78	32	46	54	124	79	23	12	6.6	2.5	6.0
21	9.8	52	33	44	55	117	71	22	12	5.9	2.5	5.5
22	8.4	42	33	45	58	114	66	22	12	5.6	2.5	4.7
23	8.4	391	27	42	70	114	60	21	12	5.3	2.5	4.3
24	8.3	578	31	41	81	115	57	20	12	5.3	2.5	5.1
25	8.0	238	37	40	69	116	54	19	11	4.7	2.5	4.8
26	7.6	145	33	40	71	116	52	19	11	4.7	2.5	4.7
27	7.7	108	34	38	68	120	51	19	10	4.5	2.8	4.7
28	8.8	93	53	37	67	124	49	19	9.6	4.2	2.8	4.2
29	8.3	82	149	39	-----	128	46	18	9.4	4.1	3.0	4.2
30	7.9	80	101	52	-----	126	44	20	8.9	4.2	3.2	4.2
31	7.9	-----	87	47	-----	129	-----	20	-----	5.4	3.5	-----
TOTAL	274.7	2,792.9	1,532	1,666	1,845	3,563	2,677	896	420.9	219.8	96.8	122.1
MEAN	8.86	93.1	49.4	53.7	65.9	115	89.2	28.9	14.0	7.09	3.12	4.07
AC-FT	545	5,540	3,040	3,300	3,660	7,070	5,310	1,780	835	436	192	242

CALENDAR YEAR 1965 MAX 1,140 MIN 7.4 MEAN 97.4 AC-FT 70,510  
WATER YEAR 1965-66 MAX 578 MIN 2.5 MEAN 44.1 AC-FT 31,950

Peak discharge (base, 600 cfs).--Nov. 23 (2115 hours) 1,020 cfs (3.59 ft).

11-2865. Woods Creek near Jacksonville, Calif.

Location.--Lat 37°51'30", long 120°23'45", in SE¼ sec.11, T.1 S., R.14 E., on right bank 200 ft downstream from Blue Gulch, 1.5 miles upstream from mouth, and 1.5 miles northwest of Jacksonville.

Drainage area.--97.2 sq mi.

Records available.--October 1925 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 653.65 ft above mean sea level. Prior to Oct. 1, 1947, graphic water-stage recorder at datum 2.00 ft higher. Oct. 1, 1947, to Oct. 11, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--41 years, 59.4 cfs (43,000 acre-ft per year) median of yearly mean discharges, 50 cfs (36,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,100 cfs Dec. 29 (gage height, 8.90 ft); no flow for many days.

1925-66: Maximum discharge, 14,400 cfs Dec. 23, 1955 (gage height, 14.66 ft), from rating curve extended above 4,600 cfs on basis of slope-area measurement of maximum flow; no flow for parts of most years.

Remarks.--Records good. At times less than 10 cfs from Tuolumne Canal (see sta. no. 11-2975) is discharged into Woods Creek above the station. See schematic diagram for Tuolumne River basin.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.9	2.7	35	285	167	48	32	17	13	4.3		
2	1.6	2.9	33	150	129	45	31	15	12	4.3		
3	1.5	3.2	31	115	93	41	31	9.1	12	4.0		
4	1.2	3.6	46	98	82	45	29	6.6	11	3.8		
5	1.4	3.8	39	108	175	53	18	6.4	11	3.7		
6	1.5	3.9	38	109	1,230	41	14	6.5	11	3.6		
7	1.5	4.0	27	95	262	39	12	6.8	12	3.5		
8	1.5	4.1	24	88	154	36	14	15	12	3.2		
9	1.4	4.2	23	83	114	30	15	15	12	2.8		
10	1.2	4.3	23	77	95	40	56	13	11	2.6		
11	1.4	4.8	23	71	81	37	52	14	10	2.3		
12	1.5	5.8	62	62	74	39	45	12	9.8	2.0		
13	3.1	11	45	65	66	44	38	11	8.7	1.5		
14	4.2	46	31	64	62	42	35	9.4	7.2	1.0		
15	4.8	30	33	62	59	36	32	9.6	6.8	.50		
16	3.1	74	33	60	56	35	29	14	6.2	0		
17	2.4	91	29	55	54	41	16	9.7	5.8	0		
18	2.4	398	38	55	50	41	25	7.2	5.5	0		
19	2.6	337	39	55	48	41	29	7.1	5.5	0		
20	2.7	57	39	56	49	39	29	7.0	5.4	0		
21	2.7	33	39	55	49	39	28	6.8	5.2	0		
22	2.7	28	39	69	57	39	16	6.8	5.0	0		
23	2.7	877	38	70	64	38	23	7.0	5.0	0		
24	2.5	1,130	38	55	49	37	14	7.0	4.9	0		
25	2.4	313	115	54	51	36	20	6.8	4.9	0		
26	2.3	164	80	54	63	36	25	7.0	4.9	0		
27	2.4	86	56	52	57	35	21	7.2	4.7	0		
28	2.4	68	99	50	53	35	22	8.3	4.7	0		
29	2.4	56	1,110	50	-----	34	19	8.7	4.6	0		
30	2.4	41	889	204	-----	34	19	10	4.4	0		
31	2.6	-----	757	179	-----	33	-----	12	-----	0		---
TOTAL	70.4	3,887.3	3,951	2,705	3,543	1,209	789	299.0	236.2	43.10	0	0
MEAN	2.27	130	127	87.3	127	39.0	26.3	9.65	7.87	1.39	0	0
AC-FT	140	7,710	7,840	5,370	7,030	2,400	1,560	593	468	85	0	0

CALENDAR YEAR 1965 MAX 2,600 MIN .10 MEAN 87.4 AC-FT 63,270  
 WATER YEAR 1965-66 MAX 1,230 MIN 0 MEAN 45.8 AC-FT 33,200

## Peak discharge (base, 900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-18	1415	6.16	1,000	12-29	2345	8.90	3,100
11-24	0400	7.89	2,150	2-6	0300	8.72	2,920

## SAN JOAQUIN RIVER BASIN

11-2875. Don Pedro Reservoir near La Grange, Calif.

Location.--Lat 37°42'48", long 120°24'14", in SW¼ 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.--1,530 sq mi.

Records available.--September 1923 to September 1966. 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, 223,700 acre-ft June 5-7 (elevation, 583.6 ft); minimum, 63,500 acre-ft Dec. 23 (elevation, 509.5 ft).

1924-66: Maximum contents, 292,100 acre-ft June 13, 1937 (elevation, 606.1 ft); 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. See schematic diagram of Tuolumne River basin.

Cooperation.--Gage-height record furnished by Turlock and Modesto Irrigation Districts.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	171.8	93.3	114.9	89.8	119.2	149.6	158.9	154.7	220.8	194.1	157.9	98.9
2	169.2	92.6	113.5	89.2	120.3	149.1	159.7	154.0	222.2	193.8	155.5	97.7
3	166.2	92.2	111.8	88.8	121.2	148.9	159.4	154.0	222.8	193.2	153.3	96.8
4	162.9	91.7	110.1	89.8	122.1	148.6	159.7	154.5	223.4	192.1	151.1	96.6
5	160.4	91.5	108.1	91.5	123.9	148.4	160.4	155.2	223.7	191.1	148.9	95.6
6	157.7	91.4	105.9	93.4	132.3	147.7	160.7	156.0	223.7	190.8	146.7	94.0
7	155.0	91.2	104.0	95.4	135.1	147.0	160.9	156.5	222.8	190.5	144.3	94.3
8	152.5	90.0	101.8	97.0	137.0	147.0	161.1	156.9	221.4	190.0	141.7	94.0
9	149.6	89.3	99.6	98.6	138.4	147.0	161.4	156.9	220.2	190.0	139.3	94.1
10	146.5	88.8	97.2	99.4	139.6	147.7	161.9	158.4	219.4	189.7	137.2	93.8
11	142.9	88.7	94.8	99.2	140.5	148.4	161.9	159.7	218.5	188.9	134.9	92.9
12	140.3	88.5	92.6	98.9	141.2	149.1	162.4	162.4	217.9	188.3	132.8	92.2
13	137.4	88.0	89.7	98.6	141.9	149.6	162.4	165.2	216.2	188.1	130.7	92.1
14	133.9	88.3	87.4	98.9	141.7	150.3	162.1	168.2	214.8	187.5	128.6	92.1
15	131.2	89.2	84.7	100.3	142.2	151.3	161.9	170.5	213.1	187.3	125.9	91.7
16	128.2	89.8	82.0	100.9	142.9	152.1	161.9	172.5	211.4	186.7	123.4	91.0
17	125.0	92.2	79.5	101.3	143.6	152.8	161.1	174.6	209.7	185.1	121.0	90.4
18	121.9	97.4	77.0	102.0	144.1	153.3	160.7	176.2	208.3	183.0	118.6	89.3
19	119.9	102.0	74.3	103.2	144.8	153.8	160.4	178.0	206.6	181.4	116.4	88.3
20	117.9	101.7	71.1	104.2	145.3	153.8	159.9	181.1	204.9	179.8	114.5	88.0
21	115.8	100.0	68.4	105.7	145.0	153.5	159.4	184.6	203.5	178.2	112.6	87.7
22	113.7	97.9	65.5	107.1	146.0	153.8	158.4	188.1	202.1	176.4	110.1	87.7
23	111.4	104.4	63.5	108.5	146.5	154.3	157.7	191.1	201.0	174.9	108.1	87.5
24	108.5	116.6	64.2	109.5	147.4	154.7	156.5	194.3	199.5	173.1	106.1	87.4
25	105.7	120.3	66.2	110.8	148.2	155.2	155.7	197.4	198.2	171.0	104.2	86.9
26	103.4	121.0	67.1	111.8	149.1	155.2	156.0	200.4	196.8	169.2	102.6	87.0
27	101.3	121.7	67.1	112.8	149.9	155.7	156.0	204.3	195.2	167.8	101.7	87.4
28	99.2	119.5	68.4	113.9	149.9	156.0	156.0	208.5	194.6	165.9	101.3	87.4
29	97.4	117.9	78.6	114.9	-----	156.7	155.7	212.2	194.6	164.1	99.6	87.0
30	95.9	116.4	86.2	116.9	-----	157.7	155.5	215.9	194.3	162.6	99.4	87.4
31	94.1	-----	89.3	117.9	-----	158.4	-----	219.4	-----	160.9	99.4	-----
(†)	530.0	541.4	527.2	542.1	555.9	559.4	558.2	582.1	573.2	560.4	532.9	526.0
(‡)	-80,800	+22,300	-27,100	+29,600	+32,000	+8,500	-2,900	+63,900	-25,100	-33,400	-61,500	-12,000

Calendar year 1965..... ‡-99,000

Water year 1965-66..... ‡-87,500

† 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 NE¼ 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.--1,532 sq mi.

Records available.--August 1895 to September 1966. 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.--Digital 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. Mar. 1, 1916 to Dec. 20, 1962, graphic water-stage recorder at same site and datum.

Average discharge.--70 years (1896-1966), 2,514 cfs (1,820,000 acre-ft per year), adjusted for Hetch Hetchy diversion to San Francisco.

Extremes.--Maximum discharge during year, 3,050 cfs Dec. 18 (gage height, 9.65 ft); minimum daily, 715 cfs Dec. 25.  
1895-1966: 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 sta 11-2875), Hetch Hetchy Reservoir (see sta 11-2755), Cherry Lake (see sta 11-2772), and Lake Eleanor (see sta 11-2775). Tuolumne Canal (see sta 11-2975) 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 258 cfs was diverted during 1966 water year. See schematic diagram of Tuolumne River basin.

Cooperation.--Nine discharge measurements furnished by city and county of San Francisco.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,650	1,630	2,740	2,950	1,530	1,930	2,510	2,280	1,990	1,830	2,300	1,310
2	2,630	1,590	2,740	2,680	1,560	1,950	2,490	2,330	2,030	1,760	2,300	1,740
3	2,610	1,570	2,760	2,230	1,530	1,930	2,500	2,250	2,080	1,600	2,230	1,530
4	2,600	1,540	2,790	1,790	1,490	1,940	2,490	1,960	1,890	1,730	2,230	1,110
5	2,630	1,460	2,760	1,340	1,380	1,850	2,490	1,950	1,750	1,860	2,210	1,360
6	2,620	1,370	2,730	1,330	1,340	1,840	2,500	1,920	2,080	1,810	2,150	1,420
7	2,630	1,350	2,810	1,340	1,600	1,860	2,500	1,810	2,050	1,810	2,040	1,150
8	2,650	1,500	2,810	1,270	1,570	1,860	2,480	1,780	2,130	1,810	2,250	1,160
9	2,660	1,550	2,830	1,260	1,570	1,910	2,490	1,850	2,060	1,770	2,220	1,290
10	2,640	1,540	2,840	1,540	1,630	1,870	2,490	1,730	1,940	1,540	2,160	1,330
11	2,630	1,440	2,850	2,100	1,580	1,850	2,480	1,710	1,770	1,800	2,090	1,320
12	2,660	1,580	2,830	2,100	1,540	1,840	2,470	1,770	1,620	1,820	2,100	1,240
13	2,660	1,460	2,860	2,100	1,380	1,840	2,490	1,770	2,090	1,830	2,050	1,180
14	2,670	1,370	2,910	1,770	1,570	1,860	2,480	1,640	2,130	1,820	1,920	1,170
15	2,670	1,490	2,960	1,390	1,540	1,870	2,480	1,640	2,190	1,830	2,190	1,330
16	2,650	1,630	3,000	1,370	1,510	1,910	2,470	1,860	2,240	1,800	2,230	1,430
17	2,610	1,490	2,880	1,460	1,500	1,970	2,490	1,950	2,180	1,640	2,260	1,430
18	2,530	1,480	2,800	1,490	1,490	1,890	2,490	2,120	2,000	1,870	2,180	1,440
19	2,240	1,850	2,690	1,440	1,400	1,880	2,490	2,190	1,920	1,900	2,080	1,420
20	2,210	2,450	2,990	1,410	1,370	1,840	2,490	2,200	2,030	1,880	1,990	1,320
21	2,270	2,440	2,960	1,250	1,500	2,010	2,500	1,780	2,040	1,950	1,810	1,240
22	2,270	2,460	2,930	1,110	1,380	1,960	2,500	1,610	2,040	1,960	2,010	1,170
23	2,150	2,640	2,510	1,100	1,440	1,990	2,500	2,010	2,060	1,880	2,030	1,140
24	2,130	2,750	1,150	1,260	1,520	2,010	2,500	2,070	2,070	1,800	2,030	1,080
25	2,310	2,640	715	1,340	1,500	2,070	2,500	2,060	2,040	1,930	2,020	1,070
26	2,250	2,660	791	1,350	1,400	2,120	2,490	2,000	1,880	1,950	1,810	1,050
27	2,220	2,710	1,310	1,340	1,350	2,110	2,380	1,930	2,120	1,930	1,540	1,110
28	2,280	2,690	1,220	1,340	1,510	2,180	2,280	1,660	2,170	1,910	1,250	1,230
29	2,180	2,700	1,100	1,310	-----	2,150	2,280	1,550	1,850	1,930	1,520	1,470
30	2,120	2,740	2,060	1,310	-----	2,140	2,280	1,560	1,860	1,880	1,270	1,030
31	2,120	-----	2,970	1,510	-----	2,220	-----	1,820	-----	1,810	1,140	-----
TOTAL	76,150	57,770	76,296	48,580	41,680	60,650	73,980	58,760	60,300	56,640	61,610	38,270
MEAN	2,456	1,926	2,461	1,567	1,489	1,956	2,466	1,895	2,010	1,827	1,987	1,276
AC-FT	151,000	114,600	151,300	96,360	82,670	120,300	146,700	116,500	119,600	112,300	122,200	75,910

CALENDAR YEAR 1965	MAX	7,980	MIN	715	MEAN	3,230	AC-FT	2,338M
WATER YEAR 1965-66	MAX	3,000	MIN	715	MEAN	1,947	AC-FT	1,409M

## SAN JOAQUIN RIVER BASIN

11-2890. Modesto Canal near La Grange, Calif.

Location.--Lat 37°40'04", long 120°27'26", in SW¼ 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 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Digital water-stage recorder and since Mar. 19, 1963, V-notch sharp-crested weir. 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, graphic water-stage recorder, 0.9 mile upstream and 500 ft below intake at different datum. March 1932 to May 23, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--63 years, 395 cfs (286,000 acre-ft per year).

Extremes.--1903-66: Maximum daily discharge, 1,820 cfs July 1, 1935; no flow at times.

Remarks.--Records excellent. Canal diverts from right bank of Tuolumne River at La Grange Dam for irrigation in Modesto and Waterford Irrigation Districts. See schematic diagram of Tuolumne River basin.

Cooperation.--Six discharge measurements furnished by city and county of San Francisco.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	496	1.4	1.0	1.2	0.10	0.10	940	690	740	594	685	397
2	494	1.4	.90	1.1	.20	.10	897	701	823	595	684	404
3	494	1.4	.90	1.2	.10	.10	906	690	829	597	680	409
4	493	1.4	.90	2.2	.10	.10	911	679	833	594	674	404
5	395	1.3	.90	1.1	.20	.10	921	725	831	615	677	409
6	345	1.3	.90	1.1	.30	.10	929	740	819	639	675	443
7	345	1.3	.90	1.1	.10	.10	890	733	808	649	682	413
8	354	1.3	.80	1.1	.10	.10	936	743	813	646	680	411
9	363	1.3	.70	1.1	.10	.10	937	742	702	644	679	420
10	365	1.2	.60	1.1	.10	.10	950	626	568	647	677	408
11	293	1.2	.70	1.2	.10	.10	921	563	566	643	676	404
12	256	1.3	.60	1.1	.10	.10	903	533	570	648	685	388
13	257	1.3	.60	1.1	.10	.10	900	512	693	650	684	374
14	185	1.4	.60	1.1	.50	20	875	507	673	651	680	375
15	101	1.2	.60	1.1	.10	264	876	508	709	650	613	374
16	101	1.5	.60	1.3	.20	437	899	515	808	652	557	373
17	101	1.2	.60	2.7	.20	671	902	518	749	653	556	373
18	101	1.4	.60	1.0	.30	787	881	515	654	650	542	375
19	100	.80	.50	.30	.30	798	848	517	651	649	541	373
20	852	.80	.60	.30	.20	791	843	520	644	654	550	331
21	1,280	1.0	.80	.30	.20	675	847	513	644	652	555	320
22	1,280	1.1	.80	.20	.10	672	833	504	632	653	555	320
23	1,270	1.2	.80	.20	.10	747	833	516	616	649	553	323
24	1,280	.90	1.5	.20	.10	784	837	548	610	651	556	320
25	1,280	1.0	1.5	.10	.10	842	853	567	601	650	560	319
26	1,280	1.0	1.3	.10	.10	908	856	573	599	651	472	319
27	821	1.0	1.2	.10	.10	905	847	599	597	669	396	325
28	4.3	1.0	1.2	.10	.10	904	722	606	597	678	400	324
29	1.7	1.0	1.4	.10	-----	911	692	601	595	680	402	421
30	1.6	1.0	1.6	.50	-----	914	694	604	596	680	406	318
31	1.5	-----	1.3	.10	-----	914	-----	616	-----	679	409	-----
TOTAL	14,991.1	35.60	27.90	25.50	4.40	12,945.30	26,079	18,524	20,580	20,012	18,141	11,167
MEAN	484	1.19	.90	.82	.16	418	869	598	686	646	585	372
AC-FT	29,730	71	55	51	8.7	25,680	51,730	36,740	40,820	39,690	35,980	22,150

CALENDAR YEAR 1965	MAX	1,360	MIN	.50	MEAN	563	AC-FT	407,700
WATER YEAR 1965-66	MAX	1,280	MIN	.10	MEAN	391	AC-FT	282,700

## SAN JOAQUIN RIVER BASIN

689

11-2895. Turlock Canal near La Grange, Calif.

Location.--Lat 37°40'00", long 120°26'25", in NE¼ 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 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Digital 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, graphic water-stage recorder, both at present site at datum 0.25 ft higher. Winter of 1936-37 to Dec. 20, 1962, graphic water-stage recorder at present site and datum.

Average discharge.--68 years, 587 cfs (425,000 acre-ft per year).

Extremes.--1898-1966: 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, Dec. 12-14, 23-26, 1962, Feb. 25 to Mar. 2, 1966.

Remarks.--Records excellent. 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. See schematic diagram of Tuolumne River basin.

Cooperation.--Eight discharge measurements furnished by city and county of San Francisco.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	841	41	31	29	3.6	0	1,400	1,430	1,140	1,150	1,480	839
2	830	40	31	25	3.4	0	1,480	1,470	1,070	1,070	1,480	1,150
3	830	39	31	32	3.4	0.40	1,470	1,430	1,120	905	1,450	1,020
4	829	40	31	31	3.4	1.0	1,480	1,160	948	1,030	1,440	620
5	691	39	31	29	3.5	374	1,470	1,120	809	1,170	1,410	865
6	630	38	31	29	3.7	547	1,480	1,070	1,140	1,060	1,370	853
7	630	38	31	30	3.6	546	1,510	961	1,120	1,080	1,280	635
8	801	40	31	30	2.5	546	1,470	907	1,200	1,090	1,450	632
9	764	40	31	29	1.4	547	1,470	1,000	1,230	1,020	1,420	729
10	568	40	32	30	1.3	992	1,460	974	1,250	806	1,380	859
11	397	40	33	31	1.3	1,140	1,510	1,050	1,090	1,060	1,310	822
12	122	40	32	31	1.3	1,140	1,480	1,110	957	1,080	1,330	760
13	48	39	33	31	1.3	1,130	1,530	1,140	1,270	1,090	1,270	701
14	48	38	32	30	1.2	1,110	1,550	1,020	1,340	1,090	1,160	704
15	47	38	31	30	1.3	869	1,540	1,010	1,360	1,090	1,440	852
16	45	38	31	29	1.2	772	1,500	1,220	1,310	1,050	1,570	978
17	44	37	31	29	1.1	576	1,510	1,320	1,310	894	1,600	981
18	43	36	31	29	0.70	664	1,530	1,470	1,230	1,130	1,570	986
19	42	35	31	29	0.70	954	1,560	1,510	1,170	1,160	1,390	981
20	40	36	31	29	1.1	945	1,530	1,520	1,290	1,150	1,350	927
21	39	36	31	29	1.1	1,160	1,550	1,160	1,280	1,200	1,180	846
22	39	36	31	29	1.1	1,070	1,530	966	1,280	1,220	1,360	752
23	39	35	31	30	0.50	1,070	1,530	1,390	1,330	1,170	1,370	731
24	40	33	30	30	0.20	1,040	1,500	1,400	1,330	1,050	1,390	659
25	40	33	29	30	0	1,050	1,490	1,360	1,330	1,190	1,360	656
26	40	33	29	30	0	1,090	1,490	1,310	1,190	1,200	1,310	626
27	40	32	29	30	0	1,080	1,430	1,220	1,410	1,190	1,050	680
28	41	31	28	30	0	1,090	1,390	948	1,450	1,140	759	836
29	41	31	28	30	-----	1,060	1,450	837	1,160	1,170	1,030	940
30	42	31	28	30	-----	1,060	1,440	847	1,170	1,120	800	697
31	42	-----	28	24	-----	1,130	-----	1,100	-----	1,040	656	-----
TOTAL	8,733	1,103	949	924	43.90	24,753.40	44,730	36,430	36,284	33,865	40,415	24,317
MEAN	282	36.8	30.6	29.8	1.57	798	1,491	1,175	1,209	1,092	1,304	811
AC-FT	17,320	2,190	1,880	1,830	87	49,100	88,720	72,260	71,970	67,170	80,160	48,230

CALENDAR YEAR 1965 MAX 2,070 MIN 9.5 MEAN 862 AC-FT 624,400  
 WATER YEAR 1965-66 MAX 1,600 MIN 0 MEAN 692 AC-FT 500,900

Note.--No gage-height record Aug. 22 to Sept. 30.

## 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.

Drainage area.--1,884 sq mi.

Records available.--1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Digital water-stage recorder. Datum of gage is at mean sea level, unadjusted (levels by Modesto Irrigation District). Prior to July 11, 1947, graphic water-stage recorder at site 1,700 ft downstream at same datum, July 11, 1947, to Nov. 16, 1953, graphic water-stage recorder at site 1,000 ft downstream at same datum, Nov. 16, 1953, to July 15, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--27 years (1895-96, 1940-66), 1,404 cfs (1,016,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,910 cfs Dec. 31 (elevation, 45.77 ft); minimum daily 164 cfs June 21, Aug. 16. 1895-96, 1940-66: Maximum discharge observed, 57,000 cfs Dec. 9, 1950 (elevation, 69.19 ft); minimum, 85 cfs Oct. 25, 1961.

Remarks.--Records good. Flow regulated by reservoirs and powerplants above station. In addition to diversions into Modesto and Turlock Canals (see sta. no's 11-2890 and 11-2895), there are diversions for irrigation of about 1,300 acres between stations above LaGrange Dam and at Modesto. See Remarks for sta. no. 11-2880 for Tuolumne River above LaGrange Dam. Records of water temperatures for the water year 1966 are published in Part 2 of this report. See schematic diagram for Tuolumne River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,550	1,990	2,710	3,470	2,110	1,620	354	263	231	233	185	179
2	1,540	1,720	2,740	3,230	1,800	1,970	366	268	221	227	180	181
3	1,540	1,670	2,750	2,820	1,790	2,040	352	245	223	206	177	191
4	1,520	1,640	2,770	2,400	1,720	2,030	326	241	242	209	179	188
5	1,530	1,620	2,770	1,960	1,690	2,020	297	238	242	190	182	200
6	1,740	1,570	2,740	1,600	2,030	1,590	276	234	247	195	181	203
7	1,830	1,500	2,770	1,550	2,970	1,440	264	245	242	192	185	183
8	1,840	1,470	2,800	1,520	2,040	1,450	275	242	236	183	199	186
9	1,740	1,550	2,810	1,440	1,810	1,430	296	250	226	174	180	189
10	1,740	1,600	2,820	1,410	1,760	1,470	390	251	222	182	184	191
11	1,890	1,600	2,830	1,710	1,780	1,180	358	276	216	188	175	191
12	2,100	1,560	2,850	2,160	1,720	894	336	258	211	174	173	193
13	2,410	1,650	2,840	2,190	1,680	851	327	192	218	174	166	199
14	2,540	1,610	2,880	2,200	1,550	837	287	224	210	186	177	202
15	2,740	1,550	2,920	1,820	1,670	825	260	233	211	198	179	206
16	2,770	1,630	2,940	1,540	1,660	802	264	226	201	179	164	214
17	2,660	1,770	2,960	1,490	1,620	799	268	209	196	186	168	219
18	2,610	1,700	2,870	1,560	1,610	837	286	224	190	182	182	213
19	2,510	1,690	2,790	1,580	1,600	633	299	219	193	171	170	225
20	2,210	1,980	2,700	1,560	1,540	401	293	225	196	165	199	230
21	1,530	2,410	2,920	1,510	1,520	332	288	230	164	175	176	214
22	1,260	2,410	2,910	1,370	1,600	331	276	232	175	174	173	195
23	1,220	2,590	2,890	1,270	1,520	341	264	237	180	173	180	201
24	1,120	2,950	2,330	1,240	1,550	340	273	262	194	175	190	202
25	1,060	3,120	1,440	1,360	1,630	335	265	330	200	170	185	207
26	1,160	2,910	991	1,440	1,630	353	278	230	197	178	182	211
27	1,130	2,810	955	1,450	1,530	364	255	223	200	167	173	225
28	1,500	2,760	1,380	1,430	1,490	323	252	231	187	166	176	222
29	2,140	2,710	1,430	1,430	-----	321	270	237	188	172	215	242
30	2,130	2,710	2,220	1,480	-----	341	240	240	184	184	204	242
31	2,080	-----	3,770	2,320	-----	345	-----	229	-----	222	183	-----
TOTAL	57,340	60,450	79,496	55,510	48,620	28,845	8,835	7,444	6,243	5,750	5,622	6,144
MEAN	1,850	2,015	2,564	1,791	1,736	930	295	240	208	185	181	205
AC-FT	113,700	119,900	157,700	110,100	96,440	57,210	17,520	14,760	12,380	11,400	11,150	12,190
CALENDAR YEAR 1965	MAX	10,300	MIN	285	MEAN	2,001	AC-FT	1,449,000				
WATER YEAR 1965-66	MAX	3,770	MIN	164	MEAN	1,015	AC-FT	734,500				



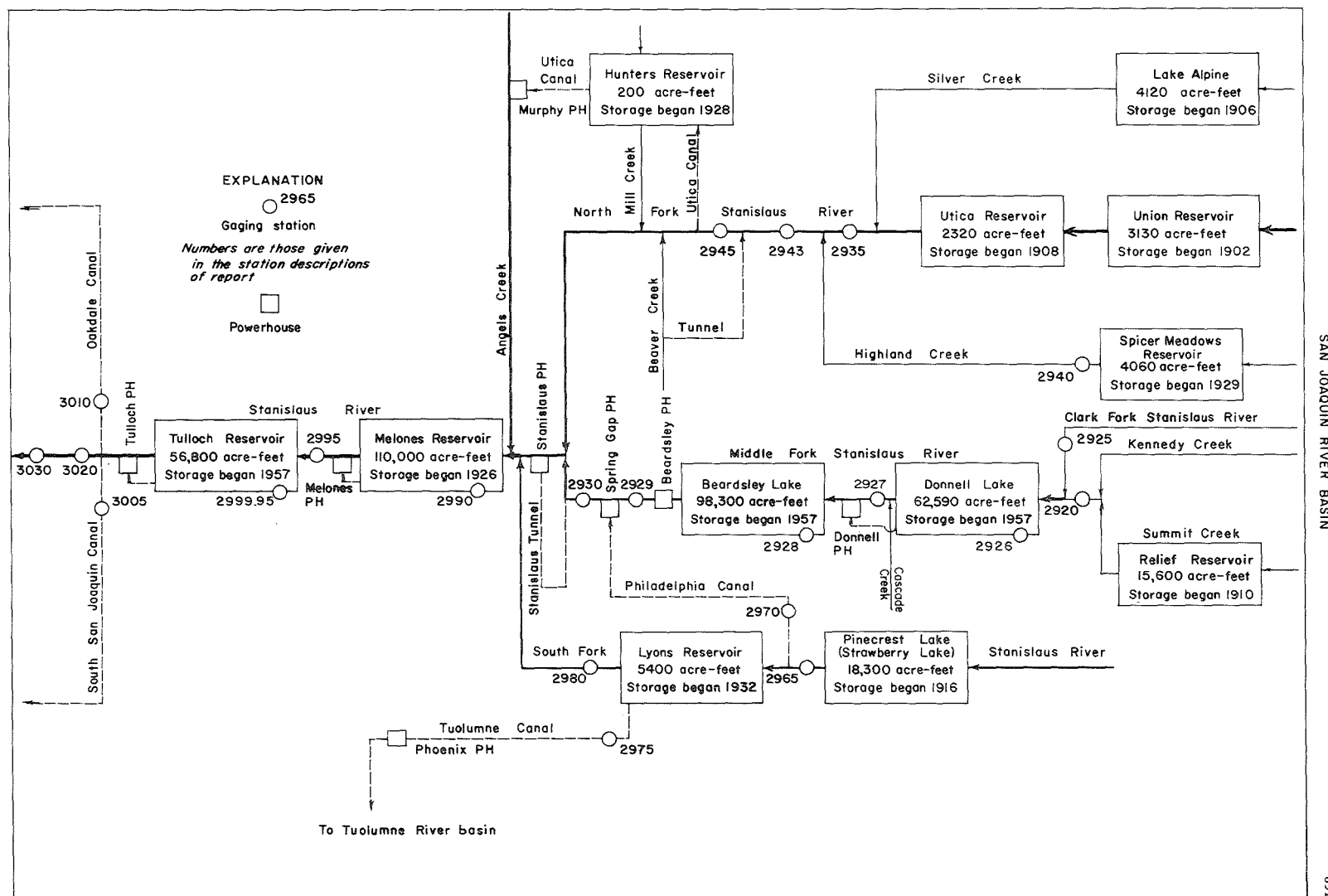


Figure 4.-- Schematic diagram showing diversions and storage in Stanislaus River basin.

## SAN JOAQUIN RIVER BASIN

11-2920. Middle Fork Stanislaus River at Kennedy Meadows, near Dardanelle, Calif.

Location.--Lat 38°17'50", long 119°44'25", in NE¼ 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 5.8 miles southwest of Dardanelle.

Drainage area.--47.5 sq mi.

Records available.--October 1938 to September 1966. Records for water year 1966 incomplete, yearly estimate published in WSP 1315-A.  
Prior to October 1962, published as "at Kennedy Meadows."

Gage.--Water-stage recorder. Datum of gage is 6,320.1 ft above mean sea level (river-profile survey).

Average discharge.--28 years, 131 cfs (94,840 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 590 cfs May 21 (gage height, 4.80 ft); minimum daily, 11 cfs Sept. 29, 30.

1938-66: Maximum discharge recorded, 1,700 cfs Nov. 20, 1950 (gage height, 6.66 ft); minimum daily recorded, 7.2 cfs Feb. 11, 1948.

Remarks.--Records good. Flow regulated by Relief Reservoir (usable capacity, 15,600 acre-ft). Contents of Relief Reservoir was 4,300 acre-ft on Sept. 30, 1965, and zero acre-ft on Sept. 30, 1966. No diversion above station. See schematic diagram of Stanislaus River basin.

Cooperation.--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	315	18	25	20	17	17	114	129	134	96	77	59
2	305	17	26	19	16	17	117	246	138	89	77	59
3	298	17	27	19	16	16	114	400	156	80	75	59
4	288	17	28	18	16	16	119	473	165	74	73	59
5	184	17	27	19	16	16	121	518	161	72	72	59
6	59	17	27	19	18	16	124	498	169	71	71	136
7	58	17	27	18	16	17	122	500	190	68	70	242
8	116	17	26	18	16	18	120	508	183	64	69	238
9	276	17	26	18	15	19	113	515	190	63	68	234
10	226	17	25	18	16	24	101	283	195	61	68	236
11	56	17	25	18	15	24	88	188	224	59	67	250
12	55	19	25	18	16	32	79	266	214	57	66	256
13	55	21	25	18	16	40	73	355	230	124	66	266
14	55	31	24	19	16	38	72	388	256	151	66	264
15	58	25	22	19	16	38	80	373	258	156	66	258
16	62	30	21	18	16	36	95	370	246	186	65	254
17	175	45	19	18	16	33	107	385	230	183	65	248
18	305	56	20	18	16	34	106	418	204	198	65	244
19	239	36	22	18	16	34	87	459	190	216	64	250
20	30	30	23	17	16	32	75	498	188	234	64	252
21	27	27	22	17	17	33	70	532	162	232	64	244
22	25	27	20	17	17	36	68	518	125	230	63	232
23	24	34	19	17	17	41	70	462	104	226	62	218
24	24	28	19	17	17	44	81	445	98	224	61	200
25	21	28	20	16	17	49	107	452	103	201	61	170
26	19	29	21	16	17	58	120	456	109	78	61	17
27	19	27	20	16	17	64	124	445	109	76	61	13
28	19	27	19	16	17	74	124	421	113	76	61	12
29	18	26	20	16	-----	84	122	382	111	75	60	11
30	18	26	21	17	-----	94	124	308	104	76	60	11
31	18	-----	20	16	-----	103	-----	213	-----	77	60	-----
Total	3,447	760	711	548	457	1,197	3,037	12,404	5,059	3,873	2,048	5,051
Mean	111	25.3	22.9	17.7	16.3	38.6	101	400	169	125	66.1	168
Ac-ft	6,840	1,510	1,410	1,090	906	2,370	6,020	24,600	10,000	7,680	4,060	10,020
Calendar year 1965	Max	885	Min	17	Mean	180	Ac-ft	150,400				
Water year 1965-66	Max	532	Min	11	Mean	106	Ac-ft	76,550				

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.--67.5 sq mi.

Records available.--October 1950 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 5,507.3 ft above mean sea level (river-profile survey).

Average discharge.--16 years, 145 cfs (105,000 acre-ft per year).

Extremes.--Maximum discharge during year, 621 cfs May 20 (gage height, 5.27 ft); minimum daily, 19 cfs Sept. 9-11.

1950-66: 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 maximum flow; minimum, 11 cfs Apr. 3, 1958.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	36	50	27	33	33	289	362	251	70	34	21
2	46	36	48	27	33	34	291	395	227	67	34	20
3	45	35	48	28	32	34	279	440	217	64	30	20
4	44	34	49	28	32	34	285	475	217	61	29	20
5	44	34	49	29	32	33	311	492	211	60	27	20
6	43	33	48	30	33	35	323	495	207	58	26	20
7	42	32	48	30	34	37	331	485	197	55	25	20
8	42	32	48	31	34	41	342	500	191	55	25	20
9	41	31	48	32	32	41	323	475	191	53	24	19
10	41	31	47	33	30	54	283	450	199	55	24	19
11	40	31	46	34	28	54	243	435	199	51	24	19
12	41	37	46	35	25	60	221	410	193	50	24	20
13	40	39	44	36	23	84	207	430	193	49	24	20
14	42	55	46	37	20	82	211	435	193	47	23	21
15	51	49	38	38	22	80	237	425	185	46	23	21
16	43	55	36	37	25	72	281	435	175	43	23	20
17	43	75	33	37	30	67	307	432	163	42	23	20
18	45	89	32	38	33	70	291	435	153	40	22	23
19	43	61	30	37	33	74	241	445	143	39	22	25
20	42	54	29	37	32	70	217	475	133	39	22	22
21	41	48	28	36	34	72	211	498	124	37	22	21
22	40	48	26	36	36	73	211	480	114	36	22	20
23	38	52	25	36	36	93	223	442	107	35	22	20
24	38	44	25	36	34	109	257	440	102	34	22	20
25	37	45	25	35	34	124	313	422	94	32	21	20
26	38	45	25	35	33	139	348	422	93	33	21	20
27	38	48	25	35	32	155	335	412	89	32	21	21
28	37	50	25	35	33	179	325	398	85	30	21	20
29	37	50	26	35	-----	195	327	360	78	30	21	20
30	36	50	26	35	-----	217	340	309	75	32	22	20
31	36	-----	26	33	-----	251	-----	275	-----	37	22	-----
Total	1,280	1,359	1,145	1,048	968	2,701	8,403	13,384	4,799	1,417	745	612
Mean	41.3	45.3	36.9	33.8	31.0	87.1	280	432	160	45.7	24.0	20.4
Ac-ft	2,540	2,700	2,270	2,080	1,720	5,360	16,670	26,550	9,520	2,810	1,480	1,210

Calendar year 1965 Max 936 Min 25 Mean 195 Ac-ft 141,100  
 Water year 1965-66 Max 500 Min 19 Mean 103 Ac-ft 74,900

Peak discharge (base, 600 cfs).--May 8 (2030) 615 cfs (5.25 ft); May 20 (2030) 621 cfs (5.27 ft).

## SAN JOAQUIN RIVER BASIN

11-2926. Donnell Lake near Dardanelle, Calif.

Location.--Lat 38°19'46", long 119°57'37", in SE $\frac{1}{4}$  sec.35, T.6 N., R.18 E., on left bank in hoist house of Donnell Dam on Middle Fork Stanislaus River, 1.2 miles downstream from Niagara Creek, and 6.9 miles west of Dardanelle.

Drainage area.--230 sq mi.

Records available.--October 1957 to September 1966. Prior to October 1962, published as Donnell's Reservoir near Dardanelle.

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, 64,200 acre-ft May 17-27 (gage height, 4,915.8 ft); minimum, 12,000 acre-ft Mar. 25, 26 (gage height, 4,764.5 ft).  
1957-66: Maximum contents, 64,900 acre-ft May 8, 1963 (gage height, 4,917.3 ft); minimum, 4,800 acre-ft Apr. 19, 1965 (gage height, 4,735.3 ft).

Remarks.--Lake is formed by concrete arch-type dam completed in 1957. Usable capacity, 62,590 acre-ft between gage heights 4,720.0 ft (minimum operating head) and 4,917.0 ft (top of spillway gates). Lake is for power and conservation storage. Water passes through 7.2-mile tunnel to powerplant and down Middle Fork Stanislaus River to Beardsley Lake (see sta. no. 11-2928). Records including extremes represent total contents, at 2400 hours of which 2,150 acre-ft is below minimum operating head. See schematic diagram for Stanislaus River basin.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48100	52100	46500	38100	36900	24500	15500	39200	63800	60100	49100	30700
2	48500	53700	46400	37700	36500	24000	16600	40600	63500	59800	48500	30000
3	49000	53300	46100	37300	36000	23500	17500	42400	63300	59400	48100	29400
4	49400	53000	45900	38200	35500	23000	18700	44500	63100	59000	47500	29000
5	49800	52600	45600	38400	35200	22600	20000	46300	62800	58600	47000	28000
6	50000	52200	45400	38600	34700	22200	21300	49000	62700	58100	46500	27500
7	50000	51700	45100	38300	34200	21800	22600	51100	62800	57700	45900	27100
8	50200	51300	44700	39100	33900	21200	23900	53300	63000	57200	45300	26300
9	50300	50800	44400	39300	33400	20400	25100	55400	63400	56300	44700	26800
10	51400	50400	44100	39600	32900	19800	26100	57200	63700	56300	44100	26500
11	51600	50000	43900	39800	32400	19100	26700	58300	63800	55800	43600	26200
12	51800	49600	43600	40000	32000	18400	27200	59300	63900	55400	43000	26100
13	51900	49100	43300	40200	31500	18000	27400	60600	63700	54900	42500	25900
14	52100	48900	42900	40500	31000	17400	27700	61800	63700	54600	41900	25900
15	52200	48600	42600	40700	30500	16700	28200	62900	63700	54700	41300	25300
16	52400	48400	42100	40900	30000	16100	29000	64100	63700	54500	40700	25700
17	52700	48400	42300	41100	29500	15500	29300	64200	63400	54200	40100	26200
18	53400	49000	42500	41300	29100	15300	30800	64200	63100	54000	39500	26300
19	54100	49200	42400	41400	28700	14300	31200	64200	62700	53800	38900	26700
20	54300	49100	42100	41000	28200	14200	31500	64200	62400	53600	38300	26500
21	54300	48900	41700	40700	27700	13600	31600	64200	62200	53500	37700	26300
22	54400	48500	41300	40600	27300	13000	31900	64200	62100	53300	37100	26000
23	54500	48500	40900	40300	26300	12600	32100	64200	62000	53200	36500	25700
24	54600	48300	40500	39900	26500	12300	32600	64200	61800	53000	35900	25400
25	54700	48000	40200	39700	25900	12000	33500	64200	61600	52800	35300	25000
26	54500	47700	40100	39300	25800	12000	34500	64200	61400	52200	34600	24400
27	54500	47500	39700	38900	25400	12200	35500	64200	61100	51700	34000	23700
28	54300	47300	39500	38400	25000	12500	36500	64200	60900	51200	33400	23000
29	54300	47000	39200	38000	-----	12900	37300	64100	60700	50700	32700	22300
30	54300	46700	38900	37600	-----	13500	38200	64000	60500	50100	32100	21500
31	54300	-----	38600	37100	-----	14400	-----	64100	-----	49600	31400	-----
(†)	+ 6600	-7600	-3100	-1500	-12100	-10600	+23800	+25900	-3600	-10900	-18200	-9900
(‡)	4891.5	4871.9	4849.6	4834.5	4809.3	4773.4	4838.7	4915.4	4906.8	4879.4	4823.9	4793.2

Calendar year 1965 ..... † -18,300

Water year 1965-66 ..... † -26,200

† Change in contents, in acre-feet.

‡ Gage-height, in feet, at end of month.

11-2927. Middle Fork Stanislaus River at Hells Half Acre Bridge, near Pinecrest, Calif.  
(Formerly published as Middle Fork Stanislaus River at Hells Half Acre Bridge)

Location (revised).--Lat 38°14'49", long 120°01'51", in SW 1/4 sec. 31, T.5 N., R.18 E., on left bank 200 ft upstream from Donnell powerhouse, 800 ft downstream from Hells Half Acre Bridge, 1.1 miles upstream from Cow Creek, and 4.7 miles northwest of Pinecrest.

Drainage area.--287 sq mi.

Records available.--February 1956 to September 1966. Prior to October 1965, published as Middle Fork Stanislaus River at Hells Half Acre Bridge.

Gage.--Water-stage recorder. Datum of gage is 3,418.31 ft (revised) above mean sea level (river-profile survey). Prior to Aug. 9, 1961, at site 1,600 ft upstream at different datum.

Average discharge.--10 years, 214 cfs (154,900 acre-ft per year).

Extremes.--Maximum discharge during year 1,060 cfs May 21 (gage height, 6.65 ft); minimum daily, 12 cfs July 1.

1956-66: Maximum discharge, 10,200 cfs Dec. 24, 1964 (gage height, 13.64 ft in gage well, 14.2 ft outside, from floodmarks), from rating curve extended above 2,100 cfs on basis of computation of peak inflow to Beardsley Lake at 12.20 ft; minimum, 3.3 cfs Nov. 9, 10, 1957.

Maximum stage known since at least 1905, about 23 ft Dec. 23, 1955, from floodmarks at present site (discharge, 26,600 cfs by slope-area measurement).

Remarks.--Records good. Flow regulated by Relief Reservoir since 1909 (capacity, 15,600 acre-ft), and by Donnell Lake (See sta. no. 11-2926), and by diversion around station through Donnell powerhouse. See schematic diagram for Stanislaus River Basin. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	33	37	31	33	44	384	179	40	12	17	16
2	33	18	36	29	32	43	375	176	37	16	13	15
3	33	16	37	28	32	40	353	174	35	17	16	15
4	33	16	40	28	33	40	369	169	33	16	16	15
5	33	16	39	32	36	42	372	166	31	16	18	15
6	33	16	39	36	42	44	360	155	31	17	13	15
7	33	16	38	39	36	50	343	147	33	17	13	16
8	33	16	37	39	35	61	332	142	32	17	17	16
9	33	16	36	39	34	71	320	141	37	13	16	16
10	33	16	36	37	34	133	414	196	39	13	16	16
11	33	16	36	37	33	142	343	152	33	16	16	16
12	33	17	37	36	33	135	325	127	30	16	16	16
13	33	19	34	36	33	180	292	113	27	16	16	16
14	34	46	33	37	33	184	278	106	25	16	16	16
15	36	43	30	39	33	174	285	95	24	16	16	16
16	34	34	28	39	33	153	293	38	22	16	16	16
17	34	66	29	38	34	141	302	571	21	16	15	16
18	34	183	29	37	36	141	283	684	21	16	15	13
19	34	108	28	37	37	152	240	743	20	15	14	13
20	34	59	28	36	36	144	216	766	19	16	14	17
21	34	40	28	35	37	144	205	365	13	16	16	17
22	33	34	28	35	41	150	193	330	13	16	16	17
23	33	93	26	34	44	169	196	689	13	16	16	17
24	33	138	27	34	47	191	207	653	17	16	16	17
25	33	76	30	34	43	205	220	627	16	16	16	17
26	33	54	28	34	42	224	222	591	16	16	16	16
27	33	46	28	33	42	251	213	571	17	16	16	16
28	33	42	31	33	43	280	202	520	27	17	16	16
29	33	42	35	33	-----	302	191	471	21	16	16	17
30	33	39	33	37	-----	325	184	322	14	16	16	16
31	33	-----	30	34	-----	355	-----	84	-----	13	16	-----
Total	1,033	1,379	1,011	1,086	1,027	4,720	8,542	11,313	772	503	500	486
Mean	33.3	46.0	32.6	35.0	36.7	152	285	365	25.7	16.2	16.1	16.2
Ac-ft	2,050	2,740	2,010	2,150	2,040	9,360	16,940	22,450	1,530	993	992	964

Calendar year 1966: Max 2,330 Min 16 Mean 315 Ac-ft 228,000  
Water year 1965-66: Max 365 Min 12 Mean 83.7 Ac-ft 64,220

## SAN JOAQUIN RIVER BASIN

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.--309 sq mi.

Records available.--June 1957 to September 1966. Prior to October 1960, published as Lake Hartley near Strawberry.

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, 97,900 acre-ft May 21 (gage height, 3,397.1 ft); minimum, 26,600 acre-ft Jan. 27 (gage height, 3,276.2 ft).

1957-66: 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, 98,500 acre-ft between gage heights 3,145.0 ft (tunnel invert) and 3,398.0 ft (top of spillway gates). No dead storage. Reservoir is used for power and conservation storage. Water passes through powerplant and down Middle Fork Stanislaus River to Melones Reservoir (see sta. no. 11-2990). See schematic diagram for Stanislaus River basin.

Contents, in acre-feet, at 2400 hours, October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	86,500	74,900	58,500	44,400	27,300	33,700	55,000	83,300	97,700	95,200	99,400	84,500
2	85,500	74,200	58,000	44,000	27,500	34,000	55,200	84,000	97,700	95,000	99,100	84,400
3	84,500	73,500	57,500	43,000	27,700	34,300	57,500	84,500	97,700	94,900	99,000	84,200
4	83,700	72,700	57,000	42,000	28,000	34,500	58,500	85,300	97,700	94,700	98,900	84,100
5	82,500	72,100	56,500	41,000	28,200	34,900	59,300	85,900	97,300	94,400	98,700	84,000
6	81,400	71,400	55,900	40,000	28,500	35,100	61,000	86,500	97,700	94,300	98,500	83,800
7	80,500	70,700	55,500	39,100	28,700	35,400	62,100	87,100	97,700	94,100	98,400	83,700
8	79,300	70,100	55,000	38,100	29,000	35,700	63,300	87,700	97,400	93,900	98,300	83,500
9	78,400	69,400	54,500	37,200	29,300	36,200	64,400	88,300	97,000	93,700	98,100	83,100
10	77,200	68,300	54,100	36,300	29,500	36,700	65,700	88,900	96,700	93,500	98,000	82,900
11	77,100	68,200	53,500	35,400	29,700	37,500	66,300	89,600	96,700	93,300	97,800	82,800
12	77,100	67,500	53,100	34,500	29,900	38,200	67,800	89,900	96,700	93,100	97,600	82,400
13	77,200	67,000	52,500	33,500	30,200	39,000	68,900	90,400	96,700	92,900	97,500	82,200
14	77,200	66,500	52,000	32,500	30,400	39,900	69,800	90,700	96,900	92,700	97,300	81,900
15	77,100	66,100	51,500	31,300	30,500	40,500	70,800	91,100	96,900	92,200	97,200	81,500
16	77,100	65,500	51,200	31,000	30,700	41,300	71,900	91,500	97,000	92,000	97,000	81,200
17	77,100	65,000	50,800	30,400	31,000	42,000	72,900	92,800	97,200	91,800	96,900	80,200
18	77,100	64,300	49,100	29,500	31,300	42,700	73,900	94,400	97,400	91,600	96,800	79,300
19	77,000	64,200	48,300	29,000	31,400	43,500	74,800	95,200	97,500	91,500	96,500	79,000
20	77,000	63,700	47,900	28,700	31,700	44,000	75,500	97,300	97,500	91,300	96,400	78,700
21	77,000	63,200	47,500	28,400	32,100	44,500	76,300	97,700	97,400	91,100	96,200	78,600
22	77,000	62,500	47,000	27,900	32,200	45,400	77,100	97,500	97,400	90,900	96,200	78,400
23	76,900	62,500	46,500	27,500	32,500	46,100	77,700	97,700	97,100	90,700	95,900	78,200
24	76,900	62,300	46,100	27,300	32,800	46,900	78,500	97,700	96,900	90,500	95,700	78,100
25	76,900	61,900	45,700	26,900	33,000	47,700	79,300	97,700	96,600	90,400	95,500	77,900
26	77,100	61,500	45,200	26,700	33,000	48,500	80,000	97,700	96,400	90,200	95,400	77,800
27	77,200	60,800	45,300	26,500	33,100	49,500	80,800	97,500	96,200	90,100	95,200	77,600
28	77,400	60,400	46,000	26,800	33,400	50,500	81,500	97,700	95,900	89,900	95,100	77,400
29	77,100	59,900	45,700	26,900	33,500	51,500	82,100	97,700	95,700	89,700	95,000	77,200
30	76,300	59,300	45,200	27,000	33,500	52,300	82,700	97,300	95,400	89,700	94,900	77,100
31	75,700	58,500	44,800	27,400	33,500	53,900	83,500	97,300	95,000	89,500	94,800	77,000
(†)	-11,300	-16,400	-14,500	-17,400	+6,000	+20,500	+28,300	+15,100	-2,400	-5,900	-4,700	-7,700
(‡)	3,364.8	3,333.3	3,312.7	3,277.9	3,290.6	3,329.0	3,375.3	3,397.0	3,393.7	3,385.3	3,373.4	3,366.8

Calendar year 1965 ..... ‡ -33,700

Water year 1965-66 ..... ‡ -10,400

‡ Gage-height, 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 NW¼ sec.22, T.4 N., R.17 E., on right bank 0.5 mile downstream from Beardsley power-house afterbay dam, 1.5 miles downstream from Beardsley Dam, and 5.7 miles west of Pinecrest.

Drainage area.--316 sq mi.

Records available.--December 1956 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 3,044.7 ft above mean sea level (river-profile survey).

Average discharge.--9 years, 547 cfs (396,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,110 cfs May 21 (gage height, 7.77 ft); minimum daily, 53 cfs Oct. 28.  
1956-66: 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 diversion above station. Flow regulated by Relief Reservoir (capacity, 15,600 acre-ft), Donnell Lake from April 1957 (see sta. no. 11-2926), and by Beardsley Lake since January 1957 (see sta. no. 11-2928). See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	678	564	588	564	265	281	444	486	725	490	465	468
2	678	620	588	564	265	270	437	472	740	486	454	472
3	678	620	584	564	260	265	437	444	765	486	462	468
4	674	616	580	552	257	270	440	444	665	486	437	462
5	674	592	580	552	260	273	437	451	692	482	437	458
6	674	612	580	552	260	278	430	458	670	482	437	462
7	670	612	576	548	268	275	430	462	588	482	437	462
8	670	612	576	544	260	369	430	462	588	490	437	465
9	584	612	572	540	250	448	434	462	596	479	437	468
10	629	612	572	532	268	448	434	462	596	479	440	465
11	149	608	568	520	265	414	430	462	596	479	440	468
12	58	592	568	493	260	444	440	596	596	476	437	468
13	57	604	568	462	257	444	440	612	596	476	437	468
14	57	608	568	476	262	430	437	647	596	472	440	465
15	58	604	564	462	252	440	434	642	592	476	437	468
16	58	604	564	465	273	444	434	638	592	465	440	468
17	58	604	560	458	257	440	434	629	596	465	444	465
18	58	612	556	462	260	440	444	624	592	465	462	472
19	58	604	552	462	260	440	440	616	588	462	465	468
20	58	604	552	462	265	444	434	692	588	465	465	468
21	58	600	548	465	268	444	440	1770	588	465	468	462
22	58	596	548	468	268	440	444	1730	536	462	462	462
23	58	612	568	465	270	444	434	1400	486	462	398	462
24	58	620	572	465	270	448	434	1370	512	465	479	465
25	58	604	556	465	278	440	434	1440	508	462	476	465
26	57	600	540	465	270	437	430	1320	500	462	476	465
27	55	596	61	376	278	440	437	1400	500	458	465	468
28	53	596	114	257	273	440	476	1260	496	454	440	462
29	131	596	496	306	-----	440	500	1190	493	454	448	465
30	401	592	576	265	-----	437	493	1040	496	462	462	468
31	401	-----	572	255	-----	440	-----	780	-----	462	468	-----
Total	8,666	18,128	16,567	14,486	7,399	12,407	13,242	25,461	17,672	14,611	13,952	13,972
Mean	280	604	534	467	264	400	441	821	589	471	450	466
Ac-ft	17,190	35,960	32,860	28,730	14,680	24,610	26,270	50,500	35,050	28,980	27,670	27,710

Calendar year 1965 Max 3,230 Min 53 Mean 920 Ac-ft 666,400  
Water year 1965-66 Max 1,770 Min 53 Mean 484 Ac-ft 350,200

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.

Records available.--September 1905 to September 1966 (discontinued). 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.--61 years, 689 cfs (498,800 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 1,980 cfs May 21 (gage height, 7.95 ft); minimum daily, 63 cfs Oct. 28.

1905-57 (prior to regulation by Donnell and Beardsley Lakes): 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 maximum flow over dam; minimum daily, 30 cfs Nov. 28, 1919, Aug. 24, 1924.

1957-66: Maximum discharge, 6,030 cfs May 23, 1958 (gage height, 11.60 ft); minimum daily, 12 cfs Oct. 11, 1958.

Remarks.--Records good. Flow regulated by Relief Reservoir since 1909 (capacity, 15,600 acre-ft), Donnell Lake since April 1957 (see sta 11-2926), and Beardsley Lake since January 1957 (see sta 11-2928). Water diverted by Philadelphia Canal (see sta 11-2970) 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. See schematic diagram of Stanislaus River basin.

Cooperation.--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	706	590	640	584	330	332	514	547	734	526	490	517
2	706	674	643	584	335	325	511	538	710	526	487	517
3	702	674	640	584	330	318	511	514	734	526	505	517
4	702	670	636	577	335	325	511	514	646	523	490	511
5	698	650	636	580	330	328	511	514	662	520	490	514
6	698	666	636	580	338	330	508	520	650	520	490	517
7	690	666	632	580	345	332	502	517	580	520	487	520
8	686	662	629	577	330	421	508	514	577	523	490	517
9	622	662	629	571	308	514	505	520	574	514	487	520
10	646	662	629	565	325	523	505	520	571	514	490	520
11	264	662	622	556	328	490	499	514	571	514	487	520
12	69	640	622	535	320	514	508	571	571	514	487	520
13	68	662	618	508	310	514	508	650	568	511	487	520
14	69	674	618	523	322	502	505	678	587	511	487	514
15	70	658	618	514	312	508	502	674	615	508	493	517
16	68	662	618	517	332	514	499	670	615	499	505	520
17	68	662	612	508	315	508	502	666	615	496	517	517
18	68	682	608	514	318	511	511	658	612	493	526	520
19	68	666	604	514	315	511	508	650	612	493	532	517
20	68	658	601	508	318	511	496	686	608	490	526	517
21	68	658	601	517	320	511	502	1,700	608	490	529	511
22	68	658	604	523	320	514	511	1,620	562	487	532	514
23	68	698	618	517	322	511	502	1,390	520	484	454	511
24	67	702	622	520	320	520	505	1,350	538	484	520	517
25	67	666	604	520	330	514	499	1,420	541	481	517	517
26	67	654	584	514	322	511	499	1,320	534	484	532	517
27	64	646	154	450	322	514	499	1,380	529	478	532	517
28	63	646	145	300	328	511	532	1,260	529	475	505	517
29	139	646	523	392	-----	514	547	1,200	526	475	505	520
30	466	643	598	350	-----	511	553	1,050	534	484	508	526
31	472	-----	598	345	-----	514	-----	815	-----	481	511	-----
Total	9,345	19,819	19,142	15,927	9,080	14,476	15,273	26,140	17,833	15,544	15,598	15,519
Mean	301	661	585	514	324	467	509	843	594	501	503	517
Ac-ft	18,540	39,310	35,980	31,590	18,010	28,710	30,290	51,850	35,370	30,830	30,940	30,780
Calendar year 1965	Max	3,350	Min	63	Mean	956	Ac-ft	692,100				
Water year 1965-66	Max	1,700	Min	63	Mean	528	Ac-ft	382,200				



11-2935. North Fork Stanislaus River below Silver Creek, Calif.

Location.--Lat 38°26'22", long 120°00'53", in SE¼ 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.

Records available.--October 1952 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 6,677.3 ft above mean sea level (river-profile survey).

Average discharge.--14 years, 70.0 cfs (50,680 acre-ft per year).

Extremes.--Maximum discharge during year, 374 cfs Apr. 7 (gage height, 6.40 ft); minimum daily, 3.9 cfs Sept. 30.

1952-66: Maximum discharge, 2,780 cfs Dec. 24, 1964 (gage height, 11.16 ft, from floodmarks), 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 fair. Flow regulated by Lake Alpine, Union, and Utica Reservoirs (combined capacity, 9,600 acre-ft). No diversion above station. See schematic diagram of Stanislaus River basin.

Cooperation.--Gage-height record and eight 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	5.7	16	24	20	24	308	274	34	19	41	41
2	30	5.6	16	21	20	23	306	276	30	19	41	40
3	30	5.6	17	20	20	22	280	296	25	19	41	40
4	29	5.6	19	21	20	22	286	290	24	19	41	39
5	29	5.5	19	21	21	23	300	288	22	20	40	39
6	29	5.5	18	23	22	24	318	276	22	22	40	39
7	30	5.6	17	25	23	26	336	268	23	22	40	38
8	32	5.6	19	26	22	27	334	254	24	22	40	38
9	32	5.5	20	26	21	36	316	244	25	22	40	40
10	32	5.6	22	25	21	56	296	254	27	22	40	45
11	35	5.8	21	24	20	58	223	238	25	23	41	44
12	39	6.8	23	23	20	64	192	187	23	24	41	38
13	39	7.8	22	22	20	92	177	180	21	24	41	27
14	38	9.9	20	23	20	90	194	180	19	24	41	10
15	39	13	19	23	20	77	240	162	17	24	41	5.3
16	22	29	18	25	20	63	294	150	15	28	41	5.0
17	6.3	8.3	18	24	20	60	328	144	14	31	40	4.8
18	21	12.3	18	23	20	65	310	137	13	31	40	5.0
19	38	36	17	22	21	74	205	136	12	31	40	5.1
20	38	26	17	22	21	74	154	136	11	34	40	4.6
21	38	22	16	20	21	78	152	132	10	36	40	4.6
22	38	19	16	20	22	86	173	122	8.7	36	41	4.5
23	38	20	15	20	24	104	198	102	8.7	36	41	4.3
24	38	17	14	19	24	134	250	87	7.8	36	41	4.1
25	38	20	18	19	24	159	314	81	7.4	36	41	4.0
26	42	19	18	19	24	180	328	77	20	36	41	4.1
27	45	18	17	18	24	205	298	75	32	38	41	4.1
28	45	18	20	18	24	238	266	60	26	40	40	4.0
29	31	18	25	18	-----	258	260	54	19	41	41	4.1
30	6.1	17	28	19	-----	264	264	47	19	41	41	3.9
31	5.9	-----	27	20	-----	296	-----	40	-----	41	41	-----
Total	986.3	584.1	590	673	599	3,002	7,900	5,247	584.6	897	1,259	589.5
Mean	31.8	19.5	19.0	21.7	21.4	96.8	263	169	19.5	28.9	40.6	19.6
Ac-ft	1,960	1,160	1,170	1,340	1,190	5,950	15,670	10,410	1,160	1,780	2,500	1,170

Calendar year 1965 Max 510 Min 4.0 Mean 95.8 Ac-ft 69,360  
 Water year 1965-66 Max 336 Min 3.9 Mean 62.8 Ac-ft 45,440

Peak discharge (base, 300 cfs).--Apr. 7 (2000) 374 cfs (6.40 ft); Apr. 25 (2330) 360 cfs (6.33 ft).

## SAN JOAQUIN RIVER BASIN

11-2940. Highland Creek below Spicer Meadows Reservoir, Calif.

Location.--Lat 38°23'50", long 119°59'30", in SW¼ 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.

Records available.--October 1952 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 6,374.8 ft above mean sea level (river-profile survey).

Average discharge.--14 years, 112 cfs (81,080 acre-ft per year).

Extremes.--Maximum discharge during year, 665 cfs Apr. 1 (gage height, 5.45 ft); minimum daily, 0.90 cfs Oct. 17.

1952-66: Maximum discharge, 9,860 cfs Jan. 31, 1963 (gage height, 11.88 ft), from rating curve extended above 1,200 cfs; no flow Sept. 28 to Dec. 1, Dec. 4-6, 1964.

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 no gage-height record, which are fair. Flow regulated by Spicer Meadows Reservoir (capacity, 4,060 acre-ft). See schematic diagram of Stanislaus River basin.

Cooperation.--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	2.1	7.0	20	16	20	479	432	105	12	3.8	3.6
2	21	1.2	7.0	16	15	20	456	444	93	10	3.8	3.4
3	21	2.6	7.2	16	15	19	429	468	85	9.9	3.8	3.2
4	21	3.9	7.3	15	15	19	444	493	80	8.9	3.7	3.2
5	21	3.9	7.6	16	17	19	476	489	77	8.3	3.6	3.2
6	21	3.9	8.0	17	22	20	482	468	76	7.7	3.6	3.2
7	20	3.9	17	19	19	22	479	456	81	7.0	3.7	7.1
8	19	3.9	24	20	18	24	476	441	76	6.6	3.8	11
9	19	3.9	28	19	17	30	444	423	76	6.6	3.8	7.1
10	18	3.8	28	19	16	43	426	472	71	6.4	3.8	3.2
11	18	3.8	28	18	15	50	332	417	70	6.0	3.8	3.2
12	18	3.8	29	17	15	56	295	358	65	5.6	3.8	3.7
13	17	3.9	28	17	15	76	261	358	63	5.2	3.8	4.5
14	17	4.3	25	18	16	74	280	358	61	5.0	3.8	15
15	17	4.5	24	20	16	64	342	330	56	4.6	3.8	27
16	8.6	5.0	22	20	16	62	335	328	55	4.4	3.8	27
17	9.0	5.5	22	18	17	60	450	320	49	4.1	3.9	27
18	9.5	6.3	22	17	18	70	423	322	44	3.9	3.9	27
19	18	6.4	21	17	18	84	300	328	40	3.8	3.9	27
20	17	6.5	20	17	18	94	247	332	35	3.6	3.9	27
21	17	6.5	20	16	18	108	241	335	34	3.6	3.9	27
22	17	6.5	19	16	19	125	261	310	30	3.6	4.0	26
23	16	6.7	17	16	22	142	285	269	25	3.6	4.0	26
24	16	6.9	17	15	24	170	352	249	23	3.6	4.0	26
25	16	6.9	18	15	22	225	444	231	20	3.6	4.0	26
26	15	6.9	18	14	21	259	472	219	14	3.6	4.0	28
27	15	6.9	19	14	20	295	432	207	14	3.6	3.9	30
28	15	6.9	20	14	20	335	405	183	15	3.6	3.8	30
29	7.7	6.9	21	15	-----	365	399	164	14	3.7	3.8	30
30	3.3	7.0	23	17	-----	387	411	139	13	3.7	3.7	30
31	3.3	-----	22	17	-----	432	-----	120	-----	3.7	3.7	-----
Total	484.30	151.2	596.1	525	500	3,769	11,558	10,463	1,560	169.5	118.6	515.6
Mean	15.6	5.04	19.2	16.9	17.9	122	385	338	52.0	5.47	3.83	17.2
Ac-ft	961	300	1,180	1,040	992	7,480	22,920	20,750	3,090	336	235	1,020

Calendar year 1965 Max 830 Min 0.90 Mean 151 Ac-ft 109,500

Water year 1965-66 Max 493 Min 0.90 Mean 83.3 Ac-ft 60,320

Peak discharge (base, 500 cfs).--Apr. 1 (2100) 665 cfs (5.45 ft); Apr. 25 (2200) 588 cfs (5.25 ft).

Note.--No gage-height record Jan. 21 to Mar. 24.

11-2943. North Fork Stanislaus River below Ganns damsite, near Big Meadow, 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.

Drainage area.--111 sq mi.

Records available.--October 1960 to September 1966. Prior to October 1963, published as "below Ganns damsite."

Gage.--Water-stage recorder. Datum of gage is 5,405 ft above mean sea level (from river-profile survey).

Average discharge.--6 years, 281 cfs (203,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,770 cfs Apr. 1 (gage height, 7.67 ft); minimum daily, 11 cfs Oct. 18, 31, Nov. 1, 4, 10, 11, 1960-66; Maximum discharge, 21,000 cfs Jan. 31, 1963 (gage height, 16.12 ft; 16.4 ft on left bank, 18.8 ft on right bank, from floodmarks), extended above 2,000 cfs on basis of slope-area measurement of maximum flow; minimum daily, 5.4 cfs Nov. 6, 1964. Flood of December 1955 reached a stage of 17.0 ft, from floodmarks on right bank (discharge, 18,000 cfs).

Remarks.--Records good. Flow regulated at low and medium stages by four reservoirs (combined capacity, 13,600 acre-ft). See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	11	73	80	71	86	1320	990	148	32	42	39
2	46	18	75	85	70	81	1240	1010	129	29	42	39
3	46	18	84	93	69	80	1170	1070	114	28	40	38
4	46	11	83	111	67	80	1210	1090	105	27	40	38
5	48	12	81	128	70	79	1290	1070	100	26	39	37
6	48	12	79	116	72	90	1330	1010	97	29	39	37
7	48	18	73	105	70	113	1350	970	104	28	39	37
8	47	14	95	96	69	157	1320	925	102	28	39	42
9	47	12	99	87	66	170	1270	900	108	27	39	45
10	46	11	97	83	64	340	1210	1000	98	27	39	44
11	48	11	97	78	62	332	930	860	93	26	39	42
12	54	13	100	73	60	322	798	698	86	27	39	39
13	53	17	95	79	59	520	714	660	79	27	39	29
14	51	76	94	81	58	480	754	660	76	26	39	20
15	52	67	90	84	59	423	930	596	71	26	39	31
16	48	95	85	79	62	353	1120	568	67	26	39	31
17	16	282	82	75	70	294	1250	551	62	32	39	31
18	11	814	78	74	78	308	1160	523	56	31	39	32
19	41	224	76	73	78	348	774	523	51	31	39	32
20	46	134	74	71	72	327	635	527	48	32	39	31
21	45	95	71	70	76	330	624	520	43	36	39	31
22	45	81	70	70	88	361	666	477	41	36	39	30
23	44	107	68	69	95	435	722	402	38	36	39	30
24	44	94	67	69	90	562	900	358	35	35	39	29
25	44	86	67	68	88	635	1130	330	32	35	39	29
26	44	84	68	68	88	722	1210	308	31	35	39	29
27	49	80	69	65	85	818	1100	289	44	36	39	33
28	48	78	70	65	84	940	980	256	46	39	39	33
29	48	77	70	71	-----	1020	940	233	35	39	39	33
30	17	74	71	81	-----	1080	955	199	33	40	39	32
31	11	-----	75	74	-----	1200	-----	168	-----	41	39	-----
Total	1331	2726	2486	2521	2040	13086	31002	19741	2172	973	1217	1023
Mean	42.9	90.9	80.2	81.3	72.9	422	1033	637	72.4	31.4	39.3	34.1
Ac-ft	2640	5410	4930	5120	4050	25960	61490	39160	4310	1920	2410	2030

Calendar year 1965 Max 2460 Min 11 Mean 376 Ac-ft 272,300

Water year 1965-66 Max 1350 Min 11 Mean 220 Ac-ft 159,400

Peak discharge (base, 1,500 cfs (revised)).--Apr. 1 (2130) 1,770 cfs (7.67 ft); Apr. 25 (2400) 1,440 cfs (7.24 ft).

## SAN JOAQUIN RIVER BASIN

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 1966. 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--49 years, 408 cfs (295,400 acre-ft per year).

Extremes--Maximum discharge during year, 2,000 cfs Apr. 1 (gage height, 6.05 ft); minimum daily, 22 cfs Nov. 2, 3, 6, 7. 1914-22, 1928-66: Maximum discharge, 36,000 cfs Jan. 31, 1963 (gage height, 15.00 ft, from floodmarks), from rating curve extended above 14,000 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. 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. See schematic diagram of Stanislaus River basin.

Cooperation--Gage-height record and 12 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	26	122	126	116	150	1,540	1,140	192	50	51	45
2	67	22	119	111	107	150	1,560	1,120	167	50	52	45
3	64	22	126	106	107	139	1,410	1,190	155	48	51	45
4	62	28	142	107	106	131	1,400	1,200	152	45	49	44
5	63	28	142	111	118	137	1,560	1,200	145	44	48	44
6	65	22	131	126	158	145	1,550	1,150	141	43	48	45
7	65	22	125	136	139	180	1,560	1,120	148	44	47	44
8	64	31	125	139	126	242	1,530	1,070	147	43	47	44
9	64	25	145	137	122	278	1,480	1,060	156	44	47	51
10	64	24	147	132	115	457	1,560	1,120	150	44	47	51
11	65	24	144	126	106	549	1,260	1,030	136	42	47	49
12	66	25	152	122	113	462	1,090	876	128	42	47	47
13	69	60	148	120	106	666	964	795	115	42	46	44
14	71	201	137	128	109	715	998	790	108	41	46	36
15	83	144	116	136	109	630	1,140	700	102	40	45	32
16	73	244	112	142	112	553	1,330	650	96	40	45	38
17	64	791	107	129	116	458	1,440	630	91	40	45	38
18	36	1,020	108	122	126	448	1,410	595	84	44	44	39
19	28	348	104	123	129	514	1,050	592	78	44	45	36
20	61	210	98	119	128	490	876	592	72	44	45	39
21	66	147	93	107	125	483	835	595	68	45	45	38
22	66	128	95	115	136	508	881	560	64	47	45	36
23	66	235	87	111	158	567	908	490	63	47	45	36
24	66	380	87	109	171	740	1,060	430	58	45	45	36
25	66	212	95	106	153	876	1,270	399	55	45	45	36
26	65	167	109	102	145	920	1,380	369	53	44	45	36
27	68	144	102	102	145	1,050	1,290	352	53	44	45	36
28	71	136	102	98	145	1,170	1,170	318	62	45	45	38
29	71	137	119	102	-----	1,260	1,130	288	59	48	44	38
30	66	131	139	122	-----	1,290	1,110	256	57	48	44	38
31	37	-----	134	125	-----	1,410	-----	216	-----	52	45	-----
Total	1,970	5,134	3,712	3,697	3,546	17,768	37,742	22,893	3,155	1,384	1,435	1,224
Mean	63.5	171	120	119	127	573	1,258	738	105	44.6	46.3	40.8
Ac-ft	3,910	10,180	7,360	7,330	7,030	35,240	74,860	45,410	6,260	2,750	2,850	2,430

Calendar year 1965 Max 3,020 Min 22 Mean 564 Ac-ft 408,500

Water year 1965-66 Max 1,560 Min 22 Mean 284 Ac-ft 205,600

Peak discharge (base, 2,000 cfs)--Apr. 1 (2300) 2,000 cfs (6.05 ft).

11-2965. South Fork Stanislaus River at Strawberry, Calif.

Location.--Lat 38°11'51", long 120°00'27", in SW¼ 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.--44.8 sq mi.

Records available.--October 1911 to January 1917, August 1938 to September 1966. Monthly discharge only for October 1913 and yearly estimates for 1912-13, published in WSP 1315-A. Published as "near Confidence," 1911-13.

Gage.--Digital 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. Prior to Feb. 26, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--33 years (1911-16, 1938-66), 125 cfs (90,500 acre-ft per year).

Extremes.--Maximum discharge during year, 677 cfs May 10 (gage height, 4.48 ft); minimum daily, 10 cfs Oct. 24-28.  
1911-17, 1938-66: 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 maximum 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 above station. See schematic diagram of Stanislaus River basin.

Cooperation.--Gage-height record and 10 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 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	68	64	61	55	53	56	139	396	115	40	36	66
2	68	64	61	55	53	55	138	417	96	39	36	66
3	69	64	61	54	53	55	141	479	94	39	36	65
4	69	64	62	54	53	55	158	479	92	40	36	65
5	69	64	62	54	54	56	161	539	93	40	36	65
6	69	64	61	54	55	56	159	532	91	40	36	65
7	68	64	61	54	54	57	159	475	101	39	36	65
8	68	64	61	54	54	57	158	476	95	39	36	66
9	68	64	55	54	54	59	140	457	100	39	36	66
10	68	65	53	54	54	64	111	582	89	40	36	66
11	34	65	53	54	54	65	91	444	78	39	36	66
12	14	65	53	53	54	68	82	409	70	39	36	65
13	14	66	53	53	54	64	78	417	69	39	36	66
14	15	74	53	53	54	55	84	392	67	39	36	66
15	15	70	52	53	54	53	101	371	55	39	50	66
16	15	71	52	53	54	50	124	384	52	38	63	66
17	16	88	52	53	54	52	141	405	48	38	65	66
18	16	100	52	53	54	55	126	426	46	38	65	66
19	16	78	52	53	54	56	90	449	42	38	65	66
20	15	73	54	54	54	55	78	437	39	38	66	66
21	15	71	55	53	55	55	76	431	38	38	66	66
22	15	77	55	53	55	59	81	414	38	38	66	66
23	11	84	55	53	56	67	92	358	36	37	65	66
24	10	78	54	53	55	74	118	329	36	37	65	66
25	10	72	54	53	56	73	146	324	38	36	65	65
26	10	71	54	53	56	72	250	306	38	37	66	65
27	10	71	54	53	56	76	377	288	39	37	66	65
28	10	71	54	52	56	89	410	260	39	37	66	65
29	38	66	55	52	-----	100	406	222	39	37	65	65
30	65	62	54	53	-----	112	406	166	40	37	66	65
31	65	-----	54	52	-----	127	-----	131	-----	36	66	-----
TOTAL	1,113	2,114	1,722	1,654	1,522	2,047	4,821	12,195	1,913	1,187	1,600	1,968
MEAN	35.9	70.5	55.5	53.4	54.4	66.0	161	393	63.8	38.3	51.6	65.6
AC-FT	2,210	4,190	3,420	3,280	3,020	4,060	9,560	24,190	3,790	2,350	3,170	3,900
CALENDAR YEAR 1965	MAX 846		MIN 10		MEAN 163		AC-FT 118,300					
WATER YEAR 1965-66	MAX 582		MIN 10		MEAN 92.8		AC-FT 67,140					

## SAN JOAQUIN RIVER BASIN

11-2970. Philadelphia Canal near Strawberry, Calif.

Location.--Lat 38°10'40", long 120°02'45", in NW¼ 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 1966.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,960 ft above mean sea level (river-profile survey).

Average discharge.--27 years, 42.5 cfs (30,770 acre-ft per year).

Extremes.--1939-66: Maximum daily discharge, 64 cfs in 1941, 1961-63, 1965; no flow at times in some years.

Remarks.--Records excellent. Canal diverts from right bank of South Fork Stanislaus River for power development in Spring Gap power-plant of Pacific Gas & Electric Co.; tailrace empties into Middle Fork Stanislaus River above station at Sand Bar Flat. See schematic diagram of Stanislaus River basin.

Cooperation.--Gage-height record and eight 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	59	57	55	56	56	61	60	26	31	30	36
2	61	60	57	55	55	56	61	60	40	31	31	36
3	61	59	57	55	55	56	61	61	1.4	31	31	36
4	61	59	57	55	55	56	60	58	2.1	31	31	36
5	61	59	57	55	56	56	60	59	2.1	31	31	36
6	61	59	58	55	56	56	60	60	2.1	31	31	36
7	61	59	58	55	56	57	60	59	2.1	31	31	36
8	61	59	58	55	56	57	60	58	2.1	31	31	36
9	61	59	58	55	56	57	60	60	2.1	31	31	36
10	61	59	58	55	56	58	59	62	2.1	31	31	36
11	30	60	57	55	56	58	58	58	2.0	31	31	36
12	3.0	60	57	55	56	58	58	59	1.6	31	31	36
13	3.0	60	57	55	56	58	57	60	0	31	31	36
14	3.0	60	57	55	56	57	59	60	28	31	30	36
15	3.0	60	56	55	56	56	60	59	51	31	38	36
16	3.0	60	56	55	56	56	61	60	45	31	51	36
17	3.0	60	56	55	56	56	62	61	42	31	57	36
18	3.0	60	56	55	56	56	61	61	40	31	57	36
19	3.0	59	56	55	56	56	57	61	36	31	54	36
20	3.0	59	55	56	56	56	55	60	32	31	52	36
21	3.0	60	55	56	56	56	59	59	30	31	52	36
22	3.0	61	55	56	56	56	60	59	30	31	52	36
23	3.0	59	55	56	56	58	61	58	30	30	52	36
24	3.0	55	55	56	56	58	62	59	30	30	51	36
25	3.0	54	55	56	56	59	62	60	30	30	51	36
26	3.0	54	55	56	56	59	62	59	30	30	51	36
27	3.0	54	55	56	56	60	58	60	30	29	51	36
28	3.0	54	55	56	56	60	60	60	30	29	51	36
29	30	55	55	56	-----	60	61	59	30	30	42	42
30	58	56	55	56	-----	60	61	58	30	30	36	46
31	58	-----	55	56	-----	60	-----	58	-----	30	36	-----
Total	837.0	1,751	1,743	1,717	1,565	1,778	1,796	1,845	620.10	950	1,266	1,096
Mean	27.0	58.4	56.2	55.4	55.9	57.4	59.9	59.5	20.7	30.6	40.8	36.5
Ac-ft	1,660	3,470	3,460	3,410	3,100	3,530	3,560	3,660	1,230	1,880	2,510	2,170

Calendar year 1965 Max 64 Min 0.10 Mean 53.4 Ac-ft 33,630  
 Water year 1965-66 Max 62 Min 0 Mean 46.5 Ac-ft 33,650

Location.--Lat 38°05'35", long 120°10'03", in SW<sub>4</sub> 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.

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.

Extremes.--1937-66: Maximum daily discharge, 56 cfs May 30, 1963; 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. See schematic diagram of Stanislaus River basin.

Cooperation.--Gage-height record and nine discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	18	21	34	37	20	29	38	46	38	37	38
2	27	16	22	34	37	20	30	41	46	38	37	38
3	27	15	18	34	37	20	30	50	46	38	38	38
4	25	15	32	34	37	20	30	51	46	38	38	38
5	24	15	32	34	37	20	29	52	46	38	38	38
6	22	15	23	34	20	20	29	52	46	38	38	38
7	22	15	23	36	20	14	29	49	46	38	38	38
8	22	15	21	37	20	10	31	49	46	38	37	38
9	22	15	21	37	20	11	36	32	46	38	37	36
10	22	15	22	37	21	10	36	27	46	38	38	34
11	22	15	30	37	20	22	37	29	46	38	38	34
12	20	15	30	36	20	30	38	27	45	38	37	34
13	18	15	30	36	20	30	38	29	46	38	37	31
14	18	15	34	37	20	17	38	40	46	38	37	29
15	18	15	36	37	21	23	38	40	32	38	37	29
16	18	15	36	37	21	30	38	28	26	38	37	29
17	18	15	36	37	17	29	38	28	30	38	38	29
18	18	15	36	37	17	29	38	28	33	38	38	29
19	18	15	36	37	20	29	38	28	33	37	37	29
20	18	15	36	37	20	30	38	28	33	37	38	27
21	18	15	36	37	20	30	38	41	33	38	37	25
22	18	15	37	37	20	30	38	41	37	38	38	23
23	18	15	38	37	20	30	38	41	38	38	38	22
24	18	22	38	37	20	29	39	40	38	38	38	22
25	18	27	38	37	23	29	40	40	38	37	38	22
26	18	27	37	37	28	29	42	42	38	37	38	22
27	18	27	38	37	28	29	40	43	38	38	37	22
28	18	27	38	37	24	29	38	43	36	38	38	22
29	18	20	38	37	-----	29	38	43	38	38	38	22
30	18	20	38	37	-----	29	38	45	38	38	38	22
31	18	-----	35	37	-----	29	-----	46	-----	37	38	-----
Total	624	519	986	1,126	665	756	1,077	1,211	1,202	1,173	1,166	898
Mean	20.1	17.3	31.8	36.3	23.8	24.4	35.9	39.1	40.1	37.8	37.6	29.9
Ac-ft	1,240	1,030	1,960	2,230	1,320	1,500	2,140	2,400	2,380	2,330	2,310	1,780
Calendar year 1965	Max	52	Min	15	Mean	31.0	Ac-ft	22,480				
Water year 1965-66	Max	52	Min	10	Mean	31.2	Ac-ft	22,620				

## SAN JOAQUIN RIVER BASIN

11-2980. South Fork Stanislaus River near Long Barn, Calif.

Location--Lat 38°05'33", long 120°10'02", in SW¼ 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.

Records available--October 1937 to September 1966. 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--29 years, 84.4 cfs (61,100 acre-ft per year).

Extremes--Maximum discharge during year, 1,080 cfs May 10 (gage height, 5.40 ft); minimum daily, 0.90 cfs Apr. 24.

1937-66: 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 maximum 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 sta 11-2975) diverts at Lyons Dam; other diversions, see schematic diagram of Stanislaus River basin.

Cooperation--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	2.1	2.1	1.7	2.1	2.3	2.1	310	32	2.1	2.1	1.9
2	2.1	2.1	2.6	1.7	2.1	2.1	2.1	295	50	2.1	2.1	1.9
3	2.1	2.1	2.6	1.7	2.3	2.1	2.1	350	47	2.1	2.3	1.9
4	2.1	2.1	1.7	1.7	2.1	2.3	2.1	366	43	2.1	2.3	1.9
5	2.1	2.1	1.7	2.1	1.9	2.1	2.1	405	42	2.1	2.1	1.9
6	1.9	2.1	2.8	2.1	2.1	2.1	1.9	432	43	2.1	1.9	1.9
7	1.9	2.1	2.6	1.9	2.1	2.1	2.1	474	45	2.1	1.9	1.9
8	1.9	2.1	2.1	1.7	2.3	2.1	2.1	320	50	2.1	1.9	2.1
9	1.9	2.1	2.6	1.7	2.3	2.1	2.3	342	50	2.1	1.9	2.1
10	1.9	2.1	2.1	1.9	2.1	2.1	2.1	492	45	2.1	1.9	2.1
11	1.9	2.1	2.1	2.1	2.1	2.1	1.9	456	38	2.1	1.9	2.1
12	1.9	2.1	1.9	2.3	2.1	1.9	1.9	338	25	2.1	1.9	2.1
13	1.9	2.1	2.3	2.3	2.1	1.9	1.9	229	24	1.9	2.1	2.1
14	2.1	2.1	2.6	2.1	2.1	1.9	1.9	284	19	1.9	2.1	2.1
15	2.1	2.1	2.3	1.9	2.1	2.1	1.7	256	2.8	2.1	2.1	2.1
16	1.7	2.1	2.1	1.9	2.1	2.1	1.7	288	2.6	2.3	1.9	2.1
17	2.6	2.1	2.3	1.9	2.1	2.1	1.9	290	2.3	2.1	1.9	2.1
18	2.1	2.1	2.3	1.9	2.1	2.1	1.9	318	2.1	2.1	1.9	2.1
19	2.1	2.1	2.3	2.1	2.1	2.1	1.9	352	2.1	2.1	1.9	2.3
20	2.1	2.1	2.1	2.1	2.1	1.9	2.1	338	2.1	2.1	1.9	2.3
21	2.1	2.1	1.9	2.1	2.1	2.1	2.3	330	2.1	2.1	1.9	2.1
22	2.1	2.1	1.9	2.1	2.3	2.1	2.3	300	1.9	2.1	1.9	2.1
23	2.1	2.1	2.1	2.1	2.3	2.1	1.7	285	2.3	2.1	1.7	2.1
24	2.1	2.1	2.1	2.1	2.3	2.1	1.9	168	2.3	2.1	1.7	2.1
25	2.1	2.1	2.3	1.9	2.3	2.1	1.7	212	2.1	2.1	1.9	1.9
26	2.1	2.1	2.3	2.1	2.3	2.1	47	193	2.1	2.1	2.1	1.7
27	2.1	2.1	2.3	2.1	2.3	2.1	287	184	1.9	2.1	1.9	1.7
28	2.1	2.1	2.3	2.1	2.3	2.3	275	133	1.9	2.1	1.9	2.1
29	2.1	2.1	2.1	1.7	-----	2.1	298	137	1.9	2.1	1.9	2.3
30	2.1	2.1	1.9	1.9	-----	1.9	295	63	1.9	2.1	2.1	2.1
31	2.1	-----	1.7	1.9	-----	2.1	-----	33	-----	2.1	2.1	-----
Total	63.6	63.0	68.1	60.9	60.6	64.7	1,250.70	8,973	587.4	64.9	61.1	61.2
Mean	2.05	2.10	2.20	1.96	2.16	2.09	41.7	289	19.6	2.09	1.97	2.04
Ac-ft	126	125	135	121	120	128	2,480	17,800	1,170	129	121	121

Calendar year 1965 Max 820 Min 1.7 Mean 110 Ac-ft 79,720  
 Water year 1965-66 Max 492 Min 0.90 Mean 31.2 Ac-ft 22,570



## 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 southwest of Sonora.

Drainage area.--904 sq mi.

Records available.--1926 (year-end content only, published in WSP 1315-A), June 1927 to September 1966.

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, 106,200 acre-ft May 29, 30 (elevation, 731.5 ft); minimum, 3,290 acre-ft Oct. 28 (elevation, 613.9 ft).

1927-66: 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 sta 11-2999.95). See schematic diagram of Stanislaus River basin.

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.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22.3	71.3	35.1	30.3	10.6	12.7	48.2	84.4	104.0	58.0	18.2	10.7
2	22.5	91.1	35.6	29.9	10.5	12.8	50.6	85.3	103.0	56.3	16.9	10.7
3	21.3	10.7	36.0	29.1	10.4	12.9	52.4	86.5	101.4	55.0	15.6	10.7
4	20.6	12.1	36.4	28.3	10.4	13.7	54.4	87.7	100.2	53.4	14.2	10.8
5	20.3	12.4	36.8	27.5	11.0	15.1	56.8	88.8	98.7	51.6	12.8	10.8
6	19.8	12.5	36.9	26.7	14.8	16.6	58.7	90.2	97.3	49.8	12.0	10.8
7	19.1	12.6	37.2	26.1	16.3	17.2	60.7	91.5	95.8	48.4	11.8	10.9
8	18.9	12.6	37.6	25.5	16.2	16.7	62.6	92.5	94.3	47.3	11.7	11.0
9	19.0	12.8	37.9	24.7	15.4	16.6	64.4	93.1	92.8	46.2	11.6	11.4
10	18.9	12.8	38.2	23.9	14.4	17.0	66.6	94.5	91.4	45.2	11.4	11.4
11	18.0	12.9	38.5	23.0	14.0	18.3	68.3	95.2	89.7	44.1	11.3	11.3
12	14.6	13.0	39.0	22.0	13.1	18.9	69.3	96.2	88.0	43.0	11.1	11.1
13	12.3	13.1	39.0	21.0	12.5	20.0	70.1	96.5	86.6	42.8	10.6	11.1
14	11.6	13.2	39.7	20.1	12.0	22.2	71.1	96.8	85.1	40.7	10.9	10.9
15	10.8	14.8	39.8	19.1	11.8	24.4	71.6	97.2	83.9	39.6	11.0	10.9
16	10.0	15.2	40.0	18.0	11.8	26.3	72.6	97.3	82.1	38.5	11.2	10.7
17	9.11	16.5	39.6	17.2	11.8	27.9	74.1	97.3	80.6	37.2	11.1	10.6
18	8.12	21.0	38.3	16.3	11.8	29.6	75.8	97.3	78.9	36.0	11.1	10.6
19	8.02	23.7	37.2	15.2	11.8	31.2	76.7	97.7	77.1	35.0	10.9	10.8
20	5.91	24.8	35.8	14.3	11.7	32.8	76.8	97.8	75.5	33.7	10.9	10.9
21	4.83	25.4	34.4	13.7	11.8	34.5	76.7	99.4	73.8	32.7	10.8	10.4
22	4.23	25.9	33.3	13.1	11.8	35.7	76.8	101.2	72.1	31.4	10.8	9.68
23	3.76	28.3	32.2	12.7	11.8	36.4	76.7	102.6	70.1	30.2	10.7	8.89
24	3.68	32.4	30.8	12.2	11.9	36.9	76.8	103.5	68.6	29.0	10.6	8.79
25	3.68	33.4	30.1	11.7	12.2	37.4	77.4	104.4	67.1	27.7	10.6	8.64
26	3.68	33.5	29.1	11.4	12.4	38.3	78.4	104.7	65.7	26.4	10.6	8.64
27	3.51	33.9	27.5	11.2	12.5	39.3	79.8	105.6	64.0	25.0	10.6	8.53
28	3.29	34.0	25.8	10.7	12.6	40.6	80.9	106.0	62.6	23.6	10.6	8.25
29	3.42	34.2	27.3	10.1	-----	42.2	82.1	106.2	61.0	22.2	10.5	7.95
30	4.34	34.8	29.1	10.6	-----	43.9	83.0	106.2	59.4	20.8	10.5	7.26
31	5.73	-----	30.3	10.7	-----	45.8	-----	105.3	-----	19.6	10.6	-----
(†)	625.3	676.9	671.7	640.1	644.4	688.3	717.4	731.0	700.2	657.0	639.8	630.6
(‡)	-17,070	+29,070	-4,500	-19,600	+1,900	+33,200	+37,200	+22,300	-45,900	-39,800	-9,000	-3,340

Calendar year 1965..... †-65,000

Water year 1965-66..... ‡-15,540

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

11-2995. Stanislaus River below Melones powerhouse, near Sonora, Calif.

Location--Lat 37°56'50", long 120°31'45", in SW¼SE¼ sec.10, 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.

Records available--January 1931 to September 1966. Prior to October 1962, published as "below Melones powerhouse."

Gage--Water-stage recorder. Datum of gage is 500.65 ft above mean sea level (levels by Corps of Engineers).

Average discharge--35 years, 1,469 cfs (1,064,000 acre-ft per year), unadjusted.

Extremes--Maximum discharge during year, 1,710 cfs Oct. 20 (gage height, 6.82 ft); maximum gage height, 10.66 ft Aug. 5 (backwater from Tulloch Reservoir); minimum daily discharge, 1.5 cfs Oct. 31.

1931-66: 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 except those for flows less than 30 cfs, which are fair. Flow regulated by Melones Reservoir (see sta 11-2990), Pinecrest, Beardsley, Donnell Lakes, Lyons and Relief 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. See schematic diagram of Stanislaus River basin.

Cooperation--Gage-height record and five 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	976	44	830	1,410	835	670	1,420	1,550	1,600	1,310	1,220	522
2	976	5.9	770	1,390	820	670	1,420	1,550	1,590	1,310	1,200	526
3	970	2.5	770	1,370	780	670	1,430	1,550	1,590	1,330	1,170	526
4	982	152	770	1,360	705	372	1,430	1,550	1,590	1,330	1,170	526
5	982	554	770	1,350	662	2.7	1,370	1,550	1,590	1,330	1,150	526
6	1,020	682	770	1,340	700	9.7	1,450	1,560	1,590	1,370	910	526
7	1,040	682	770	1,340	715	362	1,450	1,570	1,590	1,270	600	526
8	840	682	770	1,340	1,030	840	1,450	1,580	1,590	1,150	600	479
9	710	682	785	1,330	1,150	952	1,460	1,580	1,530	1,120	600	443
10	710	682	780	1,320	1,080	946	1,470	1,590	1,590	1,120	600	540
11	1,100	682	780	1,320	1,200	946	1,470	1,580	1,580	1,120	600	595
12	1,320	682	775	1,310	1,110	952	1,480	1,540	1,570	1,120	600	595
13	1,260	682	780	1,300	988	964	1,480	1,580	1,460	1,170	600	595
14	782	682	780	1,290	895	825	1,330	1,590	1,490	1,170	550	595
15	586	686	845	1,280	760	502	1,590	1,590	1,450	1,170	463	590
16	570	690	373	1,250	678	506	1,510	1,590	1,540	1,170	495	590
17	566	690	673	1,240	678	510	1,510	1,570	1,540	1,170	550	580
18	558	730	1,510	1,120	674	514	1,510	1,590	1,540	1,170	590	540
19	236	720	1,490	1,260	674	518	1,510	1,490	1,540	1,170	580	522
20	919	715	1,490	1,160	674	518	1,520	1,590	1,540	1,080	575	522
21	538	715	1,480	1,070	674	522	1,520	1,590	1,540	1,080	570	590
22	349	720	1,410	1,010	670	770	1,520	1,590	1,540	1,180	570	825
23	354	750	1,470	970	670	982	1,530	1,590	1,420	1,110	570	775
24	234	874	1,460	970	670	1,200	1,530	1,600	1,430	1,200	570	605
25	175	1,410	1,460	964	670	1,360	1,530	1,600	1,410	1,210	570	640
26	206	1,260	1,440	890	674	1,360	1,530	1,610	1,410	1,260	570	545
27	216	964	1,440	840	674	1,350	1,540	1,610	1,410	1,260	570	565
28	219	952	1,430	835	674	1,340	1,540	1,610	1,410	1,220	570	640
29	139	825	1,430	830	-----	1,330	1,550	1,610	1,310	1,220	570	640
30	7.3	740	1,430	835	-----	1,390	1,550	1,600	1,310	1,220	540	796
31	1.5	-----	1,430	840	-----	1,400	-----	1,600	-----	1,220	522	-----
Total	19,541.8	20,337.4	33,161	36,134	22,184	25,260.4	44,510	48,950	45,290	37,330	21,015	17,485
Mean	630	678	1,070	1,166	792	815	1,484	1,579	1,510	1,204	678	583
Ac-ft	38,760	40,340	65,770	71,670	44,000	50,100	88,280	97,090	89,830	74,040	41,680	34,680

Calendar year 1965 Max 11,000 Min 1.5 Mean 2,138 Ac-ft 1,548,000

Water year 1965-66 Max 1,610 Min 1.5 Mean 1,017 Ac-ft 736,300

Note--No gage-height record Dec. 1 to Jan. 4. Backwater from Tulloch Reservoir June 16 to Aug. 13.

11-2999.95. Tulloch Reservoir near Knights Ferry, Calif.

Location.--Lat 37°52'34", long 120°36'12", in SW<sup>1</sup>/<sub>4</sub> sec.1, T.1 S., R.12 E., in center of dam on Stanislaus River 1.9 miles upstream from Goodwin Dam, and 5.3 miles northeast of Knights Ferry.

Drainage area.--980 sq mi.

Records available.--November 1957 to September 1966.

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, 66,600 acre-ft Aug. 2-5 (elevation, 509.7 ft); minimum, 23,300 acre-ft Sept. 29 (elevation, 459.5 ft).  
1957-66: Maximum contents, 69,500 acre-ft Jan. 7, 1965 (elevation, 512.0 ft); 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. Usable 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. Dead storage, 11,560 acre-ft. 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 sta. no. 11-3010) and South San Joaquin Canal (see sta. no. 11-3005). Records represent total contents. See schematic diagram for Stanislaus River basin.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56.100	51.000	55.200	44.200	40.600	32.500	42.800	43.000	51.700	64.200	66.500	38.000
2	55.700	50.300	54.600	44.100	39.200	33.700	42.600	42.900	52.300	65.000	66.600	37.400
3	55.500	49.500	52.600	43.800	37.600	34.800	42.400	42.800	52.800	65.200	66.600	36.700
4	55.300	48.900	50.700	43.500	35.900	35.400	42.100	42.700	53.200	65.500	66.600	36.000
5	55.100	48.200	48.800	43.300	35.000	35.100	41.800	42.600	53.600	65.700	66.600	35.400
6	55.300	49.800	48.200	42.900	34.700	35.000	41.500	42.600	54.100	66.100	66.200	34.700
7	55.700	50.400	48.000	42.500	33.400	35.400	41.300	42.600	54.600	66.200	65.000	34.000
8	55.300	51.000	47.800	42.100	33.100	37.000	41.100	42.600	55.000	66.200	63.900	33.200
9	55.600	51.200	47.600	41.800	32.500	38.300	40.900	42.600	55.300	66.200	62.800	32.400
10	55.400	50.800	47.500	41.300	31.800	40.600	40.900	42.700	55.800	66.100	61.600	31.700
11	56.100	50.500	47.300	40.900	31.300	42.300	41.100	42.900	56.300	66.100	60.600	31.200
12	57.400	50.100	47.200	40.400	30.700	44.200	42.000	43.100	56.700	66.000	59.300	30.700
13	58.600	49.900	47.100	39.900	29.600	45.900	43.000	43.300	56.900	65.800	58.200	30.100
14	59.100	49.900	46.900	39.500	29.500	47.400	43.400	43.400	57.400	65.800	56.900	29.600
15	59.200	50.100	46.800	38.900	29.700	48.100	43.700	43.500	57.700	65.800	55.600	29.000
16	59.000	50.000	46.200	38.400	29.600	48.800	43.600	43.700	58.400	65.800	54.200	28.500
17	58.800	49.900	44.900	37.900	29.000	49.200	43.400	43.900	59.100	65.700	53.100	27.900
18	58.400	50.500	44.600	37.100	28.300	49.000	43.300	44.200	59.800	65.700	51.900	27.300
19	57.200	50.500	44.200	36.400	28.100	48.700	43.000	44.400	60.400	65.700	50.800	26.600
20	57.500	50.300	43.800	35.700	28.000	48.000	42.900	45.000	61.100	65.600	49.700	26.000
21	56.900	50.200	43.400	34.800	27.900	46.800	42.900	45.600	61.700	65.500	48.600	25.700
22	56.300	50.100	43.000	34.100	27.800	46.100	43.100	46.200	62.300	65.500	47.500	25.600
23	56.000	50.800	42.600	33.400	27.600	45.900	43.300	46.700	63.000	65.500	46.400	25.600
24	55.500	51.300	42.300	38.300	27.400	45.400	43.400	47.300	63.400	65.500	45.200	25.100
25	55.000	53.500	42.100	40.400	27.900	45.100	43.400	47.900	63.500	65.600	44.100	24.900
26	54.600	54.600	41.300	42.300	28.400	44.800	43.400	48.400	63.800	65.700	43.000	24.400
27	54.200	55.000	41.400	44.100	29.700	44.400	43.400	48.900	64.000	65.800	41.900	23.900
28	53.800	55.300	41.400	45.100	31.200	44.100	43.300	49.500	64.200	66.000	40.700	23.600
29	53.200	55.300	42.700	43.500	-----	43.600	43.100	50.100	64.500	66.100	40.000	23.300
30	52.500	55.300	43.700	43.200	-----	43.400	43.000	50.700	64.600	66.200	39.300	23.400
31	51.700	-----	44.200	42.000	-----	43.100	-----	51.200	-----	66.300	38.700	-----
(†)	- 4.600	+ 3.500	-11.100	-2.200	-10.800	+11.900	- 1.00	+ 8.200	+13.400	+1.700	-27.600	- 15.300
(‡)												

Calendar Year 1965 ..... † -19,800

Water year 1965-66 ..... † -32,900

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

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 1966. 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.--52 years, 409 cfs (296,100 acre-ft per year).

Extremes.--1914-66: Maximum discharge, 1,330 cfs May 2, 1962; no flow at times each year except 1951.

Remarks.--Records good. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation districts. See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	712	27	0	22	21	2.8	999	1.070	916	874	763	608
2	712	27	.10	22	21	1.0	999	1.070	913	874	763	608
3	712	28	.30	22	9.9	1.0	1.000	1.070	913	877	768	609
4	712	28	.40	13	.40	1.9	1.010	1.070	933	877	768	608
5	712	28	.50	8.3	.80	1.9	1.020	1.070	941	880	768	612
6	548	28	.50	8.3	.80	1.9	1.040	1.080	941	880	763	614
7	429	28	.50	8.3	.60	1.5	1.080	1.070	933	838	766	614
8	429	28	.40	8.3	.50	1.5	1.080	1.070	944	779	763	615
9	429	28	.10	8.3	.50	7.5	1.070	1.070	944	782	770	616
10	432	28	.20	5.9	.50	19	1.020	1.040	944	779	770	619
11	382	32	.80	2.8	.40	13	1.000	1.040	944	779	770	615
12	344	33	1.9	2.8	.50	1.7	877	1.040	947	782	770	609
13	292	24	1.9	2.8	.50	1.4	896	1.040	913	784	772	609
14	248	16	1.9	2.8	.50	.80	975	1.040	891	784	772	609
15	212	10	1.9	2.8	.50	.60	1.060	1.040	974	782	770	608
16	231	4.8	1.7	2.8	37	.40	1.080	1.040	868	779	773	608
17	233	4.5	1.5	2.8	55	185	1.110	1.040	868	779	772	604
18	233	4.8	1.5	2.8	.50	360	1.120	1.010	868	776	772	600
19	226	2.1	1.5	2.8	.60	408	1.150	915	868	776	773	600
20	233	2.8	1.5	7.2	.60	458	1.120	880	868	776	773	602
21	236	4.8	1.5	18	338	514	996	874	871	770	772	611
22	149	4.8	7.8	18	723	513	953	877	868	770	773	616
23	5.0	5.0	23	16	707	527	953	980	868	770	773	560
24	11	5.0	23	4.2	703	772	961	880	868	770	775	524
25	11	2.6	23	0	544	923	962	880	866	770	775	524
26	12	.10	23	0	342	924	1.030	880	866	770	776	462
27	12	0	23	0	5.0	923	1.070	880	868	770	777	448
28	12	0	23	0	5.0	979	1.070	881	871	770	777	451
29	12	0	24	.60	-----	993	1.070	882	871	770	670	451
30	20	0	23	12.6	-----	997	1.070	885	874	763	604	360
31	27	-----	23	21	-----	999	-----	902	-----	768	607	-----
Total	8,968.0	434.30	236.40	248.60	3,519.10	10,532.90	30,851	30,466	26,927	24,703	23,479	17,194
Mean	289	14.5	7.63	8.02	126	340	1,023	983	893	797	757	573
Ac-ft	17,790	861	469	493	6,980	20,890	61,190	60,430	53,410	49,000	46,570	34,100
Calendar year	: Max	1,190	Min	0	Mean	540	Ac-ft	390,900				
Water year	: Max	1,150	Min	0	Mean	486	Ac-ft	352,200				

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 1966. 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.--52 years, 150 cfs (108,600 acre-ft per year).

Extremes.--1914-66: Maximum daily discharge, 554 cfs May 21, 1965; 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. See schematic diagram for Stanislaus River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	424	0.70	0.20	2.7	0.20	0.10	488	502	423	353	361	278
2	425	.70	1.8	2.5	.20	0	487	503	424	353	360	278
3	425	.70	3.0	2.5	.20	0	484	504	424	353	360	279
4	422	.80	3.0	2.5	.10	0	484	503	425	354	361	281
5	422	1.1	3.0	1.8	.30	0	483	503	423	354	361	283
6	422	1.1	2.7	.50	.50	0	484	505	422	354	360	283
7	424	1.3	2.7	.50	.20	0	468	503	422	354	360	283
8	423	1.3	2.7	.50	.20	0	462	503	407	354	360	283
9	423	1.3	2.7	.50	.10	0	461	503	406	353	360	283
10	423	1.7	2.7	.50	.10	.10	410	450	405	353	360	283
11	424	1.5	2.7	.50	.10	.10	380	442	406	352	360	285
12	424	1.1	2.7	1.2	.10	.10	108	442	407	352	360	286
13	424	1.0	2.7	2.7	.10	.10	108	442	407	354	360	286
14	351	.80	2.7	1.8	.10	0	108	442	408	355	360	287
15	170	.20	2.7	1.5	.10	0	289	442	370	355	360	287
16	204	.40	2.7	1.5	.10	0	432	442	350	355	361	287
17	204	.40	2.5	1.5	.10	0	457	443	351	355	360	286
18	222	.80	2.7	1.5	.10	50	457	442	351	355	360	286
19	232	.30	2.5	1.5	.10	125	463	411	350	355	361	287
20	234	.20	2.5	1.5	.10	263	463	411	350	358	362	287
21	235	.20	2.5	.80	.10	403	463	420	352	359	360	294
22	138	.30	2.5	.50	0	480	469	420	353	360	361	297
23	.70	.80	2.5	.30	0	504	469	422	353	360	361	296
24	.70	.70	2.5	0	.10	511	469	422	353	360	362	297
25	.70	.50	2.5	0	.10	512	496	422	352	361	362	298
26	.70	.40	2.5	0	.10	510	508	422	352	361	362	362
27	.70	.40	2.5	0	.10	510	506	421	352	361	362	377
28	.70	.30	2.7	0	.10	510	506	421	353	360	361	377
29	.70	.20	3.0	2.0	-----	490	505	422	353	360	308	377
30	.70	.20	3.0	1.6	-----	486	504	423	353	361	278	382
31	.70	-----	2.7	.30	-----	487	-----	422	-----	361	279	-----
Total	7,497.30	21.40	80.0	35.20	3.70	5,846.50	12,881	13,975	11,457	11,045	10,962	9,035
Mean	242	0.71	2.58	1.14	0.13	189	429	451	382	356	354	301
Ac-ft	14,870	42	159	70	7.3	11,600	25,550	27,720	22,720	21,910	21,740	17,920
Calendar year 1965	Max	554	Min	0	Mean	255	Ac-ft	184,600				
Water year 1965-66	Max	512	Min	0	Mean	227	Ac-ft	164,300				

11-3020. Stanislaus River below Goodwin Dam, near Knights Ferry, Calif.

Location (revised).--Lat 37°51'01", long 120°38'13", in  $\frac{1}{4}$  sec. 15, T.1 S., R.12 E., on right bank 0.1 mile upstream from Owl Creek, 1.0 mile downstream from Goodwin Dam, and 3 miles northeast of Knights Ferry.

Drainage area.--986 sq mi.

Records available.--February 1957 to September 1966. 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.--9 years, 565 cfs (409,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,710 cfs Dec. 3 (gage height, 10.84 ft); minimum daily, 1.5 cfs Sept. 1-5, 15-17, 24-25, 1957-66: Maximum discharge, 40,200 cfs Dec. 24, 1964 (gage height, 28.85 ft in gage well, 31.2 ft outside, from floodmarks), from rating curve extended above 14,000 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, 37.7 ft, from floodmarks), by computation of flow over Goodwin Dam.

Remarks.--Records good. Flow regulated by reservoirs and powerplants at Donnell, Beardsley Lake, Melones, Tulloch, and several smaller reservoirs above station. South San Joaquin Canal (see sta. no. 11-3005) and Oakdale Canal (see sta. no. 11-3010) divert at Goodwin Dam 1.0 mile upstream. See schematic diagram for Stanislaus River basin. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	350	836	1620	1590	61	35	3.9	4.6	3.4	3.0	1.5
2	2.1	353	1010	1620	1530	74	35	3.9	4.2	3.6	2.8	1.5
3	2.1	353	1700	1620	1570	94	35	3.9	4.2	3.6	2.8	1.5
4	2.1	356	1590	1620	1560	121	25	3.9	4.2	3.6	2.8	1.5
5	2.1	364	1670	1630	1560	129	13	3.9	4.2	3.6	2.8	1.5
6	2.1	370	1090	1630	1560	131	13	3.9	4.2	3.4	2.8	1.7
7	2.1	370	342	1630	1540	129	13	3.6	4.1	3.4	2.8	1.7
8	2.0	367	342	1620	1300	129	13	3.6	4.1	3.1	2.8	1.7
9	2.0	511	342	1620	1520	121	13	3.6	4.1	3.0	2.8	1.7
10	2.0	331	342	1620	1520	109	17	7.7	4.1	3.0	3.0	1.7
11	2.0	354	342	1620	1510	113	15	7.0	4.1	3.0	3.0	1.7
12	2.0	358	342	1620	1500	125	13	6.8	4.1	3.0	3.0	1.7
13	2.0	331	342	1620	1500	127	13	6.8	4.1	3.0	3.0	1.7
14	1.9	776	309	1610	994	129	13	6.5	3.9	3.0	3.0	1.7
15	75.0	451	342	1600	664	127	14	6.5	3.6	2.8	2.8	1.5
16	110	680	1010	1600	688	129	16	6.3	3.4	2.8	2.8	1.5
17	160	320	1630	1590	917	129	17	6.3	3.4	2.8	2.8	1.5
18	400	336	1630	1580	994	119	15	6.1	3.4	3.0	2.8	1.7
19	380	320	1620	1570	749	113	9.7	5.2	3.4	3.0	2.8	1.7
20	370	320	1620	1570	749	119	9.7	4.8	3.3	3.0	2.8	1.7
21	380	320	1620	1550	412	99	9.2	4.8	3.4	3.0	3.0	1.7
22	310	331	1610	1420	27	99	8.6	4.8	3.4	3.0	3.0	1.7
23	440	336	1600	264	13	86	3.3	4.8	3.4	3.0	2.8	1.7
24	340	331	1590	105	26	63	3.3	4.8	3.4	3.0	2.8	1.5
25	340	336	1600	49	24	60	3.6	4.6	3.4	3.0	3.0	1.5
26	350	342	1580	44	13	60	9.2	4.6	3.4	2.8	3.0	2.5
27	370	342	1580	33	67	60	9.2	4.8	3.4	2.8	2.8	3.1
28	360	342	1590	39	63	47	9.2	4.8	3.4	2.8	2.8	3.1
29	350	342	1600	1630	-----	36	9.2	4.8	3.4	3.0	2.1	3.3
30	350	342	1610	1630	-----	36	8.9	4.8	3.4	3.0	1.7	3.3
31	350	-----	1610	1610	-----	35	-----	4.8	-----	3.0	1.7	-----
Total	5,463.6	20,435	40,641	40,589	26,190.7	3,014	461.1	2016	112.7	95.5	859	55.8
Mean	176	631	1,311	1,309	935	97.2	15.4	6.50	3.76	3.08	2.77	1.86
Ac-ft	1,084.0	4,053.0	8,061.0	8,051.0	51,950	5,980	915	400	224	189	170	110
Calendar year 1965	Max	1,340.0	Min	1.9	Mean	1,394	Ac-ft	1,009,000				
Water year 1965-66	Max	1,700	Min	1.5	Mean	376	Ac-ft	272,400				

11-3030. Stanislaus River at Ripon, Calif.

Location (revised).--Lat 37°43'47", long 121°06'34", in NW<sup>1</sup>SE<sup>1</sup> sec.29, T.2 S., R.8 E., on left bank 15 ft downstream from railroad bridge, 1.1 miles southeast of Ripon, and 15 miles upstream from mouth.

Drainage area.--1,075 sq mi.

Records available.--October 1940 to September 1966 in reports of Geological Survey. April to September 1940 in reports of California Department of Water Resources.

Gage.--Digital water-stage recorder. Datum of gage is 0.72 ft above mean sea level, datum of 1929, adjustment of 1959. October 1940 to Nov. 17, 1953, graphic water-stage recorder at site 100 ft upstream at same datum. Nov. 17, 1953, to June 9, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--26 years, 1,002 cfs (725,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,280 cfs Dec. 30 (gage height, 46.17 ft); minimum daily, 74 cfs Aug. 18.

1940-66: 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.

Remarks.--Records good. Flow regulated by reservoirs and powerplants above station (see Remarks for sta. no. 11-3020). South San Joaquin Canal (see sta. nos. 11-3005 and 11-3010) divert at Goodwin Dam 34 miles upstream. Diversions for irrigation of about 57,250 acres in vicinity Oakdale area. See schematic diagram for Stanislaus River Basin. Records of chemical analyses near this gaging station for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	341	475	936	1,970	1,780	232	215	146	141	100	117	97
2	346	472	952	1,840	1,700	223	207	155	142	88	100	95
3	365	475	1,080	1,790	1,690	220	197	158	138	100	87	95
4	380	477	1,640	1,800	1,680	230	193	157	150	123	92	87
5	331	477	1,730	1,780	1,670	235	188	157	177	129	82	95
6	332	474	1,740	1,820	1,860	245	199	165	170	114	79	88
7	354	480	1,340	1,800	1,970	245	184	156	155	99	92	100
8	360	482	1,010	1,780	1,730	243	181	160	153	102	88	103
9	322	477	978	1,770	1,500	243	218	167	157	100	77	103
10	341	532	962	1,760	1,640	240	240	184	155	101	79	92
11	335	833	958	1,750	1,640	235	249	173	158	102	80	109
12	303	979	965	1,750	1,630	226	239	176	156	105	87	109
13	320	1,000	960	1,740	1,620	232	219	163	151	109	85	98
14	260	982	950	1,740	1,610	232	185	172	152	114	93	95
15	350	956	932	1,730	1,180	308	180	168	147	107	85	92
16	357	721	922	1,720	924	308	175	160	150	98	81	96
17	356	798	1,060	1,720	859	282	179	165	154	109	76	96
18	373	994	1,590	1,710	1,030	289	213	162	100	101	74	99
19	371	1,120	1,670	1,700	1,100	285	196	154	121	91	82	114
20	488	998	1,680	1,690	882	335	189	154	115	82	79	93
21	498	953	1,700	1,680	861	369	177	160	104	81	109	99
22	508	942	1,700	1,670	683	327	172	157	102	81	108	130
23	514	998	1,700	1,500	382	292	177	177	124	83	98	107
24	472	1,140	1,700	682	292	295	189	182	113	90	93	99
25	514	1,080	1,700	472	256	277	191	178	111	87	93	106
26	464	1,010	1,740	362	243	232	172	161	111	90	89	121
27	464	997	1,730	308	229	231	158	149	106	97	99	112
28	470	964	1,730	274	217	262	166	145	97	83	93	117
29	485	950	1,820	253	-----	256	151	155	96	99	98	110
30	483	944	2,100	1,160	-----	228	145	154	97	90	98	105
31	481	-----	2,100	1,860	-----	210	-----	145	-----	123	98	-----
TOTAL	12,338	24,180	43,775	45,581	32,858	8,067	5,744	5,015	3,943	3,078	2,791	3,060
MEAN	398	806	1,412	1,470	1,174	260	191	162	131	99.3	90.0	102
AC-FT	24,470	47,960	86,330	90,410	65,170	16,000	11,390	9,950	7,820	6,110	5,540	6,070

CALENDAR YEAR 1965 MAX 11,800 MIN 174 MEAN 1,573 AC-FT 1,139,000  
 WATER YEAR 1965-66 MAX 2,100 MIN 74 MEAN 522 AC-FT 377,700

11-3035. San Joaquin River near Vernalis, Calif.

Location.--Lat 37°40'34", long 121°15'51", on left bank 80 ft (revised) upstream from Durham Ferry highway bridge, 3 miles downstream from Stanislaus River, and 3.4 miles northeast of Vernalis.

Drainage area.--13,540 sq mi.

Records available.--July 1922 to September 1966 (1922-23 and 1925-29, low-water records only).

Gage.--Water-stage recorder. Datum of gage is at mean sea level. 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. Apr. 1, 1931, to Sept. 30, 1959, at datum 5.06 ft above mean sea level and 8.4 ft above datum of Corps of Engineers.

Average discharge.--38 years (1924, 1929-66), 4,333 cfs (3,137,000 acre-ft per year).

Extremes.--Maximum discharge during year, 9,730 cfs Dec. 7 (elevation, 21.23 ft); minimum daily, 323 cfs July 29.

1922-66: 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 excellent. 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. Records of chemical analyses and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

## Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.800	3.010	6.500	7.330	5.050	2.720	1.130	826	605	393	650	597
2	2.910	2.850	7.370	8.500	5.010	2.850	1.080	852	597	429	628	593
3	2.990	2.660	7.950	9.330	4.910	3.020	1.020	794	636	469	573	585
4	3.030	2.650	8.670	9.590	4.780	3.020	1.010	785	614	509	477	672
5	2.970	2.640	9.270	8.810	4.640	3.010	955	780	700	549	425	718
6	2.930	2.650	9.570	7.570	4.650	2.970	940	826	736	509	401	682
7	3.100	2.600	9.690	6.530	5.330	2.670	888	826	776	457	405	686
8	3.150	2.520	9.410	5.950	5.640	2.500	868	862	780	409	425	636
9	3.150	2.430	9.720	5.600	4.950	2.460	970	902	731	433	437	654
10	3.030	2.510	7.220	5.350	4.700	2.490	1.220	1.020	736	453	409	659
11	3.030	2.660	6.180	5.210	4.690	2.450	1.380	1.140	641	493	358	718
12	3.130	2.860	5.810	5.430	4.660	2.090	1.440	1.120	628	481	389	740
13	3.290	3.000	5.610	5.560	4.530	1.960	1.360	1.060	601	485	409	744
14	3.420	3.120	5.430	5.480	4.420	1.890	1.200	1.050	581	469	449	695
15	3.610	3.130	5.390	5.370	4.180	1.830	1.150	1.060	437	501	505	695
16	3.850	3.070	5.330	4.910	3.840	1.810	1.040	1.060	373	517	481	731
17	3.780	3.150	5.270	4.650	3.660	1.710	905	1.000	373	517	425	713
18	3.550	3.490	5.490	4.530	3.540	1.630	888	950	393	545	385	726
19	3.460	3.620	5.630	4.500	3.770	1.690	892	888	465	501	381	776
20	3.340	3.710	5.520	4.420	3.520	1.480	848	834	549	429	377	780
21	3.160	4.020	5.500	4.350	3.410	1.380	804	798	477	362	449	790
22	2.570	4.310	5.590	4.230	3.330	1.240	820	834	413	373	565	808
23	2.270	4.450	5.620	4.080	3.160	1.220	852	852	481	334	589	830
24	2.150	4.770	5.540	3.590	2.920	1.220	892	808	529	377	501	803
25	2.060	5.190	4.860	3.130	2.860	1.170	888	744	525	453	529	780
26	2.010	5.510	4.180	3.020	2.840	1.140	820	664	517	369	553	803
27	2.060	5.630	3.820	3.020	2.800	1.140	784	690	565	351	632	803
28	1.990	5.700	3.820	2.980	2.710	1.200	776	610	585	326	659	776
29	2.480	5.670	4.160	2.940	-----	1.200	820	695	581	323	708	780
30	2.960	5.730	4.390	3.160	-----	1.120	808	731	469	326	682	785
31	3.040	-----	5.720	4.190	-----	1.080	-----	695	-----	489	641	-----
Total	91.270	109.310	93.230	163.310	114.560	59.360	29.448	26.756	17.094	13.631	15.497	21.758
Mean	2.944	3.644	6.233	5.268	4.091	1.915	982	863	570	440	500	725
Ac-ft	81.000	216.800	383.300	323.900	227.200	117.700	58.410	53.070	33.910	27.040	30.740	43.160

Calendar year 1965 Max 2.700 Min 955 Mean 5.495 Ac-ft 3978.000

Water year 1965-66 Max 9.690 Min 323 Mean 2.343 Ac-ft 1.696.000



11-3040. Corral Hollow Creek near Tracy, Calif.

Location.--Lat 37°39'24", long 121°28'40", in SE¼ 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 1966 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 330 ft (from topographic map).

Average discharge.--8 years, 0.33 cfs (239 acre-ft per year).

Extremes.--Maximum discharge during year, 1.2 cfs Nov. 16 (gage height, 1.33 ft); no flow for several months.

1958-66: Maximum discharge, 145 cfs Mar. 6, 1962 (gage height, 2.54 ft); no flow for several months in each year.

Remarks.--Records good except those for period of no gage height record, which are fair. Small diversions by pumping from stream above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.20	0.20	0.20	0.20	0.20	0.10					
2	0	.20	.20	.20	.20	.20	.10					
3	0	.20	.20	.20	.20	.20	0					
4	.10	.20	.20	.20	.20	.20	0					
5	.10	.20	.20	.20	.20	.20	.10					
6	.10	.20	.20	.20	.20	.20	0					
7	.10	.20	.20	.20	.20	.20	0					
8	.10	.20	.20	.20	.20	.20	0					
9	.10	.20	.20	.20	.20	.20	0					
10	.10	.20	.20	.20	.20	.20	.10					
11	.10	.20	.20	.20	.20	.20	.10					
12	.10	.20	.20	.20	.20	.20	.10					
13	.10	.20	.20	.20	.20	.20	0					
14	.10	.30	.20	.20	.20	.20	0					
15	.10	.20	.20	.20	.20	.20	0					
16	.10	.50	.20	.20	.20	.20	0					
17	.10	.20	.20	.20	.20	.10	0					
18	.10	.20	.20	.20	.20	.10	0					
19	.10	.20	.20	.20	.20	.10	0					
20	.10	.20	.20	.20	.20	.10	0					
21	.10	.20	.20	.20	.20	.10	0					
22	.10	.20	.20	.20	.20	.10	0					
23	.20	.20	.20	.20	.20	.10	0					
24	.10	.20	.20	.20	.20	.10	0					
25	.10	.20	.20	.20	.20	.10	0					
26	.20	.20	.20	.20	.20	.10	0					
27	.20	.20	.20	.20	.20	.10	0					
28	.20	.20	.20	.20	.20	.10	0					
29	.20	.20	.30	.20	-----	.10	0					
30	.20	.20	.30	.30	-----	.10	0					
31	.20	-----	.30	.30	-----	.10	-----		-----			-----
Total	3.50	6.40	6.50	6.40	5.60	4.70	0.60	0	0	0	0	0
Mean	0.11	0.21	0.21	0.21	0.20	0.15	0.02	0	0	0	0	0
Ac-ft	6.9	13	13	13	11	9.3	1.2	0	0	0	0	0

Calendar year 1965 Max 31 Min 0 Mean 0.55 Ac-ft 400

Water year 1965-66 Max 0.5 Min 0 Mean 0.09 Ac-ft 67

Peak discharge (base, 40 cfs).--No peak above base.

Note.--No gage-height record Jan. 25 to Mar. 3.

11-3060. South Fork Calaveras River near San Andreas, Calif.

Location.--Lat 38°08'40", long 120°39'50", in NW¼ sec.4, T.3 N., R.12 E., on right bank 0.1 mile downstream from San Antonio Creek, and 3.7 miles south of San Andreas.

Drainage area.--118 sq mi.

Records available.--April 1950 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 860 ft (from topographic map). Prior to Feb. 13, 1952, staff gage at same site and datum. Feb. 13, 1952, to May 19, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 73.6 cfs (53,280 acre-ft per year); median of yearly mean discharges, 45 cfs (32,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,260 cfs Dec. 29 (gage height, 5.47 ft); no flow for many days.

1950-66: Maximum discharge, 17,600 cfs Dec. 23, 1955 (gage height, 10.29 ft), from rating curve extended above 5,700 cfs on basis of slope-area measurement of maximum flow; no flow at times in most years.

Remarks.--Records good. Some small diversions, mainly for irrigation, above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.5	3.3	36	235	198	51	37	15	5.6	0.90		
2	3.2	3.3	32	135	159	49	36	19	5.5	.80		
3	3.1	3.4	29	103	112	46	34	19	5.4	.90		
4	3.0	3.4	30	87	94	43	32	16	5.2	.70		
5	3.0	3.4	27	109	111	43	30	15	4.9	.60		
6	3.0	3.4	23	105	712	45	31	16	4.6	.60		
7	2.9	3.5	26	97	301	45	27	18	5.2	.60		
8	2.9	3.5	22	89	181	46	25	16	5.6	.60		
9	2.8	3.6	21	81	131	48	25	14	5.3	.60		
10	2.8	3.7	20	73	107	73	44	16	4.8	.60		
11	3.1	3.9	21	66	89	75	49	17	4.1	.60		
12	3.0	4.8	33	60	79	65	47	15	3.0	.60		
13	3.0	9.5	29	53	72	67	39	13	2.8	.60		
14	3.2	37	23	48	66	65	32	12	2.8	.60		
15	5.1	34	22	44	62	62	29	11	2.4	.50		
16	6.9	31	21	41	57	59	25	11	2.2	.50		
17	5.0	47	19	41	54	55	24	9.7	1.9	.40		
18	4.2	318	18	38	53	53	25	8.9	1.6	.40		
19	4.0	111	18	35	52	53	27	8.3	1.4	.30		
20	3.9	54	18	33	51	51	24	7.6	1.3	.20		
21	3.7	35	18	32	49	48	23	6.9	1.3	.20		
22	3.5	29	18	30	48	47	22	7.4	1.2	.20		
23	3.5	148	17	29	48	46	20	7.4	1.6	0		
24	3.3	292	17	29	54	45	19	7.1	1.4	0		
25	3.3	167	221	28	58	44	18	6.5	1.2	0		
26	3.2	103	111	26	67	43	18	5.9	1.2	0		
27	3.1	68	69	26	58	39	17	4.7	1.2	0		
28	3.1	54	113	30	53	42	17	5.0	1.1	0		
29	3.3	47	778	93	-----	41	15	5.3	1.1	0		
30	3.2	41	941	160	-----	40	14	5.4	1.0	0		
31	3.2	-----	506	230	-----	39	-----	5.8	-----	0		-----
TOTAL	108.0	1,668.7	3,297	2,286	3,176	1,568	825	344.9	87.9	11.90	0	0
MEAN	3.48	55.6	106	73.7	113	50.6	27.5	11.1	2.93	.38	0	0
AC-FT	214	3,310	6,540	4,530	6,300	3,110	1,640	684	174	24	0	0

CALENDAR YEAR 1965 MAX 4,520 MIN 2.6 MEAN 111 AC-FT 80,300  
 WATER YEAR 1965-66 MAX 941 MIN 0 MEAN 36.6 AC-FT 26,530

Peak discharge (base, 1,000 cfs).--Dec. 29 (2340) 2,260 cfs (5.47 ft); Feb. 6 (0130) 1,070 cfs (4.24 ft).

## SAN JOAQUIN RIVER BASIN

717

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 1.0 mile upstream from mouth and 2.6 miles southeast of San Andreas.

Drainage area.--53.0 sq mi.

Records available.--April 1950 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 865 ft (from topographic map). Prior to May 20, 1964 graphic water-stage recorder at same site and datum. Prior to Feb. 12, 1952, staff gage at same site and datum.

Average discharge.--16 years, 30.3 cfs (21,940 acre-ft per year); median of yearly mean discharges, 18 cfs (13,000 acre-ft per year).

Extremes.--Maximum discharge during year, 290 cfs Dec. 29 (gage height, 2.95 ft); no flow July 22 to Sept 25.  
1950-66: Maximum discharge, 4,410 cfs Apr. 2, 1958 (gage height, 6.65 ft); no flow at times in most years.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.1	1.7	11	142	45	19	9.1	5.6	2.1	0.40		0
2	1.1	1.7	10	80	40	17	8.6	5.1	2.2	0.30		0
3	1.1	1.8	9.1	47	34	16	8.2	5.4	2.1	0.30		0
4	1.2	1.7	8.4	34	29	15	7.8	5.2	1.9	0.20		0
5	1.2	1.7	7.7	37	31	14	8.2	5.2	1.8	0.20		0
6	1.3	1.7	7.2	50	164	13	8.0	4.8	1.7	0.20		0
7	1.3	1.7	6.6	47	170	13	7.7	4.7	1.8	0.20		0
8	1.2	1.6	6.3	40	105	13	7.5	4.5	1.8	0.10		0
9	1.2	1.7	6.0	33	67	12	7.6	4.5	1.6	0.20		0
10	1.3	1.8	5.7	29	47	16	10	5.2	1.5	0.20		0
11	1.3	1.8	5.5	26	36	18	12	5.2	1.4	0.20		0
12	1.2	2.2	6.1	22	30	18	14	4.9	1.3	0.20		0
13	1.2	2.3	8.3	20	26	16	14	4.6	1.2	0.10		0
14	1.4	3.1	9.0	18	24	16	12	4.4	1.1	0.10		0
15	1.6	2.4	8.1	16	22	16	11	4.2	1.1	0.10		0
16	1.4	5.1	7.5	15	21	16	9.4	3.8	1.1	0.10		0
17	1.5	7.1	7.1	14	19	15	8.3	3.9	1.0	0.10		0
18	1.6	53	6.8	14	18	14	7.9	3.6	0.90	0.10		0
19	1.7	77	6.3	13	17	13	8.2	3.3	0.80	0.10		0
20	1.8	39	6.1	12	15	12	8.3	3.3	0.70	0.10		0
21	1.9	19	6.5	11	15	12	8.0	3.2	0.70	0.10		0
22	1.8	13	6.4	11	15	13	7.7	3.1	0.70	0		0
23	1.8	24	6.1	10	14	12	7.3	2.7	0.70	0		0
24	1.6	76	6.1	10	16	11	6.8	2.5	0.70	0		0
25	1.6	92	15	10	18	11	6.3	2.5	0.60	0		0
26	1.6	55	30	9.2	21	10	6.6	2.5	0.50	0		0.10
27	1.7	28	23	8.7	20	9.8	6.5	2.4	0.50	0		0.10
28	1.8	18	23	8.6	20	9.6	6.2	2.3	0.40	0		0.10
29	1.8	14	168	9.8	-----	10	6.3	2.1	0.40	0		0.10
30	1.7	12	214	59	-----	9.8	6.0	2.0	0.40	0		0.10
31	1.7	-----	167	54	-----	9.5	-----	1.9	-----	0		-----
TOTAL	45.7	568.1	813.9	910.3	1,099	419.7	255.5	118.6	34.70	3.50	0	0.50
MEAN	1.47	18.9	26.3	29.4	39.3	13.5	8.52	3.83	1.16	0.11	0	0.02
AC-FT	91	1,130	1,610	1,810	2,180	832	507	235	69	6.9	0	1.0

CALENDAR YEAR 1965	MAX	1,750	MIN	1.0	MEAN	38.7	AC-FT	27,990
WATER YEAR 1965-66	MAX	214	MIN	0	MEAN	11.7	AC-FT	8,470

Peak discharge (base, 500 cfs).--No peak above base.

## SAN JOAQUIN RIVER BASIN

11-3080. North Fork Calaveras River near San Andreas, Calif.

Location.--Lat 38°13'05", long 120°41'55", in NW¼ sec.7, T.4 N., R.12 E., on right bank 0.5 mile upstream from Chile Gulch and 1.8 miles northwest of San Andreas.

Drainage area.--85.2 sq mi.

Records available.--March 1950 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 750 ft (from topographic map). Prior to Feb. 14, 1952, staff gage at same site and datum. Feb. 14, 1952, to July 8, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 45.6 cfs (33,010 acre-ft per year); median of yearly mean discharges, 30 cfs (21,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,100 cfs Dec. 29 (gage height, 6.52 ft); no flow for many days.

1950-66: 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 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.8	3.8	14	199	94	31	13	6.9	1.7			
2	2.4	4.3	12	99	87	30	13	6.7	1.7			
3	2.6	4.9	11	70	60	28	13	6.1	1.6			
4	2.2	5.3	10	58	50	26	12	6.1	1.5			
5	2.1	5.6	9.6	128	47	25	12	5.8	1.7			
6	2.1	4.8	9.6	131	470	24	12	5.4	2.1			
7	2.5	4.5	9.1	85	224	23	12	5.4	2.8			
8	1.9	4.8	8.9	63	119	22	12	5.3	2.9			
9	2.5	4.7	8.3	52	80	22	12	5.1	2.6			
10	3.2	5.2	8.3	44	63	35	19	7.2	2.3			
11	2.9	5.7	8.9	38	52	36	24	9.2	2.3			
12	2.8	8.2	19	34	45	29	27	7.5	1.4			
13	2.7	12	21	30	41	29	23	6.1	1.2			
14	4.1	21	15	28	36	26	16	5.4	.70			
15	9.3	16	13	26	34	24	14	5.1	.30			
16	9.3	10	12	25	31	23	13	5.3	0			
17	5.8	23	11	23	29	21	12	4.8	0			
18	4.8	195	11	21	28	20	12	4.0	0			
19	4.6	74	10	20	27	20	13	3.6	0			
20	4.8	30	10	19	27	22	12	3.2	0			
21	4.9	18	10	19	25	19	12	2.9	0			
22	4.5	13	10	18	24	18	11	3.0	0			
23	4.2	68	9.8	19	23	19	11	2.7	0			
24	3.5	247	9.8	18	27	20	9.9	2.9	0			
25	3.3	99	52	17	38	20	9.3	2.5	0			
26	3.3	58	57	17	41	18	8.6	2.0	0			
27	3.5	35	33	16	42	16	8.2	2.0	0			
28	3.7	24	31	16	35	15	7.9	1.7	0			
29	3.6	19	513	17	-----	15	7.5	1.4	0			
30	3.9	16	312	132	-----	14	7.0	1.6	0			
31	3.7	-----	388	148	-----	14	-----	1.5	-----			
TOTAL	118.7	1,039.8	1,657.3	1,630	1,899	704	388.4	138.4	26.80	0	0	*
MEAN	3.83	34.7	53.5	52.6	67.8	22.7	12.9	4.47	.89	0	0	0
AC-FT	235	2,060	3,290	3,230	3,770	1,400	770	275	53	0	0	*

CALENDAR YEAR 1965	MAX	2,350	MIN	.30	MEAN	61.4	AC-FT	44,480
WATER YEAR 1965-66	MAX	513	MIN	0	MEAN	20.8	AC-FT	15,080

Peak discharge (base, 1,300 cfs).--No peak above base.

## 11-3087. New Hogan Reservoir near Valley Springs, Calif.

Location.--Lat 38°09'00", long 120°48'45", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.31, T.4 N., R.11 E., in control house (revised) at New Hogan Dam on the Calaveras River, 3.0 miles south of Valley Springs.

Drainage area.--362 sq mi.

Records available.--December 1963 to September 1966.

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

Extremes.--Maximum contents during year, 203,800 acre-ft Mar. 29 to Apr. 7, Apr. 9-15 (elevation, 681.80 ft); minimum, 142,200 acre-ft Sept. 30 (elevation, 661.30 ft).

1963-66: Maximum contents, 214,900 acre-ft May 8-12, 1965 (elevation, 685.12 ft); minimum since initial season of normal operation, 9,360 acre-ft Oct. 27, 1964 (elevation, 536.81 ft).

Remarks.--Reservoir is formed by an earthfill dam and four earthfill dikes. Storage began Dec. 20, 1963. Total capacity, 323,900 acre-ft between elevations 534.5 ft (invert of outlet valve) and 713.0 ft (top of spillway gates). Elevation of spillway crest is 679.5 ft. No dead storage. The reservoir is operated for flood control according to existing downstream channel conditions. Reservoir releases limited, insofar as possible, to amounts that will not cause flows greater than 6,000 cfs at Bellota. Records, including extremes, show contents at 2400 hours.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-ft, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	167.5	164.4	170.2	183.9	187.2	200.5	203.8	199.2	189.6	176.8	162.7	148.9
2	167.2	164.4	170.2	184.6	187.9	200.7	203.8	198.8	189.3	176.3	162.3	148.5
3	166.9	164.3	170.3	184.8	188.4	200.8	203.8	198.5	189.1	175.9	161.9	148.3
4	166.9	164.3	170.3	184.5	188.7	200.9	203.8	198.1	188.9	175.4	161.4	148.0
5	166.7	164.2	170.3	183.9	189.2	201.0	203.8	197.9	188.6	175.0	161.0	147.5
6	166.5	164.1	170.3	181.8	192.5	201.1	203.8	197.6	188.3	174.5	160.6	147.2
7	166.4	164	170.4	180.2	194.2	201.3	203.8	197.3	187.9	174.0	160.2	146.9
8	166.1	163.9	170.4	180.1	195.2	201.4	203.7	197.0	187.6	173.5	159.9	146.6
9	166.0	163.8	170.4	180.0	195.8	201.5	203.8	196.7	187.2	173.1	159.6	146.4
10	165.9	163.8	170.4	180.0	196.3	201.8	203.8	196.5	186.9	172.7	159.1	146.2
11	165.8	163.7	170.5	180.0	196.6	202.1	203.8	196.2	186.5	172.3	158.5	145.9
12	165.7	163.7	170.6	180.0	196.9	202.3	203.8	196.0	186.2	171.8	158.0	145.7
13	165.7	163.9	170.6	180.1	197.2	202.5	203.8	195.7	185.9	171.3	157.5	145.4
14	165.7	164.1	170.7	180.2	197.5	202.7	203.8	195.4	185.4	170.9	157.0	145.1
15	165.6	164.2	170.7	180.3	197.6	202.8	203.8	195.1	184.9	170.4	156.4	144.9
16	165.5	164.3	170.7	180.5	197.9	202.9	203.7	194.8	184.5	170.0	155.9	144.6
17	165.5	164.6	170.7	180.6	198.1	203.1	203.5	194.4	184.0	169.6	155.4	144.4
18	165.4	165.6	170.7	180.7	198.3	203.2	203.3	194.1	183.5	169.2	154.9	144.2
19	165.4	166.1	170.7	180.8	198.5	203.3	203.1	193.8	183.0	168.8	154.4	143.9
20	165.3	166.3	170.6	180.9	198.7	203.4	202.8	193.4	182.5	168.3	153.9	143.6
21	165.2	166.4	170.6	181.0	198.9	203.5	202.5	193.1	181.9	167.8	153.4	143.5
22	165.2	166.5	170.6	181.1	199	203.5	202.2	192.8	181.4	167.3	153.0	143.3
23	165.1	167.0	170.6	181.2	199.1	203.6	201.8	192.5	180.8	166.8	152.4	143.2
24	165.1	168.3	170.6	181.3	199.4	203.6	201.5	192.2	180.2	166.3	151.9	143.1
25	165.0	169.1	171.3	181.4	199.6	203.6	201.2	191.8	179.7	165.9	151.5	143.0
26	164.9	169.5	171.9	181.4	199.9	203.7	200.9	191.5	179.3	165.4	151.1	142.9
27	164.8	169.8	172.0	181.5	200.1	203.7	200.5	191.1	178.8	164.9	150.8	142.8
28	164.8	170.0	172.8	181.5	200.3	203.7	200.2	190.8	178.4	164.5	150.4	142.7
29	164.7	170.0	176.1	182.1	-----	203.8	199.8	190.5	177.8	164.0	150.1	142.4
30	164.6	170.1	180.1	184.9	-----	203.8	199.5	190.2	177.3	163.6	149.7	142.2
31	164.6	-----	182.7	186.2	-----	203.8	-----	189.9	-----	163.2	149.3	-----
(+)	669.18	671.05	675.20	676.32	680.72	681.80	680.48	677.48	673.42	668.71	663.85	661.30
(#)	-3.2	+5.5	+12.6	+ 3.5	+ 14.1	+ 3.5	-4.3	-9.6	-12.6	-14.1	-13.9	-7.1
(++)	1433	489	241	377	432	799	1423	1797	2254	2303	2440	1707

Calendar year 1965 ..... † 71.1

Water year 1965-66 ..... † -25.6

† Elevation in feet at end of month.

# Change in contents, in acre-feet.

++ Evaporation in acre-feet.

## SAN JOAQUIN RIVER BASIN

11-3089. Calaveras River below New Hogan Dam, near Valley Springs, Calif.

Location.--Lat 38°08'53", Long 120°49'26", in NE $\frac{1}{4}$  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 New Hogan Dam, and 3.0 miles south of Valley Springs.

Drainage area.--363 sq mi.

Records available.--January 1961 to September 1966. Published as "below Hogan Dam" 1961-63 and as "below New Hogan Dam" 1964.

Gage.--Water-stage recorder and concrete control. 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 used May 1, 1962, to Jan. 26, 1963.

Extremes.--Maximum discharge during year, 1,960 cfs Jan. 6 (gage height, 3.66 ft); minimum daily, 0.10 cfs Nov. 13.  
1961-66: Maximum discharge, 7,020 cfs Feb. 1, 1963 (gage height, 6.76 ft); no flow for many days most years.

Remarks.--Records good. Flow regulated by New Hogan Reservoir (see sta. no. 11-3087). Some seepage of North Fork Stanislaus River water enters basin from diversion canals and reservoirs, normally not over 1.5 cfs. Small diversions above station for irrigation. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Revisions (water years).--1965 Report: 1963.

Discharge, in cubic feet per second, water year October 1965 to September 1966											
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Sept.
1	102	32	32	31	31	30	56	177	136	219	200
2	102	38	32	30	29	30	56	177	128	198	200
3	102	39	35	178	28	30	56	171	128	198	200
4	97	39	36	468	29	30	56	150	125	198	200
5	88	39	36	703	31	30	56	147	125	198	185
6	88	39	36	1450	33	30	56	147	125	211	175
7	88	39	36	1140	30	31	56	147	144	224	157
8	88	39	36	290	29	31	56	147	165	212	139
9	88	39	36	266	29	31	56	147	174	191	176
10	60	39	36	160	29	31	56	147	159	173	223
11	30	39	36	105	29	31	79	147	150	174	240
12	30	27	36	105	29	31	98	147	162	188	240
13	30	10	36	67	30	31	73	147	174	208	240
14	30	40	36	32	30	31	51	147	188	208	240
15	29	14	37	32	30	31	61	147	192	180	240
16	29	48	38	32	30	31	87	147	212	169	236
17	29	49	38	31	30	31	110	162	216	177	240
18	29	51	38	31	30	41	136	168	216	187	240
19	29	49	38	31	30	49	144	171	216	208	228
20	29	51	38	31	30	49	165	162	216	230	210
21	30	49	38	31	30	43	174	150	220	237	210
22	30	51	38	31	30	41	174	153	224	228	230
23	30	53	38	31	30	49	174	153	232	200	240
24	30	46	38	31	31	64	174	153	232	200	225
25	30	36	38	31	30	66	174	153	220	200	199
26	30	38	38	31	30	56	174	153	208	200	179
27	30	39	27	31	30	57	174	147	208	200	170
28	30	39	15	31	30	57	174	133	216	200	170
29	30	39	43	33	-----	57	177	133	224	200	170
30	30	36	38	38	-----	57	177	133	224	200	170
31	30	-----	33	33	-----	56	-----	136	-----	200	170
Total	1527	1136.50	1106	5565	937	1263	3310	4699	5559	6216	6342
Mean	49.5	37.9	35.7	180	29.9	40.7	110	152	185	201	205
Ac-ft	3030	2250	2190	11040	1660	2500	6570	9320	11030	12330	12580
Mean†	21.3	138	244	243	292	111	62.0	24.7	11.5	8.75	18.2
Ac-ft†	1260	8240	15030	14920	16190	6800	3690	1520	684	539	1120
Calendar year 1965	Max 1640	Min 0.1	Mean 152	Ac-ft 100300	Mean† 271	Ac-ft† 196200					
Water year 1965-66	Max 1450	Min 0.1	Mean 111	Ac-ft 80670	Mean† 97.8	Ac-ft† 70770					

† Adjusted for change in contents and evaporation from New Hogan Reservoir.

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.--21.1 sq mi.

Records available.--October 1929 to September 1966.

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.--37 years, 7.20 cfs (5,210 acre-ft per year); median of yearly mean discharges, 5.3 cfs (3,840 acre-ft per year).

Extremes.--Maximum discharge during year, 442 cfs Jan. 30 (gage height, 4.63 ft); no flow for several months.

1929-66: Maximum discharge, 3,240 cfs Dec. 23, 1955 (gage height, 8.96 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement of maximum flow; no flow for several months in each year.

Remarks.--Records good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	23	23	4.0	0.50	0				
2		0	0	14	14	3.4	.50	0				
3		0	0	8.0	8.0	3.0	.40	0				
4		0	0	7.5	7.5	2.4	.40	0				
5		0	0	29	18	2.2	.40	0				
6		0	0	16	139	2.0	.40	0				
7		0	0	10	29	2.0	.40	0				
8		0	0	7.0	1.6	2.0	.30	0				
9		0	0	6.0	1.0	1.9	.30	0				
10		0	0	5.2	7.5	3.0	.70	0				
11		0	0	4.5	6.0	3.0	.60	1.0				
12		0	1.0	3.4	5.2	2.4	.80	0				
13		0	0	3.0	4.5	2.2	.70	0				
14		0	0	2.6	4.0	1.9	.50	0				
15		0	0	2.4	3.8	1.6	.40	0				
16		0	0	2.2	3.4	1.4	.30	0				
17		0	0	1.9	3.4	1.2	.30	0				
18		1.0	0	1.8	3.2	1.2	.20	0				
19		0	0	1.6	3.0	1.0	.20	0				
20		0	0	1.4	2.8	1.0	.10	0				
21		0	0	1.3	2.6	.90	.10	0				
22		0	0	1.3	2.4	.90	.10	0				
23		0	0	1.3	2.4	.80	.10	0				
24		0	0	1.3	3.8	.80	.10	0				
25		.70	2.3	1.2	5.8	.80	.10	0				
26		.30	1.2	1.1	2.0	.70	.10	0				
27		.10	.70	1.0	6.5	.60	.10	0				
28		.10	2.4	1.0	5.8	.60	.10	0				
29		0	73	3.1	-----	.60	.10	0				
30		0	80	183	-----	.50	.10	0				
31		-----	53	35	-----	.50	-----	0	-----			-----
Total	0	1.30	234.30	381.1	360.6	50.50	9.40	0.10	0	0	0	0
Mean	0	0.04	7.56	12.3	12.9	1.63	0.30	0.003	0	0	0	0
Ac-ft	0	2.6	465	760	715	100	19	0.2	0	0	0	0

Calendar year 1965 Max 134 Min 0 Mean 3.99 Ac-ft 2,890

Water year 1965-66 Max 183 Min 0 Mean 2.84 Ac-ft 2,060

Peak discharge (base, 500 cfs).--No peak above base.

## 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.--393 sq mi.

Records available.--January 1907 to September 1966 (discontinued). Yearly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 207.1 ft above mean sea level. Prior to Dec. 3, 1925, staff gage on center pier of bridge. January 1907 to October 1917, at datum 7.00 ft higher, and October 1917 to May 1928 at datum 2.00 ft higher.

Average discharge.--58 years (1908-65), 215 cfs (155,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,120 cfs Jan. 6 (gage height, 6.26 ft); minimum daily, 0.3 cfs Nov. 15.

1907-66: 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 most years.

Remarks.--Records good. Flow regulated by New Hogan Reservoir (see sta. no. 11-3087); prior to December 1963 flow regulated by Hogan Reservoir beginning in 1930 (usable capacity, 75,000 acre-ft). Some seepage of North Fork Stanislaus River water enters above station from diversion canals and reservoirs; normally not over 1.5 cfs. Small diversions above station for irrigation. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	28	35	55	76	37	61	120	123	210	182	154
2	90	34	34	44	63	36	59	176	122	183	182	154
3	90	36	34	180	54	36	53	154	122	183	182	132
4	87	36	36	450	52	36	57	150	122	183	182	130
5	80	39	36	663	52	36	56	150	120	183	174	134
6	76	40	37	1,430	227	35	55	150	120	193	162	150
7	77	40	37	1,300	89	36	55	150	134	213	150	144
8	79	40	37	283	64	36	55	150	156	212	134	120
9	79	40	37	273	56	36	55	150	174	190	152	99
10	67	40	37	177	50	36	56	150	164	166	193	76
11	23	40	38	111	46	36	66	150	150	170	220	75
12	26	41	39	110	44	36	96	150	156	173	220	75
13	26	9.5	39	88	43	39	90	148	170	202	220	112
14	27	.60	39	42	41	44	43	148	185	200	220	112
15	27	.30	37	42	40	44	54	148	188	192	220	94
16	26	39	39	42	39	44	79	148	202	153	213	94
17	26	52	40	42	39	44	113	156	212	172	220	94
18	26	57	40	42	38	49	133	164	212	174	213	94
19	26	50	41	42	38	53	162	164	215	192	212	93
20	26	50	41	41	37	53	173	162	215	215	190	93
21	27	50	41	41	37	57	192	143	215	222	188	82
22	27	50	41	41	36	51	192	148	220	213	202	59
23	27	54	42	41	37	54	190	143	223	185	220	51
24	23	52	41	41	37	66	190	143	223	182	210	39
25	28	40	50	41	33	72	183	143	220	130	182	39
26	23	39	46	40	54	61	188	148	205	182	166	39
27	23	40	43	39	40	61	185	144	205	182	153	35
28	23	39	16	39	38	60	182	130	210	182	156	27
29	23	39	105	46	-----	60	182	130	215	182	156	56
30	23	39	110	311	-----	61	182	130	215	182	154	79
31	28	-----	79	110	-----	61	-----	130	-----	182	156	-----
Total	1,384	1,154.40	1,367	6,257	1,505	1,476	3,467	4,650	5,428	5,373	5,304	2,735
Mean	44.6	33.5	44.1	202	53.8	47.6	116	150	181	190	187	91.2
Ac-ft	2,750	2,290	2,710	12,410	2,990	2,930	6,380	9,220	10,770	11,660	11,510	5,420
Calendar year 1965	Max	1,690	Min	0.3	Mean	154	Ac-ft	111,500				
Water year 1965-66	Max	1,430	Min	0.3	Mean	113	Ac-ft	81,530				



11-3120. Bear Creek near Lockeford, Calif.

Location.--Lat 38°09'15", long 121°08'15", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  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 1966. 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 low water concrete control. Datum of gage is 80.68 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--36 years, 11.0 cfs (7,960 acre-ft per year); median of yearly mean discharges, 7.6 cfs (5,500 acre-ft per year).

Extremes.--Maximum discharge during year, 680 cfs Jan. 30 (gage height, 9.50 ft); no flow for many days.

1930-66: Maximum discharge, 2,930 cfs Apr. 3, 1958 (gage height, 15.13 ft); no flow for several months in most years.

Remarks.--Records good. No storage or diversion above station. Occasionally water is released from East Bay Municipal Utility District aqueduct into Bear Creek above station; no releases in the 1966 water year.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.50	0.30	0.10	47	47	2.2	0.30	0.40	0.50	0.40	0.40	0.40
2	1.3	.30	0	15	30	1.3	.10	.20	.40	.10	.40	1.6
3	1.0	.30	0	8.2	13	1.2	0	.50	.50	.10	.70	1.9
4	1.4	.20	0	5.2	14	1.1	0	.50	1.1	.10	.50	.70
5	.50	.20	0	6.1	20	.80	.90	.40	1.1	.20	.40	.40
6	.60	.20	0	11	296	.80	.20	.30	1.1	.40	.50	.20
7	1.2	.10	0	6.6	58	.90	.10	.30	1.4	.50	.60	.20
8	.90	.10	0	4.2	19	.80	.20	.30	1.2	.70	.60	.20
9	.90	.10	0	2.9	11	.70	.20	.60	1.1	.60	1.4	.70
10	.70	.10	0	2.1	7.5	.60	.40	.90	1.0	.20	.80	1.2
11	1.4	.10	0	1.4	5.2	.70	.50	.40	.90	.60	.60	.80
12	1.2	.10	.80	1.1	3.8	.90	.60	.40	.90	1.0	.50	.50
13	1.1	.20	.30	.80	2.7	1.0	.70	.40	.40	1.0	.20	.40
14	1.7	.26	.10	1.0	2.4	.90	.40	.40	.70	.90	.20	.70
15	1.7	.24	.10	.40	2.2	.70	.10	.30	1.1	1.1	.20	.80
16	1.1	.40	0	.20	1.9	.40	.20	.40	.70	1.3	.20	1.0
17	.40	.72	0	.20	1.9	.30	.30	.30	.40	.90	.80	.80
18	.40	.17	0	.10	1.7	.20	.10	.30	.40	.80	.80	.70
19	.30	.50	0	.10	1.6	.50	.10	.80	.50	.70	.70	.80
20	.10	.14	0	.10	1.4	.50	.10	.80	.70	.70	.40	1.4
21	.20	.60	0	.10	1.3	.30	.10	.60	1.3	.70	.40	.90
22	.80	.30	0	0	1.2	.20	.20	.40	.60	.50	.50	.50
23	1.3	1.2	0	0	1.1	.40	.30	.50	.70	.80	1.0	.70
24	1.4	1.7	0	0	1.1	.20	.30	.40	.60	1.3	.70	.70
25	1.0	2.1	.22	0	1.3	1.0	.30	.40	.70	1.4	1.8	.70
26	.40	1.3	1.2	0	4.4	.20	.40	.30	.50	1.4	1.2	1.0
27	.20	.60	.36	0	6.6	.20	.40	.30	.30	.90	1.2	.30
28	1.3	.30	.36	0	3.6	.20	.50	1.0	.30	.70	1.0	.30
29	1.7	.20	2.75	.90	-----	.20	.20	.30	.80	.30	.20	.70
30	.40	.10	1.79	4.38	-----	.10	.40	.40	.40	.40	.30	1.2
31	.30	-----	1.22	1.18	-----	.20	-----	.30	-----	.90	.20	-----
Total	27.40	73.70	683.40	670.70	560.9	18.80	8.60	13.80	22.30	21.60	19.40	21.50
Mean	0.88	2.46	22.0	21.6	20.0	0.61	0.29	0.45	0.74	0.70	0.63	0.72
Ac-ft	54	146	1360	1330	1110	37	17	27.4	44.2	42.8	38.4	44.6

Calendar year 1965 Max 1.640 Min 0 Mean 12.1 Ac-ft 8.790

Water year 1965-66 Max 4.38 Min 0 Mean 5.87 Ac-ft 42.50

Peak discharge (base, 220 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-29	0230	9.34	648	2-6	1130	9.04	588
1-30	1030	9.50	680				

## 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 southeast of Byron, and 10 miles northwest of Tracy.

Records available.--June 1951 to September 1966. Prior to October 1959, published as "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.--15 years, 1592 cfs (1,153,000 acre-ft per year).

Extremes.--1951-66: 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. Records of chemical analyses, water temperatures, and suspended sediment loads near this gaging station for the water year 1966 are published in Part 2 of this report.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,021	1,189		0	869	1,585	2,592	4,672	3,490	4,216	4,927	2,516
2	1,912	1,194		0	867	1,705	2,522	3,644	3,496	4,287	4,804	2,347
3	1,882	960		0	869	1,658	2,525	3,655	3,559	4,434	4,159	2,021
4	1,884	959		44	870	1,684	2,533	3,671	3,553	4,442	4,153	2,021
5	1,882	929		0	872	1,542	2,595	3,662	3,558	4,384	4,216	2,024
6	1,774	927		0	872	1,543	2,596	3,565	3,722	4,153	4,273	2,008
7	1,775	930		0	872	1,606	2,589	3,498	3,812	4,151	4,273	2,599
8	1,852	930		0	870	2,047	2,517	3,503	3,690	4,144	4,405	2,624
9	1,891	645		0	540	2,110	2,526	3,446	3,713	4,134	4,405	2,691
10	1,919	646		0	251	2,245	2,590	2,776	3,737	4,128	4,461	2,626
11	1,915	646		0	132	2,514	2,588	2,520	3,728	4,130	4,407	2,631
12	1,915	645		0	476	2,519	2,522	2,524	3,786	4,134	4,475	2,560
13	1,847	610		134	475	2,585	2,516	2,641	3,792	4,138	4,476	2,388
14	1,850	613		69	475	2,615	2,580	2,832	3,734	4,199	4,467	2,268
15	1,847	611		108	615	2,618	2,741	2,988	3,753	4,307	4,456	1,952
16	1,809	502		0	552	2,615	2,912	2,909	3,965	4,443	4,444	1,953
17	1,768	503		0	867	2,707	2,920	2,911	3,962	4,443	4,225	2,021
18	1,764	504		0	867	2,675	2,854	2,915	3,961	4,434	4,319	2,045
19	1,770	395		0	868	2,679	3,113	2,992	4,616	4,375	4,318	2,017
20	1,635	395		0	865	2,673	3,067	3,065	3,641	4,444	4,381	1,916
21	1,663	394		0	928	2,673	3,429	3,143	4,156	4,440	4,382	1,846
22	1,662	394		0	962	2,740	3,657	3,279	4,213	4,436	4,188	1,844
23	1,663	395		0	997	2,757	3,548	3,137	4,365	4,430	3,896	1,934
24	1,460	395		0	1,338	2,857	3,496	3,138	4,329	4,686	3,826	1,846
25	1,465	353		0	1,466	2,854	3,494	3,165	4,261	4,428	3,730	1,917
26	1,503	357		0	1,479	2,921	3,592	3,170	4,134	4,653	3,418	1,932
27	1,396	213		0	1,472	2,921	3,743	3,167	3,975	4,668	3,307	1,955
28	1,362	213		0	1,412	2,920	3,939	3,166	3,982	4,673	3,150	1,971
29	1,294	143		0	-----	2,850	3,941	3,882	3,989	4,800	3,084	2,136
30	1,194	0		644	-----	2,791	3,934	3,973	4,152	4,810	2,806	2,074
31	1,213	-----		867	-----	2,765	-----	3,155	-----	4,787	2,690	-----
Total	52,687	17,595	0	1,366	23,993	74,974	90,171	100,564	116,829	136,331	126,561	64,683
Mean	1,700	586	0	60.2	857	2,419	3,006	3,244	3,394	4,398	4,083	2,156
Ac-ft	104,603	34,899	0	3,701	47,599	148,709	178,563	199,466	231,727	270,409	251,030	128,297

Calendar year 1965 Max 4,436 Min 0 Mean 1,989 Ac-ft 1,440,055

Water year 1965-66 Max 4,927 Min 0 Mean 2,209 Ac-ft 1,599,003

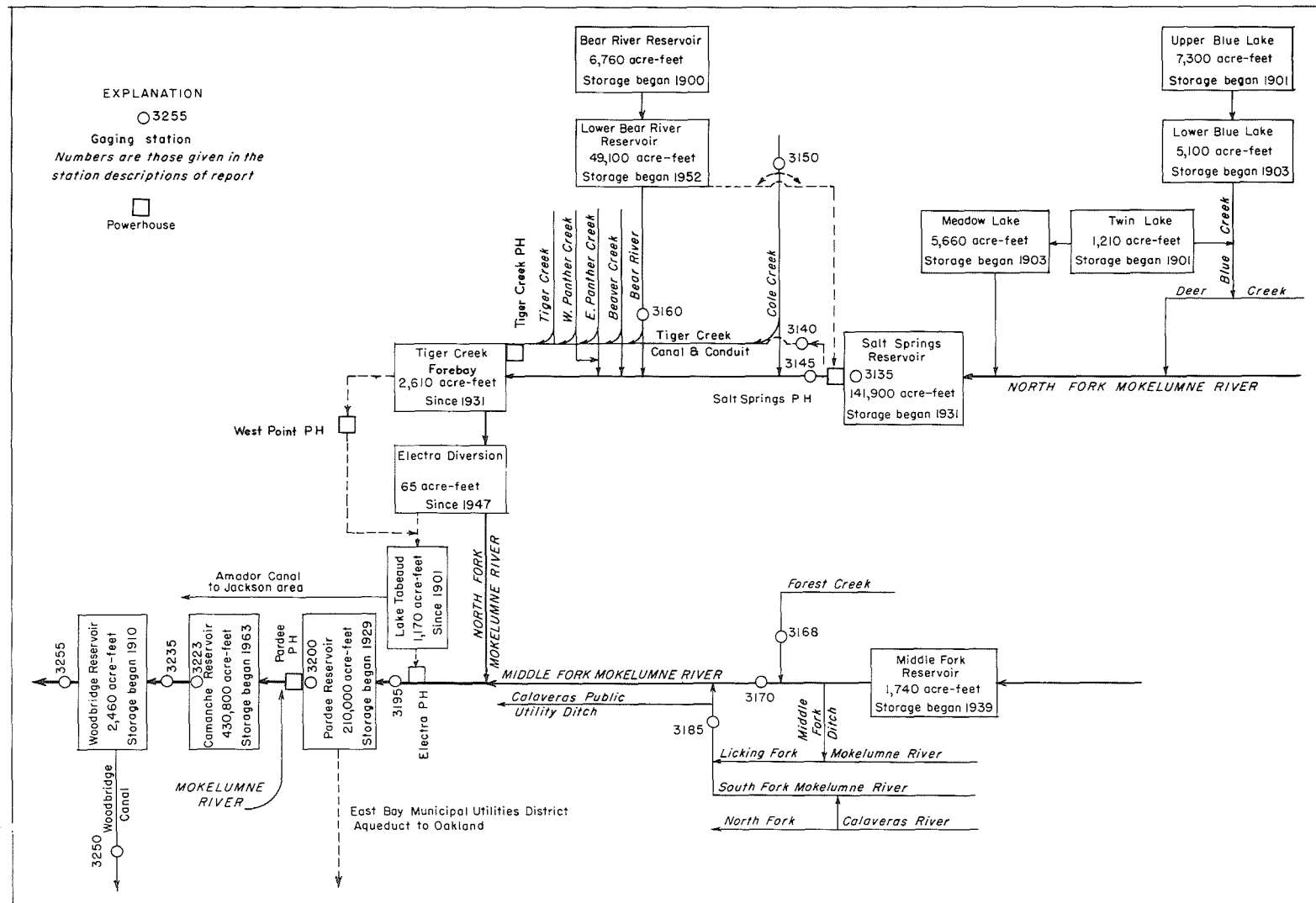


Figure 5.—Schematic diagram showing diversions and storage in Mokelumne River basin.

## SAN JOAQUIN RIVER BASIN

11-3135. Salt Springs Reservoir near West Point, Calif.

**Location.**--Lat 38°30'00", long 120°12'55", in SE¼ 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.**--169 sq mi.

**Records available.**--March 1931 to September 1966. Prior to October 1964, records published as usable contents.

**Gage.**--Staff gage read once daily. Datum of gage is at mean sea level (levels by Pacific Gas & Electric Co.).

**Extremes.**--Maximum contents observed during year, 139,100 acre-ft June 1 (elevation, 3,955.1 ft); minimum, 4,970 acre-ft Feb. 19-20 (elevation, 3,728.6 ft).

1931-66: Maximum contents observed, 141,900 acre-ft for several days in June or July each year 1948-54, 1956-58, 1960, 1962-63, 1965 (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. Capacity, 141,900 acre-ft between elevations 3,667.75 (outlet drain) and 3,958.0 ft (top of radial gates) above mean sea level. Storage of 1,860 acre-ft is available for release to river only. Water is released through powerhouse just below dam and discharged into Tiger Creek powerhouse conduit (see sta 11-3140). Figures given herein represent total contents. See schematic diagram of Mokelumne River basin.

**Cooperation.**--Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Contents, in thousands of acre-feet, at 1700 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93.7	61.5	44.9	25.8	8.03	5.80	19.9	81.1	139.1	125.5	107.3	87.9
2	93.0	60.3	44.2	25.1	7.67	5.90	22.5	83.7	139.0	124.5	104.4	87.6
3	92.2	59.4	43.6	24.7	6.94	5.74	25.2	86.7	138.5	123.5	106.7	86.8
4	91.2	58.4	43.1	24.3	6.55	5.58	28.0	89.8	138.3	122.6	106.5	85.4
5	90.2	57.4	42.5	23.8	6.40	5.42	29.2	93.2	137.7	121.7	106.2	84.7
6	89.0	56.7	41.9	23.4	6.34	5.42	32.0	96.4	137.3	121.2	105.6	83.7
7	87.9	55.7	41.3	22.9	6.19	5.32	34.9	99.9	136.9	120.7	105.0	83.1
8	86.9	54.7	40.7	22.5	6.02	5.23	37.7	103.1	136.7	120.3	104.3	82.4
9	85.8	53.7	40.1	22.2	5.86	5.19	40.6	106.8	136.6	119.2	103.9	81.8
10	84.7	52.7	39.5	21.7	5.72	5.00	43.1	109.9	136.4	118.2	103.4	80.7
11	83.6	51.8	38.8	21.3	5.66	6.02	45.2	113.2	136.1	117.3	102.6	79.6
12	82.5	51.0	38.1	20.9	5.70	6.19	46.9	115.7	135.8	116.5	102.0	78.5
13	81.5	49.8	37.6	20.4	5.62	6.74	48.4	118.0	135.4	116.2	101.4	77.9
14	80.3	49.0	37.0	19.9	5.62	7.32	49.0	120.6	135.4	115.8	100.7	77.2
15	79.4	48.4	36.2	19.1	5.52	7.84	50.9	122.7	135.4	115.4	100.1	76.6
16	78.3	47.6	35.7	18.2	5.36	8.27	52.7	124.9	135.2	114.5	99.5	75.8
17	77.3	47.6	34.9	17.7	5.23	8.51	55.0	126.9	134.7	113.7	99.0	74.7
18	76.1	49.2	34.2	17.3	5.10	8.81	57.7	129.0	134.2	113.1	98.4	73.6
19	74.8	49.8	33.5	16.8	4.97	9.02	59.0	131.0	133.5	112.8	97.8	72.7
20	73.6	49.7	32.9	16.0	4.97	9.12	60.1	132.8	132.8	112.4	96.9	72.2
21	72.7	49.5	32.2	15.6	5.30	9.27	61.2	134.2	132.2	112.1	95.9	71.5
22	71.6	49.1	31.6	15.1	5.34	9.48	62.2	135.4	131.4	111.7	95.2	70.8
23	70.7	48.7	30.9	14.9	5.46	9.72	63.3	136.2	130.7	111.3	94.2	70.4
24	69.9	48.7	30.3	14.3	5.58	10.1	64.7	136.7	130.0	110.8	93.6	69.3
25	68.9	48.2	29.7	13.4	5.66	10.6	66.8	137.2	129.5	110.7	93.0	68.0
26	67.8	47.6	29.0	12.7	5.70	11.3	69.4	138.2	129.0	110.3	92.4	67.0
27	66.7	47.2	28.5	11.8	5.72	12.2	72.2	138.7	128.5	110.1	91.7	66.1
28	65.9	46.6	28.0	11.4	5.76	12.8	74.4	128.9	127.7	109.6	91.2	65.6
29	64.8	46.0	27.6	10.3	-----	14.2	76.6	139.0	127.0	109.4	90.4	65.2
30	63.7	45.5	27.1	9.53	-----	15.8	78.8	138.9	126.2	108.7	89.6	64.4
31	62.8	-----	26.4	8.76	-----	17.8	-----	138.9	-----	108.0	88.8	-----
(†)	3,862.1	3,834.3	3,796.5	3,746.0	3,732.7	3,775.0	3,884.5	3,954.9	3,941.3	3,920.8	3,897.5	3,864.5
(‡)	-32,000	-17,300	-19,100	-17,640	-3,000	+12,040	+61,000	+60,100	-12,700	-18,200	-19,200	-24,400

Calendar year 1965..... ±- 55,100

Water year 1965-66..... ±- 30,400

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-3140. Tiger Creek powerhouse conduit below Salt Springs Dam, Calif.

Location.--Lat 38°29'47", long 120°13'04", in SW¼ 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 1966.

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.--35 years, 321 cfs (232,400 acre-ft per year).

Extremes.--1931-66: Maximum daily discharge, 577 cfs June 22, 1945; no flow at times in each year except 1957, 1962, 1965.

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. See schematic diagram of Mokelumne River basin.

Cooperation.--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	472	502	491	393	402	101	313	458	397	518	550	549
2	309	502	533	388	321	162	305	460	502	540	554	543
3	176	496	530	466	454	199	306	459	501	534	554	552
4	543	494	535	419	253	198	305	458	501	531	547	548
5	550	484	536	378	203	156	324	465	500	526	539	548
6	548	262	530	376	202	121	230	458	498	525	536	550
7	550	546	523	372	202	200	282	459	466	525	541	550
8	549	558	522	369	202	200	289	46	427	525	535	549
9	549	550	523	366	197	273	230	12	446	520	532	550
10	550	555	497	386	182	276	230	8.1	444	518	532	552
11	552	550	457	428	133	277	230	7.4	444	516	534	552
12	554	550	454	496	102	202	226	6.7	448	512	530	550
13	550	550	454	490	100	203	278	6.7	447	507	522	549
14	550	544	513	498	137	353	375	6.4	448	507	517	549
15	496	544	513	508	152	428	396	6.4	386	504	506	549
16	552	543	497	513	170	385	416	6.4	402	498	505	550
17	550	543	504	513	151	387	422	6.4	450	492	500	552
18	550	514	509	515	125	348	422	6.4	450	494	502	550
19	549	500	510	505	104	204	422	6.4	450	495	500	554
20	550	517	507	504	104	203	418	2.9	448	494	495	549
21	550	549	509	505	103	304	438	0	448	492	500	554
22	550	546	507	320	102	424	455	0	447	492	500	511
23	534	543	507	188	137	403	458	.20	448	494	502	558
24	530	532	448	536	101	424	453	.20	390	169	504	550
25	526	530	409	496	100	335	454	.20	301	534	502	550
26	520	530	414	474	100	199	450	5.8	300	552	500	553
27	506	532	394	352	101	200	458	503	405	543	322	552
28	458	533	421	385	101	391	460	550	450	553	191	547
29	489	538	505	538	-----	381	427	554	438	553	544	539
30	498	542	505	524	-----	355	460	556	452	553	549	547
31	500	-----	431	502	-----	346	-----	336	-----	553	547	-----
Total	15,910	15,679	15,188	13,703	4,741	8,638	10,942	5,850.60	13,134	15,769	15,692	16,456
Mean	513	523	490	442	169	279	365	189	438	509	506	549
Ac-ft	31,560	31,100	30,120	27,180	9,400	17,130	21,710	11,600	26,050	31,280	31,120	32,640

Calendar year 1965 Max 564 Min 2.0 Mean 501 Ac-ft 362,900  
 Water year 1965-66 Max 558 Min 0 Mean 416 Ac-ft 300,900

## 11-3145. North Fork Mokelumne River below Salt Springs Dam, Calif.

Location.--Lat 38°29'37", long 120°13'12", in NE¼NW¼ 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.--170 sq mi.

Records available.--September 1926 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A. Published as "above Moore Creek" 1926-30.

Gage.--Digital water-stage recorder. Altitude of gage is 3,590 ft (from topographic map). Prior to Sept. 12, 1928, graphic water-stage recorder at site 100 ft upstream and Sept. 12, 1928, to Sept. 23, 1940, graphic water-stage recorder at present site, at datum 2.0 ft higher. Sept. 24, 1940 to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--40 years, 457 cfs (330,900 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, 916 cfs May 23 (gage height, 5.14 ft); minimum daily, 3.6 cfs Feb. 2.  
1926-66: Maximum discharge, 16,000 cfs Nov. 21, 1950 (gage height, 17.20 ft), from rating curve extended above 3,900 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 good. Flow regulated by Salt Springs Reservoir since 1931 (see sta 11-3135). Diversion from Bear River and Cole Creek to Salt Springs powerhouse averaged 127 cfs during 1966 water year. Diversion above station through Tiger Creek powerhouse conduit (see sta 11-3140). See schematic diagram of Mokelumne River basin.

Cooperation.--Gage-height record 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 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	395	283	120	5.7	4.6	6.7	6.1	13	15	14	11	9.2
2	174	281	172	5.7	3.6	7.1	6.2	12	15	13	11	9.2
3	355	284	160	5.7	5.7	7.2	5.8	11	15	13	11	9.2
4	308	285	169	5.8	5.2	7.1	6.1	11	15	13	10	9.2
5	296	290	166	6.7	5.3	7.2	6.1	11	15	13	10	9.2
6	288	268	162	6.9	6.3	6.9	6.1	11	15	13	10	8.8
7	291	222	166	7.1	6.4	7.1	6.5	12	15	13	10	8.8
8	290	209	169	7.2	6.8	7.4	7.0	12	15	12	10	8.8
9	288	206	166	7.2	6.8	7.8	7.3	76	15	12	10	8.8
10	286	198	113	7.0	6.7	7.4	8.3	358	15	12	10	8.8
11	285	194	5.2	6.8	6.4	7.0	8.3	362	15	12	10	9.2
12	281	191	5.0	6.8	6.2	6.8	7.9	365	15	12	10	9.2
13	263	187	4.9	6.8	6.1	6.7	7.6	368	15	12	11	9.2
14	278	185	4.9	6.8	6.1	6.6	7.4	369	15	12	11	9.2
15	330	180	5.3	6.7	6.1	6.3	7.4	370	15	12	11	10
16	271	154	5.5	6.9	6.2	6.4	7.8	405	15	11	11	9.7
17	270	5.6	5.5	6.8	6.1	6.3	8.1	426	14	11	10	9.7
18	268	9.3	5.4	6.6	6.1	6.2	7.7	415	14	11	10	9.7
19	267	7.5	5.4	6.5	6.1	6.0	7.1	529	14	11	10	9.7
20	265	6.3	5.4	6.5	6.1	6.1	7.1	610	14	11	11	9.7
21	261	6.3	5.4	6.4	6.1	6.2	7.1	905	14	11	10	9.7
22	259	116	5.4	5.8	6.2	6.3	7.0	906	14	11	10	9.2
23	274	184	5.4	6.1	7.1	5.8	6.7	909	14	11	10	9.2
24	278	199	5.3	7.1	6.7	5.1	6.8	865	14	11	10	9.2
25	276	201	5.5	6.9	6.6	5.0	6.8	739	14	11	9.7	9.2
26	281	197	5.4	6.2	6.6	4.9	7.1	596	14	11	9.7	9.2
27	289	195	5.3	5.1	6.5	4.9	7.1	337	14	11	11	10
28	232	186	5.7	4.1	6.4	5.4	7.3	259	14	11	10	11
29	305	179	6.3	5.6	-----	5.4	11	221	14	11	10	11
30	297	170	6.1	5.8	-----	5.6	12	59	14	11	9.7	10
31	290	-----	6.0	5.4	-----	5.7	-----	15	-----	11	9.2	-----
TOTAL	8,791	5,279.0	1,677.3	196.7	171.1	196.6	220.8	10,557	436	364	317.3	283.0
MEAN	284	176	54.1	6.35	6.11	6.34	7.36	341	14.5	11.7	10.2	9.43
AC-FT	17,440	10,470	3,330	390	339	390	438	20,940	865	722	629	561
CALENDAR YEAR 1965	MAX	3,460	MIN	4.9	MEAN	359	AC-FT	259,800				
WATER YEAR 1965-66	MAX	909	MIN	3.6	MEAN	78.1	AC-FT	56,510				

11-3150. Cole Creek near Salt Springs Dam, Calif.

Location.--Lat 38°31'26", long 120°12'28", in SE¼ sec.21, T.8 N., R.16 E., on right bank 1.8 miles north of Salt Springs Dam, 3.4 miles upstream from mouth, and 6.3 miles southwest of Mokelumne Peak.

Drainage area.--20.4 sq mi.

Records available.--July 1927 to November 1942, October 1943 to September 1966. Prior to October 1958, published as Cold Creek near Mokelumne Peak. October 1958 to September 1962, published as "near Mokelumne Peak."

Gage.--Water-stage recorder. Altitude of gage is 5,970 ft (from topographic map).

Average discharge.--38 years, 62.3 cfs (45,100 acre-ft per year).

Extremes.--Maximum discharge during year, 440 cfs Apr. 25 (gage height, 3.77 ft); maximum gage height, 4.28 ft Mar. 10 (ice jam); no flow for several days.

1927-66: Maximum discharge, 6,140 cfs Dec. 23, 1964 (gage height, 10.21 ft), from rating curve extended above 900 cfs on basis of slope-area measurement at gage height 9.69 ft; no flow for many days in 1931, 1948-49, 1954-55, 1960, 1966.

Remarks.--Records good. Occasional pumping for domestic use in summer home tract began in September 1961. See schematic diagram of Mokelumne River basin.

Cooperation.--Gage-height record and 12 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.80	0.20	29	8.7	10	14	270	245	26	1.3	0.20	0.10
2	.30	.20	36	8.8	10	14	242	250	22	1.2	.10	.10
3	.20	.10	50	9.3	10	14	225	248	19	1.1	.10	0
4	.30	.10	56	9.4	10	14	232	275	18	1.0	.10	0
5	.30	.10	39	9.7	11	15	255	288	16	.90	.10	0
6	.30	.10	34	11	11	15	258	250	16	.80	.10	0
7	.30	.10	32	14	11	16	260	245	18	.70	.10	0
8	.30	.10	29	24	11	16	245	248	17	.70	.10	0
9	.30	.10	24	18	11	18	210	202	28	.70	.10	0
10	.30	.10	19	15	10	25	196	272	33	.60	.10	0
11	.30	.10	18	14	10	30	142	198	20	.50	.10	0
12	.30	.30	17	13	10	40	131	168	15	.50	.10	0
13	.30	.40	15	13	11	50	120	176	13	.50	.10	0
14	.50	7.8	14	14	11	54	137	170	12	.40	.10	0
15	.80	21	12	14	12	45	184	155	10	.40	.10	0
16	.50	32	11	14	12	47	228	156	9.0	.40	.10	0
17	.40	86	10	14	13	45	252	142	8.0	.40	.10	0
18	.40	209	10	13	14	41	200	140	6.8	.40	.10	0
19	.30	51	9.6	13	14	50	126	147	5.8	.40	.10	.10
20	.20	32	9.4	13	13	46	104	140	4.9	.40	.10	.10
21	.20	25	9.2	13	13	46	112	123	4.4	.40	.10	.10
22	.20	23	9.1	12	14	51	128	104	4.0	.30	.10	.10
23	.20	21	8.8	12	15	77	149	87	3.5	.30	.10	0
24	.20	21	8.2	12	14	93	208	80	3.2	.30	0	0
25	.20	21	8.1	11	13	108	262	77	2.7	.30	0	0
26	.20	20	8.2	11	13	132	272	67	2.4	.30	0	0
27	.20	20	8.2	11	13	153	230	58	2.2	.20	0	0
28	.20	20	8.2	11	14	178	208	49	2.0	.20	0	0
29	.20	21	8.6	11	-----	192	208	43	1.7	.20	0	0
30	.20	21	8.7	11	-----	208	238	35	1.4	.20	0	0
31	.20	-----	8.7	10	-----	235	-----	29	-----	.20	0	-----
Total	9.60	653.80	568.0	387.9	334	2,082	6,032	4,867	345.0	16.20	2.40	0.60
Mean	0.31	21.8	18.3	12.5	11.9	67.2	201	157	11.5	0.52	0.08	0.02
Ac-ft	19	1,300	1,130	769	662	4,130	11,960	9,650	684	32	4.8	1.2

Calendar year 1965 Max 492 Min 0.10 Mean 80.5 Ac-ft 59,280

Water year 1965-66 Max 288 Min 0 Mean 41.9 Ac-ft 30,340

Peak discharge (base, 500 cfs).--No peak above base.

11-3160. Bear River near Salt Springs Dam, Calif.

Location.--Lat 38°29'37", long 120°17'18", in NW¼ 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.--48.0 sq mi.

Records available.--October 1951 to September 1966.

Gage.--Digital water-stage recorder and broad-crested wier. Altitude of gage is 3,710 ft (from topographic map). Prior to Sept. 30, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--15 years, 60.1 cfs (43,510 acre-ft per year).

Extremes.--Maximum discharge during year, 86 cfs Apr. 10 (gage height, 1.53 ft); minimum daily, 2.2 cfs Nov. 11.

1951-66: Maximum discharge, 11,000 cfs Dec. 24, 1964 (gage height, 10.11 ft in gage well, 11.8 ft from flood profile), from rating curve extended above 560 cfs on basis of slope-area measurements of maximum flow; minimum daily, 1.0 cfs Aug. 23-28, 1961. Flood in November 1950 reached a stage of 11.2 ft, from floodmarks (discharge, about 10,000 cfs).

Remarks.--Records good. 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. See schematic diagram of Mokelumne River basin.

Cooperation.--Gage-height record 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 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.3	4.4	6.8	4.9	7.1	10	6.8	14	7.6	5.5	5.3	4.9
2	4.3	4.4	7.1	7.0	6.9	9.4	65	13	7.6	5.5	5.2	4.9
3	4.3	4.3	7.6	6.9	7.0	9.4	60	13	7.6	5.5	5.2	4.9
4	4.2	4.2	7.9	6.6	7.6	9.1	57	12	7.0	5.5	5.1	4.9
5	4.2	4.2	7.4	7.9	8.8	9.8	54	12	7.0	5.4	5.1	4.9
6	4.2	4.2	7.1	9.9	9.3	11	50	12	7.0	5.3	5.1	4.9
7	4.2	4.2	6.9	8.7	7.9	13	46	11	7.0	5.2	5.1	4.9
8	4.1	4.2	6.7	8.4	8.3	17	41	10	7.0	5.3	5.1	4.9
9	3.9	3.6	6.7	7.6	7.4	21	39	10	7.0	5.3	5.0	4.9
10	3.9	2.9	6.5	7.0	7.4	49	59	13	7.0	5.2	5.0	4.8
11	3.9	2.2	6.5	7.1	7.6	35	54	10	6.8	5.2	5.0	4.9
12	3.9	3.1	7.6	7.3	7.3	35	52	9.8	6.8	5.2	4.9	4.9
13	3.9	3.5	6.4	7.7	7.3	45	44	9.8	6.6	5.1	5.0	4.9
14	6.9	13	5.9	8.0	7.3	43	40	9.3	6.6	5.1	5.0	4.9
15	6.5	6.0	5.2	8.2	7.3	40	37	9.3	6.4	5.0	5.0	4.9
16	4.8	8.2	4.5	7.9	7.4	36	35	8.8	6.4	5.0	4.9	4.9
17	4.7	11	5.2	7.7	7.8	31	33	8.8	6.2	5.0	4.9	4.8
18	4.7	4.4	4.6	7.6	8.2	30	35	8.8	6.2	4.9	4.9	5.4
19	4.6	19	4.3	7.4	8.5	32	29	8.4	6.0	4.9	4.9	5.6
20	4.4	8.7	4.4	7.2	8.2	30	26	8.4	6.0	4.9	4.8	5.0
21	4.4	6.2	4.3	7.6	8.6	29	24	8.4	6.0	4.9	4.9	4.9
22	4.4	5.2	4.2	7.0	9.6	30	22	8.1	6.0	4.8	4.9	4.9
23	4.4	22	3.8	7.3	11	32	21	8.1	6.0	4.7	4.8	4.9
24	4.4	25	4.1	6.8	11	36	19	8.1	5.8	4.7	4.9	4.9
25	4.4	12	5.2	6.7	9.8	40	19	8.1	5.8	4.7	4.9	4.8
26	4.4	9.2	4.5	6.7	9.9	43	19	7.8	5.7	4.6	4.9	4.8
27	4.4	9.0	4.6	6.7	9.9	48	18	7.8	5.7	4.7	4.9	4.8
28	4.4	8.5	5.8	6.6	10	53	17	7.8	5.6	5.2	4.9	4.7
29	4.4	8.0	6.5	6.8	-----	57	16	7.6	5.6	5.2	5.0	4.8
30	4.4	7.2	5.8	8.0	-----	61	15	7.8	5.6	5.4	5.0	4.8
31	4.4	-----	5.5	7.3	-----	65	-----	7.6	-----	5.5	5.0	-----
TOTAL	138.3	271.6	179.6	228.5	234.4	1,009.7	1,114	298.6	193.6	158.4	154.6	147.6
MEAN	4.46	9.05	5.79	7.37	8.37	32.6	37.1	9.63	6.45	5.11	4.99	4.92
AC-FT	274	539	356	453	465	2,000	2,210	592	384	314	307	293

CALENDAR YEAR 1965	MAX	692	MIN	2.2	MEAN	85.3	AC-FT	61,790
WATER YEAR 1965-66	MAX	68	MIN	2.2	MEAN	11.3	AC-FT	8,190



11-3168. Forest Creek near Wilseyville, Calif.

Location.--Lat 38°24'10", long 120°26'45", in SW<sup>1</sup>/<sub>4</sub> 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 1966.

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

Average discharge.--6 years, 20.5 cfs (14,840 acre-ft per year).

Extremes.--Maximum discharge during year, 57 cfs Feb. 5 (gage height, 3.86 ft); minimum daily, 1.0 cfs Sept. 30.

1960-66: Maximum discharge, 1770 cfs Dec. 24, 1964 (gage height, 7.68 ft), from rating curve extended above 190 cfs on basis of slope area measurement at gage height 7.41 ft; minimum, 0.6 cfs Aug. 24, 25, 1961.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation. Minor diversions above station for irrigation and domestic use. See schematic diagram for Mokelumne River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	4.4	15	15	14	18	45	17	2.0	4.2	3.5	3.0
2	5.3	5.1	14	13	14	18	45	16	9.0	4.2	3.0	2.8
3	5.6	5.1	14	14	14	17	44	15	9.0	3.9	3.0	2.4
4	5.6	5.1	13	14	15	17	41	14	9.0	3.5	2.8	2.3
5	5.6	5.1	13	23	20	18	39	14	9.2	2.8	2.8	2.3
6	5.6	5.1	13	26	35	13	38	14	7.8	3.0	2.6	2.2
7	5.6	5.1	12	23	22	20	37	14	8.2	3.3	2.2	2.3
8	5.3	4.8	12	21	19	23	35	14	8.2	3.7	2.6	2.1
9	5.1	4.8	12	19	18	26	34	14	7.8	3.7	2.6	1.8
10	5.3	4.8	12	17	16	39	44	16	7.4	4.2	2.3	2.4
11	5.3	5.1	12	17	14	39	47	15	7.4	4.4	2.7	2.6
12	5.3	5.5	12	15	15	42	44	14	6.8	4.2	2.3	2.7
13	5.3	7.2	12	14	14	44	39	14	6.5	4.1	2.3	2.8
14	6.5	21	12	14	14	45	36	14	6.0	4.1	2.8	2.8
15	9.4	16	12	14	14	42	34	13	5.6	4.1	2.8	2.7
16	6.8	13	9.8	14	14	42	32	12	5.8	3.9	2.6	2.6
17	6.3	15	12	14	14	38	31	12	5.8	3.9	2.4	2.6
18	6.0	38	12	13	14	36	33	12	5.3	3.0	2.3	3.0
19	5.8	35	12	13	14	37	31	9.4	4.4	2.7	2.2	3.5
20	5.8	24	12	12	14	37	28	9.4	4.6	2.7	2.1	3.0
21	5.6	18	12	12	14	35	27	9.4	4.8	2.7	2.2	2.7
22	5.6	15	10	12	15	35	26	9.8	5.1	2.8	1.6	2.6
23	5.3	20	9.8	12	18	35	23	9.8	5.3	2.7	1.7	2.6
24	5.3	38	9.8	12	20	35	23	9.4	4.6	2.8	2.1	2.6
25	5.3	30	11	12	19	36	22	9.4	4.2	3.0	2.2	2.6
26	5.3	24	11	12	19	37	21	9.0	4.2	2.4	2.4	2.6
27	5.3	21	11	11	18	38	21	9.0	4.6	2.7	2.7	2.7
28	5.3	18	17	11	18	40	20	9.0	4.6	2.4	2.2	2.4
29	5.3	17	27	12	-----	42	19	9.0	4.4	2.4	2.6	1.7
30	5.3	16	21	14	-----	44	18	9.4	4.2	3.0	2.8	1.0
31	4.6	-----	17	14	-----	44	-----	9.4	-----	4.1	3.0	-----
Total	175.3	444.2	404.4	459	469	1037	977	375.4	187.8	104.6	77.4	75.4
Mean	5.65	14.8	13.0	14.8	16.8	33.5	32.6	12.1	6.26	3.37	2.50	2.51
Ac-ft	348	881	802	910	930	2060	1940	745	372	207	154	150

Calendar year 1965 Max 48.4 Min 4.4 Mean 35.1 Ac-ft 25,430

Water year 1965-66 Max 47 Min 1.0 Mean 13.1 Ac-ft 9,490

Peak discharge (base, 120 cfs)--No peak above base.

Note: No gage-height record Nov. 11 to Dec. 14.

11-3170. Middle Fork Mokelumne River at West Point, Calif.

Location.--Lat 38°23'23", long 120°31'32", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  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 Mokelumne River.

Drainage area.--68.4 sq mi.

Records available.--October 1911 to September 1966. 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.--55 years, 58.5 cfs (42,350 acre-ft per year).

Extremes.--Maximum discharge during year, 238 cfs Nov. 18 (gage height, 2.63 ft); minimum daily, 1.0 cfs July 24.

1911-65: 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 period of no gage-height record, which are fair. 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. See schematic diagram for Mokelumne River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	30	57	66	47	51	121	56	23	5.9	2.4	5.4
2	23	31	56	54	44	50	124	55	22	9.3	3.9	5.6
3	23	30	55	50	42	43	121	53	23	9.3	3.7	4.8
4	23	29	54	56	43	46	113	49	21	7.5	3.7	4.3
5	23	29	53	67	54	46	116	43	20	6.2	3.5	4.3
6	23	29	52	75	124	43	111	43	20	6.9	3.5	4.6
7	23	23	51	72	80	50	103	44	21	7.5	2.7	5.1
8	22	21	50	63	65	53	102	43	20	7.5	3.3	5.4
9	22	29	49	64	59	57	100	42	19	7.8	2.9	4.6
10	22	29	43	60	55	82	126	47	13	7.8	4.1	4.6
11	22	26	49	56	50	82	129	44	16	3.1	6.2	4.6
12	22	11	50	53	49	30	126	34	15	9.3	7.5	4.6
13	22	11	47	50	46	90	110	34	16	9.7	6.5	4.8
14	25	40	46	47	45	90	102	34	16	11	6.2	4.8
15	23	33	45	46	45	89	96	32	16	10	7.1	4.6
16	24	42	43	45	46	37	93	30	15	9.7	7.8	4.8
17	23	43	41	43	45	32	92	29	12	9.9	7.5	4.8
18	22	143	44	39	45	32	94	23	12	9.7	6.2	5.6
19	26	90	46	33	46	89	93	25	14	3.5	7.1	5.9
20	37	61	47	36	45	86	86	23	14	7.8	6.5	5.9
21	37	54	45	35	44	83	80	24	16	7.5	7.5	12
22	36	51	44	36	46	80	75	23	15	7.3	6.8	23
23	35	100	41	35	50	79	70	23	14	6.1	5.9	23
24	35	129	43	35	56	79	67	23	10	1.0	5.1	23
25	35	94	56	35	55	79	56	25	6.5	1.7	5.9	27
26	35	75	45	34	56	80	65	23	9.7	4.3	5.6	27
27	35	66	48	33	54	80	64	23	9.3	4.8	5.6	27
28	34	64	74	32	50	32	61	22	4.9	4.3	5.6	27
29	33	60	107	35	-----	83	59	22	4.6	3.7	4.6	27
30	32	59	80	49	-----	85	57	23	3.7	6.5	5.9	23
31	31	-----	72	46	-----	94	-----	23	-----	5.5	5.9	-----
Total	357	1545	1638	1490	1487	2292	2832	1042	4466	222.5	166.7	353.1
Mean	27.6	51.5	52.8	43.1	53.1	73.9	94.4	33.6	14.9	7.18	5.38	11.9
Ac-ft	1700	3060	3250	2960	2950	4550	5620	2070	886	441	331	710

Calendar year 1965 Max 1440 Min 11 Mean 106 Ac-ft 76,680

Water year 1965-66 Max 143 Min 1.0 Mean 39.4 Ac-ft 28,520

Peak discharge (base, 400 cfs).--No peak above base.

Note.--No gage-height record Dec. 15 to Jan. 17.

## 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.--75.1 sq mi.

Records available.--October 1933 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 1,950 ft (from topographic map). Sept. 19, 1957 to Jan. 15, 1964 graphic water-stage recorder at same site and datum. Prior to Sept. 19, 1957, graphic water-stage recorder at site 1,100 ft downstream at different datum.

Average discharge.--33 years, 81.5 cfs (59,000 acre-ft per year); median of yearly mean discharges, 70 cfs (50,700 acre-ft per year).

Extremes.--Maximum discharge during year, 372 cfs Nov. 24 (gage height, 4.54 ft); minimum daily, 6.5 cfs Sept. 6, 11.  
1933-66: 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 maximum flow; no flow Aug. 6, 7, Aug. 12 to Sept. 26, 1934.

Remarks.--Records good. 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. See schematic diagram for Mokelumne River basin.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	18	46	83	64	52	124	47	27	15	10	7.7
2	17	19	44	61	57	51	120	47	28	15	9.0	7.9
3	18	19	43	55	52	47	114	45	26	14	8.8	7.6
4	18	19	42	55	51	47	108	42	25	14	9.0	7.2
5	17	19	42	85	67	48	103	41	25	13	8.6	7.0
6	16	19	40	84	203	48	100	40	25	13	8.6	6.5
7	17	19	39	78	120	51	94	39	27	12	8.7	7.1
8	17	18	39	75	87	55	88	38	27	12	8.2	7.1
9	17	19	39	70	69	64	84	37	26	13	7.9	7.3
10	17	18	38	63	61	100	114	43	25	13	7.9	7.2
11	17	18	38	58	54	102	117	42	23	13	7.8	6.5
12	17	18	39	53	53	99	112	40	22	14	8.3	6.6
13	17	24	38	51	48	114	97	38	22	13	8.1	7.0
14	18	69	36	50	46	114	99	38	20	13	7.3	7.3
15	27	50	35	49	45	108	83	37	21	12	7.7	8.6
16	23	45	34	47	44	103	80	35	21	12	7.8	7.7
17	21	61	32	46	43	93	80	35	21	12	7.9	7.7
18	21	237	36	45	43	89	82	33	20	11	8.0	8.2
19	20	149	39	43	44	94	81	31	20	11	7.3	8.6
20	21	73	40	42	43	88	74	31	19	11	7.2	8.9
21	19	52	35	41	43	84	69	30	19	12	7.2	7.9
22	19	44	32	41	44	84	64	31	19	11	7.2	7.6
23	18	124	31	40	49	86	59	29	19	9.9	7.0	7.4
24	18	219	32	39	60	89	56	29	20	10	7.7	7.6
25	18	130	60	38	55	92	56	28	17	8.9	7.5	7.6
26	17	89	42	38	57	95	55	27	15	8.7	7.1	7.6
27	16	69	38	37	54	100	54	27	16	8.8	7.0	7.3
28	17	60	87	37	52	107	51	27	15	9.1	7.0	7.7
29	17	55	197	39	-----	113	50	26	15	8.9	7.1	7.3
30	18	50	118	21	-----	118	49	27	15	9.7	7.0	7.3
31	18	-----	135	69	-----	121	-----	28	-----	9.7	7.7	-----
TOTAL	569	1,823	1,586	1,703	1,708	2,656	2,517	1,088	640	362.7	243.6	225.0
MEAN	18.4	60.8	51.2	54.9	61.0	85.7	83.9	35.1	21.3	11.7	7.86	7.50
AC-FT	1,130	3,620	3,150	3,380	3,390	5,270	4,990	2,160	1,270	719	483	446

CALENDAR YEAR 1965	MAX	2,080	MIN	16	MEAN	121	AC-FT	87,710
WATER YEAR 1965-66	MAX	237	MIN	6.5	MEAN	41.4	AC-FT	30,010

Peak discharge (base, 500 cfs).--No peak above base.

Location.--Lat 38°18'46", long 120°43'09", SW<sup>1</sup>/<sub>4</sub> 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.

Records available.--January to June 1901, May 1903 to December 1904, October 1927 to September 1966. Yearly estimate only for water year 1928 (incomplete), published in WSP 1315-A. Published as "at Electra" 1901, 1903-4.

Average discharge.--40 years (1903-4, 1927-66), 946 cfs (684,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,620 cfs Nov. 18 (gage height, 4.65 ft); minimum daily, 87 cfs June 26.  
1901, 1903-4, 1927-66: 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 sta. no. 11-3135), several smaller reservoirs, and four powerplants. Diversion above station for irrigation and domestic use. See schematic diagram for Mokelumne River basin. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	977	862	808	700	835	346	1,050	698	400	288	606	577
2	758	713	808	552	496	463	915	712	599	266	711	476
3	579	801	809	513	624	303	941	726	524	510	587	624
4	714	905	878	775	513	283	1,030	857	680	559	598	602
5	923	833	943	735	426	498	894	738	517	529	575	519
6	935	857	887	749	864	268	878	600	641	533	409	610
7	885	741	780	700	684	407	748	642	687	572	591	661
8	939	721	816	791	501	576	798	393	513	634	623	505
9	993	894	862	404	423	505	841	299	363	596	466	709
10	929	908	879	592	276	584	920	585	719	507	604	501
11	929	923	700	531	369	777	811	563	475	593	585	544
12	893	793	662	657	278	749	857	768	580	568	617	624
13	913	851	698	685	264	715	722	593	557	458	519	650
14	946	996	680	694	309	690	891	537	427	612	523	565
15	965	867	601	735	458	1,020	910	599	428	554	577	592
16	959	900	648	702	509	825	957	516	371	581	418	626
17	955	912	526	635	387	966	746	634	292	574	487	579
18	914	1,260	635	825	231	762	851	639	470	521	565	229
19	901	1,280	632	796	166	682	911	615	490	595	578	214
20	919	1,060	651	590	166	674	892	902	377	615	527	773
21	969	744	636	581	385	608	840	990	221	426	375	521
22	917	797	780	532	258	624	831	1,160	179	441	548	646
23	915	1,010	558	417	328	887	987	1,090	377	265	500	538
24	906	1,340	674	559	399	873	752	957	476	340	496	516
25	889	1,230	715	719	483	844	687	916	108	563	528	620
26	895	1,120	600	675	259	688	770	967	87	563	460	608
27	908	1,040	493	602	325	639	827	702	275	555	340	610
28	870	1,020	617	476	191	770	821	787	537	593	241	241
29	752	1,010	1,010	712	-----	898	855	1,140	404	599	446	731
30	830	919	925	806	-----	914	292	843	312	609	605	566
31	920	-----	1,020	829	-----	971	-----	644	-----	507	514	-----
TOTAL MEAN AC-FT	27,767 896 55,080	28,307 944 56,150	22,985 741 45,590	20,269 654 40,200	11,407 407 22,630	20,873 673 41,400	25,525 851 50,630	22,812 736 45,250	13,176 439 26,130	16,126 520 31,990	16,279 525 32,290	17,677 589 35,060
CALNDAR YEAR 1965 WATER YEAR 1965-66		MAX MAX	22,000 1,340	MIN MIN	476 87	MEAN MEAN	1,433 666	AC-FT AC-FT	1,038,000 482,400			

11-3200. Pardee Reservoir near Valley Springs, Calif.

Location.--Lat 38°15'30", long 120°51'00", in 18SW<sup>1</sup> 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 1966 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, 205,200 acre-ft Oct. 14, 15, (elevation, 565.55 ft); minimum, 158,400 acre-ft Mar. 4 (elevation, 542.50 ft).

1929-66: Maximum contents, 219,300 acre-ft Dec. 23, 1955 (elevation, 571.72 ft); minimum, 49,000 acre-ft Aug. 31, 1931 (elevation, 457.6 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. Dead storage, 15,800 acre-ft. Water is released 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. Records including extremes represent total contents at 2400 hours. See schematic diagram for Mokelumne River basin.

Cooperation.--Records of contents, diversions, and evaporation furnished by East Bay Municipal Utility District.

Contents, in thousands of acre-feet, at 2400 hrs. Water year October, 1965 to September, 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	201.5	201.9	199.2	197.4	187.9	158.9	162.6	160.5	179.1	182.6	177.0	162.2
2	201.6	201.6	199.1	197.7	186.7	158.9	162.6	160.9	179.3	183.1	176.7	161.6
3	201.3	201.8	199.8	196.7	185.8	153.7	162.7	161.4	179.3	183.5	175.2	162.2
4	201.2	202.0	199.8	196.1	184.6	158.4	162.9	162.2	180.0	183.9	175.6	162.8
5	201.7	201.8	201.1	195.5	183.5	153.9	162.9	162.8	180.4	183.6	175.0	162.3
6	202.1	202.0	201.0	194.7	183.4	153.9	162.9	163.1	180.6	183.1	174.2	162.0
7	202.4	201.6	200.6	194.0	182.6	153.9	162.6	163.8	180.9	182.5	174.7	161.6
8	202.8	201.6	200.4	193.3	181.5	159.2	162.4	164.1	181.0	182.2	174.3	161.2
9	203.3	201.8	200.2	193.3	180.1	159.4	162.4	163.8	180.7	182.7	173.5	161.0
10	203.7	202.0	200.1	192.4	178.5	159.0	162.4	164.1	181.1	183.1	173.0	161.4
11	204.0	201.7	200.9	191.2	177.1	159.0	162.3	164.4	181.5	182.6	172.4	161.8
12	204.4	201.8	201.6	190.3	175.5	158.9	162.3	164.9	182.0	182.1	171.9	161.5
13	204.7	201.8	201.0	189.5	173.8	159.8	162.0	165.3	181.9	181.5	171.3	161.2
14	205.2	201.6	200.6	183.7	173.1	159.7	161.9	165.7	181.7	181.1	171.9	160.8
15	205.2	201.2	200.0	187.9	172.6	160.2	162.0	166.3	182.0	180.6	171.4	160.6
16	204.9	200.9	199.4	188.6	172.2	160.3	162.0	166.5	181.9	181.1	170.6	160.1
17	204.9	200.6	198.6	188.2	171.7	160.6	161.8	166.8	181.9	181.6	169.9	160.6
18	205.0	200.9	199.2	188.4	170.6	160.6	161.7	167.2	182.3	181.0	169.4	161.1
19	204.6	201.3	199.8	188.6	163.7	160.5	161.7	167.5	182.9	180.6	168.9	160.5
20	204.1	201.2	199.3	188.3	166.9	161.3	161.7	168.3	182.7	180.2	168.4	160.5
21	204.1	200.4	198.7	188.1	165.7	161.0	161.6	169.5	182.9	179.5	168.5	160.0
22	203.7	199.9	198.3	187.8	164.8	160.8	161.5	171.2	183.0	178.8	168.0	159.7
23	202.7	199.7	197.6	187.3	163.8	161.0	161.6	172.4	183.0	178.7	167.3	159.2
24	201.7	200.2	197.2	187.0	163.0	161.2	161.3	173.4	183.0	178.8	166.7	159.7
25	202.0	200.4	198.0	187.1	162.4	161.3	160.9	174.2	183.2	178.3	166.1	160.3
26	202.0	200.4	198.5	187.0	161.3	161.1	160.7	175.1	182.9	177.8	165.4	159.9
27	202.0	200.3	197.7	186.7	160.3	161.8	160.6	175.7	182.8	177.4	164.4	159.6
28	201.9	200.1	197.4	186.0	159.0	161.7	160.4	176.4	182.9	176.9	164.3	159.2
29	201.6	199.9	197.7	185.9	-----	161.9	160.3	177.9	182.9	176.5	163.6	159.0
30	201.8	199.6	197.9	188.3	-----	162.0	159.2	178.9	182.9	177.0	163.1	158.6
31	201.8	-----	198.1	188.4	-----	162.3	-----	179.4	-----	177.5	162.5	-----
(†)	563.99	562.97	562.29	557.75	542.80	544.58	543.23	552.35	555.08	552.44	544.70	542.62
(‡)	+ 783	-2230	-1480	-9580	-29,440	+3,320	-2,520	+19,500	+3,520	-5,350	-15,020	-3,370
(††)	543	240	211	230	211	325	631	1,014	1,331	1,383	1,350	884
(‡‡)	19,030	19,200	19,000	17,550	15,490	15,410	16,060	16,360	17,080	17,900	17,470	16,290

Calendar year 1965 ..... ‡ - 3,000  
 Water year 1965-66 ..... ‡ -42,400

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

‡‡ Diversions, in acre-feet from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District.

## SAN JOAQUIN RIVER BASIN

11-3223, Camanche Reservoir near Clements, Calif.

Location.--Lat 38°13'31", long 121°01'17", in SE¼ sec. 6, T.4 N., R.9 E., at Camanche Dam on the Mokelumne River, 4.3 miles northeast of Clements.

Drainage area.--621 sq mi.

Records available.--December 1963 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by East Bay Municipal Utility District).

Extremes.--Maximum contents during year, 278,500 acre-ft Oct. 1 (elevation, 213.31 ft); minimum, 68,700 acre-ft Sept. 5, 11, 18 (elevation 164.97 ft).

1963-66: Maximum contents, 312,500 acre-ft Apr. 23, 1963 (elevation, 218.71 ft); minimum after initial season of operation, that of Sept. 5, 11, 18, 1966.

Remarks.--Reservoir is formed by earthfill dam. Storage began Dec. 18, 1963. Usable capacity, 430,300 acre-ft between elevations 104.00 (invert of emergency valve release) and 235.50 ft (spillway crest) above mean sea level. Dead storage, 534 acre-ft. Camanche Reservoir provides holdover storage to meet downstream water requirements and flood control on the Mokelumne River. Records, including extremes, represents total contents at 2400 hours. See schematic diagram for Mokelumne River basin.

Cooperation.--Records furnished by East Bay Municipal Utility District.

Contents, in thousands of acre-ft, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273.5	189.8	133.3	133.0	130.8	125.7	119.6	131.0	107.2	84.4	71.1	70.3
2	275.4	186.8	133.0	132.3	131.2	125.0	120.2	130.4	106.5	83.5	71.2	70.6
3	272.2	183.3	132.7	132.9	131.5	123.3	120.6	129.6	105.9	82.4	71.2	69.9
4	263.9	180.9	131.2	133.6	131.9	121.6	121.1	128.7	104.9	81.4	71.3	69.2
5	265.7	178.0	129.7	134.3	132.5	119.7	121.6	127.9	103.9	81.2	71.4	68.7
6	262.3	174.9	129.6	135.0	133.3	117.7	122.2	127.1	103.2	81.1	71.5	69.6
7	259.6	172.1	129.9	135.6	133.8	115.9	122.8	126.2	102.6	81.0	70.5	69.8
8	256.4	168.8	130.2	136.2	134.1	114.2	123.5	125.3	102.0	81.0	70.6	70.0
9	253.2	165.6	130.5	135.7	134.4	112.5	124.3	124.4	101.4	80.0	70.8	70.2
10	250.1	162.6	130.8	136.3	134.7	111.2	125.0	123.8	100.8	78.9	70.9	69.5
11	246.6	159.9	130.2	137.0	135.5	112.4	125.4	123.1	99.8	78.7	71.0	68.7
12	243.3	157.1	129.3	137.6	136.6	113.0	126.4	122.4	98.8	78.6	71.1	68.8
13	240.5	154.6	129.5	137.3	137.8	112.7	127.0	121.7	98.3	78.5	71.1	69.1
14	237.3	152.4	129.8	138.2	138.2	113.3	127.8	120.9	97.7	78.5	70.2	69.4
15	234.6	149.9	130.1	138.5	138.5	113.8	128.2	119.9	96.9	78.3	70.2	69.7
16	232.3	147.9	130.4	137.3	138.0	114.4	128.6	119.4	96.1	77.3	70.3	70.0
17	229.3	145.1	130.7	137.1	136.9	115.0	129.1	118.7	95.2	76.3	70.4	69.4
18	226.5	143.7	129.9	136.6	135.8	115.6	129.3	118.0	94.1	76.1	70.5	68.7
19	223.9	141.4	129.1	136.0	135.4	116.1	129.6	117.3	93.1	76.0	70.5	69.0
20	221.7	139.0	129.2	135.5	135.1	115.8	129.7	116.6	92.4	75.9	70.6	69.3
21	219.1	136.6	129.5	135.0	134.6	116.3	129.8	115.6	91.6	75.8	69.7	69.6
22	216.5	134.8	129.9	134.5	133.5	116.8	129.9	114.7	90.9	75.8	69.7	69.9
23	214.6	133.8	130.2	134.0	132.4	117.2	130.2	113.9	90.2	74.7	69.8	70.3
24	212.8	133.5	130.9	133.6	131.7	117.6	130.4	113.3	89.5	73.7	70.0	69.7
25	209.7	133.5	130.2	133.3	131.0	117.9	130.6	112.6	88.3	73.5	70.1	69.1
26	207.0	133.6	129.3	132.7	130.2	118.3	130.8	112.0	87.3	73.4	70.3	69.4
27	204.1	133.6	129.7	132.3	129.4	117.7	131.1	111.3	86.6	73.3	70.4	69.7
28	201.5	133.6	130.6	131.9	128.5	118.0	131.4	110.3	85.8	73.2	69.5	70.1
29	198.7	133.6	131.3	131.4	-----	118.4	131.6	109.4	85.1	73.1	69.6	70.4
30	195.3	133.6	131.9	130.8	-----	118.8	131.8	108.4	84.5	72.2	69.8	70.8
31	193.1	-----	132.4	130.4	-----	119.2	-----	107.8	-----	71.1	70.1	-----
(†)	197.84	134.61	184.30	183.81	183.31	180.89	184.15	177.76	170.64	165.90	165.50	165.78
(‡)	88,300	-59,500	-1,200	-2,000	-1,900	-9,300	12,600	-24,000	-23,300	-13,400	-1,000	+700
(††)	1,929	579	351	486	557	913	1,621	2,025	2,157	1,903	1,806	1,288

Calendar year 1965 ..... ‡ -90,800  
 Water year 1965-66 ..... ‡ -210,600

† Elevation, in feet, at end of month.

‡ Change in content, in acre-feet.

†† Evaporation, in acre-feet.

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, 1.0 mile downstream from Camanche Dam, and 3.4 miles northeast of Clements.

Drainage area.--627 sq mi.

Records available.--October 1904 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A and WSP 1735. Prior to October 1961, published as "near Clements."

Gage.--Digital water-stage recorder. Datum of gage is 82.91 ft above mean sea level. Oct. 28, 1904, to Apr. 18, 1926, staff gage at bridge 3.3 miles downstream at datum 13.82 ft lower. Apr. 19, 1926, to Apr. 8, 1931, graphic water-stage recorder, 75 ft downstream from bridge at datum 15.82 ft lower. Apr. 9, 1931, to Sept. 30, 1961, graphic water-stage recorder 700 ft upstream from bridge at datum 15.75 ft lower, and Oct. 1, 1961, to June 17, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--24 years (1904-28), 1,111 cfs (804,300 acre-ft per year); 37 years (1929-66), 813 cfs (588,600 acre-ft per year), adjusted for change in contents and evaporation from Camanche Reservoir since 1963. Storage and diversion by East Bay Municipal Utility District began in March 1929.

Extremes.--Maximum discharge during year, 2,120 cfs Oct. 7 (gage height, 6.91 ft); minimum daily, 206 cfs Feb. 13-15, Mar. 13. 1904-66: 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. Flow regulated by Camanche Reservoir beginning December 1963 (see sta. no. 11-3223), Salt Springs Reservoir beginning March 1931 (see sta. no. 11-3135), Pardee Reservoir beginning March 1929 (see sta. no. 11-3200), several smaller reservoirs, and four powerplants. Of several diversions above the station, East Bay Municipal Utility District aqueducts are the largest. Maximum capacity is 511 cfs with Pardee Reservoir full. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1966 are published in Part 2 of this report. See schematic diagram for Mokelumne River basin.

Cooperation.--Seventeen discharge measurements and temperature record furnished by the East Bay Municipal Utility District.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,890	2,070	836	475	701	1,070	332	463	511	499	485	330
2	2,060	2,080	841	475	697	1,070	333	492	515	498	480	332
3	2,070	2,080	835	470	696	1,070	334	542	515	495	466	332
4	2,060	2,070	835	470	698	1,070	336	542	515	494	460	332
5	2,060	2,070	823	475	700	1,070	336	539	512	511	463	331
6	2,060	2,070	698	475	734	1,060	293	538	511	520	464	330
7	2,070	2,070	475	475	704	1,060	213	537	510	520	470	347
8	2,060	2,080	475	475	698	1,060	213	537	499	521	451	355
9	2,060	2,080	475	475	698	1,060	213	528	489	520	450	354
10	2,060	2,070	475	475	699	922	213	521	492	515	455	354
11	2,060	2,070	475	475	416	245	212	520	495	515	462	352
12	2,060	2,090	475	475	207	207	211	511	495	515	476	338
13	2,060	2,080	470	702	206	206	211	491	520	515	476	320
14	2,060	2,070	475	697	206	207	211	481	536	515	475	304
15	2,070	2,060	470	697	206	208	324	481	544	515	473	308
16	2,080	2,050	465	696	689	209	386	480	557	515	472	308
17	2,080	2,070	460	696	1,070	210	388	495	553	510	474	308
18	2,080	2,050	460	697	1,070	210	387	498	548	515	475	307
19	2,080	2,050	465	697	1,070	210	472	499	540	517	467	306
20	2,070	2,050	465	696	1,070	210	525	500	544	511	453	295
21	2,080	2,050	465	696	1,070	210	517	500	548	510	453	289
22	2,080	1,800	470	695	1,070	277	486	500	548	510	457	283
23	2,070	1,410	470	694	1,070	330	456	479	536	510	453	281
24	2,070	1,010	470	693	1,070	330	458	470	536	507	441	281
25	2,070	856	480	693	1,070	331	460	470	542	509	437	280
26	2,060	855	470	693	1,060	332	460	470	540	510	437	280
27	2,060	847	470	693	1,070	332	460	473	543	511	436	280
28	2,060	849	485	692	1,070	332	459	480	548	510	435	280
29	2,060	844	490	701	-----	332	460	479	539	510	424	280
30	2,060	845	485	752	-----	332	461	476	514	505	417	280
31	2,060	-----	490	703	-----	332	-----	496	-----	501	414	-----
TOTAL	63,880	52,746	16,693	18,973	21,785	16,104	10,820	15,488	15,795	15,829	14,151	9,357
MEAN	2,061	1,758	538	612	778	519	361	500	527	511	456	312
AC-FT	126,700	104,600	33,110	37,630	43,210	31,940	21,460	30,720	31,330	31,400	28,070	18,560
Mean +	654	769	525	587	754	382	600	142	171	324	470	345
Ac-ft +	40,230	45,780	32,260	36,120	41,870	23,460	35,680	8,740	10,190	19,940	28,880	20,550
Calendar year 1965	Max	2,840	Min	216	Mean	1,299	Ac-ft	940,400	Mean +	1,207	Ac-ft +	873,600
Water year 1965-66	Max	2,090	Min	206	Mean	744	Ac-ft	538,700	Mean +	475	Ac-ft +	343,700

+ Adjusted for change in storage and evaporation from Camanche Reservoir.

## SAN JOAQUIN RIVER BASIN

11-3250. Woodbridge Canal at Woodbridge, Calif.

Location.--Lat 38°09'07" (revised), long 121°18'00", in SE $\frac{1}{4}$  sec.34, T.4 N., R.6 E., on right bank at Woodbridge at point of diversion.

Records available.--April 1926 to September 1966.

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.--40 years, 135 cfs (97,740 acre-ft per year).

Extremes.--1926-66: Maximum daily discharge, 482 cfs July 8, 1953; no flow part of each year.

Remarks.--Records good. Discharge computed from records of gage openings and effective head as shown by recorders. Canal diverts from Woodbridge Reservoir on Mokelumne River for irrigation south and west of Woodbridge. See schematic diagram for Mokelumne River basin.

Cooperation.--Fifteen discharge measurements furnished by East Bay Municipal Utility District.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	153	134					0	269	327	316	329	273
2	165	134					0	269	330	319	337	255
3	166	123					0	273	334	317	339	229
4	157	113					0	303	335	321	329	311
5	153	107					0	322	329	319	320	201
6	150	105					0	339	331	326	324	198
7	139	103					0	346	339	334	320	198
8	136	93					0	344	338	335	330	199
9	135	92					0	352	335	336	312	200
10	134	94					0	347	331	336	296	201
11	132	94					0	347	315	333	290	210
12	131	41					0	333	295	340	290	211
13	136	1.9					0	341	301	332	291	206
14	141	0					0	352	315	328	293	195
15	124	0					0	336	316	321	311	192
16	112	0					7.1	334	324	333	324	135
17	103	0					72	331	333	333	320	173
18	108	0					122	346	338	343	311	167
19	121	0					170	349	341	346	304	172
20	135	0					251	341	349	341	303	175
21	142	0					306	334	351	333	302	179
22	145	0					325	329	368	329	303	173
23	141	0					320	333	368	316	304	177
24	133	0					306	324	365	316	295	175
25	132	0					304	316	359	337	294	175
26	137	0					303	311	344	337	299	176
27	136	0					292	306	351	330	296	171
28	147	0					291	308	352	324	289	163
29	144	0					289	306	349	331	293	169
30	132	0					279	311	345	329	284	169
31	133	-----					-----	315	-----	320	272	-----
Total	4,268	1,239.9	0	0	0	0	3,637.1	10,073	10,103	10,216	9,504	5,793
Mean	133	41.3	0	0	0	0	121	325	337	330	307	193
Ac-ft	3,470	2,460	0	0	0	0	7,210	19,390	20,050	20,260	18,350	11,500
Calendar year 1965	Max	333	Min	0	Mean	126	Ac-ft	90,950				
Water year 1965-66	Max	363	Min	0	Mean	150	Ac-ft	103,300				



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.

Cooperation.--Ten discharge measurements furnished by East Bay Municipal Utility District.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	L130	L750	768	460	636	962	253	13	20	26	49	36
2	L600	L760	752	446	630	966	253	13	22	24	30	27
3	L690	L770	752	443	625	966	255	13	28	24	29	26
4	L720	L770	749	440	628	966	249	22	32	25	26	25
5	L680	L790	745	444	623	966	246	21	36	24	26	24
6	L690	L780	739	442	657	964	245	19	40	24	26	24
7	L720	L790	573	447	649	957	185	22	36	25	29	24
8	L760	L790	492	437	631	957	121	32	33	27	32	25
9	L750	L800	480	436	628	953	144	37	34	32	27	26
10	L750	L800	478	436	623	964	161	36	21	40	26	26
11	L750	L790	480	434	610	612	120	39	21	42	25	26
12	L750	2030	480	432	315	286	141	50	22	29	25	26
13	L740	2050	466	495	222	246	143	41	22	26	26	26
14	L730	2000	460	603	207	230	100	27	21	25	32	26
15	L750	2030	458	611	199	221	59	21	22	25	41	26
16	L780	L940	452	612	205	215	28	21	24	26	32	29
17	L780	L950	446	612	759	209	26	21	26	26	26	26
18	L780	L980	444	611	918	205	24	21	31	33	26	26
19	L770	L960	442	611	942	203	24	20	39	24	27	27
20	L760	L950	442	614	951	200	24	19	47	22	27	32
21	L750	L950	442	615	955	199	24	19	44	22	29	32
22	L740	L940	442	615	964	197	26	22	40	22	32	30
23	L730	L660	442	617	962	269	26	23	35	22	35	27
24	L740	L270	442	617	964	289	21	20	28	24	35	27
25	L750	398	473	617	964	289	19	17	26	26	36	27
26	L740	320	446	617	966	287	13	19	26	23	35	27
27	L740	792	453	619	964	284	13	19	29	22	36	27
28	L730	779	459	617	964	282	13	19	26	22	39	28
29	L730	770	485	623	-----	273	13	20	26	22	45	28
30	L740	762	474	624	-----	272	13	21	26	23	39	27
31	L740	-----	470	650	-----	261	-----	21	-----	46	40	-----
Total	53,210	49,171	16,135	16,372	19,371	15,152	3,007	743	973	923	989	812
Mean	L716	L639	520	547	692	489	100	24	29.1	26.5	31.9	27.1
Ac-ft	105,600	97,530	32,000	33,700	38,420	30,050	5,960	1,470	1,730	1,630	1,960	1,610
Calendar year 1965	Max 2,330		Min	23	Mean	1,030	Ac-ft	781,700				
Water year 1965-66	Max 2,030		Min	17	Mean	486	Ac-ft	351,600				

11-3263. Dry Creek above Sutter Creek, near Ione, Calif.

Location.--Lat 38°24'54", long 120°54'18", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  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 (revised) of Ione.

Drainage area.--70.9 sq mi.

Records available.--February 1960 to September 1966. Prior to October 1961, published as "near Ione."

Gage.--Digital water-stage recorder. Altitude of gage is 500 ft (from topographic map). Prior to Dec. 27, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--6 years, 27.9 cfs (20,200 acre-ft per year).

Extremes.--Maximum discharge during year, 586 cfs Feb. 6 (gage height, 5.65 ft). No flow for many days.

1960-66: Maximum discharge, 7,300 cfs Jan. 6, 1965 (gage height, 11.30 ft), from rating curve extended above 1,800 cfs on basis of slope-area measurement of maximum flow; no flow for many days in each year.

Remarks.--No known regulation or diversion above station.

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

Revisions (water years).--1965 Report: 1963(M).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	7.5	162	93	31	12	5.3	0.90			
2		0	6.7	86	79	29	11	5.2	1.0			
3		0	6.6	62	64	26	11	4.9	1.0			
4		0	6.0	56	63	25	11	5.2	.80			
5		0	5.4	100	69	24	10	5.0	.60			
6		0	5.4	84	422	23	10	5.0	1.0			
7		0	5.4	65	217	22	10	4.9	.70			
8		0	5.3	54	123	21	10	5.2	.60			
9		0	5.3	45	92	21	10	5.0	.50			
10		0	5.3	39	74	29	17	7.2	.40			
11		0	5.8	34	61	27	17	7.9	.30			
12		1.4	15	31	54	24	19	7.0	0			
13		3.9	12	28	48	24	16	5.6	0			
14		11	9.4	26	44	22	13	4.4	0			
15		8.2	8.6	24	40	21	12	3.6	0			
16		5.2	7.7	23	36	20	11	3.3	0			
17		13	7.2	22	34	19	10	3.0	0			
18		49	6.6	20	32	19	10	2.6	0			
19		26	6.4	19	31	19	10	2.0	0			
20		12	7.2	13	29	19	9.3	1.5	0			
21		7.5	6.4	17	27	18	3.9	1.2	0			
22		6.0	5.7	17	26	16	8.8	1.1	0			
23		14	5.5	18	27	15	3.8	1.4	0			
24		21	5.6	18	32	15	7.6	1.3	0			
25		34	7.4	15	33	14	7.3	1.0	0			
26		20	45	16	49	14	6.1	.80	0			
27		14	28	15	37	13	6.0	.20	0			
28		11	48	14	33	13	6.0	.50	0			
29		9.2	295	23	-----	13	5.8	.30	0			
30		3.1	347	287	-----	13	5.5	.60	0			
31		-----	390	132	-----	12	-----	.90	-----			
Total	0	274.5	1395.0	1570	1984	621	310.1	104.10	7.80	0	0	0
Mean	0	9.15	45.0	50.6	70.9	20.0	10.3	3.36	0.26	0	0	0
Ac-ft	0	544	2770	3110	3940	1230	615	206	15	0	0	0
Calendar year 1965	Max	2,960	Min	0	Mean	47.0	Ac-ft	34,020				
Water year 1965-66	Max	422	Min	0	Mean	17.2	Ac-ft	12,430				

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.--48.1 sq mi.

Records available.--October 1935 to December 1941, March 1960 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Digital water-stage recorder. 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 present site at datum 4.00 ft lower. Dec. 8, 1938, to December 1941 and March 1960 to Jan. 4, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--12 years (1935-41, 1960-66), 29.9 cfs (21,650 acre-ft per year).

Extremes.--Maximum discharge during year, 244 cfs Dec. 29 (gage height, 2.14 ft); no flow for many days.

1935-41, 1960-66: Maximum discharge, 5,770 cfs Jan. 31, 1963 (gage height, 6.27 ft), from rating curve extended above 900 cfs on basis of slope-area measurement at gage height 4.77 ft; no flow at times in each year except 1938 and 1941.

Remarks.--Small diversion 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	<u>2.3</u>	10	85	55	22	10	6.3	<u>2.8</u>			
2	1.6	2.6	10	55	46	22	10	6.1	2.8			
3	1.4	2.5	9.2	40	37	20	10	5.9	2.8			
4	1.5	2.6	8.7	40	37	19	10	6.0	2.7			
5	1.4	2.6	8.1	<u>96</u>	40	13	9.9	5.9	2.7			
6	1.5	2.6	8.4	79	<u>111</u>	18	9.8	5.8	2.8			
7	2.0	2.7	3.7	60	81	13	9.4	5.4	2.8			
8	1.8	2.6	11	48	62	13	9.2	5.5	2.8			
9	<u>1.3</u>	2.8	11	40	48	18	9.6	5.8	2.7			
10	1.3	2.8	8.5	33	40	<u>29</u>	17	7.2	2.6			
11	1.6	2.9	8.4	28	33	26	18	7.3	2.4			
12	1.7	3.5	13	26	29	22	<u>22</u>	6.7	2.1			
13	1.7	4.5	12	23	26	22	17	7.1	1.8			
14	2.6	12	11	21	24	20	13	5.7	1.6			
15	<u>3.8</u>	9.0	9.9	20	22	19	12	5.3	1.4			
16	3.6	7.2	9.3	19	21	13	11	8.9	1.3			
17	2.9	14	8.8	18	21	17	10	<u>9.9</u>	1.3			
18	2.8	<u>7.5</u>	9.3	16	20	17	10	8.3	1.1			
19	2.7	37	7.8	16	20	18	10	4.4	.90			
20	2.7	18	<u>7.5</u>	15	20	17	9.9	4.1	.80			
21	2.6	14	7.7	14	<u>13</u>	15	9.5	4.0	.80			
22	2.7	11	8.1	14	18	15	9.0	4.1	1.0			
23	2.5	22	7.9	14	13	14	8.3	4.1	1.0			
24	2.4	63	8.1	13	24	13	9.0	3.7	1.0			
25	2.2	49	50	13	25	13	7.8	3.4	.90			
26	2.1	30	30	13	28	13	7.5	3.2	.70			
27	2.1	20	20	12	27	12	7.3	3.0	.50			
28	2.4	16	30	<u>11</u>	24	12	6.9	2.8	.30			
29	2.3	13	140	13	-----	11	6.9	2.7	.20			
30	2.3	12	104	74	-----	11	<u>6.6</u>	2.8	<u>1.0</u>			
31	2.3	-----	<u>153</u>	66	-----	11	-----	2.8	-----			-----
Total	67.7	459.2	748.4	1,035	975	538	315.6	164.2	48.70	0	0	0
Mean	2.18	15.3	24.1	33.4	34.8	17.4	10.5	5.30	1.62	0	0	0
Ac-ft	134.0	911	1,480	2,050	1,930	1,070	626	326	97	0	0	0

Calendar year 1965 Max 1,040 Min 1.0 Mean 40.5 Ac-ft 29,320  
 Water year 1965-66 Max 153 Min 0 Mean 11.9 Ac-ft 8,630

## SAN JOAQUIN RIVER BASIN

11-3295. Dry Creek near Galt, Calif.

Location.--Lat 38°14'44", long 121°13'03", in NE $\frac{1}{4}$  sec.32, T.5 N., R.7 E., on left bank of main channel 35 ft downstream from county road bridge, 2 miles downstream from Coyote Creek, and 4 miles east of Galt. Prior to June 16, 1966, across channel at same datum.

Drainage area.--329 sq mi.

Records available.--October 1926 to September 1933, October 1944 to September 1966. Monthly figures only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is at 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 site across channel at datum 3.00 ft higher. Oct. 1, 1945, to June 15, 1966, across channel at same datum.

Average discharge.--29 years, 105 cfs (76,020 acre-ft per year); median of yearly mean discharges, 64 cfs (46,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,510 cfs Jan. 30 (gage height, 10.86 ft); no flow for several months. 1926-33, 1944-66: Maximum discharge, 24,000 cfs Apr. 3, 1958 (gage height, 15.28 ft); no flow for several months in each year.

Remarks.--Records fair. 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.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	1.3	598	304	84	21	0	0.60			
2		0	.50	264	272	75	16	1.4	1.3			
3		0	1.5	180	202	65	15	1.8	.50			
4		0	0	137	180	60	16	.20	.80			
5		0	0	236	175	56	13	.10	2.4			
6		0	0	268	912	53	11	0	3.3			
7		0	0	202	680	49	10	0	1.0			
8		0	0	154	343	47	8.9	0	0			
9		0	0	137	236	43	8.9	0	0			
10		0	0	107	187	46	12	0	0			
11		0	0	90	148	61	22	0	0			
12		0	0	77	129	52	26	0	0			
13		0	8.2	67	113	48	28	0	0			
14		0	8.7	58	102	45	23	0	0			
15		0	5.9	53	95	42	19	0	0			
16		0	3.3	49	86	39	18	.40	0			
17		0	1.9	46	78	36	16	.40	0			
18		0	1.0	43	75	34	14	0	0			
19		5.4	.40	39	72	32	13	0	0			
20		11	.20	35	67	33	12	1.1	0			
21		1.1	.50	33	63	29	12	.60	0			
22		0	.90	31	58	26	11	1.4	0			
23		0	.40	31	60	26	7.3	2.2	0			
24		0	0	30	60	24	4.4	2.7	0			
25		57	63	28	83	23	2.7	2.2	0			
26		49	148	27	130	22	1.7	1.5	0			
27		27	78	28	111	20	.90	1.7	0			
28		13	72	24	90	20	1.3	.70	0			
29		7.0	672	26	-----	19	1.3	.40	0			
30		3.5	897	906	-----	18	60	.40	0			
31		-----	1010	538	-----	17	-----	.40	-----			-----
Total	0	174.0	2974.70	4542	5111	1244	366.00	19.60	9.90	0	0	0
Mean	0	5.80	96.0	147	183	40.1	12.2	0.63	0.33	0	0	0
Ac-ft	0	345	5900	9010	10140	2470	726	39	20	0	0	0

Calendar year 1965 Max 6.550 Min 0 Mean 142 Ac-ft 102800  
 Water year 1965-66 Max 1010 Min 0 Mean 39.6 Ac-ft 28640

Peak discharge (base, 1,500 cfs).--Jan. 30 (1930) 1,510 cfs (10.86 ft).

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 north-east of Somerset, and 5.6 miles south of Camino.

Drainage area.--62.6 sq mi.

Records available.--February to May 1924 (published as "near Pleasant Valley"), October 1954 to September 1966.

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.--12 years (1954-66), 69.1 cfs (50,030 acre-ft per year), adjusted for storage, diversion, and evaporation from Jenkinson Lake.

Extremes.--Maximum discharge during year, 212 cfs Apr. 12 (gage height, 3.86 ft); minimum daily, 1.9 cfs Aug. 20-26, Sept. 6. 1924, 1954-66: Maximum discharge, 6,040 cfs Dec. 23, 1964 (gage height, 12.50 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. Some water is released from Jenkinson Lake down Camp Creek for irrigation downstream from station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	6.0	6.7	18	17	13	172	31	6.3	3.5	1.4	2.3
2	5.8	6.0	6.5	13	16	13	174	27	6.5	4.7	8.2	2.3
3	6.0	6.0	6.5	11	14	12	167	25	6.3	5.8	3.5	2.2
4	5.6	6.0	6.5	12	15	11	159	25	6.3	5.8	3.0	2.0
5	5.6	6.0	6.3	37	22	11	156	25	6.5	5.4	2.9	2.0
6	5.6	6.0	6.0	38	63	12	147	24	6.5	5.4	2.9	1.9
7	5.6	6.0	6.0	25	38	13	138	22	7.2	5.1	2.6	2.0
8	5.6	6.0	6.0	20	25	13	131	21	7.2	5.1	2.6	2.2
9	5.4	6.0	6.0	18	20	13	125	20	6.7	5.1	2.6	2.2
10	5.4	5.8	6.0	16	16	21	160	25	7.0	5.4	2.6	2.2
11	5.6	5.6	6.5	14	14	17	193	23	6.7	5.1	2.6	2.2
12	5.4	4.9	10	13	13	16	195	18	6.3	5.1	2.6	2.2
13	5.4	5.6	7.2	12	12	16	167	15	6.3	5.1	2.6	2.3
14	6.5	10	6.7	11	11	14	148	15	6.0	5.1	2.3	2.4
15	1.2	7.2	6.5	11	11	14	136	13	6.0	4.9	2.2	2.6
16	10	6.3	6.0	11	10	14	130	11	5.8	4.7	2.2	2.6
17	8.7	11	5.6	10	10	13	121	8.7	5.6	4.5	2.0	2.4
18	8.0	2.6	6.0	9.7	10	12	123	7.2	5.4	4.3	2.0	2.4
19	7.2	15	5.8	9.4	10	14	118	6.0	5.4	4.1	2.0	2.7
20	7.2	8.7	5.8	8.7	11	12	103	7.0	4.9	4.1	1.9	3.0
21	7.0	7.0	5.8	8.2	10	11	93	6.7	4.9	4.1	1.9	2.9
22	6.7	6.5	5.8	9.0	10	11	85	6.7	4.9	3.9	1.9	2.7
23	6.7	12	5.4	8.4	12	10	78	6.7	4.7	3.7	1.9	2.7
24	6.5	16	6.7	8.0	21	10	74	6.5	4.9	3.5	1.9	2.6
25	6.5	20	13	7.7	16	10	73	6.5	4.5	3.3	1.9	2.6
26	6.5	13	9.0	7.7	16	9.7	69	6.5	4.3	3.2	1.9	2.6
27	6.3	9.7	7.7	7.4	14	9.4	63	6.3	4.3	3.2	2.0	2.4
28	6.3	8.2	17	7.0	13	3.9	55	6.3	4.1	3.0	2.0	2.2
29	6.3	7.4	4.0	8.2	-----	11.9	45	6.5	3.7	3.0	2.0	2.2
30	6.0	6.7	2.9	2.0	-----	148	3.7	6.5	3.7	1.1	2.2	2.2
31	6.0	-----	33	18	-----	168	-----	6.5	-----	1.6	2.3	-----
Total	203.4	266.6	301.0	427.4	470	819.1	3,635	440.6	168.9	156.2	89.2	71.2
Mean	6.56	8.89	9.71	13.8	16.8	26.4	121	14.2	5.63	5.04	2.88	2.37
Ac-ft	403	529	597	848	932	1,620	7,210	874	335	310	177	141
(†)	-1.105	+9.02	+5.93	+12.76	+17.67	+54.08	-1.48	-1.137	-3.202	-5.375	-5.231	-2.404
(‡)	94.0	42.4	38.9	15.7	6.2	9.5	71.4	26.42	3,38.9	5,205	5,087	2,088
(††)	15.6	2.5	1.1	0	0	5.5	18.6	2.40	2.76	3.06	3.01	1.92
Mean**	6.41	31.6	25.9	37.1	49.7	11.7	13.4	42.6	13.4	7.25	5.43	0.29
Ac-ft**	39.4	1,880	1,590	2,280	2,760	7,180	7,960	2,620	798	446	334	17

Calendar year 1965: Max 1.180 Min 4.9 Mean 92.7 Ac-ft 67,090 Mean\*\* 104 Ac-ft\*\* 74,950  
 Water year 1965-66: Max 1.95 Min 1.9 Mean 19.3 Ac-ft 13,980 Mean\*\* 39.0 Ac-ft\*\* 28,260

† 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 may appear.

## 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.--205 sq mi.

Records available.--August 1911 to December 1941, October 1948 to September 1966.

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.

Average discharge.--48 years, 198 cfs (143,300 acre-ft per year).

Extremes.--Maximum discharge during year, 765 cfs Dec. 29 (gage height, 5.07 ft); minimum daily, 0.50 cfs Oct. 12.

1911-41, 1948-66: Maximum discharge, 15,800 cfs Dec. 23, 1955 (gage height, 14.8 ft), from rating curve extended above 7,500 cfs on basis of slope-area measurement of maximum flow; no flow for part of 1924, 1926, 1931, 1933-34.

Remarks.--Records fair. Flow partly regulated since January 1955 by Jenkinson Lake (usable capacity, 40,570 acre-ft). Camino conduit above the station diverts water out of the basin (see Remarks for sta. no. 11-3330 Camp Creek near Somerset). Numerous small diversions above station for irrigation and domestic use.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	32	50	204	164	108	431	140	26	61	82	45
2	28	33	48	133	143	106	440	130	24	60	73	47
3	24	35	46	112	120	100	419	127	21	33	65	52
4	28	37	46	116	117	95	407	125	17	32	56	46
5	30	39	45	263	138	94	401	123	11	34	55	43
6	30	40	44	245	482	95	380	122	9.1	36	39	42
7	32	42	43	176	296	104	353	114	9.1	34	38	36
8	35	45	42	147	194	110	338	108	9.6	34	38	12
9	36	47	42	131	154	125	323	105	9.1	42	36	9.1
10	37	47	42	117	135	188	401	114	8.2	43	21	6.0
11	18	46	45	108	119	230	449	119	6.9	43	34	5.6
12	50	49	70	98	110	204	461	102	5.6	54	44	5.0
13	2.9	53	59	92	104	225	404	89	5.0	54	56	4.7
14	6.9	63	52	89	98	242	359	79	4.4	54	61	4.7
15	18	65	48	83	91	235	335	73	8.2	54	59	6.0
16	28	51	42	82	89	228	317	68	14	54	56	8.2
17	24	65	36	79	84	204	302	63	33	49	51	9.6
18	21	247	37	75	85	188	293	56	34	48	51	11
19	19	206	37	73	84	194	287	51	38	46	47	10
20	20	95	36	70	87	188	248	44	21	49	46	10
21	20	67	42	65	85	172	230	42	20	38	47	9.6
22	18	53	41	69	84	166	210	38	19	44	47	9.1
23	18	78	33	68	92	164	200	36	18	49	46	9.1
24	23	135	43	64	125	172	194	31	17	51	45	9.1
25	28	150	168	60	133	184	190	28	17	52	42	9.1
26	28	108	88	56	128	192	190	23	38	53	46	9.1
27	28	79	61	56	119	202	189	21	16	55	48	8.7
28	30	65	142	53	110	225	174	19	11	56	48	8.7
29	31	59	447	60	-----	332	162	26	47	61	45	7.8
30	31	54	341	255	-----	386	150	28	63	63	45	7.8
31	31	-----	410	222	-----	413	-----	28	-----	80	45	-----
Total	762.30	2,185	2,726	3,521	3,770	5,871	9,236	2,271	5,460	1,516	1,511	501.0
Mean	24.6	72.8	87.9	114	135	189	308	73.3	18.2	48.9	48.7	16.7
Ac-ft	1,510	4,330	5,410	6,980	7,480	11,650	18,320	4,500	1,080	3,010	3,000	994

Calendar year 1965 Max 51.50 Min 0.50 Mean 29.3 Ac-ft 212,300

Water year 1965-66 Max 48.2 Min 0.50 Mean 94.3 Ac-ft 68,260

Peak discharge (base, 1,800 cfs).--No peak above base.

11-3342. Middle Fork Cosumnes River near Somerset, Calif.

Location.--Lat 38°37'29", long 120°42'02", in 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.--107 sq mi.

Records available.--October 1957 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 1,647.95 ft above mean sea level, datum of 1929.

Average discharge.--9 years, 130 cfs (94,120 acre-ft per year).

Extremes.--Maximum discharge during year, 412 cfs Apr. 1 (gage height, 6.22 ft); minimum daily, 5.0 cfs Sept. 10.

1957-66: Maximum discharge, 11,800 cfs Feb. 1, 1963 (gage height, 16.20 ft, in gage well, 18.4 ft from floodmarks), from rating curve extended above 2,500 cfs on basis of computation of maximum flow over dam; minimum, 1.7 cfs probably Sept. 11, 1961. Flood of Dec. 23, 1955, reached a stage of 18.1 ft, from floodmarks (discharge, 11,600 cfs).

Remarks.--Records good except those for period of no gage-height record, which are poor. No storage above station. Small diversion above station into South Fork Cosumnes River basin through Garabaldi ditch for irrigation and industrial use.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	14	66	87	80	91	375	163	43	18	13	6.1
2	15	14	62	62	71	89	378	158	43	17	12	6.1
3	15	14	59	60	67	83	352	158	41	17	12	5.8
4	14	14	57	72	73	81	350	156	40	17	10	5.8
5	14	14	55	131	92	83	342	153	40	16	9.5	5.4
6	14	14	53	104	169	83	328	147	38	16	8.3	5.1
7	14	14	52	88	109	90	311	141	39	16	8.3	5.4
8	14	14	51	81	89	101	298	135	39	16	7.7	5.6
9	14	14	50	76	86	120	287	130	38	16	6.8	5.3
10	14	14	49	73	79	211	352	146	36	16	6.6	5.0
11	14	14	50	70	67	248	338	131	34	16	6.6	5.1
12	14	16	60	67	74	238	335	118	32	16	6.4	5.3
13	14	45	52	67	72	289	300	109	31	16	6.4	5.4
14	15	78	49	63	69	309	282	104	30	16	6.4	5.6
15	25	70	46	64	67	302	273	97	29	15	6.2	5.8
16	23	53	44	63	66	282	273	91	28	15	6.1	5.9
17	19	106	41	63	65	248	278	87	27	14	5.9	5.8
18	16	263	40	62	66	231	282	81	26	14	5.8	5.9
19	16	205	39	62	67	238	248	79	25	13	5.4	6.4
20	16	105	40	56	69	220	220	75	24	13	5.1	8.3
21	15	76	41	55	69	211	209	70	23	13	5.4	7.9
22	14	61	42	62	72	207	199	67	24	13	5.6	6.8
23	14	123	39	57	78	215	188	64	23	12	5.4	6.2
24	15	223	42	55	91	231	188	59	23	12	5.4	5.8
25	16	173	72	53	102	250	190	56	22	12	5.4	5.9
26	16	124	51	52	103	267	197	52	21	11	5.4	5.8
27	15	106	47	51	95	291	192	49	20	11	5.4	5.6
28	14	88	74	50	92	314	187	48	20	11	5.6	5.8
29	14	77	150	54	-----	339	173	46	19	11	5.8	5.4
30	14	71	128	114	-----	355	169	45	18	11	5.9	5.3
31	14	-----	167	90	-----	365	-----	45	-----	12	6.1	-----
Total	477	2222	1868	2164	2299	6681	8094	3060	896	442	215.9	175.6
Mean	15.4	74.1	60.3	69.8	82.1	216	270	98.7	29.9	14.3	6.96	5.85
Ac-ft	946	4410	3710	4290	4560	13250	16050	6070	1780	877	428	348

Calendar year 1965 Max 2,450 Min 14 Mean 212 Ac-ft 153,500

Water year 1965-66 Max 378 Min 5.0 Mean 78.3 Ac-ft 56,720

Peak discharge (base, 700 cfs).--No peak above base.

Note.--No gage-height record Oct. 18 to Dec. 7.

## 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 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 1,220 ft (from topographic map). Prior to Apr. 1, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 38.0 cfs (27,510 acre-ft per year).

Extremes.--Maximum discharge during year, 480 cfs Dec. 29 (gage height, 3.20 ft); no flow Aug. 30 to Sept. 30.

1957-66: Maximum discharge, 5,540 cfs Feb. 1, 1963 (gage height, 10.90), from rating curve extended above 1,900 cfs on basis of slope-area measurement at gage height 9.90 ft; no flow at times in 1959-66.

Remarks.--Records good. Amount of water imported from Middle Fork Cosumnes River through Garabaldi ditch has been negligible because of leakage in the ditch.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.9	2.5	14	88	64	41	20	12	5.9	0.80	0.10	
2	1.7	2.5	13	54	56	40	19	11	5.5	.60	.10	
3	1.5	2.5	12	42	48	37	19	11	5.5	.80	.10	
4	1.5	2.7	12	44	50	35	18	11	5.1	1.2	.10	
5	1.5	2.8	11	130	62	34	17	11	4.9	.30	.10	
6	1.5	3.0	10	106	254	35	16	11	4.3	.20	.10	
7	1.6	3.2	9.9	78	136	36	15	9.9	5.1	.30	.10	
8	1.5	3.1	9.6	66	94	36	15	8.9	5.1	.30	.10	
9	1.6	3.4	9.4	58	72	37	17	9.3	4.7	.30	.10	
10	1.5	3.7	9.1	50	60	51	27	12	4.3	.50	.10	
11	1.5	3.7	9.4	45	52	52	28	11	3.7	.50	.10	
12	1.6	4.3	15	42	48	48	35	11	3.2	.40	.10	
13	1.6	5.7	13	38	44	50	29	9.9	2.9	.50	.10	
14	2.0	17	11	35	41	48	24	9.2	2.5	.40	.10	
15	4.9	16	11	34	39	45	22	8.9	2.2	.40	.10	
16	4.5	11	10	33	37	43	21	8.6	2.0	.30	.10	
17	3.4	16	8.7	31	35	39	20	8.1	1.9	.20	.10	
18	3.1	66	8.8	30	33	37	20	7.7	1.8	.20	.10	
19	3.0	42	8.3	28	33	37	20	7.4	1.6	.20	.10	
20	2.8	21	8.2	26	34	35	18	7.1	1.4	.20	.10	
21	2.8	15	8.6	25	33	33	17	6.7	1.4	.20	.10	
22	2.7	13	8.5	25	31	31	17	6.7	1.5	.20	.10	
23	2.4	21	7.2	24	35	29	16	6.8	1.7	.20	.10	
24	2.4	46	9.4	23	49	28	15	6.4	1.7	.10	.10	
25	2.3	50	42	22	48	27	15	6.3	1.6	.10	.10	
26	2.2	33	23	22	52	26	15	5.6	1.5	.10	.10	
27	2.3	24	16	21	46	24	14	5.5	1.2	.10	.10	
28	2.2	19	50	20	42	24	14	5.3	1.1	.10	.10	
29	2.4	16	220	23	-----	23	14	5.2	1.0	.10	.10	
30	2.4	15	162	132	-----	22	12	5.6	.80	.10	.10	
31	2.3	-----	232	85	-----	21	-----	6.1	-----	.10	0	-----
TOTAL	70.6	484.1	992.2	1,480	1,628	1,104	569	262.2	87.10	10.10	2.90	0
MEAN	2.28	16.1	32.0	47.7	58.1	35.6	19.0	8.46	2.90	.33	.09	0
AC-FT	140	960	1,970	2,940	3,230	2,190	1,130	520	173	20	5.8	0

CALENDAR YEAR	1965	MAX	2,150	MIN	1.4	MEAN	62.9	AC-FT	45,530
WATER YEAR	1965-66	MAX	254	MIN	0	MEAN	18.3	AC-FT	13,280

Peak discharge (base, 600 cfs).--No peak above base



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 Iatrobe, and 12 miles downstream from confluence of North and Middle Forks.

Drainage area.--536 sq mi.

Records available.--October 1907 to September 1966. 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.--59 years, 473 cfs (342,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,880 cfs Dec. 29 (gage height, 5.82 ft); minimum daily, 5.2 cfs Sept. 17.

1907-66: Maximum discharge, 42,000 cfs Dec. 23, 1955 (gage height, 14.59 ft); no flow for parts of many years.

Flood in March 1907 reached a stage of 16.3 ft (discharge unknown).

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. Records of chemical analyses, suspended sediment loads, and of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	32	134	390	620	306	1000	314	75	64	70	46
2	26	32	124	473	508	298	923	302	70	66	63	46
3	26	31	119	345	395	278	969	294	63	62	64	44
4	23	32	116	313	330	253	351	286	62	46	54	44
5	23	32	116	336	463	250	333	232	61	43	44	44
6	22	32	116	788	1320	250	797	378	59	42	43	43
7	22	32	114	550	1090	258	754	266	59	42	40	41
8	21	33	111	425	706	278	722	258	57	41	36	33
9	20	33	111	365	533	302	633	246	59	42	36	23
10	20	33	109	313	442	425	733	253	54	47	36	11
11	20	34	109	282	375	620	905	236	43	47	32	3.8
12	21	35	154	253	330	578	923	246	46	50	34	7.0
13	22	40	165	240	306	606	333	218	42	59	42	6.2
14	24	63	137	226	232	633	746	201	41	59	50	5.5
15	27	184	121	213	270	655	590	187	39	59	51	5.5
16	39	132	109	203	254	634	662	174	47	56	53	5.3
17	50	145	100	201	243	571	641	161	53	54	51	5.2
18	43	505	87	194	240	520	634	149	71	50	44	6.0
19	39	660	89	137	240	503	620	136	66	49	43	6.5
20	35	298	89	180	240	520	544	133	61	49	42	6.5
21	35	187	95	163	236	472	495	126	50	51	42	6.8
22	34	142	107	168	332	443	460	123	49	46	41	5.2
23	32	154	98	174	246	443	430	115	49	50	42	7.3
24	29	312	89	163	306	454	410	105	49	51	42	7.3
25	30	474	731	161	410	484	405	97	53	56	42	7.0
26	34	302	316	155	460	503	410	33	47	55	42	7.0
27	32	224	200	155	365	557	400	32	31	56	44	6.8
28	33	181	492	142	322	606	385	79	27	54	47	6.2
29	32	159	1790	210	-----	714	345	77	28	53	46	6.0
30	32	145	1540	1320	-----	815	330	75	49	54	45	6.2
31	32	-----	1370	395	-----	860	-----	75	-----	62	46	-----
Total	305	4703	9753	11491	12324	15134	19489	5717	1565	1616	1413	5098
Mean	29.2	157	315	371	440	439	630	184	52.2	52.1	45.6	17.0
Ac-ft	1300	9330	19350	22790	24440	30080	38660	11340	3100	3210	2300	1010

Calendar year 1965 Max 14,600 Min 20 Mean 652 Ac-ft 471,900

Water year 1965-66 Max 1,970 Min 5.2 Mean 232 Ac-ft 167,700

Peak discharge (base, 4000 cfs).--No peak above base.



## 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.--72½ sq mi.

Records available.--October 1941 to September 1966 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.--25 years, 534 cfs (386,600 acre-ft per year); median of yearly mean discharges, 400 cfs (289,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,220 cfs Feb. 6 (gage height, 37.13 ft); no flow for many days.

1943-66: 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. Diversions for irrigation of about 2,100 acres between stations at Michigan Bar and at McConnell. Records of chemical analyses and of suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	124	1910	988	342	844	286	20	0		
2	0	0	113	759	796	323	867	269	13	0		
3	0	0	104	476	560	303	854	254	16	0		
4	0	0	93	383	452	281	812	247	14	1.9		
5	0	0	96	730	476	266	788	240	12	4.7		
6	0	0	96	1250	1710	262	768	238	10	0.3		
7	0	0	94	735	2130	259	732	230	3.0	0		
8	0	0	93	528	1030	274	700	221	5.0	0		
9	0	0	91	434	692	288	652	210	3.0	0		
10	0	0	90	377	542	329	660	206	0	0		
11	0	2.0	83	331	446	535	858	230	0	0		
12	0	6.0	106	293	383	574	867	226	0	0		
13	0	10	148	259	353	549	849	197	0	0		
14	0	25	138	252	326	626	740	169	0	0		
15	0	68	118	240	305	640	672	148	0	0		
16	0	147	108	230	290	619	644	134	0	0		
17	0	108	98	221	278	574	619	122	0	0		
18	0	178	88	213	264	510	605	109	0	0		
19	0	610	81	202	264	479	605	102	0	0		
20	0	401	84	197	259	500	542	90	0	0		
21	0	224	84	183	259	461	482	84	0	0		
22	0	154	88	180	254	437	535	77	0	0		
23	0	130	94	182	257	431	413	75	0	0		
24	0	183	87	180	281	437	389	75	0	0		
25	0	378	380	177	383	461	369	57	0	0		
26	0	334	553	171	452	485	366	49	0	0		
27	0	247	303	166	464	521	360	47	0	0		
28	0	186	219	164	389	556	349	39	0	0		
29	0	154	1710	158	-----	626	326	30	0	0		
30	0	134	1940	1240	-----	756	300	22	0	0		
31	0	-----	2010	2120	-----	804	-----	19	-----	0		-----
Total	0	3679.0	9524	14946	15288	14513	18567	4501	106.0	6.9	0	0
Mean	0	123	307	482	546	468	619	145	3.53	.22	0	0
Ac-ft	0	7300	18890	29640	30320	28790	36830	8330	210	14	0	0

Calendar year 1965 Max 21,500 Min 0 Mean 659 Ac-ft 477,100  
 Water year 1965-66 Max 2130 Min 0 Mean 222 Ac-ft 160,900

Peak discharge (base, 3,600 cfs).--No peak above base.

11-3365.8. Morrison Creek near Sacramento, Calif.

Location.--Lat 38°29'55", long 121°27'06", in SW 1/4 sec. 32, T.8 N., R.5 E., on right bank 750 ft upstream from Florin Road, 1.6 miles upstream from Elder Creek, and 2 miles south of Sacramento city limits.

Drainage area.--48.6 sq mi.

Records available.--July 1959 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 7.60 ft above mean sea level, datum of 1929. Prior to June 29, 1960, graphic water-stage recorder at site 650 ft downstream at datum 1.55 ft higher. June 29, 1960, to Sept. 12, 1965, graphic water-stage recorder at site 475 ft upstream at datum 2.71 ft higher.

Average discharge.--7 years, 14.0 cfs (10,140 acre-ft per year).

Extremes.--Maximum discharge during year, 298 cfs Nov. 17 (gage height, 3.74 ft); minimum daily, 1.7 cfs Oct. 6, 1959-66; Maximum discharge, 1,320 cfs Oct. 14, 1962 (gage height, 7.09 ft, site and datum then in use); no flow at times in 1960, 1962, 1965.

Remarks.--Records fair. No regulation or diversion above station. Summer flow is sustained by waste water from domestic and industrial use.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.0	6.0	6.8	30	82	9.2	6.2	6.7	6.3	5.2	14	3.5
2	4.4	5.2	6.8	20	47	7.8	5.7	6.9	6.4	2.9	15	4.3
3	3.5	5.4	6.7	15	28	7.6	5.7	6.5	7.0	2.3	16	4.0
4	4.5	5.2	4.9	18	31	7.6	6.0	6.4	7.1	2.3	14	2.5
5	4.4	6.3	4.0	50	37	7.6	5.6	6.5	6.9	3.0	13	2.1
6	1.7	3.8	3.4	30	62	7.6	5.4	6.7	6.8	3.5	7.2	4.1
7	3.7	2.9	5.2	20	39	7.6	5.6	6.9	6.7	3.0	6.3	5.2
8	6.2	13	5.6	15	22	7.6	4.2	5.8	7.8	3.0	16	5.6
9	7.7	8.4	5.8	12	16	7.1	6.9	6.0	7.1	3.2	17	5.8
10	7.8	7.8	6.0	10	14	7.3	7.3	10	6.1	3.3	14	5.6
11	6.0	6.8	19	9.0	12	7.0	8.4	6.1	6.3	5.9	11	6.1
12	4.0	12	30	8.6	9.8	6.8	11	6.6	6.4	6.4	9.5	5.0
13	5.3	28	15	8.1	8.9	6.4	7.4	7.1	6.6	7.4	5.6	4.7
14	6.4	67	8.7	8.7	6.8	6.5	5.9	6.5	6.9	8.7	6.6	6.5
15	6.7	25	7.3	8.7	6.5	6.6	6.3	6.1	7.0	9.6	9.0	5.2
16	5.6	21	6.8	7.6	5.8	6.4	7.4	6.4	6.5	6.6	10	5.7
17	6.0	74	7.3	6.3	4.6	6.3	6.6	6.6	6.3	5.6	11	4.8
18	5.2	55	6.3	6.8	4.2	6.3	5.8	6.4	5.8	10	9.3	4.6
19	5.6	24	5.6	7.0	15	6.0	5.6	6.8	6.1	12	7.9	4.2
20	5.8	12	5.6	6.8	8.9	6.0	6.1	6.2	5.8	12	3.8	3.8
21	5.4	9.0	6.8	8.7	4.2	6.1	6.1	5.5	5.6	11	2.3	3.5
22	5.2	8.1	5.4	7.6	5.0	6.1	5.8	5.7	5.5	11	3.5	3.5
23	5.0	15	2.8	6.0	11	6.8	5.2	7.0	5.4	6.9	5.5	5.0
24	4.4	51	15	6.5	9.2	6.5	4.9	6.9	5.0	5.6	5.3	6.0
25	3.6	16	63	6.2	16	6.1	5.3	5.7	5.3	8.7	4.9	6.0
26	4.8	7.0	14	6.4	17	6.3	5.0	5.4	4.9	11	5.2	6.0
27	6.2	4.4	8.7	6.0	13	6.2	5.8	5.4	5.3	12	5.1	5.0
28	6.0	3.6	98	6.3	9.8	5.9	7.0	5.4	5.1	13	2.1	4.0
29	6.0	6.3	110	67	-----	6.0	6.9	5.4	5.3	12	2.3	4.0
30	5.2	7.0	55	140	-----	5.9	6.6	4.8	5.3	13	2.4	4.5
31	5.8	-----	45	65	-----	6.1	-----	5.4	-----	12	3.5	-----
TOTAL	163.1	516.2	590.5	623.3	545.7	209.3	187.7	195.8	184.6	233.1	258.3	140.8
MEAN	5.26	17.2	19.0	20.1	19.5	6.75	6.26	6.32	6.15	7.52	8.33	4.69
AC-FT	324	1,020	1,170	1,240	1,080	415	372	388	366	462	512	279

CALENDAR YEAR 1965 MAX 494 MIN 0 MEAN 14.7 AC-FT 10,660  
 WATER YEAR 1965-66 MAX 140 MIN 1.7 MEAN 10.5 AC-FT 7,630

Peak discharge (base, 160 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-17	2000	3.74	298	12-28	1700	3.53	273
11-24	0545	2.63	165	1-29	2300	3.27	241
12-25	0130	2.73	177	2-1	1745	3.27	241

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 1966.

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.--16 years, 79.9 cfs (57,850 acre-ft per year).

Extremes.--1950-66: Maximum daily discharge, 218 cfs June 30, July 2, 1966; 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	116	88	56	54	51	62	87	120	124	217	190	164
2	123	102	61	50	51	60	93	122	144	213	192	161
3	128	101	62	52	49	62	94	127	143	205	202	159
4	136	102	58	52	48	62	91	128	138	187	209	162
5	131.1	102	64	51	45	62	92	135	143	184	202	126
6	134	96	65	50	47	61	98	150	152	214	204	157
7	129	99	62	51	55	55	100	145	149	187	203	163
8	131	95	62	53	58	58	98	147	155	190	182	164
9	117	87	64	53	61	56	102	155	170	185	195	163
10	115	87	63	60	59	57	95	140	169	187	205	166
11	112	89	57	59	60	57	89	133	173	185	201	167
12	119	92	57	59	68	56	92	132	175	188	195	174
13	124	89	58	61	68	57	90	133	176	187	195	165
14	112	86	53	65	71	56	89	130	197	200	193	165
15	110	83	48	62	63	63	92	126	192	198	188	165
16	95	86	49	58	56	61	101	132	196	205	190	173
17	94	85	56	55	56	62	102	128	200	208	193	163
18	98	78	70	54	65	67	99	138	193	203	211	165
19	98	66	63	49	59	70	98	155	199	211	211	161
20	102	65	59	52	42	61	104	158	206	206	213	156
21	102	60	57	54	40	50	103	160	202	214	211	161
22	88	58	57	53	54	52	108	148	187	212	194	147
23	83	57	56	55	61	77	110	156	187	204	197	147
24	85	55	54	54	63	74	126	150	189	195	206	147
25	68	54	54	56	54	84	129	146	201	206	204	146
26	68	53	46	56	55	85	119	142	209	200	197	144
27	81	53	56	59	63	85	120	138	200	204	199	155
28	103	52	54	58	61	79	115	123	210	206	190	157
29	105	53	54	60	-----	81	120	119	215	204	190	161
30	100	53	53	55	-----	84	116	118	218	185	184	158
31	96	-----	53	52	-----	88	-----	116	-----	186	176	-----
Total	3,303.	2,326	1,781	1,712	1,584	2,044	3,072	4,250	5,411	6,181	6,128	4,762
Mean	107	77.5	57.5	55.2	56.6	65.9	102	137	180	199	193	159
Ac-ft	6,559	4,614	3,533	3,396	3,142	4,054	6,083	8,430	10,733	12,260	12,155	9,445

Calendar year 1965	Max	192	Min	46	Mean	96.8	Ac-ft	70,076
Water year 1965-66	Max	218	Min	40	Mean	117	Ac-ft	84,404

## SAN JOAQUIN RIVER BASIN

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, 1.2 miles upstream from Marsh Creek Dam, and 5.0 miles west of Byron, Contra Costa County.

Drainage area.--42.6 sq mi.

Records available.--February 1953 to September 1966.

Gage.--Water-stage recorder and concrete control. Datum of gage is 177.87 ft above mean sea level, datum of 1929.

Average discharge.--13 years, 7.33 cfs (5,310 acre-ft per year); median of yearly mean discharge, 1.7 cfs (1,200 acre-ft per year).

Extremes.--Maximum discharge during year, 168 cfs Dec. 28 (gage height, 4.22 ft); no flow for several months.

1953-66: Maximum discharge, 3,880 cfs Jan. 31, 1963 (gage height, 11.62 ft), from rating curve extended above 880 cfs on basis of slope-area measurement at gage height 10.90 ft; maximum gage height, 12.98 ft Dec. 23, 1955; no flow for several months in each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	20	32	4.1	0.40					
2			0	13	16	3.9	.30					
3			0	9.0	13	3.5	.10					
4			0	6.1	17	3.5	0					
5			0	7.0	15	3.5	0					
6			0	4.9	16	3.5	0					
7			0	4.1	14	3.2	.10					
8			0	3.9	11	3.1	0					
9			0	3.9	9.7	3.1	0					
10			0	3.9	8.3	3.5	.10					
11			0	3.9	7.5	3.1	1.2					
12			0	3.9	7.2	2.8	.70					
13			0	3.7	6.3	2.7	.40					
14			0	3.5	5.8	2.5	.10					
15			0	3.2	5.3	2.4	0					
16			0	2.7	4.9	2.1	.20					
17			0	2.5	4.7	2.1	0					
18			0	2.7	4.5	2.2	0					
19			0	2.5	5.5	2.1	0					
20			0	2.4	5.3	2.0	0					
21			0	2.2	4.5	1.9	0					
22			0	2.2	4.3	1.8	0					
23			0	2.1	4.1	1.3	0					
24			0	2.0	4.1	1.2	0					
25			5.5	1.9	4.3	.90	0					
26			3.4	1.7	6.3	.70	0					
27			2.0	1.6	4.9	1.0	0					
28			20	1.6	4.1	1.1	0					
29			52	2.0	-----	1.2	0					
30			22	27	-----	.80	0					
31			37	10	-----	.70	-----					
Total			141.9	161.1	245.6	71.50	3.60					
Mean			4.58	5.20	8.77	2.31	0.12					
Ac-ft			281	320	487	142	7.1					

Calendar year 1965 Max 255 Min 0 Mean 8.96 Ac-ft 6,490  
 Water year 1965-66 Max 52 Min 0 Mean 1.71 Ac-ft 1,240

Peak discharge (base, 140 cfs, revised).--Dec. 28 (2330) 168 cfs (4.22 ft).

11-3414. Sacramento River near Mount Shasta, Calif.

Location.--Lat 41°15'56", long 122°18'32", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.33, T.40 N., R.4 W., on left bank 200 ft upstream from Stink Creek, 0.3 mile upstream from Southern Pacific Railroad bridge, and 3.3 miles south of Mount Shasta. Prior to July 1, 1966, at site 500 ft upstream.

Drainage area.--134 sq mi.

Records available.--October 1959 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to July 1, 1966, graphic water-stage recorder at site 500 ft upstream at datum 16.64 ft higher.

Average discharge.--7 years, 235 cfs (170,100 acre-feet per year).

Extremes.--1964-65: Maximum discharge during year, 12,200 cfs Dec. 22 (gage height, 10.6 ft, from floodmarks), from rating curve extended above 1,200 cfs on basis of slope-area measurement of maximum flow; minimum daily, 46 cfs Oct. 1-6.

1965-66: Maximum discharge during year, 2,480 cfs Nov. 17 (gage height, 6.34 ft); minimum daily, 45 cfs several days in August and September.

1959-66: Maximum discharge, that of Dec. 22, 1964; minimum, 37 cfs Sept. 6, 1962.

Remarks.--No diversions or regulation above station. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation.--Records through June 30, 1966 furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	104	273	371	362	215	325	345	293	116	62	52
2	46	106	210	330	335	209	291	670	268	112	61	52
3	46	88	171	320	313	198	249	566	265	107	58	52
4	46	73	152	303	315	190	257	522	255	102	57	52
5	46	75	141	697	344	194	294	480	248	93	55	52
6	46	76	132	706	307	190	274	426	239	94	54	52
7	47	75	123	478	276	185	266	386	225	90	54	52
8	47	196	139	381	267	183	265	381	210	85	54	51
9	47	252	157	334	248	189	274	394	191	85	54	51
10	47	159	228	334	236	197	261	407	177	86	54	51
11	47	135	309	401	231	209	250	446	169	85	59	51
12	47	127	204	347	222	213	261	494	164	82	71	52
13	48	113	172	319	221	208	277	552	160	82	58	52
14	48	110	163	300	214	209	374	538	164	82	56	52
15	48	100	159	303	205	213	737	527	161	80	55	52
16	48	93	147	313	195	213	340	575	163	80	56	51
17	43	96	132	316	195	217	572	555	165	83	53	50
18	43	96	139	330	196	206	683	469	163	84	74	51
19	50	94	144	366	195	201	1,110	465	160	81	72	51
20	50	95	220	337	205	203	1,680	439	160	81	70	51
21	52	97	2,420	372	212	221	1,630	419	159	81	90	51
22	53	107	3,970	340	216	236	1,170	393	159	83	76	50
23	53	105	5,260	696	203	233	933	339	162	84	65	50
24	54	125	2,790	717	204	228	919	309	145	82	62	51
25	54	173	1,570	470	206	219	910	300	148	83	60	51
26	60	147	1,330	392	214	215	958	303	148	83	53	52
27	93	130	1,010	347	258	207	1,030	323	133	79	55	52
28	94	142	740	313	224	209	1,140	353	128	77	55	53
29	110	137	572	326	-----	219	1,150	372	121	74	54	53
30	88	154	481	370	-----	230	1,030	366	117	71	53	53
31	79	-----	413	383	-----	234	-----	335	-----	66	52	-----
Total	1,716	3,596	29,076	12,372	6,930	6,503	20,525	13,954	5,420	2,663	1,372	1,546
Mean	55.4	120	933	399	244	210	684	450	181	85.9	60.4	51.5
Ac-ft	3,400	7,133	57,670	24,540	13,550	12,910	40,710	27,680	10,750	5,232	3,710	3,070
Calendar year 1964	Max	8,970	Min	38	Mean	205	Ac-ft	149,100				
Water year 1964-65	Max	8,970	Min	46	Mean	291	Ac-ft	210,400				

## SACRAMENTO RIVER BASIN

11-3414. Sacramento River near Mount Shasta, Calif.--Continued

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	56	180	122	143	180	1012	554	208	78	49	47
2	50	57	178	124	143	170	997	604	197	77	48	46
3	51	56	186	126	150	165	890	657	186	77	47	46
4	50	62	186	170	223	160	805	785	173	75	47	45
5	51	64	203	229	242	162	833	876	160	71	47	45
6	52	61	217	343	214	191	912	785	160	68	48	45
7	51	100	214	300	191	211	935	681	168	66	47	45
8	50	156	208	339	173	304	876	645	168	64	47	45
9	51	84	194	275	170	501	890	675	160	66	46	45
10	52	75	183	239	163	604	847	645	153	64	46	46
11	53	76	178	211	158	452	712	576	150	62	45	46
12	53	124	170	197	150	447	609	522	141	61	45	46
13	52	160	160	186	146	675	570	511	137	60	46	50
14	54	900	153	183	146	663	587	476	137	59	45	49
15	56	931	141	217	146	592	675	424	132	57	46	49
16	57	347	137	217	146	452	847	401	128	56	46	48
17	57	1070	134	200	146	375	883	388	124	56	47	48
18	58	1650	134	189	150	339	771	384	117	55	47	56
19	58	912	130	180	162	323	633	401	115	54	49	54
20	58	466	126	173	158	297	554	438	113	54	47	52
21	57	335	128	168	158	282	522	452	108	51	48	51
22	58	272	122	165	186	282	532	388	104	49	47	51
23	53	286	119	158	217	282	570	331	102	49	46	51
24	57	327	122	155	223	300	651	312	98	43	46	50
25	56	258	119	153	200	343	738	315	91	48	46	50
26	54	226	119	150	189	424	687	319	88	50	46	50
27	54	211	119	148	183	538	592	304	84	50	47	49
28	57	194	165	146	186	657	554	282	83	49	47	49
29	56	186	150	162	-----	778	527	258	83	49	49	48
30	57	186	134	160	-----	876	527	252	81	49	49	48
31	57	-----	128	153	-----	942	-----	232	-----	49	49	-----
Total	1,685	1,008	4,337	5,938	4,377	12,967	21,733	14,873	3,949	1,821	1,455	1,450
Mean	54.4	33.6	156	192	174	413	725	480	132	58.7	46.9	43.3
Ac-ft	3,340	2,001	9,590	11,780	9,670	25,720	43,120	29,500	7,830	3,610	2,890	2,880
Calendar year 1965	Max	1,650	Min	50	Mean	242	Ac-ft	175,100				
Water year 1965-66	Max	1,650	Min	45	Mean	235	Ac-ft	169,900				



11-3420. Sacramento River at Delta, Calif.

Location.--Lat 40°56'20", long 122°24'55", in NW¼ 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.--425 sq mi.

Records available.--October 1944 to September 1966. 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.--22 years, 1,138 cfs (823,900 acre-ft per year).

Extremes.--Maximum discharge during year, 11,600 cfs Nov. 18 (gage height, 11.48 ft); minimum daily, 172 cfs Sept. 6.  
1944-66: Maximum discharge, 38,800 cfs Dec. 22, 1964 (gage height, 20.10 ft), from rating curve extended above 19,000 cfs on basis of slope-area measurement at gage height 19.50 ft.

Remarks.--Records excellent. No regulation. Some minor diversions for irrigation above station. See schematic diagram for Pit and McCloud River basins. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	197	197	954	840	1,140	1,390	4,100	1,750	679	310	209	191
2	197	197	902	798	1,060	1,280	4,090	1,850	646	310	206	180
3	197	200	890	1,020	1,130	1,180	3,700	1,910	624	310	206	180
4	200	226	890	2,620	3,360	1,120	3,380	2,140	591	306	203	178
5	203	222	916	4,330	4,650	1,100	3,340	2,320	560	296	200	175
6	206	215	974	6,780	3,620	1,280	3,500	2,160	550	292	197	172
7	200	266	954	4,260	2,540	1,460	3,560	1,900	570	285	194	175
8	197	603	916	3,680	1,990	3,130	3,400	1,790	565	285	194	178
9	197	306	864	3,030	1,680	7,050	3,310	1,850	545	288	191	175
10	197	260	816	2,310	1,480	7,140	3,340	1,800	521	288	188	175
11	200	260	780	1,850	1,320	4,780	2,880	1,670	503	278	185	178
12	197	551	738	1,580	1,210	3,750	2,520	1,520	485	274	185	180
13	194	1,490	690	1,410	1,130	4,580	2,240	1,490	462	271	182	197
14	200	4,890	657	1,320	1,080	4,630	2,130	1,440	454	271	182	194
15	212	5,340	613	1,420	1,030	4,410	2,310	1,290	449	264	182	191
16	206	1,990	586	1,610	1,000	3,700	2,760	1,220	432	264	180	188
17	203	4,080	560	1,520	994	3,020	2,890	1,180	420	257	180	185
18	206	9,500	540	1,390	987	2,590	2,610	1,160	412	254	182	203
19	209	5,980	521	1,280	1,170	2,340	2,210	1,180	408	246	182	215
20	206	2,820	512	1,180	1,180	2,110	1,980	1,220	404	240	180	206
21	203	1,840	508	1,100	1,160	1,960	1,850	1,240	392	240	180	203
22	200	1,410	494	1,060	1,270	1,850	1,850	1,140	384	229	180	200
23	200	1,780	472	987	1,800	1,790	1,940	994	384	222	180	200
24	200	3,350	512	942	1,990	1,840	2,080	948	372	222	180	197
25	200	2,570	490	896	1,910	2,020	2,250	935	352	218	180	197
26	197	1,940	462	870	1,730	2,280	2,200	928	340	222	180	197
27	194	1,550	490	840	1,550	2,620	1,890	896	332	218	180	194
28	197	1,280	1,910	816	1,460	2,990	1,790	846	324	215	182	194
29	200	1,130	1,640	1,020	-----	3,360	1,720	798	316	212	191	188
30	197	1,010	1,240	1,200	-----	3,610	1,700	768	310	209	194	188
31	197	-----	1,000	1,190	-----	3,890	-----	738	-----	215	203	-----
Total	6,209	57,453	24,491	55,149	46,621	90,250	79,520	43,071	13,786	8,011	5,838	5,674
Mean	200	1,920	790	1,779	1,665	2,911	2,650	1,389	460	258	188	189
Ac-ft	12,320	14,000	48,580	109,400	92,470	179,000	157,700	27,340	27,340	15,890	11,580	11,250

Calendar year 1965 Max 9,500 Min 194 Mean 1,057 Ac-ft 765,400

Water year 1965-66 Max 9,500 Min 172 Mean 1,195 Ac-ft 864,900

Peak discharge (base, 8,000 cfs).--Nov. 18 (2200) 11,600 cfs (11.48 ft); Mar. 10 (0100) 8,530 cfs (10.27 ft).

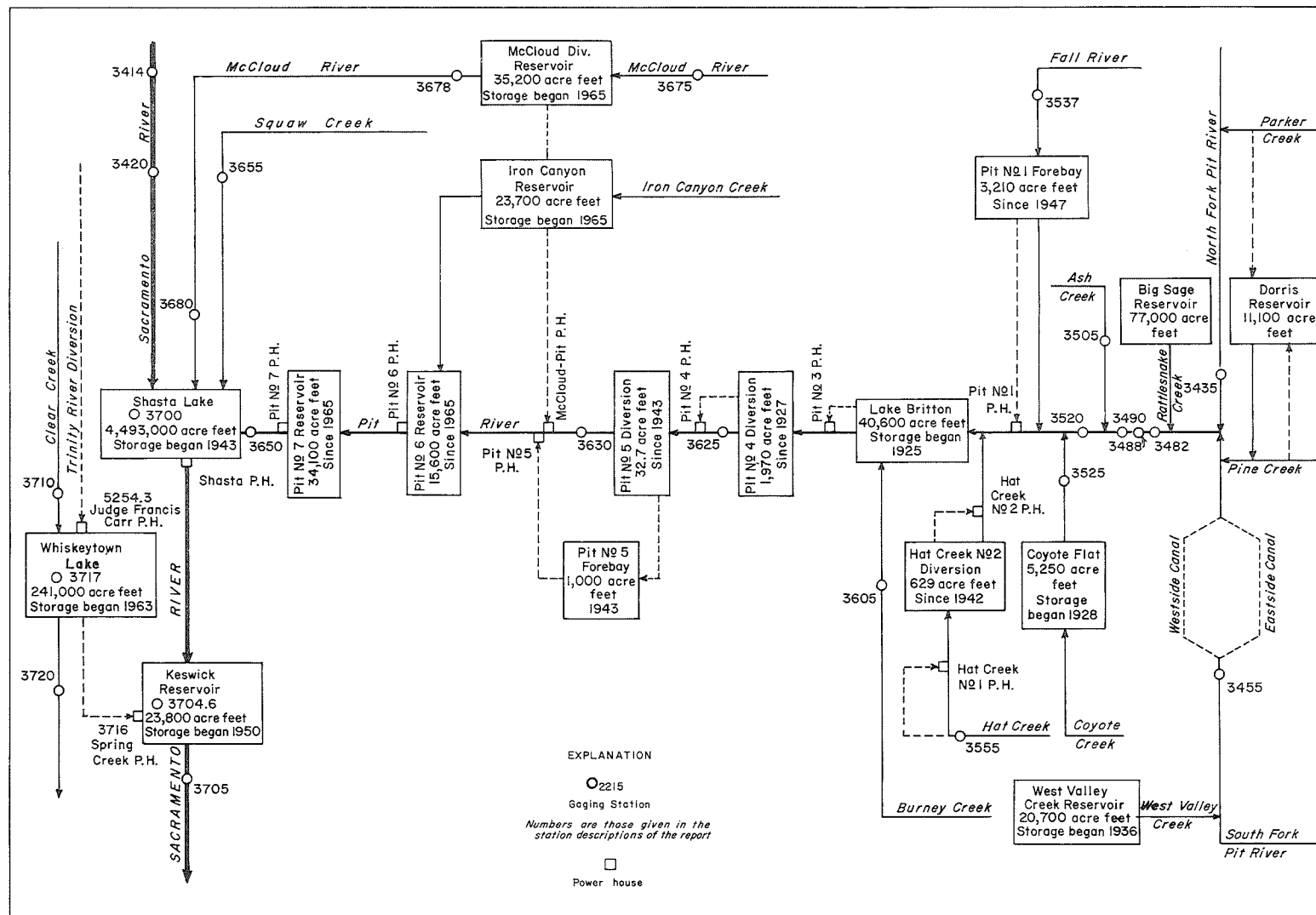


Figure 6.— Schematic diagram showing diversions and storage in Pit and McCloud river basins.

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.--203 sq mi, excluding Goose Lake Basin.

Records available.--May 1929 to November 1932, October 1957 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,391 ft above mean sea level.

Average discharge.--12 years, 47.5 cfs (34,390 acre-ft per year).

Extremes.--Maximum discharge during year, 258 cfs Jan. 9 (gage height, 2.33 ft); minimum daily, 0.10 cfs Sept. 1. 1929-32, 1957-66: Maximum discharge, 2,530 cfs Oct. 14, 1962 (gage height, 11.07 ft); no flow Apr. 29, 30, 1931, June 6, 1959.

Remarks.--Records good below 70 cfs and fair above. Flow regulated by many small reservoirs (total capacity, about 2,480 acre-ft). Diversions above gage for irrigation of about 7,100 acres. See schematic diagram for Pit and McCloud River basins.

Revisions.--Revised figures of discharge, in cubic feet per second, for some days in the 1965 water year, superseding those published in Surface Water Records of California, Vol. 2, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1965		1965-Con.		1965-Con.		1965-Con.		1965-Con.	
July 9	11	July 15	39	July 21	50	July 27	39	Sep. 5	1.9
10	8.8	16	42	22	47	28	30	6	1.7
11	8.8	17	50	23	44	Sep. 1	2.7	7	1.7
12	8.8	18	95	24	42	2	2.4	8	1.7
13	11	19	70	25	42	3	2.4	9	1.7
14	29	20	55	26	40	4	2.1		

Month	cfs-days	Maximum	Minimum	Mean	Runoff in ac-ft
July 1965.....	1,032.2	95	2.6	33.3	2,050
Sept. 1965.....	49.4	2.7	1.3	1.65	98
Water year 1965	---	996	1.0	95.1	68,880

Discharge, in cubic feet per second, water year October 1965 to 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	8.8	1.1	8.0	9.6	4.0	9.3	1.0	1.3	0.80	0.40	0.10
2	1.1	9.6	1.2	8.0	8.8	2.4	9.3	1.1	6.3	.80	.40	.20
3	1.3	9.6	1.3	8.0	9.6	1.6	7.0	.80	5.3	.80	.30	.20
4	1.3	1.1	1.4	9.6	1.2	1.3	6.0	.70	1.7	1.0	.20	.20
5	1.3	2.1	1.4	1.3	2.1	1.8	5.7	.50	1.0	1.1	.20	.20
6	1.1	1.3	1.2	3.8	2.3	8.6	5.9	.30	4.0	.70	.30	.20
7	1.1	1.3	9.6	5.0	1.6	1.37	5.4	.40	3.3	.70	.20	.20
8	1.1	1.3	9.6	5.9	1.1	1.17	4.0	.40	2.4	.80	.40	.20
9	1.1	1.2	1.5	5.4	1.4	1.39	5.0	.40	2.4	.80	.60	.20
10	1.1	9.6	1.2	2.4	1.2	1.73	7.6	.40	1.9	.80	.70	.20
11	1.1	9.6	9.6	1.8	8.8	1.17	7.9	.70	1.1	.70	.80	.20
12	1.1	1.9	9.6	1.4	9.6	1.19	8.8	1.9	1.3	1.0	.80	.20
13	1.1	2.3	8.8	1.5	6.8	1.65	7.0	3.0	1.3	1.0	.80	.20
14	1.3	2.2	6.8	1.3	7.4	1.04	6.4	2.4	1.1	1.0	.80	.20
15	1.7	1.9	6.3	1.6	7.4	6.2	6.5	2.4	1.0	.70	.80	.20
16	2.7	1.7	6.3	1.8	7.4	4.5	6.9	4.8	1.0	.20	.80	.20
17	1.5	1.7	5.8	1.4	8.0	3.8	6.7	5.3	.80	.20	.80	.20
18	6.3	2.3	5.8	1.2	8.0	6.7	7.4	3.3	.80	.30	.80	.20
19	5.3	2.1	5.8	8.8	8.8	6.9	4.0	2.7	.70	.30	.80	.20
20	4.8	1.8	5.3	7.4	1.4	4.8	2.9	3.3	.60	.30	.70	.20
21	4.8	1.7	5.3	8.0	1.8	4.0	2.4	3.3	.40	.30	.70	.20
22	4.4	1.6	5.3	8.0	3.6	2.9	1.9	3.3	.40	.30	.80	.20
23	4.4	1.6	5.3	8.0	8.4	2.7	2.2	3.3	.50	.40	1.0	.20
24	4.4	1.6	5.8	8.8	7.4	3.2	3.6	3.3	.60	.40	.30	.20
25	4.4	1.6	6.3	8.0	4.0	4.0	1.3	4.0	.50	.50	.20	.20
26	4.8	1.5	7.4	8.8	2.9	5.2	1.9	3.3	.60	.50	.20	.30
27	4.8	1.4	8.0	8.0	2.8	7.6	3.0	3.6	.70	.50	.20	.30
28	4.4	1.1	8.0	8.0	4.2	8.8	4.0	3.0	.70	.50	.20	.40
29	4.4	9.6	8.0	8.0	-----	9.2	1.5	2.4	.70	.70	.20	.40
30	4.8	1.2	8.8	8.8	-----	9.7	1.1	3.6	1.0	.70	.20	.40
31	1.2	-----	8.8	8.8	-----	10.2	-----	1.7	-----	.40	.20	-----
Total	109.6	451.8	269.3	499.0	574.2	227.2	1378.4	70.60	45.40	19.20	15.80	6.70
Mean	3.54	15.1	8.69	16.1	20.5	73.3	45.9	2.28	1.51	0.62	0.51	0.22
Ac-ft	21.7	89.6	53.4	99.0	114.0	451.0	2,730	140	90	38	31	13

Calendar year 1965 Max 95.2 Min 1.0 Mean 79.1 Ac-ft 57,260  
 Water year 1965-66 Max 173 Min 0.10 Mean 15.6 Ac-ft 11,329

11-3455. South Fork Pit River near Likely, Calif.

Location.--Lat 41°13'51", long 120°26'10", in NE 1/4 sec. 11, T.39 N., R.13 E., on left bank 100 ft downstream from highway bridge, 1.4 miles downstream from West Valley Creek, and 3.5 miles east of Likely.

Drainage area.--247 sq mi.

Records available.--October 1928 to September 1966. 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. Prior to Oct. 1, 1931, at site 1,000 ft downstream at different datum.

Average discharge.--38 years, 73.1 cfs (52,920 acre-ft per year).

Extremes.--Maximum discharge during year, 204 cfs May 10 (gage height, 3.28 ft); maximum gage height, 4.30 ft Jan. 1 (backwater from ice); minimum daily discharge, 2.5 cfs Mar. 1 (result of freeze-up).  
1928-66: Maximum discharge, 1,520 cfs Apr. 27, 1932 (gage height, 5.55 ft); minimum, 0.2 cfs Feb. 3, 1941.

Remarks.--Records good. Flow regulated by West Valley Creek Reservoir beginning in May 1937 (usable capacity, 21,000 acre-ft). Diversions for irrigation of about 3,800 acres above station. See schematic diagram for Pit and McCloud River basins. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Revisions (water year).--1965 Report: 1932, 1938(M), 1952(M).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	29	27	25	14	25	86	122	108	55	176	12
2	34	29	28	26	19	45	99	117	92	56	129	9.7
3	34	29	29	29	30	12	92	118	90	57	103	9.3
4	32	29	30	36	30	21	96	120	85	44	96	9.3
5	34	31	32	38	30	35	114	125	77	30	92	9.7
6	34	30	33	54	33	65	124	129	86	28	86	9.3
7	33	29	32	56	32	80	129	132	114	27	87	10
8	31	30	34	52	37	59	125	159	125	27	81	10
9	30	31	35	46	32	59	117	189	124	40	71	9.7
10	30	29	36	39	25	69	117	198	118	61	61	9.3
11	30	34	34	31	22	57	114	191	112	60	49	9.0
12	30	53	34	25	20	59	93	172	109	59	41	9.7
13	32	37	34	24	18	74	76	114	108	76	36	10
14	34	46	30	28	17	59	81	141	104	109	29	16
15	41	41	25	34	16	49	92	161	100	127	24	16
16	37	37	20	30	17	42	100	155	97	125	21	14
17	38	41	18	25	18	34	103	125	100	125	18	15
18	38	70	17	22	20	47	94	61	97	124	16	16
19	39	48	16	20	22	47	78	49	96	124	14	19
20	35	42	16	17	26	37	72	48	93	118	13	17
21	33	40	16	13	31	55	71	49	92	109	12	17
22	32	37	15	10	38	92	63	50	60	104	10	12
23	32	40	15	9.0	52	90	48	50	41	102	8.3	10
24	31	41	14	9.0	24	93	52	48	41	99	6.9	10
25	31	39	20	12	11	94	77	43	41	125	6.1	10
26	30	37	25	10	6.0	97	118	40	40	168	6.1	11
27	30	33	28	9.0	4.0	99	129	41	50	193	9.3	11
28	30	28	18	10	3.0	94	127	44	57	187	8.3	10
29	30	25	12	11	-----	74	125	44	55	185	7.6	12
30	29	28	19	10	-----	77	124	63	54	181	8.3	12
31	29	-----	24	11	-----	80	-----	93	-----	179	12	-----
Total	1018	1093	766	771.0	647.0	1857.0	2936	3191	2566	3104	1337.9	355.0
Mean	32.8	36.4	24.7	24.9	23.1	59.9	97.9	103	85.5	100	43.2	11.8
Ac-ft	2020	2170	1520	1530	1280	3680	5820	6330	5090	6160	2650	704
Calendar year 1965	Max	534	Min	12	Mean	117	Ac-ft	84,970				
Water year 1965-66	Max	198	Min	2.5	Mean	53.8	Ac-ft	38,960				

11-3482. Pit River near Alturas, Calif.

Location.--Lat 41°29'00", long 120°37'46", in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 18, T.42 N., R.12 E., on left bank 500 ft downstream from Noble Creek and 4.7 miles west of Alturas.

Drainage area.--1,080 sq mi, excluding Goose Lake basin.

Records available.--September 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,330 ft (from topographic map).

Extremes.--1965: Maximum discharge during period Sept. 1-30, 216 cfs Sept. 16 (gage height, 3.33 ft); minimum daily, 76 cfs Sept. 30.

1965-66: Maximum discharge during water year, 383 cfs Mar. 10 (gage height, 4.10 ft); minimum daily, 10 cfs Sept. 8.

Remarks.--Records good. Flow regulated by many small reservoirs (total capacity, about 144,000 acre-ft). Diversions for irrigation of about 23,000 acres above station. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, 1965

Day	Sept	Day	Sept	Day	Sept	Day	Sept	Day	Sept
1	110	7	134	13	139	19	120	25	120
2	105	8	120	14	139	20	120	26	120
3	100	9	120	15	187	21	116	27	111
4	101	10	123	16	195	22	116	28	103
5	151	11	126	17	134	23	113	29	89
6	139	12	139	18	126	24	116	30	76
Total .....									3,713
Mean .....									124
Runoff in acre-feet .....									7,370

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	72	85	43	66	111	160	72	116	51	141	32
2	80	71	89	56	67	80	165	93	80	55	72	51
3	73	71	95	60	69	62	136	111	80	61	50	64
4	71	67	99	61	73	62	122	87	81	78	48	64
5	62	72	93	80	97	71	122	66	67	93	44	64
6	60	80	85	153	111	99	123	52	66	55	54	62
7	60	81	81	212	99	242	132	66	80	42	69	24
8	55	81	79	216	80	235	116	83	95	41	64	10
9	39	80	80	195	70	256	107	97	116	41	62	19
10	39	83	87	149	65	350	139	116	111	40	62	50
11	39	100	83	118	60	293	153	113	113	36	62	52
12	42	136	85	100	56	244	183	105	105	35	62	54
13	56	174	80	92	54	259	172	109	87	35	61	54
14	74	163	60	89	53	212	134	116	62	33	58	61
15	72	153	55	91	52	130	113	113	66	32	55	37
16	72	139	50	92	52	95	122	120	62	33	55	26
17	74	134	46	89	60	81	135	105	54	38	54	24
18	81	193	46	75	71	105	134	99	54	37	55	25
19	87	263	46	65	72	120	122	85	54	37	53	26
20	89	160	46	60	80	95	109	81	43	36	60	25
21	93	136	45	55	97	73	99	71	47	38	60	23
22	91	141	47	56	116	64	95	56	54	38	60	23
23	85	116	47	53	166	69	80	38	64	38	54	22
24	81	109	47	61	185	72	58	35	66	38	25	23
25	73	123	46	65	147	71	39	36	61	39	20	23
26	74	122	50	60	118	78	47	42	64	36	19	24
27	71	107	55	56	105	97	55	95	62	33	20	25
28	69	83	47	55	116	141	54	99	61	31	19	24
29	69	71	43	60	-----	147	58	105	52	34	25	23
30	67	89	46	62	-----	160	71	113	51	73	32	23
31	67	-----	44	64	-----	151	-----	153	-----	120	34	-----
Total	2,137	3,490	1,992	2,758	2,462	4,329	3,367	2,752	2,134	1,432	1,614	1,057
Mean	68.9	116	64.3	89.0	77.9	140	112	88.8	72.8	46.2	52.1	35.2
Ac-ft	4,240	6,920	3,950	5,470	4,980	8,590	6,680	5,460	4,330	2,340	3,200	2,100

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max 350 Min 10 Mean 81.0 Ac-ft 58,660

## 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.--1,431 sq mi, excluding Goose Lake basin.

Records available.--January 1904 to December 1905, May 1929 to September 1966 (1929-31 incomplete).

Gage.--Water-stage recorder (digital). Datum of gage is 4,266 ft above mean sea level (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.--36 years (1905, 1931-66), 230 cfs (166,500 acre-ft per year).

Extremes.--Maximum discharge during year, 828 cfs Mar. 14 (gage height, 4.21 ft); minimum daily, 2.8 cfs Sept. 17.

1904-5, 1929-66: Maximum discharge observed, 13,000 cfs Mar. 8, 1904 (gage height, 15.0 ft, site and datum then in use); minimum 0.1 cfs Apr. 29, Aug. 5, Sept. 18, 1934, Aug. 18-21, 1935.

Remarks.--Records good. Flow regulated by many small reservoirs (total capacity now, about 144,000 acre-ft). Diversions for irrigation of about 39,000 acres above station. See schematic diagram for Pit River basin. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	90	78	108	55	75	152	210	19	33	26	13	37
2	53	81	103	69	82	129	228	16	94	32	12	12
3	54	80	106	76	83	98	219	13	106	50	13	12
4	70	80	106	80	90	89	181	12	93	57	12	13
5	80	81	106	78	121	92	165	12	109	58	15	12
6	76	83	103	109	148	133	167	12	113	62	16	11
7	80	90	97	199	132	259	176	14	110	57	22	9.7
8	120	91	111	277	120	428	174	20	99	31	24	14
9	77	90	97	273	107	430	160	40	91	12	20	18
10	61	87	99	232	100	570	189	43	108	13	15	14
11	52	94	102	176	90	648	244	99	97	22	12	11
12	47	134	102	137	82	592	270	133	94	33	14	11
13	48	172	100	120	74	739	273	156	97	71	24	12
14	54	187	85	117	70	738	237	108	89	31	61	12
15	74	166	54	118	67	503	183	101	97	24	47	6.7
16	81	155	47	113	70	296	166	102	81	16	50	5.4
17	81	150	46	110	74	214	171	95	71	20	49	2.8
18	84	154	47	106	84	199	182	93	64	21	16	8.9
19	91	214	48	82	95	269	167	63	59	22	11	58
20	120	243	52	69	121	240	145	66	53	23	10	81
21	109	162	52	76	167	390	133	66	46	21	9.6	62
22	102	145	54	77	200	298	127	59	41	20	8.8	50
23	98	152	56	74	259	162	118	72	37	20	8.3	29
24	95	139	52	73	272	138	89	83	35	19	13	23
25	90	129	54	73	233	134	84	40	32	18	52	19
26	87	133	56	73	171	128	73	22	24	17	53	16
27	85	129	62	76	150	133	54	8.8	17	14	40	18
28	82	117	43	73	148	157	40	8.6	15	15	14	16
29	80	108	59	72	-----	200	31	7.3	16	14	9.5	15
30	78	100	51	74	-----	215	22	11	25	15	18	17
31	83	-----	50	76	-----	219	-----	14	-----	14	61	-----
TOTAL	2,482	3,824	2,308	3,413	3,485	8,992	4,678	1,608.7	2,046	868	743.2	626.5
MEAN	80.1	127	74.5	110	124	290	156	51.9	68.2	28.0	24.0	20.9
AC-FT	4,920	7,580	4,580	6,770	6,910	17,840	9,280	3,190	4,060	1,720	1,470	1,240

CALENDAR YEAR 1965	MAX	2,930	MIN	5.7	MEAN	410	AC-FT	269,600
WATER YEAR 1965-66	MAX	739	MIN	2.8	MEAN	96.1	AC-FT	69,560

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 8 $\frac{1}{2}$  miles north of Lookout.

Drainage area.--1,585 sq mi, excluding Goose Lake basin.

Records available.--January 1929 to September 1931, August 1958 to September 1966.

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.--10 years, 218 cfs (157,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,050 cfs Mar. 13 (gage height, 12.92 ft); minimum daily, 7.0 cfs Sept. 18.

1929-31, 1958-66: Maximum discharge, 8,170 cfs Oct. 14, 1962 (gage height, 19.39 ft, from floodmark in gage well); no flow Aug. 29, 1931.

Remarks.--Records good. Flow regulated by many small reservoirs. Diversions for irrigation of about 41,000 acres above station. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	106	85	116	64	92	194	379	29	25	51	16	53
2	73	80	120	74	94	180	352	28	79	29	15	24
3	52	84	116	89	106	144	326	26	108	37	14	15
4	62	82	122	98	109	116	274	22	116	61	15	14
5	78	84	121	106	131	114	243	24	78	52	14	13
6	79	83	118	120	173	165	232	25	130	62	18	12
7	73	90	111	190	165	330	231	25	114	57	18	9.7
8	111	97	120	312	156	620	332	29	114	44	28	9.2
9	100	95	111	365	122	706	234	52	97	24	23	14
10	71	93	106	292	104	959	336	54	96	16	20	18
11	60	94	112	231	97	971	471	66	111	16	16	14
12	53	121	111	184	93	1030	560	140	97	26	14	11
13	52	163	113	157	88	1890	443	159	100	51	16	12
14	54	190	96	150	82	1860	362	147	93	42	42	14
15	67	188	61	150	78	1450	286	116	80	29	50	15
16	82	169	56	143	81	745	245	111	89	25	37	10
17	84	165	56	134	86	491	231	111	53	18	50	8.8
18	86	180	57	118	100	474	238	104	52	20	29	7.0
19	90	176	59	116	116	617	224	74	52	20	18	20
20	108	261	62	84	134	524	202	66	42	21	13	53
21	128	198	60	88	172	519	184	71	38	20	11	70
22	116	159	64	93	220	536	169	62	35	18	11	39
23	108	165	52	90	312	387	160	52	33	18	9.7	41
24	104	174	61	89	331	398	130	80	34	19	9.2	26
25	100	151	62	89	301	457	102	50	32	19	16	22
26	94	150	63	86	238	452	87	29	27	20	54	19
27	90	147	70	89	204	432	56	22	20	17	42	16
28	86	133	61	82	202	418	50	15	17	15	31	17
29	85	109	60	86	-----	435	40	16	19	17	16	17
30	81	125	58	92	-----	424	37	14	24	16	10	16
31	79	-----	66	94	-----	418	-----	20	-----	18	18	-----
Total	2,612	4,091	2,621	4,155	4,187	18,456	7,116	1,839	2,005	878	693.9	6,297
Mean	84.3	136	84.5	134	150	595	237	59.3	66.8	28.3	22.4	21.0
Ac-ft	5,180	8,110	5,200	8,240	8,300	36,610	14,100	3,650	3,980	1,740	1,380	1,250

Calendar year 1965 Max 3,750 Min 20 Mean 493 Ac-ft 356,900

Water year 1965-66 Max 1,890 Min 7.0 Mean 135 Ac-ft 97,750

11-3505. Ash Creek at Adin, Calif.

Location.--Lat 41°11'54", long 120°56'32", in SE  $\frac{1}{4}$  SW  $\frac{1}{4}$  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.--258 sq mi.

Records available.--March 1904 to December 1905, October 1928 to November 1932, October 1957 to September 1966. Records of daily discharge for Oct. 19-31, 1928, are 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.--14 years (1904-5, 1928-32, 1957-66), 63.3 cfs (45,830 acre-ft per year).

Extremes.--1964-65: Maximum discharge during year, 2,410 cfs Dec. 22 (gage height, 13.70 ft); minimum daily, 9.4 cfs Aug. 10.

1965-66: Maximum discharge during year, 670 cfs Mar. 13 (gage height, 8.38 ft); minimum daily, 8.6 cfs Sept. 7.

1904-5, 1928-32, 1957-66: Maximum discharge, 2,880 cfs Oct. 13, 1962 (gage height, 14.40 ft); no flow for part of Aug. 26, 1962.

Revisions.--Figures of maximum discharge for the water years 1958 and 1960 have been revised to 2,100 cfs Feb. 24, 1958 (gage height, 12.67 ft) and 1,570 cfs Feb. 8, 1960 (gage height, 11.30 ft), superseding figures published in WSP 1565, 1715 and 1735 respectively.

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 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	23	49	264	594	186	139	191	37	25	13	13
2	13	30	65	248	490	161	171	175	35	22	17	21
3	13	33	54	183	420	149	160	162	30	19	16	13
4	17	31	39	199	377	150	153	150	30	13	17	11
5	18	27	37	237	423	140	153	136	29	19	14	11
6	17	27	36	569	479	144	165	125	27	17	16	11
7	14	27	35	430	320	133	160	122	25	16	13	14
8	15	29	64	296	284	150	143	110	20	16	16	14
9	20	40	105	261	222	153	153	99	31	17	12	13
10	20	39	120	305	179	153	181	92	32	15	9.4	13
11	21	40	215	847	203	160	284	34	29	17	25	13
12	21	44	57	577	151	170	293	77	25	13	22	15
13	22	43	33	375	155	155	247	74	23	20	15	17
14	21	37	40	306	153	150	223	65	36	19	14	13
15	22	31	41	307	144	146	213	56	31	20	14	13
16	22	31	40	323	135	145	233	55	32	22	16	13
17	23	32	23	323	135	143	223	54	25	22	13	13
18	23	25	30	391	143	136	226	55	26	25	17	23
19	22	28	40	450	164	133	246	46	25	24	17	23
20	22	29	36	512	174	125	256	53	24	22	17	26
21	22	28	415	536	183	125	331	63	22	17	37	24
22	27	30	1790	431	195	127	333	93	17	21	25	22
23	25	30	1710	793	167	129	292	70	13	22	17	21
24	22	31	1650	389	153	128	271	55	28	19	17	21
25	23	39	1230	533	143	125	261	44	32	20	16	21
26	24	45	1390	465	149	123	243	42	33	25	17	21
27	25	34	942	426	284	137	230	32	23	25	17	20
28	25	31	671	343	217	147	221	28	22	24	17	22
29	23	34	552	446	-----	140	213	32	21	19	16	25
30	27	34	400	600	-----	134	203	32	22	15	16	26
31	25	-----	322	630	-----	129	-----	32	-----	16	16	-----
Total	666	982	12,241	13,500	6,352	4,443	6,635	2,514	820	616	534.4	551
Mean	21.5	32.7	395	436	245	143	221	81.1	27.3	19.9	17.2	18.4
Ac-ft	1,320	1,950	24,280	26,780	13,590	8,810	13,160	4,990	1,630	1,320	1,060	1,090

Calendar year 1964 Max 1,790 Min 2.1 Mean 84.1 Ac-ft 61,080  
 Water year 1964-65 Max 1,790 Min 9.4 Mean 133 Ac-ft 99,380



11-3505. Ash Creek at Adin, Calif.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	27	30	32	29	66	81	26	29	16	21	15
2	25	34	30	35	29	52	81	25	26	19	20	16
3	25	30	35	35	30	44	75	25	24	19	20	15
4	21	30	39	38	33	43	75	26	23	17	19	15
5	21	29	31	38	38	53	73	27	21	16	19	15
6	24	29	29	41	43	197	74	27	22	15	19	13
7	27	29	33	48	35	257	74	26	25	15	20	8.6
8	28	31	31	52	35	187	77	27	23	17	20	9.7
9	28	30	31	50	34	215	77	31	22	18	20	10
10	24	31	32	36	31	343	118	30	18	18	20	12
11	25	34	32	33	30	193	161	22	16	18	20	15
12	25	47	32	32	30	227	193	22	16	19	20	14
13	25	39	32	31	23	477	120	21	17	18	15	15
14	27	37	27	31	32	228	96	21	19	18	16	18
15	29	34	20	32	29	161	90	18	13	18	17	17
16	31	32	19	33	29	145	89	18	13	18	17	12
17	29	36	17	29	29	141	84	18	15	16	19	11
18	29	44	19	30	30	155	78	16	15	17	25	17
19	29	39	22	24	30	185	67	14	15	17	22	18
20	29	34	22	25	36	128	64	12	14	20	22	17
21	27	31	26	27	54	105	59	13	15	24	21	16
22	27	31	30	35	76	90	55	14	16	20	18	16
23	28	33	22	31	103	90	50	15	16	20	19	16
24	27	37	26	29	88	97	48	15	15	19	20	17
25	27	37	29	35	63	106	41	15	16	23	20	18
26	26	34	31	30	52	107	38	12	15	19	19	19
27	24	34	32	29	61	107	39	13	14	21	15	20
28	26	32	27	29	75	104	37	14	14	21	16	20
29	27	28	20	29	-----	100	32	18	15	22	14	20
30	26	30	43	29	-----	95	29	24	20	21	15	22
31	26	-----	35	29	-----	90	-----	27	-----	22	15	-----
Total	817	1003	884	1037	1207	4583	2275	632	542	581	583	467.3
Mean	26.4	33.4	28.5	33.5	43.1	148	75.8	20.4	18.1	18.7	18.8	15.6
Ac-ft	1620	1990	1750	2060	2390	9100	4510	1250	1080	1150	1160	927

Calendar year 1965	Max	889	Min	9.4	Mean	107	Ac-ft	77,690
Water year 1965-66	Max	477	Min	3.6	Mean	40.0	Ac-ft	28,990

## SACRAMENTO RIVER BASIN

11-3520. Pit River near Bieber, Calif.

Location.--Lat 41°00'55", long 121°09'13", in NE 1/4 SW 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.--2,475 sq mi 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 1966. 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. Prior to November 1928, staff gage at same site and datum.

Average discharge.--28 years (1903-8, 1921-26, 1928-31, 1951-66), 498 cfs (360,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,440 cfs Mar. 15 (gage height, 6.43 ft); no flow for many days.

1904-8, 1913-14, 1921-26, 1928-31, 1951-66: 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, 1961-63, 1966.

Remarks.--Records good except those for the winter periods, which are fair. Flow regulated by many small reservoirs (total capacity now, about 204,000 acre-ft). Diversions for irrigation of about 33,000 acres between stations near Canby and near Bieber. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	86	142	74	120	258	580	14	4.0	2.3		
2	66	86	137	80	117	250	550	22	11	2.5		
3	73	86	139	92	123	231	520	14	13	2.0		
4	76	90	137	103	132	188	490	12	5.8	1.6		
5	53	86	139	122	142	152	442	23	2.9	1.2		
6	47	86	135	136	170	294	394	12	2.5	.90		
7	34	90	168	153	250	591	370	7.0	4.2	.80		
8	22	95	163	263	220	1,280	362	6.1	3.7	.80		
9	62	139	204	388	200	1,820	366	6.1	3.5	.90		
10	83	116	135	491	190	2,040	422	5.8	3.1	11		
11	90	86	126	385	181	2,300	615	5.6	3.5	13		
12	177	104	126	310	136	2,020	358	5.3	3.5	11		
13	106	116	123	250	120	1,900	235	5.3	1.8	4.9		
14	81	215	122	214	111	2,300	823	5.3	2.0	2.7		
15	62	254	122	190	104	2,400	694	7.0	4.9	2.0		
16	52	265	82	188	101	2,020	565	6.1	14	1.7		
17	63	245	72	180	106	1,430	478	6.4	5.8	1.7		
18	75	231	70	170	111	1,100	433	5.1	11	2.2		
19	78	245	72	150	130	1,000	422	5.3	14	2.3		
20	78	237	74	137	143	1,100	394	5.1	14	2.0		
21	81	282	78	103	170	935	353	2.9	26	1.6		
22	102	254	76	111	214	353	320	2.2	12	1.1		
23	122	199	80	113	280	783	292	1.2	3.3	.80		
24	128	207	67	114	375	625	370	.80	1.1	.50		
25	110	223	74	111	460	605	216	1.1	.60	.30		
26	102	207	78	112	395	630	171	2.7	13	.20		
27	100	194	80	109	320	620	164	3.5	4.9	0		
28	97	182	94	112	265	610	57	3.3	3.7	0		
29	93	160	73	105	-----	595	19	2.0	3.1	0		
30	95	135	79	110	-----	600	13	1.8	2.3	0		
31	90	-----	77	116	-----	590	-----	3.7	-----	0		
Total	2,555	5,006	3,359	5,312	5,391	32,130	12,593	20,870	193.20	7590	0	0
Mean	82.4	167	103	171	193	1,036	420	6.73	5.61	2.48	0	0
Ac-ft	5,070	9,930	6,660	10,540	10,690	63,730	24,990	414	393	153	0	0

Calendar year 1965 Max 6,400 Min 2.0 Mean 702 Ac-ft 503,200  
 Water year 1965-66 Max 2,400 Min 0 Mean 183 Ac-ft 132,500

11-3525. Horse Creek at Little Valley, near Pittville, Calif.

Location.--Lat 40°53'56", long 121°10'23", in NE¼ 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.--237 sq mi.

Records available.--December 1928 to September 1931, October 1959 to September 1966.

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.--9 years, 20.9 cfs (15,130 acre-ft per year).

Extremes.--Maximum discharge during year, 69 cfs Jan. 8 (gage height, 2.39 ft); minimum daily, 2.1 cfs Aug. 28.

1928-31, 1959-66: Maximum discharge, 5,290 cfs Oct. 14, 1962 (gage height, 5.79 ft), from rating curve extended above 210 cfs; minimum daily, that of Aug. 28, 1966.

Remarks.--Diversions for irrigation above station. See schematic diagram for Pit and McCloud River basins.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.2	12	10	12	14	14	9.6	9.7	8.8	5.4	3.1
2	11	3.7	12	11	12	14	3.0	7.9	11	9.8	5.1	3.4
3	9.9	3.4	12	11	13	13	11	3.6	11	9.5	5.1	3.1
4	7.9	3.6	11	13	14	13	12	9.4	12	9.8	4.8	3.1
5	11	9.0	11	16	16	13	13	11	12	9.5	4.5	3.1
6	11	9.6	11	31	16	14	12	9.8	12	9.1	4.2	2.9
7	11	11	11	47	14	13	12	10	12	3.9	4.2	2.9
8	10	12	11	60	14	13	11	11	11	8.9	3.6	2.7
9	10	11	11	45	13	12	12	11	11	3.4	3.6	2.9
10	10	11	11	28	13	13	15	11	11	7.2	3.6	3.1
11	9.8	11	11	20	13	16	21	9.5	11	7.6	3.6	3.1
12	10	12	11	13	13	13	27	9.5	9.5	7.6	3.6	3.6
13	11	12	11	16	13	17	21	9.2	3.6	7.6	3.4	4.2
14	11	12	10	15	13	17	16	9.0	3.0	7.6	3.1	4.2
15	11	12	9.5	13	13	17	14	9.0	7.6	7.6	3.1	3.9
16	16	12	9.0	19	13	17	12	8.4	7.8	7.6	2.9	3.9
17	16	12	9.0	16	13	17	11	8.6	3.1	7.6	2.9	3.6
18	13	17	8.6	14	13	17	7.6	3.8	7.5	7.6	3.1	5.7
19	11	17	9.0	13	13	16	6.8	3.8	5.0	7.6	2.9	6.5
20	11	15	3.5	13	14	16	9.4	3.7	4.5	5.1	2.9	6.5
21	11	14	3.9	13	17	14	9.3	3.3	4.9	5.1	2.9	6.1
22	11	13	9.1	13	13	13	3.4	7.3	5.1	5.7	2.5	6.1
23	11	14	3.9	14	17	12	3.2	6.4	6.1	5.7	2.3	5.4
24	11	17	3.9	13	17	12	7.6	5.8	7.8	5.4	2.3	6.1
25	11	13	9.4	12	16	11	7.3	5.7	3.0	5.1	2.3	6.8
26	11	16	9.3	12	16	11	6.6	5.6	3.0	5.1	2.3	3.4
27	11	15	9.5	12	14	9.5	5.7	4.9	3.1	5.4	2.3	3.0
28	11	14	10	12	14	10	5.5	4.5	3.5	5.4	2.1	3.0
29	10	13	10	12	-----	13	6.3	5.6	3.4	5.4	2.3	3.0
30	9.6	12	9.8	12	-----	14	7.7	7.7	9.0	5.1	2.5	3.0
31	3.8	-----	10	12	-----	15	-----	7.8	-----	5.4	2.9	-----
Total	339.0	376.5	313.4	571	397	434.5	333.4	253.4	264.3	222.2	102.3	146.4
Mean	10.9	12.6	10.1	18.4	14.2	14.0	11.3	8.34	8.81	7.17	3.30	4.88
Ac-ft	672	747	622	1,130	737	862	671	513	524	441	203	290

Calendar year 1965 Max 66.3 Min 3.9 Mean 55.3 Ac-ft 40,050

Water year 1965-66 Max 60 Min 2.1 Mean 10.3 Ac-ft 7,460

11-3537. Fall River near Dana, Calif.

Location.--Lat 41°06'20", long 121°33'00", in NE¼ 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 123 sq mi; hydrologic drainage boundaries uncertain owing to ground-water exchange.

Records available.--October 1958 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,340 ft (from topographic map).

Average discharge.--8 years, 460 cfs (333,000 acre-ft per year).

Extremes.--1964-65: Maximum discharge during year, 3,910 cfs Dec. 23 (gage height, 12.62 ft), from rating curve extended above 1,400 cfs; minimum daily, 380 cfs Dec. 17.  
1965-66: Maximum discharge during year, 1,190 cfs Apr. 10 (gage height, 7.72 ft); minimum daily, 401 cfs July 25 and Aug. 1.  
1958-66: Maximum discharge, that of Dec. 23, 1964; minimum daily, 353 cfs Jan. 29, 1962.  
Flood of Feb. 26, 1958, reached a stage of 10.25 ft (discharge, 2,190 cfs).

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 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	392	407	404	709	619	531	582	677	481	468	427	416
2	393	407	411	697	616	523	597	642	476	467	426	418
3	392	406	403	666	610	522	573	613	471	461	420	417
4	393	407	395	655	602	520	561	599	463	457	420	419
5	395	405	393	720	613	518	581	585	461	455	417	420
6	396	407	390	1,060	629	522	612	569	457	453	413	419
7	396	403	390	938	601	518	587	556	460	449	414	417
8	393	410	388	793	583	514	573	546	461	445	413	420
9	396	416	387	743	579	519	584	544	467	444	411	420
10	396	414	390	701	563	522	577	533	464	444	415	421
11	396	413	424	719	560	526	561	523	460	444	422	422
12	399	414	411	683	551	531	548	528	464	441	419	420
13	399	411	394	641	551	528	547	530	473	439	417	420
14	393	409	393	621	549	523	554	533	481	438	416	422
15	393	406	392	609	542	525	558	524	487	439	415	422
16	396	404	386	595	531	525	696	516	480	442	413	424
17	395	403	380	583	529	529	695	516	497	439	415	425
18	395	403	382	573	526	526	683	510	499	441	414	425
19	397	403	390	571	529	523	837	508	485	438	414	426
20	396	402	410	569	532	518	977	507	473	437	416	426
21	400	401	643	565	532	521	1,010	508	476	435	417	427
22	402	400	2,460	558	541	523	931	515	476	433	416	425
23	403	400	3,320	656	530	523	346	503	475	433	417	423
24	401	399	2,670	930	524	525	783	497	472	432	416	428
25	397	393	1,990	766	522	523	751	493	470	432	417	427
26	393	395	2,030	697	522	536	731	491	470	429	419	427
27	403	397	1,330	663	554	557	718	487	472	428	416	430
28	404	396	1,230	641	544	541	707	487	471	429	414	430
29	407	393	974	623	-----	535	710	484	469	427	416	428
30	404	393	356	624	-----	535	695	483	469	426	415	431
31	404	-----	771	621	-----	537	-----	477	-----	426	416	-----
Total	12,339	12,137	26,697	21,195	15,694	16,319	20,375	16,499	14,190	13,671	12,915	12,699
Mean	393	405	861	684	561	526	679	532	473	441	417	423
Ac-ft	24,470	24,070	52,950	42,040	31,130	32,370	40,410	32,730	28,150	27,120	25,520	25,190

Calendar year 1964 Max 3,320 Min 377 Mean 452 Ac-ft 328,300  
Water year 1964-65 Max 3,320 Min 380 Mean 534 Ac-ft 386,200



11-3555. Hat Creek near Hat Creek, Calif.

Location.--Lat 40°41'12", long 121°25'25", in SE¼ 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.--162 sq mi (revised); hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--July 1926 to September 1929, April 1930 to September 1966.

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. May 1928 to July 1965 at site 80 ft upstream at datum 2.76 ft higher.

Average discharge.--39 years, 133 cfs (96,290 acre-ft per year).

Extremes.--Maximum discharge during year, 242 cfs Nov. 18 (gage height, 3.50 ft); minimum daily, 118 cfs Sept. 21-24.  
1926-66: Maximum discharge, 3,320 cfs Dec. 11, 1937 (gage height, 7.75 ft, in gage well, affected by drawdown), from rating curve extended above 610 cfs on basis of slope-area measurement of maximum flow; minimum, 67 cfs Sept. 7, 1934.

Remarks.--Records good. Diversions for irrigations of about 260 acres above station. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	151	154	154	143	146	143	154	172	169	134	136	122
2	148	154	154	145	145	142	156	180	161	136	136	123
3	147	153	154	146	146	141	156	187	157	134	136	122
4	147	153	154	147	145	141	156	194	156	133	136	124
5	147	153	154	143	146	145	157	210	156	132	136	126
6	148	153	153	145	147	146	160	207	158	131	136	126
7	146	156	153	149	145	145	161	202	163	131	134	124
8	145	163	153	151	142	145	160	210	157	130	134	128
9	145	157	153	149	145	146	162	212	157	130	128	132
10	146	156	152	149	143	147	166	215	158	137	122	133
11	146	156	151	149	142	146	161	216	157	140	122	132
12	146	160	153	148	143	146	157	207	153	140	122	133
13	146	162	152	148	140	151	154	205	151	140	122	133
14	149	163	143	148	142	149	156	216	151	140	123	133
15	153	162	142	148	141	148	158	208	152	140	124	133
16	154	160	142	147	141	146	161	199	152	139	124	132
17	156	173	142	147	142	142	166	190	151	139	122	128
18	156	190	142	147	143	146	167	193	149	139	122	126
19	157	166	143	146	143	145	160	197	149	138	128	123
20	156	162	143	143	143	142	154	202	153	129	131	120
21	154	161	143	145	143	143	152	207	151	126	131	118
22	154	161	143	147	145	143	153	197	149	126	132	118
23	154	160	143	147	145	143	157	190	149	126	132	118
24	154	157	145	147	143	145	161	191	149	126	132	118
25	154	156	143	147	142	145	170	193	148	127	132	119
26	154	154	141	147	142	146	174	194	147	127	132	123
27	153	154	142	147	141	147	167	187	146	126	132	122
28	154	151	146	147	142	148	163	183	146	126	132	122
29	156	153	143	147	-----	149	163	180	145	127	126	128
30	154	156	142	147	-----	152	169	177	138	134	120	128
31	154	-----	143	147	-----	152	-----	176	-----	138	121	-----
Total	4,684	4,769	4,561	4,553	4,013	4,515	4,811	6,097	4,578	4,121	3,996	3,767
Mean	151	159	147	147	143	146	160	197	153	133	129	126
Ac-ft	9,290	9,460	9,050	9,030	7,960	8,960	9,540	12,090	9,080	8,170	7,930	7,470

Calendar year 1965 Max 400 Min 133 Mean 168 Ac-ft 121,900  
Water year 1965-66 Max 216 Min 118 Mean 149 Ac-ft 108,000

Peak discharge (base, 180 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
Nov 18	0030	3.50	242	May 10	2300	3.43	231
Apr 26	0200	3.12	183				

11-3605. Burney Creek near Burney, Calif.

Location.--Lat 40°52'15", long 121°40'50", in SE¼SW¼ 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.--88.8 sq mi.

Records available.--August 1911 to August 1913 (published as "at Burney"), March 1921 to September 1922, April 1958 to September 1964, October 1965 to September 1966. 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.

Average discharge.--10 years (1911-13, 1921-22, 1958-64, 1965-66), 49.5 cfs (35,840 acre-ft per year).

Extremes.--Maximum discharge during year, 399 cfs Apr. 11 (gage height, 8.26 ft); minimum daily, 3.5 cfs Jan. 2. 1911-13, 1921-22, 1958-64, 1965-66: Maximum discharge, 1,350 cfs Jan. 31, 1963 (gage height, 11.62 ft), from rating curve extended above 380 cfs; minimum, 3.4 cfs Aug. 4, 1961.

Remarks.--Probably small diversions upstream for irrigation. 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	23	30	6.6	26	34	142	97	36	14	13	12
2	14	17	24	3.5	22	34	156	96	33	15	13	12
3	13	22	27	5.1	23	32	163	103	30	16	13	12
4	13	25	29	107	34	31	166	104	27	16	13	12
5	15	20	24	92	48	32	170	104	21	16	12	11
6	13	17	23	121	47	37	175	106	22	16	12	11
7	8.9	18	30	96	40	44	180	95	25	15	12	11
8	13	29	23	99	34	72	186	96	27	18	13	12
9	10	20	20	69	33	80	199	96	27	18	13	12
10	9.1	19	20	50	32	137	296	95	24	18	13	12
11	19	22	22	42	29	106	324	89	20	17	13	12
12	12	47	23	35	28	93	321	79	21	16	12	13
13	21	42	28	31	26	134	238	76	20	16	12	13
14	16	61	23	30	27	151	197	76	18	16	13	12
15	16	48	16	29	26	150	193	68	17	15	13	12
16	16	39	10	27	26	123	199	65	15	15	13	12
17	16	50	7.2	25	26	92	207	62	16	15	13	11
18	16	92	7.7	25	27	79	197	60	15	15	13	12
19	15	49	7.7	23	35	79	162	57	14	14	13	11
20	11	40	7.5	22	44	68	143	54	19	13	13	9.9
21	15	32	7.0	20	40	63	128	52	25	13	12	9.2
22	12	26	6.1	18	40	59	119	49	18	14	11	11
23	11	29	6.1	18	51	57	120	44	18	13	11	12
24	12	69	6.4	19	49	50	120	42	17	13	12	12
25	18	53	7.8	24	79	64	124	41	17	13	12	13
26	15	29	7.6	23	34	87	125	40	19	13	12	12
27	12	24	7.4	21	21	65	118	37	18	13	12	11
28	13	22	9.4	20	21	77	101	35	18	12	12	11
29	22	22	5.3	24	-----	101	97	34	16	12	12	11
30	14	35	12	32	-----	117	99	33	14	12	12	11
31	13	-----	13	32	-----	128	-----	34	-----	13	12	-----
Total	437.0	1041	490.2	1189.2	968	2476	5165	2119	627	455	385	348.1
Mean	14.1	34.7	15.8	38.4	34.6	79.9	172	68.4	20.9	14.7	12.4	11.6
Ac-ft	867	2060	972	2360	1920	4910	10250	4200	1240	902	764	690

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max 324 Min 3.5 Mean 43.0 Ac-ft 31140

## SACRAMENTO RIVER BASIN

11-3625. Pit River below Pit No. 4 Dam, Calif.

Location.--Lat 40°58'25", long 121°46'42", in SW $\frac{1}{4}$  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.--4,647 sq mi, excluding Goose Lake basin.

Records available.--May 1922 to September 1966. 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.--Digital water-stage recorder. Altitude of gage is 2,358 ft (from river-profile map). Prior to November 1922 graphic water-stage recorder at site at Pecks Bridge 7.4 miles upstream at different datum. November 1922 to June 20, 1927, graphic water-stage recorder at site at Lindsay Flat 1.8 miles upstream at different datum. June 20, 1927, to Mar. 31, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--56 years (1910-66), 2,730 cfs (1,976,000 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 4,750 cfs Mar. 16 (gage height, 9.42 ft); minimum daily, 53 cfs for several days.  
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 12,000 cfs on basis of velocity-area studies; minimum daily, 23 $\frac{1}{2}$  cfs Sept. 13, 1953.  
1955-66: Maximum discharge, 21,600 cfs Dec. 24, 1964 (gage height, 15.68 ft); minimum daily, 40 cfs Feb. 21, 1965.

Remarks.--Records good. Flow regulated by many small reservoirs and powerplants (total usable reservoir capacity, about 253,000 acre-ft). Many diversions above station; diversion to Pit No. 4 powerhouse began June 9, 1955. See schematic diagram for Pit and McCloud River basins.

Cooperation.--Digital water-stage recorder tape 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99	77	60	57	54	57	88	137	142	142	143	156
2	94	75	57	57	54	57	90	140	140	139	161	161
3	92	75	56	59	54	57	90	132	140	140	169	155
4	92	75	56	80	54	57	90	132	140	141	173	154
5	92	75	56	67	54	57	92	135	140	139	172	156
6	92	77	56	70	54	59	92	140	140	139	157	142
7	90	78	56	63	54	60	89	137	140	141	143	154
8	94	77	56	66	54	64	90	135	137	138	159	155
9	97	75	56	60	54	63	92	140	140	133	151	154
10	101	75	56	57	54	69	101	190	137	133	157	151
11	99	77	57	57	54	735	96	187	137	146	153	155
12	99	77	56	54	54	1,170	97	199	137	141	131	162
13	99	73	56	54	54	830	112	178	320	141	153	160
14	99	77	56	56	54	865	640	140	143	138	146	149
15	99	77	56	54	54	510	409	143	142	140	144	145
16	99	112	56	56	54	1,380	202	145	140	187	145	146
17	99	78	56	54	103	1,750	114	145	139	144	142	147
18	99	73	56	54	59	427	92	143	143	148	144	161
19	99	77	56	54	59	59	92	143	138	145	144	159
20	99	77	56	53	59	56	94	143	193	144	143	154
21	97	75	56	54	57	56	89	145	135	144	147	151
22	99	77	56	54	57	56	97	145	143	145	147	151
23	99	77	56	54	57	54	96	145	142	145	143	155
24	101	83	56	54	60	54	94	145	141	141	143	155
25	99	80	56	53	59	54	94	145	140	142	147	150
26	99	73	56	54	59	53	92	145	139	139	145	144
27	97	73	56	54	57	54	94	142	142	141	142	149
28	101	75	53	54	59	54	94	142	141	141	144	152
29	97	77	59	54	-----	54	170	145	139	140	152	150
30	97	75	61	54	-----	54	132	142	140	141	156	173
31	99	-----	61	54	-----	53	-----	140	-----	140	154	-----
Total	3,018	2,342	1,762	1,775	1,609	8,977	3,914	4,585	4,435	4,423	4,710	4,503
Mean	97.4	73.1	56.8	57.3	57.5	290	130	148	148	143	152	153
Ac-ft	5,990	4,650	3,490	3,520	3,190	17,310	7,760	9,090	8,800	8,780	9,340	9,130
Meant	2,332	2,397	2,425	2,475	2,638	3,597	3,385	2,122	1,943	1,782	1,913	1,904
Ac-ft†	143,400	142,600	149,100	152,200	146,500	21,200	201,400	130,500	115,600	109,600	111,500	113,300
Calendar year 1965	Max	10,300	Min	40	Mean	1,070	Ac-ft	774,700	Meant	3,301	Ac-ft†	2,390,000
Water year 1965-66	Max	1,750	Min	53	Mean	126	Ac-ft	91,550	Meant	2,399	Ac-ft†	1,737,000

† Adjusted for diversion to Pit No. 4 powerplant.



## 11-3630. Pit River at Big Bend, Calif.

Location.--Lat 41°01'10", long 121°54'35" in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.31, T.37 N., R.1 E., on left bank at Big Bend, 0.4 mile downstream from Nelson Creek, and 1.5 mile upstream from Kosk Creek.

Drainage area.--4,710 sq mi, excluding Goose Lake basin.

Records available.--October 1910 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Henderson" 1910-23.

Gage.--Digital 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, graphic water-stage recorder, at same site at datum 7.69 ft higher. June 22, 1924, to Apr. 1, 1965, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 5,600 cfs Mar. 16 (gage height, 106.2 ft); minimum daily, 49 cfs Dec. 19, 21, 22. 1910-66: Maximum discharge, 40,200 cfs Dec. 23, 1964 (gage height, 16.88 ft), from rating curve extended above 13,000 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 253,000 acre-ft). Many diversions above station; diversion to Pit No. 5 powerhouse began May 1, 1944. See schematic diagram for Pit and McCloud River basins.

Cooperation.--Digital water-stage recorder tape and five 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 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	124	91	90	74	85	112	324	238	162	131	121	119
2	127	86	55	70	81	108	332	239	160	130	122	120
3	123	87	55	73	82	103	324	236	160	126	121	117
4	120	86	55	133	106	102	311	229	152	125	119	115
5	122	86	55	158	140	107	303	234	146	128	119	114
6	126	85	55	225	149	115	302	226	153	129	117	141
7	120	94	55	164	126	140	303	224	151	130	118	116
8	123	97	55	149	116	209	297	216	150	131	114	116
9	121	89	55	131	110	288	355	211	148	129	115	110
10	123	86	55	116	105	105	430	204	151	124	116	113
11	118	91	55	108	101	1,430	839	198	149	131	119	114
12	118	105	53	98	97	2,060	879	193	144	128	117	117
13	118	112	53	96	92	1,750	743	197	137	130	119	118
14	116	114	54	92	93	1,760	1,190	187	137	126	115	117
15	111	109	53	92	92	1,320	1,090	185	134	122	115	116
16	114	102	52	90	90	2,030	984	178	136	125	115	112
17	110	119	53	87	89	2,840	857	180	135	120	117	112
18	117	123	51	85	90	1,110	759	176	138	123	117	115
19	115	137	49	82	110	712	365	172	138	127	117	115
20	111	163	50	80	110	650	251	172	136	128	114	110
21	114	141	49	80	107	364	234	165	135	127	110	113
22	113	147	49	79	111	192	222	168	134	120	114	113
23	116	113	51	77	128	189	215	165	134	117	114	114
24	108	135	58	75	129	195	211	162	132	113	118	115
25	115	123	53	75	124	201	211	162	130	122	115	112
26	112	122	49	74	119	212	205	159	128	118	114	114
27	113	116	51	73	117	229	194	157	129	121	113	110
28	114	120	94	72	114	250	187	155	132	119	115	110
29	107	120	92	79	-----	274	190	155	131	124	118	112
30	109	120	91	84	-----	291	245	122	127	118	117	114
31	100	-----	90	85	-----	309	-----	158	-----	116	116	-----
TOTAL	3,598	3,319	1,842	3,056	3,013	20,380	13,352	5,853	4,249	3,858	3,611	3,450
MEAN	116	111	59.4	98.6	108	657	445	189	141	124	116	115
AC-FT	7,140	6,580	3,650	6,060	5,980	40,420	26,480	11,610	8,390	7,650	7,160	6,840
CALENDAR YEAR 1965	MAX	8,240	MIN	49	MEAN	750	AC-FT	543,300				
WATER YEAR 1965-66	MAX	2,840	MIN	49	MEAN	191	AC-FT	138,000				

## SACRAMENTO RIVER BASIN

11-3639.1 James B. Black Powerplant near Big Bend, Calif.

Location.--Lat 40°59'15", long 121°58'35", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 9, T.36 N., R.1 W., at powerplant on right bank of Pit River, 5.8 miles downstream from Big Bend.

Records available.--December 1965 to September 1966.

Gage.--Recorded output from powerplant turbines.

Extremes.--Maximum daily discharge during period December to September, 2,420 cfs July 15; no flow several days June to September.

Remarks.--Water is diverted from McCloud Reservoir (see sta. no. 11-3677.4) at SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 22, T.38 N., R.2 W., to Iron Canyon Reservoir (see sta. no. 11-3639.20) and thence in the penstock for James B. Black powerplant. Records are combined flow of diversion from McCloud River at McCloud Dam plus Iron Canyon Creek.

Cooperation.--Records furnished by Pacific Gas and Electric Company in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	993	693	342	1710	733	105	287	599	517
2			-	1000	645	1060	1620	1700	0	413	978	1190
3			-	983	657	1070	1460	1580	1340	953	741	1520
4			-	998	661	1070	1770	1070	2100	1170	820	569
5			-	993	861	928	1640	1150	2100	741	737	0
6			-	993	923	897	1640	1380	1520	464	1550	357
7			-	991	975	726	1630	1800	1310	560	760	154
8			-	997	966	1070	1560	762	1430	1370	1240	88
9			-	994	998	1100	1200	1790	1500	1200	1100	246
10			-	997	952	1100	2030	757	870	1340	855	0
11			-	995	1020	1100	2140	1010	1	2000	891	0
12			-	993	1000	1090	1870	790	0	1390	956	269
13			-	997	1010	1640	1310	1080	1010	1100	21	700
14			-	937	1040	2170	1320	1010	979	2120	0	682
15			-	997	894	1360	1300	1590	460	2420	839	484
16			-	999	696	2150	1800	989	965	1740	924	1050
17			524	998	1020	2140	1800	786	792	1220	962	1130
18			998	999	1550	2140	1700	1260	763	1140	906	613
19			1010	901	184	2120	1340	1010	934	1580	985	619
20			954	967	703	2100	1590	1020	862	1350	0	665
21			956	930	692	1310	1330	1240	1120	1570	0	351
22			989	1030	997	1770	1470	1510	1280	1100	936	1170
23			993	1030	734	1710	1530	942	937	30	1210	970
24			994	1010	1100	1760	1460	937	1040	0	1240	649
25			997	909	957	1740	1510	535	876	1260	1170	571
26			1000	1020	966	1640	1670	679	615	1970	969	1020
27			957	675	982	1340	1920	1190	636	1770	1170	1000
28			1000	1020	973	1460	1710	1160	550	1310	825	960
29			997	1000	-----	1660	1660	860	365	1910	1010	934
30			990	1000	-----	1760	1410	1190	1490	1360	1180	824
31			995	1010	-----	1730	-----	1160	-----	1210	1070	-----
Total			-	30366	24949	46753	50100	35175	28456	39048	26544	19302
Mean			-	980	891	1503	1670	1135	948	1260	356	660
Ac-ft			-	60230	49490	92740	99370	69770	56440	77450	52650	39280
Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1965-66	Max	-	Min	-	Mean	-	Ac-ft	-				

11-3650. Pit River near Montgomery Creek, Calif.

Location (revised).--Lat 40°50'35", long 122°00'58", in SE $\frac{1}{4}$  sec.31, T.35 N., R.1 W., on right bank 0.5 mile upstream from Potem Creek, 1.9 miles downstream from Pit No. 7 dam and powerhouse and 5.0 miles west of town of Montgomery Creek.

Drainage area.--4,950 sq mi approximately, excluding Goose Lake basin.

Records available.--October 1944 to September 1966 (monthly discharge only December 1964 to May 1965). Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 1,036 ft above mean sea level (levels by Pacific Gas and Electric Co.). October 1944 to Feb. 17, 1963, at site 1.9 miles upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 2.7 miles upstream at different datum.

Average discharge.--22 years, 3,763 cfs (2,724,000 acre-ft per year).

Extremes.--Maximum daily discharge during year, 10,200 cfs Mar. 16; minimum daily, 200 cfs several days in June, July, September. 1944-66: Maximum discharge, 37,100 cfs Dec. 23, 1955 (gage height, 14.12 ft, site and datum then in use); minimum daily, 150 cfs July 19, 1965.

Remarks.--Flow regulated by many reservoirs and powerplants (total usable reservoir capacity, about 287,000 acre-ft). Many diversions above station for irrigation. See schematic diagram for Pit and McCloud River basins. Records represent flow through Pit No. 7 powerplant and spill from Pit No. 7 Reservoir. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Cooperation.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2530	907	1410	3740	5240	4940	8170	1440	1860	867	2010	1070
2	2610	1510	1160	2840	3730	5140	7340	6420	1630	620	1030	1760
3	2400	1970	2900	3950	3440	3630	7270	4260	4870	1540	1960	1680
4	2800	2970	5500	7210	2570	4590	7140	4590	2930	534	3740	845
5	1290	2670	1920	7150	3480	3530	6640	5500	5340	3100	2710	200
6	4000	2770	2030	7310	7160	2620	6440	4170	3400	3250	5060	1350
7	2740	3230	3600	7460	4740	6960	6780	4630	3630	2900	235	1460
8	2550	2870	3190	6660	4660	6960	5530	3890	4090	4380	1360	315
9	2340	2270	2990	6330	4390	7210	5190	5790	4790	3070	2690	1760
10	1410	3020	5550	5370	5140	7760	7830	3510	4580	2220	3110	1290
11	2870	2980	4110	5190	4280	7920	8990	5450	3490	4130	3680	200
12	2330	2520	2620	4790	1510	7920	8700	3370	200	4120	4700	560
13	2210	4840	1210	4540	2620	8720	8080	5060	4900	3120	870	1230
14	2540	3880	504	2900	6300	9940	7960	2960	4030	4800	250	1250
15	2280	2980	1660	3580	4030	10000	7900	4170	2460	4560	3580	2000
16	2630	3730	2380	1510	4440	10200	7900	4990	1560	2630	2580	2130
17	2660	3930	3840	4840	4240	9780	7800	4490	3720	393	2850	1770
18	2230	3980	3710	4640	6400	8270	7850	6620	200	3040	4130	200
19	2280	3780	1410	4700	3710	8020	7830	3800	1200	3950	4000	1070
20	2750	3480	4220	4670	1260	8070	7650	3300	3040	2730	715	1040
21	2820	3020	2930	4370	5140	8070	6050	1560	3540	4720	1700	1570
22	3990	1820	3740	3760	3880	8070	7420	4500	3920	3010	3630	1460
23	3370	454	3430	3580	3780	7610	5740	4930	3760	200	4140	1740
24	958	2920	3680	3810	5650	7010	5430	3680	4030	200	2930	1480
25	2870	2020	4540	4540	5040	5850	6070	3030	3780	3660	3320	565
26	3100	2470	3600	3860	6910	6550	6690	2190	200	4200	3090	3050
27	3360	3430	4840	2270	4940	5290	6300	4650	2750	4580	3580	2990
28	3160	1860	4180	5090	5090	7060	5660	5360	4740	2470	1290	1570
29	2600	4440	4560	4920	-----	6660	5500	3430	4280	3620	3810	1920
30	3280	4540	4660	3630	-----	7460	5550	2020	4830	3100	3150	3300
31	2370	-----	5290	4670	-----	7360	-----	3690	-----	1640	3170	-----
Total	81,328	87,261	101,364	143,880	123,570	219,170	209,400	127,450	97,750	87,354	85,070	42,825
Mean	2,623	2,909	3,270	4,641	4,413	7,070	6,980	4,111	3,258	2,818	2,744	1,428
Ac-ft	161,300	173,100	201,100	285,400	245,100	434,700	415,300	252,800	193,900	173,300	168,700	84,940

Calendar year 1965 Max - Min 150 Mean 4,383 Ac-ft 3,173,000  
 Water year 1965-66 Max 10,200 Min 200 Mean 3,853 Ac-ft 2,790,000

Note.--No gage-height record Oct. 1 to Sept. 30.

## SACRAMENTO RIVER BASIN

11-3655. Squaw Creek above Shasta Lake, Calif.

Location.--Lat 40°51'25", long 122°05'08", in SW<sup>1</sup>/<sub>4</sub> 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.--64.0 sq mi.

Records available.--October 1944 to September 1966 (discontinued). 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.--22 years, 230 cfs (166,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,820 cfs Jan. 6 (gage height, 13.58 ft); minimum daily, 12 cfs many days in September. 1944-66: 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, 9.9 cfs Sept. 24-26, 27, 1962.

Remarks.--Records good. Small diversions above station for irrigation. See schematic diagram for Pit and McCloud River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	14	132	324	282	407	350	125	62	30	19	14
2	14	14	120	250	269	380	335	120	60	30	13	13
3	14	14	111	317	271	344	313	116	59	30	18	13
4	14	15	107	1,790	379	315	290	115	59	29	17	13
5	15	16	101	2,440	2,660	310	273	114	56	29	16	12
6	16	16	98	3,180	2,070	321	260	109	56	28	16	12
7	15	17	93	1,660	1,110	413	250	107	57	28	16	12
8	14	34	89	1,160	790	920	238	102	56	28	15	12
9	14	21	85	985	620	2,600	254	101	53	28	15	12
10	14	17	81	715	509	2,300	273	99	51	28	15	12
11	15	18	78	552	436	1,700	284	96	50	26	15	12
12	14	45	74	439	386	1,050	395	93	48	26	15	12
13	14	78	71	380	347	1,200	327	91	46	26	14	13
14	15	229	67	338	318	1,300	290	83	45	26	14	13
15	16	191	65	327	290	970	267	86	42	25	14	13
16	16	96	62	341	271	740	254	85	40	24	14	12
17	15	139	60	332	258	632	248	81	40	24	14	12
18	15	286	59	310	248	564	232	80	39	24	14	13
19	15	584	56	282	363	508	218	78	38	23	13	15
20	15	297	55	253	492	456	202	75	37	22	13	12
21	14	173	54	240	450	422	191	74	37	21	13	12
22	14	120	52	230	442	389	180	72	37	21	13	12
23	14	148	50	212	480	365	173	70	37	21	13	12
24	14	755	59	195	536	350	162	69	37	20	13	12
25	14	548	61	182	532	344	158	66	35	20	13	12
26	14	395	54	173	492	344	149	66	34	20	13	12
27	14	368	55	164	453	350	145	64	32	19	13	12
28	14	252	507	158	425	356	138	63	32	19	13	12
29	14	191	702	182		359	132	62	31	19	15	12
30	14	155	600	267	-----	359	127	62	31	19	16	12
31	14	-----	500	275	-----	356	-----	63	-----	19	16	-----
Total	448	5,246	4,353	18,653	16,678	21,424	7,108	2,692	1,336	750	456	372
Mean	14.5	175	141	602	596	691	237	86.8	44.5	24.2	14.7	12.4
Ac-ft	889	10,410	8,640	37,010	33,080	42,490	14,100	5,340	2,650	1,490	904	738

Calendar year 1965: Max 4,160 Min 14 Mean 216 Ac-ft 156,500

Water year 1965-66: Max 3,180 Min 12 Mean 212 Ac-ft 157,700

Peak discharge (base, 2000 cfs).--Jan. 6 (1100) 3,820 cfs (13.58 ft); Feb. 5 (1300) 2,860 (12.50 ft).

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.--358 sq mi.

Records available.--April 1931 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 2,711.2 ft above mean sea level (river-profile survey).

Average discharge.--35 years, 904 cfs (654,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,720 cfs Apr. 10 (gage height, 2.65 ft); minimum daily, 749 cfs Feb. 2, 3.

1931-66: 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 maximum flow; minimum, 524 cfs Nov. 23, 24, 1932.

Remarks.--Records excellent. Two small diversions above station for irrigation, and one 22-inch pipe line for town of McCloud and millpond. See schematic diagram for Pit and McCloud River basins.

Cooperation.--Water-stage recorder graph and eight discharge measurements furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	830	785	798	767	761	767	1260	1160	994	850	811	785
2	824	779	798	773	749	767	1320	1170	974	850	804	779
3	818	779	798	779	749	761	1330	1180	960	844	804	779
4	818	779	792	779	773	761	1310	1220	948	844	804	779
5	818	779	792	779	837	761	1310	1260	941	844	798	779
6	818	779	792	804	850	773	1340	1260	934	837	798	779
7	811	792	792	798	824	798	1380	1240	941	837	798	779
8	811	798	792	811	804	856	1400	1220	941	844	798	773
9	818	779	792	818	798	1000	1430	1220	941	844	798	773
10	818	779	785	811	785	1230	1650	1230	934	844	798	773
11	811	785	785	804	779	1180	1580	1210	928	844	798	773
12	798	792	785	798	773	1090	1510	1180	922	837	798	773
13	792	811	785	792	767	1140	1420	1170	915	837	798	773
14	792	870	779	785	767	1260	1380	1170	908	830	798	773
15	792	856	779	785	761	1300	1370	1140	908	830	798	773
16	792	818	773	785	761	1220	1410	1120	902	830	792	767
17	792	856	773	779	755	1110	1450	1110	896	824	785	767
18	792	967	773	773	755	1060	1420	1100	896	824	785	773
19	792	941	767	773	761	1040	1330	1110	889	818	785	767
20	785	922	767	773	761	1000	1280	1110	889	818	785	767
21	785	896	767	767	761	980	1240	1110	882	818	785	767
22	785	856	767	773	767	967	1220	1110	882	818	785	767
23	785	863	767	767	779	960	1220	1070	876	818	785	767
24	785	928	773	761	785	967	1230	1060	876	818	785	767
25	785	896	773	761	779	980	1260	1060	870	818	785	761
26	785	856	767	761	773	1000	1260	1060	863	811	785	761
27	785	830	773	761	767	1030	1220	1050	856	811	785	755
28	785	818	792	761	767	1060	1210	1040	856	811	785	755
29	785	811	785	767	-----	1100	1180	1020	850	811	785	755
30	785	804	779	761	-----	1140	1170	1010	850	811	785	755
31	785	-----	773	761	-----	1190	-----	1000	-----	811	785	-----
Total	24,757	25,004	24,213	24,167	21,748	31,248	40,090	35,170	27,222	25,686	24,568	23,094
Mean	799	833	781	780	777	1008	1336	1135	907	829	793	770
Ac-ft	49,100	49,590	48,030	47,930	43,140	61,980	79,520	69,760	53,990	50,950	48,730	45,810

Calendar year 1965 Max 2,250 Min 767 Mean 974 Ac-ft 705,300

Water year 1965-66 Max 1,650 Min 749 Mean 896 Ac-ft 648,500

Peak discharge (base, 1,500 cfs)--Apr. 10 (1100) 1,720 cfs (2.65 ft).

## SACRAMENTO RIVER BASIN

11-3677.2 McCloud-Iron Canyon Diversion Tunnel near McCloud, Calif.

Location.--Lat 41°08'06", long 122°04'26", in SE  $\frac{1}{4}$  sec. 22, T.38 N., R.2 W., on left bank of McCloud Reservoir, and 8.8 miles southeast of McCloud.

Records available.--December 1965 to September 1966.

Gage.--None. Water-stage recorders on McCloud Reservoir and Iron Canyon Reservoir used to compute record.

Extremes.--Maximum daily discharge during period December to September, 1,750 cfs Apr. 12-16; no flow Dec. 1, 7-10, June 2, 28, 29.

Remarks.--Water is diverted from McCloud Reservoir (see sta. no.11-3677.40) to Iron Canyon Reservoir (see sta. no.11-3639.20) and thence into James B. Black powerplant (see sta. no.11-3639.10) on the Pit River.

Cooperation.--Records furnished by Pacific Gas and Electric Company in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	924	853	896	1550	1450	440	1310	843	912
2			41	916	819	892	1540	1480	0	1110	836	903
3			205	912	789	894	1540	1450	384	1070	810	962
4			317	903	777	901	1570	1400	1230	1030	796	938
5			573	893	824	894	1580	1400	1270	1030	783	827
6			404	897	863	885	1590	1430	1310	302	860	719
7			0	894	893	883	1590	1480	1300	302	860	659
8			0	901	907	853	1570	1450	1320	907	865	591
9			0	906	919	896	1590	1430	1260	1150	886	539
10			0	903	919	954	1580	1400	1280	1080	881	509
11			210	909	922	1010	1690	1350	1140	1110	853	460
12			704	906	925	1010	1750	1290	1000	1110	865	439
13			621	903	927	1080	1750	1260	930	1080	812	502
14			453	896	932	1190	1750	1230	935	1060	700	562
15			630	903	912	1280	1750	1240	907	1080	653	596
16			525	912	872	1370	1750	1260	888	1090	710	656
17			904	920	882	1450	1740	1240	876	1080	749	719
18			1490	926	927	1510	1730	1200	854	1020	765	746
19			1350	907	862	1560	1710	1210	868	998	773	732
20			1270	903	837	1630	1660	1200	891	978	735	706
21			1170	901	816	1640	1600	1180	903	958	637	722
22			1310	912	840	1620	1590	1180	926	940	613	763
23			1070	918	829	1600	1560	1210	826	872	705	791
24			1100	920	874	1580	1550	1180	976	691	773	798
25			997	905	890	1560	1550	1110	917	761	827	768
26			993	910	893	1540	1530	1090	886	792	836	793
27			972	865	907	1500	1600	1090	403	812	865	815
28			972	876	909	1460	1610	1120	0	812	874	930
29			946	886	-----	1460	1580	1100	0	847	856	830
30			933	892	-----	1490	1560	1080	555	887	881	822
31		-----	909	901	-----	1510	-----	1080	-----	872	893	-----
Total	-	-	21074	23050	24527	39003	43710	39270	25980	29141	24815	21614
Mean	-	-	680	905	876	1258	1624	1267	866	940	800	720
Ac-ft	-	-	41800	55640	48650	77360	96610	77890	51530	57800	49220	42370
Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1965-66	Max	-	Min	-	Mean	-	Ac-ft	-				

11-3677.6. McCloud River below McCloud Dam, near McCloud, Calif.

Location.--Lat 41°07'44", long 122°04'08", in SW 1/4 sec. 27, T.38 N., R.2 W., on left bank 0.1 mile downstream from Lizard Creek, 0.6 mile downstream from McCloud Dam, and 9 miles southeast of McCloud.

Drainage area.--404 sq mi.

Records available.--April to September 1966 (low flow only).

Gage.--Water-stage recorder. Datum of gage is 2,401.76 ft above mean sea level (levels by Pacific Gas and Electric Co.).

Remarks.--Records good. Flow regulated by McCloud Reservoir (capacity, 35,200 acre-ft) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir in Pit River basin. This station records fishwater release. See schematic diagram for Pit and McCloud River basins.

Cooperation.--Water-stage recorder graph and ten discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								70	176	194	195	201
2								75	180	197	197	201
3								81	182	197	195	201
4								81	182	195	195	201
5								81	180	195	195	201
6								81	180	197	197	203
7								82	180	199	197	203
8								89	180	199	197	203
9								100	180	199	197	203
10					† 68			100	182	197	199	203
11						† 43		106	184	197	199	203
12								109	184	195	199	203
13								113	185	199	199	205
14								115	186	199	199	205
15								115	188	199	199	205
16								137	190	199	199	205
17				† 94				156	190	199	199	205
18								156	190	199	199	205
19								156	190	199	199	205
20								158	190	199	199	205
21								160	190	199	199	205
22								160	190	199	203	205
23							42	162	190	197	203	205
24							42	162	190	197	203	205
25							44	164	190	197	203	205
26								46	166	190	197	205
27								45	166	190	197	205
28								56	166	190	197	201
29								66	166	190	197	201
30								70	166	190	197	201
31		-----	† 149		-----		-----	172	-----	195	201	-----
Total							-	3,971	5,579	6,122	6,175	6,138
Mean							-	128	186	197	199	205
Ac-ft							-	7,880	11,070	12,140	12,250	12,170
Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1965-66	Max	-	Min	-	Mean	-	Ac-ft	-				

† Result of discharge measurement.

11-3678. McCloud River at Ah-Di-Na, near McCloud, Calif.

Location.--Lat 41°06'39", long 122°05'42", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.33, T.38 N., R.2 W., on right bank at Ah-Di-Na, 1.8 miles downstream from Squirrel Creek, 3.9 miles downstream from McCloud Dam, and 9.6 miles south of McCloud.

Drainage area.--427 sq mi.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 2,160 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,140 cfs Nov. 23 (gage height, 5.40 ft); minimum daily, 148 cfs Jan. 23.

1964-66: Maximum discharge, 9,660 cfs Dec. 22, 1964 (gage height, 9.34 ft from floodmark in gage well), from rating curve extended above 3,000 cfs; minimum daily, that of Jan. 23, 1966.

Flood of Dec. 21, 1955, reached a stage of 12.5 ft (discharge, 16,800 cfs, from rating curve extended above 3,000 cfs).

Remarks.--Records good. Flow regulated by McCloud Reservoir since November, 1965 (see sta. no. 11-3677.5). Diversion to Iron Canyon Reservoir (see sta. no. 11-3639.2) through McCloud River diversion tunnel started Dec. 1, 1965. See schematic diagram for Pit and McCloud River basins.

Cooperation.--Water-stage recorder graph and twelve discharge measurements furnished by Pacific Gas and Electric Company in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	931	898	1,020	204	158	158	418	163	205	208	199	205
2	931	898	994	203	155	160	427	165	208	211	202	205
3	931	868	555	201	158	163	393	168	211	208	202	208
4	931	844	243	200	202	165	353	168	211	208	202	208
5	931	772	249	200	410	163	334	168	208	205	202	205
6	931	700	263	290	346	174	330	165	205	205	202	205
7	931	820	220	315	230	187	338	160	202	208	202	208
8	931	410	223	319	193	344	327	160	199	208	202	208
9	931	260	214	315	174	690	327	168	199	208	202	208
10	931	630	205	283	158	772	385	165	202	205	199	208
11	924	280	217	252	165	530	357	165	205	205	199	208
12	924	250	214	233	165	389	346	168	202	202	199	208
13	924	230	278	223	158	427	308	165	202	205	199	211
14	924	150	431	202	158	490	276	168	202	208	199	211
15	898	200	346	160	158	494	266	165	205	205	202	211
16	917	217	421	160	158	431	273	184	205	205	202	211
17	917	565	334	163	158	342	273	202	205	202	205	214
18	917	266	168	163	155	294	252	199	205	202	205	217
19	924	319	174	176	163	256	223	199	205	205	205	217
20	924	243	199	182	165	230	202	199	205	205	205	214
21	917	230	185	153	163	208	184	199	208	205	205	211
22	917	773	185	150	168	199	179	196	208	205	205	214
23	910	1,120	185	148	187	190	174	199	208	202	208	214
24	910	1,450	185	150	196	196	174	199	205	202	208	211
25	910	1,350	183	158	179	208	179	199	205	202	208	211
26	910	1,190	183	155	163	230	174	202	205	202	208	211
27	904	1,110	188	155	155	266	165	202	205	202	205	211
28	904	1,080	220	158	155	305	165	199	205	202	205	220
29	904	1,050	214	160	-----	346	165	199	208	202	208	220
30	898	1,040	208	163	-----	373	168	199	211	202	208	205
31	898	-----	206	158	-----	393	-----	202	-----	199	205	-----
Total	28,485	20,213	9,110	6,152	5,153	9,773	8,135	5,659	6,159	6,343	6,307	6,318
Mean	919	674	294	198	184	315	271	183	205	205	203	211
Ac-ft	56,500	40,090	18,070	12,200	10,220	19,380	16,140	11,220	12,220	12,580	12,510	12,530

Calendar year 1965 Max 3,930 Min 150 Mean 1,178 Ac-ft 853,000  
 Water year 1965-66 Max 1,450 Min 148 Mean 323 Ac-ft 233,700



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.--604 sq mi.

Records available.--October 1945 to September 1966. 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.--20 years (1945-65, prior to regulation by McCloud Reservoir and diversion to Pit River basin), 1,699 cfs (1,230,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,960 cfs Mar. 10 (gage height, 15.03 ft); minimum daily, 273 cfs Sept. 30.  
1945-66: Maximum discharge, 45,200 cfs Dec. 22, 1955 (gage height, 28.20 ft), from rating curve extended above 6,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, that of Sept. 30, 1966.

Remarks.--Records excellent. Flow regulated by McCloud Diversion Reservoir (capacity 35,200 acre-feet) since Nov. 3, 1965. Diversions to Iron Canyon Reservoir began Dec. 1, 1965. See schematic diagram for Pit and McCloud River Basin. Records of chemical analyses for the 1966 water year are published in Part 2 of this report.

Cooperation.--Water-stage recorder graph and nine discharge measurements furnished by Pacific Gas and Electric Company in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,020	996	1,400	649	661	901	1,550	532	402	330	301	285
2	1,020	996	1,350	608	631	849	1,540	520	397	321	297	281
3	1,020	961	989	715	649	790	1,440	520	397	317	285	281
4	1,020	888	532	691	1,870	759	1,330	520	389	313	289	281
5	1,020	790	537	2,190	3,730	739	1,260	515	384	301	289	281
6	1,020	637	542	3,740	2,870	797	1,220	505	379	301	289	277
7	1,010	914	532	2,720	1,920	763	1,200	490	388	305	285	277
8	1,010	698	537	2,220	1,420	1,950	1,160	485	384	313	285	277
9	1,010	348	526	1,990	1,160	3,990	1,150	485	379	317	281	277
10	1,020	476	495	1,550	1,000	4,500	1,240	480	370	317	281	277
11	1,010	508	500	1,240	894	3,210	1,200	465	370	313	281	277
12	1,010	397	490	1,050	823	2,430	1,170	460	366	305	281	281
13	1,010	510	470	927	758	2,510	1,060	450	361	305	281	297
14	1,020	1,090	682	856	715	2,610	963	450	356	305	281	293
15	982	1,040	578	790	685	2,560	934	435	356	305	281	293
16	1,000	649	680	836	649	2,300	934	435	361	301	281	289
17	1,000	1,250	557	830	637	1,920	920	460	356	301	281	285
18	1,010	2,070	361	790	625	1,660	963	445	356	301	281	297
19	1,000	1,920	343	739	703	1,490	804	435	352	297	281	297
20	1,000	1,250	392	697	745	1,320	745	435	352	297	277	293
21	1,000	901	361	655	758	1,210	703	430	352	293	277	289
22	996	1,120	361	637	790	1,130	667	425	343	285	277	289
23	996	1,650	343	603	1,010	1,070	649	420	343	285	277	289
24	996	2,940	374	570	1,180	1,050	637	410	343	285	277	289
25	996	2,660	361	559	1,170	1,060	631	410	343	289	277	289
26	1,000	2,140	352	542	1,090	1,110	614	410	333	289	277	285
27	1,010	1,860	361	526	989	1,200	586	406	334	285	277	281
28	1,000	1,660	1,210	515	934	1,290	570	406	334	285	277	285
29	1,000	1,540	1,240	564	-----	1,400	554	402	334	285	281	301
30	1,000	1,460	975	631	-----	1,450	542	402	334	289	285	273
31	996	-----	778	649	-----	1,490	-----	405	-----	301	285	-----
Total	31,202	36,319	19,208	32,279	31,066	51,512	28,846	14,049	10,867	9,336	8,755	8,566
Mean	101	1,210	620	1,041	1,110	1,662	962	467	362	301	282	286
Ac-ft	61,890	72,040	38,100	64,020	61,620	102,200	57,220	28,740	21,550	18,520	17,370	16,990
Calendar year 1965	Max	10,700	Min	343	Mean	1,634	Ac-ft	118,000				
Water year 1965-66	Max	4,500	Min	273	Mean	773	Ac-ft	559,300				

## SACRAMENTO RIVER BASIN

Reservoirs in Pit and McCloud River basins, Calif.

- 11-3614. Lake Britton.--Lat 41°01'20", long 121°40'32", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 30, T.37 N., R.3 E., at control house on right bank 200 ft above dam on Pit River, 1.1 miles downstream from Clark Creek, 1.3 miles northwest of Burney Falls, and 9 miles north of Burney. Drainage area, 4,606 sq. mi. Records available, October 1965 to September 1966. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Maximum contents during year, 14,200 acre-ft May 31 (elevation, 2,756.80 ft). Minimum, 1,100 acre-ft Jan. 14, 15 (elevation, 2,745.15 ft).  
Reservoir is formed by gravity-type concrete dam. Storage began July 15, 1925. Maximum storage capacity, 40,600 acre-ft. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.
- 11-3677.40 McCloud Reservoir near McCloud.--Lat 41°08'06", long 122°04'26", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 22, T.38 N., R.2 W., on McCloud Dam near spillway on McCloud River, 200 ft downstream from Panther Creek, and 8.8 miles southeast of McCloud. Drainage area, 403 sq. mi. Records available, October 1965 to September 1966. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Maximum contents during year, 35,400 acre-ft Dec. 14 (elevation, 2,680.30 ft); minimum since storage pool first filled, 19,800 acre-ft Feb. 2 (elevation, 2,644.90 ft).  
Reservoir is formed by rock-fill dam completed in 1965. Capacity, 36,500 acre-ft between elevations 2,571.30 ft (invert of sluice pipe) and 2,682.50 ft (top of radial gates). No dead storage. Water is diverted from McCloud Reservoir through a diversion tunnel to Iron Canyon Reservoir and thence into the Pit River. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.
- 11-3639.20 Iron Canyon Reservoir.--Lat 41°02'41", long 121°58'52", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 21, T.37 N., R.1 W., in control house on left bank 500 ft above Iron Canyon Dam on Iron Canyon Creek, 3.7 miles northwest of Big Bend. Drainage area 11.5 sq. mi. Records available, December 1965 to September 1966. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.). Maximum contents during year, 16,900 acre-ft July 24, 25, Sept. 11 (elevation, 2,648.80 ft); minimum since initial operation of reservoir, 3,200 acre-ft Apr. 16, 17 (elevation, 2,593.00 ft).  
Reservoir is formed by rock-fill dam completed in 1965. Capacity is 24,200 acre-ft between elevations 2525.00 ft (invert of sluice pipe) and 2665.00 ft (crest of spillway). No dead storage. Water is diverted from McCloud Reservoir through a tunnel to Iron Canyon Reservoir and thence into the Pit River via a powerplant. Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Month-end elevations and contents, water year October 1965 to September 1966

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)
	Lake Britton			McCloud Reservoir			Iron Canyon Reservoir		
Sept. 30 . . . . .	2,749.15	5,220	-	-	-	-	-	-	-
Oct. 31 . . . . .	2,749.65	5,760	+540	2,469.70	171	-	-	-	-
Nov. 30 . . . . .	2,750.01	6,150	+390	2,660.50	26,000	+25,800	-	-	-
Dec. 31 . . . . .	2,747.55	3,520	-2,630	2,657.30	24,600	-1,400	2,635.50	12,200	+12,200
Calendar year 1965	-	-	-	-	-	-	-	-	-
Jan. 31 . . . . .	2,749.05	5,110	+1,590	2,645.60	20,100	-4,500	2,625.20	9,260	-2,940
Feb. 28 . . . . .	2,747.45	3,420	-1,690	2,650.58	21,900	+1,800	2,629.83	10,500	+1,240
Mar. 31 . . . . .	2,749.81	5,930	+2,510	2,658.58	25,200	+3,300	2,601.67	4,360	-6,140
Apr. 30 . . . . .	2,745.64	1,590	-4,340	2,664.32	27,700	+2,500	2,602.87	4,550	+190
May 31 . . . . .	2,756.81	14,200	+12,600	2,670.67	30,600	+2,900	2,641.40	14,200	+9,650
June 30 . . . . .	2,754.87	11,800	-2,400	2,674.20	32,300	+1,700	2,627.30	9,830	-4,370
July 31 . . . . .	2,755.53	12,600	+800	2,660.00	25,800	-6,500	2,641.30	14,200	+4,370
Aug. 31 . . . . .	2,754.63	11,500	-1,100	2,653.70	23,200	-2,600	2,633.00	11,500	-2,700
Sept. 30 . . . . .	2,754.05	10,800	-700	2,653.20	23,000	-200	2,636.40	12,500	+1,000
Water year 1965-66			+5,580			-			-

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.--6,421 sq mi, excluding Goose Lake Basin.

Records available.--November 1942 to September 1966. 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 at various sites near dam at same datum.

Extremes.--Maximum contents during year, 4,494,200 acre-ft May 11 (elevation, 1,065.05 ft); minimum, 3,154,500 acre-ft Jan. 28 (elevation, 1,014.43 ft).

1942-66: 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 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. Dead storage, 115,700 acre-ft. All water passes down Sacramento River, some first passing through powerplant at dam. Records, including extremes, represents total contents at 2400 hours.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in acre-feet at 2400 hours, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,607.3	3,414.1	3,509.8	3,186.9	3,158.0	3,495.7	4,112.1	4,457.4	4,466.5	4,220.3	3,775.1	3,392.9
2	3,601.2	3,406.2	3,496.7	3,178.9	3,158.0	3,507.3	4,132.5	4,463.3	4,460.3	4,203.3	3,757.9	3,390.9
3	3,594.5	3,399.8	3,484.7	3,184.3	3,161.5	3,515.8	4,151.9	4,468.0	4,458.9	4,189.0	3,742.4	3,388.0
4	3,588.4	3,394.4	3,478.2	3,246.8	3,189.8	3,526.4	4,170.7	4,471.5	4,453.6	4,169.9	3,731.9	3,382.8
5	3,580.5	3,389.0	3,464.0	3,304.5	3,230.3	3,534.2	4,189.1	4,476.5	4,448.3	4,157.2	3,718.2	3,373.3
6	3,576.6	3,392.6	3,449.0	3,354.0	3,269.1	3,540.8	4,206.1	4,480.7	4,443.6	4,143.4	3,710.9	3,366.4
7	3,571.8	3,380.9	3,437.1	3,377.7	3,290.8	3,557.6	4,224.6	4,483.6	4,438.6	4,130.5	3,692.1	3,358.9
8	3,565.9	3,376.2	3,425.0	3,390.9	3,304.8	3,584.3	4,243.7	4,486.3	4,435.4	4,119.3	3,675.5	3,350.3
9	3,558.8	3,368.6	3,412.1	3,394.1	3,315.9	3,629.4	4,262.8	4,491.6	4,433.9	4,105.9	3,660.9	3,346.0
10	3,551.5	3,364.0	3,405.2	3,391.9	3,326.5	3,683.5	4,287.5	4,491.6	4,433.3	4,091.4	3,647.7	3,341.1
11	3,545.6	3,355.9	3,396.1	3,385.0	3,335.3	3,721.6	4,312.6	4,494.2	4,428.4	4,078.9	3,635.6	3,331.1
12	3,539.3	3,354.7	3,382.6	3,376.0	3,336.5	3,754.5	4,336.9	4,493.3	4,415.5	4,066.7	3,626.1	3,323.1
13	3,532.5	3,367.9	3,365.7	3,364.5	3,338.9	3,791.5	4,358.0	4,493.6	4,412.0	4,052.3	3,609.4	3,318.3
14	3,525.9	3,392.2	3,346.9	3,350.1	3,347.4	3,826.8	4,375.1	4,490.1	4,408.2	4,040.2	3,590.9	3,313.7
15	3,518.4	3,411.9	3,329.9	3,336.0	3,349.9	3,861.2	4,388.7	4,489.2	4,399.5	4,028.0	3,578.2	3,311.5
16	3,512.3	3,415.6	3,314.9	3,318.3	3,353.8	3,889.6	4,402.7	4,490.1	4,387.9	4,012.1	3,564.2	3,309.8
17	3,506.3	3,431.9	3,302.6	3,307.2	3,357.4	3,914.4	4,414.1	4,486.8	4,380.6	3,991.5	3,551.5	3,307.9
18	3,499.2	3,465.7	3,290.3	3,295.6	3,366.0	3,929.8	4,422.3	4,490.4	4,364.1	3,975.7	3,540.6	3,298.3
19	3,493.0	3,485.7	3,272.5	3,283.3	3,376.2	3,942.5	4,429.0	4,490.4	4,348.5	3,962.1	3,529.2	3,292.7
20	3,486.4	3,491.2	3,259.8	3,270.8	3,379.7	3,953.9	4,436.3	4,489.2	4,338.9	3,944.9	3,512.3	3,286.9
21	3,480.4	3,491.2	3,246.6	3,256.6	3,390.9	3,962.6	4,438.9	4,484.2	4,330.8	3,932.5	3,496.5	3,282.8
22	3,476.9	3,486.4	3,234.9	3,241.8	3,400.3	3,972.1	4,438.9	4,483.9	4,321.5	3,916.2	3,485.2	3,279.0
23	3,472.9	3,481.4	3,223.0	3,225.3	3,410.4	3,980.6	4,440.4	4,486.6	4,311.7	3,897.4	3,476.9	3,277.1
24	3,463.5	3,490.2	3,215.1	3,209.6	3,426.7	3,986.1	4,441.6	4,485.4	4,302.2	3,877.5	3,465.0	3,273.5
25	3,457.7	3,498.2	3,205.6	3,194.2	3,442.6	3,996.7	4,445.7	4,483.0	4,292.4	3,864.1	3,453.2	3,267.2
26	3,452.0	3,500.5	3,195.0	3,177.5	3,459.2	4,008.0	4,450.9	4,479.2	4,274.6	3,853.1	3,443.3	3,266.5
27	3,447.3	3,501.2	3,187.9	3,161.7	3,472.4	4,017.0	4,454.5	4,478.9	4,262.5	3,842.7	3,433.4	3,267.0
28	3,442.1	3,497.0	3,191.4	3,154.5	3,483.9	4,032.7	4,457.4	4,481.0	4,255.1	3,827.0	3,419.5	3,264.5
29	3,435.4	3,504.3	3,194.0	3,156.1	4,050.7	4,050.7	4,459.2	4,479.2	4,246.0	3,814.8	3,410.6	3,261.7
30	3,430.2	3,510.8	3,194.5	3,154.9	4,070.9	4,070.9	4,460.6	4,474.5	4,236.5	3,804.0	3,402.8	3,262.9
31	3,424.0	-----	3,194.2	3,155.6	-----	4,089.5	-----	4,472.1	-----	3,789.7	3,396.2	-----
(†)	1,025.62	1,029.10	1,016.12	1,014.48	1,028.03	1,050.95	1,063.91	1,064.30	1,056.17	1,039.89	1,024.52	1,019.00
(‡)	-188.4	+86.8	-316.6	-38.6	+328.3	+605.6	+371.1	+11.5	+235.6	-446.8	+392.8	-134.0
(††)	8,330	1,890	1,800	2,390	2,480	5,350	10,430	14,300	14,500	16,550	15,920	10,840

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

†† Evaporation, in acre feet.

## 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.--6,468 sq mi (revised), excluding Goose Lake basin.

Records available.--October 1938 to September 1966. 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 2.1 miles downstream.

Average discharge.--28 years, 8,302 cfs (6,010,000 acre-ft per year), adjusted for change in contents and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir.

Extremes.--Maximum discharge during year, 17,300 cfs Jan. 17 (gage height, 16.95 ft); minimum daily, 4,460 cfs Mar. 13.

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 Kennet plus 4,000 cfs estimated inflow; minimum observed, 2,730 cfs Aug. 22, 1939.

1944-66: 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 sta. no. 11-3700). 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. Since December 1963, water is released from Whiskeytown Lake (see sta. no. 11-3717) at lat 40°37'03", long 122°31'31", through a tunnel to Spring Creek powerplant (see sta. no. 11-3716) and then into Keswick Reservoir. See schematic diagram for Pit and McCloud River basins. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Cooperation.--Fourteen discharge measurements furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,290	7,560	6,330	11,500	10,600	5,510	5,440	8,900	9,080	12,300	13,000	8,900
2	8,280	7,540	11,900	11,500	10,300	5,520	5,390	8,880	9,080	12,900	13,300	8,840
3	8,300	7,540	12,000	10,900	9,590	4,620	5,380	8,880	9,390	13,000	13,300	8,800
4	8,320	7,610	12,400	10,900	8,910	4,610	5,330	8,880	10,200	13,000	13,200	8,780
5	8,280	7,600	12,400	10,500	8,880	4,620	5,300	8,880	10,200	13,000	13,200	8,810
6	8,230	7,610	12,400	13,400	8,710	4,600	5,280	8,880	10,200	13,100	13,200	8,550
7	8,190	7,610	12,500	15,200	8,670	4,610	5,290	8,870	10,200	13,100	13,200	8,380
8	8,130	7,650	12,500	15,400	8,610	4,620	5,290	8,870	10,200	13,100	13,200	8,380
9	8,100	7,670	12,600	16,300	8,530	4,720	5,330	8,880	10,200	13,100	13,300	7,930
10	8,100	7,650	12,600	16,700	8,580	4,820	5,350	9,700	10,100	13,100	13,200	7,820
11	8,100	7,640	12,600	16,800	7,510	4,710	5,330	9,390	10,200	13,900	13,200	7,800
12	8,080	7,660	12,700	16,600	7,490	4,560	5,290	9,390	10,200	14,100	13,200	7,760
13	8,090	7,730	12,600	16,600	7,420	4,460	5,310	9,390	10,200	14,200	13,000	7,790
14	8,090	7,820	12,600	16,900	7,380	4,920	6,280	9,390	10,200	14,300	13,200	7,790
15	8,090	7,850	12,600	16,700	7,400	5,570	7,200	9,390	10,700	14,200	13,200	7,820
16	8,090	7,730	12,600	16,800	6,340	6,580	8,170	9,390	11,200	14,400	13,200	7,780
17	8,120	8,120	12,600	16,800	6,310	7,930	9,140	9,390	11,200	14,400	13,200	7,780
18	8,130	8,320	12,600	16,700	6,310	9,450	9,890	9,430	11,900	14,500	13,200	7,780
19	8,130	8,090	12,700	16,600	6,420	9,520	9,890	9,370	12,200	14,500	13,200	7,760
20	8,130	9,470	12,600	16,700	5,370	9,690	9,890	8,950	12,200	14,600	13,200	7,780
21	8,150	9,990	11,400	16,800	5,400	10,700	9,890	9,000	12,300	14,700	13,200	7,760
22	8,160	9,990	11,400	16,800	5,430	9,630	9,390	8,950	12,300	14,700	12,700	7,760
23	8,150	11,300	11,400	16,800	5,420	9,630	9,390	8,980	12,300	13,800	12,100	7,760
24	8,120	12,000	11,400	16,300	5,420	10,100	9,890	9,010	12,300	13,900	12,000	7,760
25	8,100	12,000	11,400	16,200	5,480	6,740	9,210	9,010	12,300	13,900	12,000	7,740
26	8,120	11,800	11,400	14,600	5,480	7,510	8,860	9,030	12,300	13,900	12,000	7,730
27	8,120	11,800	11,400	13,400	5,500	7,490	8,340	9,040	12,300	14,000	12,000	7,720
28	8,120	11,500	11,500	12,100	5,510	6,460	8,880	9,060	12,300	14,400	12,000	7,700
29	8,120	6,050	11,500	11,400	-----	5,510	8,900	9,060	12,300	13,300	11,700	7,730
30	8,120	5,990	11,500	10,700	-----	5,460	8,880	9,080	12,300	12,900	11,000	7,700
31	8,130	-----	11,500	10,600	-----	5,440	-----	9,070	-----	13,000	9,600	-----
Total	252,680	259,190	369,730	456,200	203,070	200,510	222,900	285,490	332,450	425,900	394,200	240,390
Mean	8,151	8,640	11,930	14,720	7,252	6,463	7,430	9,209	11,080	13,740	12,720	8,013
Ac-ft	501,200	514,100	733,300	904,300	402,800	397,700	442,100	566,300	659,400	844,300	781,900	476,900
Meant†	3,830	8,653	5,720	12,650	11,500	15,080	12,140	6,341	4,423	3,841	3,633	3,721
Ac-ft†	235,500	514,900	351,700	778,000	638,300	927,500	722,600	389,300	263,500	236,200	223,400	221,400

Calendar year 1965 Max 53,400 Min 3,470 Mean 10,090 Ac-ft 7,308,000 Meant† 9,350 Ac-ft† 6,045,000  
 Water year 1965-66 Max 16,900 Min 4,460 Mean 9,980 Ac-ft 7,225,000 Meant† 7,601 Ac-ft† 5,503,000

† Adjusted for change in contents and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir.

11-3710. Clear Creek at French Gulch, Calif.

Location.--Lat  $40^{\circ}41'40''$ , long  $122^{\circ}38'10''$ , in NE $\frac{1}{4}$  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 1966.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 1,320.60 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Dec. 28, 1959, graphic water-stage recorder at datum 3.00 ft higher. Dec. 28, 1959, to Oct. 7, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 211 cfs (152,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,390 cfs Nov. 15 (gage height, 8.23 ft); minimum daily, 8.5 cfs Sept. 5. 1950-66: Maximum discharge, 7,600 cfs Dec. 22, 1964 (gage height, 13.70 ft); minimum, 3.9 cfs Sept. 6-8, 1955.

Remarks.--Records good. No large diversion above station. See schematic diagram for Pit and McCloud River basins. Records of suspended sediment loads for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	16	246	219	371	340	528	154	69	30	14	12
2	14	16	230	195	328	321	575	149	69	30	13	11
3	14	19	219	199	375	296	534	144	71	30	13	9.6
4	15	21	213	562	1,270	283	490	140	66	29	12	8.8
5	16	22	208	1,070	1,220	288	462	137	63	27	12	8.2
6	18	21	206	1,110	958	308	444	134	65	25	11	8.6
7	16	29	198	926	755	320	431	130	70	26	10	9.2
8	15	52	186	825	611	498	413	125	66	27	9.8	9.9
9	15	30	174	730	508	975	404	123	59	27	10	10
10	15	26	161	593	436	1,160	408	121	54	28	10	9.8
11	15	27	154	485	375	975	387	116	53	27	9.8	10
12	14	93	145	400	338	835	371	111	51	25	10	11
13	13	212	135	353	306	885	337	107	49	25	9.6	13
14	15	981	128	325	289	895	311	104	45	25	9.3	16
15	18	1,520	122	320	270	845	295	102	41	25	9.5	15
16	18	510	116	340	254	745	289	100	42	24	9.8	13
17	18	725	111	335	245	635	282	96	40	23	10	12
18	19	1,550	106	314	242	566	268	91	39	22	10	15
19	19	1,490	101	291	297	516	249	87	37	21	9.7	17
20	18	755	97	268	284	467	234	85	38	21	9.3	15
21	15	476	96	248	278	440	222	84	38	20	8.6	14
22	15	340	93	237	294	413	211	82	39	18	8.7	12
23	15	324	89	221	359	395	201	80	40	18	8.8	12
24	15	548	97	207	395	395	194	77	39	17	9.3	12
25	13	584	93	195	400	422	189	74	36	16	9.6	12
26	15	494	87	186	383	458	183	72	34	15	10	13
27	16	408	91	179	363	498	176	71	33	15	10	12
28	16	346	490	172	349	534	171	70	32	15	9.2	12
29	18	303	462	322	-----	562	165	70	31	14	10	10
30	15	272	329	467	-----	580	159	74	20	14	11	10
31	16	-----	265	408	-----	588	-----	74	-----	15	14	-----
TOTAL	489	12,210	5,448	12,702	12,553	17,438	9,653	3,184	1,439	694	321.0	353.4
MEAN	15.8	407	176	410	448	563	322	103	48.0	22.4	10.4	11.8
AC-FT	970	24,220	10,810	25,190	24,900	34,590	19,150	6,320	2,850	1,380	637	701
CALENDAR YEAR 1965 MAX 1,670 MIN 13 MEAN 206 AC-FT 149,400												
WATER YEAR 1965-66 MAX 1,550 MIN 8.5 MEAN 210 AC-FT 151,700												

Peak discharge (base, 1,500 cfs).--Nov. 15 (0215 hours) 2,390 cfs (8.23 ft); Nov. 19 (0030 hours) 2,060 cfs (7.94 ft).

## KIAMATH RIVER BASIN

11-5254.3. Judge Francis Carr powerplant near French Gulch, Calif.

Location.--Lat 40°38'49", long 122°37'34", at powerplant 1.6 miles downstream from Mill Creek and 3.8 miles south of French Gulch.Records available.--April 1963 to September 1966.Gage.--Recorded powerplant output.Extremes.--1963-66: Maximum daily discharge, 3,280 cfs for several days in May, August, September 1964; no flow May 6-9, 1963.Remarks.--Water is diverted from Trinity River at NW 1/4 sec. 8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (see sts. no. 11-3717). See schematic diagram for Pit and McCloud River basins.Cooperation.--Records furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,399	353	553	525	543	539	622	2,974	3,257	2,996	2,993	3,266
2	1,433	404	557	641	564	548	621	2,919	3,257	2,917	2,982	3,107
3	1,377	1,242	546	719	542	547	507	2,927	3,021	2,901	2,989	3,044
4	1,480	1,037	553	715	545	491	576	2,926	3,034	2,998	3,066	3,074
5	1,461	963	745	652	546	487	571	3,019	2,824	3,003	2,991	3,095
6	1,364	953	743	656	651	501	571	3,257	2,765	2,931	2,943	1,723
7	1,431	575	723	659	553	435	501	3,257	2,320	2,945	2,987	1,379
8	1,440	433	553	721	566	491	1,422	3,257	2,765	2,943	3,023	1,855
9	1,205	101	551	690	790	491	1,364	3,257	3,257	2,940	3,022	1,791
10	1,203	525	547	735	619	493	1,383	3,257	3,095	2,984	3,022	1,793
11	1,295	249	550	775	610	492	1,410	3,257	2,907	2,989	3,022	1,714
12	1,275	793	560	741	552	491	1,404	3,257	2,999	2,989	3,019	1,675
13	1,275	307	546	317	514	483	1,414	3,257	2,910	2,868	2,882	1,744
14	1,276	920	500	763	522	483	1,402	3,257	2,916	2,916	3,015	1,818
15	1,264	771	501	705	520	491	1,502	3,257	2,838	2,930	3,029	1,763
16	1,186	830	554	701	524	483	2,485	3,257	3,060	2,945	3,035	1,622
17	1,171	633	552	707	519	488	2,799	3,257	2,989	2,942	3,033	1,662
18	1,180	560	517	663	527	506	2,783	3,257	2,987	2,942	3,032	1,659
19	1,183	765	530	677	521	507	2,777	3,257	2,989	2,996	3,019	1,593
20	1,183	770	524	693	519	503	2,358	3,257	2,899	3,004	3,019	1,600
21	1,134	767	514	697	516	306	2,944	3,257	2,901	2,927	3,026	1,595
22	1,146	767	528	699	617	507	2,956	3,257	2,889	2,991	3,013	1,577
23	1,157	763	510	687	600	502	2,977	3,257	2,999	3,061	3,022	1,855
24	1,135	760	516	377	625	500	3,063	3,257	2,957	2,989	3,106	3,091
25	1,231	762	513	1,543	589	569	2,934	3,257	2,904	2,993	3,018	3,095
26	1,141	761	510	1,410	601	521	2,952	3,257	2,947	2,986	3,025	3,143
27	1,140	762	493	1,324	502	638	2,957	3,257	2,936	2,992	3,029	3,138
28	1,150	748	325	1,534	506	619	2,306	3,257	2,954	2,979	3,110	3,144
29	1,271	746	509	522	-----	609	2,319	3,257	2,947	2,992	3,112	3,118
30	1,263	750	520	654	-----	630	2,922	3,257	2,993	2,836	3,046	3,115
31	1,179	-----	513	563	-----	631	-----	3,257	-----	2,912	2,725	-----
Total	39,033	22,329	17,071	25,075	16,003	16,353	58,407	99,447	88,917	91,737	93,360	68,368
Mean	1,261	744	551	809	572	523	1,947	3,208	2,964	2,959	3,012	2,279
Ac-ft	77,520	44,290	33,860	49,740	31,740	32,440	115,590	197,250	176,360	181,960	185,180	135,610
Calendar year 1965	Max	3,257	Min	445	Mean	1,459	Ac-ft	1,063,330				
Water year 1965-66	Max	3,266	Min	101	Mean	1,743	Ac-ft	1,261,540				

11-3716. Spring Creek powerplant at Keswick, Calif.

Location.--Lat 40°37'41", long 122°27'59", in NE 1/4 sec. 18, T.32 N., R.5 W., at powerplant on Spring Creek, 0.4 mile northwest of Keswick, and 4.9 miles northwest of Redding.

Records available.--December 1963 to September 1966.

Gage.--Discharge computed from powerplant output.

Extremes.--1963-66: Maximum daily discharge, 3,606 cfs Feb. 7, 1966; minimum daily, 10 cfs Dec. 15, 1963.

Remarks.--Water is released from Whiskeytown Lake (see sta. no. 11-3717) at lat 40°37'03", long 122°31'31", through a tunnel to powerplant and then into Keswick Reservoir. See schematic diagram for Pit and McCloud River basins.

Cooperation.--Records furnished by U.S. Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.366	874	961	1.368	1.536	984	1.164	3.079	3.258	2.913	2.923	2.946
2	1.435	930	952	1.376	1.787	1.091	1.170	2.950	3.264	2.940	3.003	2.987
3	1.420	930	1.098	1.226	1.790	1.059	1.163	3.141	3.072	2.942	2.920	3.003
4	1.413	930	1.183	1.085	1.799	993	1.520	3.136	3.080	2.919	3.002	3.197
5	1.417	928	861	1.356	2.427	980	1.373	3.223	2.952	2.903	2.909	3.127
6	1.420	963	1.071	2.293	3.594	1.059	1.550	3.406	2.741	2.901	2.917	1.681
7	1.452	968	1.163	2.981	3.606	1.059	1.562	3.361	2.923	2.906	2.922	1.652
8	1.461	968	1.196	2.562	2.473	979	2.273	3.421	2.930	2.902	2.922	1.649
9	1.452	965	1.032	853	2.960	1.414	2.251	3.453	3.236	2.909	2.919	1.649
10	1.466	947	1.202	1.456	3.003	2.036	2.243	3.424	3.184	2.910	2.916	1.649
11	1.453	937	943	2.169	2.564	1.826	2.179	3.313	2.917	2.907	2.913	1.645
12	1.458	961	1.122	1.819	2.557	1.902	2.110	3.310	3.009	2.911	2.920	1.530
13	1.424	953	1.211	1.281	1.803	1.887	2.036	3.374	2.938	2.909	2.949	1.641
14	1.425	950	1.202	1.129	904	1.879	1.670	3.353	2.874	2.903	2.923	1.669
15	1.416	950	1.201	1.613	830	1.881	1.713	3.302	2.850	2.911	2.947	1.663
16	1.402	986	1.172	1.580	602	1.874	1.893	3.296	2.843	2.913	2.911	1.583
17	1.420	1.185	1.071	1.706	653	1.879	1.895	3.305	2.844	2.886	3.006	1.653
18	1.403	1.257	1.094	1.599	899	1.143	1.827	3.303	2.846	2.880	3.083	1.654
19	1.414	1.254	1.017	1.396	1.044	993	1.810	3.313	2.915	2.916	3.082	1.649
20	1.410	1.797	1.074	1.874	936	1.101	1.850	3.313	2.921	2.906	3.007	1.643
21	1.406	1.995	980	1.535	1.057	1.180	1.562	3.293	2.923	2.917	2.943	1.652
22	1.412	2.007	993	1.551	1.065	1.185	1.466	3.300	2.949	2.923	2.930	1.653
23	1.405	2.927	1.020	1.640	1.114	1.179	1.454	3.305	2.924	2.920	2.933	2.012
24	1.411	2.943	803	1.615	1.183	1.176	1.485	3.230	2.953	2.914	3.024	3.012
25	1.461	2.963	895	1.007	1.456	1.181	1.513	3.291	2.773	2.921	2.933	3.014
26	1.313	2.966	1.110	723	1.456	1.173	1.517	3.289	2.752	2.887	2.927	3.112
27	1.323	2.933	973	816	1.406	1.191	1.503	3.294	2.750	2.902	2.924	3.103
28	1.324	2.932	977	812	1.257	1.165	1.440	3.286	2.903	2.891	2.984	3.073
29	1.282	975	1.376	893	-----	1.176	1.425	3.293	2.912	2.923	2.944	3.076
30	1.283	952	1.347	1.056	-----	1.121	1.824	3.292	2.894	2.766	2.997	3.096
31	1.200	-----	1.374	1.352	-----	1.161	-----	3.253	-----	2.924	3.007	-----
Total	43,367	44,296	33,684	45,732	47,766	40,917	50,976	101,932	88,140	89,892	91,565	66,683
Mean	1.399	1.477	1.087	1.475	1.706	1.320	1.699	3.283	2.933	2.900	2.954	2.223
Ac-ft	86,120	87,860	66,810	90,710	94,740	81,160	100,990	202,180	174,920	178,300	181,620	132,270

Calendar year 1965: Max 3,536 Min 72 Mean 1,800 Ac-ft 1,302,370  
 Water year 1965-66: Max 3,606 Min 602 Mean 2,041 Ac-ft 1,477,580

## SACRAMENTO RIVER BASIN

11-3717. Whiskeytown Lake near Igo, Calif.

Location.--Lat 40°37'03", long 122°31'31", on Clear Creek at outlet works to Spring Creek powerplant, 1.8 miles downstream from Whiskey Creek, and 7.8 miles northeast of Igo.

Drainage area.--200 sq mi.

Records available.--May 1963 to September 1966. Prior to October 1964 published as Whiskeytown Reservoir near Igo.

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

Extremes.--Maximum contents during year, 244,400 acre-ft Nov. 19 (elevation, 1,211.02 ft); minimum, 194,200 acre-ft Feb. 13 (elevation, 1,194.54 ft).  
1963-66: Maximum contents, 245,200 acre-ft Dec. 23, 1964 (elevation, 1,211.27 ft); minimum since reservoir was first filled, 188,700 acre-ft Feb. 10, 1964, (elevation, 1,192.60 ft).

Remarks.--Reservoir is formed by earth and rock-fill dam. Storage began in May 1963. Capacity, 241,100 acre-ft between elevation 1,100.00 ft (minimum operating level) and 1,210.00 ft (crest of spillway). No dead storage. Transbasin water enters the reservoir through Judge Francis Carr powerplant and is released through Spring Creek Tunnel to Spring Creek powerplant (see sta. no. 11-3716) and Keswick Reservoir. Records, including extremes, represents contents at 2400 hours. See schematic diagram for Pit and McCloud River basins.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in thousands of acre-ft, at 2400 hours, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	233.1	222.3	224.7	205.4	211.0	195.1	193.4	239.3	239.1	239.4	239.2	239.5
2	233.0	222.7	224.5	205.7	209.2	195.0	193.3	239.5	239.0	239.4	239.1	239.7
3	232.3	223.3	224.0	206.1	209.4	194.9	199.1	239.4	239.0	239.4	239.1	239.6
4	232.9	223.6	223.3	209.2	212.2	194.9	193.6	239.3	239.0	239.5	239.0	239.4
5	232.7	223.4	223.6	212.7	213.3	194.9	197.4	239.2	239.0	239.6	239.1	239.2
6	232.6	223.3	223.4	213.3	211.5	194.9	195.2	239.2	239.0	239.5	239.0	239.0
7	232.4	222.9	223.0	211.7	203.1	194.2	196.0	239.2	239.0	239.4	238.9	239.3
8	232.3	222.1	222.1	210.6	205.4	195.4	195.7	239.2	238.9	239.4	238.9	239.6
9	231.2	220.4	221.6	212.2	203.9	197.0	195.4	239.1	238.9	239.4	239.0	239.7
10	231.2	219.5	220.7	212.5	200.2	197.6	195.1	239.0	238.2	239.4	239.0	239.2
11	230.2	213.3	220.4	211.3	193.3	197.9	195.0	239.1	238.9	239.4	239.1	239.7
12	230.4	213.5	219.6	210.4	195.7	197.6	194.9	239.2	238.6	239.5	239.2	239.7
13	229.9	222.2	218.6	210.6	194.2	197.5	194.7	239.1	238.5	239.3	239.2	239.2
14	229.6	229.2	217.5	210.2	194.4	197.3	195.2	239.0	238.5	239.2	239.3	239.2
15	229.2	235.0	216.4	210.0	194.5	196.9	195.6	239.0	238.4	239.2	239.4	239.2
16	223.7	235.4	215.5	209.2	195.2	196.3	197.6	239.0	238.2	239.1	239.5	239.2
17	223.1	233.6	214.7	203.2	195.7	195.3	200.2	239.0	238.9	239.1	239.4	239.7
18	227.7	242.7	213.2	207.3	195.2	195.2	202.2	239.1	239.1	239.1	239.2	239.6
19	227.2	244.4	213.0	206.2	196.3	196.2	205.4	239.1	239.2	239.1	239.0	239.3
20	226.7	243.2	212.2	205.3	196.3	196.4	203.0	239.1	239.0	239.1	239.0	239.1
21	226.2	241.6	211.4	204.4	195.2	196.4	211.2	239.1	239.0	239.0	239.0	238.2
22	225.7	240.1	210.7	203.4	195.4	195.2	214.6	239.1	238.9	239.0	239.0	238.5
23	225.1	237.2	209.9	202.3	196.5	195.0	213.0	239.1	238.9	239.1	239.1	238.0
24	224.6	235.0	209.7	201.6	195.6	195.2	221.3	239.2	239.0	239.1	239.2	238.1
25	224.1	232.2	209.2	203.2	195.2	195.2	224.5	239.2	239.1	239.0	239.2	238.1
26	223.2	230.2	203.2	204.9	195.7	195.9	227.6	239.2	239.4	239.0	239.3	238.0
27	223.4	227.2	207.5	207.3	195.2	196.2	230.6	239.2	239.6	239.1	239.4	238.0
28	223.0	224.1	207.1	209.3	195.0	195.5	233.7	239.1	239.5	239.1	239.5	238.0
29	223.0	224.5	203.9	210.6	-----	195.2	236.5	239.0	239.4	239.2	239.6	238.0
30	223.0	224.2	202.3	211.5	-----	197.4	239.1	239.0	239.4	239.2	239.6	237.9
31	222.9	-----	207.5	211.4	-----	197.9	-----	239.1	-----	239.2	239.0	-----
(†)	1204.20	1204.22	1199.12	1200.44	1194.22	1195.22	1209.37	1209.37	1209.47	1209.40	1209.36	1203.99
(‡)	-10.3	+ 1.9	- 17.3	+ 3.9	-16.4	+ 2.9	+ 41.2	0	+ 0.3	- 0.2	- 0.2	- 1.1
(††)	350	110	150	210	200	560	1150	1700	2000	2240	2220	1330

Calendar year 1965 ..... ‡ -17.7  
Water year 1965-66 ..... ‡ + 4.7

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

†† Evaporation, in acre-ft.



11-3720. Clear Creek near Igo, Calif.

Location.--Lat 40°30'50", long 122°31'20", in NE¼NE¼ 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 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 675 ft (from river-profile map). Prior to Sept. 28, 1962, graphic water-stage recorder, at same site and datum.

Average discharge.--26 years, 411 cfs (297,600 acre-ft per year), adjusted for storage and diversions.

Extremes.--Maximum discharge during year, 2,290 cfs Nov. 15, Jan. 4 (gage height, 5.76 ft); minimum daily, 37 cfs for many days in August and September.

1940-63: (Prior to regulation by Whiskeytown Reservoir): Maximum discharge, 24,500 cfs Dec. 21, 1955 (gage height, 13.75 ft); minimum, 8.6 cfs Sept. 4, 6, 7, 1950.

1963-66: Maximum discharge, 9,940 cfs Dec. 22, 1964 (gage height, 9.23 ft); minimum daily, 37 cfs for many days in August and September, 1966.

Remarks.--Records good. Flow regulated by Whiskeytown Lake since May 1963 (see sta. no. 11-3717). Transbasin diversion from Trinity River through Judge Francis Carr powerplant to Whiskeytown Lake began in April 1963 (see sta. no. 11-5254.3). Diversions from Whiskeytown Lake to Spring Creek powerplant (see sta. no. 11-3716) began in December 1963. See schematic diagram for Pit and McCloud River Basins. Records of chemical analyses and water temperatures for the water year 1965 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	58	132	122	233	156	104	54	46	42	38	38
2	58	71	127	124	201	143	102	53	47	42	38	37
3	58	94	124	283	247	133	99	52	46	41	38	37
4	58	94	122	1360	563	133	97	53	43	39	38	37
5	58	94	120	1080	469	153	93	53	43	39	38	37
6	58	94	117	522	317	147	86	53	44	39	38	37
7	57	99	117	309	241	143	87	52	44	39	38	37
8	57	99	117	238	202	148	89	51	44	39	39	37
9	57	94	114	192	177	335	98	52	43	40	37	37
10	58	94	112	166	159	629	96	52	43	40	37	37
11	58	97	114	147	146	333	97	51	44	39	37	43
12	57	130	112	135	137	255	100	50	42	39	37	41
13	57	360	112	128	130	244	90	51	41	40	37	39
14	58	574	110	122	125	212	86	54	41	39	37	38
15	58	865	110	119	119	201	83	48	41	39	37	38
16	58	210	108	115	115	181	81	49	41	39	37	38
17	58	363	108	111	111	167	81	47	41	39	37	38
18	58	414	108	107	110	159	80	46	41	39	38	41
19	58	982	108	103	203	151	78	46	43	41	38	39
20	58	1040	108	99	162	143	76	45	45	38	38	38
21	58	486	108	97	146	137	65	46	40	38	38	38
22	58	186	108	98	149	130	64	46	41	38	38	38
23	57	143	108	95	145	125	60	45	41	38	38	39
24	57	159	117	93	146	121	58	45	41	40	38	39
25	57	186	112	91	181	119	57	45	40	39	37	39
26	57	186	110	90	210	116	56	44	43	38	41	39
27	58	183	112	88	186	114	55	45	44	38	37	39
28	58	157	148	86	169	113	55	44	44	38	39	39
29	58	145	143	223	-----	111	55	44	47	38	42	39
30	58	137	132	426	-----	108	54	44	43	38	38	39
31	58	-----	130	235	-----	106	-----	46	-----	39	38	-----
Total	1,783	7,894	3,628	7,704	5,499	5,466	2,382	1,506	1,287	1,214	1,176	1,152
Mean	57.7	263	117	249	196	176	79.4	48.6	42.9	39.2	37.9	38.4
Ac-ft	3,550	15,660	7,200	15,280	10,910	10,840	4,720	2,990	2,550	2,410	2,330	2,280
Mean†	42.3	1,029	374	982	1,039	1,025	546	156	55.6	12.8	12.8	-13.9
Ac-ft†	2,600	61,240	23,000	60,360	57,710	63,020	32,470	2,620	3,310	790	790	-830

Calendar year 1965 Max 1,260 Min 50 Mean 113 Ac-ft 85,350 Mean† 425 Ac-ft† 307,700  
 Water year 1965-66 Max 1,860 Min 37 Mean 111 Ac-ft 80,720 Mean† 434 Ac-ft† 314,100

Note.-- † Adjusted for change in contents and evaporation from Whiskeytown Lake, diversion from Trinity River through Judge Francis Carr powerplant, and diversion to Spring Creek powerplant.

## SACRAMENTO RIVER BASIN

11-3720.5. Churn Creek near Redding, Calif.

Location.--Lat 40°38'35", long 122°22'05", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  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 1966 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map).

Average discharge.--6 years, 15.8 cfs (11,440 acre-ft per year).

Extremes.--Maximum discharge during year, 860 cfs Jan. 4 (gage height, 5.70 ft); no flow for several months.

1960-66: Maximum discharge, 3,160 cfs Dec. 22, 1964 (gage-height, 8.74 ft), 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 by slope-area measurement).

Remarks.--Records good. Small diversion above station for domestic supply.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	8.6	10	69	30	7.0	1.4	0.30			
2		0	7.4	10	50	23	6.2	1.3	.30			
3		0	6.2	48	63	18	5.4	1.2	.30			
4		0	5.4	648	302	18	7.0	1.1	.20			
5		0	4.5	347	283	33	5.4	1.2	.20			
6		0	3.7	172	138	27	5.0	1.1	.20			
7		0	3.4	89	82	26	5.0	1.1	.30			
8		0	3.2	64	54	40	4.7	1.0	.30			
9		0	2.9	41	40	76	14	1.0	.20			
10		0	2.7	32	31	164	12	1.2	.20			
11		0	2.7	26	25	95	11	1.1	.10			
12		.60	3.4	22	22	59	14	1.0	0			
13		26	3.2	18	19	52	7.8	.90	0			
14		62	2.9	15	16	38	6.2	.80	0			
15		113	2.7	14	15	36	5.0	.70	0			
16		20	2.4	12	13	30	4.5	.70	0			
17		71	2.3	10	12	25	4.2	.60	0			
18		142	2.3	9.5	12	22	4.0	.40	0			
19		62	2.2	7.8	69	20	3.7	.40	0			
20		25	2.2	6.6	45	18	3.4	.30	0			
21		14	2.2	6.6	35	17	3.2	.30	0			
22		10	2.0	7.4	32	15	2.9	.30	0			
23		12	2.0	6.2	30	14	2.7	.20	0			
24		13	6.2	5.8	35	13	2.2	.20	0			
25		26	8.6	5.0	50	12	2.2	.20	0			
26		37	7.0	5.0	73	11	1.8	.20	0			
27		37	6.6	4.5	50	10	1.7	.20	0			
28		22	14	4.2	38	10	1.7	.20	0			
29		15	20	38	-----	8.2	1.6	.20	0			
30		12	15	131	-----	7.8	1.6	.20	0			
31		-----	14	64	-----	7.4	-----	.30	-----			-----
Total	0	719.60	171.9	1379.6	1703	975.4	157.1	21.00	2.60	0	0	0
Mean	0	24.0	5.55	60.6	60.8	31.5	5.24	0.68	0.09	0	0	0
Ac-ft	0	1430	341	3730	3380	1930	312	42	5.2	0	0	0

Calendar year 1965 Max 500 Min 0 Mean 14.2 Ac-ft 10310  
 Water year 1965-66 Max 648 Min 0 Mean 15.4 Ac-ft 11170

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-18	0630	4.44	412	2-4	1730	4.90	550
1-4	0800	5.70	860				

11-3720.60. Churn Creek below Newtown Creek, near Redding, Calif.

Location.--Lat 40°38'17", long 122°22'02", in SE 1/4 sec. 7, T.32 N., R.4 W., on left bank 100 ft downstream from Newtown Creek, 0.1 mile upstream from Oasis Road bridge, and 4.2 miles north of Redding.

Drainage area.--11.9 sq mi.

Records available.--October 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,000 cfs Jan. 4 (gage height, 6.15 ft); no flow for several months. Flood of Dec. 22, 1964, reached a stage of 7.68 ft from floodmarks on right bank (discharge, 4,000 cfs, from station above Newtown Creek adjusted for intervening drainage area).

Remarks.--Records good. Small diversion above station for domestic supply.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	9.7	12	77	39	7.2	1.7	.20			
2		0	8.5	11	59	31	6.5	1.7	.20			
3		0	7.5	55	74	24	5.8	1.3	.20			
4		0	6.8	796	320	22	7.2	1.2	.20			
5		0	5.8	402	306	41	5.8	1.2	.10			
6		0	5.2	172	137	35	5.6	1.2	.20			
7		0	4.6	93	87	35	5.4	1.2	.20			
8		0	4.4	70	63	50	5.2	1.1	.20			
9		0	4.0	46	49	83	15	1.1	.20			
10		0	3.7	36	37	174	11	1.2	.10			
11		0	4.0	28	32	100	12	1.2	.10			
12		1.0	4.2	24	26	67	15	1.0	.10			
13		31	3.6	20	22	61	8.2	.90	0			
14		77	3.2	17	20	44	6.8	.70	0			
15		135	2.8	15	17	41	5.8	.70	0			
16		28	2.6	13	16	33	5.4	.70	0			
17		86	2.5	12	15	27	5.0	.60	0			
18		168	2.4	11	14	24	4.6	.40	0			
19		69	2.3	9.4	76	21	4.0	.40	0			
20		28	2.3	8.2	52	18	3.8	.30	0			
21		16	2.4	8.0	40	17	3.7	.30	0			
22		11	2.1	9.1	36	15	3.4	.20	0			
23		12	2.0	8.0	33	14	3.2	.20	0			
24		14	6.5	7.2	42	13	2.8	.20	0			
25		30	10	7.0	58	12	2.8	.10	0			
26		44	8.2	6.8	83	11	2.3	.10	0			
27		44	8.0	6.2	61	10	2.1	.10	0			
28		26	16	5.8	48	9.7	2.1	.10	0			
29		20	22	4.9	-----	8.2	1.9	.10	0			
30		12	17	124	-----	8.0	1.8	.10	0			
31		-----	15	71	-----	7.5	-----	.20	-----			
Total	0	852.0	199.3	2151.7	1900	1095.4	171.4	21.50	2.00	0	0	0
Mean	0	28.4	6.43	69.4	67.9	35.3	5.71	0.69	.07	0	0	0
Ac-ft	0	1,690	395	4,270	3,770	2,170	340	43	4.0	0	0	0

Calendar year 1965 Max ----- Min ----- Mean ----- Ac-ft -----  
 Water year 1965-66 Max 796 Min 0 Mean 17.5 Ac-ft 12,680

Peak discharge (base, 360 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	0500	4.68	374	1-4	0800	6.15	1,000
11-18	0630	5.25	580	2-4	1600	5.40	640

11-3722. South Cow Creek near Millville, Calif.

Location.--Lat 40°32'55", long 122°05'30", in ~~NE 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.--77.3 sq mi.

Records available.--October 1956 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 610 ft (from topographic map). Prior to Aug. 9, 1957, graphic water-stage recorder at site 1.0 mile downstream at different datum. Aug. 9, 1957, graphic water-stage recorder at same site and datum.

Average discharge.--10 years, 94.5 cfs (68,420 acre-ft per year).

Extremes.--Maximum discharge during year, 2,420 cfs Jan. 4 (gage height, 6.14 ft); minimum daily, 2.3 cfs July 23.

1956-66: 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; 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. Records of water temperatures for water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	20	37	77	219	81	132	86	34	12	11	6.5
2	18	21	35	64	94	73	143	81	31	15	11	11
3	18	20	34	63	134	66	144	81	31	18	9.4	12
4	16	21	34	1,010	298	62	146	84	30	16	3.2	10
5	16	23	33	1,520	211	77	141	87	29	14	4.6	9.0
6	18	24	32	400	346	87	130	92	31	14	7.5	10
7	18	27	32	207	137	76	128	86	35	14	5.9	10
8	20	42	31	245	99	124	131	90	31	17	4.6	8.3
9	20	31	30	158	82	112	130	90	32	14	7.5	11
10	20	28	30	122	71	186	176	85	29	12	6.0	12
11	19	29	30	100	62	162	190	84	30	14	4.0	13
12	19	43	32	83	58	135	173	79	29	14	7.5	13
13	19	57	31	72	53	143	144	74	26	13	5.5	13
14	20	114	30	65	51	146	131	66	24	12	6.7	13
15	22	175	29	60	49	164	126	65	21	13	7.8	12
16	21	67	32	56	46	191	131	60	20	14	8.8	12
17	22	145	32	53	45	132	140	54	20	16	8.5	15
18	22	166	32	51	44	117	139	52	17	13	8.5	15
19	22	82	31	49	126	216	124	48	22	12	5.0	17
20	20	62	31	46	144	133	112	46	19	7.5	8.0	15
21	18	46	32	44	81	115	97	44	22	7.0	9.3	14
22	17	39	32	44	76	102	92	45	23	2.5	9.5	14
23	18	37	30	44	133	93	88	42	20	2.3	12	13
24	17	106	69	42	286	88	91	37	18	6.0	4.8	11
25	17	143	123	40	180	86	95	34	15	4.2	5.0	11
26	16	93	66	40	169	85	100	36	13	5.0	5.9	12
27	16	82	51	39	108	91	94	33	17	7.6	3.4	11
28	15	52	44.6	38	90	99	92	35	13	6.8	5.5	8.5
29	16	44	166	175	-----	106	92	35	11	11	3.8	8.5
30	17	40	143	152	-----	117	88	34	9.5	8.8	6.5	8.5
31	20	-----	147	79	-----	123	-----	34	-----	11	6.0	-----
TOTAL	573	1,879	1,943	5,238	3,492	3,588	3,740	1,899	702.5	346.7	212.7	349.3
MEAN	18.5	62.6	62.7	169	125	116	125	61.3	23.4	11.2	6.86	11.6
AC-FT	1,140	3,730	3,850	10,390	6,930	7,120	7,420	3,770	1,390	688	422	693

CALENDAR YEAR 1965 MAX 2,300 MIN 10 MEAN 111 AC-FT 80,440  
 WATER YEAR 1965-66 MAX 1,520 MIN 2.3 MEAN 65.7 AC-FT 47,540

Peak discharge (base, 1,800 cfs).--Jan. 4 (1645) 2,420 cfs (6.14 ft).

11-3732. Oak Run Creek near Oak Run, Calif.

Location.--Lat 40°41'25", long 122°02'35", in SE 1/4 NW 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.--11.0 sq mi.

Records available.--May 1957 to September 1966 (discontinued).

Gage.--Digital water-stage recorder. Altitude of gage is 1,400 ft (from topographic map).

Average discharge.--9 years, 16.1 cfs (11,660 acre-ft per year).

Extremes.--Maximum discharge during year, 1,210 cfs Jan. 4 (gage height, 6.31 ft), from rating curve extended above 240 cfs as explained below; minimum daily, 0.70 cfs July 28, Aug. 4, 20.

1957-66: Maximum discharge, 2,160 cfs Apr. 6, 1963 (gage height, 7.05 ft), from rating curve extended above 240 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.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.4	4.0	6.4	19	46	22	12	6.2	4.1	1.6	1.7	1.5
2	3.2	4.7	5.9	15	22	20	12	5.3	4.1	1.7	1.6	1.6
3	3.6	5.2	5.6	94	39	19	10	5.8	3.4	1.9	1.3	1.6
4	2.9	5.7	5.4	560	61	18	8.5	5.7	2.5	1.8	1.3	1.8
5	4.3	5.5	5.1	468	77	23	8.1	6.0	1.9	1.9	1.3	1.8
6	2.8	5.4	4.9	135	106	25	9.3	5.5	2.0	1.6	1.2	2.7
7	2.8	6.4	4.8	74	48	30	9.7	6.1	3.5	1.4	1.5	2.8
8	3.0	8.1	4.7	123	35	59	10	6.7	3.2	2.1	1.7	2.3
9	4.1	6.0	4.9	60	29	40	26	6.8	3.1	1.4	1.6	2.3
10	4.5	5.6	5.5	43	26	82	34	6.6	3.1	1.90	1.2	1.9
11	4.7	5.8	5.6	33	22	42	45	5.5	2.4	1.5	1.2	1.5
12	4.1	17	5.6	27	20	34	83	5.4	1.6	1.5	1.5	2.2
13	3.6	28	5.2	23	18	36	28	5.4	2.4	2.0	1.3	2.8
14	3.9	31	5.1	20	17	31	21	5.6	1.6	1.6	1.80	2.7
15	4.3	44	4.9	18	16	43	18	5.2	1.3	1.9	1.0	1.2
16	3.8	11	4.9	15	15	41	16	3.1	1.4	1.9	1.6	2.0
17	3.9	65	4.9	14	14	29	15	3.5	1.6	1.9	1.2	1.8
18	4.1	23	4.8	14	14	27	14	3.5	1.8	2.0	1.3	2.4
19	4.0	22	4.8	12	38	40	13	3.8	1.9	2.2	1.1	2.8
20	3.3	11	4.8	11	24	26	12	4.2	2.2	2.0	1.70	2.6
21	3.1	7.6	4.8	11	19	24	11	4.2	3.0	1.9	1.0	2.5
22	3.2	6.4	4.7	12	24	21	11	4.1	1.8	1.9	1.3	2.5
23	2.8	7.3	4.6	11	32	20	9.6	3.9	1.2	1.8	1.6	2.9
24	3.4	20	5.1	9.8	49	19	9.5	3.7	1.8	1.7	1.2	2.6
25	3.8	47	8.7	9.4	40	18	8.8	3.8	1.8	1.5	1.7	3.1
26	3.6	40	7.5	9.0	33	17	8.4	4.3	2.0	1.8	1.9	3.1
27	4.6	23	8.1	8.5	26	15	7.8	3.4	2.5	1.2	2.1	2.9
28	4.5	11	10.1	8.1	24	15	7.4	3.7	2.1	1.70	2.4	2.5
29	4.5	8.4	38	32	-----	14	6.2	2.8	2.3	1.80	2.7	2.3
30	3.7	7.1	94	39	-----	13	7.0	3.0	2.2	1.2	1.9	2.0
31	4.0	-----	63	24	-----	13	-----	3.4	-----	1.6	1.6	-----
TOTAL	115.5	492.3	443.3	1,951.8	934	876	492.0	146.9	69.8	50.90	44.90	68.7
MEAN	3.73	16.4	14.3	63.0	33.4	28.3	16.4	4.74	2.33	1.64	1.45	2.29
AC-FT	229	976	879	3,870	1,850	1,740	976	291	138	101	89	136

CALENDAR YEAR 1965 MAX 430 MIN 1.9 MEAN 17.6 AC-FT 12,740  
 WATER YEAR 1965-66 MAX 560 MIN .70 MEAN 15.6 AC-FT 11,280

Peak discharge (base, 300 cfs).--Jan. 4 (2000) 1,210 cfs (6.31 ft); Apr. 12 (0030) 343 cfs (4.81 ft).

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.--425 sq mi.

Records available.--October 1949 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 400 ft (from topographic map). Prior to July 1, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--17 years, 626 cfs (453,200 acre-ft per year).

Extremes.--Maximum discharge during year, 31,400 cfs Jan. 4 (gage height, 18.71 ft); minimum daily, 0.80 cfs Aug. 13.  
1949-66: Maximum discharge, 45,200 cfs Dec. 27, 1951 (gage height, 21.55 ft); minimum daily, that of Aug. 13, 1966.

Remarks.--Records good. Numerous small diversions above station for irrigation. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	78	260	883	1,600	625	608	390	144	18	8.5	9.6
2	42	70	218	560	918	549	640	375	146	18	8.4	9.2
3	43	72	202	1,270	883	485	659	369	139	25	8.4	10
4	44	73	192	13,600	3,450	448	661	370	130	31	6.5	14
5	44	79	184	17,300	2,890	631	642	384	120	23	2.1	14
6	43	82	175	4,750	5,290	740	623	394	118	20	1.0	7.0
7	46	86	168	2,120	2,010	715	605	380	130	20	1.9	6.0
8	46	150	163	2,380	1,220	1,540	616	362	128	20	2.5	8.1
9	45	126	158	1,550	876	1,280	754	360	116	26	1.0	8.6
10	46	124	153	1,050	696	2,450	1,940	358	94	19	1.3	7.6
11	48	124	153	820	576	1,600	1,790	347	82	22	2.8	10
12	51	172	158	666	510	1,140	2,730	326	79	21	1.6	14
13	52	315	150	576	438	1,070	1,380	308	72	28	8.0	17
14	57	855	143	505	402	1,040	1,030	302	56	23	1.0	16
15	64	1,760	138	460	371	1,020	883	283	54	19	2.6	20
16	64	560	135	434	339	1,320	834	270	50	25	2.2	19
17	64	1,190	133	388	323	897	843	240	50	21	4.7	17
18	63	1,820	130	363	315	777	800	225	38	21	7.6	20
19	64	612	130	335	666	1,060	694	215	39	13	1.0	27
20	63	505	130	307	918	783	621	208	45	10	8.1	25
21	62	303	128	292	554	673	567	207	42	12	9.2	20
22	57	239	128	299	470	592	525	201	43	9.2	7.3	18
23	58	216	126	299	794	541	502	183	42	7.6	5.5	18
24	53	834	190	278	1,500	513	497	164	37	4.2	5.0	19
25	52	1,140	480	264	1,130	492	500	154	36	7.0	4.2	19
26	50	1,220	359	250	1,480	482	499	141	37	9.2	2.2	13
27	48	1,290	267	242	864	487	460	148	36	9.2	4.2	10
28	53	520	2,020	264	706	503	439	142	30	5.5	9.2	9.2
29	56	359	1,620	420	-----	528	420	143	23	5.0	9.4	8.1
30	57	288	2,710	1,460	-----	563	402	135	17	8.4	7.6	7.0
31	72	-----	2,620	748	-----	586	-----	144	-----	6.8	9.2	-----
TOTAL	1,647	15,262	13,921	55,133	32,189	26,130	24,164	8,228	2,173	507.1	156.00	420.4
MEAN	53.1	509	449	1,778	1,150	843	805	265	72.4	16.4	5.03	14.0
AC-FT	3,270	30,270	27,610	109,400	63,850	51,830	47,930	16,320	4,310	1,010	309	834

CALENDAR YEAR 1965 MAX 16,800 MIN 22 MEAN 626 AC-FT 453,500  
WATER YEAR 1965-66 MAX 17,300 MIN .80 MEAN 493 AC-FT 356,900

Peak discharge (base, 10,000 cfs).--Jan. 4 (2215) 31,400 cfs (18.71 ft).

11-3740.6. Shingle Creek near Shingletown, Calif.

Location.--Lat 40°30'00", long 121°58'20", in NW¼SW¼ sec. 34, T.31 N., R.1 W., on right bank 10 ft upstream from culvert on State Highway 44 and 4.5 miles west of Shingletown.

Drainage area.--3.25 sq mi.

Records available.--Water years 1961-63 (annual maximum), October 1963 to September 1966.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 2,410 ft (from topographic map). Prior to Oct. 1, 1963, crest-stage gages only, at site 10 ft downstream at same datum.

Extremes.--Maximum discharge during year, 47 cfs Jan. 5 (gage height, 2.39 ft); no flow for several months.  
1960-66: Maximum discharge, 197 cfs Jan. 5, 1965 (gage height, 3.86 ft).  
1963-66: No flow for several months each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.90	1.9	1.0	5.6	1.6	0				
2		0	.90	2.0	5.6	5.2	1.4	0				
3		0	.90	2.0	8.4	4.1	1.3	0				
4		0	.90	2.9	1.1	4.1	1.2	.10				
5		0	.90	2.6	6.8	5.6	1.0	0				
6		0	1.1	8.8	1.0	5.2	1.0	0				
7		0	1.3	6.0	6.0	4.8	1.1	0				
8		0	1.2	6.4	4.8	6.0	1.1	0				
9		0	1.2	4.8	4.1	6.0	1.5	0				
10		0	1.1	4.1	3.8	1.6	1.8	0				
11		0	1.3	3.6	3.8	8.8	1.9	0				
12		.60	1.3	3.3	3.8	7.6	1.8	0				
13		1.1	1.1	3.1	3.6	7.2	1.5	0				
14		1.8	.90	2.9	3.6	6.0	1.3	0				
15		4.5	.70	2.7	3.3	8.8	1.2	0				
16		1.4	.70	2.5	3.3	8.0	1.0	0				
17		4.1	.70	2.4	3.1	6.4	1.0	0				
18		2.2	.80	2.5	3.1	6.0	.90	0				
19		1.9	.80	2.5	7.2	9.2	.40	0				
20		1.5	.90	2.5	5.6	6.4	.30	0				
21		1.1	.90	2.4	3.8	5.6	.20	0				
22		1.0	.90	2.7	4.8	5.2	.10	0				
23		1.0	.90	2.9	5.6	3.6	.20	0				
24		1.6	1.9	2.9	1.2	3.3	.20	0				
25		1.9	2.9	2.7	1.0	3.3	.20	0				
26		2.0	1.5	2.5	9.6	3.3	.10	0				
27		1.5	1.6	2.4	6.8	2.9	.10	0				
28		1.3	6.0	2.4	6.0	2.5	.10	0				
29		1.1	2.9	1.2	-----	2.4	.10	0				
30		.90	2.2	1.2	-----	1.9	.10	0				
31		-----	2.0	6.4	-----	1.8	-----	0				
Total	0	32.50	43.30	144.20	169.5	172.8	257.0	0.10	0	0	0	0
Mean	0	1.08	1.40	4.65	6.05	5.57	0.86	0.003	0	0	0	0
Ac-ft	0	6.4	8.6	28.6	33.6	34.3	51	0.2	0	0	0	0
(†)	0	7.9	2.5	4.8	4.8	3.1	0.8	0	0.1	0.1	0.1	0.1

Calendar year 1965 Max 11.9 Min 0 Mean 2.69 Ac-ft 1.950  
Water year 1965-66 Max 2.6 Min 0 Mean 1.61 Ac-ft 1.170

† Precipitation in inches.

## SACRAMENTO RIVER BASIN

11-3741. Bear Creek near Millville, Calif.

Location.--Lat 40°31'50", long 122°06'30", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  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 Millville.

Drainage area.--75.6 sq mi.

Records available.--October 1959 to September 1966.

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

Average discharge.--7 years, 75.9 cfs (54,950 acre-ft per year).

Extremes.--Maximum discharge during year, 2,430 cfs Jan. 4 (gage height, 9.72 ft), from rating curve extended above 1,100 cfs; minimum daily, 3.5 cfs Aug. 22.

1959-66: Maximum discharge, 3,140 cfs Dec. 1, 1961 (gage height, 10.44 ft), from rating curve extended above 1,100 cfs; 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.

Revisions (water years).--1965 report: 1960.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	14	39	69	150	101	85	33	16	3.1	6.2	5.9
2	11	13	37	57	102	90	80	32	17	9.2	5.5	5.5
3	11	14	35	61	104	81	77	30	18	8.3	5.1	5.5
4	12	16	34	1010	245	77	70	29	19	8.5	5.0	4.8
5	13	16	33	1070	173	83	67	23	16	9.6	4.7	4.6
6	14	16	32	363	222	95	66	23	16	11	4.6	4.4
7	13	19	32	232	146	97	63	27	13	9.5	4.8	4.4
8	11	27	31	207	110	174	63	26	13	10	4.5	4.6
9	11	21	31	164	93	164	64	24	16	8.4	4.4	4.8
10	11	21	30	130	82	344	83	26	15	9.0	4.4	5.5
11	11	21	30	109	72	244	182	23	15	8.8	4.2	5.5
12	9.6	33	33	93	68	191	170	23	14	8.6	4.3	6.6
13	9.8	44	29	82	62	207	113	23	13	8.3	4.6	6.9
14	10	37	29	75	59	178	94	22	12	7.8	5.1	6.1
15	12	113	28	63	55	195	80	22	11	8.6	4.9	6.4
16	12	51	28	64	52	217	75	23	12	9.0	3.9	5.7
17	13	93	27	60	49	166	71	22	10	7.9	3.9	5.5
18	13	154	27	57	43	149	63	21	9.8	6.9	3.7	6.6
19	13	90	27	53	96	249	62	19	10	7.0	3.7	7.6
20	14	57	26	50	164	179	59	18	11	7.2	3.7	6.1
21	15	43	27	49	98	152	57	19	9.6	5.6	3.7	5.5
22	15	39	27	50	83	132	56	16	9.9	5.6	3.5	6.4
23	15	37	25	50	140	119	52	15	9.2	6.0	4.1	6.1
24	15	128	45	48	197	113	43	15	9.8	7.3	4.4	6.1
25	13	98	97	47	181	105	46	15	10	6.9	4.4	6.6
26	12	89	56	44	176	101	43	15	11	5.5	4.2	6.9
27	13	87	48	42	131	99	39	15	11	5.2	4.2	6.9
28	12	57	350	40	112	95	33	15	9.5	5.0	4.2	6.9
29	13	43	179	114	-----	92	36	16	8.3	4.9	4.2	6.6
30	13	43	115	203	-----	90	34	16	8.2	5.2	4.4	5.7
31	13	-----	111	97	-----	87	-----	16	-----	5.8	5.0	-----
Total	384.4	1594	1698	4963	3275	4470	2146	672	382.3	234.7	137.5	176.7
Mean	12.4	53.1	54.8	157	117	144	71.5	21.7	12.7	7.57	4.44	5.89
Ac-ft	762	3160	3370	9650	6500	8370	4260	1330	759	466	273	350

Calendar year 1965 Max 2,010 Min 3.0 Mean 95.5 Ac-ft 69,160  
 Water year 1965-66 Max 1,070 Min 3.5 Mean 54.9 Ac-ft 39,740



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 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 550 ft (from topographic map). October 1956 to Oct. 11, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--10 years, 218 cfs (157,800 acre-ft per year); median of yearly mean discharges, 150 cfs (109,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,890 cfs Jan. 4 (gage height, 10.30 ft); minimum daily, 4.5 cfs Aug. 24, Sept. 6.

1956-66: Maximum discharge, 13,500 cfs Dec. 22, 1964 (gage height, 19.08 ft, from floodmark in gage well), from rating curve extended above 7,800 cfs on basis of slope-area measurement of maximum flow; minimum daily, 1.2 cfs Aug. 28, 1964.

Remarks.--Records good. No regulation or diversion above station. Records of chemical analyses and suspended sediment loads at or near this gaging station for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	13	87	146	500	299	623	127	64	23	9.7	11
2	11	13	81	133	349	288	588	125	61	23	9.2	8.9
3	11	13	76	151	579	268	521	124	60	23	8.5	7.5
4	10	14	75	2,660	1,160	259	473	126	58	23	7.5	6.0
5	10	16	75	2,300	772	361	435	134	55	22	6.0	4.8
6	11	17	81	1,440	653	343	419	127	54	21	5.5	4.5
7	12	19	83	948	552	367	410	121	67	20	5.6	5.3
8	11	44	81	762	458	422	385	116	63	21	5.1	5.8
9	11	39	77	695	378	684	352	114	56	21	5.6	5.8
10	11	27	72	572	327	1,130	356	115	51	21	5.9	5.9
11	11	23	70	472	297	934	363	114	47	21	6.3	5.7
12	12	30	71	372	284	778	365	107	45	21	6.0	5.9
13	10	144	66	320	264	789	308	102	43	21	6.4	8.2
14	11	402	62	320	251	805	271	98	41	21	6.0	7.9
15	12	505	59	392	237	763	252	96	39	21	5.3	8.3
16	13	156	56	432	226	681	255	94	45	19	6.3	8.5
17	13	209	53	396	220	597	262	89	40	18	7.1	7.6
18	13	276	52	346	219	532	244	85	36	17	7.6	8.0
19	14	231	52	300	343	482	221	83	33	16	6.0	11
20	15	167	47	264	289	432	203	82	32	15	5.5	12
21	14	136	50	244	273	400	189	84	32	13	5.5	9.8
22	14	122	50	228	276	370	178	82	32	13	5.4	8.4
23	13	115	44	213	295	353	171	78	33	12	5.1	7.8
24	13	126	53	201	313	350	167	74	32	11	4.5	7.7
25	12	140	61	190	380	375	165	72	31	10	5.3	7.0
26	12	136	60	183	410	428	160	71	28	10	5.7	6.5
27	12	127	57	175	329	510	152	70	26	10	6.3	6.5
28	12	108	274	168	309	570	145	62	24	10	5.9	6.0
29	13	99	297	208	-----	591	138	70	24	9.8	4.7	5.5
30	13	94	180	316	-----	612	132	69	23	9.4	6.8	5.0
31	13	-----	169	276	-----	613	-----	69	-----	9.7	9.6	-----
TOTAL	374	3,561	2,671	15,823	10,943	16,386	8,903	2,987	1,275	525.9	195.9	218.8
MEAN	12.1	119	86.2	510	391	529	297	96.4	42.5	17.0	6.32	7.29
AC-FT	742	7,060	5,300	31,380	21,710	32,500	17,660	5,920	2,530	1,040	389	434

CALENDAR YEAR 1965 MAX 3,070 MIN 8.8 MEAN 251 AC-FT 181,900  
 WATER YEAR 1965-66 MAX 2,660 MIN 4.5 MEAN 175 AC-FT 126,700

Peak discharge (base, 1,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-14	2330	9.16	2,640	2-4	0145	8.26	1,960
1-4	1930	10.30	3,890				

## SACRAMENTO RIVER BASIN

11-3757. North Fork Cottonwood Creek near Igo, Calif.

Location.--Lat 40°26'32", long 122°32'57", in SE  $\frac{1}{4}$  NW  $\frac{1}{4}$  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 1966.

Gage.--Water-stage recorder. Altitude of gage is 630 ft (from topographic map).

Average discharge.--10 years, 167 cfs (120,900 acre-ft per year).

Extremes.--1964-65: Maximum discharge during year, 11,000 cfs Dec. 22 (gage height, 39.45 ft in gage well, 41.7 ft from floodmarks), from rating curve extended above 4,400 cfs on basis of slope-area measurement of maximum flow; minimum daily, 4.4 cfs Oct. 6.

1965-66: Maximum discharge during year, 5,670 cfs Nov. 14 (gage height, 36.30 ft); minimum daily, 3.6 cfs July 18, 21-23.

1956-66: Maximum discharge, that of Dec. 22, 1964; minimum daily, 0.9 cfs Nov. 4, 1960.

Flood of Dec. 21, 1955 reached a peak discharge of 14,300 cfs by slope-area measurement at site 1.2 miles upstream (above Huling Creek) adjusted for intervening drainage area.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply paper or Surface Water Records of California as indicated.

WSP	Water Year	Date	Discharge cfs	Gage-height (feet)
1715	1960	Feb. 8, 1960	5,070	35.70
S.W. Records of Calif.	1961	Jan. 31, 1961	7,220	36.38
S.W. Records of Calif.	1963	Jan. 31, 1963	5,963	35.92
S.W. Records of Calif.	1964	Jan. 20, 1964	6,290	35.89

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 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.8	172	212	1,080	329	103	87	270	57	37	22	19
2	7.7	133	179	1,130	318	98	136	257	55	36	23	19
3	6.7	73	139	1,270	297	95	120	242	51	34	20	18
4	6.3	60	114	1,140	284	95	103	201	49	31	19	18
5	6.7	55	103	2,390	296	95	106	190	60	30	18	19
6	4.4	46	98	1,160	278	100	136	182	64	31	17	21
7	5.6	43	90	641	259	100	126	177	67	29	16	19
8	5.6	82	87	451	204	103	522	175	66	27	9.5	20
9	4.9	120	82	435	180	100	712	168	63	26	11	19
10	4.9	343	109	441	131	98	550	158	59	26	17	18
11	5.6	586	117	530	183	98	430	159	57	26	22	13
12	5.6	256	92	516	185	98	284	160	55	27	31	9.0
13	5.6	133	85	505	185	98	300	156	57	26	25	9.0
14	6.0	106	85	522	183	92	456	154	57	25	20	8.4
15	6.0	92	80	563	177	92	628	151	57	24	17	8.4
16	6.0	80	78	592	169	90	823	140	55	23	18	8.4
17	6.7	65	73	563	167	90	628	134	53	23	23	9.0
18	3.8	60	62	544	147	90	1,340	127	56	23	34	9.0
19	3.8	59	183	539	133	90	1,190	127	50	21	28	9.6
20	7.5	57	172	527	128	85	1,420	128	44	20	26	8.4
21	7.1	57	3,290	505	123	73	1,430	136	44	23	25	9.0
22	6.7	67	6,360	477	123	71	1,010	130	42	23	25	9.0
23	6.1	57	2,390	739	122	73	622	118	41	21	23	9.0
24	6.3	67	1,660	623	121	71	430	105	40	20	23	8.4
25	7.5	82	1,280	522	106	71	372	86	42	19	25	8.4
26	7.5	69	1,080	483	102	75	331	80	46	18	25	9.6
27	15	73	989	451	125	80	309	67	44	17	24	11
28	40	391	816	425	110	75	296	65	43	17	21	12
29	150	192	801	400	-----	75	292	60	39	15	20	11
30	92	215	352	425	-----	80	288	57	33	17	19	9.0
31	65	-----	1,030	343	-----	82	-----	58	-----	19	17	-----
Total	540.4	3,306	23,883	20,957	5,215	2,736	15,477	4,418	1,551	754	663.5	378.6
Mean	17.4	130	771	676	186	83.3	516	143	51.7	24.3	21.4	12.6
Ac-ft	1,070	7,750	47,380	41,570	10,340	5,430	30,700	8,760	3,080	1,500	1,320	75.1
Calendar year 1964	Max	6,960	Min	2.0	Mean	116	Ac-ft	84,140				
Water year 1964-65	Max	6,960	Min	4.4	Mean	221	Ac-ft	159,700				

11-3757. North Fork Cottonwood Creek near Igo, Calif.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.5	<u>11</u>	170	127	364	250	<u>316</u>	<u>76</u>	<u>42</u>	<u>16</u>	9.7	11
2	8.7	<u>12</u>	166	<u>126</u>	263	236	314	72	46	15	11	11
3	<u>8.1</u>	15	151	205	445	<u>223</u>	304	74	46	15	11	9.9
4	<u>8.2</u>	17	143	<u>1750</u>	<u>783</u>	234	286	69	46	14	11	3.4
5	9.0	19	140	<u>921</u>	<u>540</u>	336	270	71	46	11	10	9.1
6	10	35	143	521	442	265	261	74	45	7.1	9.5	7.0
7	11	46	136	372	355	241	254	73	42	6.4	9.5	<u>5.7</u>
8	<u>9.6</u>	65	129	339	314	241	252	70	44	7.0	11	5.7
9	8.5	44	129	291	284	434	260	70	42	7.7	11	6.4
10	11	42	126	263	258	<u>730</u>	254	73	37	7.7	9.2	7.7
11	11	44	126	243	239	527	248	75	36	7.7	<u>9.1</u>	7.7
12	12	136	129	228	227	451	236	74	34	7.0	<u>9.1</u>	7.7
13	12	<u>627</u>	129	218	219	493	223	76	34	9.9	9.9	3.4
14	13	<u>1270</u>	123	211	224	531	198	73	35	10	11	9.1
15	15	<u>1240</u>	116	212	213	555	198	70	33	6.2	11	9.9
16	13	362	113	218	207	550	194	68	33	4.9	11	9.9
17	13	551	113	212	<u>207</u>	501	189	67	31	3.8	12	9.9
18	13	595	110	207	208	443	182	66	31	<u>3.6</u>	12	11
19	15	508	107	196	336	398	168	61	30	4.1	<u>13</u>	<u>13</u>
20	16	368	95	189	253	356	145	59	29	3.8	13	12
21	15	316	<u>95</u>	186	238	335	140	55	28	3.6	13	9.9
22	15	294	95	186	246	327	128	54	28	3.6	13	3.4
23	15	284	98	179	252	316	123	54	28	3.6	13	7.7
24	15	289	104	173	262	312	102	52	28	5.0	13	7.7
25	<u>20</u>	278	101	171	402	277	97	54	26	5.7	13	7.7
26	11	229	98	164	324	280	93	49	24	7.2	12	3.4
27	11	229	101	160	277	289	89	<u>48</u>	22	8.5	9.9	9.1
28	11	190	<u>182</u>	154	262	307	86	48	19	8.8	9.9	8.4
29	11	190	166	270	-----	313	85	50	19	8.8	9.9	7.0
30	11	177	136	369	-----	318	<u>82</u>	51	<u>17</u>	8.4	9.9	6.4
31	9.9	-----	133	260	-----	320	-----	51	-----	8.5	11	-----
Total	370.5	8,483	3,203	9,321	8,644	11,389	5,777	1,977	1,007	2,396	3,416	2,612
Mean	12.0	283	126	301	309	367	193	63.8	33.6	7.73	11.0	3.71
Ac-ft	735	16,830	7,740	18,490	17,150	22,590	11,460	3,920	2,000	475	678	518
Calendar year 1965	Max	2,390	Min	3.1	Mean	173	Ac-ft	128,700				
Water year 1965-66	Max	1,750	Min	3.6	Mean	142	Ac-ft	102,600				

11-3758.2. South Fork Cottonwood Creek near Cottonwood, Calif.

Location.--Lat 40°18'59", long 122°26'52", in SE $\frac{1}{4}$  sec. 32, T.29 N., R.5 W., on right bank 15 ft downstream from highway bridge, 0.7 mile upstream from Dry Fork, and 10.3 miles southwest of Cottonwood. (Prior to Dec. 26, 1964 at site 85 ft upstream).

Drainage area.--217 sq mi (revised).

Records available.--October 1962 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 525 ft (from topographic map). Prior to Dec. 22, 1964, at site 85 ft upstream at different datum.

Extremes.--1964-65: Maximum discharge during year, 13,400 cfs Dec. 22 (gage height, 13.6 ft, from floodmarks), from slope-area measurement of maximum flow; no flow Oct. 1 to Nov. 7.

1965-66: Maximum discharge during year, 3,540 cfs Jan. 4 (gage height, 6.59 ft); no flow July 30 to Sept. 30.

1962-66: Maximum discharge, that of Dec. 22, 1964; no flow for many days each year.

Remarks.--Small diversions above station.

Cooperation.--Records furnished by the California Department of Water Resources and reviewed by Geological Survey. Records of chemical analyses and suspended sediment loads for the water year 1965 and 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	512	800	650	230	135	454	167	50	12	4.2
2		0	472	750	560	210	160	408	155	50	11	3.3
3		0	350	850	500	190	140	363	151	50	39	3.3
4		0	212	800	470	180	130	334	143	46	3.1	3.6
5		0	155	2,600	470	180	130	307	151	41	7.2	4.1
6		0	127	2,000	430	190	150	279	143	39	6.0	3.8
7		0	110	1,500	390	190	135	261	145	38	4.9	4.3
8		31	96	1,100	360	180	950	247	139	36	4.2	4.5
9		103	102	950	340	170	800	237	133	32	3.7	4.0
10		734	110	900	320	170	572	225	128	31	3.3	4.4
11		342	210	950	310	170	399	221	120	29	3.3	4.1
12		309	160	1,000	290	180	371	225	119	28	1.8	3.3
13		142	130	950	280	180	364	225	113	26	2.4	2.8
14		94	115	900	270	170	356	233	114	24	1.5	2.0
15		65	105	950	260	160	455	233	113	23	1.1	2.4
16		55	95	950	250	155	899	233	106	21	3.0	2.3
17		46	85	950	240	150	638	237	104	20	7.5	1.9
18		41	80	900	230	145	708	229	104	19	1.5	1.9
19		33	140	950	220	140	1,310	225	101	17	1.5	2.0
20		36	190	900	220	135	1,290	225	96	17	1.5	2.2
21		42	3,500	850	230	135	1,240	221	92	17	1.2	2.5
22		55	10,500	800	230	135	359	210	91	18	9.2	2.3
23		49	7,000	1,000	220	135	702	195	90	17	3.9	2.2
24		47	3,100	1,750	210	130	623	181	83	15	1.2	1.9
25		122	2,500	1,100	200	125	596	167	83	14	1.2	1.8
26		142	2,350	900	210	130	577	164	81	12	1.1	1.9
27		104	2,250	800	280	145	595	164	74	13	9.6	1.9
28		100	1,500	700	250	135	607	171	66	12	7.9	2.1
29		316	1,200	650	-----	125	567	171	53	11	7.3	3.2
30		187	1,000	700	-----	130	511	171	50	10	6.3	2.3
31		-----	900	700	-----	130	-----	167	-----	10	5.3	-----
Total	0	3,205	39,356	31,600	8,390	4,930	16,969	7,383	3,323	786	3,096	86.5
Mean	0	107	1,301	1,019	318	159	566	238	111	25.4	10.0	2.89
Ac-ft	0	6,360	78,060	62,680	17,630	9,780	33,660	14,640	6,600	1,560	612	17.2

Calendar year 1964 Max 10,500 Min 0 Mean 150 Ac-ft 108,600

Water year 1964-65 Max 10,500 Min 0 Mean 320 Ac-ft 231,300



11-3760, Cottonwood Creek near Cottonwood, Calif.

Location.--Lat 40°23'10", long 122°14'15", in NE $\frac{1}{4}$  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.--922 sq mi.

Records available.--October 1940 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 364.0 ft above mean sea level (levels by Corps of Engineers). Prior to July 26, 1963, at site 250 ft upstream, at datum 3.59 ft higher.

Average discharge.--26 years, 802 cfs (580,600 acre-ft per year); median of yearly mean discharges, 580 cfs (427,100 acre-ft per year).

Extremes.--Maximum discharge during year, 14,700 cfs Jan. 5 (gage height, 13.88 ft); minimum daily, 42 cfs Aug. 8.

1940-66: Maximum discharge, 60,000 cfs Dec. 22, 1964 (gage height, 19.64 ft); minimum, 15 cfs for several days in September 1945.

Remarks.--Records good. 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. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	123	390	540	1,720	1,020	1,630	450	276	92	68	54
2	110	102	370	482	1,350	968	1,620	426	260	91	70	54
3	95	90	346	468	1,480	886	1,480	418	245	96	68	54
4	92	87	342	6,350	5,970	848	1,350	450	235	102	68	62
5	110	89	342	9,200	3,360	1,160	1,270	466	225	94	56	72
6	95	90	350	4,890	2,640	1,170	1,270	482	230	85	49	68
7	89	112	358	3,470	1,800	1,110	1,230	466	230	81	49	66
8	89	160	346	2,750	1,440	1,190	1,190	450	225	83	42	70
9	82	199	330	2,330	1,210	1,320	1,160	434	220	85	47	72
10	79	147	318	1,840	1,070	2,260	1,190	442	204	100	56	68
11	82	126	306	1,500	950	2,210	1,170	458	192	92	51	62
12	82	141	310	1,260	878	1,950	1,140	434	184	89	54	53
13	76	449	298	1,120	818	1,930	1,040	410	177	83	60	53
14	92	1,620	280	1,060	774	1,980	938	378	167	83	68	56
15	102	4,520	269	1,080	732	1,930	874	354	154	89	75	58
16	112	1,220	258	1,110	692	1,810	874	370	161	79	75	87
17	118	1,420	248	1,080	660	1,580	914	338	161	74	60	83
18	135	2,350	241	1,010	648	1,420	898	324	146	75	54	96
19	123	1,380	234	942	918	1,310	826	318	130	75	56	108
20	129	934	227	878	950	1,210	738	306	130	72	53	98
21	138	712	216	810	802	1,140	674	300	140	72	56	100
22	120	600	224	781	760	1,080	634	306	130	68	60	89
23	108	540	213	746	818	1,020	602	300	130	54	58	87
24	112	535	230	706	878	986	570	288	133	54	70	75
25	108	584	255	673	930	986	562	276	128	56	56	68
26	108	550	262	648	2,000	1,030	554	260	123	53	56	64
27	102	540	248	630	1,240	1,140	538	260	117	56	66	54
28	98	459	597	600	1,090	1,300	506	265	110	70	72	64
29	115	430	1,300	636	-----	1,410	474	260	102	66	62	68
30	112	410	746	1,170	-----	1,510	458	260	94	56	60	64
31	115	-----	630	918	-----	1,570	-----	270	-----	58	56	-----
Total	3,221	20,719	11,084	51,678	38,578	42,324	28,374	11,219	5,159	2,383	1,851	2,127
Mean	104	691	358	1,667	1,378	1,365	946	362	172	76.9	59.7	70.9
Ac-ft	6,390	41,100	21,980	102,500	76,520	83,950	56,280	22,250	10,230	4,730	3,670	4,220

Calendar year 1965 Max 13,700 Min 68 Mean 852 Ac-ft 616,600  
 Water year 1965-66 Max 9,200 Min 42 Mean 599 Ac-ft 433,800

Peak discharge (base, 7,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
Nov 15	0500	12.42	9,120	Feb 4	0500	12.09	8,070
Jan 5	0100	13.88	14,700				

11-3765.5. Battle Creek below Coleman Fish Hatchery near Cottonwood, Calif.

Location.--Lat 40°23'55", long 122°08'45", in SW 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 1966. October 1940 to September 1961 at site 0.6 mile upstream published as "near Cottonwood;" low flow records not equivalent owing to Coleman Fish Hatchery diversion.

Gage.--Digital water-stage recorder. Altitude of gage is 415 ft (from topographic map). Prior to July 1, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--5 years, 434 cfs (314,200 acre-ft per year).

Extremes.--Maximum discharge during water year, 1,590 cfs Feb. 6 (gage height, 5.97 ft); minimum daily, 189 cfs Sept. 6.

1940-65: Maximum discharge, 12,800 cfs Feb. 6, 1942 (gage height, 11.85 ft, site and datum then in use).

1961-65: Minimum discharge, 52 cfs Aug. 8, 1962.

Maximum stage known, 15.3 ft Dec. 11, 1937, from floodmarks at former site and datum (discharge, 35,000 cfs, by slope-area measurement).

Remarks.--Records good. Flow regulated by four small powerplants, several small reservoirs, and Coleman Fish Hatchery. Coleman Fish Hatchery diverts 50 to 90 cfs which is returned above the station. About 10 cfs diverted above station for irrigation. Maximum flows considered equivalent to former station Battle Creek near Cottonwood. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Revisions (water year).--1965 Report: 1963.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	274	254	335	365	605	371	553	432	340	276	193	190
2	275	263	326	346	428	362	555	436	331	290	213	222
3	272	265	318	349	446	350	560	444	319	288	213	206
4	273	272	265	475	844	335	555	456	312	281	214	205
5	275	264	316	939	501	361	550	473	306	273	209	199
6	276	268	323	580	918	363	545	491	308	266	212	189
7	272	282	310	476	508	375	539	483	326	248	212	204
8	273	335	310	463	422	377	550	486	317	237	214	212
9	272	320	310	452	395	387	542	503	308	239	211	210
10	271	305	306	418	376	443	664	517	304	238	205	210
11	272	296	308	404	360	483	633	514	299	239	215	212
12	273	340	318	382	354	443	583	481	294	236	212	216
13	275	375	308	373	345	467	531	466	290	238	213	216
14	280	525	303	365	341	518	499	465	286	236	209	219
15	285	730	293	359	339	524	493	451	286	230	211	218
16	282	430	291	353	329	590	509	437	290	226	204	216
17	284	595	293	347	335	491	540	429	290	228	211	223
18	287	890	300	341	331	469	542	421	290	230	208	222
19	288	540	298	340	350	470	504	415	286	228	217	228
20	272	440	297	334	453	450	477	417	281	226	220	231
21	272	385	299	331	365	440	457	420	281	226	211	223
22	279	360	299	333	352	427	442	414	276	220	214	222
23	277	345	297	332	379	430	448	398	276	221	202	220
24	276	435	331	329	658	412	452	385	276	221	204	223
25	276	460	388	320	526	420	470	382	282	220	201	219
26	276	440	337	326	501	438	482	387	283	218	201	225
27	270	390	326	321	412	456	461	382	281	220	209	217
28	266	365	629	321	384	477	443	370	271	212	204	226
29	273	345	571	398	-----	495	438	353	276	213	204	223
30	275	335	425	595	-----	523	434	346	275	215	210	219
31	273	-----	362	418	-----	527	-----	345	-----	218	236	-----
TOTAL	8,544	11,849	10,392	12,485	12,557	13,674	15,451	13,399	8,840	7,357	6,512	6,465
MEAN	276	395	335	403	448	441	515	432	295	237	210	216
AC-FT	16,950	23,500	20,610	24,760	24,910	27,120	30,650	26,580	17,530	14,590	12,920	12,820

CALENDAR YEAR 1965	MAX	4,590	MIN	254	MEAN	521	AC-FT	377,200
WATER YEAR 1965-66	MAX	939	MIN	189	MEAN	349	AC-FT	252,900

Peak discharge (base, 2,500 cfs).--No peak above base.

## SACRAMENTO RIVER BASIN

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.--92.7 sq mi.

Records available.--October 1949 to September 1966 (discontinued).

Gage.--Digital water-stage recorder. Altitude of gage is 360 ft (from topographic map). Prior to Sept. 30, 1964, graphic water-stage record at same site and datum.

Average discharge.--17 years, 70.6 cfs (51,110 acre-ft per year).

Extremes.--Maximum discharge during year, 1,170 cfs Feb. 6 (gage height, 5.56 ft); no flow many days.  
1949-66: Maximum discharge, 10,600 cfs Dec. 1, 1961 (gage height, 11.33 ft); no flow at times in most years.

Remarks.--Records good. Diversions up to 10 cfs at times above station for irrigation. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.90	1.2	20	66	270	90	29	2.4	0.40	0.20		
2	.90	1.2	17	55	172	76	27	2.6	.40	.30		
3	.70	1.8	15	46	173	64	26	3.1	.30	.20		
4	.70	2.1	14	209	666	56	28	4.0	.30	0		
5	.70	2.1	12	703	249	60	28	3.2	.20	0		
6	.80	2.1	12	268	564	62	26	2.4	.40	0		
7	.60	2.6	12	150	233	57	21	2.6	.50	0		
8	.60	3.0	12	115	149	51	13	2.2	.40	0		
9	.70	2.3	11	102	111	47	15	3.0	.20	0		
10	.90	2.1	9.8	79	89	55	17	4.8	.20	0		
11	.80	2.3	12	65	73	67	18	4.3	.20	.20		
12	.70	4.0	16	55	63	59	18	3.1	.20	.20		
13	.70	8.9	14	48	56	56	16	2.9	.10	.10		
14	.90	56	12	43	50	53	16	4.3	0	0		
15	1.2	260	11	38	42	50	14	.90	0	0		
16	.90	69	11	34	38	78	13	.80	0	0		
17	1.3	160	9.8	31	36	74	11	.90	0	0		
18	1.2	290	9.8	29	34	65	12	.90	0	0		
19	2.0	100	9.8	27	74	65	12	.90	0	0		
20	1.8	58	8.9	25	288	64	12	.70	0	0		
21	1.3	38	8.9	24	82	58	12	.60	0	0		
22	1.8	30	8.0	24	64	52	11	.60	0	0		
23	1.7	24	8.0	22	87	49	11	.50	0	0		
24	1.7	44	49	21	382	49	10	.30	.20	0		
25	1.7	62	59	20	267	45	6.2	.20	0	0		
26	1.7	56	36	20	251	42	2.4	.20	.10	0		
27	1.7	42	29	19	147	39	1.8	.20	0	0		
28	1.3	32	245	18	109	36	2.1	.30	.10	0		
29	1.3	29	321	96	-----	35	2.5	.50	.10	0		
30	1.3	24	140	377	-----	33	2.2	.60	.20	0		
31	1.2	-----	89	157	-----	29	-----	.50	-----	0		---
TOTAL	35.70	1,409.7	1,242.0	2,986	4,859	1,716	433.2	54.50	4.50	1.20	0	0
MEAN	1.15	47.0	40.1	96.3	174	55.4	14.4	1.76	.15	.04	0	0
AC-FT	71	2,800	2,460	5,920	9,640	3,400	859	108	8.9	2.4	0	0

CALENDAR YEAR 1965 MAX 3,690 MIN 0 MEAN 71.5 AC-FT 51,760  
WATER YEAR 1965-66 MAX 703 MIN 0 MEAN 34.9 AC-FT 25,270

Peak discharge (base, 1,200 cfs).--No peak above base.



## 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.--9,022 sq mi, excluding Goose Lake basin.

Records available.--1879-88 annual observed maximums only, published in WSP 1315-A. January 1892 to September 1966. 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. Datum of gage is 253.57 ft above mean sea level, datum of 1929. 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.--75 years, 11,420 cfs (8,268,000 acre-ft per year).

Extremes.--Maximum discharge during year, 79,300 cfs Jan. 5 (gage height, 17.54 ft); minimum daily, 6,850 cfs Mar. 4. 1879-88, 1892-66: 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 sta. no. 11-3700). Diversions, in addition to those on tributaries, for irrigation of about 22,000 acres between stations at Keswick and Red Bluff. Transbasin diversions from Trinity River to Whiskeytown Lake via Judge Francis Carr powerplant (see sta. no. 11-5254.3) started in April 1963. Records of chemical analyses, water temperatures, and suspended sediment loads at or near this gaging station for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,320	8,540	7,870	14,500	15,700	8,370	8,480	9,780	9,490	12,600	12,800	9,150
2	8,270	8,350	11,400	13,800	14,900	8,080	8,480	9,780	9,520	12,700	13,100	8,730
3	8,290	8,320	13,400	13,700	13,100	7,430	8,350	9,720	9,810	13,100	13,200	8,700
4	8,320	8,350	13,700	26,400	25,200	6,850	8,130	9,780	10,600	13,100	13,100	8,700
5	8,320	8,320	13,800	63,800	19,300	7,510	7,890	9,840	10,600	13,100	13,000	8,760
6	8,320	8,350	13,800	29,700	23,600	7,860	7,700	9,890	10,700	13,100	13,000	8,670
7	8,350	8,370	13,900	23,100	15,600	7,810	7,620	9,860	10,700	13,200	13,000	8,370
8	8,350	8,620	14,100	21,200	13,200	8,400	7,590	9,840	10,700	13,200	13,000	8,390
9	8,350	8,650	14,100	20,900	12,200	8,700	7,590	9,840	10,600	13,200	13,000	8,240
10	8,350	8,590	14,100	19,900	11,700	11,800	9,920	10,200	10,500	13,300	13,000	7,890
11	8,370	8,510	14,100	19,100	10,700	11,200	9,720	10,800	10,500	13,500	13,000	7,860
12	8,400	8,700	14,100	18,600	9,950	9,690	10,200	10,700	10,500	14,100	13,000	7,920
13	8,430	9,210	14,100	18,100	9,720	8,950	8,430	10,700	10,400	14,100	12,800	7,970
14	8,480	11,700	14,000	18,000	9,520	9,040	8,080	10,600	10,400	14,200	13,000	7,940
15	8,560	18,800	14,000	18,000	9,370	9,630	8,650	10,600	10,600	14,200	13,000	7,940
16	8,510	12,300	13,900	18,000	8,760	10,400	9,520	10,500	11,500	14,200	13,000	7,940
17	8,560	12,400	13,900	18,000	8,210	10,900	10,500	10,500	11,500	14,300	13,000	7,970
18	8,560	17,700	14,000	17,900	8,160	11,600	11,300	10,300	11,800	14,400	13,000	7,940
19	8,620	13,000	13,900	17,600	8,900	12,600	11,600	9,460	12,500	14,500	13,000	8,020
20	8,590	12,900	13,900	17,600	10,100	12,300	11,400	9,460	12,500	14,500	13,100	8,000
21	8,590	13,000	13,100	17,500	8,210	12,500	11,300	9,430	12,600	14,500	13,100	7,940
22	8,590	12,200	12,700	17,500	7,860	12,200	11,200	9,400	12,600	14,600	12,900	7,890
23	8,560	12,600	12,700	17,500	8,290	11,600	11,000	9,350	12,600	14,000	12,400	7,890
24	8,540	14,400	13,200	17,500	10,000	11,900	11,000	9,320	12,500	13,700	12,100	7,860
25	8,540	14,800	13,500	17,400	10,100	10,200	10,700	9,350	12,500	13,700	12,100	7,860
26	8,540	15,300	13,200	16,300	12,000	8,980	10,100	9,320	12,500	13,700	12,100	7,810
27	8,560	15,700	13,000	14,800	9,490	9,750	9,980	9,350	12,600	13,800	12,100	7,750
28	8,590	14,400	14,200	13,900	8,730	9,430	9,920	9,400	12,600	14,000	12,100	7,750
29	8,620	10,500	18,100	13,200	-----	8,620	9,840	9,430	12,500	14,300	12,000	7,750
30	8,620	8,140	15,500	16,100	-----	8,400	9,810	9,460	12,600	12,900	11,700	7,780
31	8,650	-----	17,700	13,800	-----	8,430	-----	9,520	-----	12,900	10,200	-----
Total	262,720	340,720	426,970	603,400	332,570	301,130	286,000	305,480	341,020	424,700	392,900	243,380
Mean	8,475	11,360	13,770	19,460	11,880	9,714	9,533	9,854	11,370	13,700	12,670	8,113
Ac-ft	521,100	675,800	846,900	1,197,000	659,600	597,300	567,300	602,900	676,400	842,400	779,300	482,700
Calendar year 1965	Max	96,600	Min	5,210	Mean	12,870	Ac-ft	9,316,000				
Water year 1965-66	Max	63,800	Min	6,850	Mean	11,670	Ac-ft	8,452,000				

## SACRAMENTO RIVER BASIN

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 1966.

Gage.--Water-stage recorder. Altitude of gage is 470 ft (from topographic map).

Average discharge.--7 years, 35.0 cfs (25,340 acre-ft per year).

Extremes.--1964-65: Maximum discharge during year, 9,730 cfs Jan. 5 (gage height, 10.06 ft); no flow for several months.

1965-66: Maximum discharge during year, 5,980 cfs Nov. 15 (gage height, 8.72 ft); no flow for several months.

1959-66: Maximum discharge, that of Jan. 5, 1965; no flow for several months in each year.

Remarks.--Some small storage ponds and possibly some diversions for irrigation upstream. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

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

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	14	130	43	12	17	45	7.7			
2		16	17	138	41	11	47	41	7.1			
3		1.6	19	405	39	11	31	40	6.5			
4		0	15	427	36	11	21	37	6.0			
5		0	13	3,270	41	11	13	35	5.9			
6		0	11	756	35	14	13	32	5.8			
7		0	9.5	444	30	13	20	31	5.3			
8		0	8.6	331	28	12	1,460	29	5.2			
9		164	7.6	256	25	11	1,880	28	5.2			
10		727	7.6	223	24	12	462	26	5.2			
11		330	7.6	204	22	12	231	24	4.7			
12		196	5.7	183	22	13	179	23	4.2			
13		72	5.3	163	22	14	141	21	4.0			
14		37	5.3	156	20	12	127	21	4.4			
15		30	5.0	144	19	12	252	19	4.3			
16		23	4.4	138	17	11	231	17	4.3			
17		19	3.8	133	17	11	150	16	4.1			
18		14	4.1	122	16	11	200	15	4.7			
19		9.5	17	117	15	9.9	265	15	4.5			
20		8.1	26	112	15	9.4	204	14	3.7			
21		7.2	1,630	104	14	9.1	200	14	3.1			
22		10	2,340	97	14	8.9	150	16	2.6			
23		7.6	790	183	13	9.5	127	13	2.2			
24		6.8	391	197	12	9.3	107	13	1.5			
25		7.2	256	93	12	10	80	12	.90			
26		6.4	252	74	12	11	72	11	.80			
27		5.3	219	65	17	13	63	11	.40			
28		6.0	169	60	14	13	58	10	0			
29		8.6	153	54	-----	12	52	9.9	0			
30		9.6	153	50	-----	13	49	8.8	0			
31		-----	153	46	-----	14	-----	3.0	-----			
Total	0	1,720.9	7,211.5	8,375	635	356.1	6,312	6,55.7	114.10	0	0	0
Mean	0	57.4	233	286	22.7	11.5	230	21.2	3.8	0	0	0
Ac-ft	0	3,410	14,300	17,610	1,260	706	13,710	1,300	226	0	0	0

Calendar year 1964 Max 2,340 Min 0 Mean 27.3 Ac-ft 19,310

Water year 1964-65 Max 3,270 Min 0 Mean 72.6 Ac-ft 52,520

## 805

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	12	27	202	50	19	3.4				
2		0	11	25	94	44	18	3.1				
3		0	10	29	489	39	16	3.1				
4		0	10	2,100	946	33	16	2.8				
5		0	10	1,420	303	73	16	2.0				
6		0	9.5	668	191	62	14	2.6				
7		0	9.0	313	148	52	13	2.7				
8		0	9.0	201	122	50	13	2.4				
9		0	9.0	151	104	51	14	2.4				
10		0	8.6	122	90	67	16	2.9				
11		0	8.9	107	79	55	13	3.0				
12		0	11	92	73	50	13	2.4				
13		0	10	86	67	47	12	2.0				
14		150	8.8	81	65	45	12	1.5				
15		1,860	8.1	73	60	42	11	1.4				
16		200	7.6	67	53	41	11	1.3				
17		413	7.5	64	51	35	9.5	1.0				
18		239	7.8	62	51	34	8.9	.80				
19		125	7.9	58	120	31	8.3	.50				
20		73	7.6	55	81	28	7.8	.30				
21		49	7.5	50	60	27	7.8	.30				
22		32	7.7	48	55	24	7.3	.10				
23		25	7.4	47	55	22	6.7	0				
24		23	9.4	45	53	21	6.2	0				
25		20	14	48	81	20	5.8	0				
26		18	12	47	120	20	5.3	0				
27		15	11	47	64	20	4.9	0				
28		14	17.3	45	55	20	4.9	0				
29		13	9.7	67	-----	20	4.1	0				
30		12	54	100	-----	20	3.7	0				
31		-----	40	67	-----	20	-----	0	-----			-----
Total	0	3,286	616.3	6,412	3,932	1,168	318.2	42.00	0	0	0	0
Mean	0	110	19.9	207	140	37.7	10.6	1.35	0	0	0	0
Ac-ft	0	6,520	1,220	12,720	7,800	2,320	631	83	0	0	0	0
Calendar year 1965	Max	3,270	Min	0	Mean	58.8	Ac-ft	42,550				
Water year 1965-66	Max	2,100	Min	0	Mean	43.2	Ac-ft	31,290				

11-3788.60 Red Bank Creek at Rawson Road bridge, near Red Bluff, Calif.

Location.--Lat 40°08'20", long 122°14'20", in La Barranca Colorado land grant on the right bank upstream side of Rawson Road bridge, 2.6 miles south of Red Bluff.

Drainage area.--109 sq. mi.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 275.02 ft above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1965 at datum 10.00 ft higher.

Extremes.--1964-65: Maximum discharge during year, 12,900 cfs Jan. 5 (gage height, 16.17 ft), from rating curve extended above 5,100 cfs; no flow for many days.

1965-66: Maximum discharge during year, 3,780 cfs Nov. 15 (gage height, 17.14 ft); no flow for several months.

Remarks.--No known regulation or diversion above station. Records of suspended sediment loads for the 1966 water year are published in Part 2 of this report.

Cooperation.--Records furnished by the Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	7.3	67	34	14	11	35	4.5	0.10		
2		0	13	71	32	13	24	34	4.0	0		
3		0	13	357	30	13	26	32	3.1	0		
4		0	12	297	29	12	19	31	2.6	0		
5		0	10	4,050	39	12	15	29	2.3	0		
6		0	9.5	357	40	13	14	27	1.8	0		
7		0	3.3	313	25	14	14	26	1.5	0		
8		0	7.7	188	25	13	1,170	25	1.3	0		
9		30	7.4	143	24	12	2,210	24	1.1	0		
10		213	7.0	122	23	12	364	24	.90	0		
11		294	6.5	111	22	12	135	22	.70	0		
12		293	5.4	95	21	12	94	21	.50	0		
13		71	4.4	83	21	13	77	20	.40	0		
14		26	3.9	75	21	13	65	19	.30	0		
15		16	3.7	63	20	12	132	13	.20	0		
16		13	3.6	65	19	11	137	16	.20	0		
17		3.8	3.3	62	18	11	92	15	.10	0		
18		6.8	3.2	53	17	10	105	14	.10	0		
19		5.1	7.7	55	16	9.7	167	13	.10	0		
20		3.9	17	52	16	9.7	127	13	.10	0		
21		3.1	2,500	43	16	9.4	60	12	.10	0		
22		3.2	4,690	45	15	9.4	52	13	.10	0		
23		3.7	993	80	14	3.9	53	12	.10	0		
24		3.4	313	147	14	3.7	54	10	.10	0		
25		2.7	207	63	14	3.4	52	3.9	.10	0		
26		2.6	189	54	14	3.2	51	8.2	.10	0		
27		2.5	184	43	15	1.6	49	7.4	.10	0		
28		2.5	123	44	16	13	45	6.6	.10	0		
29		2.6	93	40	-----	11	43	5.8	.10	0		
30		3.8	90	37	-----	9.7	40	5.5	.10	0		
31		-----	84	36	-----	9.9	-----	5.1	-----	0		
Total	0	1,715.6	9,639.9	7,341	611	3,540	5,548	5,535	26.80	0.10	0	0
Mean	0	57.2	311	253	21.8	11.4	185	179	0.89	0.003	0	0
Ac-ft	0	3,400	19,120	15,550	1,210	702	11,000	11,000	53	0.2	0	0

Calendar year 1964 Max - Min - Mean - Ac-ft -  
 Water year 1964-65 Max 4,690 Min 0 Mean 72.0 Ac-ft 52,150

Red Bank Creek at Rawson Road bridge, near Red Bluff, Calif.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	5.9	39	221	62	16	0.30				
2		0	4.8	30	134	55	15	.10				
3		0	4.0	27	290	47	13	0				
4		0	3.6	1,320	1,220	43	12	0				
5		0	3.5	1,520	529	71	12	0				
6		0	3.2	790	243	77	11	0				
7		0	3.1	302	143	65	11	.10				
8		0	3.1	223	125	57	11	.10				
9		0	3.0	168	106	54	13	.20				
10		0	2.7	120	95	66	15	.30				
11		0	2.8	90	81	62	14	.40				
12		0	3.6	72	71	55	13	.40				
13		0	4.2	60	64	51	11	0				
14		522	3.5	52	59	43	9.6	0				
15		1,410	2.7	43	50	47	3.0	0				
16		250	2.2	42	46	45	6.9	0				
17		410	1.8	37	39	38	6.3	0				
18		434	1.5	32	36	36	5.5	0				
19		156	1.4	23	132	32	4.2	0				
20		35	1.3	25	121	29	3.7	0				
21		55	1.3	23	73	27	4.1	0				
22		37	1.2	22	75	25	3.7	0				
23		36	1.2	21	72	24	2.8	0				
24		47	1.4	19	76	22	2.6	0				
25		22	2.6	13	32	21	2.9	0				
26		13	5.5	17	277	21	2.3	0				
27		15	4.8	15	35	20	1.2	0				
28		13	10.3	14	72	19	1.3	0				
29		9.8	13.4	13	-----	19	1.0	0				
30		7.5	81	99	-----	13	7.0	0				
31		-----	56	50	-----	17	-----	0				
Total	0	3,527.3	503.60	5,341	4,733	1,274	233.80	1.90	0	0	0	0
Mean	0	113	162	172	169	41.1	7.79	.06	0	0	0	0
Ac-ft	0	7,000	999	10,600	9,390	2,530	464	3.8	0	0	0	0

Calendar year 1965 Max 4.050 Min 0 Mean 52.0 Ac-ft 37,520  
 Water year 1965-66 Max 1.520 Min 0 Mean 42.8 Ac-ft 30,970

## 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.--123 sq mi.

Records available.--October 1940 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 360 ft (from topographic map). Prior to Sept. 18, 1954, graphic water-stage recorder at site 0.6 mile downstream at different datum. Sept. 18, 1954, to Oct. 1, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--26 years, 140 cfs (101,400 acre-ft per year); median of yearly mean discharges, 125 cfs (90,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,540 cfs Jan. 4 (gage height, 8.48 ft); minimum daily, 29 cfs many days in August and September.

1940-66: Maximum discharge, 11,500 cfs Feb. 22, 1956 (gage height, 12.43 ft); maximum gage height, 13.96 ft Oct. 12, 1962; minimum discharge 8.2 cfs Oct. 27, 1961.

Flood of 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. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	40	52	105	327	155	115	117	53	35	33	32
2	39	41	49	87	236	128	122	117	52	35	31	31
3	39	42	47	79	221	111	126	120	52	35	31	30
4	39	42	46	797	673	102	127	123	50	35	30	30
5	40	42	45	1,050	325	108	124	131	47	35	30	29
6	40	42	44	375	267	116	123	130	47	34	30	29
7	40	44	44	233	215	112	127	124	51	34	29	30
8	39	55	44	196	166	108	130	120	50	34	29	31
9	40	48	44	176	131	106	132	120	47	35	29	31
10	40	44	43	134	114	134	183	125	45	35	29	31
11	40	44	44	114	99	147	182	119	43	35	29	31
12	40	51	50	99	91	134	165	109	43	36	30	31
13	40	60	47	89	83	142	147	101	42	36	29	32
14	41	161	44	82	79	146	134	98	40	36	29	36
15	43	232	44	77	75	139	130	91	39	35	29	35
16	42	102	43	72	71	153	136	86	39	35	29	33
17	42	212	41	69	69	130	152	81	38	35	29	33
18	42	378	41	60	67	127	156	78	38	34	29	37
19	42	172	40	64	93	143	144	76	37	34	29	36
20	42	111	40	61	94	134	152	74	37	33	29	34
21	41	76	40	59	78	123	124	72	37	33	29	33
22	41	63	40	59	76	113	119	70	38	32	29	33
23	40	57	40	60	96	104	119	67	38	31	29	33
24	40	155	58	58	227	99	122	62	38	31	29	33
25	40	138	125	56	220	95	130	59	37	31	29	32
26	40	105	79	55	203	92	141	57	36	31	30	32
27	40	83	65	55	153	93	132	56	35	30	30	32
28	40	69	431	54	129	96	125	55	35	31	30	32
29	41	60	341	142	-----	100	121	54	34	31	30	32
30	40	55	196	446	-----	105	118	53	35	31	31	33
31	40	-----	140	297	-----	110	-----	54	-----	33	34	-----
TOTAL	1,253	2,824	2,447	5,366	4,678	3,719	4,038	2,799	1,253	1,041	922	967
MEAN	40.4	94.1	78.9	173	167	120	135	90.3	41.8	33.6	29.7	32.2
AC-FT	2,490	5,600	4,850	10,640	9,280	7,380	8,010	5,550	2,490	2,060	1,830	1,920

CALENDAR YEAR 1965 MAX 3,990 MIN 38 MEAN 146 AC-FT 106,000  
 WATER YEAR 1965-66 MAX 1,050 MIN 29 MEAN 85.8 AC-FT 62,100

Peak discharge (base, 2,200 cfs).--Jan. 4 (2230 hours) 2,540 cfs (8.48 ft).

11-3795. Elder Creek near Paskenta, Calif.

Location.--Lat 40°01'30", long 122°30'35", in SE 1/4 sec. 14, T.25 N., R.6 W., on left bank 2.5 miles downstream from South Fork, 8.2 miles northwest of Flournoy, and 10 miles north of Paskenta.

Drainage area.--92.9 sq mi.

Records available.--October 1948 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Digital water-stage recorder. Datum of gage is 718.1 ft. Prior to Aug. 13, 1965, graphic water-stage recorder at site 300 ft downstream at datum 5.13 ft higher. Aug. 13, 1965, to Oct. 12, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--18 years, 93.6 cfs (67,760 acre-ft per year); median of yearly mean discharges, 72 cfs (52,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,960 cfs Nov. 14 (gage height, 9.53 ft); minimum daily 1.4 cfs Aug. 20-23, Sept. 5, 6. 1948-66: Maximum discharge, 11,700 cfs Feb. 24, 1958 (gage height, 13.90 ft), from rating curve extended above 3,500 cfs on basis of slope-area measurements at gage heights 10.97 and 13.90 ft; no flow at times in some years.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or large diversion above station. Records of chemical analyses and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.2	5.1	43	67	199	98	237	53	21	7.0	2.9	2.3
2	4.2	5.3	42	63	142	91	220	52	20	6.6	2.6	1.9
3	4.2	5.7	40	194	339	82	194	52	20	6.6	2.4	1.7
4	4.2	6.0	38	2,220	638	85	182	54	19	6.6	2.2	1.6
5	4.5	6.4	37	1,660	315	125	178	53	18	6.2	1.8	1.4
6	4.8	6.3	36	1,020	230	110	178	50	19	5.8	1.8	1.4
7	4.5	12	35	532	190	108	175	46	23	5.8	1.7	1.5
8	4.2	29	33	377	164	122	166	43	20	6.6	1.6	1.6
9	4.5	13	31	284	146	232	166	43	18	6.6	1.5	1.7
10	4.8	9.7	30	224	131	258	161	43	17	6.6	1.5	1.7
11	5.1	9.0	30	189	119	203	150	40	16	6.2	1.5	1.7
12	5.1	22	33	166	110	186	138	37	14	6.2	1.6	1.9
13	4.8	703	31	149	102	193	121	35	13	6.6	1.6	2.0
14	4.9	1,550	28	141	97	196	111	33	12	6.2	1.6	2.4
15	5.3	1,460	25	138	91	186	108	32	11	5.8	1.6	2.2
16	5.2	209	24	135	86	170	119	31	11	5.4	1.6	2.3
17	5.2	525	24	126	84	150	128	29	11	5.0	1.5	2.2
18	5.3	640	23	117	83	139	120	27	10	4.8	1.5	2.2
19	2.6	240	23	107	149	130	103	26	9.0	4.3	1.5	3.9
20	5.5	110	23	97	111	120	92	25	8.6	3.9	1.4	3.8
21	5.3	85	23	91	98	115	84	25	9.6	3.6	1.4	3.3
22	5.0	78	22	87	98	109	78	25	10	3.6	1.4	2.9
23	4.9	72	21	82	98	107	75	23	11	3.2	1.4	2.7
24	4.9	88	39	78	113	109	75	22	11	2.8	1.5	2.6
25	4.8	78	38	74	130	117	77	21	9.0	2.6	1.5	2.7
26	4.9	67	30	71	132	134	76	21	8.6	3.0	1.5	2.8
27	4.9	60	30	67	111	156	69	21	8.3	2.7	1.6	2.5
28	5.0	54	41	63	103	180	64	21	7.4	2.6	1.6	2.1
29	5.1	50	185	199	-----	203	59	21	7.0	2.5	1.6	1.9
30	5.2	46	111	186	-----	220	55	21	7.0	2.6	2.3	1.7
31	5.1	-----	88	122	-----	229	-----	21	-----	3.1	3.1	-----
TOTAL	151.2	6,244.5	1,627	9,126	4,409	4,665	3,759	1,046	399.5	151.1	54.3	66.9
MEAN	4.88	208	52.5	294	157	150	125	33.7	13.3	4.87	1.75	2.25
AC-FT	300	12,390	3,230	18,100	8,750	9,250	7,460	2,070	792	300	108	133

CALENDAR YEAR 1965 MAX 3,100 MIN 3.6 MEAN 126 AC-FT 91,020  
 WATER YEAR 1965-66 MAX 2,220 MIN 1.4 MEAN 86.8 AC-FT 62,880

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-14	2300	9.53	4,960	12-28	1200	5.30	1,290
11-17	- - -	5.70	1,530	1-4	1730	8.59	3,880

Note.--No gage-height record Nov. 16 to Dec. 15.

## SACRAMENTO RIVER BASIN

11-3805, Elder Creek at Gerber, Calif.

Location.--Lat 40 03'05", long 122 09'53", in Saucos Grant, on right bank 1.0 mile west of Gerber, Tehama County, and 3.5 miles upstream from mouth.

Drainage area.--136 sq mi.

Records available.--October 1949 to September 1966.

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.--17 years, 98.9 cfs (71,600 acre-ft per year); median of yearly mean discharges, 76 cfs (55,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,960 cfs Jan. 4 (gage height, 10.95 ft); no flow many days.  
1949-66: Maximum discharge, 14,100 cfs Jan. 5, 1965 (gage height, 14.90 ft); no flow at times each year.

Remarks.--Records good except those for discharges below 5.0 cfs, which are poor. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.30	0	35	68	249	111	252	53	15	1.6	0.90	
2	.20	0	33	59	171	104	244	49	15	1.5	.30	
3	.10	0	32	61	227	95	213	49	1.6	1.2	.10	
4	.10	0	32	2,400	1,000	92	192	49	14	1.1	.20	
5	0	0	30	2,440	405	136	173	49	13	1.2	.50	
6	0	0	30	1,410	276	116	173	49	13	1.2	.20	
7	0	0	30	646	220	114	173	46	13	1.5	0	
8	0	0	29	430	188	111	164	44	15	.90	0	
9	0	0	28	327	164	164	164	43	13	.90	.20	
10	0	0	27	268	147	314	164	43	9.2	.90	.90	
11	0	0	27	224	133	243	150	41	6.8	.90	0	
12	0	0	30	185	127	220	138	37	5.0	.90	0	
13	0	95	29	164	116	216	116	34	4.2	.90	0	
14	0	1,010	25	157	114	228	108	31	3.0	1.10	0	
15	0	1,780	23	147	106	220	93	30	2.8	.90	0	
16	0	283	21	141	98	202	101	26	2.8	.80	0	
17	0	438	21	127	96	171	108	25	2.2	.60	0	
18	0	625	20	116	94	154	108	24	2.4	.60	0	
19	0	252	20	108	171	141	96	22	2.4	.60	0	
20	0	141	15	98	147	130	88	21	1.3	.70	0	
21	0	101	17	94	108	124	78	19	1.1	.60	0	
22	0	80	20	90	104	116	69	19	1.1	.60	0	
23	0	68	17	86	106	108	68	13	1.1	.90	0	
24	0	76	22	84	108	103	66	16	1.1	.60	0	
25	0	64	43	80	133	111	66	17	.90	.40	0	
26	0	53	33	78	240	124	66	17	.90	.40	0	
27	0	51	30	76	133	147	62	17	.90	.30	0	
28	0	45	317	73	121	171	59	15	1.30	.40	0	
29	0	43	288	107	-----	202	59	15	6.00	.50	0	
30	0	39	127	260	-----	224	59	16	3.00	.60	0	
31	0	-----	90	133	-----	240	-----	17	-----	.20	0	-----
Total	0.70	5,249	1,541	10,742	5,312	4,963	3,690	950	186.50	25.50	3.20	0
Mean	0.02	175	49.7	347	190	160	123	30.6	6.22	0.82	.10	0
Ac-ft	1.4	10,410	3,060	21,310	10,540	9,840	7,320	1,380	370	51	6.3	0

Calendar year 1965 Max 3,360 Min 0 Mean 133 Ac-ft 96,210  
Water year 1965-66 Max 2,440 Min 0 Mean 89.5 Ac-ft 64,790

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	0330	9.28	3,760	2-4	0200	7.39	1,700
1-4	2030	10.95	5,960				



11-3815. Mill Creek near Los Molinos, Calif.

Location.--Lat 40°03'17", long 122°01'23", in NE1/4 sec. 6, T.25 N., R.1 W., on right bank 1/2 miles northeast of Los Molinos and 5.5 miles upstream from mouth.

Drainage area.--131 sq mi.

Records available.--September 1909 to August 1913 (fragmentary), October 1928 to September 1966.

Gage.--Digital 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. October 1928 to Oct. 5, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--38 years (1928-66), 290 cfs (210,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,760 cfs Jan. 4 (gage height, 6.62 ft); minimum daily, 86 cfs Sept. 30.  
1928-66: Maximum discharge, 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 measurement of maximum flow; minimum, 49 cfs Dec. 13, 1932.

Remarks.--Records good. No storage or large diversion above station. Records of chemical analyses near this station for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	112	104	152	192	370	210	551	355	235	136	110	97
2	110	104	149	178	282	200	579	372	220	138	109	96
3	109	104	147	169	296	190	547	393	207	136	106	96
4	107	104	146	1,140	718	180	501	417	200	133	105	91
5	108	104	144	990	409	185	484	434	198	130	104	91
6	112	104	144	512	333	190	501	427	196	128	102	91
7	109	107	141	382	285	200	519	409	216	127	101	89
8	109	153	141	364	241	215	508	416	201	126	101	89
9	109	128	138	327	218	249	494	458	195	128	101	91
10	109	115	138	276	200	325	707	447	201	129	100	91
11	109	114	138	231	190	310	627	449	198	127	99	90
12	109	137	146	218	180	302	543	391	192	126	99	91
13	107	161	140	203	170	428	462	381	189	125	99	91
14	108	295	135	196	166	406	424	388	192	125	99	103
15	113	339	129	192	163	403	420	361	192	123	94	101
16	112	192	128	188	162	350	452	349	189	120	94	99
17	109	405	124	184	161	302	508	342	186	120	94	96
18	109	875	124	180	160	282	501	336	180	120	94	100
19	110	448	124	177	225	327	417	338	178	118	94	108
20	109	285	122	172	225	276	368	345	172	116	94	99
21	107	207	123	169	200	258	339	340	166	115	94	96
22	107	177	123	167	200	243	334	325	161	115	93	94
23	107	166	120	166	280	231	341	311	158	114	91	94
24	105	411	156	164	290	237	361	304	155	114	91	91
25	104	285	198	163	275	249	400	307	150	113	91	91
26	104	212	153	161	260	270	439	310	147	112	93	91
27	104	188	144	159	230	308	374	302	144	109	96	91
28	104	171	651	157	220	358	354	290	141	107	93	90
29	104	162	462	279	-----	406	347	278	141	107	94	87
30	104	157	321	583	-----	459	348	271	141	107	95	86
31	104	-----	240	371	-----	498	-----	254	-----	116	103	-----
TOTAL	3,343	6,516	5,441	9,010	7,109	9,047	13,750	11,100	5,441	3,760	3,033	2,811
MEAN	108	217	176	291	254	292	458	358	181	121	97.8	93.7
AC-FT	6,630	12,920	10,790	17,870	14,100	17,940	27,270	22,020	10,790	7,460	6,020	5,580

CALENDAR YEAR 1965	MAX	4,870	MIN	104	MEAN	330	AC-FT	238,600
WATER YEAR 1965-66	MAX	1,140	MIN	86	MEAN	220	AC-FT	159,400

Peak discharge (base, 2,400 cfs).--Jan. 4 (2015 hours) 2,760 cfs (6.62 ft).

## 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.--194 sq mi.

Records available.--October 1920 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A. Published as Thomas Creek at Paskenta prior to 1943.

Gage.--Water-stage recorder. 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 datum. June 21, 1942, to Sept. 30, 1959, at datum 1.75 ft higher.

Average discharge.--46 years, 270 cfs (195,500 acre-ft per year); median of yearly mean discharges, 215 cfs (155,700 acre-ft per year).

Extremes.--Maximum discharge during year, 4,180 cfs Jan. 4 (gage height, 7.89 ft); minimum daily, 2.0 cfs Aug. 27.  
1920-66: Maximum discharge, 37,800 cfs Dec. 22, 1964 (gage height, 15.32 ft in gage well, 16.4 ft from floodmarks), from rating curve extended above 14,000 cfs on basis of slope-area measurement of maximum flow; no flow at times in many years.

Remarks.--Records fair. No storage or large diversions above station. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.5	7.0	86	86	345	260	1410	360	86	30	9.0	3.3
2	7.5	8.2	33	77	300	250	1320	372	83	23	9.0	3.7
3	7.5	9.0	89	97	500	213	1180	394	86	25	3.2	3.7
4	7.0	9.8	110	2000	800	227	1140	434	77	24	7.5	3.3
5	7.0	11	130	2480	504	280	1120	491	76	22	7.5	3.3
6	7.5	12	214	2840	491	285	1130	394	75	20	7.0	2.8
7	7.5	23	192	1400	382	383	1140	345	79	20	6.6	3.7
8	7.5	97	171	370	335	434	1070	340	86	20	7.0	4.2
9	7.5	39	137	670	290	710	1000	345	32	19	6.6	4.2
10	7.5	25	117	543	260	1090	1180	355	75	20	6.6	4.2
11	3.2	15	110	453	213	790	1090	355	70	22	6.1	4.2
12	7.5	37	114	416	201	680	920	310	66	20	5.1	4.7
13	7.0	573	104	394	175	860	720	295	62	23	6.1	4.7
14	7.5	1230	89	399	160	980	650	280	60	23	6.1	5.2
15	7.5	1050	77	422	152	390	560	246	57	20	5.6	6.1
16	3.2	237	69	452	133	730	360	237	54	20	5.6	6.6
17	3.2	382	64	422	133	604	1050	209	52	13	4.7	6.1
18	3.2	512	64	399	163	564	820	201	49	16	4.7	7.0
19	9.0	325	60	372	265	548	612	205	47	16	4.2	7.5
20	9.0	223	55	340	250	505	526	223	44	15	4.2	7.5
21	3.2	134	55	305	237	505	484	227	42	14	3.3	7.5
22	3.2	143	53	285	241	512	470	209	41	14	2.8	5.6
23	7.5	134	44	265	270	548	477	160	41	12	2.8	4.7
24	7.5	180	72	237	295	640	512	143	41	11	2.5	4.7
25	7.5	160	107	213	285	760	564	152	37	10	2.5	4.7
26	7.5	130	72	196	285	910	556	160	33	9.8	2.2	4.2
27	7.5	117	62	184	255	1070	470	160	32	10	2.0	4.2
28	3.2	107	340	163	260	1190	410	160	23	9.8	2.2	4.2
29	9.2	100	232	223	-----	1280	382	137	30	9.0	2.2	3.7
30	7.0	91	143	290	-----	1310	360	117	30	9.3	3.7	4.2
31	6.6	-----	120	209	-----	1350	-----	97	-----	9.8	4.2	-----
Total	233.2	6181.0	3440	17717	8295	21363	24233	9168	1721	5402	1538	143.7
Mean	7.68	206	111	572	296	689	309	263	57.4	17.4	5.12	4.79
Ac-ft	472	12260	6820	35140	16450	42380	43160	16200	3410	1070	315	285

Calendar year 1965 Max 3.560 Min 6.6 Mean 332 Ac-ft 240400  
Water year 1965-66 Max 2.340 Min 2.0 Mean 253 Ac-ft 193000

Peak discharge (base, 1,800 cfs).--Nov. 15 (0200) 2,820 cfs (7.17 ft); Jan. 4 (1900) 4,180 cfs (7.89 ft).

11-3825.5. Deer Creek below Slate Creek, near Deer Creek Meadows, Calif.

Location.--Lat 40°14'00", long 121°27'50", in NE $\frac{1}{4}$  sec.1, T.27 N., R.4 E., on right bank 0.4 mile downstream from Slate Creek, 3.2 miles southwest of Deer Creek Meadows, and 15 miles southwest of Chester.

Drainage area.--69.4 sq mi.

Records available.--August 1961 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,300 ft (from topographic map).

Average discharge.--5 years, 124 cfs (89,770 acre-ft per year).

Extremes.--Maximum discharge during year, 525 cfs Apr. 10 (gage height, 4.21 ft); minimum daily, 42 cfs Aug. 25.

1961-66: Maximum discharge, 7,900 cfs Dec. 22, 1964 (gage height, 11.06 ft in gage well, 11.95 ft from floodmarks), from rating curve extended above 1,500 cfs on basis of slope-area measurement at gage height 9.06 ft; minimum, 37 cfs Nov. 17, 1961, Sept. 17, 1962.

Remarks.--Records good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	56	77	62	62	64	316	142	67	52	46	44
2	61	56	76	64	61	62	330	140	67	52	46	44
3	61	56	76	65	60	56	313	138	67	52	45	44
4	61	53	74	69	65	58	296	142	65	51	44	44
5	61	53	74	90	72	61	279	140	64	52	44	44
6	61	53	72	113	67	57	279	132	67	51	43	45
7	51	60	70	103	66	72	282	126	69	51	43	45
8	60	100	70	101	64	79	270	124	66	51	43	45
9	60	62	70	99	64	83	292	134	64	51	44	46
10	60	60	70	90	61	121	462	136	61	51	44	46
11	60	61	70	83	59	124	394	121	60	52	44	46
12	59	94	72	80	60	121	347	113	59	52	44	46
13	59	87	69	79	59	201	289	103	58	51	43	49
14	61	154	66	77	59	193	267	103	58	50	44	48
15	61	134	61	77	59	165	267	101	59	49	44	47
16	60	86	62	76	53	140	270	96	59	49	44	46
17	60	134	61	74	58	122	285	94	56	49	44	46
18	60	293	61	74	59	117	267	91	54	49	44	48
19	61	154	60	72	61	115	227	88	54	48	44	48
20	60	119	59	70	62	104	203	86	54	48	44	46
21	59	93	58	69	62	104	193	85	55	48	44	46
22	59	85	61	67	65	103	184	82	55	48	44	45
23	58	91	58	66	69	104	184	80	54	48	44	45
24	58	106	61	66	70	119	179	79	53	48	43	45
25	58	91	61	65	66	136	186	76	52	48	42	45
26	58	83	61	65	64	156	179	74	51	48	44	45
27	53	83	62	64	62	176	163	73	51	47	43	45
28	58	80	66	64	65	203	159	72	50	47	43	45
29	58	80	65	65	-----	230	152	70	50	46	43	45
30	56	79	66	66	-----	255	146	69	50	49	45	45
31	56	-----	64	62	-----	289	-----	69	-----	50	45	-----
Total	1,344	2,361	2,053	2,341	1,759	4,005	7,665	3,184	1,749	1,538	1,361	1,363
Mean	59.5	95.4	66.2	75.5	62.8	129	256	103	53.3	49.6	43.9	45.6
Ac-ft	3,660	5,670	4,070	4,640	3,490	7,940	15,300	6,320	3,470	3,050	2,700	2,710

Calendar year 1965 Max 590 Min 56 Mean 145 Ac-ft 105,100

Water year 1965-66 Max 462 Min 42 Mean 85.9 Ac-ft 62,230

Peak discharge (base, 300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-17	2400	3.72	343	4-10	0100	4.21	525
4-1	2000	3.84	366				

## SACRAMENTO RIVER BASIN

11-3835. Deer Creek near Vina, Calif.

Location.--Lat 40°00'50", long 121°56'50", in NW 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.--208 sq mi.

Records available.--October 1911 to December 1915, March 1920 to December 1937, January 1939 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Digital 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, graphic water-stage recorder at present site at datum 2.64 ft higher. Jan. 19, 1939, to July 14, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--48 years, 303 cfs (219,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,960 cfs Jan. 4 (gage height, 7.58 ft); minimum daily, 82 cfs Sept. 5. 1911-15, 1920-37, 1939-66: Maximum discharge, 23,800 cfs Dec. 10, 1937 (gage height, 19.2 ft, present datum, from floodmarks), from rating curve extended above 9,200 cfs on basis of velocity-area studies; minimum, 43 cfs Dec. 13, 1932.

Remarks.--Records good. No storage or large diversions above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	105	112	159	219	318	242	568	301	146	99	94	87
2	104	113	153	189	271	227	600	296	145	99	91	85
3	104	114	150	178	298	210	578	293	144	98	90	83
4	105	113	148	1,830	774	201	543	299	140	98	88	83
5	105	115	148	1,730	525	209	511	306	136	97	87	82
6	106	115	145	838	452	216	507	297	136	97	86	83
7	104	118	141	587	382	229	509	284	145	95	86	83
8	104	154	139	543	316	239	498	275	142	95	85	84
9	104	133	137	472	278	254	489	275	137	97	85	84
10	104	110	136	392	250	313	742	306	131	97	85	84
11	104	108	137	332	223	356	739	274	127	97	86	84
12	104	123	146	290	210	333	664	253	124	97	86	85
13	104	164	139	261	195	438	574	241	121	97	86	86
14	105	397	134	243	186	512	516	231	119	98	85	90
15	109	369	128	230	178	473	492	221	118	97	84	88
16	107	208	126	223	169	425	503	211	120	95	84	86
17	106	545	124	212	165	361	538	202	117	94	84	86
18	110	1,240	122	205	162	336	541	194	114	94	85	88
19	117	511	121	197	227	351	470	187	112	94	84	91
20	117	314	119	186	230	324	426	183	111	94	84	87
21	115	226	119	179	206	306	397	178	111	94	84	86
22	114	186	120	177	203	291	376	173	112	92	84	85
23	113	173	118	173	283	275	364	167	111	92	84	85
24	113	486	170	166	315	280	361	163	110	92	84	85
25	113	357	203	162	306	295	368	159	106	92	85	85
26	113	257	153	158	291	316	381	155	106	91	84	85
27	113	221	143	156	260	351	351	153	103	91	86	85
28	113	194	524	152	245	394	335	151	102	90	86	84
29	113	179	531	286	-----	437	322	149	100	90	86	83
30	113	168	368	506	-----	485	309	148	99	91	86	85
31	112	-----	283	319	-----	529	-----	148	-----	97	89	-----
TOTAL	3,373	7,623	5,854	11,791	7,919	10,206	14,572	6,873	3,645	2,941	2,663	2,555
MEAN	109	254	182	380	283	329	486	222	122	94.9	85.9	85.2
AC-FT	6,690	15,120	11,210	23,390	15,710	20,240	28,900	13,630	7,230	5,830	5,280	5,070

CALENDAR YEAR 1965	MAX	7,270	MIN	104	MEAN	369	AC-FT	267,100
WATER YEAR 1965-66	MAX	1,830	MIN	82	MEAN	219	AC-FT	158,300

Peak discharge (base, 2,500 cfs).--Jan. 4 (2000 hours) 3,960 cfs (7.58).

11-3840. Big Chico Creek near Chico, Calif.

Location.--Lat  $39^{\circ}46'35''$ , long  $121^{\circ}45'10''$ , 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.--72.2 sq mi.

Records available.--May 1930 to September 1966. Prior to October 1952, published as Chico Creek near Chico.

Gage.--Digital water-stage recorder. Altitude of gage is 300 ft (from topographic map). Prior to Oct. 1, 1955, graphic water-stage recorder at site 0.6 mile downstream at different datums. Oct. 1, 1955, to Sept. 30, 1962; graphic water-stage recorder at same site and datum.

Average discharge.--36 years, 139 cfs (100,600 acre-ft per year); median of yearly discharges, 115 cfs (83,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,850 cfs Jan. 4 (gage height, 8.25 ft); minimum daily, 18 cfs Aug. 15-21.  
1930-66: Maximum discharge, 9,580 cfs Jan. 5, 1965 (gage height, 15.36 ft); minimum, 10 cfs Dec. 11, 1932, Aug. 15, 1939, Sept. 18, 1947.

Remarks.--Records good. No storage or large diversion above station. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Revisions (water year).--1965 Report: 1964 (M).

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	25	27	60	144	181	156	122	50	32	25	22	21
2	25	27	55	114	168	146	121	48	31	25	21	21
3	25	28	52	99	159	132	115	46	32	25	20	20
4	25	28	50	1,060	401	121	108	45	32	25	20	20
5	25	27	49	1,970	377	119	101	44	31	25	19	19
6	26	28	47	960	442	118	96	44	32	24	19	19
7	25	28	45	498	370	122	92	43	34	23	19	20
8	25	54	44	394	243	125	87	43	32	23	19	21
9	25	37	43	334	197	130	86	43	31	23	19	21
10	25	30	42	261	167	163	132	48	30	24	19	21
11	25	29	44	205	144	181	129	45	29	23	19	21
12	25	35	51	168	129	172	157	41	31	24	20	21
13	25	53	46	145	117	212	144	40	28	24	19	21
14	25	168	44	131	108	222	126	39	27	24	19	22
15	26	143	43	121	101	209	111	38	26	23	18	22
16	26	81	42	114	94	198	103	37	27	23	18	22
17	26	180	41	108	89	174	98	37	27	23	18	21
18	26	618	39	101	86	158	95	35	26	22	18	20
19	26	252	41	95	120	171	85	34	26	22	18	25
20	26	154	40	87	148	163	79	34	26	22	18	23
21	25	101	39	81	139	152	75	33	26	22	18	21
22	25	77	40	78	136	143	70	33	27	22	19	21
23	25	67	40	74	173	134	66	33	27	21	19	21
24	25	232	67	71	205	129	62	32	27	21	19	21
25	25	225	111	67	206	125	59	32	27	21	19	22
26	25	149	76	65	205	122	58	31	26	21	19	22
27	26	116	64	62	180	121	56	31	25	21	20	21
28	25	96	198	60	165	122	55	31	25	20	20	21
29	25	79	225	92	-----	123	53	30	25	21	20	20
30	26	68	245	200	-----	122	52	30	25	21	20	21
31	26	-----	192	162	-----	123	-----	32	-----	22	22	-----
TOTAL	785	3,237	2,315	8,121	5,277	4,608	2,793	1,182	850	705	597	638
MEAN	25.3	108	74.7	262	188	149	93.1	36.1	28.3	22.7	19.3	21.3
AC-FT	1,560	6,420	4,590	16,110	10,470	9,140	5,540	2,340	1,690	1,400	1,180	1,270

CALENDAR YEAR 1965	MAX 5,480	MIN 24	MEAN 154	AC-FT 111,200
WATER YEAR 1965-66	MAX 1,970	MIN 18	MEAN 85.2	AC-FT 61,710

Peak discharge (base, 1,600 cfs).--Jan. 4 (2100 hours) 2850 cfs (8.25 ft).

## SACRAMENTO RIVER BASIN

11-3843.5 Mud Creek near Chico, Calif.

Location.--Lat 39°47'02", long 121°53'06", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 5, T.22 N., R.1 E., on left bank 0.1 mile upstream from bridge on State Highway 99E and 5 miles northwest of Chico.

Drainage area.--47.4 59 mi.

Records available.--October 1965 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 170 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,400 cfs Jan. 4 (gage height, 7.86 ft); no flow for several months.  
Flood of Dec. 23, 1964 reached a stage of 16.92 ft from floodmarks (discharge, 8,000 cfs).

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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	4.3	25	190	27	6.5	1.3		0		
2		0	4.1	19	66	24	5.7	1.1		0		
3		0	3.9	17	106	21	5.7	.90		0		
4		0	3.7	410	442	13	6.0	.90		0		
5		0	3.5	330	110	13	5.0	1.1		0		
6		0	3.5	157	69	13	5.4	.80		0		
7		0	3.3	71	49	17	5.2	.70		0		
8		0	3.3	76	36	15	4.9	.70		0		
9		0	3.3	50	23	14	5.4	.70		0		
10		0	3.1	36	23	15	7.1	1.2		0		
11		0	3.5	28	13	14	6.8	.70		0		
12		0	2.1	22	15	13	7.5	.70		0		
13		1.3	1.1	13	13	16	6.8	.30		0		
14		8.8	7.1	15	12	14	5.7	.10		0		
15		3.6	6.5	14	11	14	4.9	.10		0		
16		2.6	5.2	12	9.2	14	4.6	.10		.10		
17		10.8	4.6	11	3.8	12	4.3	.90		0		
18		15.8	4.3	9.5	3.5	12	4.6	1.2		0		
19		5.6	4.6	9.2	1.7	15	3.9	1.2		.50		
20		2.2	4.9	3.2	1.6	15	3.5	2.7		.10		
21		1.2	4.3	3.2	1.3	13	3.3	1.6		0		
22		7.8	4.3	3.2	1.2	13	3.1	.10		.70		
23		6.8	4.3	3.2	1.6	12	2.9	0		3.9		
24		1.1	7.8	7.5	7.5	11	2.7	.40		3.9		
25		1.3	2.3	5.8	6.9	10	2.3	.70		3.7		
26		9.5	14	7.1	8.9	9.5	2.0	.50		4.1		
27		3.2	1.2	6.5	3.8	9.2	1.8	0		.70		
28		6.8	15.7	6.5	3.0	3.8	1.8	0		0		
29		6.0	9.4	19.2	-----	3.5	1.6	0		0		
30		5.4	5.3	9.6	-----	7.8	1.4	0		0		
31		-----	3.7	8.6	-----	7.5	-----	0	-----	0	-----	-----
Total	0	631.8	519.4	2370.9	1589.5	436.3	133.4	20.70	0	17.70	0	0
Mean	0	21.1	16.8	76.5	56.8	14.1	4.45	0.67	0	0.57	0	0
Ac-ft	0	1250	1030	4700	3150	367	265	41	0	35	0	0
Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1965-66	Max	930	Min	0	Mean	15.7	Ac-ft	11340				

11-3865. Grindstone Creek near Elk Creek, Calif.

Location.--Lat 39°40'46", long 122°31'43", in SW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec. 15, T.21 N., R.6 W., on right bank 600 ft upstream from highway bridge, 4.5 miles north of Elk Creek.

Drainage area.--172 sq mi.

Records available.--October 1935 to November 1937, October 1939 to April 1940, October 1965 to September 1966. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 640 ft (from topographic map). October 1935 to November 1937, at site 0.2 mile downstream at different datum. October 1939 to April 1940, at site 600 ft downstream at different datum.

Extremes.--Maximum discharge during year, 6,210 cfs Jan. 4 (gage height, 13.00 ft), from rating curve extended above 2,200 cfs; minimum daily, 0.1 cfs Nov. 1.

1935-37, 1939-40, 1965-66: Maximum discharge, 13,000 cfs Feb. 27, 1940 (gage height, 7.55 ft, site and datum then in use), from rating curve extended above 2,400 cfs on basis of slope-area measurement of maximum flow; no flow at times many years.

Flood of Dec. 22, 1964 reached a stage of 9.38 ft from floodmarks at site 600 ft downstream at different datum (discharge, 22,200 cfs by slope-area measurement).

Remarks.--No known diversions 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	0.10	41	110	261	139	432	146	46	1.3	3.4	2.6
2	2.5	.30	44	100	239	127	417	139	47	1.4	3.4	2.6
3	2.2	.80	47	200	332	111	414	140	42	1.3	3.4	2.0
4	2.6	1.0	54	3,000	590	111	383	153	37	1.0	2.6	1.5
5	2.9	1.9	57	2,450	446	131	352	178	29	9.0	2.0	1.0
6	2.8	1.9	69	1,420	364	142	340	143	31	1.3	2.0	1.0
7	1.7	8.1	59	845	293	159	337	130	40	2.0	2.0	.70
8	1.7	37	54	633	253	188	332	115	36	2.6	1.5	1.0
9	1.7	22	62	475	243	284	344	132	29	2.6	1.0	.70
10	2.1	13	70	362	220	380	414	142	26	2.6	1.0	1.0
11	1.5	17	72	293	204	310	435	129	20	2.6	1.0	.70
12	3.7	33	70	243	199	304	406	107	17	3.4	.70	.70
13	3.2	169	73	230	190	357	312	104	16	3.4	.40	.40
14	2.6	347	90	220	180	375	283	92	14	3.4	.70	1.0
15	2.6	382	74	210	173	345	274	86	14	2.6	1.0	.70
16	2.6	93	65	200	163	313	279	83	14	2.6	.70	.70
17	2.8	157	53	190	162	261	295	69	10	2.0	1.0	.70
18	2.6	263	54	180	165	243	279	62	9.4	1.5	.70	.70
19	2.6	129	49	170	183	233	245	70	7.6	1.5	1.0	.70
20	2.0	73	46	160	174	238	223	72	7.0	3.4	.70	2.0
21	1.8	43	44	155	174	234	206	74	7.9	4.2	.70	2.0
22	2.3	33	42	159	172	218	183	73	3.2	4.2	.40	1.5
23	1.9	34	40	162	183	224	183	66	6.8	4.2	.40	1.5
24	1.3	31	56	165	174	231	185	68	5.7	3.4	.20	1.5
25	1.4	73	63	166	166	254	195	67	3.4	2.6	.40	1.5
26	.90	55	60	166	151	272	191	69	2.7	2.6	.40	2.0
27	.60	50	50	163	144	307	161	64	2.6	2.6	.40	1.5
28	1.0	51	200	163	143	359	161	61	1.6	2.6	.40	1.5
29	1.1	45	170	226	-----	390	157	61	1.5	2.6	.70	1.0
30	1.7	46	140	233	-----	430	149	56	1.2	2.6	1.5	.70
31	.70	-----	120	216	-----	417	-----	50	-----	3.4	2.6	-----
Total	63.40	2,285.10	2,204	13,675	6,356	8,097	8,572	3,011	533.6	78.4	38.30	37.10
Mean	2.05	75.2	71.1	441	227	261	286	97.1	17.8	2.53	1.24	1.24
Ac-ft	126	4,530	4,370	27,130	12,610	16,060	17,000	5,370	1,060	156	76	74

Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-
Water year 1965-66	Max	3,000	Min	0.1	Mean	123	Ac-ft	89,170

## SACRAMENTO RIVER BASIN

11-3870. Stony Creek near Fruto, Calif.

Location (revised).--Lat 39°40'16", long 122°31'08", in ~~SW~~<sup>SE</sup> ~~1/4~~<sup>1/4</sup> 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 (revised).

Records available.--January 1901 to October 1912, October 1960 to September 1966.

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.--17 years, 664 cfs (480,700 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 12,800 cfs Jan. 4 (gage height, 11.50 ft); minimum daily, 7.2 cfs Sept. 28, 29.  
1901-12, 1960-66: Maximum discharge, 40,200 cfs Dec. 23, 1964 (gage height, 15.49 ft in gage well, 16.1 ft from floodmarks); no flow July 5-13, Oct. 25, 26, 1901.

Remarks.--Records fair. 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). Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	303	123	65	151	577	500	1010	344	333	217	384	288
2	305	123	65	132	344	475	964	435	384	312	403	284
3	302	134	67	173	1090	452	866	698	376	312	525	280
4	298	123	72	5440	5440	433	803	655	372	312	500	280
5	298	114	72	4510	3090	480	768	532	363	312	485	274
6	298	117	83	2970	1500	485	317	570	372	303	430	270
7	294	93	85	3020	727	520	789	447	363	277	475	270
8	291	64	69	2370	555	525	761	434	364	231	470	267
9	287	55	67	1900	754	700	716	438	360	261	465	264
10	234	49	62	1490	303	1040	922	442	356	293	460	264
11	280	46	61	1160	740	1120	1240	438	352	294	460	261
12	255	43	67	922	674	1120	1230	429	344	294	485	261
13	234	252	60	722	620	1160	1050	429	344	277	515	261
14	234	968	57	564	587	1140	929	429	340	255	510	253
15	210	1460	55	352	432	971	310	424	336	255	465	253
16	190	275	54	340	319	950	732	424	336	252	333	240
17	188	423	51	312	202	866	747	416	333	252	334	222
18	182	523	50	294	420	735	680	420	330	240	380	219
19	172	223	49	274	555	550	592	420	330	231	376	219
20	144	125	43	249	570	530	530	420	326	246	380	222
21	125	86	43	234	560	500	490	420	326	267	400	240
22	84	69	48	228	555	475	438	424	326	237	404	252
23	45	62	46	216	598	465	424	408	325	23	392	252
24	38	122	34	204	587	485	420	412	322	198	396	252
25	34	112	130	196	576	540	424	412	322	330	330	249
26	31	86	73	190	560	620	416	403	319	352	319	204
27	28	80	67	132	525	716	383	404	319	356	312	13
28	66	72	462	172	505	810	380	404	319	396	312	7.2
29	121	69	387	342	-----	387	363	400	195	392	305	7.2
30	121	67	213	355	-----	950	352	392	72	392	283	31
31	121	-----	190	246	-----	985	-----	388	-----	392	283	-----
Total	5363	6183	3012	29915	24565	22190	21106	13317	9925	9336	12791	66694
Mean	189	206	97.2	965	877	716	704	446	331	285	413	222
Ac-ft	11640	12270	5970	59340	43720	44010	41860	27410	19690	17530	25370	13230

Calendar year 1965 Max 15,300 Min 23 Mean 706 Ac-ft 511000  
 Water year 1965-66 Max 5,440 Min 7.2 Mean 452 Ac-ft 327000



11-3878, North Fork Stony Creek near Newville, Calif.

Location.--Lat 39°47'05", long 122°28'30", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.6, T.22 N., R.5 W., on right bank 150 ft downstream from Bedford Creek and 2.7 miles east of Newville.

Drainage area.--67.1 sq mi.

Records available.--May 1963 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 531.43 ft above mean sea level.

Extremes.--Maximum discharge during year, 3,060 cfs Jan. 4 (gage height, 6.27 ft); no flow for many days.

1963-66: Maximum discharge, 12,500 cfs Jan. 5, 1965 (gage height, 11.48 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurement at gage height 7.3 ft and 11.48 ft; no flow at times each year.

Flood of Apr. 7, 1963, reached a stage of 7.3 ft, from floodmarks, (discharge, 4,600 cfs by slope-area measurement).

Remarks.--Records good. No regulation above station. Probably a few small diversions above the station for irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	15	27	214	35	16	3.0	1.2	0		
2		0	14	23	72	31	15	3.4	1.0	.20		
3		0	13	31	455	30	14	3.7	1.2	.10		
4		0	12	1,240	542	29	13	4.0	1.0	0		
5		0	11	684	175	79	12	4.0	1.0	0		
6		0	10	224	114	54	11	4.0	1.2	0		
7		1.1	9.3	137	92	42	10	4.3	2.2	0		
8		1.5	9.3	101	73	38	10	4.3	2.7	0		
9		1.2	8.6	76	62	36	14	4.6	2.0	0		
10		1.2	8.0	60	58	38	14	6.3	1.6	0		
11		1.2	10	46	54	37	13	6.3	1.4	0		
12		2.3	20	38	52	36	12	5.0	1.0	0		
13		200	15	33	48	35	10	4.3	1.0	0		
14		660	10	30	42	34	9.6	4.0	1.0	0		
15		770	8.6	25	39	33	8.4	3.7	.90	0		
16		111	6.8	22	37	32	7.8	3.4	1.0	0		
17		360	6.3	21	34	30	7.3	3.0	.80	0		
18		107	5.8	19	35	28	6.8	2.2	.60	0		
19		42	4.9	17	104	27	6.3	2.0	.50	0		
20		32	4.9	15	42	25	5.8	1.8	.30	0		
21		25	4.9	15	37	24	5.5	1.8	.30	0		
22		47	5.3	15	37	22	5.0	1.6	.50	0		
23		54	4.9	14	110	22	4.6	1.4	.50	0		
24		50	20	13	99	21	4.3	1.2	.30	0		
25		39	22	12	78	20	4.6	1.0	.10	0		
26		30	14	12	59	19	4.0	.90	.10	0		
27		28	12	10	44	19	3.7	.80	.10	0		
28		22	17.3	9.6	37	19	3.7	.80	0	0		
29		20	95	103	-----	18	3.7	.80	0	0		
30		18	46	99	-----	17	3.4	.90	0	0		
31		-----	34	37	-----	17	-----	1.0	-----	0		
Total	0	2,623.5	633.6	3,208.6	2,845	947	258.5	89.50	25.50	0.30	0	0
Mean	0	87.4	20.4	104	102	30.5	8.62	2.89	0.85	0.01	0	0
Ac-ft	0	5,200	1,260	6,360	5,640	1,880	513	173	51	0.6	0	0

Calendar year 1965 Max 3,210 Min 0 Mean 45.7 Ac-ft 33,100

Water year 1965-66 Max 1,240 Min 0 Mean 29.1 Ac-ft 21,080

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-13	2200	4.17	926	1-4	1800	6.27	3,060
11-15	0200	5.77	2,470	2-1	0700	3.63	586
11-17	0700	4.13	894	2-3	2400	4.66	1,340
12-28	1300	3.56	508	2-23	0900	3.31	420

## SACRAMENTO RIVER BASIN

11-3879.9. South Diversion Canal near Orland, Calif.

Location.--Lat 39°48'35", long 122°19'45", in NE<sup>1</sup> sec.32, T.23 N., R.4 W., on left bank (revised) 0.4 mile downstream from Black Butte Dam and 8.2 miles northwest of Orland.

Records available.--July 1955 to September 1966. Prior to October 1961, published as an adjustment to Stony Creek at Black Butte damsite near Orland.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 372.64 above mean sea level. 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.--11 years, 107 cfs (77,460 acre-ft per year).

Extremes.--1955-66: Maximum daily discharge, 292 cfs, July 23, 1966; no flow at times in 1957-66.

Remarks.--Records good. Canal diverts from Black Butte Reservoir at right end of Black Butte Dam; water is used for irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	194	96	2.8	4.6	3.8	3.8	242	289	167	237	233	195
2	204	89	2.6	4.9	2.8	4.3	262	251	176	251	234	210
3	209	73	2.5	4.9	2.5	4.3	254	233	166	217	259	209
4	200	36	2.8	5.2	3.5	4.3	194	220	227	223	263	193
5	164	23	3.0	5.2	4.0	4.3	196	209	239	222	246	209
6	140	38	3.3	4.6	3.8	4.3	204	195	214	191	250	179
7	160	49	3.5	3.8	1.9	4.3	209	214	211	155	255	171
8	187	16	3.5	2.5	3.8	4.3	210	192	237	199	237	173
9	166	3.8	3.5	1.9	4.3	4.3	183	162	249	231	226	182
10	147	5.2	2.8	3.8	3.8	4.3	164	188	250	251	217	181
11	139	4.3	2.5	5.0	4.0	4.3	127	205	244	241	197	179
12	139	3.7	2.5	3.8	4.0	4.3	134	234	214	224	210	157
13	161	3.1	2.5	3.8	4.0	4.3	159	226	196	217	240	159
14	148	2.4	.80	3.8	4.0	4.3	164	257	231	226	211	160
15	115	1.8	.60	3.8	3.8	4.6	168	234	262	223	216	169
16	115	1.1	2.3	3.5	3.5	4.6	190	216	278	236	255	184
17	121	.80	3.0	3.5	3.8	4.6	197	199	274	248	259	171
18	109	.60	3.8	3.5	3.5	4.6	214	216	278	220	248	162
19	123	.10	3.8	3.5	3.5	4.6	234	206	288	216	248	138
20	90	.10	3.5	3.5	3.5	4	228	218	289	226	246	160
21	86	0	4.6	3.5	3.5	27	213	248	274	253	222	172
22	72	0	5.7	3.5	3.5	40	214	257	278	282	199	127
23	51	1.6	6.7	3.5	3.5	50	208	237	284	292	196	111
24	65	4.9	6.7	3.8	3.5	55	194	199	245	259	197	149
25	91	4.4	6.7	3.8	3.5	63	215	234	232	240	188	165
26	109	4.0	5.8	3.8	3.8	77	244	251	237	277	199	159
27	123	3.5	5.2	3.8	3.8	121	231	264	217	231	208	124
28	136	2.3	5.2	3.8	3.2	136	257	267	237	204	202	134
29	136	2.3	4.9	3.8	-----	150	272	228	263	181	203	138
30	135	2.5	5.2	3.8	-----	189	285	132	271	202	210	142
31	102	-----	5.2	4.0	-----	212	-----	145	-----	231	194	-----
Total	4,136	471.50	117.50	120.2	100.1	1,206.7	6,266	6,875	7,227	7,106	6,968	4,351
Mean	133	15.7	3.79	3.88	3.58	38.9	209	222	241	229	225	165
Ac-ft	2,200	335	233	238	199	2,390	12,430	13,640	14,330	14,090	13,320	9,920

Calendar year 1965 Max 271 Min 0 Mean 110 Ac-ft 79,470  
 Water year 1965-66 Max 292 Min 0 Mean 125 Ac-ft 90,340

11-3879.95 Black Butte Reservoir near Orland, Calif.

Location.--Lat 39°48'50", long 122°20'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.29, T.23 N., R.4 W., in control tower in right abutment of main dam on Stony Creek, 8 miles northwest of Orland.

Drainage area.--740 sq mi.

Records available.--October 1963 to September 1966.

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

Extremes.--Maximum contents during year, 118,300 acre-ft May 18-20 (elevation, 463.38 ft); minimum, 35,000 acre-ft Sept. 30 (elevation, 433.52 ft).

1963-66: Maximum contents, 136,300 acre-ft May 3, 1965 (elevation, 468.01 ft); minimum since initial season of operation, 9,420 acre-ft Oct. 27, 1964 (elevation, 413.83 ft).

Remarks.--Reservoir is formed by seven earth-fill dams; storage began Oct. 28, 1963. Usable capacity, 150,000 acre-ft between elevations 414.6 (minimum operating level) and 473.5 ft (spillway crest) above mean sea level. Additional storage of 10,000 acre-ft is not available for release. South Diversion Canal (see sta. no. 11-3879.9) diverts at right end of dam. Water is released down Stony Creek for irrigation. Records including extremes represent total contents at 2400 hours.

Cooperation.--Records furnished by Corps of Engineers.

Contents in acre-feet at 2400 hrs, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40,500	38,300	54,900	61,800	86,200	78,500	101,300	114,900	117,200	86,600	58,700	43,100
2	40,500	38,300	55,000	62,000	81,300	79,500	101,200	114,800	116,700	85,500	58,200	42,300
3	40,600	38,300	55,200	62,300	79,400	80,500	101,100	115,400	115,900	84,400	57,900	41,700
4	40,500	38,400	55,400	72,300	83,400	81,400	101,500	115,900	115,000	83,400	57,500	40,900
5	40,500	38,400	55,600	84,700	81,200	82,500	102,300	116,400	114,100	82,400	57,100	40,100
6	40,600	38,400	55,800	85,300	75,800	83,600	103,100	116,800	113,200	81,400	56,600	39,800
7	40,600	38,500	56,000	81,800	68,900	84,500	103,800	117,100	112,400	80,400	56,100	39,600
8	40,600	38,600	56,200	77,600	65,100	85,700	104,500	117,200	111,500	79,300	55,700	39,500
9	40,600	38,700	56,300	74,300	64,600	87,100	105,300	117,500	110,600	78,100	55,300	39,300
10	40,600	38,700	56,500	74,000	65,200	89,000	106,600	117,700	109,600	77,100	54,900	39,100
11	40,800	38,700	56,700	76,200	65,900	90,900	108,100	117,800	108,600	76,000	54,500	39,000
12	41,000	38,800	56,800	78,000	66,300	92,700	109,500	118,000	107,700	75,100	54,100	38,900
13	41,000	39,600	57,000	79,500	66,800	94,600	110,900	118,000	106,700	74,300	54,800	38,300
14	41,100	42,400	57,100	80,700	67,100	96,500	111,900	118,000	106,000	73,300	53,600	38,700
15	41,200	46,800	57,200	81,500	67,300	97,900	112,700	118,000	104,900	72,500	53,200	38,600
16	41,200	47,800	57,200	82,100	67,000	98,800	113,400	118,100	103,900	71,600	52,600	38,300
17	41,100	49,300	57,400	82,700	66,800	99,500	114,200	118,200	102,800	70,800	51,900	38,200
18	41,100	50,900	57,400	83,300	67,300	100,000	114,600	118,300	101,700	69,900	51,300	38,000
19	41,000	51,700	57,500	83,700	68,600	100,300	115,000	118,300	100,700	69,100	50,700	37,800
20	41,000	52,200	57,600	84,200	70,000	100,400	115,200	118,300	99,400	68,200	50,100	37,600
21	40,900	52,500	57,600	84,600	71,200	100,900	115,400	118,100	98,300	67,400	49,600	37,400
22	40,800	52,800	57,700	85,000	72,300	101,500	115,500	118,000	97,200	66,400	49,200	37,300
23	40,600	53,100	57,700	85,400	73,700	101,400	115,700	117,900	96,200	65,100	48,700	37,400
24	40,300	53,300	57,900	85,800	75,000	101,100	115,900	117,800	94,900	63,900	48,100	37,300
25	40,000	53,700	58,200	86,100	76,100	100,900	116,000	117,800	94,000	63,100	47,700	37,200
26	39,600	54,000	58,400	86,500	76,800	100,900	115,800	117,600	93,000	62,200	47,100	37,100
27	39,200	54,200	58,500	86,700	77,300	100,900	115,800	117,500	92,000	61,400	46,500	36,600
28	38,800	54,400	59,400	87,000	77,700	101,000	115,700	117,300	91,000	60,800	45,900	36,200
29	38,700	54,600	60,500	87,800	-----	101,000	115,400	117,200	89,700	60,300	45,200	35,600
30	38,500	54,800	61,000	88,300	-----	101,200	115,200	117,200	88,100	59,700	44,500	35,000
31	38,400	-----	61,500	88,400	-----	101,300	-----	117,300	-----	59,200	43,800	-----
(+)	435.31	442.90	445.60	454.79	451.37	458.68	462.56	463.12	454.70	444.71	438.00	433.52
(#)	- 2.100	+ 16.500	+ 6.700	+ 26.900	- 10.700	+ 23.600	+ 13.900	+ 2.100	- 29.200	- 28.900	- 15.400	- 8.800
(++)	998	296	298	424	381	757	1,768	2,198	2,600	2,286	1,927	1,335

+ Elevation, in feet, at end of month.

# Change in contents, in acre-feet.

++ Evaporation, in acre-feet.

11-3880. Stony Creek below Black Butte Dam, near Orland, Calif.

Location.--Lat 39°49'00", long 122°19'25", in SW $\frac{1}{4}$  sec. 23, T.23 N., R.4 W., on left bank 200 ft downstream from road bridge, 0.6 mile downstream from Black Butte Dam, and 8.1 miles northwest of Orland.

Drainage area.--741 sq mi.

Records available.--July 1955 to September 1966. Prior to October 1962, published as Stony Creek at Black Butte damsite, near Orland.

Gage.--Water-stage recorder and grouted rock control. Datum of gage is 366.02 ft above mean sea level (levels by Corps of Engineers). Prior to Dec. 12, 1960, water-stage recorder at site 0.6 mile upstream at different datum. Dec. 12, 1960, to Nov. 30, 1963, wire-weight gage at bridge 200 ft upstream at datum 4.04 ft higher.

Average discharge.--11 years, 579 cfs (419,200 acre-ft per year), adjusted for diversion to South Diversion Canal since 1956 and for storage and evaporation from Black Butte Reservoir since 1964.

Extremes.--Maximum discharge during year, 4,890 cfs Jan. 6, 7 (gage height, 7.43 ft); no flow for many days.

1955-63 (prior to regulation by Black Butte Reservoir): 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 maximum flow; no flow Dec. 8-10, 31, 1956, Jan. 1-10, 1957, Oct. 19 to Nov. 7, Nov. 13-15, 1962.

1964-66: Maximum discharge, 19,400 cfs Dec. 25, 1965 (gage height, 10.41 ft); no flow at times each year.

Remarks.--Records good. Many diversions above station for irrigation. Flow regulated by Black Butte Reservoir (see sta. no. 11-3879.95) 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. Records of chemical analyses for the water year 1965 are published in part 2 of this report.

Revisions.--Revised figures of adjusted monthly mean and acre-ft for the 1965 water year, superseding those published in Surface Water Records of California, Vol. 2, are given herewith:

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Mean	54.0	181	3,451	3,157	727	426	1,834	495	307	297	323	309
Acre-ft	3,320	10,770	212,200	194,100	40,390	26,210	109,100	30,460	18,290	18,250	19,860	18,400
Calendar year 1964				Mean 429			Acre-ft 311,700					
Water year 1964-65				Mean 969			Acre-ft 701,400					

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	59	0	11	1,310	181	535	166	137	539	357	321
2	73	36	0	11	3,020	37	539	162	352	551	364	377
3	97	46	0	17	3,000	33	523	160	531	555	384	364
4	113	59	0	25	3,960	32	367	155	547	543	402	364
5	113	63	0	174	4,360	24	155	151	543	531	403	374
6	120	54	0	2,680	4,300	19	141	164	527	551	416	249
7	124	40	0	4,390	4,340	22	135	162	531	564	416	169
8	131	17	0	4,540	2,620	24	125	160	543	363	405	155
9	123	3.9	0	3,520	1,170	24	103	162	531	539	405	142
10	97	10	0	1,310	450	24	102	166	515	515	391	137
11	64	10	0	46	447	27	103	170	523	511	388	130
12	56	10	0	33	447	30	117	153	535	515	394	123
13	50	11	0	29	447	30	120	146	515	436	394	115
14	51	10	0	23	447	30	126	155	515	412	383	111
15	35	5.3	0	23	447	196	141	150	547	391	383	119
16	63	0	0	27	444	357	155	132	555	391	393	123
17	85	0	0	27	444	374	159	130	560	394	405	123
18	96	0	0	27	265	374	159	151	560	384	391	132
19	82	0	0	27	42	377	150	164	560	380	383	139
20	67	0	0	27	35	377	151	163	551	370	377	137
21	64	0	0	27	32	193	159	164	543	388	383	133
22	65	0	0	27	31	39	153	166	543	403	394	113
23	69	0	0	27	31	398	133	174	519	416	383	95
24	82	0	0	27	31	436	113	180	519	403	377	84
25	93	0	0	26	183	444	135	153	523	412	374	98
26	89	0	0	26	314	447	150	160	539	416	370	115
27	69	0	0	26	317	450	162	164	547	416	357	111
28	44	0	0	26	320	479	163	155	551	419	360	115
29	36	0	0	26	-----	527	164	146	547	402	367	125
30	46	0	4.1	26	-----	539	172	155	539	377	383	141
31	56	-----	9.4	422	-----	535	-----	146	-----	364	393	-----
Total	2,424	4,342	13.5	18,663	34,354	7,033	5,630	4,390	15,543	14,066	12,020	5,117
Mean	78.2	14.5	0.44	602	1,245	223	183	139	518	454	388	171
Ac-ft	4,810	861	27	37,020	69,130	14,050	11,170	9,700	33,340	27,900	23,340	10,150
Mean†	194	312	113	1,050	1,063	664	660	450	312	250	393	210
Ac-ft†	11,310	18,590	7,260	64,580	59,010	40,300	39,270	27,640	13,570	15,380	24,190	12,500
Calendar year 1965	Max	15,200	Min	0	Mean	524	Ac-ft	379,700	Mean†	703	Ac-ft†	512,300
Water year 1965-66	Max	4,390	Min	0	Mean	331	Ac-ft	2,39,500	Mean†	469	Ac-ft†	339,700

† Adjusted for diversion to South Diversion Canal, and change in contents of and evaporation from Black Butte Reservoir.

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, Glenn County, 6 miles upstream from mouth, and 8 miles east of Orland.

Drainage area.--777 sq mi.

Records available.--October 1940 to September 1966. Records for water year 1941 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 151.18 ft above mean sea level (levels by Bureau of Reclamation). Prior to February 1946, at site 3 miles upstream at different datum.

Average discharge.--26 years, 415 cfs (300,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,050 cfs Feb. 5 (gage height, 9.81 ft); no flow for many days.

1940-66: Maximum discharge, 39,900 cfs Feb. 25, 1958 (gage height, 18.31 ft); no flow at times in each year.

Remarks.--Records fair. Flow regulated by East Park Reservoir beginning in 1910 (usable capacity, 50,600 acre-ft), Stony Gorge Reservoir beginning in 1928 (usable capacity, 50,100 acre-ft), and by Black Butte Reservoir beginning in October 1963 (see sta. no. 11-3879.95). Diversions for irrigation of about 17,200 acres above station in the Bureau of Reclamation Orland Project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	0		0	1,160	286	434	27	35	363	272	272
2	13	0		0	2,680	85	434	46	37	379	254	253
3	12	0		0	2,360	44	451	20	263	390	244	262
4	17	0		0	3,320	32	451	16	330	390	253	254
5	6.5	0		0	5,000	29	200	33	357	396	249	253
6	15	0		931	4,940	20	117	25	363	396	236	249
7	12	0		4,220	4,660	11	96	13	368	413	244	103
8	3.5	0		4,520	2,350	3.6	77	25	384	413	249	64
9	7.6	0		3,700	1,650	7.6	77	27	396	406	253	35
10	3.1	0		2,530	644	7.6	85	30	368	390	267	32
11	20	0		362	553	6.6	72	32	357	401	276	25
12	24	0		171	541	5.7	46	33	340	390	285	33
13	10	0		117	523	5.7	42	26	379	320	267	35
14	2.3	27		85	505	4.9	36	3.1	335	280	272	32
15	9.8	27		69	499	3.8	32	11	352	262	290	25
16	17	15		51	493	235	25	15	346	262	290	16
17	9.3	12		30	493	315	36	21	362	240	323	21
18	4.1	33		21	451	335	44	12	352	254	300	30
19	1.7	15		19	132	340	44	6.1	346	253	285	33
20	5.7	5.3		14	46	352	40	4.9	384	254	267	13
21	35	2.0		9.8	27	322	32	10	374	249	244	13
22	19	1.1		3.6	20	107	36	12	362	236	272	16
23	2.0	.50		6.6	15	177	27	20	396	253	262	26
24	0	.50		4.5	13	379	36	6.6	379	253	272	30
25	0	0		1.5	19	396	42	3.2	346	249	249	30
26	0	0		1.3	236	401	29	9.6	362	236	244	25
27	0	0		0	290	412	19	13	362	249	240	25
28	0	0		0	305	413	10	26	368	253	236	30
29	0	0		.60	-----	412	12	39	374	267	262	13
30	0	0		21	-----	413	7.6	40	362	249	280	13
31	0	-----		64	-----	423	-----	46	-----	272	285	-----
Total	274.2	143.40	0	16,957.90	35,425	6,009.5	3,089.6	659.5	10,149	9,653	3,234	2,281
Mean	8.95	4.73	0	547	1,265	194	103	21.3	333	311	266	76.0
Ac-ft	544	284	0	33,640	70,260	11,920	6,130	1,310	20,130	19,150	16,330	4,520

Calendar year 1965 Max 14,500 Min 0 Mean 511 Ac-ft 370,100

Water year 1965-66 Max 5,000 Min 0 Mean 254 Ac-ft 184,200

## SACRAMENTO RIVER BASIN

11-3890. Sacramento River at Butte City, Calif.

Location (revised).--Lat 39°27'35", long 121°59'35", in NE $\frac{1}{4}$  sec. 32, T.19 N., R.1 W., on left bank 100 ft above highway bridge, 0.5 mile south of Butte City, and at mile 115.8 upstream from Sacramento.

Drainage area.--12,096 sq mi.

Records available.--April 1921 to September 1938 (low-water periods only), October 1938 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is set to datum of Corps of Engineers which is 2.92 ft below mean sea level. Prior to December 1930, at site 0.5 mile upstream at same datum.

Average discharge.--28 years (1938-66), 12,300 cfs (8,905,000 acre-ft per year).

Extremes.--Maximum discharge during year, 72,700 cfs Jan 6 (gage height, 89.33 ft); minimum daily, 6,760 cfs Sept. 11, 12.

1940-66: Maximum discharge, 170,000 cfs Feb. 7, 1942 (gage height, 96.87 ft).

1921-66: 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. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,240	8,460	9,340	17,500	17,900	11,700	10,800	8,240	7,300	10,100	10,500	9,680
2	8,240	8,240	8,900	15,100	23,100	11,000	10,500	8,240	7,300	10,100	10,500	7,300
3	8,240	8,020	12,000	14,300	20,700	10,300	10,300	8,240	7,300	10,300	10,500	7,580
4	8,240	8,020	13,300	14,500	28,200	9,580	10,100	8,240	8,240	10,500	10,500	7,360
5	8,240	8,240	13,500	42,000	41,500	8,900	9,340	8,460	8,680	10,800	10,300	7,360
6	8,240	8,020	13,300	68,500	31,700	9,340	8,680	8,680	8,900	10,300	10,300	7,360
7	8,240	8,240	14,100	49,500	32,400	9,580	8,240	8,680	8,900	10,300	10,300	7,360
8	8,240	8,240	14,100	35,900	24,000	9,580	7,800	8,460	8,900	10,300	10,300	7,160
9	8,240	8,460	14,100	31,400	19,300	10,100	7,360	8,460	8,900	10,300	10,300	7,160
10	8,240	8,460	14,300	29,900	16,700	10,300	7,360	8,660	8,900	10,300	10,300	7,160
11	8,240	8,460	14,300	25,200	15,400	14,100	9,580	9,340	8,680	11,000	10,300	6,760
12	8,240	8,580	14,300	23,100	14,100	13,000	9,580	9,320	8,680	11,300	10,300	6,760
13	8,240	9,340	14,600	22,200	13,000	11,700	9,580	9,320	8,680	11,500	10,300	6,960
14	8,240	11,300	14,300	21,300	12,500	11,500	8,460	9,580	8,680	11,500	10,300	6,960
15	8,240	17,000	14,100	21,000	12,000	11,700	7,580	9,580	8,460	11,700	10,500	6,960
16	8,460	23,800	14,100	20,700	11,500	12,000	8,020	9,340	8,460	11,700	10,500	6,960
17	8,460	14,600	13,300	20,700	10,300	12,900	8,680	9,340	9,340	11,700	10,500	6,960
18	8,460	20,400	13,300	20,400	10,500	12,800	9,320	9,120	9,340	11,700	10,500	6,960
19	8,460	21,900	13,300	20,100	10,300	13,500	10,300	9,120	9,320	12,000	9,320	6,960
20	8,460	16,200	13,300	19,800	11,700	14,300	10,500	8,240	10,300	12,000	9,320	7,160
21	8,460	15,100	13,300	19,500	12,000	14,100	10,100	8,240	10,300	12,000	10,300	6,960
22	8,460	14,300	13,000	19,500	10,300	14,300	9,320	8,240	10,100	12,000	10,300	6,960
23	8,460	13,500	12,500	19,500	10,100	13,500	9,580	8,020	10,100	12,200	10,300	6,960
24	8,240	13,300	12,500	19,300	10,500	12,300	9,580	7,300	10,300	11,500	9,320	6,960
25	8,240	15,900	13,300	19,300	13,300	13,000	9,580	8,020	10,100	11,300	9,580	6,960
26	8,240	15,900	13,300	19,000	14,100	11,700	9,340	8,020	10,100	11,300	9,320	6,960
27	8,240	16,200	13,500	17,900	15,600	11,000	9,120	7,300	10,300	11,300	9,320	6,960
28	8,240	16,500	13,300	16,500	12,800	11,500	8,900	7,800	10,300	11,300	9,320	6,960
29	8,240	15,100	18,700	15,400	-----	11,300	8,460	7,300	10,300	11,300	9,320	6,960
30	8,240	11,300	19,000	18,700	-----	10,300	8,460	7,300	10,100	11,500	9,320	6,960
31	8,240	-----	17,300	20,400	-----	10,500	-----	7,300	-----	10,500	9,340	-----
Total	257,200	381,680	429,040	737,500	476,500	362,780	275,520	265,000	277,260	348,100	315,380	213,930
Mean	8,297	12,720	13,840	23,790	17,020	11,700	9,184	8,548	9,242	11,230	10,170	7,133
Ac-ft	510,100	757,100	851,000	1,463,000	945,100	719,600	546,500	525,600	549,300	690,400	625,500	424,400

Calendar year 1965 Max 120,000 Min 5,560 Mean 14,280 Ac-ft 10,341,000  
 Water year 1965-66 Max 68,600 Min 6,760 Mean 11,390 Ac-ft 3,609,000

11-3895. Sacramento River at Colusa, Calif.

Location (revised).--Lat 39°12'51", long 121°59'57", at north end of Jimeno Grant, on right bank just downstream from highway bridge at Colusa, Colusa County and at mile 89.4 upstream from Sacramento.

Drainage area.--12,110 sq mi.

Records available.--April 1921 to October 1939 (low-water periods only), June 1940 to September 1966.

Gage.--Digital water-stage recorder. Gage is set to datum of Corps of Engineers which is 2.95 ft below mean sea level. Prior to December 1930, graphic water-stage recorder in center fender pier 50 ft upstream from bridge at same datum. December 1930 to June 24, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--26 years (1940-66), 10,660 cfs (7,718,000 acre-ft per year).

Extremes.--Maximum discharge during year, 40,500 cfs Jan. 6 (gage height, 63.97 ft); minimum daily, 7,140 cfs Sept. 30.

1940-66: Maximum discharge, 49,000 cfs Feb. 8, 1942 (gage height, 69.20 ft).

1921-66: 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. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8,380	8,440	10,700	18,600	19,700	11,800	10,900	7,880	7,180	9,410	10,000	9,100
2	8,110	8,390	9,740	16,900	21,900	11,100	10,900	7,830	7,180	9,400	10,000	8,300
3	8,040	8,220	10,600	15,500	23,000	10,500	10,900	7,800	7,180	9,500	10,100	7,870
4	8,050	8,200	13,200	15,100	22,800	9,880	10,600	7,790	7,420	9,830	10,200	7,780
5	8,020	8,240	13,800	24,600	33,100	9,170	10,100	7,920	8,070	9,930	10,100	7,720
6	8,050	8,260	14,100	38,600	32,100	9,340	9,360	8,090	8,190	9,970	10,100	7,720
7	8,080	8,250	14,200	38,400	31,300	9,760	8,820	8,240	8,200	9,950	10,000	7,700
8	8,080	8,370	14,300	34,300	27,500	9,730	8,460	8,210	8,270	10,000	10,100	7,480
9	8,060	8,520	14,400	32,400	21,700	9,860	8,030	8,210	8,260	10,000	10,000	7,430
10	8,030	8,690	14,500	31,300	18,200	10,500	7,810	8,330	8,220	10,100	10,100	7,440
11	8,040	8,610	14,500	28,700	15,700	12,300	9,450	8,640	8,100	10,100	9,980	7,270
12	8,060	8,600	14,600	25,500	14,300	13,500	10,000	9,310	8,110	10,200	10,000	7,250
13	8,070	9,050	14,800	23,800	13,200	12,400	9,970	9,380	8,090	10,600	9,990	7,250
14	8,080	10,000	14,600	22,800	12,600	11,800	9,120	9,290	7,960	10,700	10,000	7,230
15	8,140	13,700	14,400	22,100	12,200	11,900	8,080	9,180	7,840	10,900	10,000	7,230
16	8,220	20,800	14,300	21,600	11,800	12,100	7,990	9,090	7,720	10,900	10,100	7,220
17	8,260	18,200	14,200	21,400	11,400	12,600	8,520	9,000	8,260	11,000	10,200	7,220
18	8,260	16,000	14,200	21,200	10,700	12,900	9,310	8,910	8,460	11,100	10,200	7,220
19	8,320	22,000	14,200	21,100	10,500	13,200	9,950	8,830	8,630	11,200	9,950	7,220
20	8,370	18,300	14,200	20,700	10,900	14,000	10,200	8,230	9,170	11,200	9,590	7,210
21	8,360	15,300	14,200	20,400	12,500	14,200	9,780	7,910	9,200	11,200	9,880	7,210
22	8,380	14,600	13,900	20,200	11,000	14,100	9,480	7,870	9,350	11,300	10,100	7,210
23	8,370	13,800	13,200	20,100	10,300	14,000	9,340	7,790	9,370	11,300	10,100	7,210
24	8,340	13,400	13,100	20,000	10,500	13,200	9,210	7,660	9,440	11,200	9,870	7,200
25	8,320	14,900	13,500	20,000	12,000	12,900	9,140	7,550	9,480	10,700	9,560	7,200
26	8,280	15,800	14,300	19,800	13,600	12,900	9,140	7,440	9,450	10,600	9,590	7,190
27	8,280	15,900	14,100	19,000	15,100	11,200	8,860	7,410	9,460	10,600	9,650	7,190
28	8,300	16,100	13,600	17,900	13,200	11,700	8,640	7,320	9,510	10,600	9,690	7,180
29	8,330	15,500	15,800	16,900	-----	11,700	8,230	7,300	9,500	10,700	9,720	7,160
30	8,370	13,700	20,200	17,500	-----	11,300	7,990	7,220	9,480	11,000	9,780	7,140
31	8,390	-----	18,200	22,200	-----	11,000	-----	7,200	-----	10,400	9,710	-----
TOTAL	254,440	377,840	437,840	708,600	472,800	366,540	278,280	252,830	254,910	325,590	308,360	222,750
MEAN	8,208	12,590	14,120	22,860	16,890	11,820	9,276	8,156	8,497	10,500	9,947	7,420
AC-FT	504,700	749,400	868,400	1,405,000	937,800	727,000	552,000	501,500	505,600	645,800	611,600	441,800
CALENDAR YEAR 1965	MAX	43,500	MIN	6,580	MEAN	12,880	AC-FT	9,328,000				
WATER YEAR 1965-66	MAX	38,600	MIN	7,140	MEAN	11,670	AC-FT	8,451,000				

11-3897. Butte Creek at Butte Meadows, Calif.

Location.--Lat 40°04'05", long 121°34'25", in NW<sup>1</sup>/<sub>4</sub> sec.31, T.26 N., R.4 E., on right bank 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,260 ft (from topographic map).

Average discharge.--6 years, 120 cfs (86,880 acre-ft per year).

Extremes.--Maximum discharge during year, 485 cfs Apr. 9 (gage height, 3.85 ft); minimum daily, 52 cfs Sept. 3-9, 24-30. 1960-66: Maximum discharge, 4,290 cfs Dec. 22, 1964 (gage height, 7.64 ft); minimum, 46 cfs Sept. 4, 1961.

Remarks.--Records good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	58	69	64	71	74	222	233	93	64	58	55
2	59	59	69	63	70	74	240	233	91	63	57	53
3	59	59	69	64	71	81	250	236	91	63	57	52
4	59	59	69	91	81	74	258	247	86	63	56	52
5	59	59	67	115	82	74	261	250	86	62	56	52
6	59	59	67	100	81	77	261	240	90	62	56	52
7	58	61	66	91	77	79	264	230	90	62	55	52
8	58	86	66	95	74	82	261	230	88	62	55	52
9	58	63	66	90	74	86	296	236	86	63	55	52
10	58	62	66	84	74	95	405	247	82	63	55	53
11	57	62	66	81	73	95	374	222	81	63	55	53
12	58	69	66	77	73	95	349	205	77	63	55	53
13	59	80	66	77	71	145	306	196	76	63	55	55
14	63	140	63	69	71	138	296	184	73	63	56	55
15	62	108	63	74	71	132	296	172	73	62	56	53
16	61	76	63	74	71	120	314	163	73	62	57	53
17	61	193	62	74	71	112	342	154	71	62	56	53
18	61	208	62	73	71	108	334	151	71	61	56	56
19	61	130	62	74	74	108	296	145	70	61	56	55
20	61	95	63	73	74	105	268	140	70	61	56	55
21	59	81	63	73	74	100	261	132	70	61	56	53
22	59	76	62	73	76	100	258	125	70	59	56	53
23	59	81	63	71	82	102	264	120	69	59	56	53
24	58	93	66	71	81	108	272	115	69	59	56	52
25	58	81	69	71	77	115	282	112	67	59	56	52
26	58	76	62	70	76	122	278	110	66	58	56	52
27	59	73	62	70	76	135	254	105	66	57	56	52
28	59	71	67	70	76	145	247	100	66	57	55	52
29	59	70	69	76	-----	163	240	98	64	57	55	52
30	59	70	66	79	-----	181	233	98	64	59	56	52
31	58	-----	67	73	-----	199	-----	95	-----	59	56	-----
Total	1.835	2.558	2.026	2.400	2.093	3.424	8.482	5.324	2.289	1.892	1.732	1.589
Mean	59.2	85.3	65.4	77.4	74.8	110	283	172	76.3	61.0	55.9	53.0
Ac-ft	3.640	5.070	4.020	4.760	4.150	6.790	16.820	10.560	4.540	3.750	3.440	3.150

Calendar year 1965 Max 523 Min 57 Mean 140 Ac-ft 101.200  
 Water year 1965-66 Max 405 Min 52 Mean 97.7 Ac-ft 70.700

Peak discharge (base, 350 cfs)--Nov. 17 (2030 hrs) 480 cfs (3.38 ft); Apr. 9 (2300 hrs) 485 cfs (3.85 ft).



11-3900. Butte Creek near Chico, Calif.

Location.--Lat 39°43'34", long 121°42'28", in NW<sup>1</sup>/<sub>4</sub> 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.--147 sq mi.

Records available.--October 1930 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Digital water-stage recorder. Altitude of gage is 320 ft (from topographic map). Prior to Aug. 13, 1944, graphic water-stage recorder at site 0.4 mile upstream at different datum. Aug. 13, 1944, to Dec. 7, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--36 years, 390 cfs (282,300 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 3,150 cfs Jan. 4 (gage height, 5.28 ft); minimum daily, 72 cfs Sept. 30.  
1930-66: Maximum discharge, 21,200 cfs Dec. 22, 1964 (gage height, 14.12 ft), from rating curve extended above 8,900 cfs on basis of slope-area measurement at gage-height 13.35 ft; minimum, 10 cfs Nov. 29, 1952.

Remarks.--Records good. Flow slightly regulated by storage in Magalia Reservoir (capacity, 3,540 acre-ft) and since 1957 by Paradise Reservoir (capacity, 6,430 acre-ft). Diversions above station for irrigation and domestic use of about 4,200 acre-ft annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	144	109	222	268	412	385	655	472	221	138	141	112
2	144	98	213	236	382	367	680	465	249	138	136	109
3	143	98	209	225	350	342	671	458	246	137	133	106
4	142	98	210	1,330	644	330	656	464	241	137	148	103
5	142	101	209	2,320	828	228	645	471	237	135	114	103
6	141	120	203	1,250	703	338	645	463	235	133	131	106
7	140	117	199	814	585	382	649	445	246	133	128	103
8	140	167	194	699	478	391	641	432	242	135	125	106
9	139	117	190	629	417	427	653	435	233	136	140	109
10	138	101	187	535	378	570	1,040	460	220	134	98	106
11	129	98	187	440	344	567	977	438	214	134	106	109
12	122	106	207	375	325	517	994	404	207	137	109	112
13	120	202	191	366	308	695	858	384	200	136	103	112
14	120	517	184	344	298	702	757	375	190	135	109	116
15	131	401	176	331	282	654	717	362	167	136	109	115
16	125	195	172	329	285	601	715	346	184	134	109	113
17	122	344	169	316	275	529	739	339	181	133	112	111
18	122	1,060	166	303	274	491	745	327	173	131	114	114
19	122	596	162	291	369	514	665	319	167	131	112	120
20	120	465	159	278	399	489	613	313	164	129	114	114
21	120	334	160	267	363	463	582	307	163	128	114	111
22	117	277	160	264	351	447	571	301	162	128	114	109
23	117	260	152	256	418	434	564	292	163	131	112	111
24	114	581	233	245	457	439	561	283	157	129	109	110
25	117	456	333	238	461	443	570	275	150	128	112	111
26	114	345	246	232	475	461	578	271	146	128	109	111
27	114	301	207	229	421	492	530	265	143	141	109	110
28	117	271	363	224	397	523	507	263	132	137	109	106
29	114	252	533	285	-----	558	489	259	139	137	112	105
30	114	237	406	489	-----	578	477	256	139	138	112	72
31	114	-----	334	397	-----	623	-----	255	-----	147	120	-----
TOTAL	3,918	8,424	6,936	14,805	11,689	15,080	20,144	11,199	5,768	4,164	3,623	3,255
MEAN	126	281	224	478	417	486	671	361	192	134	117	109
AC-FT	7,770	16,710	13,760	29,370	23,180	29,910	39,960	22,210	11,440	8,260	7,190	6,460

CALENDAR YEAR 1965 MAX 8,390 MIN 98 MEAN 474 AC-FT 343,200  
WATER YEAR 1965-66 MAX 2,320 MIN 72 MEAN 299 AC-FT 216,200

Peak discharge (base, 2,700 cfs)--Jan 4 (2045 hours) 3,150 cfs (5.28 ft).

† Toadtown Canal diversion from West Branch Feather River. Records furnished by Pacific Gas and Electric Company.

## SACRAMENTO RIVER BASIN

11-3905. Sacramento River below Wilkins Slough, near Grimes, Calif.

(Formerly published as Sacramento River below Wilkins Slough, Calif.)

Location (revised).--Lat 39°00'36", long 121°49'25", in  $W\frac{1}{2}$  sec. 2, T.13 N., R.1 E., on right bank 1,500 ft downstream from Wilkins Slough, 5.8 miles southeast of Grimes, and at mile 62.9 upstream from Sacramento.

Drainage area.--12,940 sq mi.

Records available.--August 1931 to September 1938 (low-water periods only), October 1938 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough."

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.00 ft below mean sea level.

Average discharge.--28 years (1938-66), 9,340 cfs (6,762,000 acre-ft per year).

Extremes.--Maximum discharge during year, 27,100 cfs Jan. 6, 7 (gage height, 47.80 ft); minimum daily, 6,140 cfs May 1-3.

1938-66: Maximum discharge, 28,900 cfs Feb. 27, 1958 (gage height, 51.41 ft); maximum gage height, 52.75 ft Mar. 1, 1940.

1931-66: 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8,570	8,300	11,400	19,200	19,600	12,300	11,000	6,140	6,320	8,390	9,110	9,110
2	8,390	8,300	9,920	17,300	19,500	11,900	10,900	6,140	6,400	8,390	8,340	8,390
3	8,210	8,120	9,740	15,200	22,300	11,200	11,000	6,140	6,320	8,480	8,340	7,350
4	8,210	8,030	12,000	14,700	21,300	10,600	10,600	6,320	6,400	8,570	9,110	7,590
5	8,120	8,030	13,200	18,300	25,300	9,920	10,100	6,480	6,320	8,340	9,110	7,580
6	8,120	8,030	13,700	26,300	26,700	9,650	9,380	6,310	7,250	8,330	8,340	7,680
7	8,120	8,030	13,900	27,000	26,500	10,100	8,340	7,250	7,340	8,330	8,340	7,760
8	8,120	8,120	14,000	26,400	26,000	10,200	8,390	7,340	7,340	8,330	8,330	7,680
9	8,120	8,300	14,100	25,500	24,000	10,100	7,350	7,420	7,420	9,020	8,340	7,590
10	8,120	8,390	14,200	25,000	20,100	10,600	7,680	7,590	7,340	9,020	8,330	7,590
11	8,120	8,480	14,200	24,700	17,400	11,700	7,350	7,350	7,420	9,110	8,330	7,590
12	8,120	8,390	14,400	24,000	15,900	13,300	9,110	8,570	7,340	9,110	8,340	7,420
13	8,120	8,570	14,600	23,300	14,500	13,300	9,020	8,330	7,250	9,290	8,340	7,420
14	8,120	9,290	14,600	22,400	13,700	12,200	8,340	9,020	7,000	9,650	8,340	7,420
15	8,120	11,500	14,400	21,800	13,200	11,900	7,590	8,330	7,000	9,740	8,340	7,340
16	8,210	17,400	14,200	21,300	12,700	12,000	7,080	8,750	6,660	9,740	8,330	7,250
17	8,300	19,400	14,100	21,000	12,300	12,700	7,160	8,570	6,570	9,330	8,330	7,250
18	8,300	15,600	14,100	20,700	11,600	13,300	7,760	8,390	7,160	9,920	8,330	7,250
19	8,300	19,300	14,000	20,500	11,200	13,700	8,390	8,300	7,340	10,000	8,330	7,420
20	8,390	19,500	14,000	20,200	11,100	14,200	8,750	7,340	7,500	9,920	8,480	7,420
21	8,390	16,200	14,000	19,900	12,600	14,700	8,480	7,420	8,030	10,200	8,660	7,500
22	8,390	15,000	13,900	19,600	12,100	14,600	8,210	7,160	8,030	10,100	8,660	7,340
23	8,390	14,100	13,300	19,500	11,100	14,300	7,340	7,160	8,120	10,200	8,330	7,340
24	8,390	13,600	12,800	19,500	10,900	14,000	7,760	7,080	8,210	10,300	8,340	7,340
25	8,390	14,100	13,000	19,400	11,500	13,500	7,590	7,000	8,300	9,920	8,660	7,340
26	8,300	15,400	13,800	19,300	13,700	13,600	7,590	6,740	8,390	9,470	8,480	7,340
27	8,300	15,700	14,000	19,000	14,900	12,000	7,680	6,660	8,390	9,380	8,750	7,630
28	8,300	15,900	13,700	18,000	14,600	11,900	7,160	6,570	8,300	9,380	8,340	7,160
29	8,300	15,700	14,200	17,000	-----	12,200	7,000	6,660	8,390	9,470	9,020	7,160
30	8,300	14,500	13,800	16,300	-----	11,700	6,480	6,480	8,390	9,560	8,330	7,080
31	8,300	-----	13,800	19,400	-----	11,200	-----	6,480	-----	9,650	9,110	-----
Total	256,040	369,980	429,060	640,660	467,400	380,070	253,180	228,390	222,740	291,440	274,760	225,980
Mean	8,259	12,330	13,340	20,660	16,690	12,260	8,439	7,367	7,425	9,401	8,863	7,533
Ac-ft	507,300	733,300	851,000	1,271,000	927,100	753,900	502,200	453,000	441,800	573,100	545,000	448,200

Calendar year 1965 Max 27,100 Min 5,890 Mean 11,340 Ac-ft 8,570,000  
 Water year 1965-66 Max 27,000 Min 6,140 Mean 11,070 Ac-ft 8,013,000

11-3906.55. South Fork Willow Creek near Fruto, Calif.

Location.--Lat 39°32'30", long 122°23'20", in SE $\frac{1}{4}$  sec.35, T.20 N., R.5 W., on right bank 150 ft downstream from county road bridge and 4.5 miles southeast of Fruto.

Drainage area.--38.9 sq mi.

Records available.--July 1963 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 375 ft (from topographic map).

Extremes.--Maximum discharge during year, 392 cfs Feb. 3 (gage height, 6.05 ft), from rating curve extended above 50 cfs as explained below; no flow for several months.

1963-66: Maximum discharge, 1,920 cfs Jan. 5, 1965 (gage height, 9.94 ft), from rating curve extended above 50 cfs on basis of slope-area measurement of maximum flow; no flow for several months each year.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	48	0.60	0.10					
2				0	9.2	.60	.10					
3				0	90	.50	.10					
4				17	143	.50	.10					
5				44	25	.60	.10					
6				3.3	12	.60	0					
7				.20	7.4	.40	0					
8				0	5.4	.40	0					
9				0	4.0	.40	.10					
10				0	3.4	.30	.10					
11				0	2.2	.30	.10					
12				0	1.8	.30	.10					
13				0	1.5	.30	.10					
14				0	1.4	.30	.10					
15				0	1.3	.30	.10					
16				0	1.2	.30	.10					
17				0	1.0	.20	.10					
18				0	.90	.30	.10					
19				0	1.8	.20	0					
20				0	1.8	.20	0					
21				0	1.0	.20	0					
22				0	.90	.20	0					
23				0	.80	.20	0					
24				0	.90	.20	0					
25				0	.80	.20	0					
26				0	.70	.20	0					
27				0	.60	.10	0					
28				0	.60	.10	0					
29				0		.10	0					
30				2.0	-----	.10	0					
31				.50	-----	.10	-----					
Total	0	0	0	67.00	369.60	9.30	1.50	0	0	0	0	0
Mean	0	0	0	2.16	13.2	0.30	0.05	0	0	0	0	0
Ac-ft	0	0	0	133	733	19	3.0	0	0	0	0	0
Calendar year 1965 Max 586 Min 0 Mean 2.68 Ac-ft 1,940												
Water year 1965-66 Max 143 Min 0 Mean 1.23 Ac-ft 887												

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-4	2130	4.65	141	2-3	2230	6.05	392
2-1	0830	5.09	208				

## SACRAMENTO RIVER BASIN

11-3906.6. Walker Creek at Artois, Calif.

Location.--Lat 39°37'32", long 122°11'45", in SW 1/4 sec. 34, T.21 N., R.3 W., on left bank 500 ft upstream from county road bridge and 0.3 mile north of Artois.

Drainage area.--60.4 sq mi.

Records available.--July 1965 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 156.4 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 674 cfs Feb. 4 (gage height, 8.12 ft), from rating curve extended above 190 cfs; no flow Dec. 25, June 13, 14, July 7.

Remarks.--Records good. No known storage above station. Several small diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.6	9.0	1.7	1.1	144	9.3	6.6	1.3	6.9	1.6	5.0	8.9
2	6.2	6.8	1.4	.80	118	7.6	5.4	7.0	4.0	1.5	4.4	8.5
3	10	4.6	1.2	.50	93	6.3	4.0	6.0	7.9	3.0	2.6	4.9
4	12	7.1	1.0	1.0	418	5.2	3.4	5.2	5.1	3.0	4.7	2.2
5	8.9	6.9	.90	152	142	5.0	7.4	11	3.3	1.1	6.6	1.8
6	13	4.0	.90	92	73	4.7	12	9.5	6.9	.20	5.5	4.7
7	11	2.8	.80	38	45	4.8	11	8.4	5.3	0	4.9	5.7
8	7.2	2.0	.80	22	28	4.5	12	6.6	5.9	1.6	4.4	7.2
9	4.1	4.2	.80	12	19	4.2	9.5	5.2	3.0	4.1	2.9	5.9
10	3.9	4.3	.70	6.6	14	3.9	9.3	6.3	1.5	8.0	1.1	8.8
11	6.2	2.2	.90	4.1	11	3.4	11	8.1	.70	4.3	1.6	11
12	4.6	1.9	1.5	2.7	8.7	3.3	7.5	3.9	.20	3.4	3.1	8.6
13	3.5	3.8	1.6	2.0	7.3	3.2	11	2.3	0	7.4	2.9	7.7
14	1.9	58	1.9	1.4	6.7	2.8	11	1.7	0	5.9	11	5.7
15	9.3	86	1.4	1.3	6.0	2.8	11	2.3	1.3	4.9	7.3	6.5
16	10	84	1.1	1.0	5.4	2.6	16	7.3	1.3	4.2	5.5	3.5
17	8.8	52	.70	.80	5.1	2.3	15	9.5	1.1	2.4	7.2	3.6
18	4.8	238	.20	.60	4.6	2.1	7.5	7.3	2.5	2.0	6.6	3.2
19	4.0	92	.40	.50	6.0	2.0	6.0	7.4	1.9	1.8	9.1	2.4
20	3.0	49	.40	.40	9.1	1.8	7.7	5.0	.80	1.6	9.2	1.7
21	14	29	.20	.40	7.5	1.6	5.4	4.4	.40	1.5	9.1	1.7
22	11	17	.20	.40	6.4	1.5	3.6	3.6	2.5	1.4	5.8	3.8
23	5.8	12	.20	.40	7.1	.70	5.1	2.8	2.6	.20	8.2	4.3
24	3.0	9.3	.10	.40	8.9	.80	9.6	4.5	3.3	1.6	3.6	9.5
25	1.6	7.9	0	.40	8.2	2.2	7.7	3.9	1.9	2.0	4.3	10
26	1.1	6.7	.20	.40	38	1.6	8.2	2.3	1.5	2.3	4.9	8.1
27	.80	4.7	.10	.50	26	2.4	7.4	2.0	2.4	2.6	7.8	7.6
28	2.6	3.3	.30	.40	12	3.8	4.0	3.7	3.4	2.9	13	5.0
29	5.3	2.6	.90	1.3	-----	7.7	4.1	3.4	1.4	6.9	10	4.2
30	5.6	2.2	1.1	119	-----	4.1	2.7	8.4	2.4	8.7	15	5.7
31	6.8	-----	1.5	65	-----	4.1	-----	7.7	-----	4.7	7.9	-----
TOTAL	196.60	813.3	25.10	529.40	1,278.0	112.30	242.1	168.0	81.40	96.80	195.2	172.4
MEAN	6.34	27.1	.81	17.1	45.6	3.62	8.07	5.42	2.71	3.12	6.30	5.75
AC-FT	390	1,610	50	1,050	2,530	223	480	333	161	192	387	342

CALENDAR YEAR	1965	MAX	-	MIN	-	MEAN	-	AC-FT	-
WATER YEAR	1965-66	MAX	418	MIN	0	MEAN	10.7	AC-FT	7,750

Peak discharge (base, 160 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-18	0200	6.72	408	2-1	1615	6.46	366
1-5	1515	5.74	258	2-4	0415	8.12	674

11-3906.72. Stone Corral Creek near Sites, Calif.

Location--Lat 39°17'18", long 122°18'00", in NW $\frac{1}{4}$  sec. 34, T.17 N., R.4 W., on left bank at road bridge 2.4 miles southeast of Sites.Drainage area--38.5 sq mi.Records available--March 1958 to September 1964, October 1965 to September 1966.Gage--Water-stage recorder. Altitude of gage is 180 ft (from topographic map).Average discharge--7 years, 1.84 cfs (1,330 acre-ft per year).Extremes--Maximum discharge during year, 494 cfs Jan. 4 (gage height, 8.43 ft); no flow for several months.

1958-64, 1965-66: Maximum discharge, 2,500 cfs Apr. 2, 1958 (gage height, 14.93 ft), from rating curve extended above 1,200 cfs; no flow for several months in each year.

Flood of Dec. 22, 1964 reached a stage of 13.0 ft from floodmarks (discharge, 1,940 cfs, from slope-conveyance study).

Remarks--No known diversion or regulation above station.Cooperation--Records furnished by U. S. Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0.70	22	1.4	0.60	0				
2		0	0	.50	5.7	1.3	.60	0				
3		0	0	.50	55	1.2	.60	0				
4		0	0	157	132	1.1	.50	0				
5		0	0	113	13	1.1	.60	0				
6		0	0	13	9.5	1.2	.60	0				
7		0	0	3.4	6.8	1.2	.60	0				
8		0	0	5.1	5.1	1.1	.50	0				
9		0	0	3.3	4.0	1.1	.50	0				
10		0	0	2.3	3.2	1.0	.50	10				
11		0	.10	1.8	2.7	1.0	.50	0				
12		0	.10	1.5	2.4	.90	.50	0				
13		.20	.10	1.3	2.2	.90	.40	0				
14		.10	.10	1.2	2.1	.80	.30	0				
15		1.3	0	1.0	2.1	.70	.40	0				
16		0	0	.80	1.8	.70	.40	0				
17		2.5	.10	.70	1.7	.70	.40	0				
18		19	.10	.70	1.7	.70	.40	0				
19		.40	.10	.70	5.5	.70	.20	0				
20		.10	.10	.60	4.4	.70	.20	0				
21		0	.10	.60	2.4	.70	.10	0				
22		0	.10	.50	2.2	.60	.10	0				
23		0	.10	.50	2.4	.60	.10	0				
24		0	.30	.40	2.5	.60	0	0				
25		0	.10	.40	2.2	.60	0	0				
26		0	.10	.40	2.0	.60	0	0				
27		0	.10	.40	1.7	.60	0	0				
28		0	.59	.30	1.5	.60	0	0				
29		0	13	120	-----	.60	0	0				
30		0	2.1	7.7	-----	.60	0	0				
31		-----	1.0	2.3	-----	.60	-----	0	-----			-----
Total	0	6.50	23.70	333.80	305.2	26.20	9.60	0.10	0	0	0	0
Mean	0	.22	0.76	10.8	10.9	0.85	0.32	0.003	0	0	0	0
Ac-ft	0	13	47	562	675	52	19	0.2	0	0	0	0

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max 157 Min 0 Mean 193 Ac-ft 1,400

## SACRAMENTO RIVER BASIN

11-3910. Sacramento River at Knights Landing, Calif.

Location.--Lat 38°48'10", long 121°42'55", in ME¼ 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.

Drainage area.--14,550 sq mi.

Records available.--April 1921 to October 1939 (low-water periods only), June 1940 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 2.93 ft below mean sea level. 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 bridge.

Average discharge.--26 years (1940-66), 10,060 cfs (7,283,000 acre-ft per year).

Extremes.--Maximum discharge during year, 27,500 cfs Jan. 7 (gage height, 33.92 ft); maximum gage height, 35.40 ft Jan. 10 (backwater from Feather River and Sutter bypass); minimum daily discharge, 5,920 cfs May 2; minimum gage height, 16.45 ft June 16. 1940-66: 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). 1921-66: Minimum discharge recorded, 250 cfs July 23, 1931 (gage height, 7.80 ft).

Remarks.--Records good. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and considerable return flow from irrigated areas. Records of chemical analyses near this gaging station for water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9,240	8,890	13,400	19,300	19,700	14,000	11,400	6,150	6,790	8,160	10,200	11,300
2	9,100	8,350	11,000	18,900	18,700	12,700	11,400	5,220	6,300	8,080	9,900	10,800
3	9,000	8,770	9,380	16,300	21,400	11,900	12,000	6,250	6,370	8,060	9,850	10,000
4	8,970	8,620	11,300	16,200	21,400	11,100	11,400	6,720	6,340	8,320	9,770	9,910
5	8,310	8,780	13,000	18,400	22,800	10,300	11,200	7,070	7,440	8,530	9,810	9,330
6	8,750	8,770	13,700	26,400	24,400	9,300	10,500	7,530	7,650	8,760	9,690	9,590
7	8,780	9,730	14,000	27,300	25,700	9,950	9,530	7,920	8,000	8,790	9,740	9,620
8	8,780	8,320	14,100	25,700	25,500	10,100	8,780	8,360	8,110	8,780	9,790	9,620
9	8,550	8,340	14,400	24,700	23,300	9,990	8,140	8,370	8,120	8,920	9,810	9,480
10	8,650	9,180	14,700	24,300	20,600	10,300	7,620	8,530	8,140	8,990	9,370	9,480
11	8,560	9,190	14,700	24,200	17,500	10,300	7,530	8,340	8,030	9,230	9,920	9,340
12	8,530	9,140	14,300	23,700	16,000	13,000	9,510	9,790	7,320	9,330	9,790	8,330
13	8,660	9,240	14,900	24,600	15,100	13,200	10,000	10,500	7,530	9,530	9,700	8,370
14	8,690	9,360	14,900	23,400	14,500	12,100	10,200	10,500	7,200	9,850	9,920	8,310
15	8,700	11,000	15,000	22,300	13,900	11,900	8,460	10,500	6,920	10,200	9,900	8,710
16	8,780	16,100	14,900	21,900	13,200	12,200	7,310	10,100	6,480	10,400	9,970	8,480
17	8,780	20,300	14,900	21,400	12,600	12,600	6,770	9,910	6,400	10,600	9,930	8,360
18	8,320	17,500	14,700	21,500	12,000	13,100	7,210	9,550	6,320	10,700	9,980	8,360
19	8,380	19,100	14,500	21,200	11,700	13,300	7,370	9,290	7,120	10,600	10,000	8,340
20	9,060	20,900	14,500	21,000	11,300	13,900	8,510	8,720	7,190	10,600	9,780	8,290
21	9,170	17,600	14,500	20,300	12,100	14,400	8,290	7,950	7,550	10,300	9,730	8,230
22	9,220	15,900	14,200	20,100	12,900	14,400	7,910	7,930	7,300	10,200	10,000	7,960
23	9,090	15,200	14,000	20,000	11,600	14,600	7,780	7,770	8,030	10,900	10,200	8,120
24	9,020	14,500	13,600	19,300	11,100	14,400	7,610	7,600	8,220	10,300	10,200	7,900
25	8,950	14,000	13,500	20,000	11,200	13,700	7,270	7,520	8,400	10,500	10,100	7,780
26	8,370	15,000	14,000	19,600	13,500	13,500	7,130	7,420	8,520	10,300	10,100	7,940
27	8,380	15,700	14,400	19,300	14,700	13,000	7,880	7,190	8,290	9,760	10,300	7,860
28	8,370	15,500	14,400	19,100	15,500	12,100	8,500	7,000	8,210	9,900	10,600	7,730
29	8,380	15,600	14,300	18,300	-----	12,000	7,170	7,120	8,190	10,300	10,600	7,900
30	8,900	15,600	18,400	17,600	-----	11,300	6,410	7,110	8,210	10,400	10,300	7,240
31	9,030	-----	20,300	19,500	-----	11,500	-----	6,880	-----	10,700	11,100	-----
Total	275,170	385,380	442,980	657,300	464,400	381,640	261,290	252,110	228,090	301,190	311,050	264,480
Mean	8,376	12,860	14,290	21,220	16,590	12,310	8,710	8,133	7,603	9,716	10,030	8,316
Ac-ft	545,300	765,400	878,600	1,305,000	921,100	757,000	519,300	500,100	452,400	597,400	617,000	524,600

Calendar year 1965 Max 27,100 Min 6,110 Mean 12,330 Ac-ft 8,963,100  
 Water year 1965-66 Max 27,300 Min 5,920 Mean 11,580 Ac-ft 8,382,000

11-3914. Little East Chance Creek near Chilcoot, Calif.

Location.--Lat 39°52'00", long 120°10'05", in ~~Range~~ <sup>Range</sup> 14 sec. 10, T.23 N., R.16 E., on left bank 300 ft downstream from highway bridge, 0.9 mile downstream from unnamed tributary, 4.5 miles north of Vinton, and 5.0 miles north of Chilcoot.

Drainage area.--84.2 sq mi.

Records available.--October 1958 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,140 ft (from topographic map).

Average discharge.--8 years, 17.8 cfs (12,890 acre-ft per year).

Extremes.--Maximum discharge during year, 150 cfs July 26 (gage height, 4.42 ft); minimum daily, 1.0 cfs Sept. 22.

1958-66: Maximum discharge, 784 cfs Feb. 8, 1960 (gage height, 5.56 ft), from rating curve extended above 310 cfs; no flow Oct. 23, 1959, July 24-27, 29, Aug. 4, 1961.

Remarks.--Flow regulated by Frenchman Reservoir beginning Nov. 7, 1961 (usable capacity, 48,000 acre-ft).

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.0	5.3	2.1	1.8	1.9	1.9	3.8	14	64	1.6	95	1.7
2	9.8	4.1	2.1	1.8	1.9	1.9	3.7	24	54	1.7	95	1.6
3	9.5	3.8	2.1	1.9	2.0	1.8	3.4	33	53	1.7	73	1.6
4	8.8	4.1	2.1	2.0	2.1	1.9	3.2	33	51	1.7	56	1.7
5	8.4	4.1	2.1	2.1	2.1	2.0	3.0	33	46	1.5	43	1.8
6	6.7	4.1	2.1	2.1	2.0	2.1	1.6	33	45	1.4	20	1.8
7	6.7	4.1	2.1	2.1	1.9	2.5	4.8	33	45	1.5	19	1.8
8	5.3	4.1	2.1	2.1	1.9	2.7	4.8	33	71	1.7	19	1.8
9	4.1	4.1	2.1	2.0	2.0	2.9	4.8	43	93	1.8	19	1.8
10	2.9	3.6	2.1	1.9	2.0	3.4	4.8	52	93	1.7	19	1.8
11	2.3	2.3	2.1	1.9	1.9	3.4	4.8	36	92	1.7	19	1.8
12	4.7	2.1	2.1	1.9	1.9	3.8	4.8	17	91	1.8	19	1.8
13	8.8	2.3	2.1	1.9	1.9	4.7	4.8	27	91	1.8	19	1.9
14	8.3	2.5	2.0	1.9	1.9	4.4	4.9	27	100	1.8	13	1.9
15	7.9	2.1	1.9	1.9	1.9	3.8	51	21	106	2.3	12	1.8
16	7.5	2.3	1.9	1.9	1.9	3.4	53	16	96	3.9	7.9	1.9
17	6.7	2.5	1.9	1.9	1.9	3.0	54	64	79	4.0	7.9	1.7
18	7.9	2.9	1.9	1.9	1.9	2.9	53	89	79	3.7	7.9	1.9
19	6.0	2.5	1.9	1.9	1.9	2.9	53	89	58	3.6	7.9	1.9
20	9.7	2.3	1.9	1.9	1.9	2.9	53	92	28	4.2	7.9	1.6
21	8.8	2.3	1.9	1.9	2.0	2.9	45	95	23	6.7	7.9	1.1
22	7.9	2.3	1.9	1.9	2.2	2.9	35	95	23	8.4	7.9	1.0
23	7.5	2.3	1.9	1.9	2.2	2.7	49	112	28	103	7.6	1.1
24	7.5	2.3	1.9	1.9	2.1	2.7	49	139	24	103	7.5	1.1
25	7.1	1.9	1.9	1.9	1.9	2.7	46	139	9.8	103	7.1	1.2
26	7.1	2.1	1.9	1.9	1.9	2.9	33	139	9.1	130	7.1	1.3
27	7.9	2.1	1.9	1.9	1.9	3.1	14	139	8.4	150	6.9	1.4
28	7.5	2.1	2.0	1.9	1.9	3.1	14	104	8.3	147	6.7	1.4
29	7.1	2.1	1.9	2.0	-----	3.1	14	69	8.3	147	6.7	2.2
30	6.7	2.1	1.9	2.0	-----	3.1	14	69	5.3	147	6.9	2.5
31	6.3	-----	1.9	1.9	-----	3.4	-----	69	-----	116	4.8	-----
Total	221.4	86.8	61.7	59.9	54.9	90.9	1048.1	1973	1592.2	1379.9	661.6	49.9
Mean	7.14	2.89	2.0	1.9	2.0	2.93	34.9	63.8	53.1	44.5	21.3	1.66
Ac-ft	439	172	122	119	109	180	2080	3920	3160	2740	1310	99

Calendar year 1965 Max 374 Min 1.9 Mean 44.8 Ac-ft 32,440  
 Water year 1965-66 Max 150 Min 1.0 Mean 20.0 Ac-ft 14,450

## SACRAMENTO RIVER BASIN

11-3919. Big Grizzly Creek near Portola, Calif.

Location.--Lat 39°52'00", long 120°27'20", in NW¼ sec. 7, T.25 N., R.14 E., on left bank 500 ft upstream from small tributary, 4.5 miles upstream from mouth, and 4.5 miles north of Portola.

Drainage area.--45.5 sq mi.

Records available.--October 1925 to September 1952, October 1950 to September 1953, June 1954 to September 1966. Prior to October 1952, published as Grizzly Creek near Portola.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,320 ft (from topographic map). Oct. 26, 1925, to Sept. 30, 1932, at datum 2.04 ft higher.

Average discharge.--22 years, 38.2 cfs (27,660 acre-ft per year); median of yearly mean discharges, 31 cfs (22,400 acre-ft per year).

Extremes.--Maximum discharge during year, 648 cfs May 10 (gage height, 4.77 ft); minimum daily, 0.2 cfs on many days in August and September.

1925-32, 1950-53, 1954-66: Maximum discharge, 4,080 cfs Feb. 1, 1963 (gage height, 8.03 ft), from rating curve extended above 600 cfs on basis of slope-area measurement of maximum flow; maximum gage height, 9.54 ft present datum Mar. 26, 1928; no flow Jan. 22 or 23, 1962.

Remarks.--Records good. Flow partly regulated by the temporary storage and detention of Grizzly Valley Dam under construction.

Records of water temperatures and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Diversions for irrigation of about 400 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.3	2.3	5.5	1.9	5.5	7.5	35.4	35	5.5	0.90	0.40	0.30
2	2.1	2.5	6.5	1.9	5.5	7.5	31.9	35	5.5	.70	.50	.20
3	2.1	2.1	6.0	1.9	5.1	9.8	24.3	34	5.5	.70	.60	.40
4	1.9	2.3	5.5	2.1	5.5	12	20.4	36	6.0	.60	.50	.30
5	1.9	2.5	3.0	2.1	6.0	7.0	19.3	42	5.5	60	.50	.40
6	1.9	2.5	3.0	2.3	6.5	3.0	17.9	39	5.5	.70	.50	.70
7	2.1	3.0	6.5	2.5	7.0	9.8	16.0	33	4.7	.50	.50	.70
8	1.9	4.7	5.5	2.7	7.5	10	13.7	33	2.7	.50	.30	.30
9	1.9	7.0	6.0	3.0	3.0	13	12.3	55	1.3	.50	.30	.20
10	1.8	4.4	6.0	3.0	7.0	18	25.6	21.3	1.6	.50	.30	.20
11	1.9	3.7	6.0	3.2	3.0	23	15.8	63	2.1	.60	.30	.20
12	2.1	3.7	6.5	3.2	7.5	26	11.3	47	2.5	.50	.20	.30
13	2.1	4.0	6.5	3.2	8.0	41	9.3	40	2.5	.80	.20	.30
14	2.1	12	5.1	3.2	7.5	56	8.8	35	2.3	.70	.20	.30
15	2.3	13	4.7	3.2	7.0	7.8	90	2.9	2.7	.70	.20	.30
16	2.5	8.0	3.5	3.2	6.5	6.9	9.2	1.9	3.4	.70	.20	.20
17	2.5	9.2	3.0	3.2	6.5	6.3	9.9	7.0	3.0	.70	.20	.20
18	2.5	31	3.0	3.4	6.0	6.4	12.6	7.0	2.7	.60	.20	.30
19	2.5	1.9	3.0	3.7	5.5	6.8	7.6	5.5	2.3	.40	.20	.30
20	2.5	15	3.0	4.7	5.5	6.4	6.4	6.0	1.9	.60	.20	.30
21	2.5	9.2	3.0	5.5	5.5	6.4	60	9.6	1.6	.60	.20	.30
22	2.5	9.8	2.7	6.0	5.5	6.8	53	5.5	1.5	.60	.20	.30
23	2.5	7.5	3.0	6.5	6.0	6.9	51	3.7	1.3	.40	.20	.30
24	2.5	4.4	3.0	3.0	6.5	7.7	51	4.7	1.4	.30	.20	.30
25	2.5	3.2	2.5	7.5	9.2	9.9	52	5.1	1.3	.30	.20	.30
26	2.3	5.5	1.9	7.5	3.6	12.6	53	6.0	1.3	.30	.20	.20
27	2.3	5.5	1.8	6.5	9.2	16.4	47	6.5	1.3	.40	.40	.20
28	2.3	6.0	1.8	6.5	9.2	20.5	43	7.0	1.0	.40	.30	.20
29	2.5	7.0	1.9	6.0	-----	24.9	40	7.0	1.0	.50	.30	.20
30	2.5	7.5	1.9	6.0	-----	28.0	37	7.0	.90	.50	.50	.20
31	2.3	-----	1.9	6.0	-----	31.2	-----	6.5	-----	.40	.30	-----
Total	69.6	217.5	135.2	129.6	191.3	2,367.6	3,653	3,821	81.80	17.30	9.50	3.90
Mean	2.25	7.25	4.36	4.18	6.33	76.4	122	23.5	2.73	0.56	0.31	0.30
Ac-ft	138	431	263	257	379	4,700	7,250	1,750	162	35	19	.18

Calendar year 1965 Max 377 Min 1.6 Mean 57.6 Ac-ft 41,670  
 Water year 1965-66 Max 354 Min 0.2 Mean 21.3 Ac-ft 15,400



## 11-3925. Middle Fork Feather River near Clío, 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 Clío, and 2.2 miles southeast of Blairsdén.

Drainage area.--686 sq mi.

Records available.--October 1925 to September 1966.

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.--41 years, 273 cfs (197,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,330 cfs Mar. 13 (gage height, 9.25 ft); minimum daily, 9.5 cfs Aug. 25. 1925-66: Maximum discharge, 14,500 cfs Feb. 1, 1963 (gage height, 16.19); minimum, 4.3 cfs Sept. 5, 1934.

Remarks.--Records good. 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. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	60	122	51	23	227	628	136	72	29	13	12
2	50	61	114	53	96	202	656	133	66	26	13	12
3	53	60	105	51	93	135	586	126	61	28	13	12
4	53	60	107	64	93	176	512	135	58	26	14	12
5	53	60	111	120	124	167	471	145	57	26	13	12
6	53	60	113	141	142	184	458	146	55	22	13	12
7	54	60	115	123	135	291	440	141	51	21	12	12
8	54	80	119	145	140	369	346	142	46	19	12	12
9	53	72	119	132	152	673	324	168	43	18	12	14
10	51	71	119	109	142	1520	575	430	39	18	12	18
11	50	69	122	96	161	1720	589	280	35	17	12	14
12	51	71	133	92	163	1310	487	229	33	17	11	14
13	51	74	130	85	156	2080	415	209	29	16	12	14
14	53	135	118	76	156	1700	384	201	28	16	12	14
15	57	113	119	77	144	1330	350	195	32	15	12	14
16	57	101	105	80	128	348	322	182	32	14	12	14
17	58	123	80	119	111	716	326	152	33	14	12	14
18	59	333	70	213	102	634	371	133	35	13	12	14
19	61	233	60	246	101	614	321	119	34	14	12	15
20	61	209	53	210	106	549	277	107	33	14	12	15
21	61	180	54	137	115	490	254	102	31	14	12	14
22	63	160	54	161	140	440	233	100	29	13	11	14
23	63	170	52	124	174	386	219	93	31	13	11	14
24	61	235	53	113	192	377	209	86	35	13	10	14
25	61	200	58	115	202	391	202	82	30	13	9.5	14
26	61	172	52	104	252	413	199	80	21	12	10	14
27	60	153	53	101	272	455	179	75	23	12	12	14
28	60	147	54	100	252	498	161	72	35	13	12	15
29	60	136	53	89	-----	549	149	73	23	14	12	16
30	60	123	51	91	-----	592	140	73	26	14	12	16
31	60	-----	50	91	-----	606	-----	76	-----	14	12	-----
Total	1,752	3,311	2,723	3,569	4,147	21,292	10,783	4,421	1,161	523	369.5	415
Mean	56.5	127	87.8	115	143	687	360	143	39.7	17.0	11.9	13.8
Ac-ft	3,480	7,560	5,400	7,080	8,230	42,230	21,400	8,770	2,300	1,050	733	823

Calendar year 1965 Max 2,340 Min 35 Mean 433 Ac-ft 313,300

Water year 1965-66 Max 2,030 Min 9.5 Mean 151 Ac-ft 109,000

Peak discharge (base, 850 cfs).--Mar. 13 (0200 hrs) 2330 cfs (9.25 ft); Apr. 2 (0200 hrs) 856 cfs (6.74 ft).

## 11-3945. Middle Fork Feather River near Merrimac, Calif.

Location.--Lat 39°42'30", long 121°16'10", in NW 1/4 sec. 2, T. 21 N., R. 6 E., on left 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.--1,062 sq mi.

Records available.--October 1951 to September 1966.

Gage.--Digital water-stage recorder. Prior to Jan. 21, 1965, graphic water-stage recorder on right bank at same site and datum. Altitude of gage is 1,560 ft (from topographic map).

Average discharge.--15 years, 1,377 cfs (996,900 acre-ft per year); median of yearly mean discharges, 1,200 cfs (869,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,760 cfs Mar. 13 (gage height, 10.08 ft); minimum daily, 107 cfs Sept. 7, 8, 10. 1951-66: Maximum discharge, 86,200 cfs Dec. 22, 1964 (gage height, 26.5 ft from floodmarks, present site), from rating curve extended above 19,000 cfs on basis of slope-area measurement of maximum flow; minimum, 92 cfs Jan. 2, 1960.

Remarks.--Records good. Diversions above station for irrigation of about 1,000 acres between stations near Clio and near Merrimac. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Revisions (water year).--1965 Report: 1960.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	215	208	459	420	490	738	3,180	1,990	715	270	158	120
2	215	207	440	370	470	724	3,370	2,030	678	266	156	118
3	216	204	427	345	455	608	3,210	2,140	654	263	147	113
4	216	206	431	602	518	596	2,940	2,260	615	253	144	110
5	215	208	441	1,220	698	602	2,870	2,380	592	252	140	110
6	218	210	436	1,430	794	608	2,950	2,340	577	240	137	109
7	216	213	427	1,290	717	759	2,970	2,170	586	230	134	107
8	214	256	420	1,090	656	960	2,880	2,160	564	225	130	107
9	213	284	416	1,050	614	1,250	2,880	2,130	540	225	127	109
10	212	245	418	903	590	2,480	4,280	2,640	513	220	130	107
11	208	234	418	780	566	3,050	3,960	2,520	489	214	128	116
12	204	260	445	689	578	3,010	3,440	2,100	469	208	127	123
13	206	342	437	634	554	4,230	2,960	1,950	444	202	126	122
14	213	924	412	597	530	3,930	2,680	1,870	429	196	123	121
15	225	748	353	577	525	3,340	2,650	1,760	419	191	123	125
16	221	516	345	573	505	2,720	2,790	1,660	407	187	123	126
17	215	1,190	315	557	495	2,120	3,080	1,580	389	179	123	123
18	216	2,300	292	566	495	1,860	3,120	1,500	375	173	123	122
19	220	1,340	287	651	566	1,780	2,650	1,460	365	173	122	126
20	222	861	266	634	572	1,650	2,300	1,430	354	172	120	127
21	221	688	258	587	566	1,540	2,130	1,380	345	167	120	125
22	217	588	305	585	584	1,450	2,060	1,290	335	165	119	119
23	212	628	266	530	717	1,380	2,050	1,200	333	161	116	117
24	210	1,060	400	505	829	1,380	2,160	1,110	320	154	117	117
25	213	862	415	482	773	1,460	2,320	1,060	310	154	114	115
26	213	673	345	466	752	1,600	2,470	1,020	301	147	113	114
27	212	604	330	453	745	1,810	2,260	973	295	148	114	114
28	213	551	315	434	752	2,060	2,080	904	294	147	114	113
29	211	497	450	467	-----	2,360	2,020	857	293	144	114	111
30	208	470	500	511	-----	2,630	1,970	812	279	148	113	109
31	208	-----	485	488	-----	2,870	-----	766	-----	156	118	-----
TOTAL	6,638	17,577	11,954	20,486	17,106	57,555	82,680	51,442	13,279	6,030	3,913	3,495
MEAN	214	586	386	661	611	1,857	2,756	1,659	443	195	126	117
AC-FT	13,170	34,860	23,710	40,630	33,930	114,200	164,000	102,000	26,340	11,960	7,760	6,930

CALENDAR YEAR 1965 MAX 9,000 MIN 204 MEAN 1,610 AC-FT 1,165,000  
 WATER YEAR 1965-66 MAX 4,280 MIN 107 MEAN 800 AC-FT 579,500

Peak discharge (base, 7,000 cfs).--No peak above base.

11-3946.2. Fall River near Feather Falls, Calif.

Location.--Lat 39°40'00", long 121°08'00", in NW<sup>1</sup>/<sub>4</sub> sec.19, T.21 N., R.8 E., on right bank 0.5 mile downstream from Coyote Creek and 8 miles northeast of Feather Falls.

Drainage area.--9.89 sq mi.

Records available.--July 1963 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 4,000 ft (from topographic map).

Extremes.--Maximum discharge during year, 343 cfs Apr. 10 (gage height, 3.81 ft); minimum daily, 1.8 cfs Sept. 24.

1963-66: Maximum discharge, 3,770 cfs Dec. 22, 1964 (gage height, 10.00 ft), from rating curve extended above 300 cfs on basis of slope-area measurement of maximum flow; minimum daily, that of Sept. 24, 1966.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.7	2.2	11	8.9	11	14	156	78	14	5.5	3.6	2.3
2	2.7	2.2	11	8.0	10	14	164	76	13	5.5	3.4	2.1
3	2.7	2.2	11	8.2	10	14	163	75	13	5.4	3.4	2.1
4	2.6	2.2	11	9.3	13	13	156	75	12	5.3	3.3	2.1
5	2.9	2.2	11	20	18	13	154	73	12	5.1	3.0	2.0
6	2.8	2.2	11	33	16	14	156	69	12	4.9	3.0	2.0
7	2.6	2.3	11	31	14	16	157	64	12	4.7	2.8	2.0
8	2.5	3.7	11	23	14	16	151	60	11	4.7	2.8	2.1
9	2.5	2.8	11	20	13	25	176	58	11	4.9	2.8	2.1
10	2.5	2.5	10	18	13	53	276	61	11	4.7	3.0	2.1
11	2.5	2.5	11	16	13	50	236	53	10	4.6	3.0	2.0
12	2.5	3.9	11	16	12	49	195	48	9.6	4.5	3.0	2.2
13	2.5	7.9	10	15	12	101	163	44	9.1	4.4	2.8	2.2
14	2.9	24	9.8	15	12	100	146	41	8.8	4.1	2.8	2.4
15	3.2	15	9.6	15	12	94	142	37	8.6	4.0	2.6	2.3
16	2.8	12	9.4	15	12	83	149	34	8.3	3.9	2.6	2.2
17	2.7	60	9.2	15	12	69	162	32	8.0	3.6	2.6	1.9
18	2.7	80	9.0	14	12	62	149	29	7.7	3.5	2.3	2.0
19	2.7	45	8.8	14	13	58	125	27	7.3	3.4	2.3	2.1
20	2.5	20	8.8	13	12	53	110	26	7.2	3.3	2.2	2.0
21	2.5	15	8.9	13	12	48	102	24	7.1	3.2	2.2	1.9
22	2.5	14	8.3	13	13	46	97	23	7.1	3.1	2.0	1.9
23	2.4	18	8.3	12	17	47	97	21	7.0	2.9	2.0	1.9
24	2.4	30	8.8	12	17	52	100	19	6.7	2.9	1.9	1.8
25	2.4	18	9.6	12	15	57	105	18	6.4	2.8	1.9	1.9
26	2.4	15	9.4	12	15	66	104	17	6.3	2.7	2.0	1.9
27	2.4	13	8.4	12	14	79	96	16	6.1	2.4	2.3	1.9
28	2.4	12	9.6	11	15	93	90	16	6.0	3.6	2.3	1.9
29	2.4	12	11	14	-----	107	84	15	5.8	3.5	2.4	1.9
30	2.3	11	11	19	-----	122	81	15	5.7	3.8	2.4	1.9
31	2.2	-----	10	11	-----	138	-----	15	-----	3.9	2.4	-----
TOTAL	79.8	452.8	308.9	468.4	372	1,766	4,242	1,259	269.8	125.8	81.1	61.1
MEAN	2.57	15.1	9.97	15.1	13.3	57.0	141	40.6	8.99	4.06	2.62	2.04
AC-FT	158	898	613	929	738	3,500	8,410	2,500	535	250	161	121

CALENDAR YEAR 1965 MAX 375 MIN 2.2 MEAN 41.7 AC-FT 30,220  
 WATER YEAR 1965-66 MAX 276 MIN 1.8 MEAN 26.0 AC-FT 18,810

Peak discharge (base, 150 cfs).--Nov. 17 (time unknown) 328 cfs (3.71 ft.); Apr. 10 (0045 hrs.) 343 cfs (3.81 ft.).

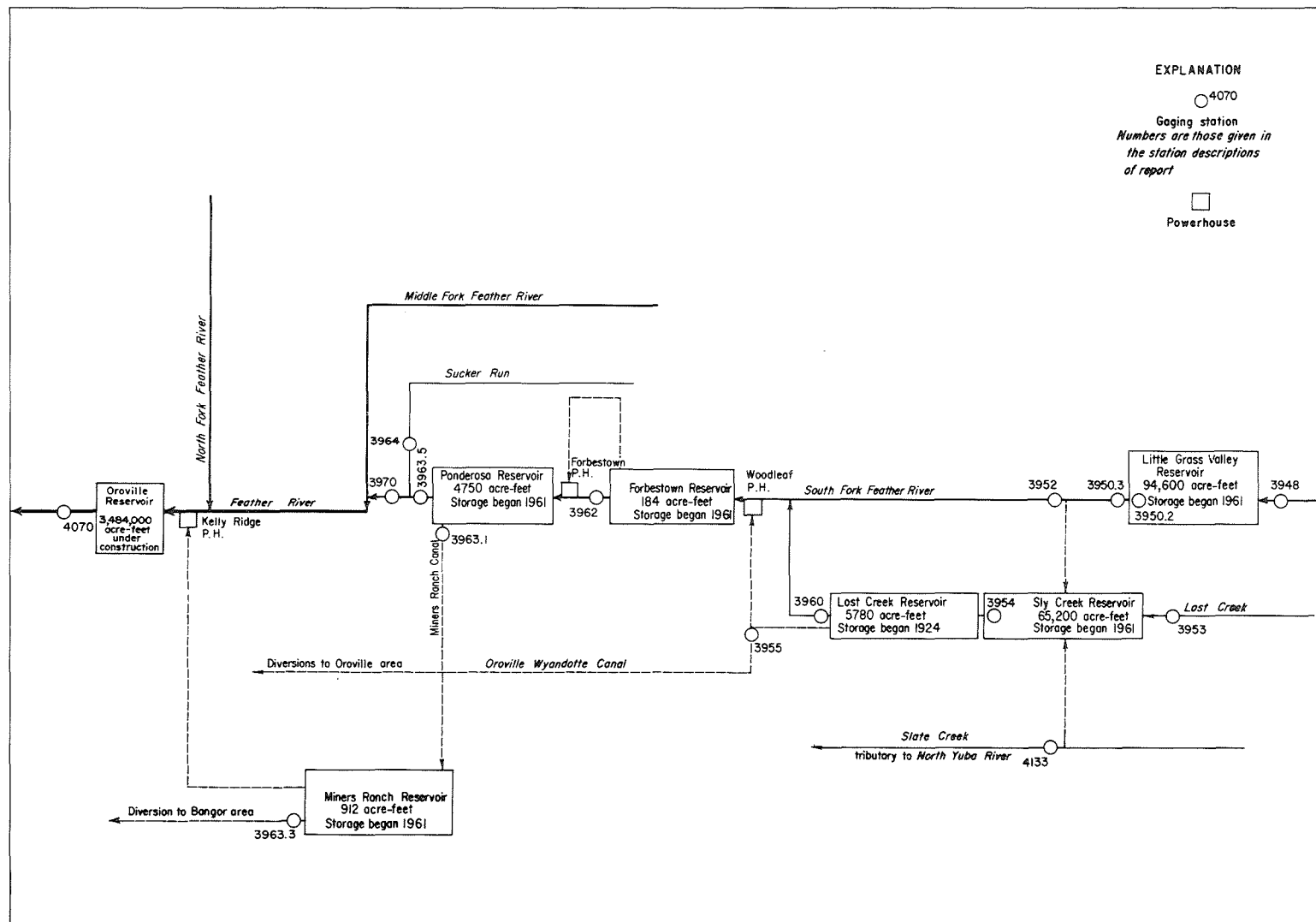


Figure 7.-- Schematic diagram showing diversions and storage in South Fork Feather River basin.

11-3948. South Fork Feather River above Little Grass Valley Reservoir, Calif.

Location.--Lat 39°45'07", long 120°57'26", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.22, T.22 N., R.9 E., on right bank 0.5 mile downstream from unnamed tributary, 4.5 miles upstream from Little Grass Valley Dam, and 5 miles north of LaPorte.

Drainage area.--8.09 sq mi.

Records available.--October 1960 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,080 ft (from topographic map).

Average discharge.--6 years, 27.4 cfs (19,840 acre-ft per year).

Extremes.--Maximum discharge during year, 141 cfs May 10 (gage height, 3.07 ft); minimum daily, 0.1 cfs Aug. 31 to Sept. 30.  
1960-66: Maximum discharge, 4,160 cfs Jan. 31, 1963 (gage height, 7.12 ft), from rating curve extended above 110 cfs on basis of slope-area measurement at gage height 5.47 ft; minimum daily, 0.1 cfs some days each year.

Remarks.--Records good. No storage or diversion above station. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	0.30	3.0	2.3	3.5	3.5	93	89	21	1.7	0.40	0.10
2	.30	.30	3.0	2.3	3.5	3.5	98	95	19	1.7	.40	.10
3	.30	.30	3.0	2.3	3.5	3.5	98	98	17	1.7	.30	.10
4	.30	.30	3.5	2.6	3.0	3.5	96	110	15	1.5	.30	.10
5	.30	.30	3.5	2.6	3.5	3.5	100	118	14	1.5	.30	.10
6	.30	.30	3.5	2.0	3.5	4.0	104	110	14	1.3	.30	.10
7	.40	.30	3.0	6.0	3.5	4.4	108	106	14	1.2	.30	.10
8	.40	.70	3.5	5.6	3.5	4.4	104	106	13	1.0	.30	.10
9	.40	.80	3.5	5.4	3.5	5.4	104	106	12	1.2	.20	.10
10	.40	.70	3.5	5.2	3.5	14	120	128	11	1.0	.20	.10
11	.40	.60	3.5	5.0	3.0	13	100	106	10	1.0	.20	.10
12	.60	.70	3.5	5.0	3.0	13	87	95	9.1	.80	.20	.10
13	.60	2.6	3.5	4.9	3.0	31	80	89	8.4	.80	.20	.10
14	.60	12	3.0	4.9	3.0	30	76	85	7.8	.80	.20	.10
15	.60	8.4	2.7	4.9	3.0	28	83	80	7.2	.80	.20	.10
16	.40	4.4	2.6	4.4	3.0	23	98	76	6.6	.70	.20	.10
17	.40	28	2.5	4.4	2.6	21	116	73	6.0	.70	.20	.10
18	.40	26	2.5	4.4	3.0	20	110	73	5.4	.60	.20	.10
19	.40	12	2.4	4.4	3.0	19	93	74	4.9	.60	.20	.10
20	.40	9.1	2.3	4.4	3.0	18	82	73	4.4	.60	.20	.10
21	.40	7.8	2.1	4.4	3.0	18	76	69	4.0	.60	.20	.10
22	.30	6.0	2.0	4.4	3.0	17	76	60	3.5	.60	.20	.10
23	.30	5.4	2.3	4.4	3.5	18	82	53	3.5	.40	.20	.10
24	.30	6.6	2.6	4.4	3.5	20	91	49	3.5	.40	.20	.10
25	.30	4.9	2.6	4.4	3.5	22	102	49	3.0	.40	.20	.10
26	.30	4.4	2.6	4.0	3.5	28	102	46	2.6	.40	.20	.10
27	.30	3.5	2.3	4.0	3.5	36	95	37	2.3	.30	.20	.10
28	.30	3.5	1.7	4.0	3.5	45	91	34	2.0	.30	.20	.10
29	.30	3.5	2.3	3.5	-----	56	87	31	2.0	.30	.20	.10
30	.30	3.0	2.3	3.5	-----	65	89	27	1.7	.30	.20	.10
31	.30	-----	2.3	3.5	-----	76	-----	23	-----	.40	.10	-----
Total	11.60	156.70	86.6	133.5	91.1	666.7	2841	2368	247.9	25.60	7.10	3.00
Mean	0.37	5.22	2.79	4.31	3.25	21.5	94.7	76.4	8.26	0.83	0.23	0.10
Ac-ft	23	311	172	265	181	1320	5640	4700	492	51	14	6.0

Calendar year 1965 Max 211 Min 0.3 Mean 29.5 Ac-ft 21380

Water year 1965-66 Max 128 Min 0.1 Mean 18.2 Ac-ft 13180

Peak discharge (base, 140 cfs)--May 10 (0200 hrs) 141 cfs (3.07 ft).

## 11-3950.2. Little Grass Valley Reservoir near LaPorte, Calif.

Location.--Lat 39°43'25", long 121°01'10", in  $\frac{1}{4}$  sec. 31, T. 22 N., R. 9 E., on right bank 300 ft upstream from dam on South Fork Feather River, 3.3 miles northwest of LaPorte.

Drainage area.--25.8 sq mi.

Records available.--October 1961 to September 1966. Elevation and contents only, October 1961 and 1962.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Nov. 1, 1962, in valve chamber in dam at same datum.

Extremes.--Maximum contents during year, 92,700 acre-ft May 11-13 (elevation, 5,045.8 ft); minimum, 52,200 acre-ft Nov. 1-11.

1961-66: Maximum contents, 96,100 acre-ft Apr. 29, 1965 (elevation, 5,047.9 ft); minimum since initial season of operation, 49,600 acre-ft Oct. 25-28, 1964. Elevation 5,014.5 ft.

Remarks.--Reservoir is formed by rockfill dam. Storage began in October 1961. Total capacity, 94,700 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, represents contents at 2400 hours. See schematic diagram for South Fork Feather River basin.

Contents, in thousands of acre-ft, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61.6	52.2	55.2	56.8	59.3	60.6	67.2	87.3	91.5	91.4	80.4	68.0
2	61.1	52.2	55.3	56.8	59.3	60.6	67.8	87.7	91.5	91.2	80.1	67.7
3	60.6	52.2	55.3	56.9	59.3	60.7	68.4	88.4	91.5	91.2	79.7	67.3
4	59.8	52.2	55.3	57.4	59.4	60.7	69.0	89.0	91.7	91.2	79.4	66.9
5	59.4	52.2	55.3	57.7	59.5	60.7	69.8	89.6	91.7	91.1	79.0	66.5
6	58.9	52.2	55.3	57.7	59.7	60.8	70.5	90.3	91.7	90.7	78.5	66.2
7	58.4	52.2	55.3	57.8	59.7	61.0	71.2	90.9	91.7	90.3	78.2	65.9
8	57.8	52.2	55.4	58.0	59.7	61.0	72.0	91.4	91.7	90.0	77.8	65.5
9	57.2	52.2	55.4	58.0	59.7	61.2	73.0	92.0	91.9	89.5	77.4	65.1
10	56.7	52.2	55.4	58.1	59.8	61.3	74.3	92.5	91.9	89.2	76.9	64.7
11	56.1	52.2	55.4	58.1	59.8	61.5	75.3	92.7	91.9	88.7	76.5	64.3
12	55.7	52.3	55.5	58.2	59.8	61.7	76.0	92.7	91.9	88.2	76.2	63.9
13	55.1	52.6	55.5	58.2	59.8	62.1	76.8	92.7	91.9	87.9	75.7	63.6
14	54.6	52.9	55.5	58.2	59.8	62.4	77.4	92.5	91.9	87.4	75.3	63.2
15	54.2	53.0	55.5	58.4	59.8	62.8	77.9	92.4	91.9	87.1	74.9	62.8
16	53.7	53.0	55.5	58.4	59.8	62.9	78.7	92.4	91.9	86.8	74.4	62.4
17	53.1	53.6	55.5	58.4	59.9	63.2	79.4	92.4	91.9	86.3	74.0	62.0
18	52.7	54.2	55.5	58.4	59.9	63.3	80.0	92.4	91.9	86.0	73.6	61.6
19	52.4	54.3	55.7	58.5	60.0	63.6	80.7	92.4	91.9	85.5	73.3	61.3
20	52.4	54.4	55.7	58.5	60.2	63.7	81.1	92.2	91.7	85.2	72.8	61.0
21	52.4	54.4	55.7	58.5	60.2	63.8	81.7	92.2	91.7	84.7	72.4	60.6
22	52.4	54.4	55.7	58.6	60.2	63.9	82.2	92.0	91.7	84.3	72.0	60.2
23	52.4	54.6	55.7	58.6	60.3	64.1	82.6	92.0	91.7	84.0	71.5	59.8
24	52.3	55.0	55.9	58.6	60.4	64.3	83.2	92.0	91.7	83.5	71.2	59.4
25	52.3	55.1	55.9	58.6	60.4	64.5	83.8	92.0	91.7	83.0	70.8	59.0
26	52.3	55.1	55.9	58.7	60.4	64.7	84.4	91.9	91.5	82.8	70.3	58.6
27	52.3	55.2	55.9	58.7	60.6	65.0	85.1	91.9	91.5	82.3	70.1	58.2
28	52.3	55.2	56.3	58.7	60.6	65.2	85.5	91.7	91.5	81.9	69.6	57.8
29	52.3	55.2	56.4	58.9	-----	65.6	86.2	91.5	91.5	81.6	69.3	57.4
30	52.3	55.2	56.7	59.0	-----	66.0	86.6	91.5	91.4	81.1	68.9	56.9
31	52.3	-----	56.8	59.1	-----	66.5	-----	91.5	-----	80.9	68.5	-----
(†)	5,016.9	5,019.4	5,020.7	5,022.5	5,023.6	5,028.2	5,042.0	5,045.1	5,045.0	5,038.2	5,029.7	5,020.8
(‡)	-9.8	+2.9	+1.6	+2.3	+1.5	+5.9	+20.1	+4.9	-0.1	-10.5	-12.4	-11.6

Calendar year 1966 ..... † - 19.8

Water year 1965-66 ..... ‡ - 5.2

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

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. Prior to May 31, 1966 at site on outlet works at base of Little Grass Valley Dam.

Drainage area.--25.9 sq mi.

Records available.--October 1927 to September 1933 (published as "near LaPorte"), October 1960 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,830 ft (from topographic map). Prior to Oct. 1, 1960, at site 0.4 mile upstream at different datum. Oct. 1, 1960 to Oct. 30, 1962, at present site and datum. Nov. 1, 1962 to May 31, 1966, at site on outlet works at base of Little Grass Valley Dam 0.1 mile upstream at datum 4,850.00 ft above mean sea level.

Average discharge.--12 years (1927-33, 1960-66), 81.3 cfs (58,860 acre-ft per year), adjusted for storage.

Extremes.--Maximum daily discharge during year, 280 cfs Oct. 1-11, 13-18; minimum daily, 5.1 cfs on many days.  
1927-33, 1960-66: Maximum discharge, 4,250 cfs Feb. 1, 1963; minimum, 0.2 cfs Oct. 28-31, Nov. 2, 1961.

Remarks.--Records fair prior to June 1, excellent thereafter. Flow regulated by Little Grass Valley Reservoir (see sta. no. 11-3950.2) beginning in October 1961. No diversion above station. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	280	5.3	5.3	5.1	5.1	5.1	5.1	7.0	11	11	194	184
2	280	5.3	5.3	5.1	5.1	5.1	5.1	9.3	11	11	193	185
3	280	5.3	5.2	5.1	5.1	5.1	5.1	12	11	11	193	185
4	280	5.3	5.2	5.1	5.1	5.1	5.1	12	11	11	193	185
5	280	5.3	5.2	5.1	5.1	5.1	5.1	12	11	61	193	185
6	280	5.3	5.2	5.1	5.1	5.1	5.1	12	11	196	193	185
7	280	5.3	5.2	5.1	5.1	5.1	5.1	12	11	196	193	185
8	280	5.3	5.2	5.1	5.1	5.1	5.1	12	11	196	193	185
9	280	5.3	5.2	5.1	5.1	5.1	5.1	12	11	196	191	184
10	280	5.3	5.2	5.1	5.1	5.1	5.1	126	11	196	191	185
11	280	5.3	5.2	5.1	5.1	5.1	5.1	183	11	196	191	184
12	263	5.3	5.2	5.1	5.1	5.1	5.1	250	11	196	191	185
13	280	5.3	5.2	5.1	5.1	5.1	5.1	250	11	196	189	185
14	280	5.3	5.2	5.1	5.1	5.1	5.1	250	11	196	189	185
15	280	5.3	5.2	5.1	5.1	5.1	5.1	250	11	196	189	185
16	280	5.3	5.2	5.1	5.1	5.1	5.1	212	11	194	189	185
17	280	5.3	5.2	5.1	5.1	5.1	5.1	174	11	194	189	187
18	280	5.3	5.2	5.1	5.1	5.1	5.1	170	11	194	189	187
19	139	5.3	5.2	5.1	5.1	5.1	5.1	170	11	194	189	187
20	10	5.3	5.2	5.1	5.1	5.1	5.1	170	11	194	189	187
21	10	5.3	5.2	5.1	5.1	5.1	5.1	170	11	194	189	185
22	10	5.3	5.2	5.1	5.1	5.1	5.1	136	11	194	189	185
23	10	5.3	5.1	5.1	5.1	5.1	5.1	105	11	194	189	185
24	10	5.3	5.1	5.1	5.1	5.1	5.1	105	11	194	189	185
25	10	5.3	5.1	5.1	5.1	5.1	5.1	105	11	194	185	187
26	10	5.3	5.1	5.1	5.1	5.1	5.1	105	11	194	182	187
27	10	5.3	5.1	5.1	5.1	5.1	6.8	105	11	194	182	185
28	10	5.3	5.1	5.1	5.1	5.1	7.0	90	11	194	182	185
29	10	5.3	5.1	5.1	-----	5.1	7.0	80	11	194	182	185
30	10	5.3	5.1	5.1	-----	5.1	7.0	80	11	194	182	185
31	7.4	-----	5.1	5.1	-----	5.1	-----	36	-----	194	182	-----
Total	5,284.4	159.0	160.5	158.1	142.8	153.1	160.4	3,427.3	330	5,169	5,854	5,559
Mean	170	5.30	5.13	5.10	5.10	5.10	5.35	111	11.0	167	189	185
Ac-ft	10,480	315	313	314	283	314	318	6,800	655	10,250	11,610	11,030
Mean†	11.1	54.1	31.2	42.4	32.1	101	34.3	190	9.33	-4.07	-12.3	-9.58
Ac-ft†	680	3,220	1,920	2,610	1,780	6,210	20,420	11,700	555	-250	-790	-570

Calendar year 1965	Max	2,060	Min	5.0	Mean	127	Ac-ft	91,930	Mean†	99.6	Ac-ft†	72,140
Water year 1965-66	Max	280	Min	5.1	Mean	72.8	Ac-ft	52,690	Mean†	65.6	Ac-ft†	47,480

† Adjusted for change in contents in Little Grass Valley Reservoir.

Note.--No gage-height record Oct. 1 to May 31. For months when inflow to the reservoir was small and other quantities were large, discordant figures of net runoff may appear because of evaporation from the reservoir.

11-3952. South Fork Feather River below diversion dam, near Strawberry Valley, Calif.

Location.--Lat 39°38'51", long 121°07'04", in NE 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 1966.

Gage.--Water-stage recorder and since Nov. 7, 1962, concrete control. Datum of gage is 3,535.02 ft above mean sea level (levels by Oroville-Wyandotte Irrigation District).

Average discharge.--6 years, 131 cfs (94,840 acre-ft per year).

Extremes.--Maximum discharge during year, 29 cfs Nov. 17 (gage height, 2.72 ft); minimum daily, 5.2 cfs Jan. 8, 9, 11-15.

1960-66: Maximum discharge, 6,330 cfs Jan. 31, 1963 (gage height, 13.21 ft), from rating curve extended above 500 cfs on basis of computation of maximum flow over diversion dam; minimum daily, 0.3 cfs Dec. 25, 1962 to Jan. 2, 1963, Mar. 1-3, 1963.

Remarks.--Records excellent. Flow regulated by Little Grass Valley Reservoir (see sta. no. 11-3950.2). South Fork Diversion Tunnel (maximum capacity about 600 cfs) diverts 500 ft upstream to Sly Creek Reservoir (see sta. no. 11-3954); diversion began in November 1961. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	8.0	6.0	5.4	6.0	6.2	6.5	9.8	9.1	8.8	12	9.8
2	9.1	6.2	6.0	5.4	6.0	6.2	6.5	9.4	9.1	9.8	12	9.8
3	9.1	6.2	6.0	5.4	6.0	6.2	6.5	9.4	9.1	9.8	12	9.8
4	9.1	6.2	6.0	5.6	6.0	6.2	6.5	9.4	9.1	9.8	12	9.8
5	9.1	6.2	6.0	6.0	6.0	6.2	6.5	9.4	9.1	9.8	12	9.8
6	9.1	6.2	6.0	5.6	6.2	6.2	6.5	9.4	9.1	9.4	12	9.8
7	9.1	6.2	6.0	5.4	6.2	6.2	6.5	9.4	9.1	9.8	12	9.8
8	9.4	6.5	6.0	5.2	6.2	6.2	6.5	9.1	9.1	9.8	12	10
9	9.8	6.5	6.0	5.2	6.2	6.2	6.8	9.1	9.1	10	12	10
10	9.8	6.5	6.0	5.4	6.2	6.2	7.0	9.4	8.8	10	12	10
11	9.8	6.5	6.0	5.2	6.2	6.2	7.0	9.8	8.8	10	11	10
12	9.8	6.5	6.0	5.2	6.2	6.2	6.8	10	8.8	10	10	10
13	9.8	6.8	6.0	5.2	6.2	6.5	6.5	10	8.8	10	10	10
14	9.8	7.9	5.8	5.2	6.2	6.5	6.5	10	8.8	10	10	10
15	9.8	7.6	5.6	5.2	6.2	6.5	6.5	11	8.5	10	10	10
16	9.8	7.0	5.6	5.4	6.2	6.5	6.5	11	8.5	10	10	10
17	9.8	8.0	5.6	5.4	6.2	6.5	6.5	11	8.5	11	9.8	10
18	9.8	7.0	5.6	5.6	6.2	6.5	6.5	11	8.5	11	9.8	10
19	9.4	6.5	5.6	5.6	6.2	6.5	6.5	11	8.5	11	9.8	9.8
20	8.2	6.2	5.6	5.6	6.2	6.5	6.5	11	8.5	11	9.8	9.8
21	9.2	6.0	5.6	5.8	6.2	6.5	6.2	11	8.5	11	9.8	9.8
22	8.2	6.0	5.6	5.8	6.2	6.5	6.2	11	8.5	11	9.8	9.8
23	8.2	6.2	5.6	5.6	6.2	6.5	6.2	10	8.8	11	9.8	9.8
24	8.2	6.5	5.6	5.6	6.5	6.5	6.2	10	8.8	11	9.8	9.8
25	8.5	6.2	5.6	5.6	6.5	6.5	6.2	10	8.8	11	9.8	9.8
26	8.5	6.2	5.6	5.8	6.5	6.5	6.2	10	8.8	11	9.8	9.8
27	8.5	6.2	5.4	5.8	6.2	6.5	6.2	10	8.8	11	9.8	9.8
28	8.5	6.0	5.6	5.8	6.2	6.5	7.9	10	8.8	11	9.8	9.8
29	8.8	6.0	5.4	5.8	-----	6.5	10	10	8.8	12	9.8	9.8
30	8.8	6.0	5.4	5.8	-----	6.5	10	10	8.8	12	9.8	9.8
31	8.8	-----	5.4	5.8	-----	6.5	-----	10	-----	12	9.8	-----
Total	281.9	196.0	179.2	171.4	173.5	197.9	202.9	311.6	264.3	321.0	328.0	296.2
Mean	9.09	6.53	5.75	5.53	6.20	6.38	6.76	10.1	8.81	10.4	10.6	9.87
Ac-ft	559	389	353	340	344	393	402	618	524	637	651	589
Mean†	172	27.7	18.2	27.5	29.2	92.5	156	142	21.8	166	185	186
Ac-ft†	10,600	1,650	1,120	1,690	1,620	5,690	9,310	8,760	1,300	10,220	11,390	11,040
Calendar year 1965	Max	12.50	Min	4.4	Mean	26.5	Ac-ft	19,200	Mean†	166	Ac-ft†	120,300
Water year 1965-66	Max	12	Min	5.2	Mean	9.01	Ac-ft	5,900	Mean†	10.3	Ac-ft†	74,390

† Adjusted for diversion to South Fork Diversion Tunnel.



11-3953. Lost Creek above Sly Creek Reservoir, Calif.

Location.--Lat 39°37'05", long 121°05'19", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  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 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

Average discharge.--6 years, 51.8 cfs (37,500 acre-ft per year).

Extremes.--Maximum discharge during year, 560 cfs Jan. 6 (gage height, 4.11 ft); minimum daily, 4.2 cfs Sept. 28-30.

1960-66: Maximum discharge, 5,640 cfs Dec. 22, 1964 (gage height, 8.48 ft from floodmark in gage well, 9.66 ft outside from floodmarks), from rating curve extended above 200 cfs on basis of slope-area measurements at gage heights 5.97 and 7.87 ft; minimum, 3.2 cfs Oct. 7-10, 1961.

Remarks.--Records good. No regulation or diversion above station. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.3	7.0	15	41	16	21	179	70	20	12	9.7	5.8
2	7.3	7.0	15	36	16	21	183	69	20	12	9.4	5.5
3	7.3	7.0	15	36	15	23	179	68	20	12	9.0	5.2
4	7.3	7.0	15	42	18	21	167	67	19	11	7.7	4.9
5	7.7	7.0	16	161	32	20	165	64	19	11	7.7	4.9
6	8.0	7.0	16	373	29	21	167	59	19	11	7.3	4.9
7	7.7	7.0	16	268	24	23	163	55	19	11	7.3	4.9
8	7.0	11	16	139	22	24	152	52	19	11	7.3	4.9
9	7.0	9.7	16	82	20	34	179	52	19	11	7.3	4.9
10	7.0	8.0	16	41	20	73	346	54	18	11	7.0	4.9
11	7.0	8.0	16	25	19	63	286	47	17	11	7.0	4.7
12	7.0	11	17	21	19	56	236	45	17	11	7.0	4.9
13	7.3	16	15	20	18	115	190	41	16	11	7.0	4.9
14	8.0	40	14	20	18	105	165	39	16	10	6.7	5.2
15	9.7	22	14	20	17	92	156	37	15	10	6.4	4.9
16	8.0	16	13	20	18	84	163	36	15	10	6.4	4.9
17	3.0	7.7	14	19	17	82	167	34	15	10	6.1	4.7
18	3.0	11.0	13	19	18	61	143	32	15	9.8	6.1	4.9
19	8.0	40	13	18	19	58	123	31	14	9.8	5.8	4.9
20	7.7	25	12	18	20	53	107	30	14	9.5	5.8	4.7
21	7.7	21	12	17	20	49	99	28	14	9.5	5.8	4.7
22	7.3	19	12	17	20	48	94	27	14	9.5	5.8	4.4
23	7.0	20	13	17	25	50	92	26	14	9.5	5.8	4.4
24	7.0	34	15	17	27	53	94	25	13	9.1	5.8	4.4
25	7.0	23	28	17	24	64	96	24	13	9.7	5.8	4.4
26	7.3	20	23	16	23	53	94	24	13	8.7	5.8	4.4
27	7.3	18	18	16	22	91	87	23	12	8.7	5.8	4.4
28	7.3	17	19	16	22	103	80	22	12	8.7	5.8	4.2
29	7.3	17	31	24	-----	129	75	21	12	3.7	5.8	4.2
30	7.3	15	35	46	-----	146	73	21	12	3.7	5.8	4.2
31	7.0	-----	44	17	-----	153	-----	21	-----	3.7	5.8	-----
Total	230.8	645.7	547	1,643	577	2,004	4,502	1,244	474	313.6	2,048	1,432
Mean	7.45	21.5	17.6	53.0	20.6	64.6	150	40.1	15.8	10.1	6.61	4.77
Ac-ft	453	1,280	1,080	3,260	1,140	3,970	8,930	2,470	940	622	406	284

Calendar year 1965 Max 51.0 Min 7.0 Mean 60.2 Ac-ft 43,590

Water year 1965-66 Max 373 Min 4.2 Mean 34.3 Ac-ft 24,350

Peak discharge (base, 250 cfs).--Jan. 6 (0530 hours) 560 cfs (4.11 ft); Apr. 10 (0130 hours) 454 cfs (3.86 ft).

## SACRAMENTO RIVER BASIN

11-3954. Sly Creek Reservoir near Strawberry Valley, Calif.

Location.--Lat 39°35'00", long 121°06'45", in NW¼NW¼ sec.20, T.20 N., R.8 E., in valve chamber inside dam on Lost Creek, 1.4 miles northwest of Strawberry Valley.

Drainage area.--24.0 sq mi.

Records available.--November 1961 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District).

Extremes.--Maximum contents during year, 63,900 acre-ft Apr. 28,29, May 4 (elevation, 3,528.0 ft); minimum, 8,430 acre-ft Jan. 28,29 (elevation, 3,385.5 ft).

1961-66: Maximum contents, 65,500 acre-ft June 2-5, 11, 12, 1962, Apr. 7, 1963 (elevation, 3,531.5 ft); minimum, that of Jan 28, 29, 1966.

Remarks.--Reservoir is formed by earth-fill dam. Storage began in November 1961. Total capacity, 65,200 acre-ft between elevations 3,285 (invert of outlet) and 3,531 ft (top of spillway gage) all of which is available for release. 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. Records, including extremes, show contents at 2400 hours. See schematic diagram for South Fork Feather River basin.

Cooperation.--Reservoir staff gage readings furnished by Oroville-Wyandotte Irrigation District.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50.0	44.4	33.9	15.5	9.01	12.3	32.7	63.6	62.7	52.9	43.7	45.9
2	49.7	44.2	33.3	15.4	9.20	12.5	40.8	63.6	62.4	52.4	43.2	45.7
3	49.7	44.2	32.5	14.9	9.30	12.7	43.2	63.3	62.1	52.4	43.2	45.4
4	50.0	43.9	31.9	14.5	9.30	12.7	44.7	63.9	61.8	52.1	43.4	45.4
5	49.7	43.7	31.3	13.9	9.20	12.8	46.2	63.6	61.8	51.9	43.4	45.4
6	49.5	43.4	30.7	13.6	9.30	13.0	47.4	63.6	61.5	51.6	43.7	45.4
7	49.2	43.2	30.3	13.1	9.20	13.4	43.7	63.6	61.2	51.3	43.9	45.2
8	48.9	42.9	29.7	12.7	9.41	13.6	49.7	63.3	60.9	51.3	43.9	44.9
9	48.7	42.7	29.1	12.5	9.63	14.1	51.9	63.0	60.6	51.3	43.2	44.7
10	48.7	42.2	28.6	12.1	9.85	15.3	52.9	63.0	60.3	51.3	43.9	44.7
11	48.4	41.5	28.0	11.9	9.96	16.2	54.8	63.0	60.0	50.8	43.9	44.4
12	48.2	41.1	27.2	11.4	9.85	17.0	56.5	63.0	60.0	50.8	43.7	44.4
13	47.9	40.4	26.7	11.1	9.46	13.8	57.9	63.0	59.4	50.8	43.7	43.9
14	47.7	40.4	26.1	10.6	9.63	20.3	53.8	63.3	59.1	50.5	43.4	43.7
15	47.2	39.9	25.6	10.5	9.63	21.6	59.7	63.3	58.8	50.3	43.4	43.7
16	46.9	39.4	25.1	10.6	9.74	22.6	60.6	63.0	58.2	50.3	43.2	43.7
17	46.7	39.2	24.4	10.5	9.85	23.8	61.5	63.3	57.9	50.3	43.2	43.4
18	46.9	40.1	23.6	10.3	9.96	24.2	62.1	63.0	57.6	50.3	43.9	43.4
19	47.2	39.9	22.9	9.63	10.2	25.2	62.7	62.7	57.6	50.0	47.7	43.4
20	46.7	39.4	22.4	9.63	10.4	25.6	63.0	62.7	57.4	49.7	47.4	43.2
21	46.9	39.0	21.8	9.41	10.6	26.3	63.3	62.7	56.9	49.5	47.4	42.9
22	46.7	38.5	21.2	9.20	10.7	26.9	63.3	62.7	56.2	49.2	47.4	42.9
23	46.7	38.1	20.5	9.11	11.0	27.6	63.3	62.7	55.4	49.2	47.2	42.7
24	46.4	37.8	20.0	9.01	11.4	23.0	63.3	62.7	55.4	49.5	46.9	42.5
25	46.2	37.4	19.4	8.82	11.6	28.6	63.3	63.0	55.4	49.2	46.9	42.5
26	45.7	37.0	18.8	8.62	12.0	29.5	63.6	63.0	55.1	48.9	46.7	42.5
27	45.7	36.3	18.1	8.52	12.2	30.5	63.6	63.0	54.6	48.9	46.7	42.5
28	45.4	35.9	17.5	8.43	12.1	31.7	63.9	63.0	54.3	48.7	46.7	42.2
29	45.2	35.2	16.9	8.43	-----	33.3	63.9	62.7	54.0	48.7	46.4	42.0
30	44.9	34.6	16.3	8.62	-----	35.0	63.6	62.7	53.4	48.7	46.4	41.8
31	44.7	-----	15.7	8.91	-----	36.8	-----	63.0	-----	48.7	46.2	-----
(*)	-5.6	-10.1	-18.9	-6.79	+3.19	+24.7	+26.8	-0.6	-9.6	-4.7	-2.5	-4.4
(†)	3,493.0	3,471.0	3,416.5	3,388.0	3,402.5	3,476.0	3,527.5	3,526.5	3,510.0	3,501.0	3,496.0	3,487.0

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

† Elevation, in feet, at end of month.

11-3955. Oroville-Wyandotte Canal near Clipper Mills, Calif.

Location.--Lat 39°33'15", long 121°11'30", in NE $\frac{1}{4}$  sec.33, T.20 N., R.7 E., in concrete valve house at head of canal, 2.5 miles north of Clipper Mills.

Records available.--October 1927 to September 1941 (published as Forbestown Ditch), October 1954 to September 1966. 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. Datum of gage is 3,166.0 ft above mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1941, staff gages and Oct. 1, 1941, to Nov. 16, 1962, water-stage recorder at sites at different datums 4 miles upstream in abandoned portion of canal 0.3 mile downstream from Lost Creek Dam.

Average discharge.--27 years, 19.2 cfs (13,900 acre-ft per year).

Extremes.--1927-41, 1954-66: Maximum daily discharge, 43 cfs Aug. 9 to Sept. 9, 1937; no flow at times in many years.

Remarks.--Records good. Water is discharged to canal through valve in Woodleaf penstock. Prior to Nov. 16, 1962, canal diverted from Lost Creek Dam. Water is used for irrigation and domestic supply. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	9.5	1.0	1.0	1.1	1.3	6.4	12	8.3	14	14	20
2	8.6	9.5	1.0	1.0	1.1	1.3	7.0	13	8.1	14	14	21
3	9.6	9.5	1.0	1.0	1.1	1.3	7.0	12	8.0	14	16	22
4	9.1	9.5	1.0	1.0	1.1	1.3	6.9	12	9.8	14	19	22
5	9.5	9.3	1.0	1.0	1.1	1.3	6.7	12	11	14	19	22
6	9.5	9.3	1.0	1.0	1.2	1.3	10	12	12	14	19	22
7	9.3	9.3	1.0	1.0	1.2	1.3	12	13	13	14	19	22
8	9.3	9.5	1.0	1.0	1.2	1.3	12	14	12	12	20	22
9	9.1	9.5	1.0	1.0	1.2	1.3	12	14	11	12	20	22
10	9.0	9.0	1.0	1.0	1.2	1.3	12	14	11	12	19	22
11	9.1	8.6	1.0	1.0	1.2	1.4	12	12	11	12	19	23
12	9.3	9.3	1.0	1.0	1.2	1.4	12	6.9	11	12	19	22
13	9.5	9.3	1.0	1.0	1.1	1.4	11	9.0	11	14	22	19
14	9.3	9.1	1.0	1.0	1.1	1.4	11	9.8	11	14	22	16
15	9.5	9.3	9.0	1.0	1.2	1.4	12	9.5	11	13	22	16
16	8.8	9.0	1.0	1.0	1.2	1.4	12	9.8	10	13	24	17
17	8.5	9.3	1.2	1.0	1.2	3.9	12	10	10	12	23	22
18	9.3	9.0	1.2	1.0	1.2	5.5	12	8.9	11	12	24	22
19	9.1	8.5	1.2	1.0	1.2	5.5	11	10	11	10	24	20
20	9.3	8.0	1.2	1.0	1.2	5.8	11	10	11	10	23	20
21	9.3	9.8	1.0	1.0	1.2	5.8	12	9.8	12	12	24	22
22	9.5	9.6	1.0	1.0	1.2	5.8	11	9.6	11	13	23	21
23	9.6	9.0	1.0	1.0	1.3	5.8	11	10	11	13	24	20
24	9.6	6.1	1.0	1.0	1.3	5.7	11	8.4	13	12	24	18
25	9.6	1.0	1.0	1.0	1.3	5.5	12	7.8	12	12	23	20
26	9.6	1.0	1.0	1.0	1.3	7.0	12	8.0	12	13	23	19
27	9.6	1.0	1.0	1.0	1.3	7.8	10	8.5	12	14	24	18
28	9.6	1.0	9.0	1.0	1.3	7.8	10	8.3	14	14	24	20
29	9.3	1.0	9.0	1.0	-----	7.6	12	7.6	14	14	22	18
30	9.3	1.0	1.0	1.0	-----	7.8	12	7.8	14	15	21	20
31	9.5	-----	1.0	1.0	-----	7.1	-----	7.5	-----	14	20	-----
Total	288.2	223.8	315.0	31.0	33.5	115.8	321.0	317.2	337.2	402	653	610
Mean	9.30	7.46	10.2	10.0	12.0	3.74	10.7	10.2	11.2	13.0	21.1	20.3
Ac-ft	572	444	62	61	66	230	637	629	669	797	1300	1210
Calendar year 1965	Max	10	Min	0	Mean	6.45	Ac-ft	4,670				
Water year 1965-66	Max	24	Min	0.9	Mean	9.22	Ac-ft	6,670				

11-3960. Lost Creek near Clipper Mills, Calif.

Location (revised).--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, 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,170 ft (from topographic map).

Average discharge.--27 years (1927-41, 1948-61, prior to regulation by Sly Creek Reservoir), 73.0 cfs (52,850 acre-ft per year); 5 years (1962-66), 39.3 cfs (28,450 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 261 cfs May 3 (gage height, 2.57 ft); no flow June 30, July 1-14.  
1927-41, 1948-66: Maximum discharge, 5,000 cfs Dec. 22, 1955 (gage height, 6.90 ft); no flow at times.

Remarks.--Records fair. Flow regulated by Sly Creek Reservoir (see sta. no. 11-3954) and Lost Creek Reservoir, usable capacity, 5,920 acre-ft with flashboards. Water is diverted into Sly Creek Reservoir through South Fork Diversion Tunnel from South Fork Feather River and through Slate Creek Tunnel from North Yuba River basin. Woodleaf Tunnel diverts from Lost Creek Reservoir to Woodleaf powerhouse. Oroville-Wyandotte Canal (see sta. no. 11-3955) diverts from Woodleaf penstock for irrigation and domestic use. Records below represent release or spill from Lost Creek Dam to Lost Creek. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	0.20	39	0.20	0.40	0.30	162	0.10	0	1.2	0.50
2	.10	.10	.20	.20	88	.40	.30	162	.10	0	1.2	.40
3	.10	.10	.20	.20	175	.40	.30	172	.10	0	63	.40
4	.10	.10	.20	.40	175	.40	.30	158	.10	0	90	.40
5	.10	.10	.20	1.6	101	.40	.30	160	.10	0	90	.40
6	.10	.10	.20	.70	.90	.40	.20	160	.10	0	90	.40
7	.10	.10	.20	.40	.70	.50	.20	160	.10	0	116	.40
8	.10	.10	.20	.30	.50	.50	.20	160	.10	0	138	.50
9	.10	.10	.10	.30	.50	.70	.30	160	.10	0	85	.50
10	.10	.10	.10	.30	.40	1.1	.40	162	.10	0	.80	.40
11	.10	.10	.20	.20	.40	.70	.50	162	.10	0	.70	.40
12	.10	.20	.20	.20	.40	.70	.60	165	.10	0	.70	.40
13	.10	.30	.20	.20	.40	1.0	.40	162	.10	0	.60	.40
14	.10	.30	.10	.20	.40	.70	.30	162	.10	0	.60	.40
15	.10	.20	.10	.20	.40	.70	.30	160	.10	2.6	.60	.40
16	.10	.10	.10	.20	.40	.60	.20	116	.10	.30	.60	.40
17	.10	.80	.10	.20	.40	.50	.20	65	.10	.20	.60	.60
18	.10	.60	.10	.20	.40	.50	.20	65	.10	1.4	.60	.50
19	.10	.20	.10	.20	.50	.50	.20	21	.10	2.5	.50	.50
20	.10	.20	.10	.20	.50	.50	.20	25	.10	1.7	.50	.50
21	.10	.20	.10	.20	.50	.40	.20	.10	.10	4.9	.50	.50
22	.10	.10	.10	.20	.40	.40	.20	.10	.10	6.2	.50	.50
23	.10	.20	.10	.20	.50	.40	.20	.10	.10	3.1	.50	.50
24	.10	.50	.20	.20	.60	.40	.20	.10	.10	2.3	.50	.50
25	.10	.30	.20	.20	.60	.40	.20	.10	.10	1.2	.50	.50
26	.10	.20	.20	.20	.60	.40	.20	.10	.10	1.4	.50	.50
27	.10	.20	.20	.20	.50	.40	.77	.10	.10	3.8	.50	.50
28	.10	.20	.40	.20	.50	.40	160	.10	.10	2.3	.50	.50
29	.10	.20	.30	.20	-----	.30	160	.10	.10	1.8	.50	.50
30	.10	.20	.30	.20	-----	.30	160	.10	.10	5.9	.50	.50
31	.10	-----	36	.20	-----	.30	-----	.10	-----	5.1	.50	-----
Total	3.10	6.30	41.20	47.60	550.60	15.70	564.10	2720.10	2.90	46.70	686.70	13.80
Mean	0.10	0.21	1.33	1.54	19.7	0.51	18.8	87.7	0.10	1.51	22.2	0.46
Ac-ft	6.1	12	82	94	1090	31	1120	5400	5.8	93	1360	27
Calendar year 1965	Max	760	Min	0.10	Mean	45.0	Ac-ft	32600				
Water year 1965-66	Max	175	Min	0	Mean	12.9	Ac-ft	9320				

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., on right bank 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 1962 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,690 ft (from topographic map).

Extremes.--Maximum discharge during year, 172 cfs Oct. 22 (gage height, 4.67 ft); minimum daily, 3.0 cfs Nov. 6, 7.

1962-66: Maximum discharge 7,510 cfs Jan. 31, 1963 (gage height, 13.85 ft in gage well, 15.3 ft from floodmarks); minimum daily, 0.6 cfs Apr. 4, 1963.

Remarks.--Records fair. Flow regulated by Little Grass Valley Reservoir (see sta. no. 11-3950.2), Sly Creek Reservoir (see sta. no. 11-3954) and smaller reservoirs. Water from North Yuba River basin is imported through Slate Creek Tunnel (see sta. no. 11-4133) to Sly Creek Reservoir. Oroville-Wyandotte Canal (see sta. no. 11-3955) diverts above station. Tunnel 600 ft above station diverts most flow through Forbestown powerplant except fishwater releases and uncontrolled spill over Forbestown Dam. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	15.6	4.1	4.3	4.2	5.0	4.9	10	9.6	11	5.0	12
2	9.0	15.4	4.2	4.3	4.2	5.0	4.9	10	9.6	11	5.0	12
3	9.0	13.4	4.3	4.3	4.2	5.0	4.9	19	9.6	11	4.7	12
4	9.3	5.9	4.3	4.4	4.7	5.0	4.9	10	9.6	11	4.6	12
5	9.3	3.2	4.3	4.6	5.2	5.0	4.9	10	9.6	11	4.7	12
6	9.3	3.0	4.3	4.4	5.2	5.0	4.9	10	9.6	11	4.9	12
7	9.3	3.0	4.3	4.4	5.2	5.0	4.9	9.9	9.6	11	5.0	12
8	9.3	3.2	4.3	4.4	5.2	5.0	4.9	9.9	9.9	11	4.9	12
9	9.3	3.4	4.3	4.4	5.2	5.0	4.9	9.9	10	11	5.0	12
10	9.3	3.6	4.3	4.4	5.0	5.2	4.9	9.9	11	11	5.0	11
11	9.3	3.8	4.3	4.4	5.0	5.2	4.9	9.9	11	11	5.2	11
12	9.3	3.6	4.3	4.4	5.0	5.2	4.9	9.9	11	11	9.7	11
13	9.3	3.6	4.3	4.4	5.0	5.2	4.9	9.9	11	12	12	11
14	9.3	3.8	4.3	4.4	5.0	5.2	4.9	9.9	11	12	12	11
15	9.6	3.8	4.3	4.4	5.0	5.2	4.9	9.9	11	11	13	11
16	9.6	3.8	4.3	4.4	4.9	5.0	4.9	9.9	11	11	13	11
17	9.6	4.1	4.3	4.4	4.9	5.0	4.9	9.9	11	11	13	11
18	127	3.9	4.3	4.4	4.9	5.0	4.9	9.9	11	11	13	10
19	159	3.9	4.3	4.4	5.0	5.0	4.9	9.9	11	11	13	10
20	157	3.9	4.3	4.4	5.0	5.0	4.9	9.9	11	11	13	10
21	161	3.9	4.3	4.6	4.9	5.0	4.9	9.9	11	9.2	13	10
22	164	3.9	4.3	4.6	4.9	5.0	4.9	9.9	11	4.9	13	10
23	155	3.9	4.3	4.6	5.0	5.0	4.9	9.9	11	4.9	13	10
24	162	4.1	4.3	4.6	5.0	5.0	4.9	9.9	11	4.9	12	10
25	161	4.1	4.3	4.6	5.0	5.0	4.9	9.9	11	4.9	12	10
26	161	4.1	4.3	4.6	5.0	5.0	4.9	9.9	11	4.9	12	9.9
27	157	4.1	4.3	4.6	5.0	5.0	4.9	9.9	11	4.9	12	9.9
28	157	4.1	4.3	4.6	5.0	4.9	7.1	9.9	11	4.9	12	9.9
29	157	4.1	4.3	4.6	-----	4.9	11	9.9	11	4.9	12	9.9
30	157	4.1	4.3	4.7	-----	4.9	10	9.9	11	4.9	12	10
31	157	-----	4.3	4.6	-----	4.9	-----	9.9	-----	5.0	12	-----
Total	2,360.1	601.0	133.0	133.6	137.8	155.8	160.4	316.5	313.1	279.3	300.7	325.6
Mean	76.1	20.0	4.29	4.47	4.92	5.03	5.35	10.2	10.6	9.01	9.70	10.9
Ac-ft	4,580	1,190	264	275	273	309	318	623	631	554	596	646
Calendar year 1965	Max	1480	Min	3.0	Mean	33.3	Ac-ft	60,640				
Water year 1965-66	Max	165	Min	3.0	Mean	14.3	Ac-ft	10,370				

## SACRAMENTO RIVER BASIN

11-3963.1. Miners Ranch Canal below Ponderosa Dam, near Forbestown, Calif.

Location.--Lat 39°33'00", long 121°18'20", in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.33, T.20 N., R.6 E., on right bank 800 ft downstream from Ponderosa Dam, and 3 miles northwest of Forbestown.

Records available.--October 1962 to September 1966.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 975 ft (from topographic map).

Extremes.--1962-66: Maximum daily discharge, 277 cfs July 22, 1965 (gage height, 3.99 ft); no flow at times in 1962-65.

Remarks.--Records good. Canal diverts from South Fork Feather River at Ponderosa Dam. Water is used for power development and irrigation. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	268	168	234	223	198	98	212	274	261	276	262	261
2	266	165	234	223	219	98	227	274	243	274	158	261
3	268	157	234	223	214	98	203	272	259	271	82	263
4	270	166	234	223	218	98	201	272	258	264	182	264
5	270	188	235	223	226	98	268	272	253	254	264	262
6	270	190	235	222	224	98	272	271	241	268	150	262
7	271	188	236	222	224	120	268	271	261	263	93	263
8	271	180	236	222	223	161	263	267	258	263	192	262
9	271	158	236	228	216	176	254	267	254	264	228	262
10	272	230	236	234	176	176	224	267	258	263	262	262
11	272	231	233	234	164	165	226	267	259	266	264	259
12	240	220	232	234	163	153	228	261	263	270	267	257
13	271	217	229	234	165	198	218	262	262	271	264	261
14	271	226	210	234	134	228	226	263	261	267	259	262
15	271	229	212	234	109	222	240	264	261	271	258	264
16	271	231	190	233	109	215	250	264	261	268	135	264
17	271	230	215	233	109	203	251	257	257	261	259	264
18	271	212	234	230	109	194	213	264	254	262	264	262
19	268	209	234	226	115	213	247	264	258	268	264	262
20	261	229	234	208	137	197	246	266	259	268	264	261
21	170	229	234	209	149	192	246	266	262	264	266	257
22	152	229	227	229	149	178	248	262	262	259	264	259
23	156	232	229	235	149	185	257	258	262	264	261	259
24	156	234	233	234	149	211	262	251	241	262	264	259
25	156	234	232	234	148	226	268	251	266	262	262	259
26	212	232	229	228	148	223	268	261	266	264	264	258
27	30	232	229	192	148	216	271	263	267	271	264	258
28	93	232	227	153	122	208	275	262	272	266	264	263
29	202	232	206	153	-----	221	272	258	267	264	264	246
30	145	232	223	153	-----	226	272	258	253	264	264	247
31	155	-----	223	153	-----	222	-----	258	-----	259	262	-----
Total	6,991	6,342	7,065	6,716	4,614	5,517	7,376	8,187	7,759	8,231	7,270	7,803
Mean	226	211	228	217	165	178	246	264	259	266	235	260
Ac-ft	13,870	12,580	14,010	13,320	9,150	10,940	14,630	16,240	15,400	16,330	14,420	15,480

Calendar year 1965 Max 277 Min 0 Mean 224 Ac-ft 16,250.0

Water year 1965-66 Max 276 Min 30 Mean 230 Ac-ft 16,640.0

11-3963.3. Bangor Canal below Miners Ranch Reservoir, near Oroville, Calif.

Location.--Lat 39°30'15", long 121°27'20", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 18, T.19 N., R.5 E., on left bank 400 ft downstream from outlet at Miners Ranch Dam and 5 miles east of Oroville.

Records available.--January 1963 to September 1966.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 815 ft (from topographic map).

Extremes.--1963-66: Maximum daily discharge, 65 cfs Aug. 17-20, 1963; no flow Jan. 7 to Feb. 2, Nov. 2, 3, Dec. 1-20, 1965.

Remarks.--Records good. Flow regulated by Miners Ranch Reservoir (capacity, 912 acre-ft). Canal completed in November 1962. Water is used for irrigation. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	6.4	0	0.10	0.30	0.20	4.3	23	26	30	27	28
2	28	0	0	1.0	3.0	2.0	6.9	23	26	26	28	28
3	29	0	0	1.0	3.0	2.0	6.6	25	26	25	27	28
4	29	0.8	0	1.0	3.0	2.0	6.6	26	26	26	25	28
5	29	2.5	0	1.0	3.0	2.0	6.9	26	26	27	27	28
6	29	2.1	0	1.0	3.0	2.0	6.9	26	26	27	29	28
7	29	1.9	0	1.0	3.0	2.0	7.2	26	26	27	29	28
8	29	1.9	0	1.0	3.0	2.0	8.6	26	26	27	29	28
9	29	2.3	0	1.0	3.0	2.0	9.8	26	28	27	29	28
10	29	2.3	0	4.0	3.0	2.0	9.8	26	28	28	29	28
11	29	2.3	0	6.0	3.0	2.0	9.8	26	28	28	29	28
12	29	2.7	0	6.0	3.0	2.0	9.8	24	29	29	29	28
13	28	3.2	0	6.0	3.0	2.0	9.8	23	29	29	29	28
14	26	3.0	0	6.0	3.0	2.0	9.5	22	29	29	29	28
15	26	3.0	0	6.0	2.0	2.0	9.2	22	29	29	29	29
16	26	3.0	0	4.0	2.0	2.0	9.2	22	30	29	29	29
17	26	3.0	0	4.0	2.0	2.0	9.2	23	30	29	28	29
18	26	2.5	0	3.0	2.0	2.0	9.2	24	31	29	28	29
19	21	2.3	0	3.0	2.0	2.0	11	24	30	29	28	29
20	19	2.1	0	3.0	2.0	2.0	13	23	30	29	28	29
21	19	2.1	1.0	3.0	2.0	2.0	13	25	29	29	28	29
22	19	2.1	1.0	3.0	2.0	2.0	15	25	29	29	28	28
23	18	2.1	1.0	3.0	2.0	2.0	15	25	28	29	28	28
24	18	2.1	1.0	3.0	2.0	2.0	15	25	27	29	28	29
25	18	2.1	1.0	3.0	2.0	2.0	16	25	27	29	28	29
26	18	2.1	1.0	3.0	2.0	2.0	18	25	28	28	28	28
27	18	2.1	1.0	3.0	2.0	2.0	20	25	28	28	28	28
28	18	2.1	1.0	3.0	2.0	2.0	23	26	29	28	28	28
29	17	2.1	1.0	3.0	-----	2.0	23	26	29	27	28	28
30	17	9.0	1.0	3.0	-----	2.0	23	26	30	27	28	29
31	17	-----	1.0	3.0	-----	2.0	-----	26	-----	27	28	-----
Total	741	671.0	1.10	9.30	7.00	6.20	354.3	765	843	869	873	850
Mean	23.9	22.4	0.04	0.30	0.25	0.20	11.8	24.7	28.1	28.0	28.2	28.3
Ac-ft	1,470	133	2.2	18	14	12	703	1,520	1,670	1,720	1,730	1,690

Calendar year 1965 Max 30 Min 0 Mean 13.4 Ac-ft 9,690

Water year 1965-66 Max 31 Min 0 Mean 14.8 Ac-ft 10,680

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 1962 to September 1966.

Gage.--Water-stage recorder. Altitude of gage 830 ft (from topographic map).

Extremes.--Maximum discharge during year, 660 cfs Jan. 5 (gage height, 4.75 ft); minimum daily, 0.10 cfs Apr. 3, 4.  
1962-66: Maximum discharge, 11,000 cfs Dec. 22, 1964 (gage height, 11.52 ft in gage well, 12.7 ft outside, from floodmarks); minimum daily, that of Apr. 3, 4, 1966.

Remarks.--Records good. Flow regulated by several reservoirs and diversions. Water is imported from North Yuba River basin through Slate Creek Tunnel. Miners Ranch Canal (see sta. no. 11-3963.1) diverts 1,800 ft upstream for power development and irrigation; diversion began in Oct. 28, 1962. See schematic diagram for South Fork Feather River basin. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	0.30	184	304	0.50	0.30	0.20	359	0.40	0.40	0.40	0.60
2	140	.30	187	241	.40	.30	.20	363	.30	.40	.30	.60
3	140	.30	187	235	.30	.30	.10	325	.30	.40	.20	.60
4	140	.30	187	358	.30	.30	.10	359	.30	.40	.30	.60
5	140	.20	184	654	.40	.30	41	355	.30	.30	.30	.60
6	138	.20	159	515	.30	.30	220	355	.30	.30	.30	.40
7	138	.20	175	367	.30	.30	220	355	.30	.40	.30	.40
8	138	.30	181	318	.30	.30	229	359	.30	.40	.30	.50
9	138	.20	184	290	.30	.30	244	359	.30	.40	.40	.50
10	138	55	199	259	.20	.30	335	367	.30	.40	.40	.60
11	138	104	190	185	.30	.30	321	363	.30	.40	.40	.50
12	138	114	202	220	.30	.30	355	367	.30	.40	.40	.40
13	140	113	196	232	.30	.30	332	367	.40	.30	.40	.40
14	138	120	214	121	.30	.20	304	363	.40	.30	.40	.40
15	138	118	169	.40	.30	.20	279	363	.40	.30	.40	.40
16	138	112	174	.40	.30	.20	262	335	.40	.40	.40	.50
17	96	110	214	.30	.30	.20	256	276	.40	.40	.40	.50
18	.40	112	187	.30	.30	.20	293	268	.40	.40	.50	.50
19	.40	223	184	.30	.60	.20	250	241	.40	.40	.40	.50
20	.30	233	184	.30	.40	.20	247	220	.40	.40	.40	.60
21	.20	214	181	.30	.40	.20	238	190	.40	.40	.40	.60
22	.20	214	184	.30	.30	.20	235	193	.40	.40	.40	.60
23	.20	226	187	.30	.30	.20	223	92	.40	.40	.50	.60
24	.20	313	217	.30	.30	.20	217	.40	.40	.40	.50	.60
25	.20	272	272	.30	.30	.20	208	.40	.40	.40	.50	.60
26	.20	238	223	.30	.30	.20	205	.40	.40	.40	.50	.60
27	.20	214	205	.30	.30	.20	233	.40	.40	.40	.50	.40
28	.20	205	238	.30	.30	.20	355	.40	.40	.40	.60	.50
29	.20	196	351	.90	-----	.20	363	.30	.40	.30	.50	.60
30	.30	190	304	.90	-----	.20	363	.30	.40	.30	.50	.60
31	.30	-----	293	.40	-----	.20	-----	.40	-----	.30	.50	-----
Total	2319.50	3713.30	6396	4305.60	9.20	7.50	6833.60	7197.00	10.90	11.60	12.70	15.80
Mean	74.8	124	206	139	0.33	0.24	223	232	0.36	0.37	0.41	0.53
Ac-ft	4,600	7,370	12,590	2,540	13	15	13,550	14,280	22	23	25	31
Mean†	300	335	434	356	165	173	474	496	259	266	235	261
Ac-ft†	18,470	12,350	26,700	21,860	9,170	10,960	28,180	30,520	15,420	16,350	14,440	15,510

Calendar year 1965 Max 3,780 Min 0.2 Mean 230 Ac-ft 202,700 Mean† 504 Ac-ft† 365,200  
Water year 1965-66 Max 654 Min 0.1 Mean 244.5 Ac-ft 61,120 Mean† 314 Ac-ft† 227,500

† Adjusted for diversion to Miners Ranch Canal.



11-3964. Sucker Run near Forbestown, Calif.

Location.--Lat 39°33'12", long 121°18'04", NW 1/4 sec. 33, T.20 N., R.6 E., on left bank at upstream side of road bridge, 0.7 mile upstream from confluence with South Fork Feather River, and 2.8 miles northwest of Forbestown.

Drainage area.--18.7 sq mi.

Records available.--June 1965 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 960 ft (from topographic map).

Extremes.--Maximum discharge during year, 331 cfs Jan. 4 (gage height, 3.97 ft); minimum daily, 0.8 cfs Aug. 21, Sept. 6. Flood of Dec. 22, 1964 reached a stage of 7.4 ft from floodmarks (discharge, 1,260 cfs, from computation of critical depth flow over the rock control).

Records.--Records fair through June 30, poor thereafter. No storage or diversions above station. See schematic diagram for South Fork Feather River basin.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.2	4.6	9.2	24	25	20	15	11	6.4	2.7	2.2	2.0
2	5.0	4.5	8.7	20	24	19	15	10	6.0	3.1	1.9	1.6
3	4.8	4.9	8.5	19	22	18	14	9.9	6.0	3.6	1.4	1.6
4	4.4	4.7	8.2	139	33	18	13	9.7	5.6	3.5	1.3	1.4
5	4.2	5.0	8.5	205	43	18	12	9.4	5.6	3.3	1.4	1.4
6	4.8	5.3	8.9	96	46	19	12	10	5.8	3.0	1.8	1.80
7	4.1	5.6	8.4	53	33	23	12	10	6.1	2.6	1.4	1.4
8	4.0	11	8.0	41	28	20	11	10	5.8	2.5	1.6	1.6
9	4.1	7.9	7.6	35	25	28	16	10	5.2	2.4	1.8	1.2
10	4.1	6.0	7.2	29	23	39	35	14	4.7	2.4	2.1	1.5
11	4.2	5.8	8.2	26	22	28	28	12	4.5	2.0	1.3	1.6
12	4.1	8.4	9.2	23	20	26	43	11	4.4	2.5	1.4	1.5
13	4.1	11	8.0	22	19	38	27	11	4.1	2.9	1.4	1.6
14	4.4	25	8.0	21	19	29	22	10	3.9	2.9	1.0	1.9
15	6.7	11	8.5	19	18	27	18	10	3.6	2.4	1.1	1.6
16	5.9	7.7	8.0	19	17	28	16	9.3	3.2	2.3	1.3	1.0
17	5.6	53	8.2	18	17	23	17	8.9	3.1	2.7	1.2	1.1
18	5.5	51	8.4	17	17	22	17	8.0	3.4	2.6	1.4	1.7
19	5.4	19	8.4	16	26	26	16	7.3	3.3	2.5	1.6	1.8
20	4.4	11	8.2	15	24	23	16	7.2	2.9	2.0	1.4	1.3
21	4.6	9.2	8.2	15	20	21	15	7.2	3.4	1.4	1.80	1.2
22	4.3	8.5	8.2	15	19	19	14	7.6	3.4	1.3	1.0	1.1
23	4.2	15	8.0	15	24	19	13	7.6	3.6	1.4	1.2	1.0
24	4.5	59	33	15	26	19	13	7.1	3.2	1.4	1.3	1.3
25	3.9	25	39	14	25	18	12	6.9	3.3	1.3	1.4	1.3
26	2.7	16	18	13	24	18	11	6.6	3.1	1.3	1.6	1.1
27	4.0	14	14	14	21	18	11	6.4	3.0	1.8	1.8	1.0
28	4.4	12	44	13	23	18	11	6.2	3.1	1.6	1.4	1.0
29	4.2	10	55	21	-----	17	11	6.2	2.7	1.6	1.2	1.0
30	4.4	9.7	41	30	-----	16	11	6.2	2.6	2.4	1.5	1.1
31	4.7	-----	35	24	-----	16	-----	6.4	-----	3.9	2.1	-----
TOTAL	141.9	440.8	469.7	1,046	683	691	497	273.1	125.0	73.3	45.30	40.70
MEAN	4.58	14.7	15.2	33.7	24.4	22.3	16.6	8.81	4.17	2.37	1.46	1.36
AC-FT	281	874	932	2,070	1,350	1,370	986	542	248	145	90	81

CALENDAR YEAR 1965 MAX - MIN - MEAN - AC-FT -  
 WATER YEAR 1965-66 MAX 205 MIN .80 MEAN 12.4 AC-FT 8,970

Peak discharge (base, 300 cfs).--Jan. 4 (2045 hrs) 331 cfs (3.97 ft).

## SACRAMENTO RIVER BASIN

11-3970. South Fork Feather River at Enterprise, Calif.

Location.--Lat 39°32'15", long 121°20'45", in NW¼ 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 1966 (discontinued). 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.--55 years, 303 cfs (219,400 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 1,200 cfs Jan. 4 (gage height, 7.06 ft); minimum daily, 2.1 cfs Sept. 28, 29.

1911-66: Maximum discharge, 19,200 cfs Dec. 22, 1955 (gage height, 21.60 ft), from rating curve extended above 5,700 cfs on basis of computation of maximum 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 sta. no. 11-3950.2), Sly Creek Reservoir (see sta. no. 11-3954.) and smaller reservoirs. Water from North Yuba River basin is diverted into Sly Creek Reservoir through Slate Creek Tunnel. Oroville-Wyandotte Canal (see sta. no. 11-3955.) diverts above station for irrigation of about 4,500 acres in Oroville-Wyandotte Irrigation District. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	4.4	222	340	39	23	18	375	9.6	4.8	3.2	3.2
2	147	4.2	222	264	35	22	16	378	9.6	4.6	3.0	3.0
3	149	4.4	220	258	31	20	17	341	9.6	4.6	2.7	2.8
4	149	4.4	218	586	44	20	16	378	9.6	4.6	2.4	2.7
5	147	4.4	218	253	60	20	54	370	9.6	4.0	2.6	2.7
6	147	4.6	196	623	64	20	226	370	9.6	3.8	2.6	2.4
7	147	4.8	208	455	49	26	228	370	10	3.8	2.4	2.4
8	147	7.1	212	375	40	22	234	372	10	3.8	2.4	2.6
9	147	7.7	212	335	34	29	254	375	9.6	4.0	2.6	2.7
10	147	59	224	298	30	50	375	382	8.0	4.0	2.8	2.7
11	147	121	222	227	28	33	342	375	7.7	4.0	2.8	2.8
12	149	132	240	254	26	30	325	373	7.7	4.0	2.8	2.7
13	149	140	226	258	24	47	365	378	7.1	4.2	2.8	2.7
14	149	158	244	152	24	35	320	375	6.8	4.4	2.8	2.8
15	150	140	202	25	22	32	290	372	6.5	4.6	2.7	3.0
16	150	132	200	22	21	33	272	350	6.2	4.6	2.7	2.8
17	119	197	240	22	21	27	264	280	5.9	4.2	2.8	2.8
18	6.8	221	212	20	20	26	305	272	5.9	4.2	3.0	3.0
19	5.9	277	210	20	36	30	258	254	5.6	4.2	3.0	3.4
20	4.8	268	210	13	32	27	256	228	5.6	4.0	3.0	3.2
21	4.4	244	210	18	26	24	248	202	5.9	4.2	2.8	3.0
22	4.4	240	216	18	24	23	246	207	6.2	4.2	2.7	3.0
23	4.4	260	210	18	29	22	232	126	6.2	3.8	2.7	3.0
24	4.2	438	293	18	34	22	226	11	5.6	3.6	2.7	3.0
25	4.2	338	340	18	32	22	216	10	5.6	3.6	2.7	2.6
26	4.2	280	248	16	32	21	214	9.6	5.3	3.2	2.8	2.7
27	4.2	256	228	16	26	21	242	9.6	4.8	3.2	3.0	2.6
28	4.2	242	317	15	24	20	375	9.2	4.8	3.4	3.0	2.1
29	4.2	230	440	31	-----	20	380	9.2	4.8	3.2	2.7	2.1
30	4.2	226	372	51	-----	19	378	9.2	4.4	3.4	2.7	2.2
31	4.2	-----	350	35	-----	19	-----	9.6	-----	3.8	3.0	-----
Total	2,551.3	4,645.0	7,582	5,759	906	905	7,262	7,585.4	213.8	124.0	85.9	82.7
Mean	82.3	155	245	186	32.4	26.0	242	245	7.13	4.00	2.77	2.76
Ac-ft	5,060	9,210	15,040	11,420	1,800	1,600	14,400	15,050	424	246	170	164

Calendar year 1965 Max 5,060 Min 4.2 Mean 319 Ac-ft 230,300  
 Water year 1965-66 Max 353 Min 2.1 Mean 103 Ac-ft 74,580

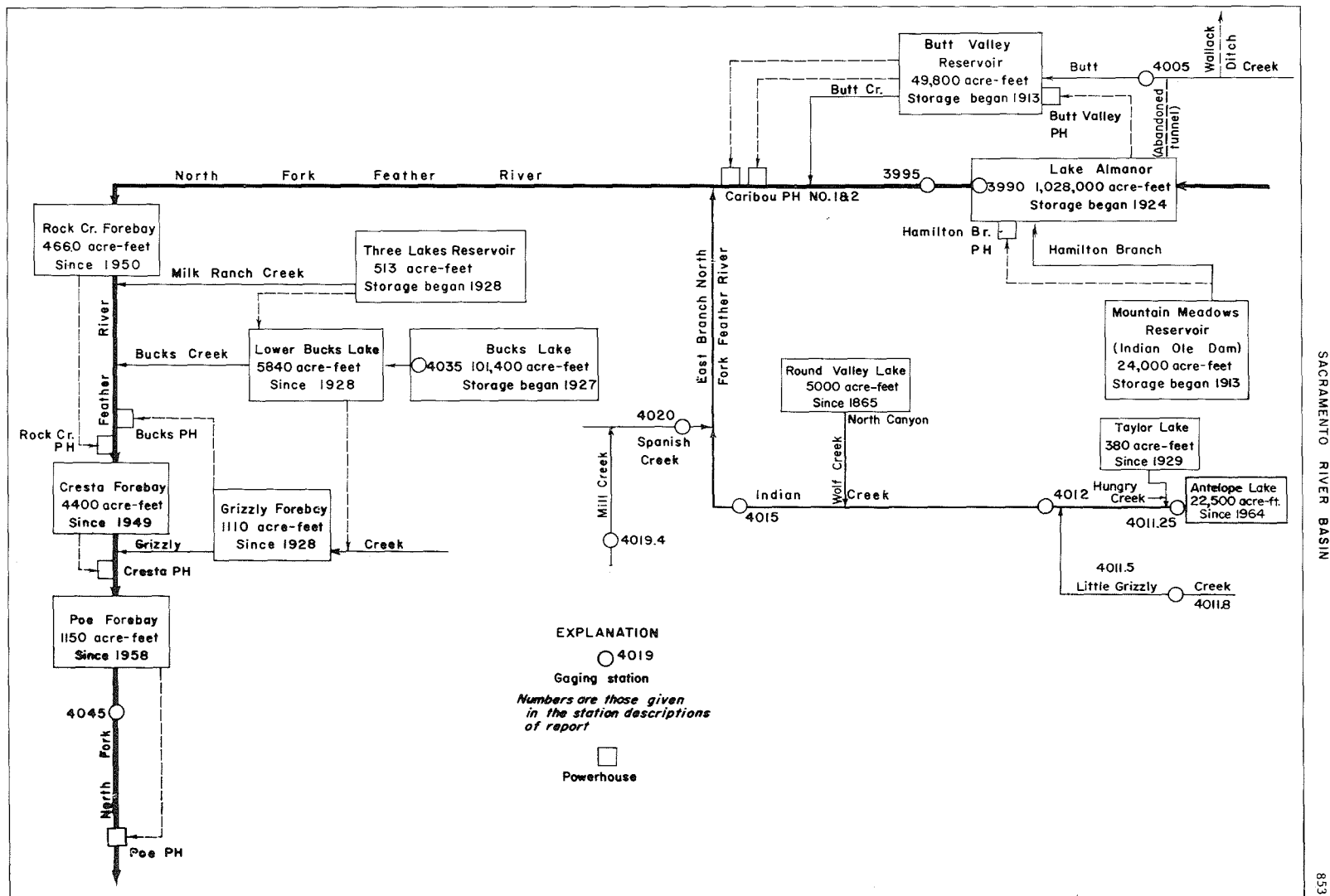


Figure 8.-- Schematic diagram showing diversions and storage in North Fork Feather River basin.

## 11-3990. Lake Almanor at Prattville, Calif.

Location.--Lat 40°12'50", long 121°09'40", in SW¼NE¼ sec.11 T.27 N., R.7 E., at outlet tower to No. 2 tunnel on North Fork Feather River at Prattville, 4.7 miles northwest of Lake Almanor Dam and 5.6 miles northwest of Canyon Dam.

Drainage area.--491 sq mi.

Records available.--July 1913 to September 1966. Monthly contents only for some periods, published in WSP 1315-A. Published as "near Prattville" 1937-64. Prior to October 1964, records published as usable contents.

Gage.--Telemark gage monitored once daily. Datum of gage is 10.23 ft below mean sea level (levels by Pacific Gas & Electric Co.). Prior to June 1, 1965, staff gage at site 4.7 miles southeast at same datum.

Extremes.--Maximum contents observed during year, 811,300 acre-ft June 12 (gage height, 4,481.01 ft); minimum observed 604,800 acre-ft Jan. 29 (gage height, 4,471.88 ft).

1913-66; Maximum contents, 1,039,900 acre-ft June 10, 1965 (gage height, 4,490.14 ft); minimum, 5,230 acre-ft Feb. 5, 1918 (gage height, 4,416.1 ft).

Remarks.--Lake is formed by earth-fill dam; storage began in July 1913; dam raised to gage height 4,455 ft in 1917 and to 4,515 ft in 1927. Capacity, 1,036,000 acre-ft between gage heights 4,490 (upper storage limit) and 4,422 ft (bottom of lowest outlet) of which 8,950 acre-ft is not available for release. Water is diverted by tunnel and penstock to Butt Valley Reservoir and power house for use in Caribou powerplants; some water also released down North Fork Feather River (see sta 11-3995). Figures given herein represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

Cooperation.--Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	808.9	707.9	668.4	623.1	606.9	611.3	656.1	730.7	796.5	773.9	689.0	619.1
2	806.3	703.9	667.1	621.6	605.8	610.9	658.7	733.0	797.9	772.0	686.1	617.8
3	803.9	700.2	666.4	622.3	606.7	610.5	660.9	735.8	799.4	769.9	683.2	618.4
4	801.3	696.6	664.7	622.9	607.9	611.6	662.9	739.0	800.3	767.3	679.8	618.8
5	798.9	692.6	663.1	624.2	609.0	611.6	665.3	740.6	801.7	765.0	676.9	619.5
6	796.0	688.8	661.1	624.9	610.7	613.0	667.6	744.1	802.9	761.5	675.1	620.1
7	793.9	685.6	659.4	626.4	611.8	612.0	670.0	746.9	805.1	758.9	672.2	620.6
8	791.3	682.7	657.2	625.5	611.6	613.5	672.4	750.3	806.3	756.1	670.2	621.0
9	788.9	679.8	655.4	624.9	611.6	615.0	676.0	753.4	807.9	753.1	666.9	621.6
10	786.6	677.6	653.6	627.9	612.0	616.3	680.5	756.6	808.9	750.3	663.8	622.1
11	784.2	675.6	652.1	629.2	611.1	617.8	683.4	758.9	810.3	747.6	660.5	622.3
12	781.6	674.2	650.3	630.1	610.7	619.9	685.6	761.5	811.3	745.0	657.6	622.7
13	779.3	674.0	648.6	628.1	611.3	622.1	688.1	764.1	811.0	742.3	655.2	623.4
14	776.7	677.3	647.5	626.0	610.7	624.2	690.3	766.6	810.3	739.5	652.3	623.8
15	773.2	679.1	646.0	626.4	609.4	626.4	692.6	769.0	809.4	736.5	649.2	624.4
16	768.5	679.1	643.5	624.4	609.4	628.3	695.1	771.3	807.0	733.5	645.7	624.7
17	765.0	683.6	640.9	622.9	608.4	629.6	698.2	773.7	804.4	730.7	643.1	625.3
18	761.0	688.8	639.0	621.4	607.9	630.9	700.7	775.5	802.2	728.0	641.8	626.4
19	756.8	689.2	636.6	620.1	609.2	632.9	702.7	777.6	799.1	725.5	642.2	626.6
20	752.7	688.8	635.1	618.4	608.8	634.4	704.8	779.8	796.8	723.6	640.7	627.5
21	749.6	687.2	630.5	616.7	607.9	635.9	707.3	781.2	793.7	721.1	638.1	628.1
22	745.5	684.3	626.6	615.2	608.8	637.0	709.1	783.3	791.1	717.9	635.5	628.5
23	741.8	683.8	623.8	613.3	610.5	638.5	711.3	784.7	788.9	715.2	633.7	629.2
24	737.9	683.6	621.9	611.3	612.0	639.8	713.8	786.1	786.8	711.6	631.6	629.6
25	733.7	680.7	621.9	609.4	611.6	641.6	716.6	787.5	784.5	708.8	628.5	630.3
26	730.5	678.7	623.8	607.7	611.8	643.3	719.5	789.2	782.6	705.4	627.5	630.3
27	726.6	675.8	621.9	606.0	612.8	645.1	721.4	790.6	780.5	702.5	626.8	630.1
28	723.2	672.7	624.2	605.2	612.2	647.0	723.6	791.8	779.3	699.6	626.8	628.5
29	719.1	670.4	623.8	604.8	-----	649.0	725.7	793.4	778.6	696.9	623.6	627.7
30	715.4	669.5	624.0	607.3	-----	651.2	728.2	794.4	776.2	693.7	621.0	628.3
31	711.3	-----	624.4	606.5	-----	653.6	-----	795.8	-----	691.9	619.9	-----
(+)	4,476.72	4,474.86	4,472.80	4,471.96	4,472.23	4,474.14	4,477.46	4,480.36	4,479.53	4,475.86	4,472.59	4,472.98
(+)	-100,000	-41,800	-45,100	-17,900	+5,700	+41,400	+74,600	+67,600	-19,600	-84,300	-72,000	+8,400

Calendar year 1965..... +31,700

Water year 1965-66..... +183,000

† 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 NE¼SW¼ 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 1966 (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, (unpublished prior to 1936 and since 1964), and Butt Creek below Almanor-Butt Creek tunnel (unpublished prior to 1936 and 1960-64).

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.--61 years, 893 cfs (646,500 acre-ft per year), adjusted for diversion and leakage.

Extremes.--Maximum daily discharge during year, 37 cfs May 21-25; minimum daily, 23 cfs Sept. 1. Extremes do not include diversions through Butt Valley powerhouse.

1905-66: 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 (see sta 11-3990) and Mountain Meadows Reservoir since 1924 (capacity, 24,000 acre-ft). 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. See schematic diagram of North Fork Feather River basin.

Cooperation.--Gage-height record, 10 discharge measurements, and diversion through Butt Valley powerhouse furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	34	35	35	35	35	36	36	36	36	35	23
2	35	35	35	35	35	35	36	36	36	36	35	35
3	35	35	35	35	35	35	36	36	36	36	35	35
4	35	35	35	35	35	35	36	36	36	36	35	35
5	35	35	35	35	35	35	36	36	36	35	35	35
6	35	35	34	35	35	35	36	36	36	35	35	36
7	35	35	34	34	35	35	36	36	36	35	35	36
8	35	35	34	34	35	35	36	36	36	35	35	26
9	35	35	34	34	35	35	36	36	36	35	35	26
10	35	35	35	35	35	35	36	36	36	35	36	36
11	35	35	36	36	35	36	36	36	36	35	36	35
12	35	35	35	36	35	36	36	36	36	36	36	35
13	35	35	35	36	35	36	36	36	36	36	36	35
14	35	35	35	36	35	36	36	36	36	35	36	35
15	35	35	35	35	35	36	36	36	36	35	36	35
16	35	35	35	35	35	36	36	36	36	35	36	35
17	34	35	35	35	35	36	36	36	36	35	36	35
18	34	35	35	35	35	36	36	36	36	35	36	35
19	34	35	35	35	35	36	36	36	36	35	36	35
20	34	35	35	35	35	36	36	36	36	36	36	35
21	34	35	36	35	35	36	36	37	36	36	36	35
22	35	35	36	35	35	36	36	37	36	36	36	35
23	35	35	36	35	35	36	36	37	36	36	36	35
24	35	35	36	35	35	36	36	37	36	36	36	35
25	35	35	36	35	35	36	36	37	36	35	35	35
26	35	35	36	34	35	36	36	36	36	35	35	35
27	35	35	36	34	35	36	36	36	36	35	35	35
28	34	35	35	34	35	36	36	36	36	35	35	35
29	34	35	35	34	-----	36	36	36	36	35	35	35
30	34	35	35	35	-----	36	36	36	36	35	35	35
31	34	-----	35	35	-----	36	-----	36	-----	35	26	-----
Total	1,076	1,049	1,089	1,082	980	1,106	1,080	1,121	1,080	1,094	1,091	1,023
Mean	34.7	35.0	35.1	34.9	35.0	35.7	36.0	36.2	36.0	35.3	35.2	34.1
Ac-ft	2,130	2,080	2,160	2,150	1,940	2,190	2,140	2,220	2,140	2,170	2,160	2,030
Mean†	1,880	1,542	1,356	922	492	186	49.8	49.3	862	1,672	1,450	185
Ac-ft†	115,600	91,740	83,380	56,660	27,340	11,430	2,960	3,030	51,280	102,800	89,150	10,980
Calendar year 1965	Max 38	Min 34	Mean 35.1	Ac-ft 25,450	Mean† 1,022	Ac-ft† 739,900						
Water year 1965-66	Max 37	Min 23	Mean 35.3	Ac-ft 25,530	Mean† 893	Ac-ft† 646,400						

† Adjusted for diversion through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel No. 1.



11-4011.25. Indian Creek near Boulder Creek Guard Station, near Taylorsville, Calif.

Location.--Lat 40°10'00", long 120°36'57", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 27, T.27 N., R.12 E., on right bank 1.0 mile upstream from Cold Stream, 2.2 miles south of Boulder Creek Guard Station, 11 miles northeast of Genesee, and 13.5 miles northeast of Taylorsville.

Drainage area.--70.8 sq mi.

Records available.--October 1965 to September 1966. June 1961 to September 1965 in reports of California Department of Water Resources.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,800 ft (from topographic map).

Extremes.--Maximum discharge during year, 142 cfs Apr. 6 (gage height, 4.73 ft); minimum daily, 3.7 cfs Sept. 14-18.

Remarks.--Flow regulated by Antelope Lake (capacity, 22,500 acre-ft) since Nov. 25, 1963 and storage in Taylor Lake since 1929 (capacity, 380 acre-ft). Some diversions for irrigation upstream. See schematic diagram for North Fork Feather River basin.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	9.8	9.8	9.8	9.8	10	11	77	17	14	9.9	9.8
2	10	9.8	9.8	9.8	9.8	10	11	75	21	9.8	9.9	9.8
3	10	9.8	9.8	9.8	9.8	10	11	74	21	9.8	9.8	9.8
4	10	9.8	9.8	9.8	9.8	10	11	72	20	9.8	9.7	9.8
5	10	9.8	9.8	9.8	9.8	10	11	75	20	9.7	9.7	9.8
6	10	9.8	9.8	9.8	10	10	23	70	20	9.8	9.7	9.8
7	10	9.8	9.8	9.8	10	10	23	64	20	9.8	9.7	9.8
8	10	10	9.8	10	10	11	27	60	20	9.7	9.7	9.8
9	10	9.8	9.8	10	10	11	23	53	20	9.7	9.8	9.8
10	10	9.8	9.8	10	10	11	24	72	20	9.7	9.7	9.8
11	10	9.8	9.8	10	10	11	23	65	20	9.7	9.7	9.8
12	10	9.8	9.8	10	10	11	23	56	20	9.7	9.7	9.8
13	10	9.8	9.8	10	9.8	12	22	48	20	9.5	9.8	7.4
14	11	10	9.8	10	9.8	12	22	43	20	9.4	9.8	3.7
15	11	9.8	9.8	10	9.8	12	36	38	20	9.4	9.8	3.7
16	11	9.8	9.8	10	9.8	11	58	34	20	9.4	9.7	3.7
17	11	11	9.8	9.8	10	11	86	30	20	9.4	9.8	3.7
18	11	11	9.8	9.8	10	11	113	27	20	9.4	9.8	3.7
19	11	10	9.8	9.8	10	11	114	25	20	9.3	9.9	7.8
20	11	10	9.8	9.8	10	11	104	23	20	9.2	10	11
21	11	9.8	9.8	9.8	10	11	100	21	20	9.2	10	11
22	11	9.8	9.8	9.8	10	11	96	19	20	9.4	10	11
23	11	10	9.8	9.8	10	11	94	17	20	9.5	9.9	11
24	11	10	9.8	9.8	10	11	93	18	20	9.5	9.8	11
25	11	10	9.8	9.8	10	11	106	19	20	9.4	9.8	11
26	11	10	9.8	9.8	10	11	99	17	20	9.5	9.8	10
27	11	10	9.8	9.8	10	11	89	17	20	9.6	9.8	10
28	10	10	9.8	9.8	10	11	84	18	20	9.7	9.8	10
29	10	9.8	9.8	9.8	-----	11	81	16	20	9.7	9.8	10
30	10	9.8	9.8	9.8	-----	12	79	15	20	9.8	9.8	10
31	10	-----	9.8	9.8	-----	12	-----	13	-----	9.7	9.8	-----
Total	324	293.4	303.8	305.6	273.2	339	1,702	1,277	599	301.2	303.9	267.3
Mean	10.5	9.95	9.80	9.86	9.94	10.9	56.7	41.2	20.0	9.72	9.80	8.91
Ac-ft	643	592	603	606	552	672	3,380	2,530	1,190	597	603	530
Calendar year 1965	Max	463	Min	4.5	Mean	83.4	Ac-ft	60,400				
Water year 1965-66	Max	114	Min	3.7	Mean	17.3	Ac-ft	12,490				

## SACRAMENTO RIVER BASIN

11-4011.8. Little Grizzly Creek near Genesee, Calif.

Location.--Lat 40°00'55", long 120°45'10", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.21, T.25 N., R.11 E., on right bank 2.5 miles upstream from Indian Creek, and 2 miles south of Genesee.

Drainage area.--29.6 sq mi.

Records available.--August 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,180 ft (from topographic map).

Extremes.--Maximum discharge during year, 235 cfs May 10 (gage height, 3.22 ft), minimum daily, 3.5 cfs Sept. 10, 11, 30.  
1964-66: Maximum discharge, 1,600 cfs Dec. 23, 1964 (gage height, 5.90 ft), from rating curve extended above 200 cfs on basis of slope-area measurement of maximum flow; minimum daily, that of Sept. 10, 11, 30, 1966.

Remarks.--Records good. Records of water temperatures for the water year 1966 are published in Part 2 of this report. See schematic diagram for North Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.7	6.4	1.0	8.6	9.8	1.2	11.1	9.3	2.9	8.9	5.0	4.2
2	7.7	6.2	9.8	9.2	9.5	1.2	11.3	10.0	2.7	8.9	4.8	4.0
3	7.7	6.2	9.8	8.3	9.5	1.1	10.6	10.9	2.6	8.9	4.6	3.8
4	7.7	6.2	1.0	1.2	9.8	1.1	9.6	12.7	2.4	8.6	4.5	3.8
5	7.7	6.2	1.1	1.5	1.0	1.1	10.0	1.47	2.4	8.3	4.5	3.8
6	7.7	6.2	1.1	2.0	1.1	1.4	10.8	1.37	2.4	8.0	4.3	3.8
7	7.7	6.4	1.0	2.0	1.1	1.4	11.4	12.7	2.4	7.7	4.3	3.7
8	7.4	12.0	1.1	1.9	1.1	1.5	11.3	12.7	2.2	7.7	4.3	3.7
9	7.4	8.6	1.0	1.9	1.1	2.2	10.8	1.37	2.1	7.7	4.3	3.7
10	7.4	7.4	1.0	1.6	1.0	3.8	12.1	1.76	1.9	8.0	4.2	3.5
11	7.4	7.4	9.8	1.5	1.0	3.6	10.3	1.47	1.7	7.7	4.2	3.5
12	7.4	8.3	9.5	1.3	1.0	3.3	9.0	1.20	1.6	7.7	4.2	3.8
13	7.7	8.3	9.2	1.3	1.0	6.2	8.3	10.8	1.6	7.4	4.2	4.2
14	8.0	1.8	8.0	1.2	1.0	6.1	8.2	9.6	1.6	7.1	4.2	4.3
15	8.3	1.3	8.0	1.2	1.0	4.8	8.7	8.6	1.6	7.1	4.2	4.0
16	7.7	1.0	8.0	1.2	1.0	3.7	10.8	7.9	1.5	6.9	4.0	3.8
17	7.7	2.5	7.7	1.2	1.0	3.0	13.6	7.2	1.4	6.6	4.2	3.7
18	7.7	3.9	9.2	1.2	1.0	2.7	13.7	6.6	1.3	6.6	4.0	4.0
19	7.7	2.1	8.6	1.1	1.0	2.7	10.9	6.2	1.3	6.2	3.8	4.5
20	7.7	1.6	8.9	1.1	1.1	2.6	9.2	6.0	1.3	6.4	3.8	4.2
21	7.4	1.3	9.8	1.2	1.1	2.6	8.6	5.7	1.3	6.0	3.8	3.8
22	7.4	1.2	8.9	1.2	1.2	2.5	8.2	5.3	1.3	6.0	3.8	3.7
23	7.1	1.2	7.7	1.1	1.3	2.4	8.3	4.9	1.3	6.0	3.8	3.7
24	6.9	1.4	8.3	1.0	1.4	2.7	9.2	4.6	1.2	5.5	3.8	3.7
25	6.9	1.3	1.0	1.0	1.4	3.1	10.4	4.2	1.1	5.5	3.7	3.7
26	6.9	1.3	8.0	1.0	1.3	3.6	11.4	4.0	1.1	5.3	3.8	3.7
27	6.9	1.2	8.0	9.8	1.3	4.3	10.3	3.8	1.0	4.8	4.2	3.7
28	6.6	1.0	9.2	9.5	1.2	5.3	9.6	3.5	9.8	4.8	4.0	3.7
29	6.4	1.1	1.1	9.8	-----	6.4	9.2	3.3	9.5	4.8	4.0	3.7
30	6.4	1.0	9.2	1.0	-----	7.2	9.0	3.2	9.2	5.0	4.2	3.5
31	6.4	-----	8.9	1.0	-----	8.6	-----	3.1	-----	5.5	4.3	-----
Total	228.7	357.8	288.5	384.2	305.6	103.4	305.9	263.2	500.5	211.6	129.0	114.9
Mean	7.38	11.9	9.31	12.4	10.9	3.34	10.2	8.49	16.7	6.83	4.16	3.83
Ac-ft	45.4	71.0	57.2	76.2	60.6	20.50	60.70	52.20	99.3	42.0	25.6	22.8

Calendar year 1965 Max 43.4 Min 6.2 Mean 66.0 Ac-ft 47,800

Water year 1965-66 Max 17.6 Min 3.5 Mean 25.3 Ac-ft 18,340

Peak discharge (base, 300 cfs).--No peak above base.



11-4012. Indian Creek near Taylorsville, Calif.

Location.--Lat 40°02'55", long 120°48'55", in SE  $\frac{1}{4}$  NW  $\frac{1}{4}$  sec. 12, T.25 N., R.10 E., on right bank 0.3 mile upstream from Montgomery Creek and 2.3 miles southeast of Taylorsville.

Drainage area.--526 sq mi.

Records available.--May 1957 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,580 ft (from topographic map). Prior to Oct. 22, 1963, at site 1.0 mile downstream at different datum.

Average discharge.--9 years, 330 cfs (238,900 acre-ft per year).

Extremes.--Maximum discharge during year, 996 cfs Mar. 15 (gage height, 7.59 ft); minimum daily, 26 cfs Sept. 5, 6.

1957-66: Maximum discharge, 30,200 cfs Feb. 1, 1963 (gage height, 10.65 ft, site and datum then in use), from rating extended above 3,000 cfs on basis of slope-area measurements at gage heights 10.3 and 10.65 ft; minimum daily, 13 cfs Aug. 2-4, 1961.

Flood of Dec. 23, 1955, reached a stage of 11.5 ft from floodmarks, site and datum then in use (discharge, unknown).

Remarks.--Flow regulated by Antelope Lake (capacity, 22,500 acre-ft) beginning Nov. 25, 1963 and storage in Taylor Lake since 1929 (capacity, 380 acre-ft). Some diversions for irrigation upstream. See schematic diagram for North Fork Feather River basin.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	56	86	30	91	106	791	340	113	60	43	31
2	64	56	87	79	83	99	306	333	113	52	43	30
3	59	55	85	89	92	83	724	343	104	49	41	23
4	53	56	90	107	92	91	643	358	99	43	41	27
5	57	54	83	151	97	105	596	387	94	46	40	26
6	56	59	85	134	103	100	600	386	95	47	39	26
7	55	59	83	176	93	115	606	352	102	46	37	31
8	54	71	83	172	89	131	581	339	100	45	36	33
9	53	63	85	170	103	153	554	352	101	45	36	32
10	54	66	85	157	97	244	717	629	94	46	35	32
11	54	62	83	146	85	281	721	500	91	46	37	32
12	54	64	85	133	99	320	611	389	87	44	36	32
13	54	67	86	131	31	594	526	340	85	44	35	32
14	54	91	76	125	90	343	479	301	83	43	35	33
15	56	90	63	124	91	793	475	280	82	44	35	31
16	56	83	71	119	86	580	509	263	73	44	35	30
17	55	109	66	112	89	413	565	240	77	43	35	30
18	56	203	70	112	91	413	627	218	80	43	34	29
19	56	173	72	111	92	497	555	199	77	43	33	31
20	57	124	67	97	91	432	490	189	74	43	32	34
21	56	104	70	104	90	423	458	185	69	41	33	37
22	54	94	83	111	95	451	435	179	69	42	32	38
23	55	93	69	100	100	420	417	163	69	41	31	37
24	54	119	84	93	109	484	409	153	70	42	32	36
25	53	110	86	95	102	565	428	147	65	39	32	36
26	53	96	83	96	102	613	439	133	64	39	31	37
27	54	97	81	91	93	681	403	132	62	40	31	37
28	55	86	90	87	101	719	374	127	63	39	31	37
29	56	90	85	95	-----	741	353	120	62	39	30	35
30	57	93	88	95	-----	759	346	113	62	39	31	36
31	56	-----	85	91	-----	766	-----	115	-----	42	32	-----
Total	1,734	2,653	2,505	3,648	2,642	13,030	16,233	9,315	2,484	1,364	1,084	975
Mean	55.9	83.4	80.8	113	94.4	420	541	263	82.8	44.0	35.0	32.5
Ac-ft	3,440	5,260	4,970	7,240	5,240	25,350	32,210	16,490	4,930	2,710	2,150	1,940

Calendar year 1965 Max 3,100 Min 53 Mean 549 Ac-ft 397,500  
 Water year 1965-66 Max 343 Min 26 Mean 155 Ac-ft 112,400

11-4015. Indian Creek near Crescent Mills, Calif.

Location.--Lat 40°04'20", long 120°55'35", in SW $\frac{1}{4}$ 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 Crescent Mills.

Drainage area.--739 sq mi.

Records available.--January 1906 to December 1909, September 1911 to March 1918, October 1930 to September 1966.

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.--45 years (1906-9, 1911-17, 1930-66), 531 cfs (384,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,820 cfs Mar. 14 (gage height, 6.25 ft); minimum daily, 9.2 cfs Aug. 26.

1906-9, 1911-18, 1930-66: Maximum discharge observed, 25,000 cfs Mar. 19, 1907 (gage height, 20.2 ft, site and datum then in use); minimum, 1.7 cfs Aug. 25, 1931.

Remarks.--Records good. Natural flow affected by storage in Round Valley Reservoir since 1865 (capacity, 5,000 acre-ft), Taylor Lake since 1929 (capacity, 380 acre-ft), and Antelope Lake since November 1963 (capacity, 22,500 acre-ft). Diversions above station for irrigation of about 11,800 acres, of which 9,700 acres is in Indian and Genesee Valleys. See schematic diagram for North Fork Feather River basin. Records of chemical analyses, water temperatures, and suspended sediment loads at or near this gaging station for the water year 1966 are published in Part 2 of this report.

Revisions (water years).--1965 report: 1956(M), 1958(M).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	81	83	166	147	202	240	1,490	416	98	23	16	13
2	83	83	162	138	190	226	1,530	407	91	19	14	17
3	76	83	158	160	188	204	1,370	410	91	19	15	17
4	71	84	162	246	200	196	1,170	431	89	25	13	16
5	68	87	166	656	232	224	1,080	492	81	22	10	16
6	69	87	160	875	282	218	1,060	488	84	17	9.5	16
7	69	90	156	728	252	252	1,080	425	92	16	11	16
8	68	102	152	600	214	278	1,020	404	91	16	10	15
9	62	98	156	520	220	341	974	410	90	15	10	14
10	63	94	154	410	210	540	1,320	692	81	14	12	14
11	67	96	154	350	180	656	1,380	680	68	17	11	10
12	64	100	154	292	198	656	1,180	480	71	14	11	10
13	63	135	150	266	170	1,170	992	404	67	13	13	10
14	65	280	138	252	174	1,610	890	356	66	12	13	14
15	79	255	112	248	178	1,470	860	329	58	13	14	16
16	83	200	121	244	170	1,190	890	295	54	14	14	17
17	80	370	111	226	174	805	974	260	51	18	10	12
18	74	810	111	214	180	748	1,050	238	56	20	11	11
19	79	500	115	210	206	825	915	212	61	12	11	16
20	92	300	104	188	224	752	784	200	57	11	11	18
21	87	216	104	180	216	728	724	188	47	11	15	18
22	85	180	122	200	224	740	680	184	41	17	16	14
23	85	194	101	190	266	716	648	168	49	16	13	18
24	84	433	130	186	310	756	632	147	49	15	10	20
25	85	353	166	178	282	865	652	136	44	16	10	18
26	84	262	136	180	258	962	660	132	36	15	9.2	18
27	83	226	135	172	242	1,090	588	126	31	17	14	20
28	81	196	186	160	238	1,230	540	112	28	15	15	19
29	81	180	224	176	-----	1,310	464	107	28	14	13	19
30	83	184	190	214	-----	1,380	410	105	28	16	15	21
31	83	-----	166	212	-----	1,420	-----	104	-----	19	15	-----
Total	2,377	6,361	4,522	9,018	6,080	23,798	28,007	9,538	1,878	501	384.7	473
Mean	76.7	212	146	291	217	768	934	308	62.6	16.2	12.4	15.8
Ac-ft	4,710	12,620	8,970	17,890	12,060	47,200	55,550	18,920	3,720	994	763	938

Calendar year 1965 Max 5,740 Min 39 Mean 826 Ac-ft 597,700  
 Water year 1965-66 Max 1,610 Min 9.2 Mean 255 Ac-ft 184,300

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
Mar. 14	0700	6.25	1,820	Apr. 11	0100	5.81	1,490
Apr. 2	0100	6.00	1,620				

11-4019.4. Mill Creek near Quincy, Calif.

Location.--Lat 39°56'03", long 120°54'18", in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec. 19, T.24 N., R.10 E., on left bank at culvert on state highways 24 and 89, 2.2 miles east of Quincy.

Drainage area.--6.72 sq mi.

Records available.--Water years 1963-65 (annual maximum), October 1965 to September 1966.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 3,500 ft (from topographic map).

Extremes.--Maximum discharge during year, 45 cfs Jan. 2 (gage height, 2.16 ft); no flow for many days.

1962-66: Maximum discharge, 601 cfs Dec. 22, 1964 (gage height, 7.02 ft), from rating curve extended above 220 cfs on basis of computation of flow through culvert at gage heights 5.53 ft and 7.02 ft.

Remarks.--Records fair. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.9	3.0	1.4	2.1	12	6.7	0		0	
2		0	3.7	7.0	1.3	1.9	12	6.3	0		0	
3		0	3.5	2.3	1.3	1.2	11	6.7	0		0	
4		0	3.5	3.9	1.4	1.2	10	7.1	0		0	
5		0	3.5	6.3	1.9	1.9	10	7.4	.40		0	
6		0	3.2	6.3	2.1	2.1	12	7.1	1.0		0	
7		0	3.0	4.7	1.9	2.5	12	6.7	1.0		0	
8		0	2.7	4.2	1.5	2.7	12	7.1	.70		0	
9		0	1.9	3.9	1.9	4.9	12	7.1	0		0	
10		0	1.0	3.5	1.8	7.4	15	7.1	0		0	
11		0	1.2	3.0	1.2	6.7	14	5.6	0		0	
12		0	1.3	2.5	1.6	5.6	12	5.3	0		0	
13		.10	1.2	2.3	1.2	2.4	10	4.9	0		0	
14		.50	1.0	2.1	1.2	1.7	9.5	4.9	0		0	
15		0	.60	1.9	1.3	1.4	9.0	5.6	0		0	
16		0	.60	1.9	1.2	1.2	10	4.2	0		0	
17		2.4	.60	1.7	1.3	8.5	10	3.5	0		0	
18		5.3	.80	1.6	1.8	7.4	10	3.2	0		0	
19		1.3	1.0	1.0	2.1	7.1	8.5	3.2	0		0	
20		.80	1.2	.80	1.9	6.7	8.1	3.2	0		.10	
21		.30	1.2	.60	1.9	5.6	8.1	3.2	0		.60	
22		.20	1.2	.80	1.9	5.6	7.8	3.7	0		.40	
23		.50	1.2	1.2	2.5	5.6	7.1	3.5	0		0	
24		1.6	1.1	1.1	3.0	4.9	7.1	3.2	0		0	
25		.70	1.1	1.1	2.5	4.9	7.4	3.0	0		0	
26		.40	1.1	1.1	2.3	5.3	7.4	2.7	0		0	
27		.40	1.2	1.1	2.1	6.0	7.1	1.7	0		0	
28		.30	2.2	.90	2.1	6.7	7.1	0	0		0	
29		.70	1.3	1.3	-----	7.4	7.1	0	0		0	
30		2.5	2.1	1.4	-----	9.0	7.1	0	0		0	
31		-----	1.9	1.6	-----	10	-----	0	-----		0	
Total	0	18.00	66.70	76.10	49.6	207.9	292.4	133.9	3.10	0	1.10	0
Mean	0	0.60	2.15	2.45	1.77	6.71	9.75	4.32	0.10	0	0.04	0
Ac-ft	0	36	132	151	98	412	580	266	6.2	0	2.2	0
(†)	0	8.17	---	---	---	1.99	1.35	0.21	0	0.03	0	0.09

Calendar year 1965 Max --- Min --- Mean --- Ac-ft ---  
 Water year 1965-66 Max 24 Min 0 Mean 2.33 Ac-ft 1.680

† Precipitation, in inches. Some precipitation falling as snow may not be included.

## SACRAMENTO RIVER BASIN

11-4020. Spanish Creek above Blackhawk Creek, at Keddle, Calif.

Location.--Lat 40°00'05", long 120°57'20", in NE $\frac{1}{4}$  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 1966. Prior to October 1953, published as "at Keddle." Records for October 1911 to September 1933 at site 1.2 miles downstream not equivalent owing to inflow.

Gage.--Digital water-stage recorder. Altitude of gage is 3,250 ft (from topographic map). Prior to Dec. 12, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--33 years, 257 cfs (186,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,310 cfs Mar. 12 (gage height, 4.73 ft); minimum daily, 11 cfs Aug. 19-21.

1933-66: Maximum discharge, 15,400 cfs Dec. 22, 1964 (gage height, 13.53 ft), from rating curve extended above 4,400 cfs on basis of slope-area measurement at gage height 12.47 ft; minimum, 3.8 cfs Aug. 12, 1934.

Remarks.--Records good except those for period of no gage-height record, which are fair. 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. See schematic diagram for North Fork Feather River basin.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	43	46	111	118	116	160	1,030	301	90	28	21	14
2	44	46	107	108	113	147	1,060	293	86	24	16	15
3	46	46	103	110	112	139	880	296	81	39	14	16
4	45	46	103	180	125	132	780	299	83	35	18	17
5	44	48	104	530	162	134	740	316	82	32	20	14
6	43	49	102	520	218	149	750	312	84	27	21	14
7	43	49	99	407	180	202	730	287	90	29	18	19
8	41	58	96	347	158	232	720	278	84	33	19	21
9	41	57	93	309	141	399	760	287	80	30	18	18
10	41	53	92	242	139	590	930	330	74	35	13	19
11	42	53	92	200	128	482	950	287	68	30	15	21
12	42	55	99	178	126	570	760	245	62	33	18	19
13	44	59	96	162	118	1,120	610	221	56	30	15	17
14	43	187	88	151	117	769	544	201	56	33	16	21
15	45	162	82	145	114	673	535	187	55	29	17	22
16	44	118	78	143	111	600	565	177	49	25	15	19
17	49	229	71	136	112	500	622	161	38	24	14	20
18	47	808	71	130	115	500	622	155	43	29	12	19
19	45	316	72	126	141	520	491	157	43	26	11	26
20	46	178	69	115	153	480	416	151	38	25	11	27
21	47	141	78	111	151	470	387	140	38	26	11	25
22	47	123	80	121	162	470	368	131	39	26	12	29
23	41	134	70	113	221	470	354	115	47	26	13	28
24	42	372	91	110	257	500	368	125	47	20	15	25
25	44	234	123	107	202	570	395	105	44	19	21	21
26	41	168	103	106	178	670	411	105	38	19	17	31
27	34	147	95	104	164	780	364	105	38	17	17	30
28	42	134	170	99	162	870	333	101	35	16	17	26
29	46	123	180	108	-----	920	316	94	35	17	16	25
30	46	116	143	134	-----	960	302	92	32	22	15	20
31	46	-----	132	123	-----	980	-----	92	-----	32	16	-----
TOTAL	1,354	4,355	3,093	5,593	4,196	16,158	18,093	6,146	1,735	836	492	638
MEAN	43.7	145	99.8	180	150	521	603	198	57.8	27.0	15.9	21.3
AC-FT	2,690	8,640	6,130	11,090	8,320	32,050	35,890	12,190	3,440	1,660	976	1,270
CALENDAR YEAR 1965	MAX	4,640	MIN	30	MEAN	310	AC-FT	224,600				
WATER YEAR 1965-66	MAX	1,120	MIN	11	MEAN	172	AC-FT	124,300				

Peak discharge (base, 1,700 cfs).--No peak above base.

Note.--No gage-height record Mar. 16 to Apr. 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 1966. 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, 79,100 acre-ft July 4, 5 (elevation, 5,141.9 ft); minimum, 35,700 acre-ft Nov. 2-6 (elevation, 5,112.6 ft).  
1928-66: 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, 101,700 acre-ft (revised) 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. See schematic diagram of North Fork Feather River basin.

Cooperation.--Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission Project.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48.6	36.0	40.2	37.0	39.4	41.8	46.8	61.2	76.2	79.0	67.4	56.2
2	48.2	35.7	40.1	37.0	39.5	41.9	47.2	61.7	76.4	79.0	66.9	56.0
3	47.8	35.7	39.9	37.0	39.6	42.0	47.6	62.3	76.5	79.0	66.4	55.8
4	47.3	35.7	39.8	37.0	39.9	42.1	47.9	63.0	76.7	79.1	65.9	55.6
5	46.9	35.7	39.7	37.0	39.9	42.1	48.3	63.7	76.9	79.0	65.5	55.4
6	46.4	35.7	39.5	37.1	40.1	42.2	48.7	64.2	77.0	78.7	65.0	55.1
7	46.0	35.8	39.4	37.3	40.1	42.3	49.2	65.1	77.2	78.5	64.6	54.9
8	45.6	35.9	39.2	37.5	40.2	42.4	49.7	65.8	77.4	78.2	64.1	54.5
9	45.2	35.9	39.1	37.5	40.3	42.6	50.4	66.4	77.5	78.0	63.6	54.1
10	44.7	36.0	39.0	37.7	40.3	42.7	51.2	67.2	77.7	77.8	63.1	53.6
11	44.3	36.0	38.8	37.8	40.3	42.8	51.8	67.8	77.8	77.4	62.6	53.1
12	43.9	36.1	38.7	38.0	40.4	43.1	52.2	68.4	77.9	76.9	61.7	52.6
13	43.4	36.7	38.6	37.8	40.5	43.4	52.5	69.0	78.0	76.4	61.7	52.2
14	43.0	37.2	38.4	38.0	40.5	43.6	52.9	69.5	78.1	75.9	61.7	52.0
15	42.5	37.3	38.2	38.0	40.6	43.9	53.3	70.0	78.2	75.4	62.2	52.0
16	42.1	37.5	38.0	38.1	40.6	44.1	53.9	70.5	78.3	75.0	61.7	52.0
17	41.7	38.8	37.9	38.1	40.7	44.2	54.4	71.0	78.4	74.5	61.2	52.0
18	41.3	39.3	37.7	38.1	40.8	44.2	54.9	71.5	78.4	74.0	60.7	52.0
19	40.9	39.5	37.6	38.2	41.0	44.4	55.3	72.0	78.4	73.5	60.3	52.0
20	40.5	39.6	37.4	38.3	41.0	44.5	55.6	72.6	78.5	73.0	59.8	52.0
21	40.3	39.7	37.2	38.4	41.0	44.6	56.1	73.1	78.5	72.6	59.3	52.0
22	39.9	39.8	37.0	38.5	41.2	44.7	56.6	73.4	78.6	72.2	58.7	52.0
23	39.5	40.2	37.0	38.5	41.3	44.8	57.0	73.8	78.6	71.7	58.5	52.0
24	39.1	40.5	37.1	38.6	41.4	44.9	57.6	74.2	78.7	71.2	58.2	52.0
25	38.7	40.6	37.1	38.7	41.5	45.1	58.2	74.5	78.7	70.9	57.9	52.0
26	38.3	40.8	36.9	38.8	41.6	45.2	58.8	74.8	78.8	70.2	57.7	52.0
27	37.9	40.8	36.8	38.8	41.7	45.4	59.2	75.1	78.9	69.7	57.5	51.8
28	37.5	40.5	37.0	38.9	41.7	45.6	59.7	75.3	78.9	69.2	57.2	51.6
29	37.1	40.5	36.9	39.1	-----	45.8	60.2	75.6	78.9	68.0	57.0	51.4
30	36.7	40.3	37.0	39.2	-----	46.1	60.6	75.8	79.0	68.3	56.7	51.1
31	36.3	-----	37.0	39.3	-----	46.5	-----	76.0	-----	67.8	56.5	-----
(†)	5,113.1	5,116.2	5,113.6	5,115.4	5,117.2	5,120.7	5,130.4	5,140.0	5,141.9	5,135.0	5,127.7	5,124.0
(‡)	-12,600	+4,000	-3,300	+2,300	+2,400	+4,800	+14,100	+15,400	+3,000	-11,200	-11,300	-5,400

Calendar year 1965..... ‡-39,400  
Water year 1965-66..... ‡+2,200

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-4045. North Fork Feather River at Pulga, Calif.

Location--Lat 39°47'40", long 121°27'00", in NE¼ 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 and 1.5 miles downstream from Poe Dam.

Drainage area--1,953 sq mi.

Records available--October 1910 to September 1966. Monthly discharge only for some periods and yearly estimates for water years 1911 and 1938, published in WSP 1315-A. Prior to October 1962, published as "at Big Bar."

Gage--Water-stage recorder. Datum of gage is 1,304.88 ft above mean sea level (levels by Pacific Gas & Electric Co.). Prior to Oct. 1, 1937, at site 1.1 miles upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft higher.

Average discharge--56 years, 2,893 cfs (2,094,000 acre-ft per year), including diversion through Poe powerplant.

Extremes--Maximum discharge during year, 4,630 cfs Apr. 11 (gage height, 11.80 ft); minimum daily, 52 cfs Sept. 10, 11. 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. 1958-66: Maximum discharge, 73,000 cfs Dec. 22, 1964 (gage height, 35.80 ft), from rating curve extended above 34,000 cfs; minimum daily, 33 cfs June 25, 1961.

Remarks--Records good. Flow regulated by Lake Almanor (see sta 11-3990), Bucks Lake (see sta 11-4035), Mountain Meadows Reservoir, Butt Valley Reservoir, and five forebays (combined capacity, 1,239,000 acre-ft). Diversion through Poe powerplant began on May 29, 1958. See schematic diagram of North Fork Feather River basin. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation--Gage-height record 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	57	59	86	84	75	2,090	66	55	57	56	55
2	57	58	57	77	80	73	2,630	66	58	56	57	55
3	58	56	61	78	74	70	2,420	67	58	55	58	54
4	58	55	59	271	96	66	2,080	65	56	56	58	56
5	58	56	59	386	117	68	2,040	63	56	56	58	53
6	56	57	59	226	113	69	2,030	64	58	56	58	54
7	57	58	57	135	100	70	2,040	62	58	56	58	53
8	57	63	57	118	91	70	2,030	63	59	56	57	53
9	55	57	57	104	84	78	2,080	62	59	56	57	53
10	57	57	57	91	81	92	3,180	64	58	56	58	52
11	55	57	59	83	79	598	3,190	61	57	55	57	52
12	56	61	59	75	68	439	2,920	62	56	57	56	53
13	56	69	57	75	65	1,740	2,250	60	56	57	56	54
14	57	88	57	72	62	2,000	2,110	58	58	56	56	53
15	57	70	57	70	63	2,010	711	56	59	55	56	53
16	57	55	58	66	64	1,860	118	58	59	56	56	55
17	56	387	57	68	61	452	88	57	59	56	56	56
18	55	834	57	64	65	200	184	55	59	56	54	56
19	57	119	57	63	80	87	86	58	58	56	56	56
20	58	70	57	60	74	80	78	57	58	56	56	56
21	55	60	56	60	70	79	76	57	58	55	54	55
22	56	60	55	60	70	76	75	56	58	56	54	53
23	57	65	56	58	72	77	75	59	58	57	55	54
24	58	115	89	59	77	78	75	60	58	56	55	55
25	57	84	90	58	304	219	75	56	56	56	56	56
26	58	71	71	57	1,610	692	70	58	56	55	54	54
27	57	68	68	56	1,690	1,020	71	58	57	56	57	55
28	57	65	100	54	441	1,440	70	57	58	53	55	56
29	57	64	122	66	-----	1,790	70	56	56	53	55	61
30	57	61	113	73	-----	1,810	69	56	57	57	57	58
31	55	-----	104	76	-----	1,960	-----	55	-----	57	57	-----
Total	1,758	3,097	2,081	2,945	5,935	19,438	35,081	1,852	1,726	1,731	1,743	1,639
Mean	56.7	103	67.1	95.0	212	627	1,169	59.7	57.5	55.8	56.2	54.6
Ac-ft	3,490	6,140	4,130	5,840	11,770	38,550	69,580	3,670	3,420	3,430	3,460	3,250
Mean†	2,684	2,932	2,264	2,298	1,770	2,736	3,880	2,171	1,587	2,444	1,974	848
Ac-ft†	165,000	174,400	139,200	141,300	98,290	168,200	230,900	133,500	94,400	150,300	121,400	50,440
Calendar year 1965	Max	16,400	Min	55	Mean	634	Ac-ft	459,000	Mean†	3,776	Ac-ft†	2,734,000
Water year 1965-66	Max	3,190	Min	52	Mean	217	Ac-ft	156,700	Mean†	2,304	Ac-ft†	1,668,000

† Adjusted for diversion through Poe powerplant.

11-4053. West Branch Feather River near Paradise, Calif.

Location.--Lat 39°47'15", Long 121°33'40", in 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,370 ft (from topographic map).

Average discharge.--9 years, 280 cfs (202,700 acre-ft per year).

Extremes.--Maximum discharge during year, 3,040 cfs Nov. 17 (gage height, 9.62 ft) minimum daily, 0.6 cfs several days in August and September.

1957-66: Maximum discharge, 26,300 cfs Dec. 22, 1964 (gage height, 26.2 ft from floodmark), from rating curve extended above 6,800 cfs; minimum, 0.3 cfs Aug. 31, Sept. 1, 2, 1960, Sept. 8, 1962.

Remarks.--Records good. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin 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 (usable capacity, 5,000 acre-ft revised) and Philbrook Reservoir (capacity 5,010 acre-ft). Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation.--Water-stage recorder graph and 11 discharge measurements furnished by California Department of Water Resources in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	0.90	43	75	137	106	712	541	79	1.8	1.2	0.80
2	1.0	7.4	40	56	181	93	730	545	55	1.6	1.1	.70
3	1.0	12	39	63	152	84	717	577	48	1.3	1.1	.70
4	1.0	12	39	319	266	81	690	585	47	1.3	.90	.70
5	1.0	12	37	1,060	336	83	708	581	41	1.3	.80	.70
6	1.0	3.8	34	640	262	86	740	521	40	1.2	.80	.70
7	1.0	1.3	33	399	227	95	771	501	51	1.2	.80	.70
8	1.0	29	31	310	211	96	743	529	43	1.2	.80	.70
9	1.0	35	28	243	185	130	803	553	46	1.1	.80	.70
10	1.0	20	27	177	159	363	1,640	625	31	1.1	.80	.70
11	1.0	17	26	137	123	300	1,200	605	29	1.1	.80	.60
12	1.0	31	39	113	81	235	1,080	493	22	1.1	2.0	.60
13	1.0	62	30	96	73	552	852	463	18	1.1	1.1	.60
14	1.1	497	24	90	69	497	753	432	15	1.1	1.0	.60
15	1.1	372	20	85	64	424	753	390	13	1.1	1.0	.70
16	1.1	174	20	81	62	354	825	363	11	1.1	1.0	.60
17	1.1	804	13	74	52	270	905	335	9.9	1.1	1.0	.60
18	1.0	1,210	15	69	60	237	343	323	3.1	1.1	1.0	.60
19	1.0	490	14	63	149	253	663	271	6.0	1.0	.90	.60
20	.90	242	13	59	130	219	585	264	4.0	1.1	.80	.70
21	.90	124	23	61	104	199	557	233	3.5	1.2	.70	.60
22	.90	69	31	55	93	197	569	204	3.2	1.2	.60	.60
23	.90	63	9.9	51	128	205	605	189	3.0	1.2	.60	.60
24	.90	311	122	49	157	205	645	163	3.0	1.1	.60	.60
25	.90	191	122	47	143	241	699	153	2.8	1.1	.60	.60
26	.90	113	56	44	137	388	708	170	2.2	1.1	.60	.60
27	.90	89	39	42	120	343	585	161	2.2	1.1	.60	.60
28	.90	72	181	40	110	427	553	132	2.2	1.1	.70	.60
29	.90	60	245	79	-----	500	541	117	2.0	1.0	.70	.60
30	.90	50	152	136	-----	556	529	112	2.0	1.0	.70	.60
31	.90	-----	114	142	-----	623	-----	103	-----	1.2	.70	-----
Total	30.20	5,174.40	1,669.9	5,455	4,043	8,352	22,724	11,249	642.1	36.3	26.80	19.30
Mean	0.97	172	53.9	176	144	269	757	363	21.4	1.17	0.86	0.64
Ac-ft	60	10,260	3,310	10,320	8,020	16,570	45,070	22,310	1,270	72.0	53	38

Calendar year 1965 Max 5,400 Min 0.9 Mean 315 Ac-ft 228,200  
 Water year 1965-66 Max 1,640 Min 0.6 Mean 163 Ac-ft 117,900

Peak discharge (base, 2,000 cfs).--Nov. 17 (2200 hrs) 3,040 cfs (9.62 ft); Apr. 10 (0200 hrs) 2,180 cfs (8.54 ft).

11-4070. Feather River at Oroville, Calif.

Location.--Lat 39°31'13", long 121°32'48", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.8, T.19 N., R.4 E., on right bank 300 ft upstream from fish barrier dam on Feather River and 0.6 mile northeast of Oroville business district.

Drainage area.--3,624 sq mi (revised).

Records available.--October 1901 to September 1966. October 1934 to September 1961 published as "near Oroville." Monthly discharge only for some periods published in WSP 1315-A.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map). Jan. 1, 1902, to Dec. 15, 1912, staff gages at several locations 0.2 mile downstream at various datums. Dec. 16, 1912, to Sept. 30, 1934, water-stage recorder at site 0.2 mile downstream at datum 139.53 ft above mean sea level, datum of 1929. Oct. 1, 1934, to June 30, 1962, water-stage recorder at site 5.0 miles upstream at datum 182.02 ft above mean sea level, datum of 1929. July 1, 1962, to Sept. 30, 1964, water-stage recorder at site 0.2 mile downstream at mean sea level datum, datum of 1929.

Average discharge.--65 years, 5,803 cfs (4,201,000 acre-ft per year).

Extremes.--Maximum discharge during year, 15,300 cfs Jan. 5 (gage height, 6.50 ft); minimum daily, 1,140 cfs Sept. 30. 1901-66: Maximum discharge observed, 230,000 cfs Mar. 19, 1907 (elevation, 167.5 ft above mean sea level, datum of 1929); minimum, 300 cfs (estimated), Nov. 9, 1931.

Remarks.--Records excellent. Flow partly regulated by powerplants and reservoirs above station. Several diversions above station for power and irrigation. See Remarks for upstream stations and schematic diagram for South Fork Feather River basin. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Cooperation.--Water-stage recorder graph and three discharge measurements furnished by the California Department of Water Resources in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,520	3,470	3,540	4,060	3,430	3,250	9,190	6,090	2,530	2,610	2,670	1,580
2	3,280	3,580	3,500	3,780	3,540	3,210	10,400	6,000	2,470	2,530	2,630	1,720
3	3,080	3,610	3,470	3,690	3,230	3,100	10,000	6,030	2,250	2,610	2,530	1,560
4	3,060	3,430	3,470	4,670	3,300	3,010	9,320	6,140	2,350	2,610	2,470	1,470
5	3,250	3,320	3,470	13,000	3,890	2,990	8,930	6,530	2,310	2,770	2,550	1,470
6	3,280	3,430	3,470	9,970	4,040	2,990	9,220	6,670	2,310	2,330	2,470	1,420
7	3,140	3,430	3,450	7,270	3,870	3,060	9,320	6,650	2,450	2,770	2,470	1,390
8	3,190	3,390	3,430	6,450	3,540	3,250	9,250	6,560	2,390	2,770	2,510	1,350
9	3,170	3,080	3,430	5,310	3,360	3,470	9,090	6,530	2,210	2,770	2,550	1,230
10	3,100	3,100	3,430	5,140	3,250	4,710	13,400	6,620	2,210	2,790	2,590	1,230
11	2,950	3,140	3,430	4,660	3,120	5,890	13,400	7,450	2,230	2,770	2,590	1,230
12	2,690	3,190	3,520	4,330	3,010	6,370	12,300	6,910	2,190	2,770	2,590	1,200
13	2,690	3,320	3,500	4,160	2,990	8,340	10,500	6,420	2,350	2,790	2,610	1,170
14	2,690	4,210	3,470	4,010	2,930	10,340	9,350	6,030	2,630	2,770	2,610	1,230
15	3,280	4,590	3,410	3,780	2,890	9,380	9,290	5,690	2,410	2,770	2,610	1,340
16	3,540	4,060	3,300	3,720	2,850	8,710	9,130	5,010	2,250	2,770	2,410	1,360
17	3,650	3,370	3,360	3,670	2,830	7,120	9,540	4,360	2,330	2,750	2,190	1,390
18	3,630	2,330	3,320	3,630	2,790	6,310	9,640	4,570	2,390	2,730	2,120	1,390
19	3,720	7,600	3,250	3,630	2,950	5,690	8,810	4,350	2,370	2,730	2,010	1,360
20	3,330	6,670	3,250	3,650	3,190	5,380	7,660	4,330	2,350	2,710	1,990	1,310
21	3,740	5,780	3,230	3,610	3,030	5,090	6,350	4,110	2,330	2,710	1,960	1,310
22	3,630	4,960	3,280	3,520	3,030	4,780	6,560	3,350	2,310	2,690	1,920	1,310
23	3,450	4,520	3,320	3,520	3,170	4,590	6,390	3,540	2,290	2,690	1,870	1,280
24	3,580	5,120	3,410	3,470	3,390	4,400	6,390	3,280	2,270	2,690	1,870	1,230
25	3,520	5,330	4,610	3,450	3,500	4,540	6,620	2,950	2,250	2,690	1,870	1,230
26	3,630	5,580	3,920	3,410	3,650	4,330	7,210	2,810	2,230	2,650	1,850	1,200
27	3,560	5,060	3,610	3,300	3,520	5,400	6,880	3,010	2,150	2,550	1,830	1,170
28	3,610	4,710	3,740	2,710	3,340	6,090	6,670	2,830	2,150	2,670	1,830	1,150
29	3,570	4,350	5,040	2,710	-----	6,880	6,530	2,510	2,250	2,570	1,790	1,210
30	3,630	3,760	4,660	3,780	-----	8,110	6,230	2,310	2,450	2,690	1,590	1,140
31	3,610	-----	4,400	3,470	-----	8,680	-----	2,410	-----	2,670	1,650	-----
Total	104,370	133,590	111,690	140,030	91,630	169,760	264,070	153,050	69,660	84,190	69,300	39,540
Mean	3,367	4,453	3,600	4,517	3,272	5,483	8,302	4,937	2,323	2,716	2,235	1,321
Ac-ft	207,000	265,000	221,500	277,700	181,700	337,100	523,300	303,600	138,300	167,000	137,500	72,520

Calendar year 1965 Max 61,000 Min 2,550 Mean 6,970 Ac-ft 5,046,000  
 Water year 1965-66 Max 13,400 Min 1,140 Mean 3,921 Ac-ft 2,839,000

Peak discharge (base, 30,000 cfs).--No peak above base.



11-4071.5. Feather River near Gridley, Calif.

Location.--Lat 39°22'01", long 121°38'43", on left bank in SW $\frac{1}{4}$  sec. 33, T.18 N., R.3 E., at old highway bridge 2.7 miles east of Gridley.

Drainage area.--3,676 sq mi.

Records available.--October 1964 to September 1966. January 1944 to September 1964 are published in reports by California Department of Water Resources.

Gage.--Digital water-stage recorder. Gage is set to datum of Corps of Engineers which is 2.91 ft below mean sea level. Prior to Mar. 13, 1966, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 14,000 cfs Jan. 5 (gage height, 81.60 ft); minimum daily, 117 cfs June 27.

1964-66: Maximum discharge, 151,000 cfs Dec. 23, 1964 (gage height, 100.43 ft); minimum daily, that of June 27, 1966.

Flood of Dec. 23, 1955 reached a stage of 102.25 ft, discharge unknown.

Remarks.--Flow regulated by powerplant and reservoirs above station, see schematic diagrams for South Fork and North Fork Feather River basins. Records of water temperatures and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

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

Revisions.--Revised figures of discharge, in cubic feet per second, for the high water period in water year 1965, superseding those published in Surface Water Records of California, volume 2, are given herein.

Dec. 21, 1964 ..... 28,000

Dec. 22, 1964 ..... 112,000

Dec. 25, 1964 ..... 97,500

Month	cfs-days	Maximum	Minimum	Mean	Ac-ft
December 1964	833,750	149,000	3,500	26,900	1,654,000
Calendar year 1964	-	-	-	-	-
Water year 1965	-	149,000	663	7,886	5,709,000

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,960	3,240	3,580	4,030	3,430	3,410	8,530	3,440	270	463	771	425
2	2,370	3,200	3,500	3,740	3,550	3,350	9,470	3,340	290	495	779	413
3	2,600	3,340	3,480	3,580	3,420	3,300	9,470	3,310	193	491	653	647
4	2,520	3,310	3,440	4,100	3,350	3,200	8,770	3,430	154	527	605	469
5	2,580	3,100	3,440	11,600	3,940	3,170	8,280	3,900	165	614	612	452
6	2,690	3,020	3,440	10,200	4,080	3,180	8,250	4,060	162	711	604	582
7	2,540	3,010	3,400	7,400	3,980	3,240	8,200	4,150	172	659	572	511
8	2,490	3,040	3,390	6,510	3,660	3,380	8,100	4,100	237	640	597	589
9	2,560	2,810	3,370	5,900	3,500	3,590	7,380	4,070	175	643	654	526
10	2,480	2,760	3,370	5,300	3,390	4,500	10,600	4,090	145	645	693	550
11	2,390	2,830	3,400	4,830	3,250	5,780	11,100	4,760	135	668	702	550
12	2,050	2,910	3,500	4,450	3,110	6,320	10,300	4,500	131	686	713	549
13	2,000	3,140	3,520	4,290	3,120	7,310	8,870	4,180	122	670	727	511
14	2,010	3,830	3,450	4,120	3,040	10,700	7,760	3,740	376	679	727	569
15	2,280	4,620	3,380	3,370	3,020	9,300	7,350	3,460	239	666	770	719
16	2,730	4,140	3,280	3,780	2,960	8,720	7,010	2,840	150	683	703	766
17	2,370	3,950	3,330	3,800	2,940	7,260	7,170	2,510	136	690	473	821
18	2,310	3,760	3,290	3,760	2,920	6,310	7,190	2,400	142	690	329	917
19	2,310	7,910	3,210	3,760	3,010	5,750	6,640	2,020	146	690	295	936
20	3,090	6,820	3,190	3,780	3,300	5,410	5,640	2,090	145	690	261	951
21	3,050	5,990	3,220	3,710	3,150	5,150	4,550	1,940	160	680	236	957
22	2,990	5,140	3,200	3,620	3,170	4,810	4,260	1,640	159	678	238	991
23	2,780	4,580	3,260	3,600	3,210	4,540	3,960	1,310	150	645	206	227
24	2,380	4,960	3,290	3,540	3,420	4,260	3,930	1,080	128	636	219	909
25	2,800	5,900	4,370	3,500	3,620	4,280	4,000	920	123	659	278	917
26	2,900	5,700	3,940	3,430	3,710	4,570	4,360	499	118	658	278	996
27	2,930	5,210	3,550	3,350	3,670	5,110	4,240	570	117	653	294	929
28	2,900	4,330	3,530	2,840	3,500	5,660	4,070	656	158	657	323	920
29	2,970	4,490	4,750	2,790	-----	6,350	3,850	374	191	630	379	756
30	2,950	3,930	4,680	3,640	-----	7,560	3,650	263	268	689	381	921
31	3,000	-----	4,370	3,590	-----	8,130	-----	232	-----	718	528	-----
Total	83,680	130,570	110,120	140,410	94,420	168,110	207,450	79,674	5,263	20,054	15,599	20,775
Mean	2,699	4,352	3,552	4,529	3,372	5,423	6,915	2,570	175	647	503	693
Ac-ft	166,000	259,000	218,400	278,500	187,300	333,400	411,500	158,000	10,450	39,780	30,940	41,210

Calendar year 1965 Max 54,100 Min 965 Mean 6,063 Ac-ft 4,393,000  
 Water year 1965-66 Max 11,500 Min 117 Mean 2,948 Ac-ft 2,134,000

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.

Drainage area.--47.1 sq mi.

Records available.--October 1960 to September 1962, July 1963 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 125 ft (from topographic map). Prior to September 1962 water-stage recorder at site 50 ft upstream at same datum. Oct. 11, 1962 to Dec. 8, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--5 years, 32.9 cfs (23,820 acre-ft per year).

Extremes.--Maximum discharge during year, 1,820 cfs Jan. 4 (gage height, 7.48 ft); no flow for many days.

1960-62, 1963-66: Maximum discharge, 10,700 cfs Dec. 26, 1964 (gage height, 11.57 ft), from rating curve extended above 4,600 cfs; no flow for many days in 1961, 1962, 1966.

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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	4.6	9.4	4.6	290	48	10	5.2	2.5	0	1.1	1.3
2	3.0	5.1	10	3.6	192	42	10	4.8	2.4	0	.90	1.2
3	2.9	7.1	9.8	3.1	84	37	8.9	4.6	2.1	.10	.60	1.1
4	2.5	5.5	7.7	4.4	93	33	3.2	4.6	2.0	.30	.30	.90
5	3.3	3.3	7.5	1080	106	31	7.5	4.9	2.1	.40	.10	.80
6	3.7	2.3	7.3	267	70	29	7.4	4.8	3.6	.20	0	1.1
7	3.8	2.0	7.1	154	54	32	7.1	4.6	5.2	.20	0	1.6
8	4.3	2.4	5.8	122	44	29	6.9	4.5	4.5	.50	0	1.4
9	4.4	2.3	6.6	101	38	28	7.7	4.5	3.8	.80	0	1.5
10	4.9	2.5	6.3	53	33	44	3.4	5.3	3.4	1.0	0	2.0
11	5.3	2.2	6.8	42	29	35	2.4	5.7	3.1	.90	0	2.0
12	5.6	2.4	1.4	3.6	27	31	2.3	5.0	2.5	.80	0	2.1
13	5.5	4.3	1.5	3.1	24	39	2.3	4.3	2.0	1.0	0	1.9
14	5.4	2.1	1.3	2.8	22	3.6	1.7	3.6	1.8	1.5	0	2.7
15	6.0	1.8	1.1	2.6	21	3.2	1.4	3.3	1.6	1.7	0	2.6
16	6.0	1.1	1.0	2.3	20	3.2	1.2	3.1	1.1	1.4	0	1.9
17	4.7	4.5	3.9	2.1	20	2.8	1.1	3.0	1.0	1.1	0	1.5
18	4.8	1.35	7.9	1.9	1.9	2.6	1.0	2.6	1.1	.90	0	1.5
19	4.7	3.9	3.1	1.3	3.4	3.2	9.8	2.4	1.1	.90	0	1.9
20	4.7	2.0	8.7	1.7	4.4	3.0	3.7	2.5	.90	.80	0	1.8
21	4.3	1.3	3.7	1.6	3.1	2.6	9.2	2.5	1.0	.60	0	1.4
22	3.8	1.0	3.4	1.5	2.8	2.3	3.7	2.6	1.2	.70	0	1.1
23	3.7	9.7	7.6	1.4	3.0	2.1	7.9	2.6	1.3	1.0	0	1.2
24	4.2	7.2	7.9	1.3	4.0	2.0	7.5	2.8	1.2	.60	.10	1.3
25	3.5	4.5	1.23	1.3	7.9	1.9	6.9	2.8	.80	.40	0	1.4
26	3.5	2.4	4.0	1.2	1.35	1.7	6.7	2.4	.60	.20	0	1.7
27	3.4	1.6	2.7	1.2	7.2	1.6	6.6	2.3	.30	0	.10	1.5
28	3.8	1.3	2.05	1.1	5.5	1.5	6.4	2.2	.20	0	.40	1.1
29	4.1	1.0	3.69	1.7	-----	1.4	6.8	2.2	0	0	.40	.80
30	4.4	9.7	9.9	4.50	-----	1.2	5.6	2.4	0	0	.50	.80
31	4.3	-----	8.2	1.07	-----	1.1	-----	2.6	-----	.30	.90	-----
Total	131.3	557.4	1165.5	327.4	173.9	36.8	337.5	110.7	55.10	18.30	5.40	45.10
Mean	4.24	18.6	37.6	10.6	62.1	28.0	11.2	3.57	1.84	0.59	0.17	1.50
Ac-ft	260	1110	2310	6490	3450	1720	669	220	109	36	11	89

Calendar year 1965 Max 1,990 Min 0.30 Mean 37.4 Ac-ft 27,090  
 Water year 1965-66 Max 1,080 Min 0 Mean 22.8 Ac-ft 16,480

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.18 N., R.5 E., on right bank 2.3 miles southeast of Bangor and 3.3 miles upstream from Tennessee Creek.

Drainage area.--30.6 sq mi.

Records available.--October 1950 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 620 ft (from topographic map). Prior to Oct. 9, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 34.2 cfs (24,760 acre-ft per year); median of yearly mean discharges, 26 cfs (18,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,280 cfs Jan. 4 (gage height, 6.98 ft); no flow many days.

1950-66: Maximum discharge, 17,600 cfs Dec. 26, 1964 (gage height, 19.25 ft), from rating extended above 2,200 cfs on basis of slope-area measurements at gage heights 11.15 and 19.25 ft; no flow at times in most years.

Remarks. Records good. Some small diversions upstream for irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.20	0.40	3.6	41	110	30	8.2	3.2	1.8	0.20		0
2	.20	.40	3.3	29	92	25	7.8	3.0	1.7	.20		0
3	.50	.50	3.1	24	55	22	9.3	3.0	1.5	.10		0
4	.20	.50	3.0	365	63	20	6.8	2.7	1.2	.10		0
5	.20	.50	2.9	575	66	18	6.2	2.7	1.1	.10		0
6	.20	.50	2.7	158	54	18	5.9	2.6	1.2	.10		0
7	.20	.60	2.7	76	40	21	5.9	2.6	1.3	.10		0
8	.20	.80	2.6	50	32	18	6.1	2.6	1.3	.10		0
9	.20	.80	2.6	37	26	20	13	2.7	1.1	.10		0
10	.30	.80	2.6	29	23	32	32	3.1	1.1	.20		0
11	.20	.80	3.2	24	20	23	15	3.0	1.0	.30		0
12	.20	1.3	9.6	20	18	20	33	2.6	.80	.20		0
13	.20	2.6	6.0	18	16	30	18	2.4	.70	.30		0
14	.30	13	4.3	16	16	23	12	2.3	.60	.30		0
15	.40	4.3	3.9	15	15	20	8.9	2.1	.40	.30		0
16	.30	2.7	3.6	13	14	22	7.8	2.6	.40	.30		0
17	.30	129	3.3	12	13	18	7.2	2.0	.40	.20		0
18	.30	104	3.1	11	13	18	6.8	1.8	.40	.10		0
19	.40	27	3.0	11	31	26	6.2	1.6	.30	.10		0
20	.40	8.8	2.9	9.9	25	20	5.6	1.4	.30	.10		0
21	.40	4.7	2.9	9.3	18	18	4.9	1.4	.30	0		0
22	.30	3.7	2.8	9.2	16	15	4.6	1.6	.30	0		.10
23	.30	4.8	2.6	9.4	18	15	4.3	2.5	.30	0		.10
24	.30	135	82	8.4	24	16	4.2	2.6	.30	0		.10
25	.30	32	143	7.9	31	16	4.2	2.4	.30	0		.10
26	.30	14	31	7.8	61	16	3.8	2.1	.20	0		.10
27	.30	9.2	19	7.4	43	15	3.6	2.1	.20	0		.10
28	.30	6.6	254	6.9	34	14	3.6	1.6	.20	0		0
29	.30	5.0	179	34	-----	14	3.4	2.1	.10	0		0
30	.30	3.9	100	174	-----	12	3.2	2.9	.10	0		0
31	.30	-----	76	66	-----	11	-----	1.9	-----	0		-----
TOTAL	8.50	518.20	964.3	1,874.2	987	606	261.5	73.2	20.90	3.50	0	.60
MEAN	.27	17.3	31.1	60.5	35.3	19.5	8.72	2.36	.70	.11	0	.02
AC-FT	17	1,030	1,910	3,720	1,960	1,200	519	145	41	6.9	0	1.2
CALENDAR YEAR 1965		MAX	1,080	MIN	.10	MEAN	28.3	AC-FT	20,530			
WATER YEAR 1965-66		MAX	575	MIN	0	MEAN	14.6	AC-FT	10,550			

## SACRAMENTO RIVER BASIN

11-4077. Feather River at Yuba City, Calif.

Location.--Lat 39°08'20", long 121°36'17", in NE¼ sec. 23, T.15 N., R.3 E., on left bank at 5th Street railroad bridge in Yuba City, 0.7 mile above confluence with Yuba River, and at mile 28.0 above mouth.

Drainage area.--3,974 sq mi.

Records available.--October 1964 to September 1966. November 1943 to September 1963 (prior to July 1, 1944, stage only) published in Reports of California Department of Water Resources.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers.

Extremes.--1964-65: Maximum discharge during year, 182,000 cfs Dec. 23 (gage height, 76.42 ft); minimum daily, 1,070 cfs Aug. 6.  
1965-66: Maximum discharge during year, 13,780 cfs Jan. 6 (gage height, 49.14 ft); minimum daily, 166 cfs June 30.

Remarks.--Flow partly regulated by powerplants and reservoirs. There are many diversions above the station for irrigation. Records of suspended sediment loads and of water temperatures for the water years 1965 and 1966 are published in part 2 of this report.

Cooperation.--Gage-height record and 8 discharge measurements furnished by California Department of Water Resources and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,190	2,300	3,750	19,100	11,400	8,550	7,310	17,200	4,790	2,120	1,310	1,270
2	2,200	2,650	4,560	16,000	11,300	7,730	8,010	15,000	5,230	1,380	1,170	1,280
3	2,210	3,380	5,290	16,200	11,000	7,620	8,030	13,300	5,080	2,100	1,160	1,280
4	2,250	2,730	4,490	26,400	10,600	7,080	7,390	11,700	4,900	2,050	1,150	1,340
5	2,260	2,470	4,020	34,100	10,700	6,590	7,790	10,500	5,180	1,390	1,120	1,360
6	2,240	2,140	3,900	60,500	12,700	6,530	7,560	10,000	5,130	1,750	1,070	1,400
7	2,240	2,020	3,660	59,300	12,600	6,330	7,550	9,130	5,150	1,720	1,200	1,500
8	2,250	1,640	3,590	37,200	11,500	6,580	7,440	8,420	4,930	1,690	1,310	1,600
9	2,260	1,710	3,530	27,600	10,600	6,670	8,110	7,730	4,310	1,580	1,280	1,840
10	2,260	4,220	3,520	22,400	9,990	6,670	11,300	7,500	4,300	1,520	1,260	1,780
11	2,250	4,330	3,370	18,300	9,360	6,580	9,990	7,360	4,390	1,500	1,350	1,750
12	2,250	4,610	6,050	17,900	8,330	6,720	9,920	7,170	4,110	1,490	1,760	1,830
13	2,220	4,330	4,700	16,400	8,540	7,170	8,700	7,470	3,150	1,410	2,240	1,850
14	2,210	4,120	4,200	14,900	8,370	7,110	8,780	7,460	2,370	1,390	2,080	1,680
15	2,220	3,700	4,210	14,200	8,190	6,840	8,740	7,280	3,610	1,560	1,760	1,620
16	2,280	3,540	4,040	13,700	7,940	6,840	8,300	7,280	3,580	1,450	1,550	1,640
17	2,230	3,400	3,360	12,900	7,660	6,680	21,600	7,150	3,280	1,340	1,490	1,690
18	2,220	3,340	3,750	12,200	7,690	6,740	19,900	7,510	3,480	1,320	1,430	2,090
19	2,200	3,230	4,000	12,000	7,490	6,670	17,600	7,330	3,600	1,300	1,450	2,400
20	2,170	3,070	5,910	11,800	7,170	6,470	20,000	7,270	2,910	1,300	1,490	2,450
21	2,170	3,020	17,600	11,500	7,320	6,670	20,200	7,370	2,550	1,420	1,440	2,250
22	2,210	3,050	84,400	11,000	7,490	6,690	23,600	7,160	2,920	1,340	1,420	2,180
23	2,190	3,050	172,000	10,800	7,520	6,990	23,100	6,630	2,970	1,320	1,370	2,230
24	2,190	3,060	157,000	19,900	7,520	7,240	20,500	6,390	2,990	1,330	1,360	2,200
25	2,190	3,130	135,000	24,400	7,280	7,700	18,900	6,070	2,810	1,340	1,360	2,260
26	2,200	3,230	80,000	19,900	6,810	7,520	18,300	5,980	2,690	1,130	1,340	2,230
27	2,190	3,410	71,000	16,300	6,970	7,290	18,000	5,850	2,030	1,100	1,340	1,980
28	2,210	3,500	61,800	14,500	8,140	8,220	17,500	5,750	1,810	1,130	1,330	1,910
29	2,420	3,320	36,000	12,900	-----	8,270	17,200	5,910	1,940	1,120	1,290	2,080
30	2,590	3,340	30,000	11,900	-----	7,910	17,300	5,250	2,150	1,120	1,250	2,510
31	2,600	-----	23,300	11,300	-----	7,840	-----	4,310	-----	1,170	1,250	-----
Total	69,770	97,040	953,410	628,600	252,380	221,380	408,720	250,930	109,240	45,820	43,280	55,480
Mean	2,251	3,235	30,760	20,280	9,031	7,157	13,620	8,095	3,641	1,480	1,396	1,349
Ac-ft	138,400	192,500	1,891,000	1,247,000	501,600	440,100	810,700	497,700	216,700	91,000	85,340	110,000
Calendar year 1964	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1964-65	Max	172,000	Min	1,070	Mean	8,595	Ac-ft	6,223,000				

11-4077, Feather River at Yuba City, Calif.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,710	2,970	3,270	4,210	3,660	3,060	7,490	3,470	430	211	804	515
2	2,700	2,840	3,180	3,750	4,530	2,960	8,110	3,380	470	290	828	485
3	2,470	3,010	3,150	3,470	3,780	2,830	8,440	3,360	510	358	717	526
4	2,430	3,020	3,120	3,540	3,240	2,690	8,020	3,470	440	410	616	610
5	2,370	2,870	3,090	9,720	3,640	2,600	7,380	3,760	400	440	586	538
6	2,560	2,760	3,090	12,100	4,490	2,580	7,340	4,120	450	568	580	562
7	2,510	2,740	3,060	8,590	4,530	2,610	7,320	4,180	420	622	526	780
8	2,480	2,820	3,040	6,820	3,370	2,820	7,280	4,170	420	574	532	724
9	2,550	2,740	3,040	6,060	3,420	3,040	7,110	4,200	440	580	574	820
10	2,480	2,540	3,040	5,390	3,130	3,730	8,900	4,370	410	634	598	752
11	2,480	2,570	3,050	4,780	2,920	5,360	11,200	4,980	350	717	647	773
12	2,220	2,600	3,190	4,270	2,740	5,650	10,400	4,940	340	710	647	759
13	2,070	2,770	3,260	3,930	2,520	6,050	9,180	4,460	350	724	682	689
14	2,070	3,130	3,180	3,730	2,560	8,690	7,690	4,020	290	717	717	654
15	2,130	4,130	3,090	3,530	2,460	8,350	7,000	3,760	460	710	731	773
16	2,570	3,920	3,010	3,340	2,420	7,810	6,660	3,320	310	724	745	938
17	2,780	3,600	2,970	3,290	2,370	6,840	6,690	2,900	244	738	574	1,010
18	2,880	5,240	2,960	3,210	2,340	5,920	6,910	2,740	234	759	460	1,060
19	2,810	7,350	2,910	3,120	2,400	5,400	6,420	2,460	244	724	366	1,060
20	2,910	5,980	2,970	3,070	2,720	5,060	5,640	2,270	262	717	334	1,030
21	2,910	5,300	2,860	3,040	2,760	4,730	4,560	2,200	238	696	318	1,050
22	2,820	4,650	2,820	2,980	2,680	4,370	4,060	2,010	241	689	306	1,060
23	2,700	4,250	2,860	2,900	2,680	4,080	3,730	1,750	220	654	283	1,140
24	2,670	4,200	2,950	2,870	2,970	3,370	3,730	1,460	184	610	262	1,200
25	2,690	4,980	3,660	2,830	3,410	3,830	3,890	1,200	181	610	266	1,160
26	2,690	4,940	3,930	2,780	3,590	4,040	4,170	890	184	647	280	1,160
27	2,300	4,600	3,380	2,740	3,610	4,410	4,260	750	190	610	298	1,060
28	2,740	4,250	3,290	2,480	3,260	4,970	4,060	850	172	598	334	1,000
29	2,800	3,970	5,260	2,230	-----	5,530	3,750	770	169	640	370	954
30	2,790	3,640	5,300	3,800	-----	6,350	3,620	560	166	654	375	970
31	2,770	-----	4,830	4,450	-----	7,050	-----	460	-----	752	435	-----
Total	80,560	114,380	102,710	133,020	88,800	147,280	195,010	87,230	9,419	19,087	15,791	25,812
Mean	2,599	3,813	3,313	4,291	3,171	4,751	6,500	2,814	314	616	509	860
Ac-ft	159,800	226,900	203,700	263,800	176,100	292,100	386,800	173,000	18,680	37,860	31,320	51,200
Calendar year 1965	Max	60,500	Min	1,070	Mean	6,341	Ac-ft	4,591,000				
Water year 1965-66	Max	12,100	Min	166	Mean	2,792	Ac-ft	2,021,000				

11-4078. Jackson Meadows Reservoir near Sierra City, Calif.

Location.--Lat 39°30'40", long 120°33'15", in NW 1/4, sec. 18, T. 19 N., R. 13 E., on right bank at Jackson Meadows Dam on Middle Yuba River, 0.7 mile downstream from Pass Creek and 5.7 miles southeast of Sierra City.

Drainage area.--37.4 sq mi.

Records available.--November 1964 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

Extremes.--Maximum contents during year, 69,800 acre-ft June 13 (elevation, 6,036.55 ft); minimum, 29,000 acre-ft Nov. 30 (elevation, 5,991.8 ft).

1964-66: Maximum contents, that of June 13, 1966; minimum, that of Nov. 30, 1965.

Remarks.--Reservoir is formed by an earth-fill dam. Storage began Nov. 9, 1964. Usable capacity, 66,700 acre-ft between elevations 5,933.0 ft (bottom of intake tower) and 6,036.0 ft (top of spillway Tainter gates). Dead storage, 2,500 acre-ft. Records represent total contents.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61,600	45,700	-	-	-	30,900	33,900	49,600	69,200	69,300	68,800	67,900
2	61,200	45,300	-	-	-	31,000	34,400	50,400	69,400	69,300	68,800	67,900
3	60,900	44,800	-	-	-	31,000	34,900	51,200	69,500	69,300	68,800	67,900
4	60,500	44,000	-	-	-	31,000	35,300	52,100	69,600	69,300	68,800	67,900
5	60,200	43,600	-	-	-	31,000	35,800	53,200	69,600	69,300	68,800	67,900
6	59,800	42,900	-	-	-	31,000	36,400	54,300	69,700	69,300	68,800	67,800
7	59,400	42,200	-	29,800	-	31,000	37,000	55,100	69,600	69,300	68,700	67,800
8	59,300	41,600	-	-	-	31,000	37,600	56,000	69,700	69,300	68,700	67,800
9	59,300	40,900	-	-	30,400	31,200	38,100	56,200	69,600	69,200	68,700	67,700
10	59,300	40,200	-	-	30,400	31,300	38,700	58,600	69,700	69,200	68,600	67,700
11	58,900	39,500	-	-	30,500	31,300	39,100	59,500	69,700	69,200	68,600	67,700
12	58,200	38,900	-	-	30,500	31,500	39,500	60,300	69,700	69,200	68,600	67,600
13	57,400	38,300	-	-	30,500	31,600	39,700	60,900	69,700	69,200	68,600	67,600
14	56,800	-	-	-	30,500	31,600	40,200	61,600	69,700	69,200	68,500	67,500
15	56,200	-	-	-	30,500	31,700	40,500	62,200	69,600	69,100	68,500	67,600
16	55,400	-	-	-	30,500	31,700	41,100	62,700	69,600	69,100	68,500	67,600
17	54,800	-	-	-	30,600	31,800	41,800	63,300	69,600	69,100	68,500	67,500
18	54,000	-	-	-	30,600	31,900	42,400	63,800	69,600	69,100	68,400	67,500
19	53,300	-	-	-	30,700	32,000	42,900	64,400	69,600	69,100	68,400	67,500
20	52,500	-	-	-	30,700	32,000	43,300	65,000	69,500	69,100	68,400	67,500
21	51,800	-	-	-	30,700	32,000	43,600	65,600	69,500	69,100	68,400	67,500
22	51,200	-	-	-	30,700	32,000	44,000	66,100	69,400	69,000	68,300	67,500
23	50,500	-	-	-	30,700	32,100	44,500	66,500	69,400	69,000	68,300	67,500
24	49,900	-	-	-	30,700	32,000	45,000	66,900	69,400	69,000	68,300	67,400
25	49,300	-	-	-	30,800	32,300	45,700	67,300	69,400	69,000	68,200	67,400
26	49,300	-	-	-	30,800	32,400	46,500	67,700	69,400	68,900	68,200	67,400
27	49,000	-	-	-	30,800	32,500	47,000	68,000	69,400	68,900	68,200	67,300
28	48,300	-	-	-	30,900	32,700	47,700	68,400	69,400	68,900	68,000	67,300
29	47,700	-	-	-	-----	32,900	48,300	68,600	69,400	68,900	68,000	67,300
30	46,900	29,000	-	-	-----	33,200	49,000	68,900	69,400	68,800	67,900	67,300
31	46,400	-----	29,500	30,200	-----	33,500	-----	69,000	-----	68,900	67,900	-----
(+)	6,012.6	5,991.8	-	-	5,994.4	5,997.7	6,015.5	6,035.8	6,036.2	6,035.7	6,034.8	6,034.2
(+)	-15,500	-17,400	+500	+700	+700	+2,600	+15,500	+20,000	+400	-500	-1,000	-600

Calendar year 1965 .....† -6,100

Water year 1965-66 .....† +5,500

† Elevation in feet, at end of month.

† Change in contents, in acre-feet.

Note:--No gage-height record Dec. 1 to Jan. 6, Jan. 8 to Feb. 8.

11-4079. Middle Yuba River below Jackson Meadows Dam, near Sierra City, Calif.

Location.--Lat 39°30'58", long 120°33'40", in SE  $\frac{1}{4}$  sec. 18, T. 19 N., R. 13 E., on right bank 0.6 mile downstream from Jackson Meadows Dam, and 5.2 miles southeast of Sierra City.

Drainage area.--38.2 sq mi.

Records available.--October 1964 to September 1966. If record for Milton-Bowman tunnel near Graniteville is added to record published as Middle Yuba River at Milton, a record equivalent to this site can be obtained for the period 1928-64.

Gage.--Water-stage recorder and concrete control. Datum of gage is 5,717.20 ft above mean sea level (levels by Nevada Irrigation District).

Extremes.--Maximum discharge during year, 1,460 cfs Oct. 11 (gage height, 5.75 ft), from rating curve extended above 460 cfs as explained below; minimum daily, 0.7 cfs Oct. 26.

Maximum stage known since at least 1925, 10.57 ft Jan. 31, 1963, from floodmarks (discharge, 10,000 cfs, from rating curve extended above 460 cfs on basis of computation of maximum flow over dam, adjusted for diversion and inflow).

Remarks.--Records good. Flow completely regulated by Jackson Meadows Reservoir (see sta. no. 11-4078).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	246	134	4.4	4.8	4.8	1.6	10	7.3	1.3	5.8	5.5
2	170	212	5.1	4.2	5.1	5.1	1.6	11	7.3	6.8	5.8	5.5
3	167	216	5.1	4.2	5.1	5.1	1.5	11	9.8	7.3	5.8	5.5
4	165	316	5.1	4.2	5.1	5.1	1.4	11	25	6.8	5.8	5.5
5	165	316	5.1	4.4	5.1	5.1	1.5	12	38	6.8	5.8	5.5
6	167	316	5.1	5.1	5.1	5.1	1.5	11	51	7.6	5.8	5.5
7	176	312	4.8	5.3	5.1	5.1	1.5	13	66	7.9	5.8	5.5
8	79	309	4.8	5.3	5.1	5.3	1.5	33	64	8.5	5.8	5.5
9	6.5	306	4.8	5.3	5.1	6.0	1.4	43	67	9.4	5.5	5.5
10	7.3	306	4.8	5.3	5.1	7.6	1.7	52	72	6.8	5.5	5.5
11	202	306	4.8	5.3	5.1	7.3	1.4	52	67	6.0	5.5	5.5
12	340	306	4.8	5.3	5.1	7.6	1.2	52	66	5.8	5.5	5.3
13	340	302	4.8	5.3	5.1	10	1.2	52	58	5.8	5.5	5.1
14	320	302	4.8	5.3	5.1	10	1.2	29	52	5.8	5.5	5.1
15	326	302	4.8	5.3	5.1	9.4	1.3	9.4	50	5.8	5.5	5.1
16	326	302	4.6	5.3	5.1	8.8	1.4	8.8	47	5.8	5.3	5.1
17	323	302	4.6	5.1	5.1	7.9	1.6	8.8	43	5.8	5.3	5.1
18	330	302	4.6	4.8	5.1	7.9	1.4	9.1	40	5.8	5.3	5.1
19	379	302	4.6	4.8	5.1	7.6	1.2	8.5	37	5.8	5.3	5.1
20	351	302	4.6	4.8	5.1	7.6	1.1	8.2	34	5.8	5.3	5.3
21	323	298	4.6	4.8	4.8	7.3	1.1	8.2	30	5.5	5.3	5.5
22	309	298	4.6	4.8	4.8	7.3	1.1	7.9	26	5.5	5.3	5.5
23	309	298	4.6	4.8	4.8	7.6	1.2	7.6	24	5.5	5.3	5.5
24	306	298	4.6	4.8	4.8	8.2	1.2	7.6	20	5.5	5.5	5.5
25	180	295	4.6	4.8	4.8	9.4	1.4	7.6	18	5.5	5.5	5.5
26	.70	295	4.6	4.8	4.8	10	1.3	7.6	16	5.5	5.5	5.5
27	145	288	4.4	4.8	4.8	12	1.2	7.6	16	5.5	5.5	5.5
28	320	288	4.4	4.8	4.8	13	1.2	7.6	17	5.5	5.5	5.5
29	323	292	4.6	4.8	-----	14	1.1	7.6	17	5.5	5.5	5.5
30	323	292	4.6	4.8	-----	14	1.1	7.6	12	5.5	5.5	5.5
31	323	-----	4.4	4.8	-----	14	-----	7.6	-----	5.5	5.5	-----
Total	7,277.50	8,825	2,75.7	1,51.8	1,40.1	2,55.2	401	5,29.3	1,097.4	201.6	1,71.3	1,61.8
Mean	235	294	8.89	4.90	5.00	8.23	13.4	17.1	36.6	6.50	5.53	5.39
Ac-ft	14,430	17,500	547	301	278	506	795	1,050	2,180	400	340	321
Mean†	-17.4	1.68	17.1	16.3	17.6	50.6	27.4	34.2	43.4	-16.3	-10.7	-4.69
Ac-ft†	-1,070	100	1,050	1,000	978	3,110	16,300	21,050	2,580	-100	-660	-279
Calendar year 1965	Max	585	Min	0.3	Mean	125	Ac-ft	90,770	Mean†	11.7	Ac-ft†	84,570
Water year 1965-66	Max	379	Min	0.7	Mean	53.4	Ac-ft	38,650	Mean†	60.9	Ac-ft†	44,060

† Adjusted for change in contents in Jackson Meadows Reservoir.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of net runoff appear. Records of evaporation from Jackson Meadows Reservoir are not available.

## SACRAMENTO RIVER BASIN

11-4080. Milton-Bowman tunnel outlet near Graniteville, Calif.

Location.--Lat 39°27'35", long 120°36'40" in WSP 1315-A, sec.3, T.18 N., R.12 E., on right bank 100 ft downstream from tunnel outlet, near upper end of Bowman Lake, and 6.9 miles east of Graniteville.

Records available.--May 1928 to September 1930, February 1931 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as Milton-Bowman tunnel at outlet.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 5,600 ft (from topographic map). Prior to Sept. 22, 1964 at present site at datum 0.56 ft higher.

Average discharge.--38 years (1928-66), 67.6 cfs (48,940 acre-ft per year).

Extremes.--1928-30, 1931-66: 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. Flow is regulated by Jackson Meadows Reservoir since November 1964 (see sta. no. 11-4078).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	284	190	6.8	7.0	7.0	35	32	13	12	2.5	2.1
2	165	208	14	6.6	6.6	7.0	37	34	13	11	2.5	2.1
3	160	201	10	6.6	6.6	6.6	37	35	13	8.6	2.5	2.1
4	170	279	9.3	6.8	6.6	6.4	36	38	21	8.1	2.5	2.1
5	170	283	8.8	7.8	6.8	6.6	38	40	33	7.6	2.5	2.1
6	167	288	8.6	8.8	7.6	6.8	40	36	45	7.8	2.5	2.1
7	168	289	8.3	8.3	6.8	7.6	40	35	63	7.8	2.5	2.1
8	127	287	8.3	8.3	6.6	7.8	40	50	62	7.6	2.5	2.1
9	12	290	8.0	8.0	6.6	8.6	38	66	66	8.9	2.5	1.9
10	8.6	291	8.0	7.8	6.6	12	48	89	68	7.6	2.5	1.9
11	114	292	8.0	7.8	6.6	12	38	77	66	6.8	2.5	1.9
12	324	293	8.3	7.6	6.6	12	33	72	64	6.5	2.3	1.9
13	338	293	8.0	7.6	6.6	16	31	69	56	6.3	2.3	2.1
14	334	288	7.6	7.3	6.6	17	30	60	50	5.8	2.1	2.5
15	332	292	7.0	7.3	6.6	16	33	28	48	5.8	2.1	2.5
16	330	296	7.0	7.0	6.6	15	37	25	44	5.5	2.1	2.5
17	329	292	6.8	6.8	6.6	13	44	24	40	5.5	2.1	2.5
18	333	285	6.8	7.0	6.6	13	41	23	38	5.3	2.1	2.5
19	381	297	6.8	7.0	6.8	13	34	23	35	5.5	2.1	2.5
20	399	300	6.8	6.8	6.8	12	30	22	32	5.3	2.1	2.5
21	328	302	6.8	6.8	6.6	12	29	22	29	5.3	2.1	2.5
22	322	304	6.6	6.8	6.6	12	29	21	26	5.0	2.1	2.5
23	321	303	6.6	6.8	6.8	13	30	20	23	4.8	2.3	2.5
24	320	301	7.0	6.8	7.0	14	33	19	20	4.6	2.3	2.5
25	244	307	8.3	6.8	6.8	17	36	18	18	4.6	2.3	2.5
26	10	307	7.0	6.8	6.8	18	38	18	16	4.3	2.3	2.3
27	90	306	6.8	6.8	6.8	19	34	16	16	2.5	2.3	2.3
28	316	304	7.0	6.8	6.8	22	32	16	16	2.5	2.3	2.3
29	332	302	8.0	7.0	7.0	25	32	15	16	2.5	2.3	2.3
30	333	302	7.6	7.6	7.6	27	32	14	13	2.5	2.1	2.3
31	331	-----	7.6	7.0	-----	30	-----	14	-----	2.5	2.1	-----
Total	7,339.6	8,666	4,257	2,240	1,884	4,244	1,065	1,071	1,063	1,864	713	680
Mean	237	289	137	72.3	67.3	137	35.5	34.5	35.4	60.1	23.0	22.7
Ac-ft	14,560	17,190	844	444	374	842	2,110	2,120	2,110	370	141	135

Calendar year : Max 399 Min 2.5 Mean 103 Ac-ft 74,890  
 Water year : Max 399 Min 1.9 Mean 57.0 Ac-ft 41,240



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., on left bank 0.5 mile downstream from Wolf Creek and 2.8 miles southeast of Alleghany.

Drainage area.--96.6 sq mi (revised).

Records available.--October 1957 to September 1966 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 2,960 ft (from topographic map).

Average discharge.--9 years, 187 cfs (135,400 acre-ft per year).

Extremes.--Maximum discharge during year, 642 cfs May 10 (gage height, 5.36 ft); minimum daily, 23 cfs Aug. 20-22.

1957-66: Maximum discharge, 23,700 cfs Jan. 31, 1963 (gage height, 18.95 ft), from rating curve extended above 2,100 cfs on basis of slope-area measurements at gage heights 10.58 ft and 18.95 ft; minimum, 12 cfs July 6, 1959.

Remarks.--Records excellent except those for period of no gage-height record, which are fair. Milton-Bowman tunnel (see sta. no. 11-4080) diverts above station to Bowman Lake (see sta. no. 11-4155). Flow regulated by Jackson Meadows Reservoir since November 1964 (see sta. no. 11-4078).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	23	70	56	75	99	455	316	120	40	37	27
2	31	28	70	58	71	91	462	322	110	40	36	27
3	31	28	71	52	70	86	466	344	107	40	35	27
4	31	28	74	63	77	81	427	364	99	40	34	27
5	31	27	74	154	134	81	427	376	94	39	34	26
6	31	27	72	181	142	86	430	361	92	33	33	25
7	31	27	71	179	114	122	430	344	94	37	32	24
8	30	43	70	152	101	130	420	355	91	37	31	24
9	30	37	63	133	91	152	410	361	84	37	31	24
10	29	32	65	124	86	280	530	506	83	36	30	24
11	29	30	67	112	81	253	462	393	73	36	29	25
12	28	31	70	103	73	230	420	344	75	36	29	25
13	30	39	64	101	75	352	379	316	71	36	29	25
14	33	115	58	103	72	333	361	302	70	33	23	25
15	45	80	54	112	72	303	367	280	67	36	23	26
16	35	54	52	112	71	269	394	264	64	35	27	26
17	32	97	51	103	72	227	441	251	62	35	27	26
18	31	345	50	93	75	203	424	243	59	34	27	26
19	30	161	50	91	89	205	361	243	57	34	25	26
20	29	103	50	86	86	183	322	240	56	33	23	26
21	29	89	49	83	83	181	305	232	54	33	23	26
22	29	77	49	81	91	176	296	217	52	33	23	26
23	29	92	48	78	120	184	299	200	52	32	24	26
24	29	174	53	75	124	203	322	186	51	32	24	26
25	29	114	52	74	110	230	347	176	49	32	25	26
26	29	83	53	71	103	261	364	172	46	32	27	26
27	29	80	51	70	93	299	344	163	45	33	27	26
28	23	77	63	70	96	333	324	152	44	34	27	25
29	23	77	63	72	-----	370	316	144	43	35	27	24
30	23	74	67	83	-----	391	313	136	42	35	27	24
31	23	-----	57	75	-----	417	-----	126	-----	35	27	-----
Total	943	2,307	1,381	3,015	2,562	6,331	11,613	9,434	2,111	1,103	386	766
Mean	30.4	76.9	60.7	97.3	91.5	220	337	272	70.4	35.6	23.6	25.5
Ac-ft	1,870	4,580	3,730	5,980	5,080	13,550	23,040	16,730	4,130	2,190	1,760	1,520

Calendar year 1965 Max 932 Min 27 Mean 217 Ac-ft 157,200

Water year 1965-66 Max 530 Min 23 Mean 116 Ac-ft 84,210

Note.--No gage-height record July 16 to Sept. 30.

## SACRAMENTO RIVER BASIN

11-4090. Middle Yuba River above Oregon Creek, near North San Juan, Calif.

Location.--Lat 30°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 1966. 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. October 1949 to September 1964, published as "Middle 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.--26 years, 352 cfs (254,800 acre-ft per year).

Extremes.--Maximum discharge during year, 990 cfs Apr. 11 (gage height, 5.15 ft); minimum daily, 32 cfs Aug. 21, 22.  
1910-66: Maximum discharge, 31,600 cfs Jan. 31, 1963 (gage height, 18.55 ft), from rating curve extended above 15,000 cfs on basis of slope-area measurement at gage height 15.25 ft; minimum, 10 cfs Jan. 3, 1950.

Remarks.--Records excellent except those for the period of no gage-height record, which are fair. Natural flow of stream is affected by Jackson Meadows Reservoir since November 1964 (see sta. no. 11-4078), Milton-Bowman tunnel (see sta. no. 11-4080) which diverts above station to Bowman Lake (see sta. no. 11-4155), and other small diversions above station. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	39	93	130	161	192	775	380	130	56	46	36
2	41	40	89	109	151	181	801	380	123	56	44	36
3	40	42	89	98	139	163	750	408	117	56	43	36
4	40	41	91	182	149	155	705	437	111	56	42	36
5	42	42	91	799	252	153	670	461	108	55	42	36
6	42	41	89	675	453	157	670	437	103	54	41	35
7	42	42	88	461	320	214	655	404	106	52	39	33
8	41	56	85	358	246	249	631	411	105	51	38	33
9	40	63	83	311	204	282	622	422	99	52	39	33
10	40	51	81	260	183	670	900	663	95	51	37	33
11	40	47	81	219	163	595	894	536	91	51	37	34
12	40	50	98	192	149	485	878	437	88	50	38	35
13	40	58	88	178	139	759	695	394	85	49	38	35
14	46	144	81	183	134	715	604	369	82	48	38	36
15	65	103	78	183	130	660	582	336	80	47	38	36
16	53	83	74	195	127	600	595	308	78	46	38	36
17	46	138	71	178	127	481	650	293	74	46	38	36
18	44	677	70	165	130	414	655	275	72	46	36	36
19	43	283	69	151	151	422	541	269	70	46	34	36
20	43	139	68	141	159	380	465	272	69	46	33	36
21	40	106	67	132	153	345	422	260	69	46	32	36
22	40	91	66	130	161	333	400	249	68	46	32	36
23	40	115	64	123	209	326	386	227	66	44	33	36
24	39	422	83	119	260	349	404	214	65	42	33	36
25	37	241	135	115	232	386	429	195	63	40	33	36
26	37	153	89	112	209	433	469	185	62	39	36	36
27	36	120	83	111	192	493	441	176	61	39	36	36
28	36	111	143	108	183	568	408	165	58	41	36	35
29	37	105	252	115	-----	631	394	153	57	44	36	34
30	38	98	209	174	-----	675	376	147	56	44	36	34
31	39	-----	187	157	-----	715	-----	138	-----	46	36	-----
Total	1,289	3,741	3,035	6,564	5,266	13,181	17,867	10,001	2,511	1,485	1,158	1,058
Mean	41.6	125	97.9	212	188	425	596	323	83.7	47.9	37.4	35.3
Ac-ft	2,560	7,420	6,020	13,020	10,440	26,140	35,440	19,840	4,980	2,950	2,300	2,100

Calendar year 1965 Max 4,410 Min 36 Mean 382 Ac-ft 276,900  
Water year 1965-66 Max 900 Min 32 Mean 184 Ac-ft 133,200

Peak discharge (base, 2,400 cfs).--No peak above base.

Note: No gage-height record Aug. 30 to Sept. 30.

11-4095. Oregon Creek near North San Juan, Calif.

Location.--Lat 39°24'10", long 121°04'35", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> 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 1966.

Gage.--Digital water-stage recorder. 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. October 1933 to Sept. 27, 1962, graphic water stage recorder at same site and datum.

Average discharge.--55 years, 77.6 cfs (56,180 acre-ft per year).

Extremes.--Maximum discharge during year, 438 cfs Jan. 5 (gage height, 5.31 ft); minimum daily, 3.4 cfs Sept. 7. 1911-66: Maximum discharge, 10,300 cfs Dec. 22, 1964 (gage height, 12.88 ft), from rating curve extended above 36,000 cfs on basis of slope-area measurement of maximum flow; minimum 0.7 cfs several days in July, August 1931, September 1934.

Remarks.--Records good. Small diversions above station for irrigation and mining. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.0	5.9	24	38	60	89	190	66	19	8.0	5.8	4.2
2	6.8	5.8	23	30	54	82	187	62	19	7.8	5.6	4.3
3	6.9	5.8	22	30	50	74	175	60	18	8.3	5.2	4.2
4	7.1	5.8	23	87	61	69	162	59	18	8.0	5.0	4.2
5	6.9	6.2	23	348	128	67	152	57	17	7.7	4.8	3.9
6	7.1	7.2	22	295	203	72	145	54	18	7.4	4.6	3.7
7	7.1	7.6	21	172	130	111	139	51	19	7.1	4.7	3.4
8	6.8	10	20	125	101	121	132	49	19	7.3	4.5	3.6
9	6.8	11	20	108	87	155	140	48	17	7.8	4.5	3.8
10	6.7	10	19	91	77	314	225	55	16	7.9	4.0	4.0
11	6.5	9.7	21	77	69	256	300	47	17	7.7	4.1	3.9
12	6.4	11	28	69	65	227	290	43	15	7.1	3.8	4.0
13	6.4	16	23	65	60	309	233	40	14	7.3	4.0	4.0
14	7.5	35	20	64	58	284	193	37	14	7.2	4.1	4.3
15	14	21	19	66	56	267	167	35	13	6.9	4.4	4.5
16	10	14	18	70	55	260	154	34	12	6.4	4.3	4.6
17	8.2	44	17	65	55	215	149	32	12	6.3	4.0	4.5
18	7.8	140	16	62	57	189	143	31	12	6.5	3.7	4.7
19	7.6	54	16	58	73	195	128	29	11	6.7	3.8	4.9
20	7.6	28	14	54	78	175	115	28	11	6.2	3.9	4.9
21	7.1	21	14	50	77	158	104	27	11	6.2	3.8	4.9
22	7.1	18	16	50	78	148	96	26	11	5.7	4.0	4.9
23	6.8	36	13	46	109	142	91	25	11	5.5	3.6	4.4
24	6.8	140	26	44	135	144	88	23	11	5.7	3.9	4.6
25	6.8	72	36	42	114	146	87	23	10	5.5	4.1	4.8
26	6.5	44	23	41	101	151	86	22	9.6	5.6	3.9	4.9
27	6.5	35	20	40	93	160	82	21	9.0	5.2	4.1	4.5
28	6.5	32	50	40	88	171	77	21	8.7	4.6	4.3	4.1
29	6.5	29	88	49	-----	181	73	20	8.7	4.9	4.1	4.0
30	6.3	26	68	65	-----	188	69	20	8.4	5.4	4.2	4.1
31	6.3	-----	57	56	-----	189	-----	19	-----	6.0	4.3	-----
TOTAL	224.4	901.0	820	2,497	2,372	5,309	4,372	1,164	409.4	205.9	133.1	128.8
MEAN	7.24	30.0	26.5	80.5	84.7	171	146	37.5	13.6	6.64	4.29	4.29
AC-FT	445	1,790	1,630	4,950	4,700	10,530	8,670	2,310	812	408	264	255
CALENDAR YEAR 1965	MAX	1,420	MIN	5.8	MEAN	87.3	AC-FT	63,180				
WATER YEAR 1965-66	MAX	348	MIN	3.4	MEAN	50.8	AC-FT	36,770				

## SACRAMENTO RIVER BASIN

11-4104. Haypress Creek near Sierra City, Calif.

Location.--Lat 39°33'50", long 120°32'50", in NW $\frac{1}{4}$  NW $\frac{1}{4}$  sec. 32, T.20 N., R.13 E., on right bank 0.4 mile downstream from Dead Horse Canyon, and 4.5 miles east of Sierra City.

Drainage area.--18.2 sq mi.

Records available.--October 1960 to September 1966 (discontinued).

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 5,840 ft (from topographic map).

Average discharge.--6 years, 40.1 cfs (29,030 acre-ft per year).

Extremes.--Maximum discharge during year, 287 cfs May 9 (gage height, 1.44 ft); minimum daily, 2.4 cfs many days in August and September.

1960-66: Maximum discharge, 3,100 cfs Jan. 31, 1963, Dec. 23, 1964 (gage heights, 3.75 ft), from rating curve extended above 350 cfs on basis of computation of maximum flow over weir for flood of Jan. 31, 1963; minimum daily, 0.4 cfs Oct. 1, 2, 1960.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.3	6.6	9.2	8.3	5.6	6.5	48	110	69	20	6.6	2.4
2	7.4	6.6	9.2	7.4	5.6	6.3	56	120	65	18	6.6	2.4
3	7.4	6.6	9.2	6.6	6.0	6.0	52	128	62	18	6.6	2.4
4	7.4	6.6	9.2	6.6	7.0	5.8	52	144	58	17	5.9	2.4
5	7.4	6.6	9.2	9.2	8.0	6.2	56	161	56	16	5.2	2.4
6	7.4	6.6	9.2	10	8.4	6.6	62	156	54	16	5.2	2.4
7	7.4	6.6	9.2	9.2	7.6	7.4	65	158	54	14	5.2	2.4
8	7.4	10	9.2	9.2	7.0	7.4	65	161	52	13	4.6	2.4
9	8.3	9.2	9.2	8.3	6.6	7.4	62	173	52	13	4.6	2.4
10	8.3	8.3	9.2	8.3	6.2	10	56	209	47	13	4.6	2.4
11	7.4	9.2	8.3	8.3	6.0	9.2	48	192	47	12	4.6	2.4
12	7.4	9.2	8.3	8.3	5.6	11	47	176	43	12	4.6	2.4
13	7.4	12	7.4	7.4	5.5	17	50	170	41	12	4.6	2.4
14	9.2	20	7.3	7.4	5.4	16	52	158	40	11	4.6	2.4
15	12	18	7.0	7.3	5.2	14	60	147	38	11	4.6	2.9
16	9.2	14	7.0	7.3	5.2	12	69	138	38	11	4.6	2.9
17	9.2	29	7.0	7.2	5.6	12	84	133	36	10	4.0	2.9
18	9.2	21	7.0	7.0	6.0	11	73	133	34	10	3.4	2.9
19	9.2	17	7.0	6.8	6.4	12	65	133	33	10	3.4	3.4
20	8.3	13	7.0	6.6	6.1	11	65	136	31	9.2	3.4	3.4
21	8.3	12	7.0	6.4	6.3	11	67	136	31	9.2	3.4	2.9
22	8.3	16	7.2	6.2	6.6	11	69	131	29	8.3	3.4	2.9
23	7.4	19	7.7	6.0	7.0	12	73	123	28	7.4	3.4	2.4
24	7.4	22	8.2	5.8	7.4	17	84	113	26	7.4	2.9	2.4
25	7.4	17	9.0	5.6	7.0	20	99	110	24	7.4	2.9	2.4
26	7.4	14	8.6	5.6	6.7	24	104	108	24	7.4	2.4	2.4
27	7.4	13	8.4	5.6	6.5	28	99	104	21	7.4	2.4	2.4
28	7.4	12	10	5.6	6.2	33	101	97	20	7.4	2.4	2.4
29	7.4	11	10	5.6	-----	36	101	90	20	7.4	2.4	2.4
30	7.4	9.2	10	6.2	-----	41	106	84	20	6.6	2.4	2.4
31	6.6	-----	8.3	5.8	-----	47	-----	77	-----	6.6	2.4	-----
Total	247.6	381.3	259.7	221.1	178.7	474.8	2090	4209	1193	348.7	127.3	77.0
Mean	7.99	12.7	8.38	7.13	6.38	15.3	69.7	136	39.8	11.2	4.11	2.57
Ac-ft	491	756	515	439	354	942	4150	8350	2370	692	252	153

Calendar year 1965 Max 356 Min 6.6 Mean 74.8 Ac-ft 54130

Water year 1965-66 Max 209 Min 2.4 Mean 26.9 Ac-ft 19450

Peak discharge (base, 200 cfs).--May 9 (2400) 287 cfs (1.44 ft).

Note.--No gage-height record Jan. 15 to Mar. 5.

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.--250 sq mi.

Records available.--October 1930 to September 1966. 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.--Digital water-stage recorder. Datum of gage is 2,453 ft above mean sea level (river-profile survey). Prior to Mar. 23, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--36 years, 727 cfs (526,300 acre-ft per year).

Extremes.--Maximum discharge during year, 3,490 cfs May 10 (gage height, 8.06 ft); minimum daily, 117 cfs Sept. 30.

1930-66: Maximum discharge, 40,000 cfs Feb. 1, 1963 (gage height, 23.8 ft, from floodmarks), from rating curve extended above 8,500 cfs on basis of one float measurement at 17,900 cfs, slope-area measurements at gage heights 19.15 ft and 23.8 ft; minimum, 69 cfs Aug. 26, 1931.

Remarks.--Records good. Several small diversions above station for irrigation and mining.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	173	159	252	266	320	343	1,790	1,430	637	238	161	126
2	172	159	249	243	310	326	1,860	1,500	601	237	156	124
3	171	159	253	239	305	307	1,740	1,620	572	234	153	123
4	170	158	264	317	400	298	1,640	1,720	547	229	151	121
5	171	157	262	590	520	298	1,660	1,880	525	223	148	120
6	171	156	257	705	580	305	1,750	1,780	519	218	146	119
7	168	156	253	598	460	379	1,770	1,700	528	213	144	119
8	165	211	248	506	420	403	1,730	1,750	504	210	143	119
9	165	189	244	471	370	466	1,720	1,740	489	209	141	120
10	166	174	239	425	325	872	2,060	2,620	471	207	140	122
11	165	172	240	387	301	803	1,820	1,970	454	205	140	122
12	165	189	259	357	292	694	1,610	1,670	432	203	140	122
13	165	387	241	340	279	1,230	1,430	1,570	413	200	137	126
14	171	377	227	344	273	1,150	1,360	1,500	400	198	135	130
15	204	274	216	357	269	1,040	1,420	1,390	395	194	134	130
16	182	458	218	365	263	911	1,590	1,330	382	191	134	127
17	176	1,190	210	349	264	750	1,860	1,270	366	188	133	125
18	173	506	211	335	269	676	1,760	1,230	349	184	132	128
19	172	362	208	322	318	670	1,420	1,230	340	180	133	133
20	170	307	206	306	311	620	1,270	1,240	329	178	131	131
21	167	281	205	296	309	594	1,210	1,200	315	176	131	126
22	166	451	204	294	320	576	1,190	1,130	307	173	128	124
23	164	612	198	282	393	570	1,240	1,040	302	169	126	123
24	164	554	243	275	433	616	1,350	970	294	166	125	121
25	163	404	269	268	395	679	1,540	940	282	164	124	121
26	161	325	234	265	368	790	1,650	910	273	162	124	121
27	160	292	221	261	347	938	1,490	860	266	161	125	120
28	162	275	296	256	338	1,130	1,390	812	258	159	126	118
29	161	268	346	261	-----	1,310	1,370	772	251	158	125	118
30	160	261	320	330	-----	1,450	1,370	728	244	160	126	117
31	160	-----	310	340	-----	1,590	-----	682	-----	167	127	-----
TOTAL	5,223	9,623	7,603	10,950	9,772	22,784	47,080	42,184	12,045	5,954	4,219	3,696
MEAN	168	321	245	353	349	735	1,569	1,361	402	192	136	123
AC-FT	10,360	19,090	15,080	21,720	19,380	45,190	93,380	83,670	23,890	11,810	8,370	7,330

CALENDAR YEAR 1965 MAX 7,000 MIN 156 MEAN 925 AC-FT 668,600  
 WATER YEAR 1965-66 MAX 2,620 MIN 117 MEAN 496 AC-FT 359,300

Peak discharge (base, 3,200 cfs).--May 10 (0400) ,490 cfs (8.06 ft).

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 Fenev Ravine, and 4.5 miles northeast of town of Strawberry Valley.

Drainage area.--49.4 sq mi.

Records available.--October 1960 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

Average discharge.--6 years, 190 cfs (137,600 acre-ft per year), adjusted for diversion.

Extremes (creek only).--Maximum discharge during year, 906 cfs Nov. 17 (gage height, 5.64 ft); minimum daily, 6.5 cfs Sept. 30.  
1960-66: Maximum discharge, 13,100 cfs Dec. 22, 1964 (gage height, 16.42 ft), from rating curve extended above 5,500 cfs on basis of computed flow over dam at gage heights 12.75 ft and 15.90 ft; minimum daily, 0.3 cfs Mar. 4, 5, 1962.  
(combined flow)--Maximum discharge during year, 1,610 cfs Apr. 10; minimum daily, 6.5 cfs Sept. 30.  
1960-66: Maximum discharge, 13,900 cfs Dec. 22, 1964; minimum daily, 2.3 cfs Nov. 23, 1961.

Remarks.--Records good. Slate Creek Tunnel diverts at diversion dam 300 ft upstream, up to 900 cfs from Slate Creek Reservoir (capacity, 223 acre-ft) to Sly Creek Reservoir. Diversion began in February 1962. See schematic diagram for South Fork Feather River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.9	20	14	9.9	9.9	45	10	10	18	12	9.2
2	11	9.9	16	14	8.9	9.9	39	10	10	20	11	8.9
3	11	9.9	14	14	3.9	9.9	15	10	10	20	11	8.5
4	11	9.9	14	15	9.2	9.9	9.6	10	10	20	11	9.5
5	12	9.9	14	15	9.2	9.9	9.6	10	10	18	11	9.2
6	12	9.9	14	14	9.2	10	9.9	10	10	18	10	9.2
7	11	9.9	14	14	9.2	10	9.9	10	10	17	10	7.9
8	10	19	14	14	9.2	10	9.6	10	11	17	9.9	7.9
9	10	15	14	14	9.2	10	69	10	11	18	9.9	7.9
10	11	12	14	14	9.2	9.9	517	10	11	17	9.9	7.9
11	11	12	14	14	9.2	9.9	375	11	11	17	9.6	7.9
12	10	14	14	14	9.2	9.9	209	11	11	16	9.6	7.5
13	10	13	14	14	9.2	10	89	11	11	16	9.6	7.5
14	12	133	14	14	9.2	10	67	11	11	16	9.6	7.5
15	16	71	14	14	9.2	10	116	11	11	15	9.9	7.9
16	13	41	14	14	9.6	9.9	172	11	11	15	9.9	7.9
17	12	249	14	14	9.9	9.9	254	11	10	14	9.9	7.9
18	12	279	14	14	9.9	9.9	189	11	10	14	9.9	7.9
19	12	21	14	14	9.9	9.9	107	11	10	14	9.9	8.2
20	11	21	14	14	9.9	9.9	89	11	10	14	9.9	8.5
21	11	21	14	14	9.9	9.9	141	11	10	14	9.9	8.5
22	11	21	14	14	9.9	9.6	212	11	10	13	9.9	8.5
23	11	21	14	14	10	9.6	222	11	11	13	9.9	8.2
24	10	21	14	14	10	9.2	256	11	11	13	9.9	7.9
25	10	20	14	12	10	9.2	293	11	11	13	9.9	7.5
26	10	20	14	3.5	9.9	9.2	208	11	11	12	9.9	7.5
27	9.7	20	14	3.5	9.9	9.2	33	11	11	12	9.9	7.2
28	9.7	20	14	3.9	9.9	9.2	9.6	11	11	11	9.9	7.2
29	9.7	20	14	3.9	-----	9.2	9.9	12	11	11	9.9	6.8
30	9.7	20	14	3.9	-----	9.2	10	10	11	12	9.6	6.5
31	9.7	-----	14	3.9	-----	12	-----	10	-----	13	9.6	-----
Total	340.5	1,183.3	442	402.6	265.8	304.2	3,794.1	328	318	471	311.8	2,376
Mean	11.0	39.4	14.3	13.0	9.49	9.81	126	10.6	10.6	15.2	10.1	7.92
Ac-ft	675	2,350	977	799	527	603	7,530	651	631	934	618	471
Mean†	11.0	63.9	36.3	64.1	75.4	333	709	311	41.5	15.2	10.1	7.92
Ac-ft†	675	4,100	2,230	3,940	4,190	20,490	42,170	19,150	2,470	934	618	471

Calendar year 1965	Max 1530	Min 7.7	Mean 140	Ac-ft 101,200	Mean† 197	Ac-ft† 142,500
Water year 1965-66	Max 517	Min 6.5	Mean 23.0	Ac-ft 16,660	Mean† 140	Ac-ft† 16,660

† Adjusted for Slate Creek Tunnel diversion.

11-4135. North Yuba River below Bullards Bar Dam, Calif.

Location.--Lat 39°24'15", long 121°08'30", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  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.

Records available.--October 1940 to September 1966 (discontinued). 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 1.5 miles downstream at different datum.

Average discharge.--26 years, 1,496 cfs (1,083,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,420 cfs Apr. 10 (gage height, 9.81 ft); no flow Oct. 13-18, 23, 24.  
1940-66: Maximum discharge, 91,600 cfs Dec. 22, 1964 (gage height, 40.45 ft in gage well, 43.9 ft outside from floodmarks), from rating curve extended above 32,000 cfs on basis of computations of flow over dams at 29.5 ft and 42.0 ft; no flow at times in 1947, 1956-57, 1966.

Remarks.--Records good. Flow usually completely regulated below 650 cfs by Bullards Bar powerhouse, otherwise slightly regulated by Bullards Bar Reservoir (usable capacity, 13,050 acre-ft). Water is diverted out of basin through Slate Creek Tunnel, (see sta. no. 11-4132.5).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	300	447	582	542	592	810	2,960	1,810	893	386	321	259
2	276	447	582	542	592	785	3,320	2,000	832	386	309	262
3	265	420	582	542	592	750	3,000	2,140	795	393	298	216
4	265	447	569	546	592	715	2,780	2,250	755	400	308	203
5	258	451	560	675	725	685	2,710	2,420	720	424	308	203
6	250	451	560	1,470	1,290	685	2,780	2,430	700	520	227	263
7	245	451	560	1,620	1,230	735	2,800	2,250	705	443	227	259
8	245	451	560	1,330	1,010	849	2,760	2,260	695	382	304	262
9	245	438	560	1,150	882	926	2,670	2,230	670	306	305	270
10	245	443	560	1,030	795	1,660	4,000	2,970	650	312	306	133
11	98	432	560	915	765	1,860	4,040	2,720	630	372	250	126
12	40	410	560	849	695	1,560	3,400	2,240	605	317	197	179
13	0	376	556	765	660	2,190	2,930	2,040	587	331	87	189
14	0	404	556	740	640	2,390	2,510	1,990	578	327	81	186
15	0	459	560	725	625	2,140	2,500	1,840	551	312	191	189
16	0	447	560	720	580	1,820	2,660	1,740	574	221	198	183
17	0	366	542	720	610	1,650	3,070	1,670	569	231	224	145
18	0	491	542	715	605	1,500	3,150	1,610	569	333	259	128
19	34	954	542	680	620	1,450	2,480	1,590	564	316	195	185
20	23	810	542	650	730	1,390	2,170	1,590	560	314	87	198
21	17	640	533	620	735	1,310	2,010	1,580	560	316	83	190
22	17	582	511	610	735	1,260	2,040	1,510	435	288	215	193
23	0	440	491	605	785	1,230	2,040	1,430	368	221	270	188
24	0	888	424	600	992	1,270	2,170	1,330	372	223	284	145
25	18	1,090	393	600	998	1,380	2,380	1,260	372	310	291	125
26	44	790	455	596	937	1,540	2,670	1,230	382	306	288	169
27	262	650	511	596	866	1,740	2,280	1,180	386	288	209	166
28	475	592	474	592	816	1,990	2,020	1,120	386	279	204	177
29	459	582	507	587	-----	2,230	1,980	1,060	386	307	281	177
30	451	582	542	345	-----	2,480	1,830	1,010	386	219	276	213
31	451	-----	542	592	-----	2,660	-----	254	-----	227	251	-----
Total	4,947.0	16,431	16,578	23,269	21,694	45,640	80,110	55,454	17,235	10,010	7,334	5,781
Mean	160	548	535	751	775	1,472	2,670	1,789	574	323	237	193
Ac-ft	9,810	32,590	32,880	46,150	43,030	90,530	158,900	110,000	34,190	19,850	14,550	11,470

Calendar year 1965 Max 19,000 Min 0 Mean 1,705 Ac-ft 123,500  
Water year 1965-66 Max 4,040 Min 0 Mean 834 Ac-ft 603,900

Note.--No gage height record Aug. 24 to Sept. 30.

## SACRAMENTO RIVER BASIN

11-4140. South Yuba River near Cisco, Calif.

Location.--Lat 39°19'12", long 120°33'38", in SE  $\frac{1}{4}$  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.--51.8 sq mi.

Records available.--April 1942 to September 1966. Prior to October 1949, published as South Fork Yuba River near Cisco.

Gage.--Digital water-stage recorder. Altitude of gage is 5,520 ft (from river-profile map). Prior to October 1945, graphic water-stage recorder at site 200 ft upstream at same datum. October 1945 to Mar. 22, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--24 years, 192 cfs (139,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,310 cfs May 10 (gage height, 6.08 ft); minimum daily, 9.0 cfs Nov. 4, 6, 7.

1942-66: Maximum discharge, 18,400 cfs Jan. 31, 1963 (gage height, 19.6 ft from floodmark in gage house, 20.6 ft from outside floodmarks), from rating curve extended above 4,600 cfs on basis of slope area measurement at gage height 15.8 ft; minimum daily, 0.1 cfs Nov. 5-7, 1954.

Remarks.--Records good. Low flow regulated by Lake Van Norden (capacity, 4,320 acre-ft, 5,260 acre-ft with flashboards).

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	9.4	69	32	33	38	673	722	114	22	26	10
2	23	9.2	65	32	22	36	654	795	98	22	24	10
3	23	9.2	65	31	32	35	594	840	88	17	22	10
4	22	9.0	67	31	34	35	555	840	80	15	21	10
5	22	9.1	63	32	37	24	631	885	73	15	20	10
6	22	9.0	61	50	37	37	661	777	68	15	30	10
7	22	9.0	59	62	45	51	666	808	70	14	31	12
8	22	14	56	65	34	55	628	808	63	14	30	29
9	22	12	53	54	33	67	535	742	67	13	30	29
10	22	10	47	47	32	136	477	1,100	60	13	30	32
11	21	10	44	43	36	128	312	777	55	12	30	32
12	21	11	43	40	33	113	269	638	50	12	30	32
13	21	17	43	39	36	222	273	646	45	12	29	32
14	23	51	45	39	36	224	330	606	40	12	29	32
15	26	40	44	40	35	185	453	546	38	12	29	31
16	16	41	43	39	35	130	658	532	35	14	28	31
17	12	216	42	38	35	102	836	515	33	28	28	30
18	12	251	44	38	35	92	662	515	31	38	27	30
19	12	147	45	37	35	97	438	515	29	38	27	30
20	11	130	47	42	35	90	383	508	27	38	25	29
21	11	120	49	36	36	88	414	466	26	37	24	29
22	11	112	42	36	38	92	438	401	25	35	23	27
23	11	114	31	35	41	106	484	343	25	35	20	27
24	10	109	28	34	39	151	638	305	23	33	14	26
25	10	105	29	34	42	196	814	238	22	32	12	25
26	10	102	30	34	38	262	865	224	21	32	10	25
27	10	96	30	33	39	331	690	220	20	31	10	23
28	10	90	31	35	38	405	570	202	20	30	10	22
29	9.3	86	32	33	-----	463	638	173	23	29	10	22
30	9.7	80	31	37	-----	507	690	150	23	28	10	21
31	9.5	-----	31	34	-----	577	-----	122	-----	27	10	-----
TOTAL	510.0	2,027.9	1,409	1,212	1,018	5,085	15,729	16,966	1,392	735	699	718
MEAN	16.5	67.6	45.5	39.1	36.4	164	564	547	46.4	23.7	22.5	23.9
AC-FT	1,010	4,020	2,790	2,400	2,020	10,090	33,580	33,650	2,760	1,460	1,390	1,420

CALENDAR YEAR 1965 MAX 1,380 MIN 9.0 MEAN 211 AC-FT 152,700  
 WATER YEAR 1965-66 MAX 1,100 MIN 9.0 MEAN 133 AC-FT 96,590

Peak discharge (base, 1,500 cfs).--No peak above base.



11-4141. Fordyce Creek below Fordyce Dam, near Cisco, Calif.

Location.--Lat 39°22'45", long 120°29'52", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.34, T.18 N., R.13 E., on right bank 850 ft downstream from Fordyce Dam and 5.3 miles northeast of Cisco.

Drainage area.--31.7 sq mi.

Records available.--June to September 1966.

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

Extremes.--Maximum discharge for period June to September, 281 cfs June 16 (gage height, 3.52 ft); minimum daily, 30 cfs July 7-12.

Remarks.--Records excellent. Flow regulated by Fordyce Dam 850 ft above station (usable capacity, 46,700 acre-ft).

Cooperation.--Water-stage recorder graph and four discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, period June 1966 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	35	214	196
2									-	34	211	196
3									-	32	211	196
4									-	32	211	194
5									-	31	211	191
6									-	31	211	189
7									-	30	211	189
8									-	30	211	186
9									41	30	211	186
10									42	30	211	186
11									46	30	208	186
12									46	30	208	186
13									41	91	208	186
14									38	155	208	183
15									40	157	208	183
16									76	157	205	183
17									35	155	205	183
18									35	155	205	183
19									34	155	205	181
20									34	152	202	181
21									34	146	202	181
22									34	168	202	181
23									32	219	202	179
24									32	219	199	179
25									32	219	199	179
26									32	219	199	176
27									36	216	199	176
28									40	216	199	176
29					-----				38	216	199	173
30					-----				36	214	199	173
31		-----			-----		-----		-----	214	199	-----
Total									-	3,813	6,373	5,514
Mean									-	123	206	184
Ac-ft									-	7,570	12,640	10,940
Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1965-66	Max	-	Min	-	Mean	-	Ac-ft	-				

## SACRAMENTO RIVER BASIN

11-4141.40. Lake Spaulding near Emigrant Gap, Calif.

Location.--Lat 39°19'35", long 120°38'32", in SE  $\frac{1}{4}$  NW  $\frac{1}{4}$  sec.20, T.17 N., R.12 E., on left abutment of Spaulding Dam on South Yuba River 2.5 miles northeast of Emigrant Gap.

Drainage area.--118 sq mi.

Records available.--October 1964 to September 1966.

Gage.--Staff gage read daily. Datum of gage is 4,809.6 ft above mean sea level (levels by Pacific Gas and Electric Co.).

Extremes.--Maximum contents during year, 74,100 acre-ft Oct. 26 (elevation, 5,013.7 ft); minimum, 12,400 acre-ft Mar. 25 (elevation, 4,888.8 ft).  
1964-66: Maximum contents, 74,800 acre-ft June 18, 1965 (elevation, 5,014.6 ft); minimum, that of Mar. 25, 1966.

Remarks.--Lake is formed by three concrete-arch dams with spillway on the middle arch. Storage began in 1913. Capacity, 74,800 acre-ft from elevations 4,810.2 ft (bottom of outlet) and 5,014.6 ft (top of radial gates) above mean sea level. Released water flows through Spaulding powerhouses Nos. 1 and 2. Flow through powerhouse No. 1 is transported out of Yuba River Basin by Drum Canal to Bear River Basin.

Cooperation.--Record of contents furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission Project.

Contents, in thousands of acre-feet at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73.7	73.6	54.5	30.1	28.0	20.9	18.5	44.8	72.2	70.6	65.9	61.9
2	73.7	73.6	53.8	29.5	27.8	20.9	20.1	45.8	72.5	70.3	65.5	61.5
3	73.7	73.6	52.8	28.8	27.8	20.7	21.4	46.9	72.7	70.0	65.3	61.7
4	73.7	73.6	51.9	28.1	27.6	20.1	22.6	48.8	72.5	69.8	64.9	61.8
5	73.7	73.7	51.0	27.4	27.4	19.9	23.7	50.8	72.1	69.5	64.7	61.9
6	73.7	73.8	50.0	28.7	27.3	19.4	25.1	52.8	72.2	69.2	64.6	61.9
7	73.8	73.5	49.0	28.1	27.1	18.8	26.5	54.6	72.5	68.9	64.7	61.5
8	73.7	73.0	48.1	28.1	26.7	18.4	27.8	56.8	72.6	68.6	64.6	61.4
9	73.7	72.4	47.1	28.1	26.2	18.1	29.0	58.6	72.4	68.3	64.3	61.2
10	73.7	71.6	46.5	27.8	25.3	18.7	30.3	60.7	71.8	68.0	64.0	61.2
11	73.7	70.7	45.7	27.8	25.1	19.0	31.2	62.3	71.9	67.8	63.8	61.3
12	73.7	69.6	45.3	28.0	24.5	19.8	31.4	62.9	72.0	67.4	63.6	61.3
13	73.7	68.6	44.2	28.1	24.3	19.2	31.5	63.6	72.0	67.1	63.6	62.0
14	73.7	67.9	43.2	28.1	24.1	19.9	31.6	64.7	71.9	67.0	63.9	62.7
15	73.7	67.1	42.6	28.2	23.7	20.2	32.0	65.4	71.8	66.8	63.9	63.3
16	73.7	66.1	42.0	28.3	23.1	20.2	33.3	66.8	71.8	66.7	63.8	63.9
17	73.7	65.4	41.0	28.4	22.6	19.3	34.3	66.9	71.9	66.6	63.5	64.5
18	73.7	66.3	40.2	28.4	21.8	18.3	35.0	68.4	71.9	66.5	63.3	65.0
19	73.7	65.6	39.8	28.4	21.8	17.3	36.6	68.2	71.9	66.5	63.1	65.5
20	73.7	64.7	38.9	28.4	21.8	16.3	36.8	68.8	71.9	66.4	63.2	66.1
21	73.7	63.9	38.2	28.4	21.8	15.7	37.0	69.2	71.9	66.1	63.4	66.5
22	73.6	62.9	37.5	28.4	21.8	14.6	37.3	69.6	71.9	65.4	63.4	66.4
23	73.7	62.0	36.7	28.4	21.9	13.3	37.7	69.7	71.9	65.4	63.2	65.9
24	73.9	61.0	35.9	28.4	21.7	13.0	38.2	69.7	71.8	65.5	63.0	65.9
25	74.0	60.0	35.4	28.2	21.4	12.4	39.4	69.8	71.8	65.6	62.7	65.8
26	74.1	59.2	34.6	28.1	21.4	12.9	41.0	69.4	71.8	65.6	62.5	65.5
27	74.1	58.4	33.9	28.1	21.3	13.2	42.1	69.9	71.7	65.7	62.6	65.3
28	73.7	57.2	33.1	28.1	21.0	14.8	42.6	70.5	71.4	65.8	62.7	65.2
29	73.7	56.1	32.2	28.1	-----	15.5	43.2	71.2	71.1	65.9	62.7	64.8
30	73.7	55.3	31.4	28.1	-----	16.2	43.9	71.7	70.9	65.9	62.4	64.7
31	73.7	-----	30.7	28.1	-----	17.3	-----	71.9	-----	66.0	62.2	-----
(†)	5,013.1	4,984.4	4,937.1	4,931.2	4,913.5	4,903.4	4,964.1	5,000.4	5,009.0	5,001.6	4,995.6	4,999.6
(‡)	0	-18,400	-24,600	-2,600	-7,100	-3,700	+26,600	+28,000	-1,000	-4,900	-3,800	+2,500

Calendar year 1965 ..... † -35,200

Water year 1965-66 ..... ‡ - 9,000

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

11-4141.7. Drum Canal at intake near Emigrant Gap, Calif.

Location.--Lat 39°19'28", long 120°38'37", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.20, T.17 N., R.12 E., on left bank 200 ft below Spaulding #1 powerhouse and 2.4 miles northeast of Emigrant Gap.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,880 ft (from topographic map).

Extremes.--1964-66: Maximum daily discharge, 741 cfs Mar. 23, 1966; no flow July 31 to Nov. 5, 1965.

Remarks.--Records good. Canal diverts from Spaulding #1 powerhouse on the South Yuba River. Water is used for irrigation and power in the Bear River basin.

Cooperation.--Water-stage recorder graph and eighteen discharge measurements furnished by Pacific Gas and Electric Company in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	619	630	555	206	736	705	206	320	439	498
2		0	707	630	548	270	736	705	206	320	498	487
3		0	737	632	546	316	738	526	213	320	498	320
4		0	740	630	543	316	740	396	205	320	496	320
5		0	740	630	542	316	738	340	203	320	466	320
6		104	738	631	539	314	740	255	205	320	316	450
7		309	737	635	537	313	737	205	205	320	316	498
8		344	737	637	537	313	737	205	205	320	392	500
9		372	737	637	496	314	716	368	571	320	488	444
10		244	739	637	408	353	685	498	447	320	496	319
11		393	736	571	341	405	682	498	207	320	494	319
12		397	737	526	206	407	683	498	207	320	494	288
13		438	737	531	206	408	715	498	317	320	334	2.2
14		436	736	529	285	430	737	500	269	320	319	19
15		507	737	531	320	482	736	500	294	320	364	22
16		554	737	532	316	562	738	499	206	320	500	30
17		504	738	531	316	729	738	499	206	319	499	67
18		528	736	534	231	731	738	498	206	319	499	67
19		689	737	534	119	734	739	554	206	319	498	66
20		590	736	534	119	735	739	583	206	323	353	87
21		591	736	534	119	735	739	585	206	385	316	223
22		600	735	534	119	736	739	582	206	322	338	489
23		617	735	534	259	741	737	681	206	320	498	488
24		660	736	534	316	740	740	714	206	320	498	486
25		641	737	534	228	617	740	717	206	320	498	488
26		599	739	531	119	500	739	612	206	320	498	493
27		599	737	531	119	501	737	289	276	320	437	488
28		622	737	552	184	617	738	209	311	320	320	502
29		657	735	581	-----	738	730	209	281	320	320	510
30		613	697	577	-----	735	711	255	320	320	454	510
31		-----	630	578	-----	739	-----	277	-----	320	499	-----
Total	0	12,608	22,552	17,702	9,173	16,053	21,898	14,460	7,414	9,987	13,435	9,800.2
Mean	0	420	727	571	328	518	730	466	247	322	433	327
Ac-ft	0	25,010	44,730	35,110	18,190	31,840	43,430	28,680	14,710	19,810	26,650	19,440
Calendar year 1965	Max	740	Min	0	Mean	393	Ac-ft	284,500				
Water year 1965-66	Max	741	Min	0	Mean	425	Ac-ft	307,600				

## SACRAMENTO RIVER BASIN

11-4141.9. Drum Canal above Drum Forebay (revised), near Blue Canyon, Calif.

Location.--Lat 39°15'50", long 120°43'45", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ , sec.10, T.16 N., R.11 E., on right bank 1.2 miles west of Blue Canyon and 1.5 miles upstream from Drum Forebay.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,800 ft (from topographic map).

Extremes.--1964-66: Maximum daily discharge, 766 cfs Apr. 6-8, 1966; no flow at times in 1965, 1966.

Remarks.--Records excellent, except those for period of no gage-height record, which are poor.

Cooperation.--Recorder charts and 16 discharge measurements furnished by Pacific Gas and Electric Company in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		27	610	646	596	213	755	734	202	324	456	520
2		27	642	646	584	262	755	726	202	324	518	511
3		27	646	648	584	321	758	556	217	323	518	323
4		27	625	652	584	323	762	421	203	321	516	323
5		27	617	657	584	323	762	359	203	321	474	323
6		152	621	650	580	323	766	275	203	321	324	446
7		396	621	655	574	326	766	229	203	319	324	522
8		439	636	655	576	324	766	231	203	319	435	522
9		476	642	655	576	332	755	379	547	319	508	474
10		318	642	655	572	378	720	524	452	319	516	323
11		504	646	603	572	448	707	518	208	315	518	323
12		513	646	564	570	448	707	518	208	315	478	336
13		566	650	568	568	456	722	520	318	315	326	0
14		563	650	570	523	472	741	520	269	317	324	0
15		678	655	570	324	524	739	520	296	317	438	0
16		763	657	570	321	579	739	520	211	317	520	0
17		677	661	570	321	728	741	520	216	317	524	0
18		722	707	570	249	741	736	514	216	315	522	0
19		722	716	570	123	739	741	562	216	314	481	0
20		622	720	570	123	739	739	592	216	305	328	0
21		623	724	570	123	736	739	594	218	389	328	151
22		632	726	572	123	739	739	592	218	317	447	508
23		649	728	572	256	741	730	669	218	317	526	508
24		692	730	572	323	743	736	701	218	317	524	506
25		673	732	572	251	670	734	703	218	317	524	510
26		631	732	570	121	518	747	609	218	324	481	520
27		631	734	570	121	546	764	299	274	330	324	508
28		655	720	580	181	617	764	205	365	344	324	524
29		690	625	619	-----	751	751	205	313	330	440	534
30		646	625	615	-----	746	739	242	326	332	520	532
31		-----	648	617	-----	753	-----	271	-----	332	520	-----
Total	0	14,763	20,734	18,673	11,003	16,559	22,320	14,828	7,595	10,006	14,006	9,747
Mean	0	492	669	603	393	534	744	478	253	323	452	325
Ac-ft	0	29,290	41,130	37,050	21,820	32,840	44,270	29,410	15,060	19,850	27,780	19,330
Calendar year 1965	Max	763	Min	0	Mean	270	Ac-ft	195,600				
Water year 1965-66	Max	766	Min	0	Mean	439	Ac-ft	317,300				

Note.--No gage-height record Nov. 1-30.

11-4142. South Yuba Canal near Emigrant Gap, Calif.

Location--Lat 39°18'45", long 120°39'45", in SE 1/4 sec. 30, T.17 N., R.12 E., on left bank of concrete flume, 400 ft downstream from Bowman Lake Road, and 2.5 miles northeast of Emigrant Gap.

Records available--October 1964 to September 1966.

Gage--Water-stage recorder and concrete control. Altitude of gage is 4,640 ft (from topographic map).

Extremes--1964-66: Maximum daily discharge, 165 cfs Aug. 3, 1965; no flow Apr. 20-22, 1966.

Remarks--Records good. Canal diverts from South Yuba River below Lake Spaulding. Water is delivered to Deer Creek Powerhouse where it enters Deer Creek.

Cooperation--Water-stage recorder graph and ten discharge measurements furnished by Pacific Gas and Electric Company, in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	150	160	160	154	98	86	32	98	107	108	114	115
2	149	160	158	153	88	86	31	99	107	108	114	114
3	149	160	160	153	76	73	30	97	108	108	114	114
4	149	153	161	150	76	60	12	94	108	108	114	114
5	155	159	160	152	81	60	3.9	95	108	108	114	114
6	158	158	158	153	98	60	3.9	101	108	109	114	115
7	158	157	160	153	86	60	3.7	110	108	109	114	115
8	158	157	159	153	65	60	3.7	111	109	111	114	115
9	158	159	158	153	62	60	3.7	111	103	112	117	115
10	158	157	158	152	62	60	3.9	110	108	112	122	115
11	158	156	157	129	62	59	3.9	105	110	112	124	116
12	158	159	156	119	62	59	3.9	101	110	111	124	132
13	158	159	158	138	62	60	3.7	103	110	113	123	159
14	159	157	160	138	61	55	3.7	104	114	113	122	159
15	159	158	159	138	60	53	3.7	104	113	112	122	159
16	159	159	159	138	60	84	3.7	105	107	112	122	159
17	159	160	158	138	61	55	3.7	87	113	112	122	159
18	159	154	157	139	61	47	3.7	39	113	113	121	160
19	159	149	155	139	84	73	2.2	85	113	113	121	160
20	159	155	156	139	75	60	0	107	113	114	120	160
21	159	158	158	139	61	47	0	111	111	113	120	150
22	160	158	158	139	61	46	0	114	113	113	120	109
23	160	156	158	138	62	45	19	139	113	113	120	104
24	160	154	157	137	84	46	43	159	112	114	120	104
25	160	153	156	138	88	46	21	158	111	114	120	104
26	160	157	154	139	74	46	30	132	113	114	120	105
27	159	160	154	119	59	46	79	110	113	114	120	53
28	159	159	154	74	58	46	91	109	109	114	120	51
29	159	157	153	74	-----	46	92	109	108	114	120	95
30	160	159	155	107	-----	46	98	108	108	114	120	99
31	160	-----	155	78	-----	38	-----	107	-----	114	117	-----
Total	4,885	4,717	4,879	4,163	1,987	1,768	633.0	3,372	3,301	3,469	3,689	3,643
Mean	158	157	157	134	71.0	57.0	21.1	109	110	112	119	121
Ac-ft	9,690	9,360	9,680	8,260	3,940	3,510	1,260	6,690	6,550	6,880	7,320	7,230
Calendar year 1965	Max	165	Min	19	Mean	134	Ac-ft	97,010				
Water year 1965-66	Max	161	Min	0	Mean	111	Ac-ft	80,340				

## SACRAMENTO RIVER BASIN

11-4142.50. South Yuba River at Langs Crossing, near Emigrant Gap, Calif.

Location.--Lat 39°19'07", long 120°39'27", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 20, T.17 N., R.12 E., on right bank 150 ft downstream from road bridge, 0.8 mile downstream from Spaulding Nos. 1 and 2 powerplants, and 1.6 miles northeast of Emigrant Gap.

Drainage area.--120 sq mi.

Records available.--December 1965 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,432.44 ft above mean sea level (levels by Pacific Gas and Electric Co.).

Extremes.--Maximum daily discharge during period December to September, 33 cfs May 24, 25; minimum daily, 3.2 cfs Dec. 21-23.

Remarks.--Records good, except those for periods of no gage-height record, which are poor. Flow regulated by Lake Spaulding (see sta. no. 11-4141.40) and Spaulding Power Plant No. 1.

Cooperation.--Water-stage recorder graph and nine discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, period December 1965 to September, 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			30	6.0	4.4	6.6	21	12	11	6.0	6.6	5.7
2			29	6.6	3.9	6.6	17	10	11	6.0	6.6	5.7
3			26	6.6	3.9	6.2	15	9.7	16	6.0	6.6	5.7
4			22	5.7	4.6	6.0	13	9.7	16	6.0	6.6	5.7
5			22	11	9.7	5.8	12	9.7	14	5.7	6.6	6.0
6			22	20	11	5.9	11	9.7	12	6.9	6.6	6.3
7			20	16	7.6	3.0	12	9.7	12	7.6	6.6	6.3
8			17	14	6.0	11	13	9.3	12	7.6	6.6	6.6
9			17	12	4.6	12	14	9.0	13	7.6	6.6	6.6
10			17	11	4.6	24	19	9.0	11	7.6	6.6	6.6
11			17	9.0	4.1	16	22	9.3	10	7.6	6.6	6.6
12			17	7.9	4.1	14	21	9.3	9.3	7.6	6.6	9.3
13			14	7.6	4.1	23	20	9.3	9.3	7.6	6.6	5.4
14			9.3	7.6	3.8	19	18	9.0	9.7	7.6	6.6	6.6
15			9.0	8.6	3.8	17	16	9.3	9.3	7.2	6.6	6.6
16			9.0	8.3	3.8	15	15	9.3	8.3	7.2	6.6	6.6
17			8.3	6.6	3.8	12	14	9.3	8.6	7.2	6.6	6.6
18			8.3	6.6	3.9	10	12	9.3	8.6	7.2	6.6	6.3
19			7.6	5.4	5.4	9.9	12	8.3	9.0	7.2	6.6	6.3
20			6.9	5.7	6.6	9.8	11	10	9.0	7.2	6.6	6.6
21			3.2	5.1	6.6	11	10	11	8.6	7.2	6.6	6.3
22			3.2	4.8	6.9	13	9.3	11	8.3	7.2	6.6	3.6
23			3.2	4.6	12	16	9.0	25	8.3	7.2	6.6	4.6
24			3.5	4.6	12	16	7.9	33	3.3	7.2	6.6	6.3
25			3.9	4.1	9.7	19	6.0	33	8.3	7.2	6.6	6.3
26			3.9	4.1	8.6	21	5.1	16	6.9	7.2	6.6	6.3
27			3.9	4.1	6.9	23	4.6	4.6	4.8	6.9	6.6	6.0
28			4.1	3.9	6.6	25	3.9	6.0	4.6	6.6	6.3	5.7
29			4.4	3.9	-----	24	9.3	8.6	5.7	6.6	6.3	4.8
30			4.4	4.6	-----	23	16	8.6	6.3	6.6	6.0	5.1
31		-----	4.8	4.4	-----	22	-----	9.7	-----	6.6	6.0	-----
Total			370.9	230.4	173.0	450.8	389.1	356.7	289.2	217.1	202.8	182.1
Mean			12.0	7.43	6.18	14.5	13.0	11.5	9.64	7.00	6.54	6.07
Ac-ft			736	457	343	894	772	703	574	431	402	361

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max - Min - Mean - Ac-ft -

11-4155. Bowman Lake near Graniteville, Calif.

Location (revised).--Lat 39°27'01", long 120°39'10", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.5, T.18 N., R.12 E., on rockfill portion of Bowman Dam on Canyon Creek, 4.5 miles east of Graniteville, and 8 miles south of Sierra City.

Drainage area.--27.1 sq mi (revised).

Records available.--December 1926 to September 1966.

Gage.--Water-stage recorder. Prior to Oct. 8, 1964, staff gage at same site and datum. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

Extremes.--Maximum contents during year, 55,200 acre-ft May 21-24 (elevation, 5,546.7 ft); minimum observed 900 acre-ft Sept. 30. 1926-66: Maximum contents 71,000 acre-ft May 30, 1965 (elevation, 5,566.5 ft); no contents Nov. 25 to Dec. 9, 1949.

Remarks.--Lake is formed by one rockfill and one concrete-arch dam; storage began in November 1926. Total 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, all of which is available for release. Lake receives water from Middle Yuba River through Milton-Bowman tunnel (see sta. no. 11-4080), and releases it through Bowman-Spaulding Canal (see sta. no. 11-4160), which conveys it to reservoirs of Pacific Gas & Electric Co. Water is eventually used for irrigation by Nevada Irrigation District.

Cooperation.--Seventy-three staff gage readings furnished by Nevada Irrigation District.

Contents, in acre-feet, at 2400 hours, water-year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32,800	34,300	48,300	39,000	28,300	26,000	30,200	45,500	53,500	44,600	32,900	16,200
2	32,600	34,200	48,200	38,700	28,100	26,000	30,900	46,000	53,200	44,100	32,500	15,500
3	32,500	34,100	48,100	38,400	28,000	25,900	31,500	46,500	53,000	43,700	32,100	15,000
4	32,300	34,400	48,100	38,000	27,800	25,700	32,000	47,200	53,100	43,300	31,700	14,500
5	32,200	34,600	48,000	37,800	27,700	25,700	32,600	47,800	53,100	42,900	31,300	14,000
6	32,100	34,700	47,800	37,600	27,900	25,600	33,300	48,400	52,800	42,400	31,000	13,400
7	32,000	34,900	47,800	37,300	27,900	25,600	34,000	48,900	52,500	42,000	30,600	13,000
8	31,900	35,200	47,700	37,000	27,800	25,600	34,600	49,400	52,300	41,600	30,200	12,500
9	31,500	35,600	47,400	36,500	27,800	25,600	35,200	50,100	52,000	41,200	29,800	12,000
10	31,100	36,100	47,200	36,200	27,800	25,700	35,900	51,500	51,800	40,800	29,300	11,400
11	30,800	36,500	47,100	35,800	27,700	25,800	36,500	52,500	51,600	40,400	28,700	10,700
12	30,000	37,000	46,800	35,400	27,700	25,900	37,000	53,200	51,300	39,900	28,100	10,200
13	31,300	37,600	46,400	35,000	27,500	26,200	37,300	53,800	51,100	39,500	27,500	9,600
14	31,600	38,300	45,800	34,600	27,400	26,400	37,600	54,000	50,800	39,100	26,900	9,000
15	31,800	38,900	45,300	34,200	27,200	26,600	38,100	54,300	50,400	38,700	26,300	8,550
16	32,000	39,400	44,800	33,800	27,100	26,800	38,700	54,400	50,100	38,200	25,800	8,100
17	32,200	40,200	44,400	33,400	27,000	26,800	39,500	54,600	49,700	37,800	25,300	7,560
18	32,500	41,100	44,000	32,900	26,900	26,800	40,100	54,700	49,400	37,400	24,500	6,990
19	32,800	41,600	43,600	32,500	26,800	26,800	40,500	54,800	49,100	37,000	23,600	6,420
20	33,100	42,100	43,200	32,000	26,700	26,800	40,700	55,000	48,800	36,900	23,000	5,790
21	33,400	42,700	42,800	31,500	26,600	26,800	40,900	55,200	48,400	36,800	22,500	5,100
22	33,500	43,200	42,300	31,100	26,600	26,800	41,100	55,200	48,000	36,700	21,900	4,620
23	33,700	43,900	41,900	30,800	26,500	26,800	41,500	55,200	47,600	36,300	21,400	4,050
24	34,000	44,600	41,500	30,400	26,500	26,900	42,000	55,200	47,300	35,900	20,800	3,400
25	34,000	45,300	41,300	30,100	26,300	26,900	42,500	55,100	46,900	35,600	20,100	2,560
26	33,500	45,900	41,000	29,800	26,300	27,200	43,200	55,000	46,500	35,300	19,600	2,060
27	33,300	46,400	40,500	29,400	26,200	27,500	43,800	54,800	46,200	34,800	19,200	1,780
28	33,500	46,900	40,100	28,900	26,100	27,900	44,300	54,700	45,700	34,400	18,600	1,500
29	33,700	47,400	39,700	28,700	-----	28,300	44,700	54,400	45,300	34,100	18,000	1,300
30	33,900	47,900	39,500	28,500	-----	28,800	45,100	54,100	44,900	33,700	17,400	900
31	34,100	-----	39,200	28,400	-----	29,400	-----	53,900	-----	33,300	16,800	-----
(†)	5,516.8	5,537.3	5,524.9	5,507.3	5,503.5	5,509.0	5,533.3	5,545.1	5,533.0	5,515.5	5,485.8†	5,430.0
(‡)	+ 900	+ 13,800	- 8,700	- 10,800	- 2,300	+ 3,300	+ 15,700	+ 8,900	- 9,000	- 11,600	- 16,500	- 15,900

Calendar year 1965 ..... ‡ -27,000

Water year 1965-66 ..... ‡ -32,300

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

Note.--Contents at 2400 hrs Aug. 17 to Sept. 30 computed from graph base on staff gage readings.

## SACRAMENTO RIVER BASIN

11-4160. Bowman-Spaulding Canal intake near Sierra City, Calif.

Location.--Lat 39°26'25", long 120°39'30", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 8, T.18 N., R.12 E., on left bank 0.6 mile downstream from Bowman Dam and 8 miles south of Sierra City.

Records available.--October 1927 to September 1966. Prior to October 1962, published as Bowman-Spaulding Canal at intake.

Gage.--Water-stage recorder. Datum of gage is 5,390.39-ft above mean sea level. Prior to July 1965 at site 0.3 mile upstream at different datum.

Average discharge.--39 years, 146 cfs (105,700 acre-ft per year).

Extremes.--1927-66: Maximum daily discharge, 294 cfs Aug. 16, 1966; no flow at times in most years.

Remarks.--Records excellent. Canal diverts from left bank at 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	266	238	86	228	82	72	76	144	246	240	213	287
2	257	238	87	226	77	72	76	143	246	240	212	288
3	263	238	87	226	81	72	76	128	145	238	208	288
4	230	241	87	226	82	71	77	121	29	238	209	286
5	234	245	87	232	83	71	78	122	83	237	208	288
6	262	245	86	232	83	71	78	125	242	237	208	288
7	229	246	86	230	83	72	80	135	242	237	208	285
8	224	242	86	241	83	72	80	146	242	236	187	288
9	221	125	182	241	78	73	81	150	242	236	190	287
10	233	73	229	240	69	75	46	69	242	234	283	288
11	245	79	229	240	69	72	8.0	0	242	233	292	288
12	245	85	228	240	68	72	6.5	62	242	232	291	289
13	233	86	228	238	67	75	39	150	243	230	289	290
14	233	88	226	238	66	74	71	154	243	230	288	289
15	237	83	226	238	72	73	70	176	243	229	288	288
16	237	79	225	236	74	72	72	186	243	229	294	289
17	237	84	225	234	75	72	73	189	243	228	292	290
18	237	87	225	233	75	73	69	192	243	228	287	290
19	237	85	232	233	74	73	73	195	243	226	285	289
20	240	84	237	233	74	73	103	195	243	89	284	292
21	240	83	237	232	74	73	131	195	243	92	283	291
22	241	83	237	232	73	73	120	208	243	102	284	289
23	241	84	236	230	74	73	102	220	242	219	287	288
24	241	86	236	230	74	73	103	220	242	219	287	286
25	241	85	236	230	73	74	104	225	241	216	288	286
26	241	85	234	229	73	75	71	228	241	215	288	285
27	242	87	233	229	73	76	65	236	241	215	288	278
28	246	86	232	228	72	76	106	246	241	214	287	261
29	246	86	230	228	-----	76	137	246	240	214	285	285
30	241	86	232	226	-----	76	144	246	240	213	287	284
31	237	-----	230	125	-----	76	-----	246	-----	213	288	-----
Total	7467	3822	5957	7104	2101	2271	2415.5	5298	6774.9	6575.2	8168	8600
Mean	241	127	192	229	75.0	73.3	80.5	171	226	212	263	287
Ac-ft	14810	7580	11820	14090	4170	4500	4790	10510	13310	13040	16200	17060

Calendar year 1965 Max 267 Min 0 Mean 128 Ac-ft 92,660  
 Water year 1965-66 Max 294 Min 0 Mean 182 Ac-ft 132,000



11-4161. Bowman-Spaulding Canal at Jordan Creek siphon venturi, near Emigrant Gap, Calif.

Location.--Lat 39°20'32", long 120°38'26", in SW 1/4 sec. 16, T.17 N., R.12 E., at outlet of Jordan Creek siphon 0.6 mile downstream from Fuller Lake and 3.5 miles northeast of Emigrant Gap.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,440 ft above mean sea level (from topographic map).

Extremes.--1964-66: Maximum daily discharge, 330 cfs Dec. 22, 1964; no flow at times each year.

Remarks.--Records excellent.

Cooperation.--Water-stage recorder graph and seven discharge measurements furnished by Pacific Gas and Electric Company in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	259	240	88	235	85	85	206	271	268	222	202	285
2	262	239	91	231	91	85	231	274	266	220	202	286
3	264	237	91	233	91	85	233	270	227	220	202	287
4	255	231	91	235	88	85	233	259	0	220	201	286
5	244	238	91	237	94	85	238	259	47	219	201	285
6	280	239	91	237	99	85	250	258	246	217	200	285
7	272	241	91	235	94	91	256	258	252	215	198	284
8	261	244	88	243	91	94	262	262	250	215	168	282
9	256	158	157	245	95	91	256	263	249	215	192	283
10	255	80	228	244	82	121	289	280	244	215	255	282
11	259	77	229	241	80	118	219	76	241	214	272	283
12	258	80	229	240	77	106	162	0	241	214	275	283
13	247	91	229	240	77	114	149	119	239	213	272	284
14	241	118	227	239	74	132	181	232	238	213	277	285
15	250	102	227	238	77	132	204	246	237	211	272	284
16	251	82	226	237	82	124	222	259	237	210	272	284
17	249	97	226	237	85	115	241	261	237	209	277	284
18	246	153	226	237	85	109	250	259	235	209	288	284
19	246	100	226	235	88	106	224	261	233	208	287	284
20	246	91	233	234	88	104	210	261	232	108	285	287
21	245	91	235	233	88	102	231	258	232	0	284	290
22	246	88	234	233	85	102	241	256	231	47	282	292
23	246	91	234	233	88	102	234	264	231	201	284	292
24	246	96	237	232	91	106	237	265	229	206	285	291
25	241	91	243	232	88	109	246	263	229	201	285	291
26	240	91	235	231	85	120	232	265	226	205	285	291
27	241	88	234	228	85	132	226	265	226	205	285	287
28	243	88	234	229	85	148	219	271	226	202	285	259
29	247	91	240	229	-----	159	246	273	224	202	285	282
30	250	91	241	232	-----	176	264	273	224	202	283	283
31	243	-----	240	160	-----	187	-----	271	-----	202	285	-----
Total	7,789	4,044	5,992	7,225	2,408	3,510	6,912	7,552	6,697	6,060	7,926	8,545
Mean	251	135	193	233	86.0	113	230	244	223	195	256	285
Ac-ft	15,450	8,020	11,890	14,330	4,780	6,960	13,710	14,980	13,280	12,020	15,720	16,950
Calendar year 1965	Max	302	Min	0	Mean	150	Ac-ft	108,900				
Water year 1965-66	Max	291	Min	0	Mean	205	Ac-ft	148,100				

11-4165. Canyon Creek below Bowman Lake, Calif.

Location.--Lat 39°26'20", long 120°39'40", in SE¼ 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.--28.3 sq mi (revised).

Records available.--January 1927 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,100 ft (from topographic map).

Average discharge.--39 years, 40.6 cfs (29,390 acre-ft per year).

Extremes.--Maximum discharge during year, 23 cfs Dec. 31 (gage height, 2.06 ft); minimum daily, 2.5 cfs Mar. 1-4. 1927-66: Maximum discharge, 2,600 cfs Dec. 25, 1964 (gage height, 6.25 ft); no flow at times.

Remarks.--Records good. Flow regulated by French Lake Reservoir (usable capacity, 13,840 acre-ft), by Bowman Lake (see sta. no. 11-4155), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (see sta. no. 11-4160). Bowman Lake receives water from Middle Yuba River through Milton-Bowman tunnel (see sta. no. 11-4080).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	4.4	4.2	8.5	3.5	2.5	6.5	2.8	3.6	3.6	3.7	4.1
2	4.4	4.2	4.3	4.9	3.3	2.5	5.7	3.0	3.6	3.6	3.6	4.1
3	4.4	4.2	4.4	3.8	3.1	2.5	6.0	3.7	3.6	3.6	3.5	4.1
4	4.4	4.2	4.6	3.8	3.1	2.5	5.5	3.7	3.3	3.6	3.5	4.1
5	4.4	3.7	4.4	5.2	3.5	2.6	5.5	3.6	3.2	3.6	3.3	3.9
6	4.4	3.6	4.3	6.3	3.3	3.0	5.2	3.6	3.6	3.6	3.3	4.1
7	4.4	3.6	4.3	4.7	3.2	3.5	5.2	3.6	3.6	3.6	3.1	4.1
8	4.4	4.2	4.3	4.4	3.1	4.0	5.1	3.5	3.6	3.6	3.1	3.9
9	4.4	3.7	4.3	4.3	3.1	5.0	5.6	3.8	3.5	3.6	3.0	3.9
10	4.4	3.6	4.2	4.1	3.1	7.6	7.9	5.1	3.5	3.5	3.0	3.8
11	4.4	3.6	4.2	3.9	3.0	6.0	9.9	7.3	3.5	3.7	3.1	3.9
12	4.4	3.7	4.2	3.9	3.0	5.8	12	5.7	3.5	3.7	3.1	3.9
13	4.4	3.9	4.1	3.9	2.8	7.6	7.0	3.6	3.5	3.6	3.2	4.1
14	4.4	7.4	4.1	3.9	2.8	6.8	3.3	3.6	3.5	3.7	3.1	3.9
15	4.8	4.8	4.1	3.8	2.9	6.4	4.2	3.7	3.5	3.7	3.2	3.9
16	4.7	4.1	3.9	3.8	2.9	6.0	4.4	3.7	3.5	3.7	3.8	3.9
17	4.6	7.1	3.9	3.7	2.8	5.7	4.4	3.7	3.5	3.7	4.2	3.9
18	4.6	13	3.9	3.6	2.8	5.3	4.3	3.7	3.5	3.7	4.2	3.9
19	4.6	5.9	3.8	3.6	2.9	4.8	4.3	3.7	3.5	3.7	4.2	3.9
20	4.6	5.1	3.7	3.6	2.9	4.4	3.3	3.7	3.5	3.7	4.1	3.9
21	4.6	4.7	3.7	3.6	2.8	4.2	3.2	3.7	3.5	3.6	4.1	3.9
22	4.6	4.3	3.6	3.6	2.8	3.7	3.3	3.7	3.5	3.6	4.1	3.9
23	4.6	4.4	3.6	3.5	2.9	3.9	3.3	3.6	3.5	3.7	4.1	3.9
24	4.6	4.9	5.7	3.5	2.9	4.4	3.3	3.6	3.5	3.7	4.1	3.9
25	4.6	4.6	9.7	3.5	2.8	4.8	3.3	3.6	3.5	3.7	4.1	3.9
26	4.6	4.4	5.7	3.5	2.6	5.2	4.3	3.5	3.5	3.7	4.1	3.9
27	4.6	4.4	3.7	3.5	2.6	5.6	2.9	3.5	3.3	3.7	4.1	3.9
28	4.6	4.3	5.4	3.5	2.6	5.9	3.0	3.5	3.3	3.7	4.1	3.9
29	4.6	4.3	8.3	3.6	-----	5.9	2.9	3.5	3.5	3.7	4.1	3.9
30	4.6	4.2	8.7	3.9	-----	6.0	2.9	3.6	3.5	3.7	4.1	3.9
31	4.6	-----	1.7	3.5	-----	6.2	-----	3.6	-----	3.7	3.9	-----
Total	140.1	142.5	158.3	126.9	83.1	150.3	147.7	118.2	104.7	113.3	114.2	118.3
Mean	4.52	4.75	5.11	4.09	2.97	4.85	4.92	3.81	3.49	3.65	3.68	3.94
Ac-ft	278	283	314	252	165.0	298	293	234.0	208	225	227	235

Calendar year 1965 Max 977 Min 2.6 Mean 136 Ac-ft 98170  
 Water year 1965-66 Max 17 Min 2.5 Mean 4.16 Ac-ft 3010

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.--198 sq mi (revised).

Records available.--March 1942 to September 1953, October 1956 to September 1966. Prior to October 1949, published as South Fork Yuba River near Washington.

Gage.--Water-stage recorder. Altitude of gage is 2,735 ft (from river profile map). Mar. 14, 1942, to Sept. 30, 1945, at site 150 ft upstream at present datum, Oct. 1, 1945, to July 14, 1949, on right bank 50 ft downstream at present datum, July 15, 1949, to Sept. 30, 1953, on right bank 0.8 mile upstream at different datum, Oct. 1, 1956, to Apr. 24, 1963, at site 50 ft downstream at present datum, Apr. 25, 1963, to Feb. 26, 1965, digital water-stage recorder at site 50 ft downstream at present datum.

Extremes.--Maximum discharge during year, 665 cfs Nov. 18, (gage height, 3.60 ft); minimum daily, 19 cfs Aug. 8.

1942-53, 1956-66: Maximum discharge, 35,300 cfs Dec. 23, 1964 (gage-height, 20.0 ft from floodmarks), from rating curve extended above 6,500 cfs on basis of slope-area measurement at gage height 16.60 ft in gage well, 17.8 ft from floodmarks; minimum, 9.1 cfs Oct. 18, 1950.

Flood of Dec. 23, 1955 reached a stage of 17.8 ft, from floodmarks (discharge, 26,300 cfs).

Remarks.--Records excellent. Natural flow affected by Lake Spaulding beginning in 1912 (see sta. no. 11-4141.4), Bowman Lake (see sta. no. 11-4155), 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.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	184	156	71	55	59	80	266	78	39	23	21	22
2	187	152	69	52	56	76	250	76	40	22	20	22
3	189	149	70	50	55	71	232	78	41	22	20	21
4	187	142	68	72	62	68	214	76	41	22	20	22
5	177	129	68	227	128	67	205	74	38	22	20	22
6	176	60	65	236	161	70	197	68	37	21	20	22
7	194	55	62	190	112	116	188	65	37	22	20	22
8	182	68	58	167	96	127	170	63	39	22	19	22
9	182	57	57	146	83	160	167	66	39	23	22	22
10	182	51	55	121	78	332	278	163	36	23	23	22
11	182	49	56	104	71	230	300	205	34	23	22	22
12	182	48	61	93	68	190	290	152	32	23	22	22
13	179	51	56	87	62	338	228	62	30	23	22	25
14	185	143	50	89	62	262	192	58	29	23	22	24
15	235	99	47	92	59	232	183	55	29	22	21	24
16	189	69	45	92	58	212	176	52	28	22	21	24
17	176	128	45	84	58	160	174	50	28	22	21	23
18	168	545	44	78	58	139	156	49	27	22	22	23
19	165	185	42	74	76	146	133	48	27	22	22	24
20	164	108	42	69	79	136	120	47	27	22	22	25
21	164	84	39	64	73	127	114	46	27	22	22	24
22	174	71	39	62	75	122	108	42	27	26	22	22
23	138	93	36	59	116	124	103	40	27	25	22	20
24	63	213	44	58	121	142	101	57	27	22	22	22
25	68	133	50	55	102	158	101	56	26	21	22	23
26	108	102	45	54	90	181	100	53	26	20	22	22
27	241	88	42	53	83	205	91	37	24	20	22	22
28	279	84	60	51	79	226	86	36	23	20	22	21
29	191	80	73	53	-----	246	85	36	22	20	22	21
30	171	76	69	68	-----	250	82	38	23	20	22	21
31	162	-----	63	61	-----	258	-----	39	-----	21	22	-----
Total	5,424	3,468	1,691	2,816	2,280	5,251	5,090	2,065	930	683	664	673
Mean	175	116	54.5	90.8	81.4	169	170	66.6	31.0	22.0	21.4	22.4
Ac-ft	10,760	6,880	3,350	5,590	4,520	10,420	10,100	4,100	1,840	1,350	1,320	1,330

Calendar year 1965 Max 3,600 Min 38 Mean 469 Ac-ft 339,800  
 Water year 1965-66 Max 545 Min 19 Mean 85.0 Ac-ft 61,560

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.--23.1 sq mi (revised).

Records available.--July 1961 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 2,600 ft (from topographic map). Prior to Apr. 24, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--5 years, 61.5 cfs (44,520 acre-ft per year).

Extremes.--Maximum discharge during year, 199 cfs May 10 (gage height, 4.41 ft); minimum daily, 7.9 cfs Aug. 19.

1961-66: Maximum discharge, 6,090 cfs Dec. 22, 1964 (gage height, 12.52 ft in gage well, 13.5 ft from floodmarks), from rating curve extended above 1,700 cfs on basis of slope-area measurement at 10.95 ft; minimum, 5.9 cfs Oct. 4, 1961.

Remarks.--Records good. No known diversion or storage above the station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	11	22	25	30	35	110	88	28	15	10	8.3
2	11	11	22	23	29	32	111	89	28	16	9.8	8.2
3	11	11	22	22	28	30	111	90	27	15	9.4	8.1
4	11	11	22	34	32	29	108	90	26	15	9.0	8.1
5	11	11	21	87	66	29	110	89	25	14	9.0	8.0
6	11	11	20	104	82	30	111	84	26	14	8.8	8.0
7	11	11	19	83	59	48	110	82	27	14	8.8	8.0
8	11	18	19	72	49	48	106	80	26	14	8.8	8.1
9	11	13	18	63	42	69	105	82	24	14	8.6	8.1
10	11	12	18	54	38	118	157	114	24	14	8.4	8.0
11	11	12	18	47	34	87	126	88	22	13	8.4	8.1
12	10	12	20	43	32	76	122	78	22	13	8.4	8.3
13	11	16	18	42	31	115	106	72	21	13	8.3	8.8
14	14	47	17	43	29	94	99	68	20	13	8.2	9.2
15	19	28	16	45	28	86	101	63	20	13	8.2	9.0
16	13	17	17	45	27	80	108	58	19	12	8.1	8.8
17	12	45	16	41	27	68	118	54	18	12	8.1	8.6
18	12	143	16	38	27	64	111	51	18	12	8.0	9.0
19	12	54	16	36	33	65	97	48	18	12	7.9	9.4
20	11	32	16	33	33	60	89	46	18	11	8.1	9.2
21	11	24	16	31	33	56	87	44	18	11	8.2	9.0
22	11	20	16	30	34	54	86	41	18	11	8.1	9.0
23	11	29	15	29	46	54	89	38	18	11	8.1	8.9
24	11	81	20	28	48	58	95	36	17	10	8.1	8.6
25	11	44	21	27	42	62	101	34	17	10	8.1	8.6
26	11	32	19	26	37	67	102	33	17	10	8.2	8.6
27	11	29	18	25	35	74	97	32	17	10	8.2	8.4
28	11	27	30	25	34	82	94	30	16	10	8.2	8.4
29	11	26	24	26	-----	88	90	30	16	10	8.2	8.2
30	11	24	31	32	-----	95	89	30	16	10	8.3	8.2
31	11	-----	29	30	-----	101	-----	29	-----	10	8.4	-----
TOTAL	356	862	622	1,289	1,065	2,054	3,146	1,891	627	382	262.4	255.2
MEAN	11.5	28.7	20.1	41.6	38.0	66.3	105	61.0	20.9	12.3	8.47	8.51
AC-FT	706	1,710	1,230	2,560	2,110	4,070	6,240	3,750	1,240	758	520	506

CALENDAR YEAR 1965 MAX 688 MIN 10 MEAN 69.9 AC-FT 50,600 52,600  
 WATER YEAR 1965-66 MAX 157 MIN 7.9 MEAN 35.1 AC-FT 25,400

Peak discharge (base, 500 cfs).--No peak above base.

11-4175. South Yuba River at Jones Bar, near Grass Valley, Calif.

Location.--Lat 39°17'32", long 121°06'13", near center of sec.32, T.17 N., R.8 E., on left bank at Jones Bar, 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.--308 sq mi (revised).

Records available.--October 1940 to September 1948, April 1959 to September 1966. Published as South Fork Yuba River at Jones Bar 1940-48 and as South Yuba River "at Jones Bar" 1959-63.

Gage.--Water-stage recorder. Altitude of gage is 1,060 ft (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.--15 years, 464 cfs (335,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,360 cfs Jan. 5 (gage height, 7.63 ft); minimum daily, 12 cfs Sept. 7, 8, 11.

1940-48, 1959-66: Maximum discharge, 53,600 cfs Dec. 22, 1964 (gage height, 25.0 ft, from floodmarks), from rating curve extended above 23,000 cfs on basis of slope-area measurement of maximum flow; minimum, 1.0 cfs Sept. 10-13, 1944.

Flood of Dec. 23, 1955 reached a stage of 28.7 ft from floodmarks (at site 100 ft upstream and datum 2.00 ft lower).

Remarks.--Records good. Flow regulated by Lake Spaulding (see sta. no. 11-4141.40), Fordyce Lake (capacity, 46,700 acre-ft), Bowman Lake (see sta. no. 11-4155), 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. Records of water temperatures for the 1966 water year are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	176	152	143	236	170	236	512	223	80	34	23	25
2	186	149	128	182	165	226	522	214	80	34	22	32
3	187	150	126	159	160	205	487	214	80	34	21	36
4	189	150	126	493	190	196	469	206	80	33	19	26
5	179	145	124	1,250	360	192	445	205	78	32	19	15
6	176	124	120	856	460	194	436	196	75	28	18	13
7	203	75	116	603	350	262	421	184	78	28	18	12
8	184	79	112	487	290	322	400	181	79	28	19	12
9	182	95	107	430	250	328	385	178	77	28	19	13
10	184	77	106	360	240	714	582	284	74	28	21	13
11	182	71	106	303	230	586	662	342	70	29	24	12
12	181	70	139	268	217	466	674	306	69	28	24	13
13	178	77	121	250	201	678	533	199	66	28	24	14
14	241	203	108	245	189	630	451	159	61	28	25	20
15	258	216	99	255	182	544	418	146	60	28	25	19
16	208	123	95	260	173	550	412	135	54	27	24	18
17	196	137	92	240	168	445	421	126	50	25	24	17
18	187	924	91	230	168	397	412	120	47	24	24	17
19	176	623	88	215	205	415	355	115	46	24	24	20
20	160	246	87	205	242	382	322	110	45	24	22	20
21	163	168	87	190	214	358	306	103	44	23	21	20
22	171	136	85	180	210	340	292	99	44	22	21	18
23	140	152	81	175	268	328	284	95	44	27	21	16
24	75	689	138	170	348	345	286	91	45	25	20	14
25	74	448	314	165	308	362	282	99	44	20	21	14
26	95	264	147	160	282	385	282	99	42	19	21	17
27	241	199	119	155	254	415	258	90	42	18	22	17
28	297	171	317	150	236	451	238	77	39	18	23	16
29	197	157	519	150	-----	472	232	76	36	18	21	14
30	170	149	451	190	-----	484	226	77	34	18	21	14
31	160	-----	397	180	-----	496	-----	79	-----	21	23	-----
Total	5,596	6,419	4,889	9,392	6,730	12,404	12,005	4,828	1,763	801	674	527
Mean	181	214	158	303	240	400	400	156	538	258	217	176
Ac-ft	11,100	12,730	9,700	18,630	13,350	24,600	23,810	9,580	3,500	1,590	1,340	1,050
Calendar year 1965	Max	5,900	Min	58	Mean	675	Ac-ft	489,000				
Water year 1965-66	Max	1,250	Min	12	Mean	181	Ac-ft	131,000				

## SACRAMENTO RIVER BASIN

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.--1,108 sq mi (revised).

Records available.--October 1941 to September 1966. 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, flowmeter 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.--25 years, 2,513 cfs (1,819,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,680 cfs Apr. 11, including flow through powerplant; minimum daily, 120 cfs Oct. 1. 1941-66: Maximum discharge, 171,000 cfs Dec. 22, 1964 (gage height, 546.14 ft), no flow through powerplant; from rating curve extended above 25,000 cfs on basis of computation of peak flow over spillway of dam at gage heights 544.72 and 546.14 ft; 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 (see sta. no. 11-4141.40), Englebright Reservoir beginning in 1941 (capacity, 70,000 acre-ft), Bowman Lake (see sta. no. 11-4155), 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. Records of chemical analyses near this gaging station for the water year 1966 are published in Part 2 of this report.

Cooperation.--Records of flow through powerplant furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	120	650	730	1300	1260	1370	4430	2640	1160	500	500	360
2	260	650	730	1080	1290	1340	4770	2720	1090	500	500	290
3	390	650	730	1000	1140	1260	4520	2860	1040	500	500	300
4	390	650	730	1460	1130	1200	4240	2990	999	500	500	300
5	390	650	730	4220	1410	1160	4000	3180	955	500	500	300
6	400	660	730	3860	2860	1140	4080	3240	933	500	500	300
7	510	660	735	3290	2450	1260	4080	3020	933	500	500	300
8	710	660	740	2490	1900	1540	3980	2990	923	500	500	300
9	710	670	749	2100	1620	1640	3880	2990	901	500	495	300
10	710	665	823	1820	1420	3100	5680	3820	874	500	495	300
11	705	660	846	1660	1300	3520	6260	3820	844	500	500	300
12	705	660	926	1470	1220	2880	5760	3180	798	500	500	310
13	710	660	915	1340	1130	3680	4700	2780	773	500	500	310
14	700	660	887	1260	1090	4210	3980	2640	760	500	500	310
15	695	670	864	1240	1050	3770	3760	2440	723	500	500	310
16	700	675	848	1270	988	3550	3850	2280	703	500	500	310
17	700	670	836	1270	988	2960	4270	2170	700	500	500	310
18	700	670	818	1240	1000	2550	4530	2060	688	500	500	310
19	675	680	813	1170	1050	2540	3790	2020	685	500	480	310
20	650	685	807	1100	1230	2400	3270	2000	690	500	460	300
21	650	690	795	1040	1240	2200	2930	1980	690	500	460	290
22	650	700	768	1000	1220	2120	2860	1920	660	500	460	310
23	640	710	734	976	1290	2010	2930	1820	530	500	430	300
24	640	710	730	943	1680	2060	2960	1720	505	500	390	300
25	650	720	1050	954	1750	2220	3520	1560	505	500	390	310
26	640	725	925	926	1660	2440	3200	1560	500	500	395	300
27	640	725	900	915	1500	2730	3200	1500	500	500	400	300
28	640	735	1130	915	1400	3130	2880	1420	500	500	400	300
29	640	730	2020	959	-----	3520	2740	1350	500	500	400	300
30	640	730	1310	1560	-----	3820	2640	1300	500	500	400	300
31	640	-----	1670	1320	-----	4140	-----	1240	-----	500	400	-----
Total	18500	20430	28519	47143	39266	77460	117590	73210	22572	15500	14455	9140
Mean	600	681	920	1521	1402	2499	3920	2362	752	500	466	305
Ac-ft	36890	40520	56570	93520	77880	153600	233200	145200	44770	30740	28670	18130

Calendar year 1965 Max 34,100 Min 120 Mean 3,022 Ac-ft 2,188,000

Water year 1965-66 Max 6,260 Min 120 Mean 1,326 Ac-ft 959,300

Peak discharge (base, 13,000 cfs).--No peak above base.

11-4185. Deer Creek near Smartville, Calif.

Location.--Lat 39°13'28", long 121°16'03", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  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 1966.

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.--31 years, 131 cfs (94,840 acre-ft per year).

Extremes.--Maximum discharge during year, 2,620 cfs Dec. 28 (gage height, 7.57 ft); minimum daily, 6.9 cfs June 16, 17.

1935-66: Maximum discharge, 11,600 cfs Oct. 13, 1962 (gage height, 13.77 ft); from rating curve extended above 5,200 cfs; minimum, 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, increased to 49,000 acre-ft in July 1964), Deer Creek Reservoir (capacity, 1,400 acre-ft), power developments, and diversion for irrigation. At times, water from South Yuba River is diverted to Deer Creek and water from Deer Creek is diverted to Bear River.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	21	26	137	224	66	32	27	22	8.3	14	15
2	16	19	24	88	177	57	29	27	20	11	12	15
3	16	15	24	69	101	48	32	26	18	13	12	15
4	17	15	23	757	93	47	31	24	15	14	12	14
5	16	18	23	1,440	142	46	27	22	14	13	12	14
6	15	18	23	368	357	45	26	23	15	12	11	14
7	15	18	22	170	152	52	23	21	19	12	11	14
8	14	25	22	135	106	48	20	18	20	12	11	16
9	14	24	21	95	83	50	34	21	15	11	12	13
10	15	19	18	81	72	118	74	33	14	11	12	15
11	16	18	20	70	63	74	73	29	13	11	12	15
12	17	21	50	59	58	61	111	26	12	11	12	15
13	18	27	30	54	55	104	63	23	11	11	12	16
14	22	116	24	49	53	70	47	18	8.9	8.3	12	16
15	42	46	23	46	50	61	34	18	7.8	7.8	12	15
16	24	30	23	42	49	80	31	16	6.9	7.5	12	14
17	19	189	21	41	48	63	28	18	6.9	7.5	12	14
18	16	354	20	40	46	58	28	16	7.2	7.5	13	15
19	16	82	20	40	64	78	26	16	7.5	7.5	12	16
20	15	39	20	37	60	64	26	14	7.2	8.0	12	13
21	18	30	20	34	50	55	24	15	7.5	8.0	12	11
22	20	26	20	34	46	52	21	17	8.3	9.6	12	9.2
23	20	53	20	35	50	49	21	16	8.0	9.6	12	8.6
24	19	547	82	33	68	46	21	15	8.0	18	12	8.3
25	19	134	555	31	84	46	23	17	7.5	9.6	13	8.6
26	18	59	83	30	144	42	22	15	7.5	8.9	13	9.2
27	18	41	50	30	92	41	23	19	7.2	9.9	14	8.0
28	18	34	602	32	72	41	24	20	7.5	11	14	8.0
29	21	30	593	87	-----	38	24	20	7.5	9.6	14	7.8
30	23	29	564	794	-----	37	24	20	8.0	11	14	7.8
31	22	-----	378	162	-----	36	-----	22	-----	14	15	-----
Total	574	2,097	3,444	5,120	2,659	1,773	1,022	632	3,374	3,236	385	3,825
Mean	18.5	69.9	111	165	95.0	57.2	34.1	20.4	11.2	10.4	12.4	12.8
Ac-ft	1,140	4,160	6,830	10,160	5,270	3,520	2,030	1,250	669	642	764	759
Calendar year 1965 Max 3,260 Min 7.9 Mean 126 Ac-ft 91,050												
Water year 1965-66 Max 1,440 Min 6.9 Mean 51.4 Ac-ft 37,190												

Peak discharge (base, 3,500 cfs).--No peak above base.

11-4207. Dry Creek near Browns Valley, Calif.

Location--Lat 39°15'25", long 121°20'35", in NE  $\frac{1}{4}$  sec. 7, T.16 N., R.6 E., on left bank 500 ft upstream from diversion dam and 3.6 miles east of Browns Valley.

Drainage area--87.1 sq mi.

Records available--July 1964 to September 1966.

Gage--Digital water-stage recorder. Altitude of gage is 265 ft (from topographic map). Prior to Apr. 6, 1965, graphic water-stage recorder, at same site and datum.

Extremes--Maximum discharge during year, 520 cfs Jan. 30 (gage height, 5.00 ft); minimum daily, 1.8 cfs Aug. 19, 20, 24. 1964-66: Maximum discharge, 4,810 cfs Jan. 5, 1965 (gage height, 9.65 ft); minimum daily, 12. cfs Dec. 12-15, 1964.

Remarks--Records good. Flow regulated by Lake Mildred (capacity, 1,500 acre-ft), Merle Collins Reservoir (revised) (capacity, 57,000 acre-ft), and some diversions above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.7	6.7	2.6	14	288	100	29	6.2	5.9	4.1	5.0	2.6
2	6.7	7.2	2.3	9.4	312	85	26	6.2	5.9	5.0	5.0	2.6
3	6.2	7.7	2.1	7.5	198	69	28	5.9	5.7	5.7	3.3	2.4
4	6.4	7.2	1.9	74	170	61	15	5.9	5.5	5.7	3.7	2.4
5	6.7	6.9	3.5	158	242	59	17	6.9	5.7	5.0	3.5	2.4
6	6.4	6.7	3.9	45	272	58	15	6.9	6.2	5.7	3.5	3.7
7	5.9	6.4	3.9	26	218	67	13	7.2	6.2	4.8	3.0	3.2
8	5.0	8.2	3.9	19	162	67	8.5	7.4	5.9	5.0	2.6	3.0
9	5.7	5.5	3.5	13	122	67	12	7.7	5.7	5.5	2.4	3.3
10	5.9	3.7	3.0	10	100	128	104	8.2	4.8	5.5	2.6	3.0
11	6.4	3.3	4.1	8.5	77	130	98	6.9	5.0	4.4	3.2	2.8
12	6.2	3.3	13	7.7	70	100	139	6.2	4.1	4.4	3.7	2.8
13	6.2	6.7	7.2	32	57	120	116	7.2	3.3	4.8	3.3	3.3
14	7.7	17	5.2	48	53	114	69	7.2	3.3	4.4	3.3	3.9
15	7.7	6.7	4.4	53	52	92	46	6.2	4.6	3.9	3.2	4.1
16	5.9	5.7	3.9	48	47	89	33	5.7	4.8	4.1	2.8	3.5
17	6.2	40	3.5	44	46	80	21	6.2	4.1	4.1	2.4	3.5
18	6.2	44	3.5	37	44	68	16	6.1	3.7	3.9	1.9	4.1
19	5.9	17	3.3	37	66	81	17	6.7	3.3	3.9	1.8	4.6
20	5.9	8.0	3.2	37	114	90	13	6.4	4.8	3.7	1.8	4.1
21	6.4	5.0	3.2	32	86	74	9.4	5.7	4.4	3.5	1.9	3.9
22	6.2	3.9	2.8	30	66	66	9.1	6.2	5.0	3.3	2.4	3.7
23	6.2	5.0	2.6	34	65	55	8.0	6.9	5.7	3.9	2.6	4.8
24	6.2	17	3.5	33	81	53	7.1	5.0	5.5	3.7	1.8	3.9
25	6.2	16	15	31	126	50	5.9	5.0	4.6	3.7	2.1	3.5
26	6.2	8.5	8.0	29	202	47	5.9	5.5	4.8	3.7	1.9	3.7
27	6.2	5.5	5.7	27	168	44	6.2	5.5	4.6	4.4	3.2	3.9
28	6.4	3.5	67	26	126	41	6.4	5.7	4.6	4.1	3.9	4.4
29	5.9	3.2	68	43	-----	40	6.9	5.9	4.1	4.1	4.1	4.4
30	5.9	2.0	32	440	-----	36	6.7	5.9	4.8	4.4	3.7	3.9
31	6.2	-----	24	295	-----	33	-----	5.7	-----	4.8	2.4	-----
TOTAL	193.9	288.5	313.7	1,748.1	3,630	2,264	907.1	196.3	146.6	137.2	92.0	105.4
MEAN	6.26	9.62	10.1	56.4	130	73.0	30.2	6.33	4.89	4.43	2.97	3.51
AC-FT	385	572	622	3,470	7,200	4,490	1,800	389	291	272	182	209

CALENDAR YEAR 1965 MAX 3,280 MIN 1.9 MEAN 74.8 AC-FT 54,120  
 WATER YEAR 1965-66 MAX 440 MIN 1.8 MEAN 27.5 AC-FT 19,880



11-4210. Yuba River near Marysville, Calif.

Location.--Lat 39°10'35", long 121°31'25", in New Helvetia Grant, on left bank 4.2 miles northeast of Marysville, Yuba County, and 5 miles downstream from Dry Creek.

Drainage area.--1,339 sq mi (revised).

Records available.--October 1940 to September 1966 (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, which is 2.95 ft below mean sea level. Prior to August 1954 and Oct. 1, 1956, to Sept. 30, 1957, at Simpson Lane Bridge in Marysville 4.2 miles downstream at same datum. Since Sept. 3, 1963, auxiliary water-stage recorder at Simpson Lane Bridge in Marysville 4.2 miles downstream at same datum.

Average discharge.--23 years (1943-1966), 2,515 cfs (1,821,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,300 cfs Jan. 5 (gage height, 64.17 ft); minimum daily, 32 cfs Sept. 9, 10.  
1943-66: Maximum discharge, 180,000 cfs Dec. 22, 1964 (gage height, 90.15 ft from floodmarks), from rating curve extended above 91,000 cfs on basis of Corps of Engineers flood routing study.  
1940-66: Minimum discharge recorded, 10 cfs July 2, 1959.

Remarks.--Records good. 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. Records of chemical analyses, and water temperatures at or near this gaging station for the water year 1966 are published in Part 2 of this report.

Revisions (water years).--1965 Report: 1960.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	296	525	1,280	1,930	1,610	4,360	2,180	742	55	81	44
2	99	296	535	929	2,090	1,570	4,680	2,200	668	59	75	37
3	234	289	535	812	1,640	1,490	4,540	2,270	605	69	69	37
4	233	289	535	1,150	1,510	1,390	4,200	2,430	545	75	81	36
5	200	289	545	6,340	1,690	1,340	3,950	2,570	525	72	78	36
6	185	296	545	5,000	3,130	1,310	3,930	2,700	479	61	72	37
7	170	303	545	3,970	3,060	1,380	3,910	2,510	479	64	69	37
8	392	317	545	3,030	2,410	1,630	3,860	2,430	461	64	69	36
9	443	317	545	2,440	1,980	1,730	3,700	2,440	461	67	64	32
10	443	310	555	2,110	1,760	2,840	5,240	2,900	409	69	55	32
11	443	324	615	1,840	1,580	3,790	5,930	3,450	385	67	55	38
12	461	345	753	1,620	1,460	3,210	5,570	2,970	361	67	64	53
13	434	385	742	1,580	1,380	3,610	4,700	2,470	324	79	72	103
14	443	575	688	1,520	1,300	4,460	3,900	2,250	310	75	75	116
15	470	515	646	1,490	1,250	4,060	3,520	2,110	275	72	69	131
16	470	506	626	1,480	1,190	3,880	3,540	1,920	331	72	72	140
17	452	636	605	1,480	1,170	3,370	3,810	1,800	257	81	75	131
18	443	1,190	585	1,440	1,160	2,940	4,090	1,700	257	78	81	140
19	434	753	575	1,390	1,230	2,820	3,430	1,630	257	73	78	140
20	401	585	565	1,310	1,380	2,760	2,940	1,610	251	67	72	140
21	401	535	555	1,260	1,430	2,530	2,540	1,580	257	64	64	127
22	393	525	545	1,200	1,370	2,390	2,410	1,540	251	59	59	127
23	385	565	535	1,190	1,390	2,290	2,340	1,450	175	59	53	127
24	385	969	545	1,150	1,730	2,260	2,440	1,280	96	61	48	127
25	369	808	1,160	1,140	2,040	2,370	2,620	1,190	83	67	46	127
26	324	646	810	1,090	2,120	2,540	2,920	1,160	81	64	44	127
27	303	626	646	1,100	1,880	2,790	2,760	1,120	72	59	37	116
28	296	585	759	1,090	1,700	3,140	2,460	1,030	57	67	48	109
29	296	575	3,030	1,120	-----	3,540	2,270	973	57	72	46	113
30	303	507	2,070	2,830	-----	3,860	2,190	896	55	75	46	106
31	296	-----	1,970	2,050	-----	4,080	-----	819	-----	83	40	-----
Total	10,714	15,157	24,435	57,438	47,960	82,980	108,650	59,478	9,566	2,120	1,957	2,702
Mean	346	505	788	1,853	1,713	2,677	3,622	1,919	319	63.4	63.1	90.1
Ac-ft	21,250	30,060	48,500	114,000	95,130	164,600	215,500	113,000	18,970	4,200	3,880	5,360
Calendar year 1965	Max	43,900	Min	99	Mean	3,006	Ac-ft	2,176,000				
Water year 1965-66	Max	6,340	Min	32	Mean	1,159	Ac-ft	839,300				

## SACRAMENTO RIVER BASIN

11-4217.2 (revised). Boardman Canal near Emigrant Gap, Calif.

Location.--Lat 30°17'44", long 120°42'18", in SW 1/4, sec.35, T.17 N., R.11 E., on right bank 0.5 downstream from Boardman diversion dam and 1.8 miles west of Emigrant Gap.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,020 ft (from topographic map).

Extremes.--1964-66: Maximum daily discharge, 43 cfs Dec. 21, 1964; no flow Dec. 24, 1964 to Jan. 26, 1965.

Remarks.--Records good except those for period of no gage-height record, which are fair. Water is diverted from Bear River to be used for power development and irrigation in the Bear River basin.

Cooperation.--Water-stage recorder graph and twelve discharge measurements furnished by Pacific Gas and Electric Company, in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	30	32	25	25	23	20	17	23	25	28	29
2	40	30	33	25	25	23	20	16	23	26	27	28
3	41	30	33	25	23	23	19	16	24	26	27	28
4	41	30	32	25	23	23	19	15	24	24	27	28
5	40	30	31	25	23	23	19	16	24	24	27	28
6	40	30	28	25	23	23	19	19	24	26	27	27
7	41	30	27	25	23	23	18	31	24	27	27	27
8	41	30	27	25	23	23	19	32	24	28	27	27
9	35	31	26	25	23	23	18	32	24	29	29	27
10	30	30	25	25	23	23	18	33	25	30	32	27
11	30	28	25	25	23	23	18	25	24	30	34	27
12	30	28	25	25	23	23	17	21	24	29	34	28
13	30	28	25	25	23	23	17	24	24	28	34	28
14	32	28	25	25	23	23	17	24	26	27	34	28
15	32	28	25	25	23	23	16	24	27	27	34	27
16	32	28	25	25	23	26	16	24	22	27	34	28
17	32	27	26	25	23	26	16	24	30	26	33	29
18	32	27	26	25	23	28	15	24	30	26	32	29
19	32	27	26	25	23	28	15	24	30	26	32	28
20	32	27	26	25	23	28	15	24	29	27	32	27
21	32	27	32	25	23	26	16	24	29	28	32	26
22	31	27	39	25	23	27	18	24	30	28	31	27
23	31	27	39	25	23	25	18	24	29	27	31	31
24	31	29	39	25	23	25	18	24	28	27	32	29
25	31	32	39	25	23	25	19	24	28	28	32	28
26	31	32	39	25	23	25	19	24	28	27	32	27
27	31	32	40	25	23	25	18	24	29	27	32	27
28	30	32	38	25	23	25	18	24	27	28	32	26
29	30	32	25	25	-----	25	18	24	26	28	32	26
30	30	32	25	25	-----	20	17	23	25	28	32	27
31	30	-----	25	25	-----	20	-----	23	-----	28	30	-----
Total	1,040	879	928	775	646	751	530	728	784	842	959	829
Mean	33.5	29.3	29.9	25.0	23.1	24.2	17.7	23.5	26.1	27.2	30.9	27.5
Ac-ft	2,060	1,740	1,840	1,540	1,280	1,490	1,050	1,440	1,560	1,670	1,900	1,640

Calendar year 1965 Max 41 Min 0 Mean 26.2 Ac-ft 18,990  
 Water year 1965-66 Max 41 Min 15 Mean 26.6 Ac-ft 19,220

Note.--No gage-height record Dec. 29 to Mar. 8.

11-4217.5. Dutch Flat No. 1 powerplant near Dutch Flat, Calif.

Location.--Lat 39°13'02", long 120°50'04", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.27, T.16 N., R.10 E., at powerplant 0.75 mile north of Dutch Flat.Records available.--October 1964 to September 1966.Gage.--Recorded powerplant output.Extremes.--1964-66: Maximum daily discharge, 548 cfs for several days in January, February, April 1965; no flow many days each year.Remarks.--Water is diverted from Drum Afterbay through a tunnel to Dutch Flat No. 1 powerplant and returned to Dutch Flat Afterbay.Cooperation.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	307	182	490	502	538	536	545	541	542	363		
2	309	179	501	517	548	544	534	536	543	403		
3	296	180	494	536	539	542	539	538	543	535		
4	294	183	485	543	541	544	527	539	543	535		
5	284	176	478	476	542	544	533	544	543	537		
6	284	161	456	543	545	538	539	543	543	534		
7	285	162	487	538	546	535	548	543	543	537		
8	287	206	472	503	543	528	542	539	543	536		
9	286	211	468	476	548	540	546	544	541	539		
10	285	227	295	499	539	540	541	545	541	537		
11	287	183	0	532	538	534	543	540	540	529		
12	285	193	72	541	542	518	542	546	538	540		
13	266	224	480	534	268	530	543	541	538	535		
14	258	178	510	543	0	520	543	545	535	535		
15	240	176	525	545	397	521	540	545	536	535		
16	240	161	468	545	548	532	536	541	535	537		
17	242	169	463	545	542	522	540	545	538	538		
18	236	193	486	545	542	524	543	483	536	539		
19	230	457	360	545	548	525	541	512	541	535		
20	184	471	409	545	546	511	542	325	525	539		
21	210	467	490	545	546	489	545	283	539	535		
22	182	466	542	545	541	537	541	436	538	539		
23	167	465	545	548	548	536	541	492	539	532		
24	161	400	542	543	515	511	539	506	536	531		
25	138	206	496	545	544	544	544	504	538	536		
26	140	459	545	548	541	537	541	507	534	537		
27	164	489	540	542	545	543	503	506	394	538		
28	179	460	405	549	533	539	541	459	371	534		
29	182	491	292	543	-----	539	540	527	534	530		
30	178	486	252	548	-----	545	544	521	540	531		
31	178	-----	224	545	-----	545	-----	541	-----	273		-----
Total	7,264	6,661	13,272	16,553	14,213	16,493	16,186	15,817	15,850	16,033	0	0
Mean	234	289	428	534	508	532	540	510	528	517	0	0
Ac-ft	14,410	17,180	26,320	32,830	28,190	32,710	32,100	31,370	31,440	31,800	0	0

Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-
Water year 1965-66	Max	543	Min	0	Mean	384	Ac-ft	278,400

## SACRAMENTO RIVER BASIN

11-4217.5. Dutch Flat No. 1 powerplant near Dutch Flat, Calif.--Continued

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	63	411	540	526	240	515	193	0	52	63	169
2	0	55	307	545	329	248	524	248	0	45	147	168
3	0	63	281	543	334	329	516	179	0	45	151	166
4	0	65	266	539	439	326	518	110	55	45	151	165
5	0	65	303	542	395	328	503	99	58	32	154	166
6	0	68	287	539	380	348	247	96	58	45	151	168
7	0	286	466	542	357	340	247	85	26	0	154	168
8	0	463	364	538	361	366	273	83	68	0	147	168
9	0	421	239	545	398	371	278	141	80	0	153	166
10	76	377	351	539	229	425	243	252	0	0	152	164
11	82	513	287	539	236	497	288	268	26	32	152	166
12	58	505	292	533	261	479	260	239	0	16	139	186
13	88	521	289	528	252	507	357	233	26	0	148	85
14	85	518	419	523	255	527	285	135	16	0	149	0
15	105	525	278	529	343	522	284	87	0	0	167	126
16	99	528	346	532	342	526	234	202	0	0	167	0
17	45	532	186	530	330	530	252	237	52	16	165	80
18	98	536	243	535	325	531	355	286	37	41	164	115
19	82	521	195	529	157	534	321	236	37	85	164	0
20	70	541	432	533	163	530	243	142	37	87	166	76
21	96	532	217	529	176	531	222	99	41	65	167	98
22	96	544	399	511	178	531	222	99	41	92	165	0
23	98	495	199	530	188	538	222	125	41	76	166	60
24	96	308	154	524	374	533	226	216	52	72	166	60
25	99	529	191	229	371	533	225	294	45	72	169	63
26	96	529	190	68	184	526	222	521	55	80	167	60
27	105	543	184	219	159	528	236	424	45	68	167	98
28	111	535	188	528	174	526	254	202	45	63	164	65
29	111	530	210	330	-----	529	379	192	45	55	167	60
30	109	541	285	406	-----	524	272	83	37	68	165	63
31	92	-----	543	450	-----	514	-----	0	-----	60	167	-----
Total	1,997	12,252	9,002	15,045	8,216	14,317	9,223	5,806	1,023	1,312	4,334	3,129
Mean	64.4	408	290	485	293	462	307	187	34.1	42.3	156	104
Ac-ft	3,960	24,300	17,860	29,840	16,300	28,400	18,290	11,520	2,030	2,600	9,590	6,210
Calendar year 1965	Max	548	Min	0	Mean	368	Ac-ft	266,600				
Water year 1965-66	Max	545	Min	0	Mean	236	Ac-ft	170,900				

11-4217.6. Dutch Flat No. 2 flume near Blue Canyon, Calif.

Location.--Lat 39°15'15", long 120°46'30", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.18, T.16 N., R.11 E., on left bank 600 ft downstream from Drum afterbay and 3.6 miles west of Blue Canyon.

Records available.--October 1965 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 3,348.09 ft above mean sea level (levels by Nevada Irrigation District).

Extremes.--Maximum daily discharge during period October to September, 599 cfs Dec. 29; no flow for many days.

Remarks.--Records good. Water is diverted from Drum afterbay through the flume to Dutch Flat No. 2 powerplant and returned to Dutch Flat afterbay.

Cooperation.--Two discharge measurements furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	1.0	204	0	100	0	108	447	127	227	442	425
2	-	1.0	283	0	275	0	203	461	147	269	351	365
3	-	1.0	456	0	130	0	203	404	148	254	380	151
4	-	1.0	458	0	138	0	203	264	147	256	356	166
5	-	1.0	455	0	208	0	375	278	147	248	379	166
6	-	1.0	428	0	218	0	484	197	149	246	226	341
7	-	1.0	219	0	220	0	473	158	147	248	190	353
8	-	1.0	370	0	212	0	474	158	119	277	281	363
9	-	1.0	516	0	147	0	430	229	447	276	372	343
10	-	1.0	265	0	210	0	477	265	360	251	374	156
11	-	1.0	380	0	147	0	473	256	157	251	369	189
12	-	1.0	345	0	0	0	474	273	151	255	354	316
13	7.1	1.0	345	0	0	0	318	279	226	282	168	41
14	1.0	1.0	258	0	0	0	474	396	218	276	189	41
15	1.0	25	428	0	0	0	476	396	238	296	363	41
16	1.0	1.0	464	0	0	0	474	285	158	232	309	41
17	1.0	1.0	578	0	0	0	477	254	142	260	381	40
18	1.0	1.0	579	0	0	0	274	261	128	292	392	67
19	40	1.0	579	0	0	0	478	307	161	194	325	108
20	23	39	562	0	0	0	480	455	161	261	175	65
21	1.0	1.0	541	13	0	0	477	465	157	349	189	59
22	1.0	85	356	62	0	0	480	458	157	223	296	412
23	1.0	127	582	40	0	0	480	494	155	222	400	412
24	1.0	278	588	117	0	0	480	522	146	216	400	454
25	1.0	92	584	380	0	0	480	186	146	285	400	421
26	1.0	92	589	454	0	0	469	59	147	266	373	424
27	1.0	84	596	180	0	0	459	59	197	209	156	396
28	1.0	73	598	107	0	0	460	77	257	239	150	476
29	1.0	76	592	238	-----	60	346	79	268	281	321	418
30	1.0	185	234	198	-----	55	442	151	282	245	396	448
31	1.0	-----	0	80	-----	27	-----	269	-----	263	336	-----
Total	-	1190.0	13439	1869	2005	142	12401	8349	5589	7949	9793	7703
Mean	-	39.7	434	60.3	71.6	4.58	413	285	186	256	316	257
Ac-ft	-	2360	26660	3710	3980	282	24600	17550	11090	15770	19420	15290

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max - Min - Mean - Ac-ft -

## SACRAMENTO RIVER BASIN

11-4217.7. Bear River below Drum afterbay, near Blue Canyon, Calif.

Location.--Lat 39°15'16", long 120°46'26", in SW $\frac{1}{4}$  NW $\frac{1}{4}$  sec.17, T.16 N., R.11 E., on left bank 60 ft below Drum afterbay dam and 3.5 miles west of Blue Canyon.

Drainage area.--12.3 sq mi.

Records available.--April to September 1966 (low flows only).

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 3,320 ft (from topographic map).

Remarks.--Records fair. Water for Dutch Flat No. 1 powerplant (see sta. no. 11-4217.5) and Dutch Flat No. 2 flume (see sta. no. 11-4217.6) is diverted from Drum afterbay just upstream from station. This station records fishwater releases.

Cooperation.--Water-stage recorder graph and eleven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, period April 1966 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	12	9.4	9.8	10	11
2							11	12	9.4	9.4	10	11
3							9.8	12	9.4	9.4	10	10
4							9.4	12	9.4	9.0	10	10
5							9.4	12	9.4	9.4	9.8	10
6							9.0	12	9.4	9.4	10	10
7							9.0	12	9.4	9.4	10	10
8							9.0	12	9.0	9.4	10	10
9							9.0	12	9.8	9.4	11	10
10							9.4	12	9.0	9.4	10	9.8
11							9.8	12	9.0	9.4	10	9.8
12							9.8	12	9.0	9.0	12	12
13							13	12	9.0	9.0	11	12
14							13	12	9.0	9.8	10	12
15							13	12	9.0	12	10	9.4
16							14	12	9.0	10	10	9.8
17							14	12	9.0	10	9.8	10
18							14	10	9.0	12	9.8	11
19							14	9.0	8.6	11	9.8	11
20							13	8.6	8.6	11	9.8	11
21							13	8.2	9.0	10	9.8	11
22							13	12	9.0	10	9.8	9.4
23							13	7.8	9.0	10	9.8	9.4
24							13	7.8	9.0	10	9.8	9.4
25							13	12	9.0	10	10	9.4
26							13	20	9.0	10	10	9.8
27							13	9.8	9.0	10	9.8	9.4
28							12	9.4	9.0	10	9.8	12
29					-----		12	9.4	9.4	10	10	13
30					-----		12	9.4	9.4	9.8	10	10
31		-----			-----		-----	9.8	-----	9.8	10	-----
Total							----	347.2	273.6	306.8	311.8	312.6
Mean							----	11.2	9.12	9.90	10.1	10.4
Ac-ft							----	689	543	609	619	620

Calendar year 1965 Max - - - Min - - - Mean - - - Ac-ft - - -  
 Water year 1965-66 Max - - - Min - - - Mean - - - Ac-ft - - -

11-4217.8 Chicago Park flume near Dutch Flat, Calif.

Location.--Lat 39°12'55", long 120°50'25", in NW 1/4 NE 1/4, sec.34, T.16 N., R.10 E., on left bank 250 ft downstream from Dutch Flat afterbay and 0.6 mile north of Dutch Flat.

Records available.--November 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 2,600 ft (from topographic map).

Extremes.--Maximum daily discharge for period November to September, 980 cfs Mar. 22; no flow on several days.

Remarks.--Records good except those for periods of no gage height record which are fair. Flow regulated by Dutch Flat afterbay.

Cooperation.--Six discharge measurements furnished by Pacific Gas and Electric Co.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	19	648	710	1.0	935	783	139	420	579	582
2		-	0	646	542	1.0	879	776	197	379	543	535
3		-	28	646	991	1.0	875	640	126	375	424	251
4		-	0	671	451	1.0	801	290	320	218	560	235
5		-	0	512	872	1.0	845	542	191	450	484	278
6		-	250	909	894	1.0	786	262	193	308	244	617
7		-	516	514	890	1.0	852	260	261	435	372	515
8		-	515	933	753	1.0	567	253	104	243	367	515
9		-	396	708	740	1.0	820	377	571	344	645	515
10		-	452	261	520	1.0	812	681	573	329	412	294
11		-	429	0	340	1.0	951	520	114	315	649	331
12		-	436	0	1.0	1.0	828	625	219	255	493	579
13		-	199	382	1.0	1.0	822	535	359	340	306	179
14		-	711	665	1.0	1.0	842	562	312	361	323	1.0
15		-	592	578	1.0	1.0	805	551	265	401	546	1.0
16		-	727	624	1.0	1.0	763	530	217	282	451	1.0
17		-	696	379	1.0	1.0	893	535	187	328	575	1.0
18		-	696	942	1.0	1.0	764	378	182	384	571	1.0
19		-	708	680	1.0	1.0	683	276	161	342	520	1.0
20		-	703	646	1.0	78	863	616	245	383	355	251
21		0	699	690	1.0	439	768	594	165	474	347	28
22		0	765	722	1.0	280	776	612	308	323	463	471
23		0	479	722	1.0	763	755	662	238	190	565	495
24		0	678	564	1.0	638	800	778	211	318	565	495
25		0	650	623	1.0	663	769	704	211	563	554	507
26		0	632	655	1.0	780	747	716	133	392	517	507
27		0	646	832	1.0	735	789	328	317	137	369	507
28		0	372	595	1.0	740	776	108	297	317	267	553
29		0	820	829	-----	862	761	184	214	513	504	482
30		74	729	800	-----	654	788	203	317	308	650	503
31		-----	638	772	-----	831	-----	470	-----	216	532	-----
Total	-	-	15,181	19,148	7,620.0	8,182.0	24,115	15,356	7,347	10,643	14,752	10,231
Mean	-	-	490	618	272	264	804	495	245	343	476	341
Ac-ft	-	-	30,110	37,980	15,110	16,230	47,830	30,460	14,570	21,110	29,260	20,290

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max - Min - Mean - Ac-ft -

Note.--No gage-height record Nov. 21 to Jan. 12, Feb. 12 to Mar. 19, June 29 to Aug. 17.

## SACRAMENTO RIVER BASIN

11-4217.90. Bear River below Dutch Flat afterbay, near Dutch Flat, Calif.

Location.--Lat 39°12'55", long 120°50'25", in NE $\frac{1}{4}$  NW $\frac{1}{4}$  sec. 34, T.16 N., R.10 E., at the left bank downstream end of spillway, on Dutch Flat afterbay dam, 0.6 mile north of Dutch Flat.

Drainage area.--21.2 sq mi.

Records available.--December 1965 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 2,600 ft (from topographic map).

Extremes.--Maximum discharge during period December to September, 1,570 cfs Dec. 5, 6; minimum daily, 0.20 cfs Dec. 1, 9-15.

Remarks.--Records good. Chicago Park flume (see sta. no. 11-4217.8) diverts above station to Chicago Park Powerplant. Records include spill over Dutch Flat afterbay dam. This station measures flow from Dutch Flat afterbay in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			<u>0.2</u>	<u>0.50</u>	<u>5.7</u>	<u>312</u>	<u>2.5</u>	<u>9.6</u>	<u>9.8</u>	<u>9.6</u>	<u>9.4</u>	<u>9.6</u>
2			229	.50	6.0	354	2.5	9.6	9.8	9.6	<u>9.1</u>	9.6
3			767	.50	6.0	410	2.5	9.6	9.8	9.6	9.4	9.6
4			969	.50	6.0	440	2.5	9.9	9.1	<u>9.9</u>	9.1	9.6
5			<u>1,450</u>	<u>163</u>	6.0	438	2.5	9.6	9.1	9.6	9.4	9.6
6			1,380	.50	6.0	438	4.6	9.6	9.1	9.1	9.4	9.6
7			1,210	.50	6.0	466	6.9	9.6	9.1	<u>9.3</u>	<u>9.6</u>	9.6
8			503	.50	6.0	498	<u>182</u>	9.6	9.1	<u>9.3</u>	<u>9.6</u>	9.6
9			.20	.50	6.0	503	7.1	9.6	9.4	9.8	9.6	9.6
10			.20	.50	6.0	680	6.9	9.6	9.4	9.1	9.6	9.6
11			.20	.60	6.0	689	7.1	9.6	9.4	9.1	9.6	9.6
12			.20	.60	187	643	7.1	9.4	<u>9.6</u>	9.4	9.6	9.6
13			.20	23	274	731	6.9	9.4	9.4	9.1	9.6	<u>170</u>
14			.20	4.3	331	765	6.9	9.1	9.4	9.1	9.6	<u>75</u>
15			.20	.50	413	765	6.9	9.1	9.4	9.1	9.6	<u>36</u>
16			.20	.50	378	878	6.9	9.1	9.4	9.1	9.6	8.6
17			.30	.50	378	967	6.9	9.4	9.4	9.1	9.6	8.8
18			.50	.50	313	963	6.7	9.4	9.4	9.4	9.6	9.1
19			.50	.50	177	<u>1,020</u>	6.9	<u>466</u>	9.4	9.1	9.6	9.4
20			.50	.50	182	885	6.9	9.1	9.1	9.4	9.6	9.1
21			.50	3.8	197	580	6.9	9.4	9.1	9.4	9.6	9.1
22			.40	8.2	213	6.0	6.9	9.4	9.1	9.4	9.6	9.4
23			.40	3.2	329	6.0	6.9	9.4	9.1	9.4	9.6	9.4
24			.50	3.2	<u>506</u>	209	6.9	9.6	9.1	9.6	9.6	9.4
25			.50	3.2	452	203	6.9	9.6	9.1	9.4	9.6	9.4
26			.50	3.0	229	6.0	6.9	9.6	9.1	9.4	9.6	9.4
27			.50	7.4	182	5.7	6.9	9.4	9.4	9.4	9.6	9.4
28			.50	7.0	205	5.7	6.9	9.4	9.6	9.6	9.6	9.4
29			.50	5.5	-----	3.8	8.0	9.4	9.6	9.4	9.6	9.6
30			94	5.7	-----	<u>2.5</u>	9.6	9.1	9.6	9.4	9.6	9.6
31		-----	353	5.7	-----	14	-----	<u>8.8</u>	-----	9.4	9.6	-----
Total			6,967.90	284.90	5,016.7	13,890.7	362.0	749.0	2,77.4	2,87.6	2,95.8	5,07.9
Mean			225	9.19	179	448	12.1	24.2	9.25	9.28	9.54	16.9
Ac-ft			13,320	565	9,350	27,550	713	1,490	550	570	537	1,010

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max - Min - Mean - Ac-ft -

Note.--No gage-height record Dec. 1-15.



11-4218. Rollins Reservoir near Colfax, Calif.

Location.--Lat 39°08'05", long 120°56'54", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.22, T.15 N., R.9 E., on left bank just upstream from Rollins Dam on Bear River, 2.3 miles north of Colfax.

Drainage area.--104 sq mi.

Records available.--December 1964 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

Extremes.--Maximum contents during year, 67,300 acre-ft Jan. 5 (elevation, 2,172.6 ft); minimum, 31,300 acre-ft Nov. 7 (elevation, 2,117.0 ft).

1964-66: Maximum contents, 67,800 acre-ft Jan. 6, 1965 (elevation, 2,173.2 ft); minimum since initial filling, 28,100 acre-ft Mar. 7, 1965 (elevation, 2,110.0 ft).

Remarks.--Reservoir is formed by earthfill dam. Storage began Dec. 15, 1964. Usable capacity, 65,720 acre-ft between elevations 1,970.0 ft (invert of outlet tunnel) and 2,171.0 ft (spillway crest) above mean sea level. Dead storage, 270 acre-ft. Several diversions into and out of basin upstream for power development and irrigation. Stored water is released into Bear River, part of which is diverted to Pacific Gas and Electric's Bear River Canal for power development. Water is later used for irrigation. Records represent total contents.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40.000	31.500	44.100	66.600	66.500	66.300	66.700	66.600	65.200	60.700	60.800	61.200
2	39.500	31.500	44.600	66.600	66.300	66.400	66.700	66.600	65.000	60.800	60.900	61.400
3	39.100	31.500	44.300	66.600	66.600	66.500	66.800	66.400	64.700	60.800	60.800	61.200
4	38.700	31.400	45.900	66.800	66.400	66.500	66.800	66.000	64.600	60.500	60.800	61.200
5	38.100	31.700	46.600	67.300	66.800	66.500	66.900	66.000	64.300	60.800	60.900	61.100
6	37.600	31.600	47.400	67.000	66.900	66.500	66.700	65.700	64.100	60.800	60.800	61.400
7	37.200	31.300	48.100	66.700	66.700	66.600	66.700	65.600	63.900	60.900	60.800	61.400
8	36.800	31.600	48.800	66.800	66.600	66.600	66.700	65.500	63.500	60.800	60.700	61.400
9	36.300	31.400	49.400	66.700	66.500	66.700	66.700	65.700	63.900	60.800	60.900	61.500
10	35.900	31.400	50.000	66.300	66.300	66.900	66.700	66.300	64.500	60.800	60.800	61.500
11	35.400	31.500	50.800	66.500	66.100	66.700	66.900	66.500	63.800	60.800	60.900	61.500
12	35.000	31.700	51.500	66.500	65.700	66.600	66.900	66.500	63.200	60.700	61.100	61.700
13	34.600	31.900	52.300	66.500	65.600	66.700	66.800	66.500	63.200	60.800	61.000	61.500
14	34.300	32.200	53.000	66.700	65.900	66.700	66.800	66.500	63.100	60.800	61.000	61.100
15	34.000	32.600	53.600	66.400	66.300	66.700	66.700	66.500	63.000	60.800	61.200	60.500
16	33.900	32.900	54.300	66.400	66.500	66.700	66.600	66.400	62.900	60.800	61.000	59.800
17	33.600	33.500	54.900	66.400	66.500	66.700	66.700	66.400	63.700	60.700	61.000	59.100
18	33.400	34.900	55.600	66.700	66.400	66.700	66.500	66.200	62.300	60.800	61.000	58.500
19	33.200	35.800	56.300	66.400	66.300	66.800	66.500	66.700	62.000	60.800	61.100	58.000
20	33.000	36.300	56.900	66.400	66.300	66.700	66.700	66.500	61.900	60.800	61.100	57.900
21	32.900	36.800	57.600	66.400	66.300	66.800	66.600	66.500	61.500	60.900	61.100	57.200
22	32.700	37.300	58.400	66.500	66.300	66.800	66.600	66.500	61.500	60.900	61.100	57.200
23	32.600	38.100	58.800	66.500	66.500	66.700	66.700	66.600	61.400	60.600	61.100	57.200
24	32.500	39.700	59.600	66.300	66.700	66.700	66.700	66.600	61.200	60.500	61.100	57.200
25	32.300	40.600	60.500	66.300	66.600	66.700	66.600	66.400	61.000	60.900	61.100	57.200
26	32.200	41.300	61.200	66.400	66.300	66.700	66.600	66.400	60.600	60.900	61.200	57.100
27	32.100	41.900	62.000	66.600	66.200	66.700	66.700	66.100	60.600	60.500	61.100	57.100
28	32.000	42.500	63.300	66.400	66.200	66.700	66.700	66.700	60.600	60.400	60.800	57.200
29	31.800	43.100	65.000	66.700	-----	66.700	66.600	65.400	60.500	60.800	60.800	57.200
30	31.700	43.600	66.400	66.600	-----	66.700	66.700	65.200	60.500	60.800	61.100	57.200
31	31.600	-----	66.600	66.600	-----	66.700	-----	65.600	-----	60.500	61.100	-----
(†)	2,117.6	2,139.8	2,171.7	2,171.7	2,171.3	2,171.8	2,171.8	2,170.5	2,164.2	2,164.2	2,164.9	2,159.8
(‡)	-8.700	+12.000	+23.000	0	-400	+500	0	-1.100	-5.100	0	+600	-3.900

Calendar year 1965..... ‡ + 5,900

Water year 1965-66..... ‡ +16,900

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

## SACRAMENTO RIVER BASIN

11-4220. Bear River Canal intake near Colfax, Calif.

Location.--Lat 39°07'58", long 120°57'12", in SW 1/4 sec. 22, T.15 N., R.9 E., on right bank 600 ft downstream from canal inlet, 0.25 mile below Rollins Dam, and 2.2 miles north of Colfax.

Records available.--January 1912 to September 1953, October 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,980 ft (from topographic map). Prior to Mar. 25, 1946, at site 1.5 miles downstream at different datum.

Average discharge.--43 years (1912-53, 1964-66), 259 cfs (187,500 acre-ft per year).

Extremes.--1912-53, 1964-66: Maximum daily discharge, 499 cfs Apr. 20-22, 1966; no flow at times most years.

Remarks.--Records good. Canal diverts from left bank of Bear River. Water is first used to develop power at Halsey and Wise Powerhouse, part of it is then distributed for irrigation and part is eventually spilled into North Fork American River.

Cooperation.--Water-stage recorder graph and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	221	143	449	442	457	0	460	495	288	256	388	460
2	221	138	449	442	456	0	472	495	286	256	459	398
3	220	138	450	442	456	81	483	495	287	255	458	274
4	215	139	452	443	456	246	484	495	286	255	457	275
5	197	145	454	439	456	249	484	371	284	255	397	275
6	188	148	456	424	456	251	485	296	283	263	269	396
7	188	148	451	429	456	251	487	285	283	268	272	463
8	187	332	447	437	456	245	487	284	285	269	386	461
9	186	456	447	437	456	251	488	283	284	269	458	400
10	186	460	453	436	456	251	489	284	226	269	458	263
11	185	462	459	437	456	332	487	284	426	269	459	272
12	184	463	460	442	456	442	484	285	446	269	394	386
13	171	464	461	453	456	424	484	285	341	269	265	344
14	161	464	461	454	0	424	482	286	303	269	269	274
15	160	465	460	454	0	428	481	286	267	269	388	273
16	161	468	461	453	0	431	480	286	248	269	460	273
17	162	457	460	454	0	432	480	287	204	270	461	272
18	168	390	460	454	0	433	479	286	266	270	461	272
19	163	412	460	454	0	433	488	287	280	269	389	272
20	162	458	460	454	0	434	499	288	280	267	268	272
21	149	457	460	454	0	435	499	289	273	266	268	368
22	137	458	460	454	0	436	499	290	269	268	395	451
23	136	460	460	454	0	437	498	290	270	269	459	452
24	136	440	460	454	0	437	498	280	268	269	460	470
25	136	426	459	454	100	438	498	286	267	269	459	482
26	137	429	460	454	237	439	497	285	267	269	388	482
27	146	441	461	455	237	441	497	285	267	269	274	483
28	153	449	415	455	0	442	496	283	267	269	273	484
29	153	451	392	456	-----	450	495	286	266	270	396	484
30	153	450	435	457	-----	459	495	285	262	270	459	484
31	153	-----	442	457	-----	461	-----	287	-----	270	459	-----
Total	5,275	11,211	14,014	13,884	6,503	10,913	14,635	9,789	8,529	8,263	12,105	11,220
Mean	170	374	452	448	232	352	488	316	284	267	390	374
Ac-ft	10,460	22,240	27,800	27,540	12,900	21,650	29,030	19,420	16,920	16,390	24,010	22,250
Calendar year 1965	Max	487	Min	0	Mean	361	Ac-ft	261,400				
Water year 1965-66	Max	499	Min	0	Mean	346	Ac-ft	250,600				

11-4225. Bear River below Rollins Dam, near Colfax, Calif.

Location.--Lat 39°07'53", long 120°57'29", in SE  $\frac{1}{4}$  sec. 22, T.15 N., R.9 E., on right bank 65 ft downstream from highway bridge, 0.5 mile downstream from Rollins Dam, and 2.2 miles north of Colfax.

Drainage area.--105 sq mi.

Records available.--January 1912 to September 1913, October 1913 to July 1915 (gage heights and discharge measurements only), August 1915 to June 1917, November 1949 to September 1953, August 1964 to September 1966. Prior to August 1964, published as Bear River near Colfax. Monthly discharge only for some periods, published in WSP 1315-A. Records for November and December 1911 include diversion to Bear River Canal and are not equivalent.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,927.41 ft above mean sea level, datum of 1929. Prior to August 8, 1915, staff gages at several sites above diversion dam 0.3 mile upstream, at different datums. August 8, 1915, to June 30, 1917, staff gage 0.7 mile downstream at different datum. Nov. 1, 1949, to September 30, 1953, at site 0.2 mile downstream at different datum.

Average discharge.--7 years (1912-13, 1915-16, 1950-53, 1964-66), 335 cfs (242,500 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 1,720 cfs Jan. 5 (gage height, 4.44 ft); minimum daily, 13 cfs Nov. 19, Feb. 13.

1964-66: Maximum discharge, 6,620 cfs Jan. 6, 1965 (gage height, 8.45 ft); minimum daily, 0.5 cfs Nov. 17, 1964.

1912-13, 1915-17, 1949-53 (prior to regulation): Maximum discharge, 9,620 cfs Nov. 20, 1950 (gage height, 21.40 ft, site and datum then in use), from rating curve extended above 3,600 cfs on basis of slope-area measurement of maximum flow; no flow at times in 1912, 1952.

Remarks.--Records good. Flow completely regulated by Rollins Reservoir (see sta. no. 11-4218) beginning Dec. 15, 1964. Bear River Canal (see sta. no. 11-4220) diverts above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	36	15	436	276	360	665	399	66	67	77	72
2	56	36	15	383	182	359	515	367	63	67	69	75
3	56	36	16	360	250	354	470	266	67	67	66	74
4	56	36	16	464	186	214	449	90	69	67	69	70
5	56	36	16	1,280	370	218	479	188	69	67	67	70
6	54	36	16	1,330	822	205	529	208	70	66	66	70
7	54	36	16	679	670	230	557	80	70	66	66	69
8	54	39	16	767	461	293	430	80	72	66	69	69
9	54	40	16	595	337	294	444	80	74	66	72	66
10	54	39	16	300	196	552	590	95	75	66	72	67
11	54	40	16	312	95	605	735	276	74	66	72	69
12	54	40	16	294	14	395	710	319	77	66	72	69
13	54	39	16	261	13	419	665	290	74	67	72	67
14	54	40	15	294	212	453	533	315	75	67	72	66
15	54	39	15	299	236	436	645	305	77	67	72	69
16	54	24	15	190	383	479	492	333	77	67	72	69
17	54	17	16	154	419	524	506	290	77	67	72	69
18	54	17	16	340	428	542	610	301	75	67	70	69
19	42	13	16	298	352	645	333	256	72	69	70	69
20	34	14	16	182	301	576	436	457	72	69	69	69
21	34	15	16	170	287	576	419	352	67	69	69	69
22	35	15	15	205	284	710	379	364	69	70	72	69
23	36	16	15	211	308	497	352	395	72	75	72	69
24	36	21	17	155	533	457	399	605	70	75	72	69
25	36	15	20	103	480	524	387	650	70	77	70	69
26	37	15	16	110	205	519	323	600	67	75	70	69
27	36	15	15	218	114	506	360	321	65	74	70	69
28	36	15	23	157	330	387	371	80	66	70	70	69
29	37	14	22	218	-----	515	345	63	66	72	72	70
30	37	14	52	345	-----	387	319	66	66	72	74	70
31	37	-----	391	294	-----	519	-----	64	-----	72	74	-----
Total	1,455	808	917	11,404	8,744	13,750	14,447	8,555	2,123	2,138	2,191	2,079
Mean	46.9	26.9	29.6	368	312	444	482	276	70.8	69.0	70.7	69.3
Ac-ft	2,890	1,600	1,820	22,620	17,340	27,270	28,660	16,970	4,210	4,240	4,350	4,120

Calendar year 1965 Max 5,840 Min 0.8 Mean 310 Ac-ft 224,500  
 Water year 1965-66 Max 1,330 Min 13 Mean 188 Ac-ft 136,100

## SACRAMENTO RIVER BASIN

11-4230. Bear River near Auburn, Calif.

Location.--Lat 39°01'00", long 121°06'21", in SW 1/4 sec. 32, T.14 N., R.8 E., on right bank 2,000 ft downstream from bridge on State Highway 49, 2.6 miles upstream from Wolf Creek, and 8.0 miles north of Auburn.

Drainage area.--140 sq mi.

Records available.--December 1940 to September 1966 in reports of Geological Survey. Reports of California Department of Water Resources contain gage heights (high-water periods only) for 1922, 1925-28, 1929-33.

Gage.--Water-stage recorder. Altitude of gage is 1,230 ft (from topographic map). Prior to June 28, 1961, at site 2,200 ft upstream at different datums. June 28, 1961, to Nov. 21, 1961, staff gage at site 1,900 ft upstream at different datum. Nov. 22, 1961, to Mar. 31, 1964, at site 2,200 ft upstream at different datum.

Average discharge.--25 years, 274 cfs (198,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,060 cfs Jan. 6 (gage height, 7.25 ft); minimum daily, 2.9 cfs Nov. 11. 1940-66: Maximum discharge, 19,700 cfs Dec. 22, 1955 (gage height, 16.56 ft, site and datum then in use), from rating curve extended above 7,400 cfs on basis of computation of flow over dam for the flood of Jan. 31, 1963; minimum, 0.1 cfs Nov. 9, 10, 1953.

Remarks.--Records good. Natural flow of stream affected by inflow from Yuba River and American River basins. Flow regulated by Lake Combie (usable capacity, 7,840 acre-ft) and Rollins Reservoir (see sta. no. 11-4218). Several diversions upstream for power development and irrigation. Records of suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	5.4	4.3	5.33	4.37	3.74	6.27	3.01	9.8	7.3	7.1	7.3
2	8.9	5.2	3.8	5.54	3.74	3.84	5.78	3.45	9.6	6.2	7.1	7.3
3	8.9	5.1	8.2	4.62	2.69	4.12	5.07	2.39	1.1	6.8	7.3	7.9
4	8.9	4.9	1.2	5.50	3.74	4.66	5.94	1.10	1.0	7.5	7.3	8.2
5	9.1	4.1	1.5	1.630	3.00	4.99	4.73	1.04	1.0	9.3	7.3	8.6
6	9.1	3.6	1.3	1.760	9.90	4.33	5.82	5.18	1.1	9.3	7.3	8.9
7	9.1	3.8	1.0	1.030	9.25	4.40	5.26	1.61	1.1	9.8	7.7	9.3
8	8.4	5.3	1.0	7.88	6.49	4.88	5.18	1.9	9.1	9.8	8.2	7.5
9	8.4	3.6	1.0	7.69	4.55	5.10	4.15	1.8	7.9	9.3	8.4	7.7
10	8.2	3.3	1.0	5.34	3.58	6.97	5.66	1.6	6.4	9.3	8.4	8.2
11	8.2	2.9	9.8	2.39	1.87	7.56	6.84	3.9	6.4	9.6	8.6	8.4
12	7.9	3.1	1.2	3.88	9.7	5.14	7.60	2.37	6.6	9.3	1.0	7.5
13	7.7	4.3	1.0	3.01	5.5	4.76	6.53	2.58	7.1	8.9	1.0	6.6
14	7.7	1.1	9.8	3.04	6.7	5.03	5.90	2.44	9.1	9.1	1.0	7.3
15	8.6	5.7	9.3	4.22	2.02	4.88	5.82	2.49	8.6	8.6	1.0	7.3
16	7.7	4.9	8.9	2.19	3.23	5.18	5.38	2.49	7.9	6.2	9.6	7.7
17	7.1	1.1	8.4	1.95	4.30	5.26	4.40	2.12	5.5	7.5	7.3	7.9
18	7.3	1.6	8.4	2.42	4.58	4.82	5.74	2.47	6.0	7.9	7.7	8.6
19	7.5	5.5	8.2	4.22	4.15	6.66	6.11	1.52	6.0	1.1	7.9	8.9
20	7.5	3.6	7.9	2.44	3.39	6.66	4.48	3.95	6.4	1.2	7.9	9.3
21	7.3	2.9	8.6	1.68	3.07	6.15	3.14	3.20	6.4	1.2	8.2	9.3
22	7.1	7.9	8.2	1.89	2.95	8.41	9.7	3.07	6.6	1.1	8.6	9.1
23	6.8	6.2	8.2	2.24	3.04	6.19	1.01	3.04	2.4	1.1	1.1	9.3
24	6.8	1.44	1.1	2.09	4.44	5.98	9.9	4.89	6.6	1.1	9.3	9.1
25	6.4	1.74	3.2	1.16	6.06	5.78	2.06	5.54	3.8	1.1	7.5	9.3
26	6.3	1.66	1.4	1.02	3.71	5.46	3.01	4.55	4.3	8.4	7.9	9.6
27	6.1	1.58	1.4	1.39	2.74	5.14	2.92	3.50	4.7	7.3	8.6	9.8
28	6.0	1.49	5.0	2.14	3.68	5.34	3.45	5.6	6.4	5.1	8.4	9.8
29	5.8	8.6	4.2	2.04	-----	4.91	3.16	1.6	6.8	6.2	7.5	9.8
30	5.7	2.9	5.2	7.51	-----	4.66	2.66	1.3	6.2	6.4	6.0	1.0
31	5.5	-----	4.7	5.22	-----	4.26	-----	1.1	-----	7.1	6.8	-----
Total	234.6	109.1	476.0	14.424	10.673	16.626	13.603	6.988	241.2	271.2	254.9	255.5
Mean	7.57	3.64	15.4	4.65	3.81	5.36	4.53	2.25	8.04	8.75	8.22	8.52
Ac-ft	465	216.0	944	28.610	21.170	32.980	26.980	13.860	478	538	506	507

Calendar year 1965 Max 7.250 Min 2.9 Mean 3.05 Ac-ft 221.000  
 Water year 1965-66 Max 1.760 Min 2.9 Mean 1.78 Ac-ft 129.200

11-4240. Bear River near Wheatland, Calif.

Location.--Lat 39°00'00", long 121°24'20", in SE 1/4 sec. 3, T.13 N., R.5 E., on right bank 100 ft downstream from bridge on U. S. Highway 99E, 1 mile southeast of Wheatland, and 6.5 miles downstream from Rock Creek.

Drainage area.--292 sq mi.

Records available.--October 1928 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 76.92 ft above mean sea level. Prior to July 17, 1929, staff gage at about same site at datum 4.58 ft higher. July 17, 1929, to Oct. 22, 1943, water-stage recorder at several sites within 300 ft of present site at datum 4.58 ft higher. Oct. 23, 1943, to June 23, 1964, at site 100 ft upstream at datum 2.00 ft higher.

Average discharge.--37 years (1929-66), 413 cfs (299,000 acre-ft per year), adjusted for change in storage and diversions from New Camp Far West Reservoir since 1966.

Extremes.--Maximum discharge recorded during year, 870 cfs Mar. 11 (gage height, 3.75 ft); minimum daily, 5.2 cfs Nov. 20.

1928-66: Maximum discharge, 33,000 cfs Dec. 22, 1955 (gage height, 19.30 ft, site and datum then in use); maximum gage height, 20.83 ft Nov. 21, 1950, site and datum then in use; no flow at times.

Remarks.--Records good. Flow regulated by New Camp Far West Reservoir (usable capacity, 103,000 acre-ft), completed Sept. 30, 1963. Many diversions for irrigation and power. See Remarks for station near Auburn. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	7.7	1.1	2.4	3.68	4.90	4.45	2.5	2.0	1.6	1.6	1.0
2	16	7.7	1.1	2.2	3.56	4.85	5.20	2.4	2.2	1.4	1.5	1.2
3	14	7.7	1.1	2.2	3.52	4.70	5.10	2.4	2.1	1.2	1.5	1.1
4	14	7.7	1.2	2.2	3.56	4.75	4.60	2.1	2.1	1.4	1.6	1.0
5	14	7.2	1.2	4.5	3.56	5.00	4.80	2.6	2.3	1.5	1.6	1.1
6	13	7.0	1.2	1.01	3.64	5.15	4.40	2.5	3.0	1.3	1.6	1.0
7	14	7.2	1.2	3.44	3.56	5.25	4.30	2.4	2.6	8.5	1.8	1.0
8	14	3.4	1.3	3.48	3.60	5.40	4.30	2.2	2.5	5.6	1.6	1.0
9	10	1.3	1.2	3.48	4.45	5.50	4.05	2.3	2.4	9.9	1.2	1.0
10	11	1.1	1.3	3.48	5.15	6.78	4.35	2.9	2.2	1.2	1.2	1.0
11	12	1.1	1.8	3.48	4.60	8.28	5.35	2.6	2.4	1.3	1.5	1.0
12	17	4.0	1.8	3.48	3.92	8.04	6.78	2.8	2.4	1.3	1.4	1.1
13	13	3.2	1.4	3.48	3.48	7.20	6.78	2.7	2.2	1.4	1.3	1.1
14	8.8	1.1	1.3	3.48	3.44	6.72	6.12	2.6	2.2	2.1	1.2	1.3
15	10	2.6	8.1	3.48	3.44	6.20	5.35	2.9	2.0	1.3	1.3	1.3
16	9.4	3.0	8.6	3.48	3.44	6.30	5.15	2.6	1.8	1.3	1.3	1.0
17	9.4	1.0	9.1	3.48	3.44	6.40	4.50	2.5	1.9	1.4	1.4	9.2
18	9.4	1.1	1.0	3.48	3.36	6.80	3.72	2.7	2.0	1.4	1.3	8.8
19	8.8	5.6	1.0	3.48	3.52	7.40	1.88	2.8	2.0	1.4	1.4	9.6
20	7.7	5.2	1.0	3.48	3.80	7.80	1.19	2.9	2.2	1.5	1.6	8.5
21	8.1	5.4	1.4	3.44	3.92	8.00	1.68	2.4	2.3	1.4	1.4	8.8
22	8.1	5.6	2.1	3.40	3.80	7.70	6.5	2.7	2.5	1.5	1.6	1.0
23	8.1	6.4	2.1	3.44	3.76	7.20	3.7	3.2	2.3	1.5	1.6	1.1
24	8.1	7.2	2.4	3.44	2.76	6.80	2.1	3.0	2.2	1.4	1.6	1.1
25	7.7	6.8	2.5	3.44	5.69	6.50	2.1	2.9	2.2	1.6	1.6	1.3
26	7.7	6.8	2.3	3.44	7.62	6.20	2.0	2.2	2.6	1.6	1.6	1.4
27	7.7	6.8	2.2	3.40	5.85	5.80	2.2	2.0	2.6	1.6	1.2	1.2
28	7.7	8.1	3.5	3.40	5.05	5.40	2.5	2.0	2.5	1.3	1.1	1.1
29	7.7	1.1	3.9	3.48	-----	5.10	2.8	2.0	2.3	1.4	1.1	9.6
30	7.7	1.1	3.7	3.84	-----	4.70	2.6	1.8	1.7	1.6	1.1	7.5
31	8.1	-----	3.0	2.66	-----	4.30	-----	2.1	-----	1.5	1.1	-----
Total	328.2	367.1	528.8	8,842	11,317	19,112	9,670	777	677	428.0	439	316.0
Mean	10.6	12.2	17.1	285	404	617	322	25.1	22.6	13.8	14.2	10.5
Ac-ft	651	728	1,050	17,540	22,450	37,910	19,180	1,540	1,340	849	871	627
(†)	200	10,000	12,900	31,200	11,300	0	2,700	5,000	23,300	27,000	26,200	8,000
(††)	1,851	153	0	0	0	397	12,148	19,730	22,640	25,740	23,210	7,386
Mean‡	37.4	183	227	793	608	623	481	265	11.4	-6.68	-3.45	0.22
Ac-ft‡	2,300	10,880	13,950	48,740	33,750	38,310	28,630	16,270	680	-411	-2,120	13
Calendar year 1965	Max 11.700	Min 5.2	Mean 4.16	Ac-ft 301,300	Mean -	Ac-ft -						
Water year 1965-66	Max 828	Min 5.2	Mean 1.45	Ac-ft 104,700	Mean ‡264	Ac-ft‡ 191,000						

† Change in contents, in acre-ft, in New Camp Far West Reservoir.

†† Diversion, in acre-ft, to Camp Far West North and South Canals and South Sutter Conveyance Canal.

‡ Adjusted for diversions and change in contents in New Camp Far West Reservoir.

Note.--When inflow to the reservoir is small and other quantities are large, discordant figures of net runoff may appear. Records of evaporation from New Camp Far West Reservoir are not available.

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.--5,921 sq mi (revised).

Records available.--June 1921 to December 1942 (low-water periods only), April 1943 to September 1966.

Gage.--Digital water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.30 ft below mean sea level. Prior to November 1931, graphic water-stage recorder on middle fender pier of bridge 0.3 mile upstream at same datum. December 1931 to April 1, 1965, graphic water-stage recorder at same site and datum. Since June 1960, auxiliary graphic water-stage recorder at various sites near highway bridge for low water periods.

Average discharge.--23 years (1943-66), 7,818 cfs (5,660,000 acre-ft per year).

Extremes.--Maximum discharge during year, 22,900 cfs Jan. 6 (gage height, 32.76 ft); minimum daily, 104 cfs July 1.

1943-66: Maximum discharge, 357,000 cfs Dec. 23, 1955; maximum gage height, 51.60 ft Dec. 23, 1955.

1921-66: Minimum discharge, no flow Aug. 2-18, 1924, July 11-22, 24, 26, Aug. 1, 1931.

Remarks.--Records fair. Flow partly regulated by reservoirs and powerplants. Diversions for irrigation of about 87,000 acres between stations at Oroville and at Nicolaus. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,970	3,810	4,900	6,600	6,810	6,060	12,500	5,790	1,100	104	694	467
2	3,100	3,890	4,700	6,000	8,720	5,710	13,400	5,680	1,060	264	694	511
3	3,030	3,940	4,600	5,500	7,600	5,550	14,300	5,620	1,000	400	688	484
4	2,970	4,020	4,600	6,500	6,420	5,370	13,800	5,730	920	445	599	599
5	2,930	3,950	4,600	12,700	6,420	5,270	12,800	5,980	880	472	566	572
6	3,030	3,840	4,500	22,200	8,140	5,210	12,200	6,440	860	472	566	528
7	3,120	3,770	4,500	15,900	9,460	5,210	12,200	6,650	840	538	566	604
8	3,110	3,890	4,400	12,000	8,900	5,410	12,100	6,600	820	533	533	688
9	3,220	3,880	4,400	10,000	8,340	5,730	11,900	6,670	840	495	538	724
10	3,250	3,650	4,400	9,200	6,920	6,220	13,000	6,800	760	522	572	730
11	3,240	3,610	4,500	8,400	5,910	8,730	17,800	7,640	700	572	588	712
12	3,130	3,690	4,600	7,800	5,300	9,700	17,900	7,910	650	572	622	756
13	2,860	3,810	4,600	7,480	5,200	9,810	16,500	7,190	600	572	628	718
14	2,820	4,250	4,600	6,800	5,100	12,900	13,600	6,630	528	588	676	694
15	2,850	5,060	4,500	6,300	5,000	14,200	11,900	6,260	616	594	724	724
16	3,170	5,230	4,500	6,000	4,900	13,400	11,100	5,900	566	594	750	881
17	3,480	4,960	4,400	5,800	4,800	12,400	10,800	5,320	445	622	700	1,000
18	3,640	6,200	4,400	5,600	4,700	10,500	11,200	5,040	385	646	544	1,040
19	3,700	10,300	4,300	5,500	5,000	9,500	10,800	4,720	375	628	445	1,100
20	3,700	8,510	4,300	5,400	5,400	9,080	9,310	4,440	395	610	405	1,110
21	3,780	7,540	4,200	5,300	5,200	8,620	8,110	4,340	365	594	350	1,100
22	3,720	6,800	4,200	5,300	5,100	8,200	7,200	4,180	350	588	315	1,090
23	3,650	6,270	4,200	5,200	5,600	7,850	6,740	3,920	335	572	286	1,120
24	3,510	6,360	4,400	5,200	6,290	7,510	6,520	3,550	286	528	259	1,180
25	3,580	8,100	4,700	5,100	6,740	7,310	6,570	2,900	218	528	218	1,210
26	3,540	7,780	6,000	5,100	7,300	7,470	6,790	2,400	210	533	250	1,220
27	3,610	6,740	5,200	5,100	7,240	7,880	7,110	2,200	187	522	272	1,200
28	3,640	5,840	5,000	4,900	6,010	8,590	6,730	2,200	156	500	282	1,130
29	3,670	5,270	7,200	4,500	-----	9,380	6,260	1,900	120	516	335	1,090
30	3,720	5,000	8,960	6,630	-----	10,400	6,010	1,600	112	555	360	1,060
31	3,710	-----	7,280	10,400	-----	11,700	-----	1,300	-----	610	385	-----
TOTAL	103,450	159,960	151,640	234,410	178,520	260,870	327,150	153,500	16,679	16,289	15,410	26,042
MEAN	3,337	5,332	4,892	7,562	6,376	8,415	10,910	4,952	556	525	497	868
AC-FT	205,200	317,300	300,800	464,900	354,100	517,400	648,900	304,500	33,080	32,310	30,570	51,650
CALENDAR YEAR 1965	MAX 18,300		MIN 1,260		MEAN 9,988		AC-FT 7,270,000					
WATER YEAR 1965-66	MAX 22,200		MIN 104		MEAN 4,504		AC-FT 3,261,000					

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.

Drainage area.--21,275 sq mi.

Records available.--May 1926 to September 1929 (low-water periods only), October 1929 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 0.06 ft below datum of Corps of Engineers which is 2.94 ft below mean sea level. 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. Prior to May 6, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--37 years (1929-66), 17,810 cfs (12,890,000 acre-ft per year).

Extremes.--Maximum discharge during year, 50,800 cfs Jan. 10 (gage height, 30.90 ft); minimum daily, 6,760 cfs June 17.  
1926-66: 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.  
1934-66: Maximum combined discharge of Sacramento River at Verona and Fremont weir, about 322,000 cfs Dec. 25, 1964.

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 sta. no. 11-4530). Elevation of crest of Fremont weir is 33.5 ft (datum of Corps of Engineers).

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12,900	12,800	20,200	29,200	28,900	21,500	24,500	12,000	8,340	8,190	11,000	11,900
2	12,900	13,000	17,500	27,800	28,400	20,000	25,300	11,600	8,250	8,200	10,800	11,900
3	12,600	12,800	15,800	25,700	30,400	18,900	26,200	11,700	8,230	8,230	10,600	11,200
4	12,300	12,700	16,200	24,000	30,100	17,800	26,300	12,600	8,140	8,530	10,400	11,300
5	12,200	12,800	17,800	26,700	31,200	16,700	25,200	13,300	8,340	8,910	10,200	11,000
6	12,100	12,600	18,600	39,100	34,400	15,800	24,000	14,400	8,720	9,130	10,100	10,600
7	12,200	12,500	19,100	43,200	37,100	15,700	23,100	15,300	9,160	9,180	10,100	10,700
8	12,200	12,600	19,300	46,300	38,200	16,000	22,100	15,800	9,320	9,060	10,100	10,900
9	12,300	12,700	19,500	49,800	37,400	16,400	21,400	16,000	9,450	9,120	10,100	11,100
10	12,300	12,800	19,700	50,600	34,500	17,000	21,200	16,300	9,400	9,290	10,200	10,700
11	12,200	12,900	19,800	49,000	30,900	19,800	24,900	17,700	9,210	9,580	10,300	11,000
12	12,100	12,900	20,100	46,000	27,800	23,100	27,600	19,400	8,950	9,770	10,200	10,400
13	11,900	13,100	20,500	42,000	25,000	24,300	27,900	19,600	8,490	9,840	10,300	10,200
14	11,800	14,100	20,700	38,200	22,800	25,400	26,000	18,900	7,940	10,200	10,400	10,000
15	11,700	16,100	20,500	35,400	21,300	27,200	22,800	18,200	7,420	10,500	10,500	9,830
16	12,000	20,300	20,300	33,400	20,200	27,000	20,100	17,500	7,200	10,800	10,700	9,590
17	12,400	24,400	20,000	32,000	19,300	26,600	18,900	16,200	6,760	11,100	10,700	9,660
18	12,700	24,000	19,800	30,700	18,400	25,500	19,200	15,300	7,010	11,300	10,500	9,670
19	12,900	27,300	19,800	29,500	17,800	24,600	19,700	14,700	7,340	11,400	10,400	9,740
20	12,700	29,500	19,700	28,800	17,600	24,300	18,900	14,000	7,500	11,200	10,200	9,720
21	13,000	27,500	19,600	27,900	18,400	24,300	17,400	13,100	7,830	11,200	10,000	9,640
22	13,200	24,800	19,700	27,100	19,000	24,000	15,400	12,500	7,930	11,200	10,200	9,430
23	13,000	23,100	19,300	26,900	18,200	23,500	14,300	12,000	8,060	11,200	10,200	9,370
24	12,800	21,900	18,800	26,600	17,700	22,900	13,700	11,400	8,180	11,200	10,300	9,250
25	12,600	22,200	19,000	26,300	18,100	22,100	13,500	10,800	8,310	11,000	10,200	9,190
26	12,600	23,400	21,000	25,900	20,400	21,800	13,600	10,100	8,460	10,500	10,200	9,290
27	12,600	23,800	21,200	25,400	22,400	21,900	14,800	9,520	8,330	10,200	10,500	9,280
28	12,600	23,600	20,700	24,400	22,900	21,700	15,500	9,300	8,270	10,200	10,800	8,960
29	12,500	23,200	22,600	23,300	-----	22,200	14,000	9,340	8,270	10,300	11,000	8,890
30	12,600	22,400	27,500	22,400	-----	22,900	12,600	9,000	8,210	10,600	11,200	8,580
31	12,700	-----	29,800	25,900	-----	23,800	-----	8,560	-----	11,000	11,500	-----
TOTAL	386,600	557,800	624,100	1,009,500	708,800	674,700	610,100	426,120	247,020	312,130	323,900	302,990
MEAN	12,470	18,590	20,130	32,560	25,310	21,760	20,340	13,750	8,234	10,070	10,450	10,100
AC-FT	766,800	1,106,000	1,238,000	2,002,000	1,406,000	1,338,000	1,210,000	845,200	490,000	619,100	642,400	601,000
CALENDAR YEAR 1965		MAX 69,600		MIN 8,660		MEAN 22,980		AC-FT 16,640,000				
WATER YEAR 1965-66		MAX 50,600		MIN 6,760		MEAN 16,940		AC-FT 12,260,000				

## SACRAMENTO RIVER BASIN

11-4260. Sacramento Weir spill to Yolo Bypass, near Sacramento, Calif.

Location.--Lat 38°36'25", long 121°33'15", on right bank 100 ft upstream and 100 ft downstream from 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 1966. 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 recorders and concrete weir crest. Gage is set to datum of Corps of Engineers. October 1939 to September 1942, October 1959 to September 1963, water-stage recorder or staff gage at downstream end of weir. October 1942 to September 1959, water-stage recorder on left bank at Sacramento River opposite center of weir at same datum. Since February 1963, water-stage recorders on right bank 100 ft upstream and 100 ft downstream from ends of weir.

Average discharge.--27 years, 232 cfs (168,000 acre-ft per year).

Extremes.--No flow during year.

1926-66: 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. Since February 1963, stage is obtained by averaging the stage obtained at sites above and below the weir. No flow since Apr. 24, 1965.

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



11-4261.1. Onion Creek tributary No. 3 near Soda Springs, Calif.

Location.--Lat 39°17'04", long 120°21'20", in E½NW¼ sec.1, T16 N., R.14 E., on right bank 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 1964, October 1965 to September 1966.

Gage.--Water-stage recorder and 120° sharp-crested V-notch weir. Altitude of gage is 6,300 ft (from topographic map).

Average discharge.--7 years (1958-64, 1965-66), 1.22 cfs (883 acre-ft per year).

Extremes.--Maximum discharge during year, 8.95 cfs Apr. 17 (gage height, 1.33 ft); minimum daily, 0.02 cfs Aug. 24 to Sept. 8. 1958-64, 1965-66: Maximum discharge, 242 cfs Jan. 31, 1963 (gage height, 5.00 ft); minimum daily, 0.01 cfs for many days in 1958-62, 1964.

Remarks.--Records excellent except those for period of 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.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.07	0.06	0.17	0.19	0.15	0.16	5.60	5.49	1.18	0.24	0.07	0.02
2	.07	.07	.18	.19	.15	.17	5.36	5.75	1.09	.22	.06	.02
3	.07	.07	.20	.19	.15	.19	4.87	6.12	1.04	.22	.06	.02
4	.07	.07	.22	.19	.15	.22	4.55	6.19	.99	.20	.05	.02
5	.08	.07	.22	.24	.15	.22	5.41	6.19	.91	.20	.05	.02
6	.10	.09	.22	.28	.15	.23	5.77	5.79	.91	.18	.05	.02
7	.09	.06	.22	.22	.14	.25	5.99	5.69	.86	.18	.05	.02
8	.07	.08	.22	.18	.14	.30	5.84	5.52	.82	.18	.04	.02
9	.07	.08	.20	.16	.14	.36	4.97	5.57	.78	.17	.04	.03
10	.07	.07	.20	.15	.14	.40	4.18	6.06	.71	.17	.04	.03
11	.07	.07	.20	.15	.14	.37	3.58	5.33	.67	.17	.04	.03
12	.07	.08	.20	.15	.14	.41	3.29	4.74	.64	.15	.04	.03
13	.10	.11	.18	.15	.14	.79	3.45	4.51	.57	.15	.04	.03
14	.16	.17	.18	.15	.14	.81	4.01	4.18	.54	.15	.04	.03
15	.09	.18	.18	.15	.14	.71	4.80	3.87	.51	.15	.04	.04
16	.09	.18	.17	.16	.14	.57	6.22	3.58	.48	.14	.04	.05
17	.09	.64	.17	.16	.14	.48	6.87	3.38	.45	.14	.04	.07
18	.09	.49	.17	.16	.14	.48	5.64	3.11	.42	.13	.04	.08
19	.09	.26	.17	.16	.14	.48	4.71	2.94	.40	.13	.04	.10
20	.09	.22	.17	.16	.14	.45	4.54	2.77	.40	.11	.04	.13
21	.08	.20	.17	.16	.15	.45	4.53	2.60	.37	.11	.04	.11
22	.08	.18	.17	.15	.16	.48	4.43	2.45	.35	.10	.04	.11
23	.07	.18	.17	.15	.16	.58	4.85	2.22	.35	.10	.04	.11
24	.07	.17	.17	.15	.18	.78	5.43	2.08	.32	.10	.02	.07
25	.07	.18	.17	.15	.14	1.06	6.16	1.94	.30	.09	.02	.04
26	.07	.17	.17	.15	.15	1.44	6.35	1.81	.30	.09	.02	.03
27	.07	.17	.17	.15	.16	1.94	5.62	1.68	.28	.09	.02	.03
28	.07	.17	.17	.15	.16	2.64	5.50	1.56	.26	.08	.02	.03
29	.07	.17	.19	.15	-----	3.23	5.33	1.45	.26	.08	.02	.03
30	.06	.17	.19	.15	-----	3.58	5.47	1.34	.24	.08	.02	.03
31	.06	-----	.19	.15	-----	4.39	-----	1.29	-----	.08	.02	-----
Total	2.47	4.88	5.77	5.20	4.12	28.62	153.32	117.20	17.40	4.38	1.19	1.40
Mean	0.080	0.163	0.186	0.168	0.147	0.923	5.11	3.78	0.580	0.141	0.038	0.047
Ac-ft	4.9	9.7	11.4	10.3	8.2	56.8	304	232	34.5	8.7	2.4	2.8

Calendar year 1965 Max - - - - Min - - - - Mean - - - - Ac-ft - - - -  
 Water year 1965-66 Max 6.87 Min 0.02 Mean 0.948 Ac-ft 686

Note---No gage-height record Jan. 8 to Feb. 8.

## SACRAMENTO RIVER BASIN

11-4261.2. Onion Creek tributary No. 5A near Soda Springs, Calif.

Location.--Lat 39°17'04", long 120°20'44", in SE 1/4 sec.1, T.16 N., R.14 E., on right bank 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 1964, October 1965 to September 1966 (discontinued).

Gage.--Water-stage recorder and 120° sharp-crested V-notch weir. Altitude of gage is 6,520 ft (from topographic map).

Average discharge.--7 years (1958-64, 1965-66), 0.860 cfs (623 acre-ft per year).

Extremes.--Maximum discharge during year, 13.1 cfs Apr. 1 (gage height, 1.55 ft); minimum daily, 0.002 cfs Sept. 11-13. 1958-64, 1965-66: Maximum discharge, 135 cfs Jan. 31, 1963 (gage height, 3.96 ft); no flow for many days in 1959-63.

Remarks.--Records excellent except those for period 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 yields.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.04	0.02	0.27	0.25	0.15	0.22	7.16	3.60	0.60	0.14	0.04	0.008
2	.04	.02	.28	.25	.15	.22	5.95	3.88	.57	.13	.04	.01
3	.04	.02	.29	.25	.15	.20	5.09	3.78	.54	.13	.03	.006
4	.04	.02	.30	.25	.14	.20	4.86	3.84	.54	.13	.03	.004
5	.05	.02	.30	.30	.14	.20	5.69	3.78	.51	.11	.02	.004
6	.06	.02	.30	.37	.14	.20	5.71	3.38	.48	.11	.02	.003
7	.04	.03	.30	.24	.14	.20	5.74	3.26	.45	.11	.02	.003
8	.04	.03	.28	.20	.14	.20	5.41	3.03	.45	.10	.02	.003
9	.04	.03	.27	.18	.14	.20	3.94	3.30	.45	.10	.02	.003
10	.04	.04	.26	.18	.14	.33	2.94	3.61	.42	.10	.02	.003
11	.04	.04	.26	.17	.14	.35	2.30	2.81	.40	.10	.01	.002
12	.04	.04	.26	.17	.14	.46	2.18	2.47	.37	.10	.01	.002
13	.06	.10	.26	.18	.14	1.19	2.53	2.45	.35	.09	.01	.002
14	.08	.20	.26	.18	.14	1.35	3.10	2.18	.32	.09	.01	.004
15	.06	.28	.25	.18	.14	.96	4.02	2.00	.30	.08	.01	.008
16	.05	.30	.24	.17	.17	.64	5.31	1.93	.28	.08	.01	.008
17	.04	1.20	.23	.17	.23	.54	5.52	1.78	.26	.08	.01	.008
18	.04	.90	.22	.17	.24	.54	4.07	1.71	.24	.07	.008	.01
19	.04	.50	.22	.17	.22	.54	3.27	1.81	.24	.07	.008	.008
20	.04	.40	.22	.17	.20	.54	3.07	1.70	.22	.07	.008	.01
21	.03	.37	.22	.17	.20	.57	3.27	1.53	.20	.06	.006	.01
22	.03	.34	.22	.17	.22	.62	3.19	1.33	.20	.06	.008	.008
23	.03	.30	.22	.17	.24	1.12	3.68	1.22	.20	.05	.01	.008
24	.03	.31	.22	.17	.24	1.66	4.31	1.22	.18	.05	.008	.008
25	.03	.35	.22	.15	.22	2.29	5.08	1.17	.18	.05	.006	.008
26	.03	.31	.22	.15	.20	2.90	4.74	1.08	.17	.05	.006	.01
27	.03	.29	.22	.15	.22	3.66	3.91	.97	.15	.05	.008	.01
28	.03	.27	.22	.15	.24	4.41	3.69	.82	.15	.04	.008	.02
29	.03	.26	.22	.15	-----	4.96	3.61	.78	.14	.04	.006	.01
30	.02	.26	.23	.15	-----	5.73	3.67	.71	.14	.04	.006	.02
31	.02	-----	.25	.15	-----	5.94	-----	.67	-----	.05	.006	-----
Total	1.23	7.27	7.73	5.93	4.97	43.14	127.01	67.80	97.0	2.53	0.432	0.221
Mean	0.040	0.242	0.249	0.191	0.178	1.39	4.23	2.19	0.323	0.082	0.014	0.007
Ac-ft	2.4	14.4	15.3	11.8	9.9	85.6	252	134	19.2	5.0	0.9	0.4

Calendar year 1965 Max - - - - Min - - - - Mean - - - - Ac-ft - - - -  
 Water year 1965-66 Max 7.16 Min 0.002 Mean 0.762 Ac-ft 551

Note: No gage-height record Dec. 1 to Jan. 6.

11-4261.3. Onion Creek tributary No. 2 near Soda Springs, Calif.

Location.--Lat 39°16'34", long 120°21'57", in SE  $\frac{1}{4}$  sec. 2, T.16 N., R.14 E., on right bank 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 1964, October 1965 to September 1966.

Gage.--Water-stage recorder and 120° sharp-crested V-notch weir. Altitude of gage is 6,160 ft (from topographic map).

Average discharge.--8 years (1957-64, 1965-66), 1.11 cfs (804 acre-ft per year).

Extremes.--Maximum discharge during year, 9.46 cfs Apr. 1 (gage height, 1.36 ft); minimum daily, 0.003 cfs, Sept. 17. 1958-64, 1965-66: Maximum discharge, 116 cfs Jan. 31, 1963 (gage height, 3.72 ft); no flow for many days in 1957-62.

Remarks.--Records good. This station is operated in connection with studies to develop and test methods of managing forests and other lands for improved water yield.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.01	0.02	0.18	0.20	0.10	0.15	6.03	3.99	0.32	0.05	0.02	0.01
2	.01	.02	.22	.20	.10	.15	5.69	4.05	.32	.05	.02	.008
3	.01	.02	.22	.20	.10	.14	5.16	4.16	.30	.05	.02	.008
4	.01	.02	.22	.20	.10	.14	4.94	3.99	.28	.05	.01	.008
5	.01	.01	.22	.23	.10	.14	5.83	3.87	.28	.05	.01	.008
6	.02	.01	.22	.30	.10	.14	6.14	3.38	.28	.05	.01	.008
7	.01	.02	.22	.24	.10	.17	6.36	3.20	.28	.04	.01	.008
8	.01	.02	.22	.17	.09	.17	6.08	3.02	.24	.04	.01	.01
9	.01	.02	.22	.14	.09	.20	5.09	3.06	.24	.04	.01	.008
10	.01	.03	.22	.11	.09	.40	4.40	3.56	.22	.04	.01	.004
11	.01	.03	.22	.10	.09	.51	3.58	2.77	.20	.03	.01	.006
12	.01	.03	.22	.10	.10	.54	3.29	2.30	.18	.03	.01	.006
13	.01	.03	.22	.10	.10	1.06	3.61	2.08	.17	.03	.01	.008
14	.04	.04	.22	.10	.10	1.54	4.15	1.81	.15	.03	.01	.01
15	.03	.04	.22	.10	.09	.84	4.78	1.62	.14	.03	.01	.01
16	.02	.03	.22	.11	.10	.57	6.06	1.45	.14	.03	.01	.006
17	.01	.14	.22	.11	.11	.48	6.74	1.29	.14	.03	.01	.003
18	.01	.38	.22	.11	.13	.45	5.33	1.18	.13	.02	.01	.006
19	.01	.24	.22	.11	.13	.45	4.18	1.04	.11	.02	.01	.008
20	.01	.22	.20	.11	.13	.45	3.87	.91	.11	.02	.01	.008
21	.01	.20	.20	.11	.14	.48	3.77	.86	.10	.02	.01	.006
22	.01	.18	.20	.10	.15	.54	3.77	.74	.09	.02	.01	.006
23	.01	.20	.20	.10	.15	.73	4.13	.67	.09	.02	.01	.006
24	.01	.20	.20	.10	.17	1.04	4.72	.60	.09	.02	.01	.006
25	.01	.20	.20	.10	.15	1.47	5.55	.54	.08	.02	.01	.006
26	.01	.18	.20	.10	.15	2.05	5.35	.51	.08	.02	.01	.006
27	.01	.18	.20	.10	.14	2.71	4.54	.45	.07	.03	.01	.006
28	.01	.18	.20	.10	.15	3.77	4.20	.42	.07	.04	.01	.006
29	.01	.18	.18	.10	-----	4.73	4.00	.40	.07	.02	.01	.006
30	.02	.18	.20	.10	-----	5.26	4.10	.37	.06	.01	.01	.008
31	.02	-----	-----	.10	-----	5.36	-----	.35	-----	.02	.01	-----
Total	0.40	3.25	6.52	4.15	3.25	3.683	145.44	58.64	5.03	0.97	0.34	0.213
Mean	0.013	0.108	0.210	0.134	0.116	1.19	4.85	1.89	0.168	0.031	0.011	0.007
Ac-ft	0.8	6.4	12.9	8.2	6.4	73.1	288	116	10.0	1.9	0.7	0.4

Calendar year 1965 Max - - - Min - - - Mean - - - Ac-ft - - -  
 Water year 1965-66 Max 6.74 Min 0.003 Mean 0.726 Ac-ft 526

## 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., on right bank 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 1964, October 1965 to September 1966.

Gage.--Water-stage recorder and 120° sharp-crested V-notch weir. Altitude of gage is 6,200 ft (from topographic map).

Average discharge.--8 years (1957-64, 1965-66) 0.375 cfs (271 acre-ft per year).

Extremes.--Maximum discharge during year, 2.68 cfs Apr. 17, 25 (gage height, 0.82 ft); minimum daily, 0.006 cfs Aug. 18, 19. 1957-64, 1965-66: Maximum discharge, 54.6 cfs Jan. 31, 1963 (gage height, 2.75 ft); no flow for many days in 1959-62.

Remarks.--Records excellent. 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.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.01	0.02	0.01	0.02	0.03	0.05	1.18	1.62	0.11	0.02	0.008	0.008
2	.01	.02	.01	.02	.03	.05	1.18	1.75	.10	.02	.01	.008
3	.01	.02	.01	.02	.03	.05	1.13	2.01	.10	.02	.01	.008
4	.01	.02	.01	.02	.03	.05	1.04	1.94	.09	.02	.01	.01
5	.01	.02	.01	.02	.03	.05	1.39	1.88	.08	.02	.009	.01
6	.02	.01	.01	.11	.03	.05	1.51	1.62	.08	.02	.01	.02
7	.01	.01	.01	.06	.03	.05	1.62	1.56	.08	.02	.01	.02
8	.01	.01	.01	.05	.03	.05	1.56	1.56	.08	.02	.008	.02
9	.01	.01	.01	.04	.03	.06	1.34	1.56	.08	.02	.008	.02
10	.01	.01	.01	.04	.03	.17	1.09	1.94	.07	.02	.009	.02
11	.01	.02	.01	.04	.03	.13	.86	1.39	.06	.02	.009	.01
12	.01	.03	.01	.03	.03	.13	.82	1.13	.06	.02	.01	.008
13	.01	.03	.01	.03	.03	.24	.86	1.04	.05	.02	.01	.008
14	.04	.03	.01	.03	.03	.22	.99	.91	.05	.02	.01	.01
15	.03	.03	.01	.03	.03	.18	1.29	.78	.05	.02	.01	.01
16	.02	.02	.01	.03	.03	.14	1.81	.71	.05	.02	.01	.01
17	.01	.06	.01	.03	.03	.11	2.22	.64	.05	.02	.008	.01
18	.01	.05	.01	.03	.03	.10	1.75	.57	.05	.02	.006	.02
19	.01	.02	.01	.03	.03	.10	1.29	.51	.05	.02	.006	.02
20	.008	.02	.01	.03	.03	.10	1.18	.48	.04	.02	.008	.02
21	.01	.02	.01	.03	.03	.10	1.13	.40	.04	.02	.01	.02
22	.01	.02	.01	.03	.04	.11	1.13	.37	.04	.02	.01	.02
23	.02	.02	.01	.03	.05	.13	1.29	.30	.03	.01	.01	.02
24	.02	.02	.01	.03	.05	.20	1.56	.28	.03	.01	.01	.02
25	.03	.02	.01	.03	.05	.24	2.02	.24	.03	.01	.01	.01
26	.02	.02	.01	.03	.05	.32	2.01	.20	.03	.01	.01	.01
27	.02	.01	.01	.03	.05	.42	1.68	.18	.03	.01	.01	.01
28	.02	.01	.01	.03	.05	.54	1.51	.15	.03	.01	.01	.01
29	.02	.01	.01	.03	-----	.67	1.45	.15	.03	.01	.01	.01
30	.02	.01	.01	.03	-----	.78	1.56	.14	.03	.01	.008	.008
31	.02	-----	.02	.03	-----	.95	-----	.13	-----	.01	.008	-----
Total	0.478	0.62	0.32	1.04	0.97	6.54	41.45	28.14	1.70	0.53	0.285	0.408
Mean	0.015	0.021	0.010	0.034	0.035	0.211	1.38	0.908	0.057	0.017	0.009	0.014
Ac-ft	0.9	1.2	0.6	2.1	1.9	13.0	82.2	55.8	3.4	1.1	0.6	0.8
Calendar year 1965	Max	-----	Min	-----	Mean	-----	Ac-ft	-----				
Water year 1965-66	Max	2.22	Min	0.006	Mean	0.226	Ac-ft	164				

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 miles south of Soda Springs.

Drainage area.--3.58 sq mi.

Records available.--August 1959 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,900 ft (from topographic map).

Average discharge.--7 years 8.21 cfs (5,940 acre-ft per year).

Extremes.--Maximum discharge during year, 65 cfs Apr. 1 (gage height, 2.13 ft); minimum daily, 0.20 cfs for many days in August and September.

1959-66: Maximum discharge, 1,750 cfs Dec. 23, 1964 (gage height, 4.98 ft, in gage well, 6.82 ft from floodmarks), from rating curve extended above 40 cfs on basis of slope-area measurement of maximum flow; minimum daily, 0.10 cfs for several days in 1959, 1961.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.40	0.30	1.6	1.3	1.3	1.3	4.3	27	6.3	10	0.50	0.30
2	.40	.40	1.7	1.3	1.1	1.3	38	27	5.8	1.1	.50	.30
3	.40	.50	1.7	1.3	1.1	1.3	35	28	5.4	1.0	.40	.20
4	.40	.50	2.1	1.3	1.1	1.3	34	28	4.6	1.0	.40	.20
5	.40	.50	2.1	1.4	1.1	1.3	38	27	4.3	1.0	.40	.20
6	.60	.50	2.3	2.3	1.1	1.3	41	27	3.6	.90	.40	.20
7	.40	.50	2.3	2.3	1.1	1.4	41	25	3.6	.80	.30	.20
8	.40	.70	2.3	2.1	1.1	1.6	39	25	3.6	.80	.30	.20
9	.40	.60	1.9	1.6	1.1	1.9	33	24	3.3	.80	.30	.20
10	.40	.60	1.7	1.4	1.1	3.3	27	30	3.0	.80	.30	.20
11	.40	.60	1.7	1.3	1.1	3.3	22	27	2.8	.70	.40	.20
12	.40	.70	1.7	1.3	1.1	3.6	22	24	2.5	.70	.30	.30
13	.40	1.1	1.6	1.3	1.1	3.6	22	20	2.3	.60	.30	.40
14	1.1	1.6	1.6	1.4	1.1	3.6	24	19	2.1	.70	.30	.60
15	.60	1.7	1.6	1.4	1.1	6.3	28	18	2.1	.70	.30	.60
16	.50	1.7	1.6	1.4	1.3	4.3	37	16	1.9	.70	.30	.70
17	.40	5.8	1.6	1.4	1.4	3.6	42	16	1.9	.70	.30	.70
18	.40	5.8	1.6	1.4	1.4	3.6	35	14	1.7	.70	.30	.90
19	.40	2.5	1.6	1.4	1.4	3.9	27	14	1.7	.60	.30	.90
20	.40	2.3	1.6	1.4	1.4	3.9	26	13	1.7	.60	.20	.90
21	.40	2.1	1.6	1.4	1.3	3.9	26	12	1.6	.60	.20	.90
22	.40	1.9	1.7	1.4	1.3	4.3	26	12	1.4	.60	.30	.90
23	.40	1.7	1.6	1.4	1.4	6.3	26	11	1.4	.50	.20	.90
24	.40	1.7	1.7	1.3	1.3	8.2	31	10	1.4	.50	.20	.90
25	.30	2.1	1.9	1.3	1.3	9.9	34	9.9	1.3	.50	.20	.90
26	.30	1.7	1.7	1.3	1.3	14	34	9.9	1.3	.50	.20	.90
27	.30	1.6	1.3	1.3	1.3	17	30	9.4	1.1	.50	.20	.90
28	.30	1.4	1.3	1.3	1.3	20	28	9.4	1.1	.50	.20	.90
29	.30	1.6	1.3	1.3	-----	24	27	8.2	1.1	.40	.30	.80
30	.30	1.6	1.3	1.3	-----	26	27	7.7	1.0	.40	.30	.80
31	.30	-----	1.3	1.3	-----	31	-----	7.2	-----	.60	.30	-----
Total	12.90	46.30	52.6	44.6	34.1	220.3	943	555.7	78.9	21.50	9.40	17.20
Mean	0.42	1.54	1.7	1.44	1.22	7.11	31.4	17.9	2.56	6.94	0.30	5.73
Ac-ft	26	92	104	88	68	437	1870	1100	153	43	19	34

Calendar year 1965 Max 94 Min 0.30 Mean 10.20 Ac-ft 7390

Water year 1965-66 Max 43 Min 0.20 Mean 5.57 Ac-ft 4030

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-1	1800	2.13	65	4-25	1600	2.07	54
4-16	1700	2.10	59				

## SACRAMENTO RIVER BASIN

4261.9. Lake Valley Canal near Emigrant Gap, Calif.

Location.--Lat 39°18'00", long 120°39'10", NE¼NW¼ sec.32, T.17 N., R.12 E., on right bank  $\frac{1}{4}$  mile upstream from inlet to Carpenter Flat Siphon and one mile east of Emigrant Gap.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,360 ft (from topographic map).

Extremes.--1964-66: Maximum daily discharge, 38 cfs Nov. 18, 1965; no flow for several months in each year.

Remarks.--Records good. Canal diverts from right bank of the North Fork of North Fork American River 2.7 miles downstream from Lake Valley Reservoir. Water is delivered to Drum Canal.

Cooperation.--Recorder chart and 9 discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	32	16					0	0	10	28	26
2	16	32	0					0	0	11	28	26
3	32	32	0					0	0	11	28	26
4	33	32	0					0	0	11	27	26
5	32	32	0					0	0	11	27	26
6	32	32	0					18	0	11	27	26
7	29	32	0					35	0	11	28	26
8	30	32	0					34	0	11	28	27
9	30	32	0					34	0	11	28	28
10	32	32	0					32	0	11	28	29
11	32	32	0					28	0	11	28	28
12	32	32	0					26	0	11	27	29
13	32	32	0					26	0	11	27	27
14	33	32	0					26	0	11	26	14
15	32	32	0					26	0	11	25	0
16	30	32	0					26	10	11	24	0
17	31	34	0					24	10	11	28	0
18	31	38	0					17	10	11	27	0
19	32	33	0					16	10	6.1	27	0
20	33	32	0					6.9	10	0	27	0
21	34	32	0					6.6	10	2.6	27	.80
22	32	32	0					6.6	10	11	27	27
23	32	32	0					6.4	10	11	27	27
24	32	32	0					6.4	10	11	27	27
25	31	32	0					6.4	10	11	27	27
26	32	32	0					5.7	10	17	27	27
27	32	32	0					4.0	10	26	26	27
28	32	33	0					0	10	27	26	27
29	32	33	0					0	10	27	26	27
30	32	33	0					0	10	28	26	27
31	32	-----	0					0	-----	28	26	-----
Total	937	972	16	0	0	0	0	417.0	150	402.7	835	605.80
Mean	30.2	32.4	0.52	0	0	0	0	13.5	5.00	13.0	26.9	20.2
Ac-ft	1860	1930	32	0	0	0	0	827	298	799	1660	1200

Calendar year 1965 Max 38 Min 0 Mean 5.73 Ac-ft 4,140

Water year 1965-66 Max 38 Min 0 Mean 11.9 Ac-ft 8,600

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 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,980 ft (from topographic map).

Average discharge.--10 years, 4.05 cfs (2,930 acre-ft per year).

Extremes.--Maximum discharge during year, 9.8 cfs Nov. 17 (gage height, 2.38 ft); no flow for several days.  
1956-66: Maximum discharge, 200 cfs Feb. 1, 1963 (gage height, 4.18 ft); no flow many days in 1964-66.  
Maximum stage known, 6.40 ft probably Dec. 23, 1955, from floodmarks (discharge unknown).

Remarks.--Flow regulated by Big Reservoir (capacity, 2,200 acre-ft). Some diversion above the station for mining.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0	1.0	1.3	0.70	2.4	0.60	.80	2.9	2.0	1.7	.80
2	.10	0	1.0	1.0	.60	2.0	.60	.80	2.5	2.0	1.7	.80
3	0	.10	1.0	.90	.50	1.8	.60	.80	2.3	2.0	1.7	.80
4	0	.10	1.1	1.0	1.6	1.6	.60	.80	2.3	2.0	1.7	.80
5	.10	.10	1.0	4.6	3.5	1.5	.60	.80	2.3	2.0	1.7	.80
6	0	.10	1.0	5.3	3.0	1.3	.60	.80	2.3	2.0	1.7	.70
7	0	.10	1.0	3.7	5.8	1.1	.60	.80	2.3	2.0	1.7	.70
8	.10	.20	1.0	3.5	4.0	1.0	.60	.80	2.3	2.0	1.7	.70
9	0	.10	.90	3.4	3.1	.90	.60	.80	2.2	2.0	1.7	.60
10	0	0	1.0	3.1	2.5	.90	.70	.80	2.2	2.0	1.6	.60
11	.10	.20	1.0	2.9	2.2	.80	.80	.80	2.2	2.0	1.5	.70
12	.40	.20	1.2	2.7	1.9	.80	.80	.80	2.2	2.0	1.4	.70
13	.10	.40	1.0	2.7	1.6	.80	.80	.80	2.2	1.9	1.4	.70
14	.20	.50	.90	2.6	1.3	.80	.70	.80	2.2	1.9	.90	.70
15	.20	.50	.80	2.7	1.0	.80	.70	.80	2.2	1.9	.50	.70
16	.10	.50	.70	2.7	.80	.80	.70	.80	2.2	1.9	.40	.80
17	.10	.50	.70	2.6	.70	.70	.70	.80	2.2	1.8	.40	.80
18	.10	.10	.70	2.6	.70	.70	.70	.80	2.1	1.8	.40	.80
19	.10	.60	.70	2.5	.70	.70	.70	.80	2.1	1.8	.50	.80
20	.10	.40	.70	2.4	1.2	.70	.70	.80	2.1	1.8	.90	.80
21	.10	1.0	.70	2.3	1.8	.70	.70	.80	2.1	1.8	.90	.80
22	.10	.90	.70	2.3	2.1	.60	.70	.80	2.1	1.8	.80	.80
23	.10	1.8	.60	2.2	4.5	.60	.70	2.0	2.1	1.8	.80	.80
24	.10	4.1	.60	2.0	4.6	.60	.70	2.9	2.1	1.8	.80	.80
25	.10	2.3	.40	1.8	3.6	.60	.90	2.9	2.0	1.7	.90	.80
26	.10	1.7	1.0	1.7	3.1	.60	2.7	2.9	2.0	1.7	.80	.80
27	.10	1.4	.90	1.2	2.8	.60	2.8	2.9	2.0	1.7	.80	.80
28	.10	1.2	.90	1.0	2.6	.60	2.8	3.0	2.0	1.7	.80	.80
29	.10	1.1	1.50	.90	-----	.60	1.9	3.0	2.0	1.7	.80	.80
30	0	1.1	.90	1.1	-----	.70	.80	3.0	2.0	1.7	.80	.80
31	0	-----	1.0	.80	-----	.70	-----	3.0	-----	1.7	.80	-----
Total	2.80	32.30	27.60	71.50	67.50	29.00	29.10	43.20	65.7	57.9	34.10	22.80
Mean	0.09	1.08	0.89	2.31	2.41	0.94	0.97	1.39	2.19	1.87	1.10	0.76
Ac-ft	5.6	64	55	142	134	58	58	86	130	115	68	45

Calendar year 1965 Max 8.4 Min 0 Mean 6.09 Ac-ft 4,410  
Water year 1965-66 Max 8.0 Min 0 Mean 1.32 Ac-ft 959

Note.--No gage-height record Jan. 23 to Mar. 15.

## SACRAMENTO RIVER BASIN

11-4264. North Shirttail 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (from topographic map).

Average discharge.--10 years, 18.6 cfs (13,470 acre-ft per year).

Extremes.--Maximum discharge during year, 84 cfs Mar. 12 (gage height, 2.55 ft); minimum daily, 0.20 cfs Aug. 20-25, Sept. 5-12. 1956-66: Maximum discharge, 1,780 cfs Dec. 22, 1964 (gage height, 7.56 ft), from rating curve extended above 590 cfs on basis of slope-area measurement at gage height 6.36 ft; minimum daily, 0.20 cfs many days in 1959, 1960, and 1966. Flood of Dec. 23, 1955, reached a stage of 7.30 ft from floodmarks (discharge, 1,650 cfs).

Remarks.--Flow slightly regulated by Big Reservoir (capacity, 2,200 acre-ft).

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.70	0.50	5.9	7.6	12	30	30	6.3	4.2	1.3	0.70	0.30
2	.60	.50	5.6	6.7	11	27	27	6.0	3.7	1.3	.60	.30
3	.60	.60	5.5	6.3	11	25	24	6.3	3.2	1.3	.60	.30
4	.60	.60	5.4	12	14	24	21	6.3	3.1	1.2	.60	.30
5	.50	.50	5.2	4.8	29	25	19	6.2	3.0	1.2	.60	.20
6	.50	.50	5.2	4.6	41	29	18	6.0	3.0	1.1	.60	.20
7	.50	.50	4.8	29	29	45	16	6.0	3.2	1.1	.60	.20
8	.50	1.3	4.6	24	24	43	15	5.9	3.1	1.1	.50	.20
9	.50	.90	4.5	23	22	48	15	6.3	2.9	1.1	.50	.20
10	.50	.80	4.5	20	20	69	22	8.2	2.8	1.1	.50	.20
11	.50	.70	4.8	18	18	69	28	6.6	2.6	1.0	.50	.20
12	.60	.90	6.5	17	18	67	37	5.8	2.6	1.0	.50	.20
13	.70	1.6	5.8	16	17	79	25	5.5	2.4	1.0	.50	.30
14	1.0	.79	5.5	16	16	74	21	5.3	2.3	1.0	.50	.30
15	1.4	3.4	4.8	16	16	69	19	5.0	2.3	.90	.40	.30
16	1.0	2.2	4.0	16	16	69	18	4.8	2.2	.80	.30	.30
17	.80	1.4	3.8	15	16	57	16	4.6	2.0	.80	.30	.30
18	.80	4.3	3.6	15	17	50	16	4.4	2.0	.70	.30	.30
19	.80	1.4	3.5	15	22	54	15	4.2	1.9	.70	.30	.30
20	.70	7.6	3.4	14	24	49	14	4.0	1.8	.70	.20	.40
21	.70	5.3	3.4	13	24	44	13	3.8	1.8	.80	.20	.30
22	.70	4.2	3.3	13	24	42	12	3.7	1.8	.80	.20	.30
23	.70	7.7	3.1	13	39	40	9.9	3.8	1.8	.80	.20	.30
24	.60	33	3.3	12	42	40	9.3	4.5	1.8	.70	.20	.30
25	.60	16	6.3	12	36	40	9.1	4.3	1.7	.70	.20	.30
26	.50	11	4.0	11	33	40	9.4	4.2	1.6	.70	.30	.30
27	.50	9.3	4.0	11	31	40	9.0	4.1	1.5	.60	.40	.30
28	.50	7.8	7.4	11	30	40	9.1	3.9	1.5	.60	.40	.30
29	.50	6.8	12	11	-----	39	8.3	4.1	1.5	.60	.30	.30
30	.50	6.3	11	13	-----	37	6.7	4.3	1.4	.60	.30	.30
31	.50	-----	8.4	12	-----	34	-----	4.3	-----	.80	.30	----
Total	201.0	209.40	163.1	512.6	652	1,438	511.8	159.4	70.7	28.10	12.60	8.30
Mean	0.65	6.98	5.26	16.5	23.3	46.4	17.1	5.14	2.36	0.91	0.41	0.28
Ac-ft	40	415	324	1,020	1,290	2,850	1,020	316	140	56	25	16

Calendar year 1965 Max 699 Min 0.5 Mean 25.9 Ac-ft 18,760

Water year 1965-66 Max 79 Min 0.2 Mean 10.4 Ac-ft 7,510

Peak discharge (base, 180 cfs).--No peak above base.



11-4270. North Fork American River at North Fork Dam, Calif.

Location.--Lat 38°56'15", long 121°01'25", in SW 1/4 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 1966.

Gage.--Water-stage recorder. Datum of gage is 715.0 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--25 years, 800 cfs (579,200 acre-ft per year); median of yearly mean discharges, 700 cfs (506,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,270 cfs Apr. 2 (gage height, 2.68 ft); no flow Nov. 7-10.

1941-66: Maximum discharge, 65,400 cfs Dec. 23, 1964 (gage height, 11.87 ft), from rating curve extended above 24,000 cfs on basis of computed flow over spillway of dam at gage height 10.22 ft; no flow Aug. 27-30, Sept. 2-11, 1944, Oct. 5, 6, 1963, Nov. 7-10, 1965, caused by operation of valve in North Fork Dam.

Remarks.--Records good. Minor regulation by Lake Clementine (usable 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. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	49	213	593	408	426	1,710	1,080	304	85	49	37
2	58	85	206	370	417	417	1,880	1,090	284	81	49	34
3	65	120	200	297	378	400	1,670	1,210	256	77	46	34
4	65	80	206	329	362	392	1,540	1,240	244	77	46	31
5	61	40	213	1,450	476	385	1,480	1,280	231	73	43	31
6	61	20	206	1,480	1,190	392	1,610	1,240	225	69	43	31
7	61	0	194	1,050	948	442	1,600	1,120	225	69	40	31
8	65	0	188	820	684	584	1,580	1,160	225	69	40	31
9	58	0	182	722	575	593	1,480	1,130	219	65	40	31
10	55	0	176	611	460	1,190	1,660	1,370	213	65	40	31
11	55	10	182	512	408	1,310	1,610	1,280	206	65	40	31
12	55	40	219	442	362	1,040	1,470	981	194	61	43	31
13	55	80	200	400	348	1,330	1,310	882	182	61	43	34
14	65	165	182	385	325	1,440	1,200	882	176	61	40	37
15	73	263	165	378	311	1,280	1,240	810	170	61	37	37
16	69	188	155	385	297	1,160	1,370	760	160	61	34	37
17	58	258	145	362	290	937	1,540	741	155	61	34	37
18	55	1,510	141	340	297	820	1,630	684	150	58	34	40
19	52	930	141	325	325	830	1,220	674	141	58	34	40
20	52	400	136	304	378	800	1,020	684	131	58	34	40
21	52	270	136	290	348	732	981	665	126	58	34	40
22	52	225	136	284	355	703	981	611	121	55	34	40
23	58	237	131	277	408	694	970	557	116	55	31	40
24	58	718	139	256	548	750	1,080	512	111	52	31	40
25	55	585	468	250	521	830	1,220	485	106	52	34	40
26	55	385	298	244	494	937	1,380	476	97	49	34	40
27	52	297	225	244	460	1,080	1,330	442	97	49	34	40
28	52	263	271	237	442	1,250	1,120	408	93	49	34	40
29	52	244	916	250	-----	1,410	1,100	385	89	49	34	40
30	52	225	800	468	-----	1,510	1,060	362	85	49	34	40
31	52	-----	926	434	-----	1,560	-----	332	-----	49	37	-----
Total	1,789	7,687	8,096	14,789	12,815	27,624	41,042	25,533	5,132	1,901	1,180	1,086
Mean	57.7	256	261	477	458	891	1,368	824	171	61.3	38.1	36.2
Ac-ft	3,550	15,250	16,060	29,330	25,420	54,790	81,410	50,640	10,180	3,770	2,340	2,150

Calendar year 1965 Max 12,400 Min 0 Mean 904 Ac-ft 654,600

Water year 1965-66 Max 1,880 Min 0 Mean 407 Ac-ft 294,900

Peak discharge (base, 4,300 cfs)--No peak above base.

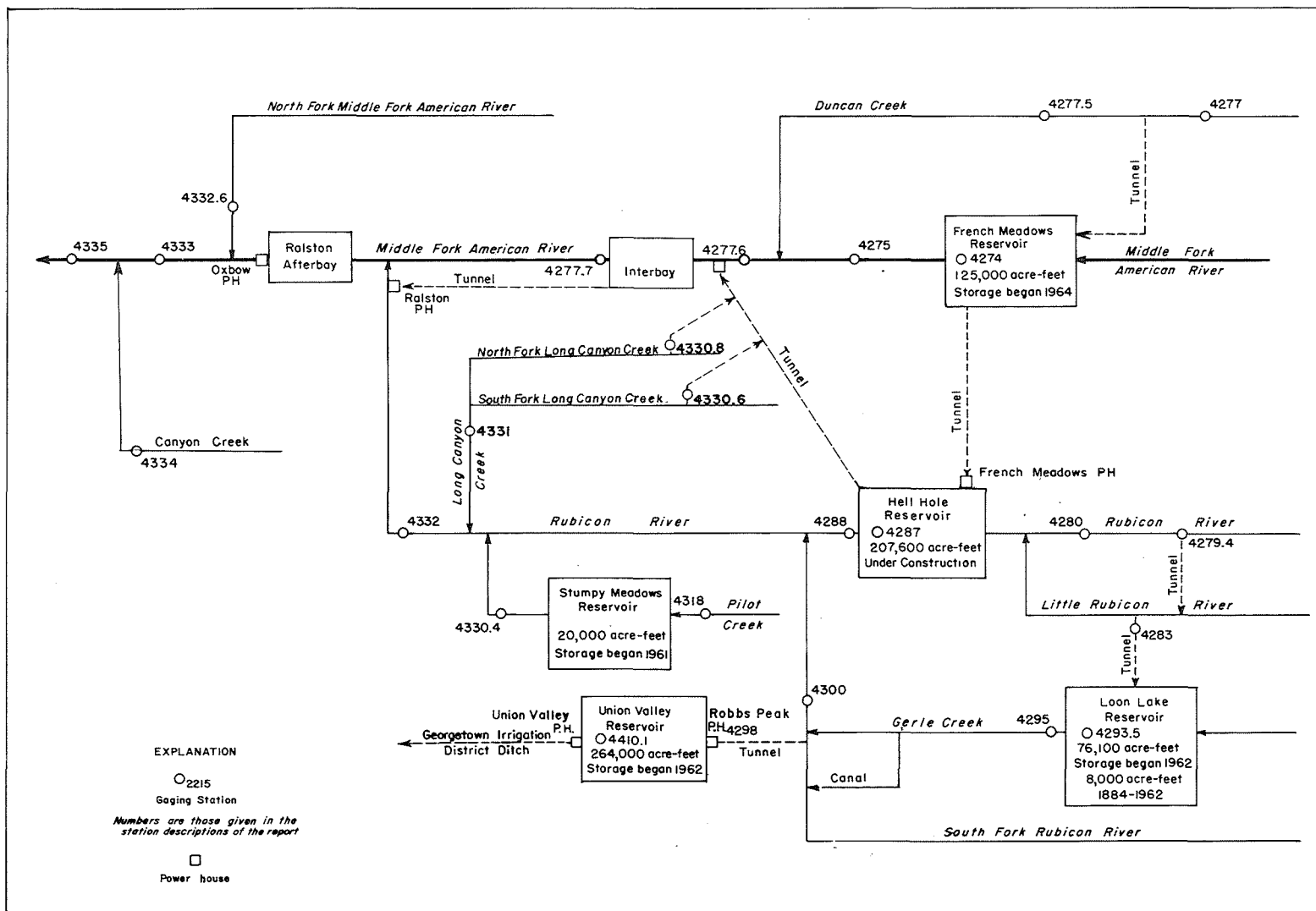


Figure 9.—Schematic diagram showing diversions and storage in Middle Fork American and Rubicon river basins.

11-4274. French Meadows Reservoir near Foresthill, Calif.

Location.--Lat 39°06'32", long 120°25'49", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 32, T. 15 N., R. 14 E., on left bank 2.2 miles upstream from dam on Middle Fork American River, 6.9 miles upstream from Chipmunk Creek, and 21 miles northeast of Foresthill.

Drainage area.--47.0 sq mi.

Records available.--December 1964 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Placer County Water Agency).

Extremes.--1964-65: Maximum contents during period December to September, 135,600 acre-ft Aug. 16-25 (elevation, 5,262.4 ft).  
1965-66: Maximum contents during year, 137,700 acre-ft May 19 (elevation, 5,263.9 ft); minimum, 79,900 acre-ft Feb. 15-17 (elevation, 5,217.3 ft).

Remarks.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 21, 1964. Usable capacity, 125,600 acre-ft between elevations 5,125 ft (minimum operating level) and 5,263 ft (top of radial gates). Dead storage, 10,800 acre-ft. Up to 400 cfs is diverted in reservoir through tunnel from Duncan Creek. Water is released through tunnel to French Meadows powerplant and then into Hell Hole Reservoir on Rubicon River; releases began Dec. 13, 1965. Records represent total contents. See schematic diagram for Middle Fork American and Rubicon River basins.

Cooperation.--One hundred and seven staff gage readings and area-capacity table furnished by Placer County Water Agency.

Revisions.--Revised figures of contents for the period December to September 1965, superseding those published in Surface Water Records of California - Volume 2, 1965 are given herewith:

Contents, in thousands of acre-feet, at 2400 hours, period December 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	64.7	73.2	83.1	93.8	112.5	119.2	135.0	135.3	135.3
2			-	65.2	78.6	88.5	99.1	111.6	120.3	135.0	135.3	135.3
3			-	65.8	79.1	88.8	99.4	110.7	121.4	135.0	135.1	135.3
4			-	66.2	79.5	89.0	99.7	111.0	122.5	135.0	135.1	135.1
5			-	66.5	80.3	89.4	100.1	111.9	123.6	134.9	135.1	135.1
6			-	66.9	80.8	89.6	100.4	112.5	124.5	134.9	135.1	135.1
7			-	67.6	81.2	89.8	100.8	113.0	124.3	134.9	135.0	135.1
8			-	68.3	81.5	90.2	101.1	113.3	126.0	134.9	135.0	135.0
9			-	68.7	82.0	90.4	101.5	113.6	126.8	134.9	135.0	135.0
10			-	69.0	82.3	90.7	101.7	113.9	127.5	134.9	135.0	134.7
11			-	69.4	82.6	91.0	102.1	114.3	128.5	134.9	135.1	134.6
12			-	69.7	83.0	91.3	102.4	114.5	129.1	134.9	135.3	134.3
13			-	70.0	83.3	91.5	102.6	114.9	129.7	134.9	135.3	134.0
14			-	70.2	83.5	91.9	102.8	115.2	130.1	135.0	135.3	133.6
15			-	70.5	83.8	92.1	103.2	115.3	130.5	135.0	135.4	133.3
16			-	70.8	84.0	92.3	103.8	115.6	130.9	135.1	135.6	132.9
17			-	71.1	84.3	92.7	104.3	115.8	131.6	135.1	135.6	132.5
18			-	71.4	84.6	93.0	104.9	115.8	132.1	135.3	135.6	132.1
19			-	71.8	84.8	93.3	106.4	115.7	132.6	135.3	135.6	131.6
20			-	72.2	85.1	93.6	108.3	115.6	133.2	135.3	135.6	131.4
21			2.25	72.6	85.5	94.1	110.3	115.0	133.7	135.3	135.6	130.9
22			11.6	73.0	85.8	94.7	111.9	114.7	134.2	135.3	135.6	130.7
23			38.7	73.7	86.1	95.1	112.5	114.3	134.7	135.3	135.6	130.2
24			49.9	74.7	86.5	95.6	112.6	114.1	135.0	135.3	135.6	129.8
25			54.3	75.3	86.7	95.9	112.9	114.0	135.0	135.3	135.6	129.4
26			58.1	75.7	87.0	96.5	113.0	114.0	135.0	135.3	135.4	129.1
27			60.6	76.1	87.6	97.0	112.7	114.1	135.0	135.3	135.4	128.7
28			61.9	76.5	87.9	97.2	112.9	114.9	135.0	135.3	135.4	128.2
29			62.8	76.9	-----	97.6	113.1	116.1	135.0	135.3	135.4	127.8
30			63.6	77.3	-----	97.9	113.0	117.1	135.0	135.3	135.4	127.4
31		-----	64.2	77.8	-----	98.4	-----	118.3	-----	135.3	135.3	-----
(†)			5,201.8	5,215.3	5,224.6	5,233.7	5,245.6	5,249.7	5,262.0	5,262.2	5,262.2	5,256.5
(‡)			+64.2	+13.6	+10.1	+10.5	+14.6	+5.3	+16.7	+0.3	0	-7.9

Calendar year 1964 ..... ‡ - - - -  
Water year 1964-65 ..... ‡ + 127.4

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

## SACRAMENTO RIVER BASIN

11-4274. French Meadows Reservoir near Foresthill, Calif.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	127.0	111.5	112.1	99.7	88.8	80.7	91.9	122.9	132.1	128.7	127.8	126.0
2	126.6	111.5	112.1	99.7	88.1	80.8	93.3	123.8	131.6	128.7	127.8	126.0
3	126.0	111.5	112.1	99.7	87.5	80.8	94.4	125.1	131.6	128.7	127.8	125.9
4	125.6	111.5	112.0	99.8	86.8	80.8	95.5	126.1	131.8	128.6	127.6	125.9
5	125.2	111.4	112.0	100.0	86.3	80.8	96.8	127.2	131.8	128.6	127.6	125.9
6	124.7	111.4	112.0	100.1	85.6	80.9	97.9	128.3	131.9	128.6	127.5	125.7
7	124.3	111.4	112.0	100.1	84.9	81.0	99.2	129.3	131.9	128.6	127.5	125.7
8	123.7	111.4	112.0	100.2	84.3	81.1	100.5	130.2	131.6	128.5	127.4	125.7
9	123.2	111.4	111.9	100.2	83.6	81.3	101.7	131.4	131.4	128.5	127.4	125.7
10	122.8	111.4	111.9	100.3	82.8	81.7	103.2	132.6	131.1	128.5	127.2	127.6
11	122.2	111.2	111.9	100.3	82.2	82.0	104.2	133.6	130.8	128.5	127.2	125.6
12	121.7	111.2	111.9	100.3	81.5	82.3	105.0	134.3	130.5	128.5	127.1	125.6
13	121.0	111.4	111.7	100.3	80.9	82.7	105.8	135.1	130.5	128.5	127.1	125.6
14	120.5	111.6	111.0	100.3	80.1	82.5	106.6	135.8	130.5	128.3	127.1	125.5
15	120.0	111.7	110.2	99.8	79.9	83.0	107.6	136.4	130.2	128.3	127.0	125.3
16	119.3	111.9	109.5	99.1	79.9	83.8	108.7	137.0	130.0	128.3	126.8	125.3
17	118.8	112.1	108.8	98.5	79.9	84.0	110.0	137.4	129.7	128.3	126.8	125.3
18	118.0	112.7	108.1	98.1	80.0	84.2	111.1	137.7	129.4	128.2	126.7	125.3
19	117.4	112.7	107.4	97.3	80.0	84.5	112.0	137.4	129.0	128.2	126.7	125.2
20	116.6	112.6	106.6	96.6	80.1	84.6	112.7	137.1	128.9	128.2	126.6	125.2
21	115.9	112.5	105.9	95.9	80.1	84.8	113.5	136.8	128.9	128.2	126.6	125.2
22	115.2	112.5	105.1	95.4	80.3	85.0	114.1	136.5	128.9	128.2	126.6	125.2
23	114.4	112.5	104.4	94.7	80.4	85.3	115.0	136.5	128.9	128.0	126.4	124.9
24	113.6	112.5	103.8	93.8	80.5	85.6	115.9	136.5	128.9	128.0	126.4	124.1
25	112.9	112.4	103.3	93.4	80.5	85.9	117.0	136.4	128.9	128.0	126.4	123.2
26	112.1	112.4	102.6	92.7	80.6	86.4	118.2	136.0	128.9	127.9	126.3	122.4
27	111.6	112.3	101.9	92.0	80.6	87.0	119.2	135.6	128.9	127.9	126.3	121.6
28	111.6	112.3	101.4	91.3	80.7	88.3	120.1	134.6	128.9	127.9	126.3	120.8
29	111.6	112.2	100.7	90.6	-----	88.7	121.0	133.9	128.7	127.9	126.1	120.0
30	111.6	112.1	100.2	90.1	-----	89.6	122.0	133.4	128.7	127.8	126.1	119.1
31	111.5	-----	99.7	89.4	-----	90.6	-----	133.0	-----	-----	-----	-----
(†)	5,244.4	4,244.9	5,234.8	5,225.9	5,218.0	5,227.0	5,252.5	5,260.6	5,257.5	5,256.8	5,255.5	5,250.3
(‡)	-15.9	+0.6	-12.4	-10.3	-8.7	+9.9	+31.4	+11.0	-4.3	-0.9	-1.8	-6.9
Calendar year 1965 ..... † 5,234.8      ‡ + 35.5												
Water year 1965-66 ..... † 5,250.3      ‡ - 8.3												

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

11-4275. Middle Fork American River at French Meadows, Calif.

Location.--Lat 39°06'35", long 120°28'49", in W $\frac{1}{4}$  sec. 36, T.15 N., R.13 E., on left bank 0.6 mile downstream from French Meadows Dam, 4.1 miles upstream from Chipmunk Creek, and 14 miles south of Cisco.

Drainage area.--47.9 sq mi.

Records available.--October 1951 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,920 ft (from topographic map). Prior to Oct. 1, 1962, at site 0.8 mile upstream at different datum.

Extremes.--Maximum discharge during year, 418 cfs Oct. 22 (gage height, 6.22 ft); minimum daily, 8.2 cfs many days.

1951-64 (prior to regulation by French Meadows Reservoir): Maximum discharge, 21,500 cfs Jan. 31, 1963 (gage height, 14.20 ft), from rating curve extended above 1,100 cfs on basis of maximum flow at former site; minimum, 0.3 cfs Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961.

1964-66: Maximum discharge, 1,310 cfs Apr. 30, 1965 (gage height, 7.68 ft); minimum daily, 0.8 cfs Oct. 22-25, 1964.

Remarks.--Records good. Flow regulated by French Meadows Reservoir beginning in December 1964 (see sta. no. 11-4274). Diversions from Duncan Creek to French Meadows Reservoir since December 1964 and from French Meadows Reservoir to Hell Hole Reservoir since December 1965. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	232	10	44	16	11	11	13	11	203	3.2	8.6	9.0
2	232	9.9	41	15	11	11	16	11	150	8.4	8.6	9.0
3	232	9.5	38	15	11	11	16	11	13	8.2	8.6	9.0
4	250	9.2	36	15	12	11	15	11	13	8.4	8.6	9.0
5	264	9.0	34	15	12	12	15	11	13	8.4	8.4	9.0
6	264	9.0	33	15	12	12	14	11	12	8.6	8.4	9.2
7	264	8.8	30	15	12	12	14	11	86	8.8	8.4	9.2
8	264	8.6	25	14	12	13	13	11	208	9.2	8.4	9.0
9	267	8.4	24	14	11	14	13	11	220	9.2	8.4	9.0
10	267	8.2	20	14	11	17	16	12	224	8.8	8.4	9.0
11	267	8.2	19	14	11	15	15	11	205	8.6	8.4	9.0
12	288	8.2	19	14	11	16	14	11	190	8.6	8.4	9.0
13	316	8.2	19	13	11	17	14	11	63	8.6	8.4	9.0
14	320	9.9	19	13	11	16	13	11	67	8.6	8.4	9.0
15	320	10	18	14	11	15	13	11	196	8.6	8.4	9.0
16	323	12	18	13	11	14	13	22	193	8.6	3.2	8.8
17	323	23	18	13	11	13	13	87	193	8.6	3.2	8.8
18	334	105	18	12	11	13	13	190	193	8.6	8.2	9.0
19	366	125	18	12	11	13	13	199	193	8.6	9.0	9.0
20	382	112	18	12	11	13	12	88	95	8.6	9.0	9.0
21	378	99	17	12	11	13	12	53	10	8.6	9.0	9.0
22	394	84	17	12	11	13	12	27	10	3.4	9.0	9.0
23	414	84	17	12	11	14	12	16	9.9	9.4	9.2	8.8
24	410	90	17	11	11	14	12	13	9.9	8.4	9.2	8.8
25	406	90	17	12	11	15	12	15	9.7	8.4	9.2	8.8
26	406	81	17	11	11	16	12	10	9.7	8.4	9.2	8.8
27	26	70	16	11	11	16	12	90	9.7	8.4	9.2	8.8
28	11	61	16	11	11	17	11	262	9.7	8.4	9.2	8.6
29	11	54	16	11	-----	18	11	330	8.8	8.6	9.2	8.6
30	11	50	16	11	-----	18	11	330	8.2	8.6	8.8	8.6
31	10	-----	16	11	-----	18	-----	255	-----	8.6	9.0	-----
Total	8,252	1,280.1	691	403	313	441	400	2,153	2,830.6	265.4	269.6	267.8
Mean	266	42.7	22.3	13.0	11.2	14.2	13.3	69.5	94.4	8.56	3.70	8.93
Ac-ft	16,370	2,540	1,370	799	621	875	793	4,270	5,610	526	535	531

Calendar year 1965 Max 1,190 Min 6.1 Mean 11.6 Ac-ft 84,350

Water year 1965-66 Max 414 Min 9.2 Mean 48.1 Ac-ft 34,940

## SACRAMENTO RIVER BASIN

11-4277. Duncan Creek near French Meadows, Calif.

Location.--Lat 39°08'09", long 120°28'39", in NE $\frac{1}{4}$  sec. 24, T.15 N., R.13 E., on right bank 0.2 mile upstream from diversion dam, 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,270 ft (from topographic map). Prior to Sept. 3, 1965, at site 150 ft upstream at datum 9.56 ft higher.

Average discharge.--6 years, 31.7 cfs (22,950 acre-ft per year).

Extremes.--Maximum discharge during year, 170 cfs May 10 (gage height, 6.83 ft); maximum gage height, 8.41 ft Mar. 10 (backwater from snow and ice); minimum daily discharge, 0.4 cfs Sept. 5-12.

1960-66: Maximum discharge, 3,650 cfs Dec. 22, 1964 (gage height, 10.6 ft, from floodmarks), from rating curve extended above 13 cfs on basis of computation of flow over diversion dam; minimum daily, 0.2 cfs Sept. 23-25, 1964.

Remarks.--Records good. No storage or diversion above station. See schematic diagram for Middle Fork American and Rubicon River basins.

Revisions.--1965 Report: 1963.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	1.0	6.4	3.9	4.7	6.5	121	97	1.4	1.8	1.0	0.60
2	1.1	1.0	6.8	3.9	4.7	6.0	119	104	1.3	1.7	.90	.50
3	1.0	1.0	7.5	3.9	4.7	5.5	113	113	1.2	1.7	.80	.50
4	1.0	1.0	8.0	3.9	5.0	5.5	104	123	1.1	1.6	.80	.50
5	1.0	.90	7.3	5.2	6.0	5.5	115	127	1.0	1.6	.70	.40
6	1.0	.90	6.8	9.0	5.6	6.3	123	115	9.6	1.5	.60	.40
7	1.0	.90	6.6	9.1	5.2	9.3	127	111	9.6	1.4	.60	.40
8	.90	1.4	6.2	9.1	5.0	11	123	113	8.7	1.4	.60	.40
9	.90	1.3	6.0	8.0	4.8	12	108	110	8.4	1.5	.60	.40
10	.90	1.1	5.6	5.2	4.8	30	125	145	7.5	1.6	.50	.40
11	.90	1.1	5.8	6.4	4.8	30	92	113	7.0	1.5	.50	.40
12	.90	1.9	5.8	6.0	5.2	26	82	93	6.3	1.5	.60	.40
13	.90	3.4	5.2	6.0	5.0	47	80	85	5.8	1.5	.60	.50
14	1.8	1.4	4.9	6.2	5.0	43	80	77	5.1	1.4	.60	.60
15	3.2	1.0	4.0	6.2	5.2	38	88	70	4.9	1.4	.60	.70
16	1.7	8.3	4.0	6.0	5.4	27	108	64	4.8	1.3	.60	.70
17	1.5	25	4.0	5.8	6.0	23	130	57	4.4	1.2	.60	.70
18	1.4	34	4.0	5.8	6.4	22	115	53	4.1	1.2	.60	.80
19	1.4	14	5.0	5.6	6.0	22	92	54	3.9	1.2	.60	.90
20	1.3	11	5.2	5.6	5.8	21	80	50	3.6	1.1	.50	.90
21	1.2	9.1	5.0	5.4	6.6	20	78	46	3.4	1.1	.50	.80
22	1.2	7.5	4.0	5.2	6.6	22	77	40	3.3	1.0	.50	.80
23	1.1	8.3	3.7	5.2	6.8	26	80	35	3.1	1.0	.50	.70
24	1.1	8.0	3.7	5.0	6.6	31	90	31	3.0	1.0	.50	.70
25	1.0	7.3	4.2	5.0	6.0	37	110	29	2.6	1.0	.50	.70
26	1.0	6.4	3.7	5.0	6.0	47	119	26	2.3	1.0	.50	.70
27	1.0	6.2	3.7	4.8	6.4	57	111	23	2.2	.90	.50	.70
28	1.0	6.4	3.9	4.8	6.6	70	102	21	2.1	.90	.50	.60
29	1.0	6.6	4.0	4.8	-----	80	97	19	1.9	.80	.50	.60
30	1.0	6.2	3.9	5.0	-----	90	97	18	1.8	.90	.50	.60
31	1.0	-----	4.0	4.8	-----	102	-----	16	-----	1.1	.60	-----
Total	366.0	2052.0	158.9	175.8	156.9	978.6	3086	2178	1794	3980	1850	1800
Mean	1.18	68.4	5.12	56.7	56.0	31.6	103	70.3	59.8	12.8	0.60	0.60
Ac-ft	73	407	315	349	311	1940	6120	4320	356	79	37	36
Calendar year 1965	Max	270	Min	0.90	Mean	35.1	Ac-ft	25,420				
Water year 1965-66	Max	145	Min	0.40	Mean	19.8	Ac-ft	14,340				

11-4277.5. Duncan Creek below diversion dam, near French Meadows, Calif.

Location.--Lat 39°07'59", long 120°28'58", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.23, T.15 N., R.13 E., on right bank 800 ft downstream from unnamed right bank tributary, 1000 ft downstream from Duncan Creek diversion dam, and 20 miles northeast of Foresthill.

Drainage area.--10.5 sq mi.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,210 ft (from topographic map).

Extremes.--Maximum discharge during year, 66 cfs May 19 (gage height, 2.44 ft); maximum gage height, 2.88 ft Jan. 5 (backwater from ice); no flow Oct. 1-19.

1964-66: Maximum discharge, 3,640 cfs Dec. 22, 1964 (gage height, 8.74 ft in gage well, 10.0 ft from floodmarks), from rating curve extended above 400 cfs on basis of computation of flows over diversion dam; no flow several days each year.

Remarks.--Records good. Practically all flow is diverted above station through Duncan Creek diversion tunnel to French Meadows Reservoir. Maximum design flow of tunnel is 400 cfs. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.10	1.4	3.7	5.3	7.2	18	9.9	6.3	2.0	1.1	0.50
2	0	1.0	1.4	3.9	5.6	6.9	17	13	6.3	2.0	1.0	.50
3	0	1.0	1.8	3.9	5.8	6.6	15	15	6.3	1.8	.90	.50
4	0	1.0	1.8	3.7	6.0	6.3	14	21	6.3	1.8	.80	.40
5	0	1.0	1.6	4.2	6.9	6.3	16	23	6.0	1.8	.80	.40
6	0	1.0	3.0	4.8	6.9	6.6	17	12	6.0	1.8	.70	.40
7	0	1.0	6.3	5.0	6.6	8.4	17	11	6.0	1.8	.70	.40
8	0	1.0	5.8	5.6	6.3	9.6	14	12	5.8	1.8	.70	.40
9	0	1.0	5.3	4.8	6.6	11	13	11	5.8	1.6	.70	.40
10	0	1.0	4.8	4.3	6.6	17	20	34	5.8	1.6	.70	.40
11	0	1.0	4.6	4.1	6.3	17	13	13	6.0	1.6	.60	.40
12	0	1.0	4.3	4.1	6.3	16	12	7.2	6.0	1.6	.60	.40
13	0	2.0	3.9	3.9	6.0	2.0	12	6.9	5.6	1.6	.60	.60
14	1.0	1.2	3.2	4.3	6.0	2.0	13	6.9	5.0	1.6	.60	.60
15	1.0	3.0	2.9	4.3	6.3	18	14	6.9	4.8	1.6	.60	.70
16	0	.80	2.9	4.6	6.3	16	21	6.0	4.1	1.4	.60	.70
17	0	6.0	3.4	4.6	6.6	14	31	5.8	3.9	1.4	.60	.60
18	0	1.1	3.5	4.6	6.9	14	22	5.8	3.5	1.4	.60	.70
19	0	5.6	3.4	4.8	6.9	14	11	6.0	3.2	1.3	.60	.90
20	1.0	3.5	3.4	4.8	6.6	13	11	7.2	3.2	1.3	.50	.90
21	2.0	2.4	3.4	4.8	7.2	13	10	7.2	3.0	1.2	.50	.70
22	2.0	2.0	2.9	5.0	7.5	13	9.9	7.2	2.9	1.2	.50	.70
23	2.0	2.1	2.3	4.8	7.8	14	10	7.2	2.9	1.1	.50	.70
24	2.0	2.1	2.8	5.0	7.5	15	15	7.2	2.8	1.0	.50	.70
25	2.0	1.8	3.0	4.8	7.2	17	24	7.2	2.4	1.0	.50	.70
26	1.0	1.6	3.0	5.0	7.2	17	30	6.9	2.4	.90	.50	.70
27	1.0	1.6	3.0	5.0	7.2	19	24	6.9	2.2	.90	.50	.70
28	1.0	1.4	3.4	5.0	7.2	20	14	6.6	2.1	.90	.50	.60
29	1.0	1.6	3.7	5.3	-----	19	9.6	6.6	2.1	.90	.50	.60
30	1.0	1.4	3.9	5.3	-----	18	9.9	6.6	2.0	.90	.50	.60
31	1.0	-----	4.1	5.6	-----	18	-----	6.6	-----	1.2	.50	-----
Total	1.90	47.80	104.2	143.6	185.6	430.9	477.4	309.8	130.7	44.00	19.50	17.50
Mean	0.06	1.59	3.36	4.63	6.63	13.9	15.9	9.99	4.36	1.42	0.63	0.58
Ac-ft	3.8	95	207	285	368	855	947	614	259	87	39	35

Calendar year 1965 Max 6.4 Min 0 Mean 5.51 Ac-ft 3,990  
 Water year 1965-66 Max 3.4 Min 0 Mean 5.24 Ac-ft 3,790

11-4277.6. Middle Fork American River above Middle Fork powerhouse, near Foresthill, Calif.

Location.--Lat 39°01'30", long 120°35'40", in NW 1/4 sec. 36, T.14 N., R.12 E., on right bank 300 ft upstream from Middle Fork powerhouse, 3.7 miles upstream from Big Mosquito Creek, and 11 miles east of Foresthill.

Drainage area.--87.8 sq mi.

Records available.--August 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 2,540 ft (from topographic map).

Extremes.--Maximum discharge during year, 399 cfs Oct. 24 (gage height, 3.91 ft); minimum daily, 12 cfs Aug. 31.

Remarks.--Records good. Flow regulated by French Meadows Reservoir (see Sta. No. 11-4274). See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	232	13	54	29	34	42	232	72	223	13	15	13
2	230	13	51	23	32	42	225	70	200	13	15	13
3	230	13	49	23	32	39	203	73	42	13	14	13
4	247	13	49	32	34	33	195	76	35	13	14	13
5	259	13	43	61	44	39	195	80	35	13	14	13
6	259	13	46	63	60	40	192	63	35	13	14	13
7	259	13	43	57	47	49	190	62	56	17	14	13
8	259	13	44	54	43	56	179	62	220	17	14	13
9	259	13	42	50	41	67	165	62	230	13	14	13
10	259	13	40	45	40	133	225	94	232	13	14	13
11	259	13	36	42	37	119	210	72	213	17	14	13
12	271	19	37	40	37	103	200	57	193	17	13	13
13	316	20	39	39	36	147	179	55	113	17	13	13
14	319	36	23	39	35	153	169	52	44	17	13	13
15	313	27	21	40	34	143	167	50	205	17	13	13
16	310	27	23	41	34	125	169	52	203	17	13	13
17	310	44	25	40	34	106	179	99	205	17	13	13
18	319	175	26	37	34	96	169	220	205	17	13	14
19	353	151	25	36	36	102	133	251	205	17	13	14
20	370	120	25	35	36	95	119	127	137	16	13	14
21	370	101	25	34	35	91	112	94	23	16	13	14
22	381	86	25	34	33	91	104	69	22	16	13	14
23	395	95	24	33	48	96	100	50	22	16	13	14
24	399	112	28	32	53	110	100	45	22	16	13	14
25	395	106	31	32	46	122	107	47	22	16	13	14
26	395	33	27	31	44	141	116	41	21	15	13	14
27	323	30	26	31	43	167	103	67	21	15	13	14
28	21	71	32	30	42	183	92	254	20	15	13	14
29	13	63	37	32	-----	202	81	336	20	15	13	14
30	13	53	35	37	-----	212	75	332	19	15	13	14
31	13	-----	34	34	-----	222	-----	286	-----	16	12	-----
Total	8,366	1,673	1,080	1,201	1,109	3,381	4,695	3,385	3,263	513	415	403
Mean	270	55.9	34.8	38.7	39.6	109	156	109	109	16.7	13.4	13.4
Ac-ft	16,590	3,330	2,140	2,380	2,200	6,710	9,310	6,710	6,480	1,030	923	799

Calendar year 1965 Max 399 Min 12 Mean 80.8 Ac-ft 58,510  
 Water year 1965-66 Max 399 Min 12 Mean 80.8 Ac-ft 58,510



11-4277.7. Middle Fork American River below interbay dam, near Foresthill, Calif.

Location.--Lat 39°01'35", long 120°36'09", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 26, T.14 N., R.12 E., on right bank 500 ft below interbay dam, 3.3 miles upstream from Big Mosquito Creek, and 10.6 miles east of Foresthill.

Drainage area.--89.1 sq. mi.

Records available.--October 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 2,470 ft (from topographic map).

Extremes.--Maximum discharge during year, 399 cfs Oct. 24 (gage height, 3.93 ft); minimum daily, 2.5 cfs Sept. 13.

Remarks.--Records fair October to Aug. 16, poor thereafter. Flow regulated by French Meadows Reservoir (see sta. no. 11-4274) and after Aug. 22 by Interbay Reservoir (capacity, 130 acre-ft between normal operating limits of 2502.0 and 2526.0 ft). Water is diverted from Hell Hole Reservoir through tunnel to Interbay powerplant and rediverted to Ralston powerplant. See schematic diagram for Middle Fork American River and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	232	13	54	29	34	42	232	72	228	18	15	9.8
2	230	18	51	28	32	42	225	70	200	18	15	10
3	230	13	49	28	32	39	208	73	42	18	14	14
4	247	13	49	32	34	38	195	76	35	13	14	14
5	259	18	48	61	44	39	195	80	35	18	14	14
6	259	18	46	68	60	40	192	68	35	18	14	11
7	259	18	48	57	47	49	190	62	56	17	14	11
8	259	19	44	54	43	56	179	62	220	17	14	8.0
9	259	18	42	50	41	67	165	62	230	18	14	7.2
10	259	18	40	45	40	133	225	94	232	18	14	6.8
11	259	18	36	42	37	119	210	72	218	17	14	6.1
12	271	19	37	40	37	108	200	57	198	17	13	5.8
13	316	20	39	39	36	147	179	55	118	17	13	2.5
14	319	36	28	39	35	153	169	52	44	17	13	7.0
15	313	27	21	40	34	143	167	50	205	17	13	25
16	310	27	23	41	34	125	169	52	208	17	13	14
17	310	44	25	40	34	106	179	99	205	17	14	12
18	319	175	26	37	34	96	169	220	205	17	18	23
19	353	151	25	36	36	102	133	251	205	17	11	17
20	370	120	25	35	36	95	119	127	137	16	20	12
21	370	101	25	34	35	91	112	94	23	16	17	12
22	381	86	25	34	38	91	104	69	22	16	14	8.0
23	395	95	24	33	48	96	100	50	22	16	14	13
24	399	112	28	32	53	110	100	45	22	16	9.8	6.4
25	395	106	31	32	46	122	107	47	22	16	16	9.4
26	395	88	27	31	44	141	116	41	21	15	81	28
27	323	80	26	31	43	167	108	67	21	15	12	45
28	21	71	32	30	42	188	92	264	20	15	14	43
29	13	63	37	32	-----	202	81	336	20	15	14	44
30	18	59	35	37	-----	212	75	332	19	15	12	38
31	18	-----	34	34	-----	222	-----	286	-----	16	11	-----
Total	8,366	1,678	1,080	1,201	1,109	3,381	4,695	3,385	3,268	518	498.8	539.0
Mean	270	55.9	34.8	38.7	39.6	109	156	109	109	16.7	16.1	18.0
Ac-ft	16,590	3,330	2,140	2,380	2,200	6,710	9,310	6,710	6,480	1,030	989	1,070

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max 399 Min 2.5 Mean 81.4 Ac-ft 58,950

Note.--Stage-discharge relation indefinite or no gage-height record Oct. 1 to Aug. 17.

## SACRAMENTO RIVER BASIN

## 11-4279.4. Rubicon-Rockbound Tunnel near Meeks Bay, Calif.

Location.--Lat 38°59'20", long 120°13'30", in SE $\frac{1}{4}$  sec.8, T.13 N., R.16 E., on right bank at tunnel intake 100 ft upstream from diversion dam on Rubicon River, 2.5 miles upstream from Rubicon Springs, and 6.5 miles southwest of Meeks Bay.

Records available.--December 1963 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 6,533.23 ft above mean sea level (levels by Sacramento Municipal Utility District).

Extremes.--1963-66: Maximum daily discharge, 1,120 cfs Dec. 23, 1964; no flow for several months each year.

Remarks.--Records good except those for period of indefinite stage-discharge relation, which are poor. Tunnel diverts water from Rubicon River to Rockbound Lake. Practically all flow below 1,200 cfs is diverted through the tunnel. See schematic diagram, for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	30	22	13	12	258	336	114	6.0	0.60	
2	0	0	30	20	12	13	293	374	97	17	.60	
3	0	0	34	18	12	13	266	413	85	20	.60	
4	0	0	42	16	12	12	246	444	87	20	.60	
5	0	0	38	18	14	12	248	501	93	19	.50	
6	0	0	34	29	15	13	304	468	103	18	.50	
7	0	0	32	30	15	15	312	445	108	16	.50	
8	0	0	30	25	14	17	326	463	95	14	.50	
9	0	0	28	21	13	19	296	449	112	12	.50	
10	0	0	27	19	12	51	225	470	135	10	.40	
11	0	0	24	17	12	69	152	433	143	9.7	.40	
12	83	0	24	16	12	53	114	334	126	9.0	.40	
13	58	0	23	16	12	108	99	334	126	8.0	.40	
14	13	40	22	17	12	113	112	371	137	7.3	.30	
15	0	72	20	17	12	83	165	337	128	6.3	.30	
16	0	60	18	16	11	51	239	346	124	5.3	.30	
17	0	118	16	15	12	34	323	352	112	4.5	.30	
18	0	256	15	15	13	30	292	338	97	4.0	.30	
19	0	114	14	15	12	32	176	358	87	3.1	.20	
20	0	66	13	14	11	28	128	400	81	3.0	.20	
21	0	46	13	14	11	25	136	418	72	2.5	.20	
22	18	40	13	13	12	26	163	383	56	2.1	.20	
23	11	40	12	13	13	28	180	309	46	1.9	.20	
24	2.8	38	12	13	13	42	253	267	43	1.3	.10	
25	.70	42	14	12	13	56	360	281	22	.90	.10	
26	.10	44	16	12	13	76	439	298	1.0	.80	.10	
27	0	39	16	12	12	99	397	276	1.5	.70	.10	
28	0	35	15	11	12	128	305	268	2.2	.70	0	
29	0	33	18	12	-----	158	308	255	2.9	.70	0	
30	0	32	21	12	-----	185	316	200	2.7	.70	0	
31	0	-----	22	13	-----	216	-----	176	-----	.60	0	-----
Total	186.60	1115	686	513	350	1817	7431	11097	2439.3	225.10	9.40	0
Mean	6.02	37.2	22.1	16.5	12.5	58.6	248	358	81.3	7.26	0.30	0
Ac-ft	370	2210	1360	1020	694	3600	14740	22010	4840	446	19	0

Calendar year 1965 Max 773 Min 0 Mean 120 Ac-ft 86930  
 Water year 1965-66 Max 501 Min 0 Mean 70.9 Ac-ft 51310

Note.--Stage-discharge relation indefinite June 26 to Sept. 27.

11-4280, Rubicon River at Rubicon Springs, near Meeks Bay, Calif.

Location.--Lat 39°01'10", Long 120°14'46", in SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> 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 1966.

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.--12 years (1910-13, 1956-65), 113 cfs (81,810 acre-ft per year), adjusted for diversion into Rubicon-Rockbound Tunnel.

Extremes.--Maximum discharge during year, 141 cfs Nov. 18 (gage height, 3.27 ft); minimum, 0.90 cfs Sept. 28-30.

1910-14, 1956-65: Maximum discharge, 11,500 cfs Feb 1, 1963 (gage height, 14.28 ft), from rating curve extended above 1,200 cfs on basis of slope-conveyance computation of maximum flow; 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, 9,270 cfs).

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). Flow below 1,200 cfs controlled by Rubicon diversion dam. Diversion to Rubicon-Rockbound tunnel began Dec. 26, 1963 (see sta. no. 11-4279.4). See schematic diagram, for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.4	5.3	8.4	6.5	7.0	8.4	7.6	3.3	5.1	4.7	4.3	2.2
2	8.1	5.3	8.7	6.2	6.7	8.4	6.7	3.4	4.9	4.7	4.1	2.0
3	7.8	5.3	9.6	6.2	6.7	8.1	5.9	3.3	4.7	4.7	4.1	2.0
4	7.3	4.9	12	6.5	7.3	7.8	5.2	3.2	4.5	4.5	4.1	2.0
5	7.5	3.3	11	6.5	8.7	7.8	6.1	3.2	4.5	4.5	4.1	2.2
6	7.8	3.0	9.6	9.3	8.1	8.1	6.2	2.8	4.9	4.7	4.1	2.0
7	7.8	3.0	9.3	9.6	7.5	9.6	6.2	2.4	5.3	4.5	4.1	2.2
8	8.1	3.2	9.0	8.7	7.3	1.1	5.5	2.3	5.4	4.9	4.1	2.2
9	7.3	3.0	8.7	8.1	7.3	1.3	5.1	2.1	6.2	5.1	4.1	2.0
10	5.5	2.9	8.4	7.8	7.3	3.7	6.4	3.6	5.3	4.7	4.3	2.0
11	5.3	2.9	8.1	7.5	7.5	2.9	4.4	2.3	4.9	4.9	4.3	2.2
12	5.3	3.0	8.1	7.5	7.5	2.0	4.0	1.7	4.5	4.9	4.1	2.2
13	5.1	3.2	7.8	7.5	7.5	5.6	3.6	1.5	4.5	4.5	3.9	2.0
14	5.1	2.6	7.3	7.8	7.5	4.1	4.1	1.4	4.5	4.5	3.9	2.0
15	5.5	1.4	6.7	7.5	7.5	3.2	4.9	1.2	4.3	4.5	3.9	2.0
16	4.9	8.4	6.2	7.5	7.5	2.0	5.9	1.2	4.3	4.3	3.7	2.0
17	4.7	2.4	6.0	7.3	7.5	1.4	6.3	1.1	4.1	4.3	3.7	1.9
18	4.7	6.2	5.5	7.3	7.8	1.4	4.2	1.0	4.1	4.3	3.7	2.1
19	4.7	2.1	5.5	7.0	8.1	1.5	2.6	1.0	3.9	4.1	3.3	2.4
20	4.7	1.5	5.5	7.0	7.8	1.4	2.6	9.3	3.7	4.1	2.7	2.3
21	4.7	1.1	5.5	6.7	7.8	1.3	3.0	8.7	3.5	4.3	2.6	2.2
22	5.1	9.6	5.3	7.0	7.8	1.4	2.9	7.8	3.5	4.3	2.6	2.0
23	5.8	1.0	5.3	7.0	8.7	1.5	3.5	7.3	3.5	4.3	2.4	2.0
24	5.8	1.1	5.3	7.0	8.7	2.3	4.4	6.7	3.3	4.3	2.4	1.3
25	5.8	1.1	5.8	6.7	8.4	2.9	5.3	6.5	3.3	4.3	2.4	1.0
26	5.5	9.6	5.8	6.7	8.4	3.7	5.0	6.2	3.3	4.5	2.3	1.0
27	5.5	9.0	5.5	6.5	8.1	4.5	3.5	5.8	3.3	5.5	2.3	1.0
28	5.5	8.7	5.8	6.5	8.4	5.4	3.2	5.5	4.5	4.9	2.3	.90
29	5.5	8.7	6.2	6.5	-----	5.8	3.2	5.3	4.9	3.3	2.3	.90
30	5.3	8.4	6.2	7.0	-----	6.0	3.3	5.3	4.7	3.7	2.2	.90
31	5.3	-----	6.2	6.7	-----	6.6	-----	5.3	-----	4.3	2.3	-----
Total	185.4	315.7	224.3	223.6	216.4	788.2	1,408	4,997	1,314	1,391	1,047	55.10
Mean	5.98	10.5	7.24	7.21	7.73	25.4	46.9	16.1	4.38	4.49	3.38	1.84
Ac-ft	368	626	445	444	429	1,560	2,790	991	261	276	208	109
Mean†	12.0	49.7	29.3	23.7	20.2	83.9	295	374	85.7	11.7	3.69	1.84
Ac-ft†	738	2,960	1,800	1,460	1,120	5,160	17,530	23,000	5,100	722	222	109
Calendar year 1965	Max	164	Min	2.9	Mean	17.3	Ac-ft	12,530	Mean†	138	Ac-ft†	99,590
Water year 1965-66	Max	76	Min	0.9	Mean	11.8	Ac-ft	8,510	Mean†	82.8	Ac-ft†	59,930

## SACRAMENTO RIVER BASIN

11-4283. Buck-Loon tunnel near Meeks Bay, Calif.

Location.--Lat 39°00'15", long 120°15'20", in NW $\frac{1}{4}$  sec.6, T.13 N., R.16 E., on right bank at tunnel intake near left abutment of diversion dam, 7.6 miles southwest of Meeks Bay.

Records available.--November 1963 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 6,425.0 ft above mean sea level (levels by Sacramento Municipal Utility District).

Extremes.--1963-66: Maximum daily discharge, 1,240 cfs Dec. 23, 1964; no flow for many days each year.

Remarks.--Records good except those for periods of indefinite stage discharge relation, which are poor. Tunnel diverts from Buck Island Lake and discharges into Loon Lake. Water is used for power development downstream. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	0	42	36	20	18	315	418	154	2.0	2.0	1.2
2	.20	0	40	30	19	20	370	454	129	2.0	1.8	1.2
3	.20	0	41	27	17	19	349	514	113	2.0	1.8	1.0
4	.20	0	48	28	18	17	319	552	104	2.0	1.8	1.0
5	.20	0	53	32	21	17	312	624	107	2.0	1.8	1.0
6	.20	0	49	36	27	16	374	602	116	2.0	1.8	1.0
7	.20	0	45	43	24	20	404	557	130	2.0	1.8	1.0
8	.20	0	42	40	22	22	414	563	124	2.0	1.8	1.0
9	.10	0	40	33	20	25	393	576	128	2.0	1.8	.50
10	.10	0	38	28	19	57	332	580	144	2.0	1.6	0
11	.10	0	36	26	17	100	228	571	164	2.0	1.6	0
12	133	0	34	24	17	84	164	438	153	2.0	1.6	0
13	61	0	33	23	15	117	136	396	145	2.0	1.6	0
14	16	31	31	22	15	156	136	442	152	2.0	1.6	0
15	2.5	95	29	23	16	131	182	419	152	2.0	1.6	0
16	1.5	96	26	22	15	95	270	409	145	2.0	1.6	0
17	1.0	140	24	21	15	61	383	423	136	2.0	1.6	0
18	.80	375	22	21	16	45	401	404	121	2.0	1.4	0
19	.50	223	21	20	17	44	261	413	108	2.0	1.4	0
20	.30	128	19	20	17	42	177	454	98	2.0	1.4	0
21	.10	79	19	19	16	38	164	487	88	2.0	1.4	0
22	54	63	18	19	15	36	196	478	73	2.0	1.4	0
23	24	63	17	19	18	36	218	396	60	2.0	1.4	0
24	9.4	69	18	19	21	45	295	347	52	2.0	1.4	0
25	3.8	66	30	18	20	63	419	361	36	2.0	1.4	0
26	1.8	62	25	17	19	85	551	378	2.0	2.0	1.2	0
27	1.0	58	24	16	17	116	527	356	2.0	2.0	1.2	0
28	.60	51	24	16	16	153	403	348	2.0	2.0	1.2	0
29	.30	46	34	16	-----	191	387	335	2.0	2.0	1.2	0
30	0	44	36	23	-----	227	393	376	2.0	2.0	1.2	0
31	0	-----	42	22	-----	260	-----	202	-----	2.0	1.2	-----
Total	313.60	1.689	1.000	759	509	2,356	9,473	13,773	2,942.0	62.0	47.6	8.90
Mean	10.1	56.3	32.3	24.5	18.2	76.0	316	444	98.1	2.00	15.4	0.29
Ac-ft	622	3,350	1,980	1,500	1,010	4,670	18,790	27,320	584.0	123	94	18

Calendar year 1965 Max 1100 Min 0 Mean 152 Ac-ft 110,400  
 Water year 1965-66 Max 624 Min 0 Mean 90.2 Ac-ft 65,320

Note.--Stage-discharge relation indefinite June 26 to Sept. 9.

11-4287. Hell Hole Reservoir near Meeks Bay, Calif.

Location.--Lat 30°03'55", long 120°24'50", in SE 1/4 sec. 16, T.14 N., R.14 E., on right bank 0.3 mile upstream from Hell Hole Dam on Rubicon River and 15.6 miles west of Meeks Bay.

Drainage area.--120 sq mi.

Records available.--December 1965 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Placer County Water Agency).

Extremes.--Maximum contents during period December to September, 151,300 acre-ft June 29, 30 (elevation, 4,580.8 ft).

Remarks.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 6, 1965. Usable capacity, 202,400 acre-ft between elevations 4,340.0 ft (minimum operating level) and 4,630.0 ft (crest of ogee spillway) above mean sea level. Dead storage, 248 acre-ft. Records represent total contents. See schematic diagram for Middle Fork American and Rubicon River basins.

Cooperation.--Record of contents Dec. 6 to Apr. 14 furnished by Placer County Water Agency.

Contents, in thousands of acre-feet, at 2400 hours, period December 1965 to September 1966.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	15.7	31.7	45.0	66.4	110.5	147.9	151.2	150.5	148.9
2			-	15.7	32.4	45.2	68.2	112.0	148.4	151.2	150.4	148.9
3			-	15.7	33.2	45.3	70.0	113.7	148.6	151.2	150.4	148.9
4			-	15.7	34.1	45.4	71.7	115.4	148.8	151.2	150.4	148.8
5			-	15.7	35.0	45.6	73.4	117.1	149.0	151.2	150.3	148.8
6			52.0	16.0	35.9	45.8	75.2	118.6	149.3	151.1	150.3	148.8
7			64.8	16.2	36.8	46.1	76.8	120.1	149.4	151.1	150.3	148.8
8			79.5	16.4	37.6	46.5	78.5	121.6	149.7	151.1	150.3	148.6
9			96.6	16.8	38.4	47.2	80.2	123.0	149.9	151.1	150.3	148.5
10			111.5	17.2	39.2	48.2	81.9	124.8	150.0	151.1	150.3	148.3
11			13.1	17.3	40.0	49.1	83.6	126.2	150.1	151.1	150.2	148.3
12			15.0	17.5	40.9	50.0	84.8	127.4	150.3	151.1	150.2	147.8
13			16.7	17.6	41.7	50.9	85.9	129.4	150.5	151.1	150.2	147.7
14			21.8	17.7	42.5	51.8	87.0	129.7	150.6	151.1	150.1	147.7
15			29.9	17.9	42.9	52.5	88.4	130.6	150.8	151.1	150.1	147.2
16			36.7	18.8	43.0	53.1	90.0	131.6	150.9	151.0	150.1	147.1
17			43.7	19.7	43.1	53.5	91.9	132.5	150.9	151.0	150.1	147.0
18			51.9	20.5	43.3	53.9	93.4	133.4	151.0	151.0	150.0	147.0
19			59.2	21.1	43.4	54.3	94.5	134.8	151.1	151.0	149.9	146.8
20			66.8	22.0	43.5	54.7	95.5	136.5	151.1	150.9	149.8	146.7
21			75.0	22.8	43.7	55.1	96.5	138.1	151.1	150.9	149.7	146.5
22			81.7	23.7	43.8	55.5	97.5	139.6	151.2	151.0	149.6	146.4
23			88.7	24.6	44.0	55.9	98.7	140.8	151.2	150.9	149.5	146.6
24			96.7	25.4	44.2	56.4	100.0	141.6	151.2	150.9	149.5	147.3
25			104	26.2	44.4	57.3	101.7	143.0	151.2	150.9	149.3	148.1
26			11.2	26.8	44.5	58.1	103.6	144.2	151.2	150.8	149.1	148.8
27			11.9	27.6	44.7	59.0	105.0	145.3	151.2	150.8	149.1	149.0
28			12.7	28.5	44.8	60.1	106.4	146.3	151.2	150.7	149.0	149.8
29			13.6	29.3	-----	61.5	107.7	146.7	151.3	150.6	149.0	150.5
30			14.4	30.2	-----	63.0	109.1	146.8	151.3	150.5	149.0	151.1
31			15.2	31.0	-----	64.7	-----	147.0	-----	150.5	149.0	-----
(†)			-	-	-	-	-	-	-	-	-	-
(‡)			+15.2	+15.8	+13.8	+19.9	4533.6 + 44.4	4576.5 +37.9	4580.8 +4.3	4580.0 - 0.8	4578.5 - 1.5	4580.6 + 2.1

Calendar Year 1965.....# -----

Water Year 1965-66.....# -----

† Elevation in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

## SACRAMENTO RIVER BASIN

11-4288. Rubicon River below Hell Hole Dam near Meeks Bay, Calif.

Location.--Lat 39°03'25", long 120°24'25", in NE 1/4, sec. 21, T.14 N., R.14 E., on right bank 600 ft downstream from outlet of dam, 2.4 miles downstream from Cottonwood Creek, and 15.3 miles west of Meeks Bay.

Drainage area.--120 sq mi.

Records available.--November 1965 to September 1966.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,231.52 ft above mean sea level (levels by Placer County Water Agency).

Extremes.--Maximum discharge during period November to September 972 cfs Nov. 18 (gage height, 6.57 ft), no flow Aug. 25 to Sept. 11.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Flow regulated by Hell Hole Reservoir beginning December 1965. Water is diverted from Middle Fork American River basin by tunnel from French Meadows Reservoir (see sta. no. 11-4274) to Hell Hole Reservoir. Water is diverted out of the basin above the station through Buck-Loon tunnel (see sta. no. 11-4283). Water is diverted from Hell Hole Reservoir through tunnel to Middle Fork powerplant. See schematic diagram for Middle Fork American River and Rubicon River basins. Records do not include slight seepage through rock fill around right end of concrete control, measured as 0.4 cfs Sept. 7 with no flow over control.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	73	22	13	8.3	16	20	8.5	17	6.1	0
2		-	72	22	13	6.3	17	20	3.6	18	3.1	0
3		-	71	20	13	6.2	17	20	2.0	18	4.1	0
4		-	73	12	13	4.5	16	20	8.6	18	4.1	0
5		-	80	11	13	4.5	17	20	8.6	18	2.9	0
6		14	26	12	13	4.8	15	20	8.6	18	7.8	0
7		13	20	11	13	5.7	13	19	2.7	18	1.6	0
8		12	20	16	13	5.7	16	19	8.6	18	8.0	0
9		12	40	16	13	8.0	15	20	8.6	17	3.4	0
10		12	1.0	9.1	14	12	16	21	8.6	17	8.8	0
11		12	2.4	14	14	9.9	16	20	8.5	17	12	0
12		12	1.8	17	14	9.9	17	18	8.3	17	12	14
13		12	1.3	17	15	10	17	17	8.5	17	12	26
14		59	1.1	17	15	9.9	17	19	1.3	17	12	26
15		131	.90	16	16	13	17	20	18	17	12	26
16		85	3.8	16	16	13	18	21	18	17	12	26
17		179	7.3	16	16	13	18	20	18	17	12	26
18		678	6.7	15	16	14	19	20	17	17	12	27
19		276	6.7	15	15	14	18	22	17	17	12	27
20		176	7.1	15	15	14	17	24	15	17	12	27
21		115	8.4	15	15	15	17	24	16	14	12	27
22		84	20	14	15	16	18	22	17	11	12	27
23		100	24	14	15	8.5	17	21	17	15	12	27
24		145	27	14	15	10	18	20	17	15	4.7	27
25		124	28	14	14	14	19	19	17	10	0	28
26		102	28	14	14	15	19	18	17	14	0	28
27		89	20	14	14	15	19	59	17	7.3	0	29
28		84	13	14	14	13	18	180	17	7.3	0	29
29		78	14	14	-----	14	19	180	17	7.7	0	29
30		75	22	14	-----	15	20	180	16	7.9	0	29
31		-----	22	14	-----	16	-----	149	-----	7.9	0	-----
Total		--	652.30	464.1	399	338.2	516	1272	528.9	464.1	225.0	505
Mean		--	21.4	15.0	14.2	10.9	17.2	41.0	17.6	15.0	7.26	16.8
Ac-ft		--	1310	921	791	671	1020	2520	1050	921	446	1000

Calendar year 1965 Max ----- Min ----- Mean ----- Ac-ft -----

Water year 1965-66 Max ----- Min ----- Mean ----- Ac-ft -----

Note.--No gage-height record Jan. 13 to Feb. 28.

11-4293.5. Loon Lake near Meeks Bay, Calif.

Location.--Lat 30°00'17", long 120°18'30", in SW $\frac{1}{4}$  NW $\frac{1}{4}$  sec. 4, T.13 N., R.15 E., on right bank at Loon Lake Dam on Gerle Creek, 2.3 miles upstream from Jerrett Creek, and 11 miles southwest of Meeks Bay.

Drainage area.--7.94 sq mi.

Records available.--December 1963 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

Extremes.--Maximum contents during year, 68,900 acre-ft Oct. 1 (elevation, 6,404.8 ft); minimum, 12,900 acre-ft Mar. 30, 31.  
1963-66: Maximum contents, 77,300 acre-ft June 24, 1965 (elevation, 6,410.8 ft); minimum since initial season of normal operation, 8,720 acre-ft Dec. 21, 1964 (elevation, 6,343.3 ft).

Remarks.--Reservoir is formed by an earth-fill dam completed Dec. 27, 1963. Storage began Dec. 5, 1963. Usable capacity, 74,100 acre-ft between elevations 6,325 ft (invert of fishwater release valve) and 6,410 ft (crest of spillway) above mean sea level. Dead storage, 2,360 acre-ft. Prior to September 1962, reservoir was formed by granite-block dam built in 1884, capacity, 8,000 acre-ft. See schematic diagram for Middle Fork American and Rubicon River Basins.

Contents in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68.9	57.5	40.1	20.2	15.7	16.6	13.2	33.6	61.8	55.4	40.4	25.7
2	68.8	56.7	39.5	19.4	15.7	16.6	13.8	34.8	62.1	55.4	39.7	25.7
3	68.8	55.8	38.9	18.9	15.7	16.7	14.2	36.0	62.3	55.4	38.8	25.7
4	68.7	55.0	38.3	18.4	15.7	16.7	14.7	37.1	62.4	55.4	38.1	25.7
5	68.7	54.2	37.6	17.8	15.9	16.8	15.1	38.5	62.7	54.8	37.5	25.6
6	68.6	53.3	37.1	17.1	16.0	16.8	15.6	39.7	62.8	53.9	37.4	25.6
7	68.3	52.4	36.4	16.6	16.1	16.9	16.3	40.9	63.1	53.2	37.0	25.5
8	68.2	51.5	35.7	15.8	16.1	17.0	17.1	42.1	63.4	52.6	36.2	25.5
9	68.0	50.6	35.1	15.2	16.1	17.1	17.7	43.4	63.6	52.5	35.3	25.5
10	68.0	49.8	34.4	15.0	16.1	17.4	18.4	44.6	63.9	52.4	34.6	25.4
11	68.0	48.9	33.7	15.0	16.2	17.6	18.8	45.8	64.3	51.8	33.7	25.3
12	67.8	48.1	33.0	15.1	16.2	18.0	19.3	46.8	64.5	51.0	33.2	25.3
13	67.2	47.2	32.4	15.1	16.2	18.4	19.7	47.6	64.4	50.3	33.0	25.2
14	66.6	46.8	31.8	15.1	16.2	18.8	20.0	48.6	64.0	49.4	32.9	25.2
15	66.0	46.2	31.1	15.1	16.2	19.2	20.4	49.4	63.5	48.9	32.4	25.2
16	65.3	45.6	30.4	15.1	16.2	19.6	21.2	50.4	63.1	48.8	31.7	25.2
17	64.8	45.3	29.7	15.1	16.2	19.3	22.2	51.3	62.8	48.7	30.8	25.2
18	64.0	45.9	29.1	15.2	16.2	18.7	23.1	52.0	63.1	48.1	30.0	24.9
19	63.4	45.9	28.4	15.2	16.3	18.1	23.7	52.9	63.2	47.4	29.6	24.0
20	62.7	45.4	27.7	15.3	16.3	17.4	24.2	53.9	63.0	46.5	29.5	23.2
21	62.3	45.0	27.1	15.3	16.4	16.8	24.6	54.9	62.3	45.8	29.3	22.4
22	62.4	44.4	26.2	15.3	16.4	16.2	25.2	55.8	61.7	45.2	28.8	21.6
23	62.4	44.0	25.6	15.3	16.4	15.6	25.7	56.7	61.0	45.1	28.0	20.9
24	62.4	43.7	24.9	15.3	16.5	15.0	26.6	57.3	60.4	45.0	27.2	20.9
25	62.2	43.2	24.4	15.4	16.5	14.5	27.6	58.1	59.8	44.4	26.4	20.9
26	61.5	42.8	23.6	15.4	16.6	14.0	29.0	58.9	59.0	43.7	25.9	20.9
27	60.9	42.3	23.0	15.4	16.6	13.6	30.1	59.5	58.2	42.9	25.9	20.9
28	60.3	41.7	22.5	15.4	16.6	13.3	31.0	60.1	57.5	42.1	25.9	20.8
29	59.5	41.2	22.0	15.4	-----	13.1	31.9	60.8	56.7	41.6	25.8	20.8
30	58.9	40.7	21.4	15.6	-----	12.9	32.7	61.3	55.9	41.4	25.7	20.7
31	58.1	-----	20.9	15.6	-----	12.9	-----	61.5	-----	41.2	25.7	-----
(†)	6396.4	6381.9	6361.5	6355.1	6356.4	- - -	6374.4	6399.1	6394.7	6382.4	6367.0	6361.3
(‡)	- 10.8	- 17.4	- 19.8	- 5.3	+ 1.0	- 3.7	+ 19.8	+ 28.8	- 5.6	- 14.7	- 15.5	- 5.0

Calendar year 1965 .....-12.1

Water year 1965-66 .....-48.2

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-ft.

## SACRAMENTO RIVER BASIN

11-4295. Gerle Creek below Loon Lake Dam, near Meeks Bay, Calif.

Location.--Lat 39°00'20", long 120°18'52", in NE¼ sec.5, T.13 N., R.15 E., on right bank 0.3 mile downstream from Loon Lake Dam and 11 miles southwest of Meeks Bay.

Drainage area.--8.01 sq mi.

Records available.--July 1910 to April 1914 (fragmentary), August 1962 to September 1966. Prior to August 1962, published as "near Rubicon Springs."

Gage.--Water-stage recorder. Altitude of gage is 6,250 ft (from topographic map). Prior to August 1962, staff gage at site about 1,400 ft upstream at different datum.

Extremes.--Maximum discharge during year, 422 cfs Sept. 18 (gage height, 6.16 ft); minimum daily, 7.9 cfs May 17.

1910-14, 1962-66: Maximum discharge, 3,240 cfs Feb. 1, 1963 (gage height, 12.65 ft), from rating extended above 600 cfs on basis of slope-area measurement of maximum flow; no flow Oct. 15, 1913.

Remarks.--Records good. Flow regulated, beginning 1884, by Loon Lake (see sta. no. 11-4293.5). Original dam was dismantled during September and October 1962 to permit construction of a new earth-fill dam which was completed Dec. 27, 1963. Storage began Dec. 5, 1963. Loon Lake receives water from Rubicon River through Rubicon-Rockbound tunnel and Buck-Loon tunnel (see sta. nos. 11-4279.4 and 11-4283). See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.3	326	312	336	12	12	242	18	9.0	174	368	9.3
2	9.3	372	312	333	12	12	175	18	9.0	8.5	368	9.5
3	9.3	408	334	332	12	12	180	18	9.0	8.5	369	9.5
4	9.3	404	351	328	12	12	181	18	9.0	8.5	369	9.5
5	20	400	350	327	12	13	182	18	9.0	269	225	9.5
6	37	396	348	324	12	13	185	18	9.0	375	52	9.5
7	63	396	346	321	12	13	186	18	9.0	372	209	9.5
8	79	394	350	316	12	13	186	18	9.5	220	370	9.5
9	39	398	352	314	12	13	187	19	9.0	50	370	9.5
10	9.0	406	351	162	12	14	188	17	9.0	50	369	9.5
11	9.0	408	350	12	12	13	94	14	9.0	298	368	9.5
12	183	404	348	12	12	13	14	14	9.0	366	221	9.5
13	326	402	346	12	12	13	14	12	206	368	59	9.5
14	324	402	344	12	12	13	64	9.8	369	369	58	9.5
15	322	398	342	12	12	13	65	9.8	370	224	249	9.5
16	321	396	342	12	12	13	17	8.5	369	60	370	9.5
17	321	356	342	12	12	204	17	7.9	195	60	369	9.5
18	320	266	342	12	12	366	16	8.2	9.0	249	368	161
19	320	261	340	12	12	363	16	8.2	9.0	366	217	418
20	320	321	339	12	12	360	16	8.2	251	369	49	414
21	184	320	348	12	12	357	17	8.2	370	372	48	408
22	9.5	318	352	12	12	354	17	8.5	368	223	231	376
23	9.5	318	350	12	12	350	17	8.5	366	53	369	168
24	9.5	318	350	12	12	346	17	8.5	364	53	369	11
25	111	316	348	12	12	344	18	8.5	364	248	366	11
26	322	316	345	12	12	342	18	8.5	363	370	203	11
27	324	316	344	12	12	340	17	8.7	363	370	8.7	10
28	332	316	340	12	12	339	17	8.7	370	370	8.7	10
29	330	315	339	12	-----	339	18	8.7	374	224	8.7	9.8
30	328	314	339	12	-----	339	18	8.7	372	58	9.0	9.8
31	327	-----	338	12	-----	338	-----	9.0	-----	158	9.0	-----
Total	5,336.7	10,681	10,634	3,345	336	5,286	2,399	375.1	5,560.5	6,763.5	7,027.1	2,178.9
Mean	172	356	343	108	12	170	80.0	12.1	185	218	227	72.6
Ac-ft	10,590	21,190	21,090	6,630	666	10,480	4,760	744	11,030	13,420	13,940	4,320

Calendar year 1965 Max 626 Min 7.0 Mean 178 Ac-ft 128,700

Water year 1965-66 Max 418 Min 7.9 Mean 164 Ac-ft 118,900



11-4298. Robbs Peak powerplant near Kyburz, Calif.

(Formerly published as Robbs Peak tunnel near Riverton, Calif.)

Location.--Lat 38°53'46", long 120°22'40", in SE¼SW¼ sec. 11, T.12 N., R.14 E., in powerhouse on shore of Union Valley Reservoir, 9.5 miles northwest of Kyburz.

Records available.--October 1962 to September 1966. Prior to October 1965 published as Robbs Peak Tunnel near Riverton.

Gage.--Discharge computed from powerplant output. Altitude of gage is 4,880 ft (from topographic map). Prior to October 1965 water-stage recorder and concrete control in abandoned section of canal one-half mile upstream at different datum.

Extremes.--1962-66: Maximum daily discharge, 1,440 cfs Dec. 22-24, 1964; no flow for several days in 1965 and 1966.

Remarks.--Tunnel diverts at South Fork Rubicon River diversion dam in NE¼ sec. 27, T.13 N., R.14 E., and discharges into Union Valley Reservoir (see sta. no. 11-4410.01). Water is imported from Rubicon River basin via Rubicon-Rockbound tunnel and Buck-Loon tunnel to Loon Lake, thence via Gerle Creek and Robbs Peak tunnel and powerplant to South Fork American River basin for power development. See schematic diagram for Middle Fork American and Rubicon River basins and for South Fork American River basin.

Cooperation.--Records furnished by Sacramento Municipal Utility District.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	306	378	378	58	23	734	236	23	354	287	0
2	0	375	378	378	58	55	637	220	39	0	349	0
3	0	340	379	378	58	27	580	275	0	0	353	0
4	0	412	407	378	58	27	567	196	0	0	344	0
5	4.0	409	407	389	58	38	595	259	39	59	353	0
6	22	343	400	391	58	38	591	173	0	343	39	0
7	41	360	392	378	58	38	596	204	31	341	47	0
8	67	406	392	378	18	85	559	188	0	378	378	0
9	51	356	402	378	18	85	552	180	0	39	326	0
10	0	411	407	378	28	85	693	212	39	31	346	0
11	0	415	394	15	31	164	501	202	0	73	277	0
12	42	415	378	15	31	164	330	94	0	162	300	0
13	306	415	388	15	31	164	314	144	78	361	50	0
14	304	456	388	15	31	164	314	118	283	361	62	0
15	302	444	380	15	58	141	399	125	346	361	78	0
16	300	440	378	15	58	141	410	62	378	31	361	0
17	301	467	378	15	58	156	457	118	378	39	354	0
18	300	610	378	15	25	332	398	70	0	39	354	0
19	300	381	378	33	25	491	236	78	0	378	357	63
20	301	378	344	33	25	476	138	102	78	361	31	418
21	263	388	384	33	25	470	212	47	378	361	0	412
22	0	378	378	33	25	463	196	70	378	361	78	400
23	0	378	378	33	25	468	259	39	378	39	361	283
24	0	367	378	33	25	518	228	39	378	0	378	0
25	16	378	382	33	25	534	399	39	378	133	354	0
26	303	378	387	29	62	567	306	47	378	378	361	0
27	305	378	392	29	33	612	299	39	361	354	0	0
28	312	378	372	35	33	577	228	39	378	378	4.0	0
29	310	378	330	36	-----	636	212	0	366	369	4.0	0
30	308	378	394	36	-----	674	236	39	355	47	0	0
31	307	-----	378	36	-----	612	-----	0	-----	23	0	-----
Total	4,765.0	11,918	11,879	4,355	1,096	9,025	12,216	3,654	5,440	6,154	6,590.0	1,576
Mean	154	397	383	140	39.1	291	407	118	181	199	213	52.5
Ac-ft	9,450	23,640	23,560	8,640	2,170	17,900	24,230	7,250	10,790	12,210	13,070	3,130
Calendar year 1965	Max	958	Min	0	Mean	300	Ac-ft	216,800				
Water year 1965-66	Max	734	Min	0	Mean	216	Ac-ft	156,000				

## SACRAMENTO RIVER BASIN

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 1966.

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.--Maximum discharge during year, 185 cfs Dec. 20 (gage height, 3.67 ft); minimum daily, 4.5 cfs Jan. 2.

1910-14, 1961-66: Maximum discharge, 11,500 cfs Jan. 31, 1963 (gage height, 12.32 ft), from rating curve extended above 2,500 cfs on basis of slope-area measurement of maximum flow; minimum, 0.8 cfs Sept. 21, 1962.

Remarks.--Records good. Flow regulated, beginning 1884, by Loon Lake (former capacity, 8,000 acre-ft; present capacity, 74,100 acre-ft) except November 1962 to December 1963 during which period flow was regulated only by natural storage in the original lake. Prior to Dec. 3, 1961, water was diverted out of the basin in Georgetown Divide ditch. Robbs Peak Tunnel (see sta. no. 11-4296) began diversion of up to 1,320 cfs to Silver Creek basin October 1962. See schematic diagram for South Fork American River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.7	1.0	6.8	6.2	5.0	5.1	1.2	8.2	8.6	8.9	8.2	9.7
2	1.3	9.7	6.6	5.5	5.0	5.1	1.2	8.2	8.4	8.2	8.2	9.5
3	1.2	8.2	6.6	5.8	5.0	5.1	1.1	8.2	8.4	8.2	8.2	11
4	1.1	8.4	6.6	6.0	5.1	5.0	1.1	8.2	8.6	8.0	8.2	16
5	1.1	7.8	6.6	1.5	5.5	5.0	1.1	8.0	8.4	8.0	8.4	18
6	1.1	6.2	6.6	5.8	5.5	5.1	1.1	8.2	8.4	8.4	8.2	18
7	1.0	6.0	6.4	5.3	5.1	5.8	1.1	8.4	8.6	8.4	8.0	17
8	1.1	6.2	6.4	5.6	5.1	6.4	1.0	8.4	8.4	8.6	8.2	16
9	1.4	6.4	6.4	5.8	5.0	7.0	1.0	8.4	8.6	8.2	8.2	11
10	1.2	6.4	6.4	5.6	5.0	9.1	1.3	8.6	8.9	8.2	8.2	8.0
11	1.2	5.8	6.4	4.6	5.0	8.0	1.2	8.4	8.4	8.2	9.9	8.0
12	1.1	6.0	6.4	4.5	5.0	8.0	1.1	8.4	8.4	8.6	1.3	7.0
13	1.1	6.6	6.2	5.6	5.0	9.3	9.9	8.4	8.6	8.6	9.3	11
14	1.1	1.5	6.0	5.6	4.8	8.9	9.9	8.4	8.9	8.4	8.6	10
15	1.1	7.6	5.8	5.5	4.8	8.4	1.2	8.2	8.9	8.6	8.4	9.3
16	1.2	7.6	5.6	5.5	4.8	8.2	1.2	8.2	8.9	8.2	8.6	6.0
17	1.1	8.9	5.6	5.3	4.8	8.0	1.2	8.2	9.1	8.0	8.6	6.0
18	1.1	1.8	5.5	5.3	4.8	8.9	1.2	8.2	8.4	8.2	8.6	5.8
19	1.1	9.5	5.3	5.3	5.0	9.5	1.1	8.2	9.1	8.4	8.6	6.2
20	1.0	7.4	1.2	5.1	5.0	9.3	1.0	8.2	9.9	8.2	8.4	9.1
21	1.0	7.0	5.8	5.3	5.0	9.3	1.0	8.2	9.9	8.0	8.2	8.6
22	9.9	6.8	5.3	5.1	5.0	9.3	9.9	8.2	1.0	8.2	8.4	8.6
23	9.9	8.2	5.5	5.1	5.1	9.7	1.0	8.4	1.0	8.2	8.4	9.1
24	9.9	8.9	5.6	5.0	5.1	1.0	1.8	8.4	9.7	8.0	8.4	9.1
25	9.9	7.6	8.2	5.0	5.1	1.0	9.3	8.4	9.7	8.0	8.4	9.1
26	1.0	7.0	6.0	5.0	5.1	1.1	8.6	8.4	9.5	8.0	8.4	8.6
27	1.1	7.0	5.3	5.0	5.1	1.2	8.6	8.4	9.5	8.2	8.2	8.2
28	1.0	7.0	5.5	5.0	5.1	1.2	8.4	8.4	9.7	8.2	8.0	8.2
29	1.0	6.8	1.6	5.0	-----	1.2	8.4	8.4	9.1	8.4	8.2	8.2
30	1.0	6.8	7.2	5.1	-----	1.2	8.4	8.4	8.9	8.2	1.2	8.2
31	1.0	-----	8.9	5.0	-----	1.3	-----	8.6	-----	8.0	1.2	-----
Total	343.6	240.8	209.5	174.5	140.9	265.5	323.4	257.8	269.9	255.9	272.6	298.5
Mean	11.1	8.0	6.7	5.6	5.0	8.5	10.8	8.3	9.0	8.2	8.7	9.5
Ac-ft	682	478	416	346	279	527	641	511	535	508	541	592

Calendar year 1965 Max 22 Min 5.3 Mean 9.4 Ac-ft 6,830  
 Water year 1965-66 Max 18 Min 4.5 Mean 8.3 Ac-ft 6,060

11-4318. Pilot Creek above Stumpy Meadows Reservoir, Calif.

Location.--Lat 38°53'41", long 120°34'02", in NE¼NW¼ 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,280 ft (from topographic map).

Average discharge.--6 years, 21.9 cfs (15,850 acre-ft per year).

Extremes.--Maximum discharge during year, 80 cfs Apr. 1 (gage height, 2.04 ft); minimum daily, 1.9 cfs Aug. 20-26, Sept. 4-7, 10.  
1960-66: Maximum discharge, 2,380 cfs Dec. 23, 1964 (gage height, 5.92 ft in gage well, 6.6 ft from floodmarks), from rating curve extended above 170 cfs on basis of slope-area measurement of maximum flow; maximum gage height, 8.05 ft Jan. 31, 1963; minimum discharge, that of Aug. 20-26, Sept. 4-7, 10, 1966.

Remarks.--Records good. No regulation or diversion above station. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	5.3	1.0	7.1	9.2	1.1	7.3	1.6	8.9	4.8	3.6	2.2
2	6.0	5.3	9.8	7.0	8.9	1.0	7.4	1.6	8.6	5.0	3.2	2.1
3	6.0	5.3	9.8	7.9	8.6	1.1	6.9	1.5	8.6	4.8	2.9	2.1
4	6.0	5.3	9.5	1.0	9.5	1.1	6.6	1.4	8.2	4.8	2.8	1.9
5	6.0	5.3	9.5	1.7	1.2	1.0	6.3	1.4	7.9	5.0	2.6	1.9
6	6.0	5.3	9.8	1.6	1.4	1.2	6.0	1.3	8.2	4.8	2.5	1.9
7	5.8	5.3	9.5	1.4	1.1	1.5	5.7	1.2	8.6	4.8	2.5	1.9
8	5.5	5.5	9.2	1.4	1.1	1.7	5.2	1.2	8.6	4.8	2.5	2.1
9	5.5	6.0	9.2	1.3	1.1	2.0	4.8	1.2	8.2	4.8	2.5	2.1
10	5.5	6.0	9.2	1.2	9.2	3.6	6.0	1.4	7.6	4.8	2.4	1.9
11	5.5	5.8	9.5	1.2	8.9	3.4	6.3	1.2	7.3	4.8	2.4	2.1
12	5.5	6.6	9.8	1.1	8.9	3.1	6.0	1.1	7.1	4.8	2.4	2.2
13	5.5	7.9	9.5	1.1	8.2	3.9	5.2	1.1	6.8	4.8	2.4	2.4
14	6.6	2.2	9.2	1.1	7.9	4.1	4.7	1.0	6.6	4.6	2.4	2.6
15	8.6	1.2	9.0	1.1	7.8	4.2	4.4	1.0	6.3	4.5	2.2	2.6
16	7.1	1.1	8.9	1.1	7.8	4.1	4.3	9.8	6.0	4.5	2.2	2.6
17	6.8	1.8	8.7	1.0	8.6	3.6	4.1	9.5	6.0	4.3	2.2	2.4
18	6.6	5.1	8.5	1.0	8.6	3.4	3.8	8.9	5.8	4.3	2.2	2.6
19	6.6	2.4	8.4	1.0	9.2	3.6	3.4	8.9	5.8	4.3	2.1	3.2
20	6.6	1.6	8.3	9.8	9.5	3.4	3.1	8.6	5.8	4.3	1.9	2.9
21	6.6	1.2	8.1	9.8	9.2	3.3	2.8	8.6	5.8	4.1	1.9	2.6
22	6.3	1.1	8.0	9.8	9.5	3.3	2.6	8.6	5.8	3.9	1.9	2.5
23	6.0	1.6	8.0	9.8	1.2	3.4	2.4	8.6	5.8	3.6	1.9	2.4
24	6.0	1.9	7.8	9.5	1.4	3.7	2.4	8.2	5.8	3.4	1.9	2.4
25	6.0	1.6	7.3	9.5	1.2	4.1	2.3	7.9	5.5	3.4	1.9	2.4
26	5.8	1.2	6.0	9.2	1.2	4.4	2.2	7.6	5.5	3.2	1.9	2.5
27	5.8	1.2	6.0	9.2	1.2	4.9	2.0	7.6	5.3	3.2	2.1	2.4
28	5.8	1.2	8.7	9.2	1.1	5.7	2.0	7.9	5.0	3.2	2.1	2.2
29	5.5	1.1	9.1	9.8	-----	6.2	1.9	8.9	4.8	3.1	2.1	2.1
30	5.3	1.0	7.8	2.2	-----	6.6	1.8	8.9	4.8	3.2	2.2	2.2
31	5.3	-----	7.4	1.0	-----	6.9	-----	8.9	-----	3.9	2.4	-----
Total	188.1	359.9	269.5	342.6	281.5	104.6	129.9	329.4	201.0	131.8	72.2	69.4
Mean	6.07	12.0	8.69	11.1	10.1	33.7	43.3	10.6	6.70	4.25	2.33	2.31
Ac-ft	373	71.4	535	680	558	2070	2580	653	399	261	143	138

Calendar year 1965 Max 171 Min 5.3 Mean 28.8 Ac-ft 20,870  
Water year 1965-66 Max 74 Min 1.9 Mean 12.6 Ac-ft 9,100

Peak discharge (base, 100 cfs).--No peak above base.

## SACRAMENTO RIVER BASIN

11-4330.4. Pilot Creek below Matton Canyon, near Georgetown, Calif.

Location.--Lat 38°55'25", long 120°38'27", in NE 1/4 sec. 4, T.12 N., R.12 E., on left bank 450 ft downstream from Matton 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 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,760 ft (from topographic map).

Extremes.--Maximum discharge during year, 169 cfs Mar. 28 (gage height, 3.92 ft); minimum daily, 0.20 cfs Sept. 24.  
1961-66: Maximum discharge, 5,430 cfs Dec. 22, 1964 (gage height, 9.60 ft), from rating curve extended above 150 cfs on basis of slope-area measurement at gage height 5.00 ft; maximum gage height, 10.06 ft Dec. 23, 1964; minimum daily discharge that of Sept. 24, 1966.

Remarks.--Records good. Flow regulated by Stumpy Meadows Reservoir (usable 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. See schematic diagram for Middle Fork American and Rubicon River basins.

Revisions (water years).--1965 Report: 1962.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	1.6	3.4	2.3	2.1	2.4	82	7.1	5.1	1.1	1.7	0.70
2	1.8	1.6	3.3	2.2	2.0	2.3	84	5.9	4.0	1.1	1.7	.70
3	1.8	1.6	3.3	2.1	2.0	2.2	103	5.9	3.1	1.3	1.5	2.5
4	1.8	1.6	3.3	2.4	2.2	2.2	84	7.1	1.9	1.9	1.5	2.5
5	1.8	1.6	3.3	7.2	3.0	2.3	77	7.9	9.0	2.1	1.3	2.5
6	1.8	1.6	3.2	5.5	4.3	2.4	72	5.1	.90	2.3	1.5	2.5
7	1.8	1.6	3.0	3.4	2.9	3.6	70	4.0	.90	.90	1.5	2.5
8	1.7	1.6	3.0	3.0	2.6	3.8	57	3.4	1.1	.90	2.1	2.5
9	1.7	1.6	3.0	2.9	2.3	5.5	43	4.0	1.1	.80	3.4	2.5
10	1.7	1.6	2.9	2.7	2.2	1.2	68	8.9	1.1	.80	3.4	2.5
11	1.7	1.6	3.0	2.6	2.1	1.7	93	7.9	1.3	.90	2.3	2.5
12	1.7	1.7	3.2	2.4	2.1	3.0	86	7.5	2.3	.90	1.9	5.1
13	1.7	1.8	3.2	2.4	2.1	4.8	63	5.1	3.1	.90	2.1	7.5
14	2.3	3.2	2.7	2.3	2.0	4.9	50	3.1	3.1	.90	2.3	7.1
15	2.6	2.1	2.6	2.3	2.0	5.4	43	2.1	3.4	.90	2.1	6.7
16	1.8	2.8	2.6	2.2	2.0	7.3	40	1.7	3.1	2.1	2.1	5.1
17	1.8	5.1	2.6	2.2	2.0	6.9	41	1.7	1.7	2.1	2.3	4.3
18	1.8	2.3	2.4	2.2	2.1	5.9	37	1.5	1.5	1.3	2.3	3.7
19	1.7	1.2	2.4	2.2	2.2	6.1	31	1.5	1.5	2.1	2.3	3.7
20	1.7	8.2	2.4	2.1	2.2	5.9	27	2.5	1.3	2.5	2.3	3.4
21	1.7	7.0	2.4	2.1	2.2	5.6	23	6.3	1.3	2.3	2.3	2.1
22	1.7	6.4	2.3	2.1	2.2	5.4	20	6.3	1.3	2.1	2.3	1.1
23	1.7	8.2	2.3	2.1	2.9	5.4	18	5.9	1.3	1.7	2.3	.80
24	1.6	6.0	2.3	2.1	3.0	5.4	16	5.5	1.3	1.9	2.3	.20
25	1.6	4.9	2.3	2.1	2.7	5.5	15	5.5	1.1	2.1	1.5	4.0
26	1.6	4.1	2.3	2.1	2.6	5.9	14	5.5	.90	1.7	1.1	.60
27	1.6	3.9	2.2	2.1	2.6	6.4	12	5.9	.90	2.8	1.3	.50
28	1.6	3.8	2.9	2.1	2.4	8.4	11	4.0	1.1	2.8	1.5	4.0
29	1.6	3.8	3.2	2.2	-----	10.9	9.4	4.0	1.1	1.7	1.5	.80
30	1.6	3.8	2.7	2.3	-----	8.2	8.4	2.8	1.1	1.9	1.7	1.9
31	1.6	-----	2.6	2.1	-----	8.2	-----	2.3	-----	1.9	1.7	-----
Total	54.4	129.4	86.3	80.0	67.0	131.0	7.8	147.9	53.80	50.70	61.1	79.30
Mean	1.75	4.31	2.78	2.58	2.39	4.23	46.6	4.77	1.79	1.64	1.97	2.64
Ac-ft	108	257	171	159	133	2600	2770	293	107	101	121	157

Calendar year 1965 Max 559 Min 1.7 Mean 47.0 Ac-ft 34,030  
 Water year 1965-66 Max 109 Min 0.2 Mean 9.64 Ac-ft 6,980

## SACRAMENTO RIVER BASIN

943

11-4330.6. South Fork Long Canyon Creek diversion tunnel near Volcanoville, Calif.

Location.--Lat 39°03'04", long 120°28'14", in SW 1/4 NE 1/4, sec. 24, T. 14 N., R. 13 E., on right bank at diversion dam, 3.3 miles upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 miles east of Volcanoville.

Drainage area.--7.10 sq mi.

Records available.--October 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,630 ft (from topographic map).

Extremes.--Maximum discharge during year, 91 cfs Apr. 10 (gage height, 1.98 ft); no flow most of the year.

Remarks.--Records good. Tunnel completed in September 1965; diversion began in February 1966. See schematic diagram for Middle Fork American River and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0.6 0	44	28				
2					0	.6 0	50	28				
3					0	0	50	28				
4					0	0	51	28				
5					0	0	50	28				
6					0	0	49	27				
7					0	.8 0	49	27				
8					0	2.6	49	27				
9					0	3.6	50	28				
10					0	13	83	36				
11					0	18	74	27				
12					0	16	62	22				
13					0	21	53	20				
14					0	24	47	20				
15					0	23	47	20				
16					0	19	47	19				
17					0	15	44	18				
18					0	15	45	14				
19					0	16	41	12				
20					0	16	35	12				
21					0	16	32	11				
22					0	17	30	7.6				
23					0	18	29	5.0				
24					.4 0	19	28	3.6				
25					.5 0	21	28	3.0				
26					.8 0	22	28	2.8				
27					.8 0	24	28	1.5				
28					.8 0	29	28	0				
29					-----	32	28	0				
30					-----	36	28	0				
31					-----	39	-----	0	-----			-----
Total	0	0	0	0	3.4 0	477.2 0	1307	503.5	0	0	0	0
Mean	0	0	0	0	0.12	15.4	43.6	16.2	0	0	0	0
Ac-ft	0	0	0	0	6.7	947	2590	999	0	0	0	0
Calendar year 1965	Max	-----	Min	-----	Mean	-----	Ac-ft	-----				
Water year 1965-66	Max	83	Min	0	Mean	6.28	Ac-ft	4540				

## SACRAMENTO RIVER BASIN

11-4330.8. North Fork Long Canyon Creek diversion tunnel near Volcanoville, Calif.

Location.--Lat 39°02'57", long 120°28'56", in SW  $\frac{1}{4}$  sec. 24, T.14 N., R.13 E., on left bank at diversion dam, 3.2 miles upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 miles east of Volcanoville.

Drainage area.--3.50 sq mi.

Records available.--October 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,700 ft (from topographic map).

Extremes.--Maximum discharge during year, 48 cfs Apr. 10 (gage height, 2.00 ft); no flow most of year.

Remarks.--Records excellent. No regulation or diversion above station. Tunnel completed in September 1965 and diversions began in February 1966. See schematic diagram for Middle Fork American River and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0	22	8.3				
2					0	0	20	7.9				
3					0	0	19	7.9				
4					0	0	18	7.7				
5					0	0	21	7.3				
6					0	0	21	6.4				
7					0	1.3	20	5.9				
8					0	3.6	18	5.9				
9					0	8.1	15	5.9				
10					0	23	28	7.7				
11					0	11	18	5.4				
12					0	9.5	19	4.4				
13					0	21	18	3.8				
14					0	16	16	3.6				
15					0	11	16	3.3				
16					0	6.4	16	2.8				
17					0	4.4	17	2.2				
18					0	3.9	13	1.3				
19					0	3.9	9.5	1.1				
20					0	3.5	8.1	1.0				
21					0	3.5	7.5	0				
22					0	3.8	6.6	0				
23					3.0	5.7	6.2	0				
24					0	8.1	6.4	0				
25					0	10	6.6	0				
26					0	13	6.0	0				
27					0	17	4.7	0				
28					0	20	6.6	0				
29					-----	21	9.7	0				
30					-----	21	8.9	0				
31					-----	22	-----	0				
Total	0	0	0	0	0.30	271.7	421.8	98.90	0	0	0	0
Mean	0	0	0	0	0.01	8.76	14.1	3.19	0	0	0	0
Ac-ft	0	0	0	0	0.6	539	837	196	0	0	0	0

Calendar year 1965 Max - - - Min - - - Mean - - - Ac-ft - - -  
 Water year 1965-66 Max 28 Min 0 Mean 2.17 Ac-ft 1570

11-4331. Long Canyon Creek near French Meadows, Calif.

Location.--Lat 39°01'16", long 120°30'53", in SE  $\frac{1}{4}$  sec. 34, T.14 N., R.13 E., on right bank 75 ft downstream from North Fork Long Canyon, 6.5 miles south of French Meadows, and 18 miles east of Foresthill.

Drainage area.--18.0 sq mi.

Records available.--August 1960 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,100 ft (from topographic map).

Extremes.--Maximum discharge during year, 107 cfs Nov. 18 (gage height, 4.77 ft); minimum daily, 0.4 cfs Aug. 9.

1960-66: Maximum discharge, 4,690 cfs Dec. 23, 1964 (gage height, 11.20 ft), from rating curve extended above 180 cfs on basis of slope-area measurements at gage heights 6.62 and 10.27 ft; minimum, 0.2 cfs Sept. 4, 5, 7, 1961.

Remarks.--Records good. Water is diverted above this station to Hell Hole Reservoir via South Fork and North Fork Long Canyon diversion tunnels (see sta. nos. 11-4330.6 and 11-4330.8); diversions began in February 1966. See schematic diagram for Middle Fork American and Rubicon River Basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3	5.6	9.5	4.2	8.6	15	59	13	10	12	0.60	0.80
2	5.1	4.7	9.8	4.1	8.3	15	56	13	9.5	12	.60	.80
3	5.1	4.6	10	3.9	8.1	14	52	12	14	11	.50	.90
4	5.0	4.6	11	4.0	7.8	13	49	12	20	11	.50	.90
5	5.0	4.1	10	6.3	11	13	46	12	19	11	.50	.90
6	5.1	4.6	9.8	11	13	14	43	12	11	11	.50	.90
7	5.1	4.6	9.3	16	12	20	41	12	7.4	10	.50	.80
8	5.1	5.2	8.8	16	11	23	38	12	7.2	10	.50	.70
9	5.1	4.6	8.3	14	11	29	37	12	6.6	10	.40	.80
10	5.1	5.0	8.3	12	10	52	49	14	26	10	.50	.80
11	5.1	4.6	8.1	11	9.5	44	51	12	42	9.8	.60	.80
12	5.0	4.6	8.6	9.8	9.5	41	49	12	35	9.5	.60	.90
13	4.1	5.2	8.1	9.8	9.3	55	45	11	15	10	.60	.90
14	5.8	14	7.4	11	9.3	50	40	11	29	9.3	.60	.90
15	5.9	8.6	6.3	12	9.3	46	38	10	34	9.3	.70	.90
16	5.0	7.9	6.0	13	9.3	42	35	10	18	9.3	.70	.90
17	5.1	17	6.2	12	10	37	34	10	15	9.0	.80	.90
18	5.8	70	6.0	11	11	35	33	11	15	8.8	.80	.90
19	5.1	24	6.2	11	12	35	30	12	15	8.6	.80	1.1
20	4.8	15	6.3	10	12	34	28	15	15	8.6	.80	.90
21	4.8	11	6.6	9.8	13	33	28	15	14	8.3	.70	1.0
22	4.8	8.8	6.3	9.5	15	32	26	15	13	5.4	.70	1.0
23	3.9	13	4.4	9.0	20	34	26	15	13	1.9	.70	1.0
24	4.7	16	3.0	8.8	21	36	26	15	13	1.8	.70	1.0
25	5.5	13	3.3	8.8	18	39	25	14	13	1.8	.70	1.0
26	4.7	11	3.8	8.8	16	42	25	14	12	1.3	.60	1.0
27	4.7	10	3.7	8.6	16	46	24	13	12	.70	.60	1.0
28	4.7	10	3.5	8.6	16	50	21	13	12	.60	.60	1.0
29	4.7	10	4.2	8.8	-----	54	14	12	12	.60	.60	1.0
30	3.6	9.5	4.0	9.0	-----	56	14	12	12	.60	.60	1.1
31	4.7	-----	3.9	8.8	-----	59	-----	11	-----	.70	.60	-----
Total	153.5	330.8	210.7	300.6	337.0	1,108	1,082	387	489.7	223.90	192.0	275.0
Mean	4.95	11.0	6.80	9.70	12.0	35.7	36.1	12.5	16.3	7.22	0.62	0.92
Ac-ft	304	656	418	596	668	2,200	2,150	768	972	444	38	55

Calendar year 1965 Max 316 Min 3.0 Mean 46.7 Ac-ft 33,840  
 Water year 1965-66 Max 70 Min 0.4 Mean 12.8 Ac-ft 9,260

## SACRAMENTO RIVER BASIN

11-4332. Rubicon River near Foresthill, Calif.

Location.--Lat 38°59'33", long 120°43'14", in SE 1/4 sec. 11, T.13 N., R.11 E., on right bank 0.6 mile upstream from Ralston powerhouse, 1.2 miles upstream from confluence of Rubicon River and Middle Fork American River, and 5.6 miles southeast of Foresthill.

Drainage area.--315 sq mi.

Records available.--October 1958 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,200 ft (from topographic map). October 1958 to May 17, 1963, at site 2.0 miles upstream, 150 ft downstream from Ralston Bridge; and May 17, 1963, to Mar. 30, 1965, at site 2.1 miles upstream, 100 ft upstream from Ralston Bridge; at datums 1,362.20 ft above mean sea level.

Extremes.--Maximum discharge during year, 1,580 cfs Nov. 18 (gage height, 9.26 ft); minimum daily, 24 cfs Sept. 12.

1958-66: Maximum discharge, unknown Dec. 23, 1965 (gage height, 55.4 ft, from floodmarks) result of overtopping of the partly constructed Hell Hole Dam; minimum daily discharge, 10 cfs Sept. 20-27, 1962.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Hell Hole Reservoir (see sta. no. 11-4287), Loon Lake (see sta. no. 4293.5), and Stumpy Meadows Reservoir (capacity, 20,000 acre-ft). Water is imported from French Meadows Reservoir on Middle Fork American River through tunnel to French Meadows powerplant on shore of Hell Hole Reservoir. Water is diverted from Hell Hole Reservoir through tunnel to Middle Fork powerplant on Middle Fork American River. Robbs Peak tunnel and powerplant (see sta. no. 11-4298) divert water to South Fork American River basin. See schematic diagram for Middle Fork American River and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	48	163	76	119	149	377	163	186	56	34	30
2	50	53	158	73	112	140	399	158	134	56	34	30
3	49	49	158	105	102	123	394	158	99	56	33	28
4	49	49	150	126	108	118	388	158	96	56	31	28
5	49	49	150	289	145	120	366	150	85	56	28	28
6	49	49	150	294	284	126	360	145	74	56	26	34
7	48	46	119	245	223	138	360	138	70	54	26	35
8	48	49	82	218	181	168	333	134	99	53	26	35
9	48	49	72	201	153	210	316	130	70	53	26	35
10	48	51	70	176	134	562	410	154	63	53	28	30
11	48	51	70	154	119	461	501	141	88	51	29	28
12	47	51	77	134	126	348	501	130	82	51	28	24
13	47	53	72	130	115	445	432	119	74	49	35	28
14	50	123	70	130	112	465	388	112	58	51	39	28
15	20	158	65	134	110	407	366	108	88	51	35	30
16	71	206	61	138	110	352	360	105	70	51	35	53
17	60	245	58	134	111	277	360	105	70	49	35	53
18	56	1120	56	123	119	241	350	102	68	49	35	51
19	53	730	56	112	126	237	316	99	65	49	35	51
20	51	360	54	108	131	240	284	96	65	49	35	51
21	50	267	54	102	134	211	267	99	65	49	35	53
22	49	201	58	96	155	209	250	99	63	46	35	53
23	50	218	58	96	196	219	234	96	63	42	37	53
24	51	344	65	96	218	237	229	96	63	37	39	53
25	52	338	70	94	186	271	234	21	61	37	39	53
26	52	262	56	94	169	302	218	91	61	38	37	53
27	53	223	81	94	156	332	206	91	61	35	34	53
28	53	201	142	91	153	360	196	145	61	34	30	49
29	53	181	136	96	-----	375	181	240	61	35	29	49
30	48	172	131	130	-----	381	172	240	61	35	28	49
31	48	-----	103	126	-----	387	-----	234	-----	35	28	-----
Total	1,620	5,396	2,865	4,215	4,107	8,611	9,748	4,127	2,324	1,472	1,004	1,228
Mean	52.3	200	92.4	136	147	278	325	133	77.5	47.5	32.4	40.9
Ac-ft	3,210	11,890	5,680	8,360	8,150	17,080	19,330	8,190	4,610	2,920	1,990	2,440

Calendar year 1965 Max 5,230 Min 46 Mean 673 Ac-ft 487,260  
 Water year 1965-66 Max 1,120 Min 24 Mean 130 Ac-ft 93,850

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



11-4332.6. North Fork of Middle Fork American River near Foresthill, Calif.

Location.--Lat 39°01'27", long 120°43'03", in NE $\frac{1}{4}$  sec.35, T.14 N., R.11 E., on right bank 1.0 mile downstream from El Dorado Canyon and 4.8 miles east of Foresthill.

Drainage area.--88.9 sq mi.

Records available.--July 1965 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,300 ft (from topographic map).

Extremes.--Maximum discharge during year, 858 cfs Apr. 1 (gage height, 6.02 ft); minimum daily, 18 cfs Sept. 3.

Remarks.--Records good. No storage or diversion above station. See schematic diagram for Middle Fork American and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	19	59	88	98	159	704	193	69	31	24	20
2	28	19	55	67	92	150	680	182	67	31	24	19
3	27	19	55	62	90	141	603	182	65	31	24	18
4	25	19	60	73	98	135	554	179	63	30	23	19
5	25	19	60	224	159	135	528	172	63	29	23	20
6	26	19	57	293	280	138	522	162	62	29	23	20
7	26	19	54	235	214	196	498	153	62	28	22	19
8	26	25	52	200	179	251	462	147	62	27	22	20
9	24	27	51	190	153	271	415	150	60	28	22	20
10	24	22	49	159	138	768	534	176	55	30	20	20
11	24	21	48	138	128	575	589	147	54	31	20	20
12	24	22	59	128	122	444	582	135	51	31	20	20
13	24	27	52	122	115	652	504	128	46	31	20	22
14	24	88	46	122	115	624	462	122	45	31	20	24
15	37	62	41	125	112	540	438	118	42	30	20	24
16	29	42	40	128	112	456	438	112	41	30	20	25
17	24	98	39	125	112	360	450	110	39	30	20	24
18	23	435	39	118	115	320	420	100	39	29	20	24
19	22	250	39	110	128	325	355	98	37	29	20	25
20	22	108	36	105	135	302	311	95	37	28	19	24
21	22	73	35	98	135	288	288	90	36	28	19	24
22	21	61	36	95	141	284	271	88	36	28	19	23
23	20	75	33	92	193	293	255	81	37	27	20	23
24	20	186	44	83	228	325	255	79	37	27	20	23
25	20	141	73	81	193	360	267	77	35	27	20	22
26	19	99	55	79	176	415	263	73	34	26	20	22
27	20	78	46	79	162	480	247	71	33	26	20	22
28	20	69	78	77	159	561	228	71	32	26	20	21
29	20	65	130	83	-----	610	214	69	32	25	20	21
30	19	62	122	110	-----	652	204	69	32	25	20	20
31	19	-----	118	100	-----	673	-----	69	-----	25	21	-----
Total	733	2269	1761	3789	4082	11883	12541	3698	1403	884	645	648
Mean	23.6	75.6	56.8	122	146	383	418	119	46.8	28.5	20.8	21.6
Ac-ft	1450	4500	3490	7520	8100	23570	24870	7330	2780	1750	1280	1290

Calendar year 1965 Max --- Min --- Mean --- Ac-ft ---  
 Water year 1965-66 Max 768 Min 18 Mean 121 Ac-ft 87,940

Peak discharge (base, 1,600 cfs).--No peak above base.

## SACRAMENTO RIVER BASIN

11-4333. Middle Fork American River near Foresthill, Calif.

Location.--Lat 39°00'23", long 120°45'40", in NW $\frac{1}{4}$  NW $\frac{1}{4}$  of sec. 4, T.13 N., R.11 E., on right bank 1.7 mi downstream from Oxbow Powerhouse and 3.2 miles east of Foresthill. Prior to Oct. 22, 1965 at site 3.2 miles downstream.

Drainage area.--524 sq mi.

Records available.--October 1958 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 1,060 ft (from topographic map). Prior to Oct. 22, 1965, at site 3.2 miles downstream at different datum.

Extremes.--Maximum discharge during year, 1,980 cfs Nov. 18 (gage height, 8.11 ft); minimum daily, 38 cfs Aug. 12, 13.

1958-66: Maximum discharge, 310,000 cfs Dec. 23, 1964 (gage height, 69.0 ft, from floodmarks (site and datum then in use) caused by overtopping the partly constructed Hell Hole Dam on the Rubicon River, from rating curve extended above 28,000 cfs on basis of slope-area measurement at gage height 38.0 ft and slope-conveyance study at gage height 69.0 ft at site and datum then in use; minimum, 35 cfs Oct. 19, 20, 1961.

Remarks.--Records good. Flow regulated by French Meadows Reservoir (see sta. no. 11-4274), Hell Hole Reservoir (see sta. no. 11-4287), Loon Lake (see sta. no. 11-4293.5) and Stumpy Meadows Reservoir (usable capacity, 20,000 acre-ft). Diurnal fluctuations from Ralston powerplant re-regulated by Ralston Afterbay (capacity, 367 acre-ft between normal operating elevations 1174.5 and 1179.0 ft) and Oxbow powerplant. Robbs Peak tunnel (see sta. no. 11-4298) and Georgetown Divide ditch (capacity, about 25 cfs) divert water out of basin above station. See schematic diagram for Middle Fork American River and Rubicon River basins.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	84	288	328	288	360	1,210	442	476	118	100	59
2	320	84	273	255	273	352	1,240	410	432	116	48	59
3	320	85	267	223	258	321	1,170	446	263	116	77	57
4	320	82	270	258	270	307	1,090	561	205	114	123	57
5	325	81	273	615	370	310	1,060	446	185	113	83	57
6	330	81	273	734	698	310	1,040	363	175	112	54	57
7	330	78	234	595	558	390	993	398	171	110	68	57
8	330	90	185	522	462	490	944	386	339	110	68	57
9	330	95	165	486	394	540	874	318	368	110	67	59
10	330	86	156	426	352	1,100	1,020	264	352	110	72	60
11	335	86	154	382	324	993	1,180	360	372	108	52	61
12	345	87	178	338	307	842	1,210	342	340	107	38	169
13	355	100	162	318	294	1,060	1,110	307	311	107	38	110
14	380	258	150	318	288	1,090	986	300	155	106	39	42
15	420	276	128	321	279	986	916	288	280	100	39	186
16	415	282	122	335	273	916	902	279	320	83	39	89
17	405	382	120	321	270	782	909	288	314	88	39	89
18	400	1,540	118	300	276	704	381	378	311	92	40	89
19	415	1,100	118	285	297	728	776	462	308	94	53	187
20	440	590	116	270	310	692	692	346	299	95	40	72
21	455	485	120	255	310	660	645	307	165	95	40	160
22	475	385	124	249	321	645	615	276	139	95	41	82
23	480	365	120	243	398	650	585	249	139	94	42	107
24	485	610	142	234	504	698	576	231	137	91	43	84
25	485	560	285	225	438	746	585	219	133	87	68	90
26	495	430	200	219	402	812	590	213	129	86	87	177
27	500	360	172	216	374	895	566	205	125	86	88	269
28	84	330	254	210	363	1,000	422	393	125	83	87	69
29	74	308	462	225	-----	1,120	328	615	124	82	68	86
30	76	292	438	318	-----	1,150	360	615	120	82	57	92
31	82	-----	438	291	-----	1,170	-----	595	-----	85	58	-----
Total	10,856	9,672	6,505	10,320	9,951	22,819	25,475	11,302	7,312	3,075	1,856	2,890
Mean	350	322	210	333	355	736	849	365	244	99.2	59.9	96.3
Ac-ft	21,530	19,180	12,900	20,470	19,740	45,260	50,530	22,420	14,500	6,100	3,680	5,730

Calendar year 1965 Max 13,200 Min 74 Mean 1,187 Ac-ft 859,700

Water year 1965-66 Max 1,540 Min 38 Mean 334 Ac-ft 242,000

Note.--No gage-height record Oct. 1 to Nov. 5.

11-4334. Canyon Creek near Georgetown, Calif.

Location.--Lat 38°56'03", long 120°52'21", in SW $\frac{1}{4}$  sec. 33, T.13 N., R.10 E., on right bank 0.7 mile downstream from West Canyon and 2.6 miles northwest of Georgetown.

Drainage area.--12.5 sq mi.

Records available.--July to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 1,995 ft (from topographic map).

Extremes.--Maximum discharge during period July to September, 3.0 cfs July 29-31 (gage height, 4.55 ft); minimum daily, 1.4 cfs Aug. 18-21, 23-25.

Remarks.--Records fair. Small diversions above station for irrigation and domestic purposes. See schematic diagram for Middle Fork American River and Rubicon River basins. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, period July to September, 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	2.6	2.3
2										-	2.3	2.1
3										-	2.2	1.8
4										-	1.9	1.5
5										-	1.7	1.9
6										-	1.7	1.9
7										-	1.7	1.9
8										-	1.5	2.0
9										-	1.6	2.1
10										-	2.3	2.1
11										-	2.4	2.2
12										-	2.3	2.2
13										-	2.2	2.1
14										-	2.2	2.0
15										-	2.1	1.8
16										-	2.0	2.0
17										-	1.6	2.1
18										-	1.4	2.2
19										-	1.4	2.6
20										-	1.4	2.7
21										-	1.4	2.6
22										-	1.5	2.7
23										-	1.4	2.7
24										-	1.4	2.8
25										-	1.4	2.3
26										2.1	1.6	2.2
27										1.9	1.9	2.4
28										2.1	2.0	2.3
29					-----					3.0	2.0	2.4
30					-----					3.0	2.0	2.0
31		-----			-----		-----		-----	3.0	2.1	-----
Total										-	57.2	65.9
Mean										-	1.85	2.20
Ac-ft										-	113	131
Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1965-66	Max	-	Min	-	Mean	-	Ac-ft	-				

11-4335. Middle Fork American River near Auburn, Calif.

Location.--Lat 38°55'05", long 121°00'45", in NE 1/4 sec. 6, T.12 N., R.9 E., on right bank at Mountain Quarry Co. plant, 1.5 miles upstream from mouth, and 3.3 miles northeast of Auburn.

Drainage area.--612 sq mi.

Records available.--October 1911 to September 1966. Prior to October 1934, published as "near East Auburn."

Gage.--Water-stage recorder. Altitude of gage is 560 ft (from river-profile map). Prior to December 1930, staff gages near present site at different datums. December 1930 to Mar. 1, 1963, water-stage recorder at site 0.4 mile upstream at different datum.

Average discharge.--55 years, 1,334 cfs (965,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,240 cfs Nov. 18 (gage height, 9.23 ft); minimum daily, 36 cfs Aug. 13. 1911-66: Maximum discharge, 253,000 cfs Dec. 23, 1964 (gage height, 60.4 ft from floodmarks), from rating curve extended above 69,000 cfs on basis of slope-area measurement of maximum flow (caused by overtopping of the partly constructed Hell Hole Dam); minimum, 20 cfs Sept. 6, 1931, Sept. 19, 1934.

Remarks.--Records good. Natural flow of stream affected by French Meadows Reservoir (see sta. no. 11-4274), Loon Lake (see sta. no. 11-4293.5), Stumpy Meadows Reservoir (usable capacity, 20,000 acre-ft), and diversion dams on Rubicon River and Little Rubicon River. Rubicon-Rockbound Tunnel, Buck-Loon Tunnel, and Robbs Peak Tunnel (see sta. nos. 11-4279.4, 11-4283, and 11-4298) divert water out of basin. See schematic diagram for Middle Fork American and Rubicon River basins. Records of chemical analyses and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	345	115	350	612	426	450	1310	462	570	138	82	58
2	345	120	330	444	426	450	1350	480	510	130	91	58
3	350	120	320	366	378	420	1270	486	408	130	50	58
4	345	120	315	384	378	390	1210	504	270	127	82	58
5	355	120	305	1020	474	390	1150	672	255	127	97	58
6	360	115	305	1150	1120	390	1110	366	225	124	76	56
7	360	115	295	878	906	420	1100	438	220	121	52	56
8	360	120	240	726	696	510	1050	432	270	121	60	56
9	360	130	205	660	576	558	983	426	420	118	62	58
10	360	135	195	582	516	906	1060	325	402	115	60	58
11	360	130	185	510	468	1240	1270	355	408	115	64	58
12	360	125	230	462	432	1050	1350	390	396	112	50	60
13	396	145	200	420	408	1120	1250	372	384	112	36	174
14	420	280	185	402	390	1230	1120	340	270	112	38	119
15	462	372	170	402	372	1160	1030	330	230	109	38	50
16	456	360	145	402	360	1090	1010	320	360	100	38	169
17	432	438	140	402	350	955	1010	310	350	85	40	88
18	432	1530	135	378	345	857	1000	355	340	91	40	82
19	450	1490	130	360	360	857	999	468	340	94	40	128
20	480	774	125	340	378	843	794	444	340	97	50	163
21	480	606	120	325	378	787	801	355	315	100	42	93
22	486	486	125	315	378	768	708	325	174	100	42	154
23	510	480	135	310	432	756	672	300	158	100	40	103
24	510	788	150	300	570	794	648	285	162	97	40	124
25	510	750	578	285	558	857	648	270	162	94	41	88
26	510	588	360	275	516	920	654	265	158	91	66	117
27	510	480	285	270	480	997	636	250	154	85	85	268
28	325	432	315	270	450	1090	588	300	154	85	85	147
29	130	396	976	290	-----	1190	366	618	146	82	85	79
30	105	372	836	510	-----	1250	396	660	138	82	68	94
31	105	-----	857	456	-----	1270	-----	666	-----	82	58	-----
Total	11969	12232	9242	14506	13521	25965	28543	12569	8689	3276	1798	2932
Mean	386	408	298	468	483	838	951	405	290	106	58.0	97.7
Ac-ft	23,740	24,260	18,330	28,770	26,820	51,500	56,610	24,930	17,230	6,500	3,570	5,820

Calendar year 1965 Max 1,440 Min 105 Mean 1,257 Ac-ft 909,700  
 Water year 1965-66 Max 1,530 Min 36 Mean 398 Ac-ft 288,100

Peak discharge (base, 6,500 cfs).--No peak above base.

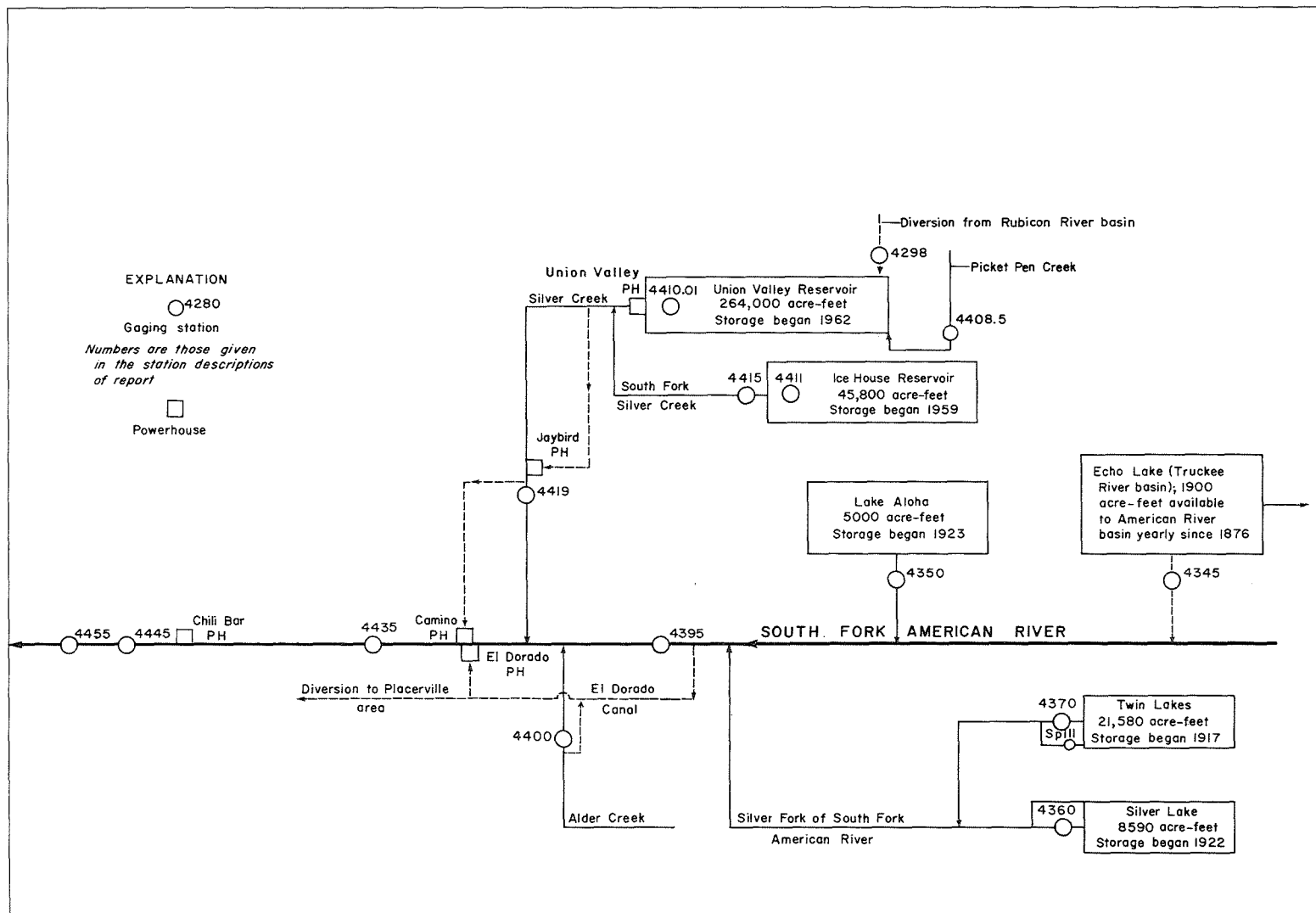


Figure 10:--Schematic diagram showing diversions and storage in South Fork American River basin.

## SACRAMENTO RIVER BASIN

11-4345. Echo Lake conduit near Phillips, Calif.

Location.--Lat 38°49'52", long 120°02'12", in NW¼ 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 1966 (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.--1923-66: Maximum daily discharge, 31 cfs Sept. 10, 1963; 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. See schematic diagram of South Fork American River basin.

Cooperation.--Gage-height record and two 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 1966

Day						Sept.	Oct.	Nov.			
1						0	11	1.8			
2						0	5.0	1.6			
3						0	0	1.5			
4						0	0	1.4			
5						0	0	1.3			
6						0	0	.90			
7						0	0	.40			
8						18	0	.50			
9						28	0	.70			
10						28	0	.60			
11						27	0	0			
12						28	0	0			
13						27	0	0			
14						18	0	0			
15						17	0	0			
16						22	0	0			
17						28	0	0			
18						27	0	0			
19						27	0	0			
20						26	0	0			
21						26	4.1	0			
22						25	5.2	0			
23						24	4.4	0			
24						23	3.9	0			
25						22	3.9	0			
26						20	3.8	0			
27						18	3.3	0			
28						16	2.9	0			
29					-----	15	2.6	0			
30					-----	13	2.4	0			
31					-----	-----	2.2	-----			-----
Total						523	54.7	10.70			
Mean						17.4	1.76	.36			
Ac-ft						1,040	108	21			
Calendar year 1965	Max		Min		Mean		Ac-ft				
Water year 1965-66	Max		Min		Mean		Ac-ft				

11-4350. Pyramid Creek near Phillips, Calif.

Location.--Lat 38°50'55", long 120°07'40", in N½ 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 Philips, and 4.6 miles west of Echo Lake Resort.

Drainage area.--3.73 sq mi.

Records available.--September 1922 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1952, published as Medley Lakes Outlet near Vade 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.--44 years, 17.4 cfs (12,600 acre-ft per year).

Extremes.--Maximum discharge, 70 cfs July 19 (gage height, 2.04 ft); minimum daily, 0.20 cfs Sept. 17, 18, 24-30.

1922-66: Maximum discharge, 401 cfs Dec. 23, 1964 (gage height, 4.88 ft, from recorded range in stage), from rating curve extended above 130 cfs; maximum gage height, 5.4 ft Jan. 31, 1963 (backwater from ice); no flow at times in some years.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow regulated by Lake Aloha (capacity, 5,000 acre-ft); 1,060 acre-ft, Sept. 30, 1965, and no contents Sept. 30, 1966. See schematic diagram of South Fork American River basin.

Cooperation.--Gage-height record and five 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	44	2.2	4.7				4.1	10	8.2	14	62	1.3
2	44	2.0	4.7				4.7	11	7.9	9.1	62	1.1
3	43	2.0	4.5				5.5	12	7.9	7.9	61	1.0
4	43	1.9	4.5				6.5	11	8.2	7.6	60	.80
5	42	1.9	4.5				7.3	13	8.5	14	59	.80
6	40	1.9	4.5				7.9	13	8.2	29	57	.70
7	40	1.8	4.3				8.5	13	8.8	33	57	.70
8	39	1.8	4.3				9.1	14	11	39	56	.50
9	37	1.8	4.1				8.2	12	9.7	47	55	.50
10	37	1.7	4.1				7.0	14	9.1	47	54	.40
11	36	1.6	4.0				6.5	12	8.5	47	53	.40
12	34	1.6	4.0				5.8	11	8.5	48	53	.40
13	32	1.7	3.8				5.3	12	8.2	48	52	.30
14	30	2.8	3.8				5.5	12	8.5	46	50	.30
15	28	3.3	3.6				6.5	12	11	52	50	.30
16	26	3.3	3.6				7.3	12	18	63	48	.30
17	22	3.7	3.6				8.2	12	22	64	46	.20
18	14	6.2	3.6				7.0	12	22	65	43	.20
19	4.3	4.9	3.6				5.8	13	22	69	40	.30
20	3.0	4.3	3.8				5.3	9.7	22	69	38	.30
21	2.7	4.1	3.5				5.3	7.0	19	69	34	.30
22	2.6	3.9	3.3				5.8	12	14	68	30	.30
23	2.4	4.8	3.1				6.5	11	12	67	20	.30
24	2.4	5.2	2.9				8.5	12	10	65	10	.20
25	2.4	5.0	2.8				10	12	9.7	65	5.8	.20
26	2.3	4.6	2.7				11	12	10	64	4.5	.20
27	2.3	4.7	2.6				9.7	12	11	63	3.5	.20
28	2.3	4.7	2.5				9.1	12	11	62	2.8	.20
29	2.2	4.7	2.4				9.4	10	11	64	2.4	.20
30	2.2	4.7	2.2				9.7	8.8	11	65	2.0	.20
31	2.2	-----	2.1				-----	8.5	-----	64	1.6	-----
Total	664.3	98.8	111.7	40.3	25.2	55.8	217.0	358.0	356.9	1,534.6	1,172.6	1,310
Mean	21.4	3.29	3.60	1.30	.90	1.80	7.23	11.5	11.9	49.5	37.8	.44
Ac-ft	1,320	196	222	80	50	111	430	710	708	3,040	2,330	26

Calendar year 1965 Max Min Mean 17.6 Ac-ft 12,760  
 Water year 1965-66 Max 69 Min 0.2 Mean 12.7 Ac-ft 9,220

Note.--No gage-height record Dec. 11 to Apr. 7.

## SACRAMENTO RIVER BASIN

11-4360. Silver Lake Outlet near Kirkwood, Calif.

Location.--Lat 38°40'17", long 120°07'18", in SW¼ 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.

Records available.--September 1922 to September 1966. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 7,199.5 ft above mean sea level, unadjusted.

Average discharge.--44 years, 33.3 cfs (24,110 acre-ft per year).

Extremes.--Maximum discharge during year, 229 cfs May 11 (gage height, 3.30 ft); minimum daily, 0.40 cfs Sept. 26-30.

1922-66: Maximum discharge, 676 cfs Nov. 21, 1950 (gage height, 6.03 ft), from rating curve extended above 290 cfs; no flow for many days in February, March 1948, Jan. 13, 14, 1954, Nov. 3, 1959 to Feb. 5, 1960.

Remarks.--Records good. 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, 5,220 acre-ft Sept. 30, 1965, and 3,800 acre-ft Sept. 30, 1966. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation. See schematic diagram of South Fork American River basin.

Cooperation.--Gage-height record and 10 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	13	6.1	6.1	9.1	7.7	15	133	23	3.2	3.8	3.0
2	68	38	6.1	6.1	9.1	7.7	16	141	13	3.6	3.8	2.8
3	67	37	6.1	6.5	8.6	7.7	17	78	6.4	3.8	3.2	2.8
4	66	36	6.5	6.5	8.6	8.2	18	21	4.8	3.6	3.2	2.8
5	64	35	6.5	6.5	8.6	8.2	19	30	4.8	3.4	3.2	2.7
6	63	34	6.5	6.5	8.6	8.2	27	23	4.8	3.4	3.6	4.3
7	61	33	6.5	6.1	8.6	8.2	75	55	4.8	3.4	4.1	92
8	60	32	6.5	6.1	8.6	8.2	116	129	5.1	3.2	3.8	94
9	59	31	6.5	6.5	8.6	8.2	64	175	5.7	2.8	3.8	98
10	58	29	6.5	6.5	8.6	8.2	25	209	5.4	2.7	3.6	91
11	57	29	6.1	6.5	8.6	8.2	26	215	4.1	3.2	3.4	65
12	56	28	6.1	8.6	8.6	8.2	27	162	3.6	3.4	3.2	63
13	56	27	6.1	10	8.6	8.2	27	126	3.6	3.2	3.0	48
14	54	27	6.1	10	8.6	8.6	27	90	3.6	2.7	3.0	28
15	54	27	6.1	10	8.6	8.6	28	57	3.4	3.0	3.0	19
16	53	26	6.1	9.6	8.6	9.1	28	58	3.8	3.8	3.4	12
17	52	27	6.1	9.6	8.6	9.1	30	69	4.4	4.1	3.6	7.9
18	51	29	6.1	9.6	8.2	9.1	31	78	3.8	3.8	3.4	6.0
19	51	29	6.1	9.6	8.2	9.1	31	88	3.4	3.4	3.2	4.8
20	49	28	6.1	9.6	8.2	9.1	31	106	3.4	3.4	3.2	2.1
21	49	28	6.1	9.6	8.2	9.6	31	115	3.6	3.2	3.2	.80
22	49	27	6.1	9.6	8.2	9.6	34	112	3.2	3.2	3.0	.60
23	48	27	6.1	9.6	8.2	9.6	37	104	3.4	3.2	3.4	.50
24	47	28	6.1	9.6	8.2	9.6	38	86	3.4	3.0	3.8	.50
25	47	27	6.1	9.6	8.2	9.6	58	71	3.4	3.2	3.6	.50
26	45	27	6.1	9.6	8.2	10	90	59	3.4	3.4	3.0	.40
27	45	26	6.1	9.1	8.2	11	111	47	3.2	3.4	3.2	.40
28	26	26	6.5	9.1	7.7	12	118	38	2.7	3.0	3.4	.40
29	3.0	25	6.5	9.1	-----	13	123	30	2.5	3.0	3.4	.40
30	3.0	14	6.5	9.1	-----	13	127	26	2.8	3.0	3.2	.40
31	3.0	-----	6.5	9.1	-----	14	-----	25	-----	2.8	3.2	-----
Total	1,532.0	850	193.5	259.6	236.9	288.8	1,445	2,756	146.5	101.5	104.9	692.80
Mean	49.4	28.3	6.24	8.37	8.46	9.32	48.2	88.9	4.88	3.27	3.38	23.1
Ac-ft	3,040	1,690	384	515	470	573	2,870	5,470	291	201	208	1,370

Calendar year 1965 Max 284 Min 1.8 Mean 49.7 Ac-ft 36,010  
 Water year 1965-66 Max 215 Min 0.40 Mean 23.6 Ac-ft 17,070



11-4370. Twin Lakes Outlet near Kirkwood, Calif.

Location.--Lat 38°42'29", long 120°03'00", in SW¼ 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.

Records available.--September 1922 to September 1966. Records for water year 1945 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Water-stage recorder and concrete control for outlet, and water-stage recorder for spillway. Altitude of gage is 7,700 ft (from topographic map).

Average discharge.--44 years, 35.7 cfs (25,850 acre-ft per year), including flow over Twin Lakes spillway.

Extremes.--Maximum combined daily discharge during year for outlet and spillway, 124 cfs Sept. 3; minimum daily, 1.8 cfs Mar. 29, May 3, 4.  
1922-66: 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 good. Flow regulated by Twin Lakes (capacity, 19,750 acre-ft spillway level, 21,580 acre-ft with 3 ft of flashboards), contents of which were 20,700 acre-ft on Sept. 30, 1965, and 10,400 acre-ft on Sept. 30, 1966. Flow over Twin Lakes spillway occurred Oct. 1-22, June 12 to July 26 and is included in table below. No diversion above station. See schematic diagram of South Fork American River basin.

Cooperation.--Gage-height record and five discharge measurements for outlet and gage-height record for spillway furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	33	54	65	54	40	2.7	3.4	7.9	20	48	119
2	2.6	98	54	65	54	34	2.7	2.2	5.8	25	49	123
3	2.6	98	54	65	54	30	3.1	1.8	2.4	30	50	124
4	2.6	98	54	65	54	30	3.1	1.8	2.2	31	50	123
5	2.6	100	54	65	54	30	3.1	2.7	3.1	29	52	123
6	2.4	102	54	53	56	30	3.4	3.8	3.8	29	54	65
7	2.2	102	54	40	56	23	3.4	3.8	4.4	28	59	26
8	7.3	102	54	40	54	9.4	3.8	3.8	5.1	26	65	15
9	14	106	54	40	54	2.2	3.4	3.8	3.8	21	64	20
10	14	110	54	48	54	2.2	3.1	3.8	3.8	21	62	2.4
11	20	110	54	56	54	2.4	3.4	3.4	2.7	20	62	2.4
12	24	110	54	56	54	2.7	3.4	3.4	2.5	19	62	9.1
13	24	110	60	56	54	2.7	3.1	3.4	3.2	19	62	46
14	24	111	73	56	46	2.7	3.1	3.1	2.3	19	68	78
15	25	67	94	56	40	2.7	3.8	3.1	2.9	19	72	82
16	24	34	96	56	40	2.7	3.8	3.1	2.1	19	72	90
17	24	34	96	56	40	2.7	3.1	3.4	2.1	19	72	91
18	36	34	96	56	40	3.1	2.7	3.4	3.8	19	72	91
19	44	34	96	56	40	3.1	2.7	3.4	3.4	19	75	96
20	43	34	80	56	40	3.1	2.7	3.4	2.5	18	78	98
21	65	34	65	56	34	3.1	3.1	3.4	3.0	20	78	105
22	81	40	65	56	31	3.1	3.1	3.4	3.2	26	82	96
23	81	56	65	56	31	3.1	3.8	3.4	5.2	31	92	84
24	82	56	65	54	24	3.1	4.1	3.1	3.5	31	100	84
25	85	56	65	54	24	3.4	4.1	3.1	28	33	108	82
26	85	54	65	54	40	3.4	4.1	3.4	20	34	111	87
27	85	54	65	54	40	3.8	4.1	3.4	20	33	111	88
28	56	54	65	54	40	2.7	4.1	3.4	20	35	116	90
29	2.4	54	65	54	-----	1.8	3.1	3.8	20	45	119	92
30	2.4	54	65	54	-----	2.4	3.1	4.4	20	48	119	92
31	2.4	-----	65	54	-----	2.7	-----	6.2	-----	47	119	-----
Total	968.3	2,139	2,054	1,706	1,256	291.3	100.3	1,050	2,442	833	2,403	2,305.9
Mean	31.2	71.3	66.3	55.0	44.9	9.40	3.34	3.39	8.14	26.9	77.5	76.9
Ac-ft	1,920	4,240	4,070	3,380	2,490	577	199	208	484	1,650	4,770	4,570
Calendar year 1965	Max	295	Min	2.0	Mean	54.4	Ac-ft	39,390				
Water year 1965-66	Max	124	Min	1.8	Mean	39.5	Ac-ft	29,570				

## SACRAMENTO RIVER BASIN

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.

Records available.--August to December 1907, October 1922 to September 1966. Prior to October 1956, records for river and El Dorado Canal published separately; combined only, October 1956 to September 1962.

Gage.--Digital water-stage recorder on river; graphic water-stage recorder for canal diversion. Altitude of gage is 3,840 ft (from topographic map). Prior to Oct. 1, 1962, graphic water-stage recorder at datum 1.00 ft higher. Oct. 1, 1962 to May 19, 1964, graphic water-stage recorder at same site and datum.

Average discharge (river only).--44 years (1922-66), 282 cfs (204,200 acre-ft per year).  
(total flow).--44 years (1922-66), 394 cfs (285,200 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 1,520 cfs May 10 (gage height, 5.15 ft); minimum daily, 5.1 cfs Sept. 28. 1907, 1923-66: Maximum discharge, 17,400 cfs Dec. 23, 1964 (gage height, 10.92 ft), from rating curve extended above 6,300 cfs on basis of contracted-opening measurement at gage height 10.40 ft; minimum daily, 0.30 cfs Nov. 9-11, 1928.  
(combined).--Maximum discharge during year, 1,680 cfs May 10; minimum daily, 41 cfs Nov. 1.  
1907, 1923-66: Maximum discharge, 17,500 cfs Dec. 23, 1964; minimum daily, 10 cfs Oct. 17, 19, 1929.

Remarks.--Records good. Flow at low and medium stages greatly regulated by four reservoirs since beginning of record (total usable capacity, 37,100 acre-ft. See schematic diagram of South Fork American River basin. For records of combined discharge of river and canal, see following page. Records of water temperatures for the water year 1966 are published in Part 2 of this report.

Cooperation.--Gage-height record and 15 discharge measurements for river and gage-height record and seven 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 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	6.2	11	32	8.4	6.8	819	909	252	6.6	8.9	5.6
2	12	6.3	11	44	7.9	7.0	824	971	219	6.1	8.9	5.4
3	9.3	6.3	17	34	7.3	6.9	766	988	184	6.1	8.9	5.4
4	118	6.3	30	21	7.9	11	774	963	166	6.0	8.9	5.4
5	167	6.2	25	40	15	6.5	856	1,050	157	6.2	8.9	5.6
6	163	6.2	18	43	24	6.5	894	968	158	6.5	8.8	6.6
7	158	6.2	14	12	15	8.4	959	954	153	6.4	8.9	7.6
8	155	6.2	12	6.8	20	15	990	1,040	109	5.8	9.0	5.6
9	158	6.3	10	6.2	17	14	912	1,060	164	5.3	8.9	5.7
10	161	6.3	7.0	6.2	9.3	114	817	1,320	113	5.8	8.9	5.8
11	158	6.3	6.1	12	15	152	648	1,080	66	5.8	8.9	5.8
12	164	8.3	6.5	10	7.8	125	583	879	50	5.8	8.7	7.1
13	162	20	6.2	15	12	303	525	816	44	5.7	8.2	6.0
14	160	128	7.6	14	9.8	308	539	777	44	5.7	8.2	8.7
15	182	110	15	13	7.1	276	650	661	34	5.7	8.8	5.7
16	166	20	58	11	5.7	197	781	643	26	7.6	8.8	5.6
17	156	138	84	8.9	6.4	121	891	640	21	8.8	8.9	5.6
18	152	620	90	10	6.4	104	799	630	15	9.0	8.8	5.7
19	160	178	84	8.3	6.4	134	555	666	10	9.0	8.8	5.6
20	134	78	73	12	6.2	114	472	667	7.0	8.9	8.8	5.6
21	134	31	34	22	6.4	104	477	671	5.7	9.0	8.8	5.6
22	162	14	33	22	6.4	116	516	621	5.6	8.9	8.9	5.5
23	166	79	26	17	6.8	145	551	535	5.6	9.0	8.9	5.4
24	170	83	28	14	6.7	222	693	484	5.7	9.0	8.9	5.4
25	110	70	27	12	6.9	262	881	453	5.7	9.1	7.0	5.4
26	101	51	45	9.1	8.4	328	991	420	5.8	9.2	5.7	5.4
27	92	45	29	7.1	7.0	397	929	383	5.7	9.2	5.7	5.2
28	57	36	22	7.5	7.3	470	848	340	5.8	9.1	5.7	5.1
29	39	36	25	7.2	-----	543	845	295	6.4	9.0	5.6	5.2
30	6.3	29	27	14	-----	616	871	269	6.1	9.1	5.6	5.2
31	6.0	-----	23	10	-----	708	-----	281	-----	8.9	5.5	-----
TOTAL	3,754.6	1,853.1	904.4	501.3	270.5	5,941.1	22,656	22,434	2,050.1	232.3	252.2	173.5
MEAN	121	61.8	29.2	16.2	9.66	192	755	724	68.3	7.49	8.14	5.78
AC-FT	7,450	3,680	1,790	994	537	11,780	44,940	44,500	4,070	461	500	344

CALENDAR YEAR 1965 MAX 2,600 MIN 6.0 MEAN 441 AC-FT 319,500  
WATER YEAR 1965-66 MAX 1,320 MIN 5.1 MEAN 167 AC-FT 121,000

Peak discharge (base, 2,000 cfs).--No peak above base.

11-4395. South Fork American River near Kyburz, Calif.--Continued.

Combined discharge, in cubic feet per second, of South Fork American River and  
El Dorado Canal near Kyburz, Calif., water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	184	41	171	167	151	156	972	1,070	348	124	149	146
2	180	134	171	179	147	152	982	1,130	315	123	153	144
3	176	173	177	169	149	140	924	1,150	280	119	146	148
4	160	171	190	156	151	145	933	1,120	262	118	144	146
5	168	170	185	175	159	140	1,020	1,210	253	116	141	147
6	164	171	178	183	168	146	1,050	1,130	254	130	146	141
7	159	168	174	158	157	156	1,120	1,110	261	128	144	144
8	155	169	172	152	163	166	1,150	1,200	249	131	152	144
9	158	169	170	147	161	164	1,070	1,220	314	135	150	139
10	162	173	166	145	155	261	975	1,480	272	132	150	149
11	158	171	164	158	154	295	806	1,240	232	130	147	124
12	164	176	164	156	155	268	741	1,040	216	129	146	107
13	162	188	160	161	155	445	684	978	206	128	143	121
14	161	288	160	164	157	450	697	939	200	125	143	153
15	183	271	172	165	145	419	809	823	201	122	145	142
16	167	189	208	163	142	344	939	804	192	132	150	140
17	157	306	219	161	138	279	1,050	802	186	132	148	145
18	152	784	218	159	142	266	957	792	177	130	146	148
19	160	337	212	159	144	297	713	828	172	134	142	148
20	138	244	196	159	143	277	629	829	163	133	147	149
21	134	199	157	162	144	267	632	832	154	130	144	146
22	163	182	156	162	143	279	671	781	146	130	141	150
23	167	243	149	156	154	308	706	695	135	136	144	126
24	171	243	151	153	153	385	848	644	134	135	144	124
25	163	230	150	152	130	424	1,040	613	147	133	144	122
26	177	212	168	150	146	490	1,150	580	134	135	144	122
27	172	205	157	150	150	559	1,090	543	131	134	142	125
28	173	196	157	148	153	632	1,010	504	132	131	141	125
29	74	196	162	150	-----	705	1,000	464	131	135	147	126
30	46	189	162	157	-----	775	1,030	409	127	146	146	126
31	43	-----	160	153	-----	865	-----	377	-----	150	146	-----
Total	4,751	5,588	5,356	4,929	4,209	10,655	27,398	27,337	6,124	4,046	4,515	4,117
Mean	153	220	173	159	150	344	913	882	204	131	146	137
Ac-Ft	9,420	13,070	10,620	9,780	8,350	21,130	54,340	54,220	12,150	8,030	9,960	9,170

Calendar year 1965	Max	2,740	Min	41	Mean	578	Ac-ft	413,200
Water year 1965-66	Max	1,480	Min	41	Mean	301	Ac-ft	213,200

11-4400. Alder Creek near White Hall, Calif.

Location.--Lat 38°45'19", long 120°22'17", in NE¼SE¼ 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.

Records available.--October 1922 to September 1966 (includes diversions by pipeline). Published as "near Whitehall" prior to October 1953.

Gage.--Digital water-stage recorder and, since Aug. 28, 1964, broad-crested weir with V-notch. Altitude of gage is 3,840 ft (from topographic map). Prior to July 23, 1924, staff gage at same site and datum. July 23, 1924 to May 5, 1966, graphic water-stage recorder, at same site and datum.

Average discharge.--44 years, 36.5 cfs (26,420 acre-ft per year), including diversions by pipeline.

Extremes (creek only).--Maximum discharge during year, 203 cfs Apr. 10 (gage height, 3.31 ft); minimum daily, 0.20 cfs Dec. 2-27, 29, 30, Jan. 1-3.

1922-66: 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. Records include computed flow in feeder pipeline that was diverted 1,300 ft above station into El Dorado Canal from Dec. 1 to June 14.

Cooperation.--Gage-height record, 13 discharge measurements on Alder Creek, and readings of head on Parshall flume at pipeline outlet furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	0.90	10	6.2	7.7	15	172	52	6.3	1.9	0.60	0.30
2	1.0	.80	11	6.2	7.7	13	179	48	6.0	1.9	.60	.30
3	1.0	.80	12	6.2	7.7	10	175	46	5.8	1.8	.60	.30
4	1.2	.80	12	6.3	7.8	6.5	175	46	5.5	1.7	.50	.30
5	.90	.80	12	6.5	7.8	9.3	169	45	5.3	1.7	.50	.30
6	.70	.90	12	6.5	7.8	12	169	42	5.1	1.7	.40	.30
7	.40	.90	11	6.6	7.8	14	165	37	5.4	1.6	.40	.30
8	.30	.90	9.2	6.5	9.1	22	160	35	5.5	1.5	.40	.30
9	.40	1.2	9.8	6.5	9.4	31	151	33	5.4	1.7	.40	.30
10	.80	1.2	10	6.5	9.4	65	179	35	5.0	1.6	.40	.30
11	.80	1.2	10	8.5	9.3	64	167	33	4.6	1.5	.40	.30
12	.80	1.8	10	10	9.4	60	162	29	4.3	1.5	.40	.30
13	.80	3.2	10	9.9	9.4	83	140	25	4.0	1.4	.30	.30
14	.90	1.2	8.0	9.5	9.4	83	122	23	3.5	1.3	.30	.30
15	3.5	9.3	5.2	9.5	9.9	80	111	20	3.2	1.3	.30	.40
16	3.5	7.0	4.9	9.5	10	81	111	18	3.2	1.2	.30	.40
17	2.4	11	4.9	9.5	10	80	113	17	3.1	1.0	.30	.40
18	2.1	8.8	4.9	10	10	75	113	16	2.9	1.0	.30	.40
19	1.8	4.3	4.9	10	10	77	102	15	2.9	.90	.30	.50
20	1.6	2.4	4.9	10	10	77	93	14	2.7	.90	.30	.40
21	1.4	15	5.6	10	10	75	80	13	2.6	.90	.30	.40
22	1.4	12	6.2	10	11	74	76	12	2.6	.80	.30	.40
23	1.2	20	6.0	10	14	74	72	11	2.6	.80	.30	.30
24	1.2	28	5.8	10	16	81	68	10	2.4	.70	.30	.30
25	1.0	21	5.8	9.1	16	89	68	9.8	2.4	.60	.30	.30
26	1.0	15	5.8	7.7	16	99	68	9.2	2.3	.60	.30	.30
27	1.0	14	5.8	7.7	16	111	68	8.7	2.1	.60	.30	.30
28	.90	12	6.1	7.7	16	122	63	8.1	2.1	.50	.30	.30
29	.90	12	6.2	7.7	-----	136	60	6.9	2.0	.50	.30	.30
30	.90	11	6.2	7.7	-----	149	56	6.9	1.9	.50	.30	.30
31	.90	-----	6.3	7.7	-----	162	-----	6.5	-----	.50	.30	-----
Total	37.90	369.70	242.5	255.7	294.6	2,129.8	3,607	731.1	112.7	361.0	11.30	9.90
Mean	1.22	12.3	7.82	8.25	10.5	68.7	120	23.6	3.76	1.16	.36	.33
Ac-ft	75	733	481	507	584	4,220	7,150	1,450	224	72	22	20

Calendar year 1965 Max 266 Min 0.3 Mean 48.8 Ac-ft 35,360

Water year 1965-66 Max 179 Min 0.3 Mean 21.5 Ac-ft 15,550

Peak discharge (base, 170 cfs, revised, creek only).--Apr. 10 (0400) 203 cfs (3.31 ft).

11-4408.5. Picket Pen Creek near Kyburz, Calif.

Location.--Lat 38°52'03", long 120°22'22", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.23, T.12 N., R.14 E., on left bank 1 mile upstream from mouth and 7.7 miles northwest of Kyburz.

Drainage area.--0.49 sq mi.

Records available.--January 1964 to September 1966.

Gage.--Water-stage recorder, crest-stage gage, and float-operated recording rain gage. Altitude of gage is 5,060 ft (from topographic map).

Extremes.--Maximum discharge during year, 5.0 cfs Apr. 10 (gage height, 8.06 ft); no flow Sept. 17.

1964-66: Maximum discharge, 111 cfs Dec. 23, 1964 (gage height, 13.47 ft), from rating curve extended above 37 cfs on basis of computations of flow through culvert at gage heights 10.52 ft, 11.89 ft, 13.09 ft, and 13.47 ft; no flow Sept. 17, 1966. Flood of Jan. 31, 1963 reached a stage of 10.52 ft (from floodmarks); discharge, 53 cfs, from computation of flow through culvert.

Remarks.--Records good except those less than 0.10 cfs, which are poor. No storage or diversion above station. See schematic diagram for South Fork American River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.04	0.02	0.06	0.03	0.03	0.10	2.4	0.38	0.10	0.06	0.02	0.02
2	.04	.02	.06	.03	.03	.10	2.4	.38	.10	.04	.02	.02
3	.04	.02	.06	.03	.03	.10	2.5	.33	.10	.04	.02	.02
4	.04	.02	.06	.03	.04	.10	2.5	.38	.10	.04	.02	.02
5	.03	.02	.06	.04	.04	.10	2.5	.38	.06	.04	.02	.02
6	.03	.02	.06	.06	.06	.10	2.4	.38	.06	.04	.02	.02
7	.03	.02	.06	.06	.06	.14	2.4	.33	.10	.04	.02	.02
8	.03	.03	.06	.04	.06	.18	2.3	.33	.10	.04	.02	.02
9	.03	.03	.06	.04	.06	.28	2.4	.38	.10	.04	.02	.02
10	.03	.02	.06	.04	.06	.44	4.0	5.0	.10	.04	.02	.02
11	.03	.02	.06	.04	.06	.50	3.5	.44	.10	.04	.02	.02
12	.02	.03	.04	.03	.06	.50	3.1	.38	.06	.04	.02	.02
13	.02	.14	.04	.03	.06	.58	2.8	.33	.06	.04	.02	.01
14	.02	.14	.04	.03	.06	.68	2.4	.28	.04	.06	.02	.01
15	.02	.04	.04	.03	.06	.68	2.3	.23	.04	.06	.02	.01
16	.02	.06	.04	.03	.06	.68	2.3	.18	.04	.06	.02	.01
17	.02	.10	.04	.03	.06	.58	2.0	.18	.04	.06	.02	.01
18	.02	.33	.04	.03	.06	.58	1.8	.18	.04	.04	.02	.01
19	.02	.10	.04	.03	.06	.68	1.6	.18	.04	.03	.02	.01
20	.02	.04	.04	.03	.06	.68	1.2	.14	.04	.04	.02	.01
21	.02	.03	.04	.03	.06	.58	1.1	.14	.04	.04	.01	.01
22	.02	.03	.04	.03	.06	.68	.98	.14	.04	.04	.01	.01
23	.03	.04	.04	.03	.10	.88	.98	.14	.04	.03	.02	.01
24	.03	.10	.04	.03	.10	1.1	.88	.14	.04	.03	.02	.01
25	.03	.04	.04	.03	.10	1.2	.78	.14	.04	.03	.02	.01
26	.03	.04	.04	.03	.10	1.2	.78	.10	.04	.02	.02	.01
27	.03	.04	.04	.03	.10	1.3	.78	.10	.06	.02	.02	.01
28	.03	.04	.04	.03	.10	1.4	.58	.10	.06	.02	.02	.01
29	.03	.04	.04	.03	-----	1.7	.50	.10	.06	.03	.02	.01
30	.03	.06	.03	.03	-----	2.0	.44	.10	.06	.03	.02	.01
31	.03	-----	.03	.03	-----	2.3	-----	.10	-----	.03	.02	-----
Total	0.86	1.57	1.44	1.04	1.79	22.12	56.60	7.59	1.90	1.21	0.60	0.41
Mean	0.03	0.05	0.05	0.03	0.06	0.71	1.89	0.24	0.06	0.04	0.02	0.01
Ac-ft	1.7	3.1	2.9	2.1	3.6	44	112	15	3.8	2.4	1.2	0.8
†	0.62	---	---	---	---	---	2.04	0.43	0	0	0	0
Calendar year 1965	Max	9.8	Min	0.02	Mean	1.08	Ac-ft	782				
Water year 1965-66	Max	4.0	Min	0	Mean	0.266	Ac-ft	193				

† Precipitation, in inches. Some precipitation falling as snow may not be included.

## SACRAMENTO RIVER BASIN

11-4410.01 Union Valley Reservoir near Riverton, Calif.

Location.--Lat 38°52'00", long 120°26'25", in SW 1/4 sec.20, T.12 N., R.14 E., in valve control house near left bank at Union Valley Dam on Silver Creek, 0.6 mile upstream from Little Silver Creek, and 6.6 miles north of Riverton.

Drainage area.--83.6 sq mi.

Records available.--October 1962 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

Extremes.--Maximum contents during year, 188,100 acre-ft May 17 (elevation, 4,836.4 ft); minimum, 95,600 acre-ft Sept. 30 (elevation, 4,785.4 ft).

1962-66: Maximum contents, 270,400 acre-ft June 10, 1963 (elevation, 4,869.8 ft); minimum since initial season of operation, that of Sept. 30, 1966.

Remarks.--Reservoir is formed by earth-fill dam completed in December 1962. Storage began in May 1962. Usable capacity, 264,000 acre-ft between elevations 4,645.0 (minimum operating level) and 4,870.0 ft (top of radial spillway gates) above mean sea level. Dead storage, 7,000 acre-ft. Records represent total contents. See schematic diagram for Middle Fork American and Rubicon River basins, and South Fork American River basin.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	154.5	137.2	159.9	135.4	114.8	98.6	126.2	175.8	179.7	158.9	138.4	113.4
2	153.4	137.9	158.9	134.6	114.3	98.2	129.1	177.1	178.8	157.4	137.7	112.4
3	152.1	138.6	158.0	133.4	113.7	97.8	131.6	178.0	178.0	157.4	137.0	111.2
4	150.8	139.3	157.2	132.3	112.8	97.5	134.1	179.3	177.1	157.4	136.3	111.2
5	149.6	140.0	156.4	131.6	112.0	97.2	137.0	180.4	177.1	155.9	135.7	111.2
6	148.3	140.9	155.5	130.9	112.0	97.2	139.7	181.0	176.6	155.1	134.3	109.8
7	147.1	141.7	154.7	130.1	112.0	97.2	142.2	181.9	176.0	154.3	134.3	108.6
8	146.2	142.4	153.8	129.4	111.3	97.1	144.7	183.5	174.9	153.6	133.9	107.6
9	144.9	143.1	152.8	128.9	110.8	97.2	147.1	184.1	174.2	152.3	133.2	106.4
10	143.6	143.8	152.1	128.0	110.1	97.8	149.8	185.0	173.2	152.3	132.5	105.0
11	142.4	144.7	151.4	126.5	109.4	98.4	151.7	185.9	172.5	151.4	131.6	105.0
12	141.1	145.4	150.7	125.3	108.6	98.5	153.4	186.1	172.5	150.7	130.9	103.8
13	140.4	146.5	149.9	123.3	108.4	99.5	154.9	186.3	171.5	150.1	129.8	102.4
14	139.9	147.8	149.0	122.0	107.7	100.6	156.6	186.3	171.1	149.6	129.8	100.9
15	139.1	148.9	148.1	120.6	107.0	101.6	158.7	187.2	170.2	149.0	128.5	99.5
16	138.2	149.9	147.2	119.0	106.2	102.3	160.8	187.6	169.6	148.0	127.6	98.4
17	137.2	151.0	146.5	117.9	105.4	103.0	163.1	187.4	169.0	148.0	126.9	97.7
18	136.3	153.4	145.8	117.5	104.7	104.2	164.1	187.4	167.5	146.9	126.2	97.7
19	135.2	154.7	144.9	116.8	103.8	105.8	164.8	187.2	167.5	146.3	125.5	97.0
20	134.1	155.7	144.0	116.2	103.8	107.0	165.2	187.0	166.2	145.8	124.0	97.0
21	132.8	156.4	143.1	116.0	103.2	108.2	165.4	186.3	165.4	144.9	124.0	97.0
22	132.8	157.4	142.2	116.0	102.3	108.6	166.0	186.5	164.6	144.2	122.8	97.1
23	132.8	158.5	141.5	116.0	101.4	109.2	167.3	185.9	163.9	142.9	122.0	97.1
24	132.8	159.9	140.8	115.8	100.6	110.0	169.0	184.8	163.1	142.9	121.5	97.1
25	132.8	160.8	140.2	115.5	99.9	111.0	170.2	183.7	162.2	141.8	121.0	97.1
26	133.0	161.6	139.3	115.2	99.2	112.2	171.5	182.8	162.7	141.3	120.1	97.0
27	133.7	162.4	138.4	114.9	99.2	114.2	172.3	181.7	162.2	140.8	118.6	96.5
28	134.3	162.4	137.9	114.8	99.1	115.8	173.0	180.8	161.4	140.4	118.6	96.1
29	135.0	161.6	137.5	114.8	-----	117.9	173.4	180.8	160.6	139.9	117.2	95.8
30	135.7	160.6	136.6	114.9	-----	120.8	174.0	180.8	159.7	139.1	116.0	95.6
31	136.6	-----	136.1	115.0	-----	123.3	-----	180.4	-----	139.1	114.6	-----
(†)	481.09	482.36	481.06	479.87	478.79	480.35	483.00	483.29	482.32	481.23	479.84	478.54
(‡)	-19.3	+24.0	-24.5	-21.1	-15.9	+24.2	+50.7	+6.4	-20.7	-20.6	-24.5	-19.0

Calendar year 1965..... † -88.9

Water year 1965-66..... ‡ -60.3

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

11-4411. Ice House Reservoir near Kyburz, Calif.

Location.--Lat 38°49'26", long 120°21'34", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  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 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

Extremes.--Maximum contents during year, 35,000 acre-ft June 25 to July 8 (elevation, 5,433.5 ft); minimum, 4,440 acre-ft Nov. 28 (elevation, 5,362.5 ft).

1959-66: Maximum contents, 46,200 acre-ft Aug. 15, 1965 (elevation, 5,450.3 ft); minimum since appreciable storage was first obtained, 1,740 acre-ft Oct. 5-9, 1962 (elevation, 5,349.85 ft).

Remarks.--Reservoir is formed by earthen dam. Storage began Dec. 15, 1959. Usable capacity, 45,800 acre-ft between elevations 5,327.5 ft (centerline of fish water outlet) and 5,450.0 ft (top of spillway gates). Dead storage, 160 acre-ft. Records represent total contents. See schematic diagram for South Fork American River basin.

Contents, in thousands of acre-ft, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25.4	22.0	4.5 8	5.7 2	6.6 7	7.4 2	11.0	23.5	33.4	35.0	34.5	33.6
2	25.4	22.0	4.6 1	5.7 4	6.7 0	7.4 5	11.5	24.0	33.5	35.0	34.5	33.6
3	25.4	22.0	4.6 6	5.7 9	6.7 3	7.4 5	11.9	24.1	33.6	35.0	34.5	33.6
4	25.3	22.0	4.7 0	5.8 2	6.7 6	7.5 1	12.3	25.2	33.7	35.0	34.4	33.6
5	25.3	22.0	4.7 5	5.8 8	6.7 9	7.5 7	12.8	25.6	33.7	35.0	34.4	33.5
6	25.3	21.6	4.8 0	5.9 3	6.8 2	7.6 3	13.3	26.2	33.7	35.0	34.3	33.5
7	25.3	20.6	4.8 2	5.9 6	6.8 5	7.6 9	13.8	26.6	33.8	35.0	34.3	33.4
8	25.2	19.5	4.8 7	6.0 2	6.8 8	7.7 5	14.3	27.1	33.9	35.0	34.3	33.4
9	25.2	18.5	4.9 2	6.0 4	6.9 1	7.8 1	14.7	27.4	34.0	34.9	34.3	33.4
10	25.2	17.6	4.9 4	6.0 7	6.9 4	7.8 4	15.1	28.0	34.2	34.9	34.2	33.4
11	25.2	16.7	4.9 7	6.1 0	6.9 7	7.9 0	15.4	28.5	34.3	34.9	34.2	33.3
12	25.2	15.8	5.0 2	6.1 3	7.0 0	7.9 9	15.7	28.8	34.4	34.9	34.2	33.3
13	25.2	14.9	5.0 7	6.1 6	7.0 0	8.0 5	15.9	29.2	34.5	34.8	34.2	33.2
14	25.1	14.1	5.1 4	6.1 9	7.0 3	8.1 1	16.2	29.5	34.5	34.8	34.2	33.2
15	25.1	13.3	5.2 0	6.1 9	7.0 6	8.1 7	16.5	29.8	34.6	34.8	34.2	33.2
16	25.1	12.5	5.2 2	6.2 2	7.0 9	8.2 4	17.0	30.2	34.7	34.8	34.2	33.2
17	25.1	11.8	5.2 0	6.2 5	7.1 2	8.3 0	17.5	30.5	34.8	34.8	34.2	33.2
18	25.1	11.4	5.2 0	6.2 8	7.1 5	8.3 8	18.0	30.8	34.8	34.8	34.1	33.1
19	25.1	10.5	5.2 0	6.3 1	7.1 5	8.4 4	18.2	31.1	34.8	34.8	34.0	33.1
20	24.9	9.7 8	5.2 0	6.3 4	7.1 8	8.5 2	18.5	31.4	34.8	34.7	34.0	33.1
21	24.3	8.9 0	5.2 5	6.3 7	7.2 1	8.5 8	18.7	31.6	34.8	34.7	34.0	33.1
22	23.6	8.1 4	5.2 7	6.4 0	7.2 4	8.6 9	19.0	31.9	34.8	34.8	33.9	33.1
23	22.7	7.4 8	5.3 0	6.4 3	7.2 7	8.8 0	19.4	32.1	34.9	34.7	33.9	33.1
24	22.2	6.7 9	5.3 3	6.4 6	7.3 0	8.9 0	19.8	32.4	34.9	34.6	33.9	33.0
25	22.1	6.0 4	5.3 8	6.4 9	7.3 3	9.0 0	20.4	32.5	35.0	34.6	33.8	33.0
26	22.1	5.3 5	5.4 3	6.5 2	7.3 6	9.1 4	21.0	32.7	35.0	34.6	33.7	33.0
27	22.1	4.6 8	5.4 8	6.5 5	7.3 9	9.3 2	21.6	32.9	35.0	34.6	33.7	32.9
28	22.1	4.4 4	5.5 3	6.5 8	7.3 9	9.5 6	22.1	33.1	35.0	34.6	33.7	32.9
29	22.1	4.4 9	5.5 6	6.6 1	-----	9.8 4	22.6	33.2	35.0	34.6	33.6	32.9
30	22.1	4.5 1	5.6 1	6.6 4	-----	10.2	23.0	33.3	35.0	34.5	33.6	32.9
31	22.0	-----	5.6 6	6.6 7	-----	10.5	-----	33.4	-----	34.5	33.6	-----
(†)	5,409.3	5,362.8	-----	-----	5,373.3	5,382.6	5,411.3	5,430.9	5,433.5	5,432.7	5,431.1	5,430.0
(‡)	- 3.40	-17.49	+ 1.1 5	+1.0 1	+ 0.7 2	+3.1 1	+ 1.2 5	+ 1.0 4	+ 1.6	- 0.5	- 0.9	- 0.7

Calendar year 1965 ..... -28,740

Water year 1965-66 ..... +7,500

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

11-4415. South Fork Silver Creek near Ice House, Calif.

Location.--Lat 38°49'08", long 120°21'51", in NW 1/4 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 Kyburz.

Drainage area.--27.5 sq mi.

Records available.--October 1924 to September 1966.

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 downstream at different datum.

Average discharge.--42 years, 73.2 cfs (53,000 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 536 cfs Nov. 6 (gage height, 4.52 ft); minimum daily, 5.2 cfs Feb. 17-21.

1924-66: 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 excellent. Flow regulated by Ice House Reservoir beginning in December 1959 (see sta. no. 11-4411). See schematic diagram for South Fork American River Basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.1	6.0	5.7	5.7	5.7	6.5	1.0	9.5	9.5	1.0	1.0
2	11	6.8	5.7	5.7	5.7	5.7	6.2	1.1	9.5	9.5	1.0	1.0
3	11	6.8	6.0	5.7	5.7	5.7	6.0	1.1	9.5	9.5	1.0	9.8
4	11	6.8	6.0	5.7	5.7	5.7	6.0	1.1	9.5	9.5	9.8	9.8
5	11	6.5	6.0	6.2	5.7	5.7	6.0	1.1	9.5	9.5	9.8	9.8
6	11	196	5.7	6.2	6.0	5.7	6.0	1.1	9.5	9.5	9.8	9.8
7	11	528	5.7	6.0	5.7	6.0	6.0	1.1	9.8	9.5	9.8	9.8
8	11	520	5.7	5.7	5.4	6.0	6.0	1.1	9.8	9.5	9.8	9.8
9	11	513	5.7	5.4	5.4	6.2	6.2	1.1	9.5	9.5	9.8	9.8
10	11	506	5.7	5.4	5.4	7.1	7.4	1.2	9.5	9.5	1.0	9.8
11	11	499	6.0	5.4	5.4	6.2	7.4	1.1	9.5	9.5	1.0	9.8
12	11	492	6.0	5.4	5.4	6.2	7.1	1.1	9.5	9.5	1.0	9.8
13	11	485	6.0	5.4	5.4	7.1	7.1	1.1	9.5	9.8	1.0	9.5
14	13	478	6.0	5.4	5.4	6.8	6.8	1.1	9.5	1.0	1.0	9.5
15	11	471	6.0	5.4	5.4	6.8	6.8	1.1	9.5	1.0	1.0	9.5
16	11	471	5.7	5.7	5.4	6.5	6.8	1.1	9.5	1.0	1.0	9.5
17	11	464	5.7	5.4	5.2	6.5	6.8	9.5	9.5	1.0	1.0	9.1
18	11	402	5.7	5.4	5.2	6.5	6.8	9.1	9.5	1.0	1.0	9.1
19	11	380	5.7	5.4	5.2	6.5	6.5	9.1	9.5	1.0	1.0	9.1
20	116	444	5.7	5.4	5.2	6.5	6.5	9.5	9.5	1.0	1.0	9.1
21	312	438	5.7	5.4	5.2	6.5	6.2	9.5	9.5	1.0	1.0	9.1
22	414	432	5.7	5.4	5.4	6.5	6.0	9.5	9.5	9.8	1.0	9.1
23	414	426	5.7	5.4	5.7	6.8	6.2	9.5	9.5	9.8	1.0	9.1
24	292	420	5.4	5.4	5.7	7.1	6.2	9.5	9.5	9.8	1.0	9.1
25	11	408	6.0	5.4	5.7	7.1	6.0	9.5	9.5	9.8	1.0	9.1
26	11	402	5.7	5.4	5.7	7.4	6.0	9.5	9.5	9.5	1.0	9.1
27	11	385	5.7	5.4	5.7	7.4	6.0	9.5	9.5	9.5	1.0	9.1
28	11	147	5.7	5.4	5.7	7.4	8.4	9.5	9.5	9.5	1.0	9.1
29	11	9.8	5.7	5.7	-----	6.8	1.0	9.5	9.5	9.8	1.0	9.5
30	11	9.8	5.7	5.7	-----	6.8	1.0	9.5	9.5	9.8	1.0	9.5
31	11	-----	5.7	5.7	-----	6.5	-----	9.5	-----	9.8	1.0	-----
Total	1,836	9,962.6	1,794	1,723	1,544	2,014	2,019	3,177	2,856	3,009	3,088	2,842
Mean	59.2	332	57.9	55.6	55.1	65.0	67.3	10.2	95.2	97.1	99.6	94.7
Ac-ft	3,640	19,760	356	342	306	399	400	630	566	597	612	564
Mean†	3.90	38.1	24.6	22.0	18.5	57.1	21.7	1.79	36.5	15.8	4.68	2.28
Ac-ft†	240	2,270	1,510	1,350	1,030	3,510	12,900	11,030	2,170	97	288	136

Calendar year 1965 Max 609 Min 5.4 Mean 138 Ac-ft 99,600 Mean† 97.9 Ac-ft† 70,860  
 Water year 1965-66 Max 528 Min 5.2 Mean 38.9 Ac-ft 28,180 Mean† 49.3 Ac-ft† 35,680

† Adjusted for change in contents in Ice House Reservoir.

Note.--When inflow to reservoir is small and other quantities are large, discordant figures of net runoff may appear.



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 1966.

Gage.--Digital water-stage recorder. Datum of gage is 2,754.06 ft above mean sea level (Sacramento Municipal Utility District benchmark). Prior to Oct. 1, 1962, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 1,650 cfs Nov. 2 (gage height, 6.22 ft); minimum daily, 11 cfs May 5-9.  
1960-66: Maximum discharge, 19,300 cfs Jan. 31, 1963 (gage height, 11.28 ft, in gage well, 11.9 ft from floodmarks), from rating curve extended above 1,400 cfs on basis of slope area measurement of maximum flow; minimum daily, 4.6 cfs July 1, 1964.

Remarks.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram for South Fork American River basin. Records not adjusted for diversions or changes in storage.

Revision (water year).--1965 Report: 1962(M).

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	22	15	15	18	19	27	12	20	20	18	20
2	28	236	15	15	17	18	25	12	20	20	18	20
3	27	22	15	15	17	18	25	12	20	19	17	21
4	26	16	15	16	17	17	24	12	19	20	18	19
5	27	16	15	22	20	16	22	11	19	20	18	19
6	26	15	15	24	24	18	20	11	20	20	18	18
7	25	16	15	21	22	20	19	11	20	20	19	18
8	28	16	15	21	21	22	18	11	20	20	19	18
9	27	15	15	21	21	25	17	11	19	20	19	18
10	26	14	15	20	19	38	20	21	19	19	18	17
11	26	15	15	20	19	34	24	26	19	20	20	19
12	25	15	15	19	18	32	26	24	19	20	20	19
13	25	15	15	19	18	35	24	21	21	19	20	19
14	26	16	15	19	18	35	24	20	20	19	19	18
15	26	15	15	18	19	33	20	20	20	18	20	18
16	27	15	15	19	19	34	19	21	18	18	20	18
17	27	15	15	19	16	30	17	20	19	17	20	18
18	26	23	16	19	14	27	18	20	19	18	20	18
19	27	17	14	19	15	28	17	21	18	18	20	18
20	30	16	14	19	15	26	16	20	18	19	19	18
21	27	16	14	19	15	26	15	19	19	19	20	18
22	27	15	14	19	16	24	15	19	19	19	20	18
23	26	17	15	19	20	24	13	20	19	19	22	19
24	23	20	15	18	26	24	14	20	18	18	21	20
25	19	18	15	18	21	24	13	20	18	19	21	19
26	20	16	14	18	20	24	13	19	18	19	21	18
27	21	15	14	18	20	26	13	19	19	19	22	18
28	22	14	15	17	19	27	13	20	18	19	20	19
29	23	15	16	18	-----	28	13	20	19	19	20	19
30	24	15	16	18	-----	28	13	18	20	18	20	20
31	24	-----	14	18	-----	28	-----	19	-----	18	20	-----
TOTAL	789	711	461	580	524	808	557	550	574	590	607	559
MEAN	25.5	23.7	14.9	18.7	18.7	26.1	18.6	17.7	19.1	19.0	19.6	18.6
AC-FT	1,560	1,410	914	1,150	1,040	1,600	1,100	1,090	1,140	1,170	1,200	1,110

CALENDAR YEAR	1965	MAX	1,430	MIN	14	MEAN	168	AC-FT	3,880
WATER YEAR	1965-66	MAX	236	MIN	11	MEAN	20.0	AC-FT	14,480

## SACRAMENTO RIVER BASIN

11-4435. South Fork American River near Camino, Calif.

Location (revised).--Lat 38°46'17", long 120°42'15", in NW 1/4 sec. 25, T.11 N., R.11 E., on right bank 500 ft downstream from Iowa Canyon Creek and 2.9 miles northwest of Camino.

Drainage area.--501 sq mi.

Records available.--October 1922 to September 1966. Monthly discharge only for October 1922, published in WSP 1315-A. Records for the river and the American River flume published separately October 1922 to September 1956, October 1962 to December 1964 when flume was destroyed. Records of river and flume combined October 1956 to September 1962.

Gage.--Digital water-stage recorder. Altitude of gage is 1,620 ft (from topographic map). Nov. 1, 1950, to Dec. 5, 1951, staff gage, Dec. 6, 1951, to May 16, 1963, graphic water-stage recorder, and May 17, 1963, to May 27, 1964, digital water-stage recorder at site 900 ft upstream at different datum.

Average discharge.--37 years (1922-59, prior to regulation by Ice House and Union Valley reservoirs and transbasin diversion from Rubicon River basin) 961 cfs (695,700 acre-ft per year) combined flow of South Fork American River and American River flume.

Extremes.--Maximum discharge during year, 2,820 cfs May 13 (gage height, 8.60 ft); minimum daily, 15 cfs Nov. 1. 1922-66: 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 maximum flow over dam; minimum daily, 1.3 cfs Aug. 24, 1931.

Remarks.--Records fair. Flow regulated principally by six reservoirs (total usable capacity, 347,000 acre-ft). Echo Lake conduit (see sta. no. 11-4345) imports up to 1,900 acre-ft each year from Truckee River basin. Variable amounts of El Dorado Canal water (up to 40 cfs, May to October, and about 7 cfs remainder of the year) diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Consummes River basin diverted to Camino and substituted for flow from El Dorado Canal in some years. Since October 1962, water is imported from the Upper Rubicon River basin by way of Robbs Peak Tunnel (see sta. no. 11-4298). See schematic diagram for South Fork American River basin.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	968	15	1140	1200	714	628	1470	1110	993	753	819	810
2	968	52	1120	1160	741	482	1580	1340	979	791	883	746
3	944	246	1110	1150	925	636	1340	1460	923	222	857	745
4	944	85	1110	1160	940	637	1540	1380	902	118	860	278
5	920	252	1090	1280	966	656	1570	1580	398	142	853	175
6	984	165	1120	1330	676	357	1710	1560	811	597	844	802
7	884	165	1130	1310	923	692	1720	1460	776	838	219	776
8	800	416	1160	1260	883	750	1700	1230	867	836	740	764
9	920	716	1140	1290	842	798	1650	1540	832	654	847	721
10	956	670	1130	1240	870	784	1460	1540	896	243	815	727
11	932	716	1130	1220	846	1020	1570	1640	844	477	775	179
12	920	848	1130	1220	879	770	1500	1600	242	927	802	639
13	896	884	1130	1210	338	852	1360	1620	859	454	818	623
14	848	944	1110	1210	781	1080	1320	1680	900	814	215	649
15	1190	1000	1090	1200	857	904	1370	958	885	848	804	665
16	1170	896	1050	1200	854	872	1460	1350	989	408	810	674
17	1180	920	1050	1090	868	800	1370	1460	1010	189	848	473
18	1120	1850	1080	733	901	747	1670	1380	764	671	801	145
19	1140	1500	1090	721	879	778	1610	1420	83	493	820	497
20	1110	1000	1120	711	376	657	1510	1770	99	742	817	444
21	1120	800	1140	685	832	731	1470	1800	19	734	217	455
22	1140	758	1090	372	693	967	1500	1160	111	566	767	433
23	896	776	1060	364	731	995	1000	1560	166	841	678	440
24	896	920	1100	697	784	1020	1080	1560	615	263	829	194
25	252	960	1160	643	773	1090	1590	1530	957	786	802	235
26	71	900	1100	658	780	1200	1710	1500	387	804	812	226
27	83	800	1090	627	346	941	1310	1470	838	754	793	220
28	165	840	1140	493	756	1330	1760	1340	877	781	127	221
29	64	1080	1200	352	-----	1330	1650	846	333	778	803	224
30	30	1160	1220	446	-----	1420	1810	531	839	657	807	227
31	18	-----	1190	796	-----	1460	-----	979	-----	220	819	-----
Total	24,529	22,334	34,720	29,028	21,754	27,384	45,860	43,354	20,694	18,301	22,771	14,407
Mean	791	744	1120	936	777	883	1529	1399	690	590	735	480
Ac-ft	48,650	44,300	68,870	57,580	43,150	54,320	90,960	85,990	41,050	36,300	45,170	28,580

Calendar year 1965 Max 9,130 Min 15 Mean 1,902 Ac-ft 1,377,100  
 Water year 1965-66 Max 1,900 Min 15 Mean 891 Ac-ft 644,900

11-4445. South Fork American River near Placerville, Calif.

Location.--Lat 38°46'16", long 120°48'55", in SW $\frac{1}{4}$  sec.25, T.11 N., R.10 E., on right bank 700 ft downstream from Chili Bar Dam, 0.5 mile upstream from Big Canyon, and 2.5 miles north of Placerville.

Drainage area.--598 sq mi.

Records available.--August 1911 to July 1920, July 1964 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 931.05 ft above mean sea level (levels by Pacific Gas and Electric Co.). Aug. 11, 1911, to July 31, 1920, staff gage 0.6 mile downstream at different datum.

Extremes.--Maximum discharge during year, 2,590 cfs Nov. 18 (gage height, 5.96 ft); minimum daily, 52 cfs Nov. 2. 1911-20 (prior to regulation): Maximum discharge observed, 15,000 cfs Jan. 25, 1914 (gage height, 19.00 ft, site and datum then in use), from rating curve extended above 4,000 cfs; minimum daily observed, 50 cfs Aug. 27, 1918. 1964-66: Maximum discharge, 47,300 cfs Dec. 23, 1964 (gage height, 17.4 ft from floodmarks), from rating curve extended above 17,000 cfs on basis of computations of flow over dam of maximum flow; minimum daily, 0.2 cfs Nov. 12, 1964.

Remarks.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram for South Fork American River basin.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	896	126	1,230	1,410	584	729	1,690	1,260	972	824	544	850
2	925	52	1,200	1,280	383	696	1,800	1,590	960	866	869	782
3	909	112	1,220	1,260	693	696	1,320	1,620	955	509	1,270	759
4	867	114	1,140	1,310	948	688	1,560	1,480	910	366	1,210	475
5	847	120	1,210	1,800	1,030	724	1,660	1,690	446	364	1,030	360
6	913	110	1,220	1,800	1,140	436	1,700	1,810	764	827	965	393
7	908	103	1,220	1,500	1,250	699	1,710	1,610	796	859	257	786
8	819	215	1,450	1,390	1,040	817	1,730	1,170	980	849	661	787
9	891	644	824	1,350	972	854	1,690	1,780	795	859	569	768
10	912	690	1,240	1,280	1,010	1,020	1,420	1,750	927	507	856	782
11	893	653	1,200	1,260	951	1,350	1,500	1,940	857	513	818	438
12	895	717	1,250	1,260	998	1,120	1,550	1,690	436	857	843	449
13	910	780	1,220	973	503	903	1,360	1,390	644	852	807	722
14	878	913	1,200	1,240	786	1,350	1,280	1,460	954	853	382	808
15	1,180	943	1,170	1,240	837	1,110	1,340	909	930	866	706	703
16	1,140	849	1,140	1,240	1,050	1,000	1,340	1,100	1,020	845	831	768
17	1,130	1,010	1,160	1,210	752	878	1,420	1,520	1,020	504	869	603
18	1,110	1,790	1,180	696	940	821	1,680	1,290	1,020	720	640	406
19	1,090	1,530	1,180	687	868	867	1,730	1,350	579	781	828	370
20	1,100	975	1,180	670	497	758	1,330	1,840	621	659	825	477
21	1,080	850	1,210	650	784	732	1,410	1,660	938	845	479	509
22	1,110	830	1,190	413	903	1,140	1,460	1,220	986	836	393	506
23	909	835	1,140	372	963	1,210	841	1,440	951	798	363	504
24	907	1,040	1,200	579	1,010	1,260	1,100	1,510	974	503	800	321
25	1,130	1,050	1,490	590	988	1,270	1,660	1,480	978	497	836	273
26	527	941	1,240	606	924	1,380	1,820	1,450	565	789	832	373
27	372	836	1,510	590	527	991	1,910	1,430	613	753	814	302
28	259	986	1,360	442	858	1,610	1,800	1,310	941	916	482	205
29	235	1,240	1,820	697	-----	1,380	1,750	852	858	753	820	208
30	150	1,240	1,610	689	-----	1,600	1,680	559	962	546	574	207
31	134	-----	1,750	932	-----	1,830	-----	902	-----	430	861	-----
TOTAL	26,026	22,294	39,354	31,423	24,189	31,919	46,241	44,062	25,352	21,946	23,034	15,894
MEAN	840	743	1,269	1,014	864	1,030	1,541	1,421	845	708	743	530
AC-FT	51,620	44,220	78,060	62,330	47,980	63,310	91,720	87,400	50,280	43,530	45,690	31,530

CALENDAR YEAR 1965	MAX	13,000	MIN	52	MEAN	1,939	AC-FT	1,404,000
WATER YEAR 1965-66	MAX	1,940	MIN	52	MEAN	964	AC-FT	697,700

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.--673 sq mi.

Records available.--May 1951 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 635 ft (from topographic map). Prior to June 2, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--15 years, 1,173 cfs (849,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,080 cfs Dec. 29 (gage height, 7.68 ft); minimum daily, 74 cfs Nov. 3.

1951-66: Maximum discharge, 71,800 cfs Dec. 23, 1955 (gage height, 21.37 ft); minimum daily, 50 cfs Oct. 21, 22, 1964.

Maximum stage known since 1862 and prior to beginning of record, 20.4 ft from floodmarks Nov. 21, 1950 (discharge, 64,500 cfs).

Remarks.--Records good. Flow partly regulated by reservoirs and powerplants (see schematic diagram for South Fork American River basin). Some diversions above station for irrigation and domestic use. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	905	125	1220	1620	822	776	1680	1360	1020	833	380	749
2	932	119	1190	1370	505	752	1780	1540	930	888	658	664
3	917	74	1210	1300	614	747	1450	1550	936	652	819	610
4	867	115	1120	1380	1060	730	1460	1460	888	372	1180	510
5	867	121	1180	2150	1100	758	1650	1560	604	364	976	364
6	931	119	1200	2050	1820	632	1700	1840	580	694	848	356
7	932	107	1190	1680	1370	592	1720	1540	798	872	420	646
8	842	145	1410	1510	1280	854	1710	1310	944	904	227	749
9	908	506	908	1460	1110	859	1670	1640	770	880	364	756
10	924	706	1220	1390	1110	1050	1510	1710	968	604	480	721
11	908	677	1190	1340	1040	1390	1450	1910	872	430	556	568
12	912	771	1270	1330	1050	1170	1580	1700	592	864	550	368
13	918	816	1220	1020	748	989	1400	1340	440	864	550	538
14	893	961	1190	1290	660	1420	1300	1430	992	872	416	770
15	1170	989	1170	1290	876	1080	1330	1050	912	880	368	550
16	1150	889	1120	1300	1070	1060	1330	997	1040	864	505	622
17	1120	1000	1140	1280	792	907	1500	1410	1040	610	495	550
18	1120	1940	1170	723	977	867	1550	1510	1020	598	490	526
19	1110	1700	1170	721	863	902	1740	1140	721	812	416	372
20	1110	998	1170	705	731	924	1340	1780	388	622	485	380
21	1090	880	1210	667	641	652	1400	1630	1020	833	455	465
22	1100	851	1180	594	920	1140	1460	1290	1000	770	320	416
23	927	865	1140	408	972	1230	997	1320	952	805	272	470
24	938	1190	1170	470	1020	1260	1080	1490	992	604	340	425
25	1250	1120	1690	685	1050	1290	1470	1460	992	388	485	221
26	538	985	1330	644	1000	1370	1790	1430	714	728	490	360
27	465	866	1490	604	753	1120	1860	1420	380	749	586	344
28	251	989	1440	528	758	1460	1760	1300	1050	856	580	206
29	257	1230	2300	729	-----	1360	1720	935	880	912	500	206
30	162	1230	1920	1010	-----	1590	1660	605	944	440	480	203
31	141	-----	2220	1100	-----	1820	-----	719	-----	550	664	-----
Total	26555	23084	40748	34348	26712	32751	46047	43376	25379	22114	16355	14685
Mean	857	769	1314	1108	954	1056	1535	1399	846	713	528	490
Ac-ft	52670	45790	80820	68130	52980	64960	91330	86040	50340	43860	32440	29130

Calendar year 1965 Max 13700 Min 74 Mean 1972 Ac-ft 1427000

Water year 1965-66 Max 2300 Min 74 Mean 965 Ac-ft 698500

11-4462. Folsom Lake near Folsom, Calif.

Location.--Lat 38°42'29", long 121°09'22", in NW 1/4 sec. 24, T.10 N., R.7 E., near center of dam on American River 0.7 mile downstream from South Fork American River and 2.3 miles northeast of Folsom.

Drainage area.--1,862 sq mi.

Records available.--February 1955 to September 1966. 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, 916,800 acre-ft June 15 (elevation, 457.66 ft); minimum, 517,400 acre-ft Dec. 23 (elevation, 416.32 ft).

1955-66: Maximum contents, 1,024,400 acre-ft June 15, 1963 (elevation, 467.23 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. Total capacity, 1,010,300 acre-ft between elevations 205.5 (invert of lower tier of river outlets) and 466.0 ft (gross pool elevation), all of which is available for release. Spillway design flood pool elevation, 475.4 ft (capacity, 1,120,200 acre-ft). Records, including extremes, represent usable contents at 2400 hours. See schematic diagram for South Fork American River basin.

Cooperation.--Record of contents furnished by Bureau of Reclamation.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	667.3	604.1	581.3	559.0	591.0	621.8	653.5	911.9	910.3	867.1	779.5	676.2
2	663.7	600.7	578.2	561.4	591.8	621.8	659.4	816.8	911.4	863.8	775.1	676.0
3	660.8	597.9	574.9	563.1	592.2	621.7	664.2	821.7	912.2	859.9	772.5	675.5
4	658.9	594.7	571.8	565.6	593.9	621.1	668.2	826.8	912.9	855.6	770.1	674.9
5	656.4	591.5	568.6	573.9	596.2	620.7	672.8	832.0	913.2	851.8	768.6	673.3
6	653.9	588.1	565.3	581.6	604.1	620.0	677.4	837.0	912.2	849.1	766.2	671.7
7	651.6	584.7	561.8	585.6	609.0	619.1	682.2	841.1	912.2	847.6	762.7	671.0
8	648.3	581.6	559.3	583.1	612.7	619.6	688.0	844.9	913.1	846.4	758.1	670.8
9	645.4	579.6	555.2	589.8	615.2	620.4	694.4	849.2	913.8	844.9	753.9	670.6
10	642.6	578.4	552.2	591.3	617.0	623.9	701.0	854.3	914.6	843.5	748.4	670.0
11	641.2	577.0	549.6	592.3	618.3	628.9	708.1	859.8	915.6	841.0	742.9	669.2
12	639.8	576.2	546.8	592.8	619.6	633.5	715.2	864.0	916.4	839.4	736.3	667.7
13	638.0	575.6	543.7	592.5	619.9	637.8	721.1	867.3	915.6	837.9	729.4	666.9
14	636.0	576.0	540.3	592.4	619.4	643.7	726.5	870.6	916.3	835.3	722.0	666.4
15	635.5	576.2	536.6	592.5	619.2	647.2	731.7	873.3	916.8	832.1	714.0	665.8
16	634.3	576.2	532.8	592.4	618.9	649.1	737.3	875.3	916.4	827.6	707.3	665.4
17	633.4	577.4	529.3	592.3	618.6	649.0	743.6	878.0	914.9	822.9	700.5	664.6
18	632.4	584.4	525.7	590.4	618.4	646.8	749.9	881.2	911.4	817.3	696.0	664.0
19	631.2	590.3	522.1	588.5	618.6	644.9	755.5	883.7	907.1	812.4	693.1	662.9
20	630.4	591.4	519.6	586.4	618.6	642.7	759.5	887.2	901.8	807.6	690.3	661.9
21	629.4	591.5	518.5	585.7	617.7	639.6	763.3	890.3	899.0	804.5	687.6	660.9
22	628.5	591.3	517.7	584.9	617.7	637.2	767.7	892.8	897.2	803.1	683.8	660.3
23	627.2	591.4	517.4	583.9	617.7	635.2	770.7	894.8	894.4	802.1	681.4	659.6
24	625.7	594.8	518.2	582.5	619.0	633.4	774.1	897.2	891.1	800.2	680.7	658.9
25	625.2	595.8	523.7	582.0	620.6	631.7	779.5	899.4	888.2	793.3	680.4	657.7
26	623.1	595.6	525.4	581.3	621.6	631.1	786.0	901.6	884.7	796.5	680.0	656.8
27	621.0	592.5	527.0	580.8	622.0	631.0	792.5	903.6	880.5	793.8	679.3	656.1
28	618.4	589.5	530.0	580.3	621.9	633.3	798.0	905.1	877.3	790.9	678.4	655.9
29	615.1	587.0	538.8	581.2		637.2	802.7	906.3	873.9	788.7	677.1	654.0
30	611.5	584.3	546.0	586.1		642.4	807.3	908.0	870.6	785.1	676.6	652.7
31	607.6		554.6	589.0		647.7		909.1		782.1	676.3	
(†)	426.75	424.14	420.74	424.68	428.33	431.12	447.37	456.95	453.39	444.91	434.16	431.66
(‡)	-63,800	-23,300	-29,200	+34,400	+32,900	+25,800	+159,600	+101,800	-38,500	-88,500	-105,800	-23,600
(††)	3,400	900	340	830	900	2,040	4,100	5,660	7,100	7,220	7,010	4,610

Calendar year 1965 ..... ‡ -74,800

Water year 1965-66 ..... ‡ -18,700

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet, furnished by Bureau of Reclamation.

## SACRAMENTO RIVER BASIN

11-4465. American River at Fair Oaks, Calif.

Location.--Lat 38°38'08", long 121°13'36", in SE  $\frac{1}{4}$  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 22.2 (revised).

Drainage area.--1,888 sq mi.

Records available.--November 1904 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. 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  $2\frac{1}{4}$  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.--62 years, 3,710 cfs (2,686,000 acre-ft per year), adjusted for change in storage, diversions, and evaporation from Folsom Lake since 1955.

Extremes.--Maximum discharge during year, 4,110 cfs Mar. 18 (gage height, 3.77 ft); minimum daily, 907 cfs Aug. 24.

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.

1953-66: Maximum discharge, 115,000 cfs Dec. 23-25, 1964 (gage height, 21.65 ft); minimum, 86 cfs Apr. 7, 1955.

Remarks.--Records good. Flow regulated by Folsom Lake beginning Feb. 25, 1955 (see sta. no. 11-4462). 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. Records of chemical analyses and water temperatures at or near this station for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,170	1,740	3,370	1,750	1,750	1,740	2,440	960	954	2,300	2,110	916
2	2,930	1,740	3,410	1,750	1,760	1,750	2,460	960	954	2,300	2,410	916
3	2,500	1,740	3,420	1,750	1,760	1,760	2,440	960	954	2,280	2,420	925
4	2,530	1,700	3,420	1,740	1,760	1,760	2,440	960	954	2,250	2,200	916
5	2,530	1,750	3,420	1,750	1,760	1,780	2,440	960	954	2,070	1,890	925
6	2,530	1,720	3,410	1,920	1,760	1,800	2,440	990	954	1,660	1,890	925
7	2,320	1,710	3,410	2,380	1,780	1,800	2,410	954	954	1,460	1,960	934
8	2,500	1,740	3,370	2,380	1,780	1,760	1,960	954	954	1,430	2,440	934
9	2,520	1,740	3,390	2,380	1,750	1,760	1,480	960	954	1,460	2,690	943
10	2,490	1,720	3,410	2,380	1,740	1,760	1,470	954	954	1,460	3,220	934
11	1,900	1,720	3,390	2,380	1,750	1,780	1,530	936	954	1,450	3,240	934
12	1,960	1,700	3,370	2,390	1,750	1,780	1,480	936	954	1,420	3,670	934
13	1,960	1,720	3,350	2,390	1,740	1,780	1,500	942	954	1,440	3,650	943
14	2,000	1,750	3,390	2,410	1,720	1,860	1,490	966	954	1,920	3,760	952
15	1,940	1,720	3,410	2,410	1,740	2,190	1,470	960	1,080	2,350	3,720	988
16	1,930	2,000	3,350	2,500	1,750	2,930	1,470	960	1,620	2,780	3,670	979
17	1,930	2,000	3,350	2,520	1,760	3,400	1,470	960	2,070	2,690	3,550	979
18	1,960	2,000	3,350	2,600	1,750	4,000	1,480	954	2,710	2,730	2,640	952
19	1,960	2,040	3,350	2,520	1,740	3,980	1,500	948	2,730	2,730	2,080	961
20	1,980	2,080	2,840	2,450	1,750	3,900	1,490	948	2,690	2,730	1,900	988
21	1,980	2,030	2,250	1,980	1,750	3,860	1,450	948	2,250	1,940	1,860	979
22	1,980	2,000	1,930	1,980	1,760	3,880	1,390	960	1,890	1,390	1,640	979
23	1,940	2,010	1,720	2,000	1,760	3,900	1,320	966	2,270	1,420	1,380	970
24	1,980	1,950	1,750	2,000	1,780	3,900	1,280	954	2,270	1,420	907	970
25	1,930	2,470	1,720	1,870	1,780	3,900	1,110	942	2,280	1,430	988	970
26	1,960	2,600	1,710	1,830	1,760	3,880	978	942	2,280	1,460	934	970
27	1,960	3,410	1,720	1,800	1,740	3,800	972	942	2,280	1,940	943	970
28	1,960	3,390	1,670	1,830	1,700	2,890	966	948	2,280	1,900	934	979
29	1,960	3,410	1,700	1,780	-----	2,430	966	936	2,300	1,920	934	979
30	1,960	3,390	1,710	1,810	-----	2,410	960	942	2,280	1,920	916	988
31	1,980	-----	1,750	1,800	-----	2,440	-----	954	-----	1,900	916	-----
Total	67,130	62,690	86,810	65,430	49,080	82,560	48,252	29,556	48,636	59,550	67,462	28,632
Mean	2,165	2,090	2,800	2,111	1,753	2,663	1,608	953	1,621	1,921	2,176	954
Ac-ft	133,200	124,300	172,200	129,800	97,350	163,800	95,710	58,620	96,470	118,100	133,800	56,790
(†)	5,970	3,380	2,560	3,010	2,480	3,100	4,660	6,420	7,420	7,820	7,580	6,330
Mean†	1,281	1,769	2,365	2,733	2,406	3,167	4,438	2,805	1,218	726	693	742
Ac-ft†	78,770	105,300	145,400	168,000	133,600	194,700	264,100	172,500	72,490	44,640	42,590	44,130

Calendar year 1965	Max	35,500	Min	1,670	Mean	4,547	Ac-ft	3,292,000	Mean†	4,577	Ac-ft†	3,313,000
Water year 1965-66	Max	4,000	Min	907	Mean	1,906	Ac-ft	1,380,000	Mean†	2,025	Ac-ft†	1,466,000

† 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 contents, diversions, and evaporation from Folsom Lake.

11-4473. Dry Creek tributary near Roseville, Calif.

Location. Lat 38°43'44", long 121°21'08", in NW 1/4 sec.17, T.10 N., R.6 E., on left bank 5 feet upstream from road culvert and 3.7 miles southwest of Roseville.

Drainage area.--0.39 sq mi.

Records available.--Water years 1960-63 (annual maximum), October 1963 to September 1966.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 102 ft (from topographic map).

Extremes.--Maximum discharge during year, 29 cfs Jan. 29 (gage height, 13.59 ft); no flow for several months.

1959-66: Maximum discharge, 220 cfs Feb. 9, 1962 (gage height, 17.00 ft), from rating curve extended above 32 cfs on basis of computation of flow through culvert and over roadway at gage heights 15.28 ft and 17.00 ft.

1963-66: No flow for several months each year.

Remarks.--Records good. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	0.30							
2	0	0	0	0	1.0							
3	0	0	0	0	0							
4	0	0	0	0	1.0							
5	0	0	0	.60	2.0							
6	0	0	0	1.0	5.0							
7	0	0	0	0	0							
8	0	0	0	0	0							
9	0	0	0	0	0							
10	0	0	0	0	0							
11	0	0	0	0	0							
12	0	0	0	0	0							
13	1.0	0	0	0	0							
14	1.0	0	0	0	0							
15	0	0	0	0	0							
16	0	0	0	0	0							
17	0	1.0	0	0	0							
18	0	2.0	0	0	0							
19	0	0	0	0	0							
20	0	0	0	0	0							
21	0	0	0	0	0							
22	0	0	0	0	0							
23	0	0	0	0	0							
24	0	.40	0	0	0							
25	0	0	.20	0	0							
26	0	0	0	0	.40							
27	0	0	0	0	0							
28	0	0	2.7	0	0							
29	0	0	.60	3.7								
30	0	0	1.5	3.2								
31	0		4.0	1.0								
Total	0.20	1.60	5.40	7.70	1.60	0	0	0	0	0	0	0
Mean	0.007	0.05	0.17	0.25	0.06	0	0	0	0	0	0	0
Ac-ft	0.4	3.2	1.1	1.5	3.2	0	0	0	0	0	0	0
(†)	0	2.7	2.4	1.9	1.5	0.2	0	0	0	0	0	0

Calendar year 1965 Max 8.2 Min 0 Mean 0.092 Ac-ft 6.7

Water year 1965-66 Max 3.7 Min 0 Mean 0.045 Ac-ft 3.3

† Precipitation, in inches.

## SACRAMENTO RIVER BASIN

11-4473.6. Arcade Creek near Del Paso Heights, Calif.

Location.--Lat 38°38'28", long 121°22'38", on right bank in Del Paso Grant, 1,200 ft upstream from bridge on Interstate Highway 80 and 1.6 miles east of city limits of Del Paso Heights, Sacramento County.

Drainage area.--31.5 sq mi.

Records available.--July 1963 to September 1966.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 47.98 ft above mean sea level (levels by County of Sacramento).

Extremes.--Maximum discharge during year, 625 cfs Nov. 17, maximum gage-height, 9.32 ft Dec. 29; no flow Oct. 19, 20.  
1963-66: Maximum discharge, 1,470 cfs Jan. 21, 1964 (gage height, 12.26 ft); no flow for several days each year.

Remarks.--Records fair. Low summer flow sustained by residential and industrial waste water.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.80	0.80	0.40	16	35	1.5	1.0	3.4	2.2	2.9	2.6	8.6
2	1.4	.60	.30	5.3	17	.90	1.0	2.8	1.9	2.1	3.0	3.4
3	2.2	.40	.20	3.2	6.0	.60	1.0	2.1	1.8	2.0	3.0	2.4
4	1.5	.50	.10	4.2	17	.50	1.0	2.4	2.4	2.0	3.9	2.6
5	1.5	.30	.10	62	23	.40	.60	2.8	2.4	2.3	4.7	2.2
6	.80	.20	.10	16	73	.40	1.1	1.8	1.9	2.7	4.4	2.6
7	.90	.10	.10	5.0	16	2.8	.60	2.2	1.2	2.6	4.4	2.1
8	.90	9.6	2.5	2.9	5.3	2.2	.80	2.2	1.8	3.0	4.2	1.9
9	.50	2.9	2.7	2.0	2.8	1.0	1.6	3.0	2.6	3.4	3.9	2.2
10	.50	1.2	3.0	1.5	1.9	3.0	7.0	12	2.2	3.4	3.6	2.2
11	.50	.50	7.0	1.2	1.4	1.1	1.8	4.2	2.4	3.4	3.9	2.4
12	.80	.90	35	1.2	1.1	.60	2.1	1.1	2.6	2.9	3.6	2.4
13	.20	7.4	3.9	1.0	.90	3.4	2.2	1.1	2.4	2.8	3.4	1.9
14	.40	100	1.8	.80	.80	1.4	.60	1.1	3.9	3.3	3.6	1.5
15	1.4	13	1.0	.70	.70	.40	.40	1.4	4.2	3.5	3.6	1.5
16	.60	7.7	.60	.60	.70	.30	.50	1.6	4.2	3.1	3.6	2.1
17	.30	130	.50	.60	.80	1.0	.60	1.1	3.2	2.6	3.0	1.9
18	.10	134	.30	.50	.60	.60	.30	1.4	2.4	3.0	3.6	1.4
19	0	18	.20	.50	16	.20	.30	1.6	2.6	2.8	3.9	.80
20	0	12	.20	.40	3.6	.30	.40	2.2	2.6	2.6	3.2	.40
21	.10	9.0	.20	.40	1.2	.10	.90	1.7	1.9	3.1	3.2	.20
22	.10	8.0	.20	.30	.70	.10	.80	1.3	1.4	3.6	3.0	.60
23	.30	15	.20	.40	4.2	.10	1.0	1.8	1.9	3.6	3.2	1.1
24	.40	119	3.6	.60	4.7	.20	1.4	2.4	2.1	3.6	2.8	1.3
25	.30	19	116	.50	6.3	.20	1.9	2.3	1.9	3.0	3.0	1.3
26	.70	4.7	14	.40	49	.40	1.3	2.7	2.6	3.4	3.2	1.4
27	.80	2.1	3.9	.30	8.2	.40	.90	3.3	2.2	3.2	2.8	1.2
28	.80	1.1	135	.30	3.0	.40	1.0	2.5	2.2	2.8	2.8	.80
29	.40	.80	241	64	-----	.40	1.5	1.9	2.4	2.8	2.4	.90
30	.60	.60	104	360	-----	.60	1.5	1.5	2.4	2.8	1.1	.90
31	.50	-----	90	43	-----	.70	-----	1.9	-----	2.6	1.6	-----
TOTAL	20.30	619.40	768.10	595.80	300.90	26.20	56.00	74.8	71.9	91.9	102.2	56.20
MEAN	.66	20.6	24.8	19.2	10.7	.85	1.87	2.41	2.40	2.97	3.30	1.87
AC-FT	40	1,230	1,520	1,180	597	52	111	148	143	182	203	111

CALENDAR YEAR 1965 MAX 709 MIN 0 MEAN 13.2 AC-FT 9,570  
WATER YEAR 1965-66 MAX 360 MIN 0 MEAN 7.63 AC-FT 5,520

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-17	2145	8.94	625	1-30	0315	9.28	598
12-29	0015	9.32	605				



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.

Drainage area.--23,530 sq mi.

Records available.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to September 1966. Gage heights collected in this vicinity November 1879 to May 1888, December 1890 to September 1963 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 or 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 Freeport.

Average discharge.--18 years (1948-66), 22,620 cfs (16,380,000 acre-ft per year).

Extremes.--Maximum discharge during year, 53,000 cfs Jan. 10 (gage height, 16.8 ft); minimum daily, 8,120 cfs June 15; minimum gage height, 2.04 ft June 13.

1948-66: 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, present datum), 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 sta. no. 11-4530). Records of chemical analyses, water temperatures, and suspended sediment loads at or near this gaging station for the water year 1966 are published in Part 2 of this report.

Cooperation.--Records collected and prepared in cooperation with the California Department of Water Resources.

Discharge, in cubic feet per second, water year October 1965 to September 1966												
Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15,400	14,100	23,300	31,000	31,200	23,300	26,500	12,600	9,610	10,300	12,200	12,600
2	15,200	14,400	20,900	29,300	30,800	22,000	27,700	12,200	9,290	10,000	12,500	12,700
3	14,200	14,600	19,500	28,000	31,600	20,800	28,500	12,000	9,140	10,300	12,500	12,300
4	14,000	14,400	19,100	26,800	32,800	18,700	28,500	12,600	9,050	10,500	12,200	12,200
5	14,200	14,300	20,500	27,600	32,900	17,600	27,600	13,200	9,140	10,800	11,600	11,700
6	13,700	14,000	21,700	37,200	35,900	16,700	26,300	14,300	9,390	10,700	11,600	11,600
7	12,800	13,800	22,100	43,600	38,600	16,400	25,400	15,100	9,610	10,600	11,500	11,700
8	13,700	13,800	22,200	47,100	39,900	16,600	24,200	15,500	9,750	10,400	12,200	11,800
9	13,700	14,000	22,200	51,300	39,700	16,900	23,200	15,900	10,000	10,600	12,200	11,800
10	13,900	14,000	22,600	53,600	36,700	17,800	22,500	15,400	10,000	10,700	12,700	11,500
11	13,500	14,000	22,900	52,700	32,700	19,700	25,900	17,600	9,990	11,100	12,900	11,800
12	13,200	14,100	23,000	49,600	29,400	23,100	28,900	19,500	9,610	11,200	13,200	11,300
13	13,100	14,500	23,300	45,200	27,000	25,100	29,900	20,300	9,120	11,000	13,300	11,300
14	13,000	15,300	23,500	40,900	24,500	25,600	28,600	19,400	8,480	11,500	13,700	10,900
15	12,900	17,100	23,600	37,200	22,600	27,800	24,100	18,900	8,120	12,000	13,700	10,900
16	13,300	20,800	23,200	34,800	21,600	28,300	21,700	18,300	8,470	13,000	14,000	10,700
17	13,700	26,100	23,100	33,500	20,600	28,900	20,100	17,300	8,670	13,000	14,000	10,700
18	13,900	25,400	22,800	32,500	19,800	27,900	19,900	16,100	9,360	13,200	13,300	10,300
19	14,300	28,600	22,600	31,600	19,300	26,700	20,700	15,200	9,720	13,400	12,400	10,700
20	14,400	31,300	22,600	30,600	18,700	26,600	20,200	14,600	9,860	13,200	12,000	10,500
21	14,600	28,900	21,700	29,600	19,700	26,400	18,600	13,700	9,990	12,800	11,800	10,300
22	14,700	26,100	21,000	29,000	20,400	27,500	16,400	13,200	9,650	12,100	11,900	10,200
23	14,400	24,400	20,600	28,500	19,800	27,600	15,200	12,500	9,780	12,000	11,500	10,100
24	14,200	23,400	20,400	28,100	19,000	26,800	14,700	12,000	10,100	12,200	11,200	10,000
25	13,900	23,800	20,600	27,600	19,900	25,900	14,000	11,600	10,200	12,100	11,200	9,950
26	13,800	25,500	22,200	27,500	21,800	25,800	13,700	10,800	10,500	11,400	11,000	9,890
27	13,900	26,300	22,400	27,500	24,100	25,600	15,000	10,400	10,400	11,500	11,300	9,910
28	14,000	26,300	22,100	26,800	25,200	25,000	15,900	10,400	10,200	11,500	11,500	9,750
29	14,200	26,000	24,200	26,100	-----	24,900	14,400	10,300	10,200	11,800	11,800	9,680
30	14,200	25,400	29,700	26,700	-----	25,500	13,200	9,810	10,100	11,900	11,800	9,680
31	14,200	-----	31,200	29,100	-----	26,500	-----	9,640	-----	12,300	12,300	-----
Total	432,200	605,300	700,900	1,070,600	756,200	734,000	651,500	440,350	287,500	359,100	381,000	328,460
Mean	13,940	20,180	22,610	34,540	27,010	23,680	21,720	14,200	9,583	11,580	12,290	10,950
Ac-ft	857,300	1,201,000	1,390,000	2,124,000	1,500,000	1,456,000	1,292,000	873,400	570,200	712,300	755,700	651,500

Calendar year 1965 Max 92,400 Min 11,500 Mean 27,220 Ac-ft 19,700,000  
 Water year 1965-66 Max 53,600 Min 8,120 Mean 18,490 Ac-ft 13,380,000

## SACRAMENTO RIVER BASIN

11-4485. Adobe Creek near Kelseyville, Calif.

Location.--Lat 38°55'40", long 122°52'45", in SE¼ 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.--6.36 sq mi (revised).

Records available.--October 1954 to September 1966.

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.--12 years, 11.5 cfs (8,330 acre-ft per year); median of yearly mean discharges, 8.7 cfs (6,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,150 cfs Jan. 4 (gage height, 8.33 ft); no flow for several months.

1954-66: Maximum discharge, 1,500 cfs Dec. 22, 1964 (gage height, 9.11 ft); maximum gage height, 9.22 ft Jan. 31, 1963; no flow at times in each year.

Remarks.--Records good above 10 cfs and fair below. Some regulation and diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	2.9	3.3	7.7	1.3	2.6	1.3	0.10			
2		0	2.4	2.2	4.3	1.1	2.6	1.3	.10			
3		0	2.2	6.6	6.4	8.8	2.6	1.3	.10			
4		0	1.8	7.74	10.3	8.1	2.6	1.3	.10			
5		0	1.7	28.5	6.1	6.8	2.4	1.3	0			
6		0	1.6	9.7	4.2	6.4	2.4	1.3	.10			
7		.50	1.6	5.0	2.8	6.4	2.2	1.2	.20			
8		.50	1.6	3.2	2.1	6.4	2.2	1.1	.10			
9		0	1.4	2.2	1.6	1.9	2.6	1.3	0			
10		0	1.4	1.7	1.4	2.2	3.2	1.4	0			
11		0	1.5	1.3	1.1	1.5	3.9	1.2	0			
12		0	1.8	1.1	8.8	1.3	7.5	1.1	0			
13		1.3	1.6	8.8	7.5	1.2	3.9	1.0	0			
14		4.3	1.5	7.5	6.8	1.0	2.6	1.0	0			
15		4.8	1.4	6.4	6.1	1.2	2.6	.90	0			
16		4.6	1.4	6.1	5.7	1.1	2.4	.80	0			
17		4.0	1.3	5.7	5.3	9.5	2.2	.60	0			
18		5.1	1.1	5.3	5.3	7.5	2.2	.50	0			
19		2.0	1.1	4.6	2.7	7.5	2.0	.80	0			
20		6.8	1.1	4.2	1.2	6.4	1.8	.50	0			
21		3.9	1.1	4.2	1.0	6.1	1.7	.20	0			
22		2.9	1.1	3.9	1.2	5.3	1.7	.20	0			
23		3.4	1.0	3.9	1.2	5.3	1.6	.20	0			
24		8.7	10.2	3.5	1.9	5.0	1.5	.20	0			
25		3.3	4.7	3.2	1.9	4.6	1.4	.10	0			
26		1.4	2.0	2.9	1.9	4.2	1.4	.10	0			
27		8.8	1.5	2.9	1.7	3.9	1.4	.10	0			
28		6.1	2.32	2.6	1.4	3.9	1.4	.10	0			
29		4.6	9.5	9.4	-----	3.5	1.4	.10	0			
30		3.9	6.3	11.4	-----	3.2	1.3	.20	0			
31		-----	5.8	4.4	-----	2.9	-----	.20	-----			-----
Total	0	395.00	667.6	1,749.7	686.5	259.7	71.3	22.90	0.80	0	0	0
Mean	0	13.2	21.5	56.4	24.5	8.38	2.38	0.74	0.03	0	0	0
Ac-ft	0	78.3	1,320	3,470	1,360	515	141	45	1.6	0	0	0

Calendar year 1965 Max 747 Min 0 Mean 11.5 Ac-ft 8,310  
 Water year 1965-66 Max 774 Min 0 Mean 10.6 Ac-ft 7,640

Peak discharge (base, 400 cfs, revised).--Dec. 28 (0900) 500 cfs (6.60 ft); Jan. 4 (1700) 1,150 cfs (8.33 ft).

11-4489. Highland Creek above Highland Creek Dam, Calif.

Location--Lat 38°55'45", long 122°55'10", in NW¼SE¼ sec.36, T.13 N., R.10 W., on left bank 100 ft downstream from Pipeline Creek, 1.7 miles upstream from Highland Creek Dam, and 5.7 miles southwest of Kelseyville.

Drainage area--11.9 sq mi.

Records available--October 1962 to September 1966.

Gage--Water-stage recorder with rain-gage attachment. Datum of gage is 1,490.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

Extremes--Maximum discharge during year, 1,290 cfs Jan. 4 (gage height, 8.64 ft); no flow for many days.

1962-66: Maximum discharge, 3,080 cfs Dec. 22, 1964 (gage height, 12.15 ft); no flow at times in each year.

Remarks--Records good. No regulation or diversion above station. Records of suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.10	5.1	42	148	19	5.6	2.5	1.2	0.40		0
2	.10	.10	4.3	24	79	16	5.3	2.5	1.4	.50		0
3	.10	.10	3.8	37	146	15	5.3	2.3	1.3	.50		0
4	.10	.10	3.2	855	250	13	5.1	2.3	1.2	.40		0
5	.10	.10	3.0	367	110	12	4.8	2.3	1.2	.30		0
6	.10	.10	2.7	124	76	11	4.6	2.3	1.3	.30		0
7	.10	1.1	2.3	69	51	11	4.6	2.3	1.2	.30		0
8	.10	1.1	2.3	43	37	10	4.6	2.2	1.1	.30		0
9	.10	.40	2.2	30	29	19	5.6	2.5	.90	.50		0
10	.10	.40	2.3	24	24	21	6.3	2.7	.90	.60		0
11	.10	.40	2.7	20	20	17	7.0	2.5	.80	.50		0
12	.10	1.0	3.8	17	18	15	10	2.3	.70	.50		0
13	.10	35	3.2	15	16	15	5.9	2.2	.70	.50		0
14	.10	85	2.8	13	14	13	5.3	1.9	.70	.50		.10
15	.10	107	2.5	11	13	15	4.8	1.8	.60	.40		.10
16	.10	9.5	2.3	10	11	16	4.6	1.6	.60	.30		.10
17	.10	93	2.2	9.1	11	13	4.3	1.5	.60	.30		.10
18	.10	155	2.0	8.7	10	12	4.3	1.4	.50	.30		.10
19	.10	44	2.0	8.5	32	13	4.1	1.4	.50	.20		.10
20	.10	17	2.0	7.7	18	11	4.1	1.3	.50	.20		.10
21	.10	11	2.2	7.0	16	11	4.1	1.4	.60	.20		.10
22	.10	7.7	2.2	7.3	16	10	3.8	1.3	.60	.20		.10
23	.10	7.7	2.0	7.0	16	9.1	3.6	1.2	.60	.20		.10
24	.10	128	153	6.6	23	8.7	3.4	1.1	.60	.20		.10
25	.10	54	82	6.3	26	8.0	3.2	1.0	.50	.10		.10
26	.10	26	34	5.9	27	7.3	3.0	1.1	.50	.10		.10
27	.10	17	25	5.6	22	7.0	3.0	1.0	.40	.10		.10
28	.10	13	415	5.1	20	6.6	3.0	1.1	.40	.10		.10
29	.10	10	156	204	-----	6.6	2.8	1.3	.40	.10		.10
30	.10	7.7	93	208	-----	5.9	2.5	1.5	.40	.10		.10
31	.10	-----	110	77	-----	5.9	-----	1.4	-----	0		-----
Total	3.20	832.60	1.131.1	2,274.8	1,279	373.1	138.6	55.2	22.90	9.20	0	1.70
Mean	.10	27.8	36.5	73.4	45.7	12.0	4.62	1.78	.76	.30	0	.06
Ac-ft	6.3	1,650	2,240	4,510	2,540	740	275	109	45	18	0	3.4
(†)	0	13.1	7.3	9.2	5.3	1.1	1.0	.3	0	0	.2	0

Calendar year 1965 Max 1,250 Min 0 Mean 17.4 Ac-ft 12,570  
 Water year 1965-66 Max 855 Min 0 Mean 16.8 Ac-ft 12,140

Peak discharge (base, 500 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-28	1200	7.22	787	1-29	1400	7.21	784
1-4	1700	8.64	1,290				

† Precipitation, in inches.

## SACRAMENTO RIVER BASIN

11-4490.1 Highland Creek below Highland Creek Dam, near Kelseyville, Calif.

Location.--Lat 38°56'54", long 122°54'03", in NE¼ sec.30, T.13 N., R.9 W., on left bank 500 ft downstream from Highland Creek Dam and 4.0 miles southwest of Kelseyville.

Drainage area.--14.2 sq mi.

Records available.--December 1965 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 1,416.52 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

Extremes.--Maximum discharge during period, 565 cfs Jan. 4 (gage height, 4.99 ft); no flow for many days.

Remarks.--Records good. Flow regulated by Highland Creek Dam (capacity, 3,500 acre-ft). No diversion above station. Records of suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, December 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			3.8	57	123	18	3.8	1.4	0.20	0	0	0.30
2			3.7	38	70	17	4.1	1.2	.20	0	0	.40
3			3.6	38	84	15	4.5	1.1	.20	0	0	.50
4			3.4	398	269	13	3.8	1.0	.20	0	0	.50
5			3.2	550	130	12	2.3	.80	.20	0	0	.10
6			2.7	490	77	11	1.6	.80	.20	0	0	.10
7			2.7	131	48	11	1.4	.70	.30	0	0	.10
8			2.5	47	36	11	1.9	.50	.30	0	0	.10
9			2.5	36	29	14	3.0	.40	.30	0	0	.10
10			2.5	28	24	19	5.2	.50	.20	0	0	.20
11			2.5	23	20	15	4.5	.40	.20	0	0	.10
12			5.6	18	18	14	5.6	.40	.10	0	0	.20
13			5.6	16	16	14	4.1	.40	.10	0	0	.20
14			3.8	14	14	12	3.2	.40	.10	0	0	.30
15			3.0	13	14	13	2.3	.40	.10	0	0	.50
16			2.3	11	12	14	1.6	.50	0	0	0	.10
17			1.6	9.0	12	12	2.3	.50	0	0	0	0
18			1.2	8.5	12	12	3.4	.60	0	0	0	0
19			1.9	7.5	29	12	3.8	.50	0	0	0	0
20			2.5	6.3	22	11	3.4	.50	0	.10	0	0
21			2.5	5.9	17	11	3.4	.40	0	0	0	0
22			2.5	5.6	16	11	5.2	.30	.10	0	0	0
23			2.3	5.6	18	11	0	.40	.40	0	0	0
24			9.5	4.8	21	10	0	.30	.40	0	0	0
25			9.4	4.1	24	8.0	.20	.30	.30	0	0	0
26			3.7	4.1	28	4.5	.70	.20	.30	0	0	0
27			2.5	3.8	22	3.0	1.6	.20	.30	0	0	0
28			3.23	3.0	20	1.9	2.1	.20	.20	0	0	0
29			2.94	10.4	-----	2.5	1.9	.20	0	0	0	0
30			9.6	24.5	-----	2.3	1.9	.20	0	0	0	0
31			11.0	7.2	-----	2.1	-----	.20	-----	0	.20	-----
Total			1,141.9	2,397.2	1,225	3,373	82.80	15.90	4.90	0.10	0.20	3.80
Mean			368	77.3	43.8	10.9	2.76	.51	.16	0.003	0.006	.13
Ac-ft			2,260	4,750	2,430	669	164	32	9.7	.20	.40	7.5

Calendar year 1965 Max - Min - Mean - Ac-ft -  
 Water year 1965-66 Max - Min - Mean - Ac-ft -

11-4493.5. Burns Valley Creek near Clearlake Highlands, Calif.

Location.--Lat 38°58'33", long 122°36'42", in SE¼ sec.15, T.13 N., R.7 W., on right bank 500 ft downstream from unnamed tributary and 2.7 miles northeast of Clearlake Highlands.

Drainage area.--4.37 sq mi (revised).

Records available.--January 1963 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 1,390.10 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Nov. 8, 1965, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 109 cfs Dec. 28 (gage height, 3.07 ft); no flow for several months.  
1963-66: Maximum discharge, 402 cfs Jan. 5, 1965 (gage height, 5.11 ft); no flow for several months in each year.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1		0	0	4.1	11	0.70	0					
2		0	0	2.4	4.3	.50	.10					
3		0	0	1.9	18.	.30	0					
4		0	0	37	35	.30	0					
5		0	0	25	14	.30	0					
6		0	0	7.1	11	.30	0					
7		.10	0	3.5	5.5	.20	0					
8		0	0	2.4	3.5	.20	.10					
9		0	0	1.6	2.4	.30	.10					
10		0	0	1.1	1.9	.20	0					
11		0	0	.60	1.2	.20	0					
12		0	0	.30	1.0	.20	0					
13		.30	0	.20	.70	.20	0					
14		.10	0	.10	.50	.20	0					
15		.10	0	.10	.30	.10	0					
16		0	0	.10	.20	.10	0					
17		.10	0	.10	.20	.10	0					
18		.60	0	0	.30	.10	0					
19		.90	0	0	4.5	.10	0					
20		.20	0	0	1.7	.10	0					
21		.10	0	0	1.1	.10	0					
22		.10	0	0	1.0	.10	0					
23		.10	0	0	1.0	.10	0					
24		2.0	.50	0	1.6	.10	0					
25		1.6	.80	0	1.7	.10	0					
26		.40	.30	0	1.7	.10	0					
27		.20	.30	0	1.1	.10	0					
28		.10	39	0	.90	.10	0					
29		.10	16	6.5	-----	.10	0					
30		.10	9.9	17	-----	.10	0					
31		-----	9.9	4.1	-----	.10	-----					
TOTAL	0	7.20	76.70	115.20	127.30	5.80	.30	0	0	0	0	0
MEAN	0	.24	2.47	3.72	4.55	.19	.01	0	0	0	0	0
AC-FT	0	14	152	228	252	12	.6	0	0	0	0	0

CALENDAR YEAR 1965 MAX 186 MIN 0 MEAN 1.23 AC-FT 886  
WATER YEAR 1965-66 MAX 39 MIN 0 MEAN .911 AC-FT 659

## Peak discharge (base, 80 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-28	1015	3.07	109	2-3	2400	2.81	82
1-4	1930	2.88	89				

## SACRAMENTO RIVER BASIN

11-4494.6. Seigler Creek at Lower Lake, Calif.

Location.--Lat 38°54'34", long 122°36'48", in NE¼ sec.10, T.12 N., R.7 W., on left bank 400 ft upstream from highway bridge and 0.2 mile southwest of Lower Lake.

Drainage area.--12.5 sq mi.

Records available.--October 1965 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 1,364.75 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

Extremes.--Maximum discharge during year, 569 cfs Jan. 4 (gage height, 6.11 ft); no flow June 19-22, June 26 to Sept. 30.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.30	0.30	2.9	19	60	10	3.5	1.1	0.80			
2	.30	.40	2.5	14	22	9.7	3.4	1.2	.70			
3	.30	.30	2.4	15	142	9.2	3.2	1.1	.70			
4	.30	.30	2.3	329	199	8.7	3.1	1.1	.60			
5	.30	.40	2.2	173	57	8.5	3.1	1.3	.50			
6	.20	.50	2.2	43	37	8.4	3.0	1.4	.90			
7	.20	1.5	2.0	30	28	8.1	2.9	1.3	1.1			
8	.20	2.7	2.2	24	23	8.0	2.9	1.0	.90			
9	.20	1.1	2.2	19	19	9.0	3.4	1.5	.60			
10	.20	.80	2.0	16	16	8.8	4.2	2.0	.40			
11	.20	.80	3.5	14	14	7.9	4.7	1.8	.30			
12	.20	1.5	5.5	12	13	7.3	4.6	1.5	.20			
13	.20	39	3.5	11	11	7.4	3.6	1.3	.20			
14	.20	47	2.9	10	11	7.0	3.1	1.1	.20			
15	.20	39	2.8	9.7	10	6.9	2.8	.90	.10			
16	.20	9.0	2.0	8.6	9.7	7.0	2.7	1.2	.10			
17	.20	42	1.9	8.1	9.4	6.2	2.6	1.2	.10			
18	.20	73	1.7	7.8	9.4	6.1	2.4	.90	.10			
19	.20	25	1.7	7.3	51	5.8	2.4	.70	0			
20	.20	9.8	1.6	6.8	19	5.5	2.2	.60	0			
21	.20	6.3	1.6	6.6	14	5.5	2.1	.60	0			
22	.20	4.7	1.7	6.6	13	5.2	2.0	.70	0			
23	.20	5.8	1.5	6.4	12	4.9	1.6	.80	.10			
24	.20	87	25	6.0	16	4.8	1.6	.70	.10			
25	.20	26	30	5.8	15	4.6	1.6	.70	.10			
26	.20	12	13	5.8	14	4.5	1.7	.60	0			
27	.20	7.3	12	5.3	12	4.4	1.4	.60	0			
28	.20	5.3	230	5.1	11	4.1	1.2	.60	0			
29	.20	4.1	69	48	-----	3.9	1.3	.60	0			
30	.20	3.3	34	57	-----	3.8	1.2	.80	0			
31	.30	-----	39	19	-----	3.6	-----	.80	-----			
TOTAL	6.80	456.20	506.8	948.9	867.5	204.8	79.5	31.70	8.80	0	0	0
MEAN	.22	15.2	16.3	30.6	31.0	6.61	2.65	1.02	.29	0	0	0
AC-FT	13	905	1,010	1,880	1,720	406	158	63	17	0	0	0

CALENDAR YEAR 1965 MAX - MIN - MEAN - AC-FT -  
 WATER YEAR 1965-66 MAX 329 MIN 0 MEAN 8.52 AC-FT 6,170

Peak discharge (base, 200 cfs).--Dec.28 (1600) 392 cfs (5.62 ft); Jan. 4 (1845) 569 cfs (6.11 ft); Feb. 3 (2015) 427 cfs (5.72 ft).

Note.--No gage-height record Oct. 1 to Nov. 6.

11-4495. Kelsey Creek near Kelseyville, Calif.

Location.--Lat 38°55'45", long 122°50'35", in SE¼ 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.--36.6 sq mi (revised).

Records available.--October 1946 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 1,475.44 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to July 16, 1955, graphic water-stage recorder at site 600 ft upstream at different datum. July 16, 1955 to Apr. 8, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--20 years, 70.2 cfs (50,820 acre-ft per year); median of yearly mean discharges, 57 cfs (41,300 acre-ft per year).

Extremes.--Maximum discharge during year, 4,490 cfs Jan. 4 (gage height, 10.84 ft); minimum daily, 2.3 cfs Sept. 7.  
1946-66: Maximum discharge, 8,800 cfs Dec. 21, 1955 (gage height, 12.80 ft); maximum gage height, 13.48 ft Jan. 5, 1965; minimum discharge, 0.5 cfs Sept. 1, 1950, but may have been less during August 1950.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.2	5.6	33	178	283	77	34	21	12	5.5	3.6	5.0
2	5.1	5.7	29	136	191	72	33	21	12	5.4	3.7	4.1
3	5.2	5.9	26	221	400	66	32	20	12	5.9	4.0	3.4
4	5.3	6.0	24	2,630	599	63	31	20	12	5.8	2.6	3.1
5	5.6	6.1	23	1,650	313	60	30	20	12	5.8	2.4	3.0
6	5.9	6.0	22	573	238	57	30	21	12	5.6	2.7	2.7
7	5.4	7.5	20	312	184	56	29	20	14	5.7	2.5	2.3
8	5.0	17	20	234	153	55	29	20	14	6.3	2.9	2.7
9	5.1	9.3	19	177	131	90	33	21	12	7.1	2.7	3.6
10	5.2	7.8	19	149	115	111	42	22	11	7.1	2.7	3.7
11	5.2	7.3	19	129	100	82	47	21	11	6.9	3.2	3.7
12	4.8	8.3	24	111	91	71	71	19	10	6.8	3.5	3.9
13	4.3	91	20	98	82	73	44	18	9.9	6.9	3.4	4.5
14	4.4	223	19	86	76	65	38	17	8.6	6.7	2.8	4.6
15	5.0	214	18	77	71	66	34	17	7.8	6.4	3.0	4.4
16	5.5	59	17	70	66	65	32	17	7.7	5.6	3.3	4.0
17	5.5	220	17	65	64	59	30	16	7.6	5.1	3.1	4.0
18	5.5	447	16	61	61	56	30	15	6.9	5.3	3.1	4.2
19	5.5	152	16	57	186	56	28	14	6.9	5.3	2.8	5.1
20	5.3	77	16	53	112	52	28	14	6.7	5.1	2.5	8.0
21	5.1	53	16	50	90	50	27	14	7.4	4.5	2.5	5.1
22	5.0	38	16	50	88	48	26	14	7.7	4.6	2.6	4.2
23	4.9	39	15	47	86	46	25	14	8.6	4.1	2.9	3.9
24	5.1	481	415	45	98	45	24	13	8.7	4.3	3.1	4.1
25	4.8	171	236	42	102	43	24	13	8.2	4.0	3.0	3.9
26	4.9	100	119	41	103	41	23	12	7.5	4.0	3.0	3.9
27	5.1	77	92	39	88	40	23	12	7.3	4.2	3.2	4.0
28	5.4	58	1,130	37	82	38	23	12	6.9	3.3	3.4	3.6
29	5.5	48	546	413	-----	37	22	13	7.2	3.2	3.5	3.4
30	5.6	39	328	465	-----	36	21	13	7.2	3.4	4.8	3.8
31	5.7	-----	307	201	-----	35	-----	13	-----	4.0	6.2	-----
TOTAL	161.1	2,679.5	3,637	8,497	4,253	1,811	943	517	282.8	163.9	98.7	119.9
MEAN	5.20	89.3	117	274	152	58.4	31.4	16.7	9.43	5.29	3.18	4.00
AC-FT	320	5,310	7,210	16,850	8,440	3,590	1,870	1,030	561	325	196	238

CALENDAR YEAR 1965 MAX 4,430 MIN 4.3 MEAN 83.9 AC-FT 60,760  
WATER YEAR 1965-66 MAX 2,630 MIN 2.3 MEAN 63.5 AC-FT 45,940

Peak discharge (base, 1,600 cfs).--Dec. 28 (1145) 3,040 cfs (9.70 ft); Jan. 4 (1930) 4,490 cfs (10.84 ft).

11-4500. Clear Lake at Lakeport, Calif.

Location.--Lat 39°02'40", long 122°54'45", in SE¼ 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 1966.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 mean gage height during year, 7.66 ft Feb. 11; minimum, 1.58 ft Sept. 30.

1913-66: 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 sta 11-4510). Records of chemical analyses for the water year 1966 are published in Part 2 of this report.Cooperation.--Daily mean gage-height record furnished by Clear Lake Water Co.

Mean gage height, in feet, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.94	2.63	3.49	4.49	6.96	7.36	7.28	7.02	5.93	4.72	3.46	2.30
2	2.92	2.63	3.50	4.54	7.08	7.33	7.28	7.00	5.89	4.67	3.42	2.27
3	2.91	2.62	3.50	4.61	7.24	7.33	7.28	6.97	5.87	4.63	3.39	2.25
4	2.88	2.62	3.50	5.40	7.33	7.35	7.28	6.93	5.83	4.58	3.35	2.22
5	2.88	2.62	3.51	6.11	7.38	7.36	7.28	6.90	5.81	4.54	3.31	2.20
6	2.87	2.61	3.53	6.30	7.38	7.37	7.27	6.86	5.77	4.48	3.27	2.18
7	2.87	2.67	3.53	6.45	7.33	7.39	7.25	6.82	5.74	4.44	3.23	2.14
8	2.86	2.66	3.54	6.50	7.26	7.42	7.25	6.80	5.70	4.40	3.20	2.10
9	2.84	2.66	3.54	6.45	7.17	7.45	7.25	6.77	5.66	4.35	3.17	2.07
10	2.83	2.65	3.54	6.40	7.10	7.50	7.28	6.74	5.62	4.31	3.12	2.01
11	2.83	2.66	3.56	6.34	7.66	7.53	7.29	6.72	5.60	4.26	3.09	1.98
12	2.82	2.76	3.57	6.28	7.10	7.56	7.30	6.69	5.57	4.22	3.06	1.95
13	2.80	2.88	3.57	6.25	7.12	7.58	7.31	6.62	5.53	4.17	3.02	1.93
14	2.77	2.98	3.57	6.22	7.15	7.60	7.32	6.61	5.50	4.13	2.99	1.91
15	2.75	3.01	3.56	6.24	7.16	7.57	7.32	6.57	5.46	4.09	2.94	1.89
16	2.74	3.03	3.56	6.24	7.18	7.56	7.31	6.55	5.42	4.05	2.91	1.86
17	2.73	3.08	3.56	6.24	7.20	7.50	7.30	6.52	5.38	4.01	2.87	1.83
18	2.73	3.17	3.55	6.26	7.24	7.39	7.29	6.49	5.33	3.97	2.83	1.81
19	2.72	3.19	3.55	6.26	7.29	7.26	7.27	6.46	5.27	3.94	2.78	1.81
20	2.72	3.19	3.54	6.27	7.31	7.20	7.25	6.42	5.22	3.91	2.74	1.79
21	2.71	3.19	3.54	6.28	7.36	7.19	7.24	6.39	5.16	3.87	2.70	1.78
22	2.71	3.20	3.54	6.29	7.37	7.20	7.23	6.36	5.11	3.83	2.67	1.75
23	2.70	3.21	3.54	6.30	7.40	7.21	7.21	6.33	5.07	3.78	2.62	1.73
24	2.69	3.33	3.64	6.31	7.44	7.23	7.19	6.29	5.03	3.73	2.56	1.70
25	2.70	3.38	3.72	6.35	7.46	7.24	7.18	6.25	5.00	3.70	2.51	1.68
26	2.69	3.42	3.76	6.34	7.45	7.25	7.17	6.21	4.93	3.66	2.48	1.66
27	2.69	3.44	3.82	6.34	7.43	7.26	7.14	6.17	4.90	3.63	2.44	1.66
28	2.68	3.48	4.05	6.35	7.40	7.27	7.10	6.14	4.86	3.59	2.39	1.62
29	2.68	3.48	4.20	6.55	-----	7.27	7.07	6.09	4.82	3.56	2.34	1.61
30	2.67	3.49	4.31	6.70	-----	7.28	7.05	6.05	4.78	3.53	2.34	1.58
31	2.67	-----	4.42	6.83	-----	7.28	-----	5.98	-----	3.49	2.32	-----



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 Copsy Creek, and 2.5 miles northeast of Lower Lake.

Drainage area.--528 sq mi.

Records available.--May 1944 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 1,280.34 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to June 10, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--22 years, 309 cfs (223,700 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 4,920 cfs Mar. 17 (gage height, 8.01 ft); minimum daily, 1.8 cfs Dec. 30 to Jan. 3. 1944-66: 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 sta 11-4500). Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	63	4.2	3.1	1.8	7.4	1,020	37	413	315	430	305	230
2	58	4.2	3.0	1.8	7.4	1,020	67	448	310	431	300	194
3	53	4.1	2.9	1.8	1,370	533	70	500	305	424	293	174
4	53	3.9	2.8	2.7	2,980	13	70	516	303	398	303	168
5	53	3.8	2.8	2.5	2,550	13	72	508	323	378	315	188
6	53	3.8	2.8	2.5	2,520	13	112	496	341	406	320	226
7	52	3.8	2.9	601	2,470	13	142	484	314	431	320	268
8	52	3.6	2.7	1,540	2,420	13	174	456	266	425	344	270
9	51	3.7	2.7	2,030	2,400	13	138	401	269	407	359	224
10	51	3.7	2.8	2,000	2,330	13	100	359	325	401	356	204
11	52	3.6	2.8	1,970	1,360	13	144	347	354	401	347	190
12	52	3.4	2.8	1,510	11	13	121	362	353	401	335	168
13	52	3.8	2.7	1,020	11	14	90	368	369	401	335	168
14	52	3.7	2.7	1,030	11	274	103	329	376	398	326	174
15	53	3.5	2.5	479	11	1,020	116	308	378	398	326	176
16	41	3.5	2.5	8.0	11	1,020	126	323	387	392	344	168
17	37	3.6	2.4	7.9	11	1,780	160	338	393	377	350	163
18	37	3.7	2.4	7.6	11	2,420	180	353	413	365	350	166
19	37	3.5	2.4	7.2	11	2,390	212	383	438	371	350	165
20	42	3.4	2.4	6.8	11	1,260	244	389	445	377	332	156
21	45	3.4	2.4	6.8	11	500	264	362	455	386	313	144
22	44	3.4	2.2	6.8	11	14	283	332	436	401	320	133
23	43	3.3	2.1	6.8	11	13	298	362	403	401	326	125
24	43	3.5	2.1	6.9	11	13	300	413	377	383	310	125
25	40	3.5	2.1	7.1	481	13	329	434	343	359	310	123
26	24	3.4	2.1	7.1	995	13	374	437	325	350	300	109
27	9.7	3.2	2.0	7.1	1,020	13	380	419	325	362	264	95
28	4.1	3.2	2.4	7.1	1,020	13	362	383	346	359	242	104
29	4.0	3.2	1.9	7.2	-----	13	344	371	385	347	250	116
30	4.2	3.1	1.8	7.1	-----	13	380	371	416	341	264	116
31	4.2	-----	1.8	7.1	-----	13	-----	338	-----	320	264	-----
TOTAL	1,259.2	107.7	77.0	12,307.7	24,073.8	13,499	5,792	12,303	10,788	12,021	9,773	5,030
MEAN	40.6	3.59	2.48	397	860	435	193	397	360	388	315	168
AC-FT	2,500	214	153	24,410	47,750	26,770	11,490	24,400	21,400	23,840	19,380	9,980

CALENDAR YEAR 1965	MAX	4,360	MIN	1.8	MEAN	484	AC-FT	350,700
WATER YEAR 1965-66	MAX	2,980	MIN	1.8	MEAN	293	AC-FT	212,300

11-4515. North Fork Cache Creek near Lower Lake, Calif.

Location.--Lat 39°01'10", long 122°34'00", in NE¼ sec.31, T.14 N., R.6 W. (unsurveyed), on right bank 500 ft upstream from Sweet Hollow Creek, 5 miles upstream from mouth, and 7 miles northeast of Lower Lake.

Drainage area.--197 sq mi (revised).

Records available.--July 1930 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 1,035.60 ft above mean sea level, adjustment of 1929, supplementary adjustment of 1960. Prior to June 15, 1939, graphic water-stage recorder at datum 1.00 ft higher. June 15, 1939 to Apr. 7, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--36 years, 186 cfs (134,700 acre-ft per year); median of yearly mean discharges, 133 cfs (96,300 acre-ft per year).

Extremes.--Maximum discharge during year, 12,900 cfs Jan. 4 (gage height, 10.53 ft); minimum daily, 1.0 cfs Sept. 30.

1930-66: Maximum discharge, 20,300 cfs Dec. 11, 1937 (gage height, 13.98 ft, present datum, from floodmarks), from rating curve extended above 7,600 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. No regulation; several small diversions above station. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.8	2.6	107	412	485	240	104	55	21	6.5	3.0	2.2
2	2.7	2.6	93	325	476	228	98	54	22	6.9	2.3	2.1
3	2.8	2.6	81	589	575	212	95	52	22	6.5	1.9	1.9
4	3.0	2.6	73	6,310	2,020	202	91	51	20	6.5	1.9	2.3
5	3.0	2.6	68	6,860	1,440	200	89	50	20	6.5	1.9	2.3
6	2.7	3.8	63	3,220	1,110	195	87	48	22	5.7	2.1	1.6
7	2.7	3.0	60	1,490	860	188	84	48	23	6.1	2.3	1.6
8	2.8	3.5	55	1,040	670	180	82	47	23	6.1	2.3	1.9
9	2.7	2.8	53	758	550	218	84	48	20	6.1	1.6	1.6
10	2.9	2.6	50	595	464	328	100	52	18	5.3	1.6	1.9
11	2.8	2.6	50	472	400	292	136	48	17	5.3	1.9	2.8
12	2.8	3.4	63	396	352	261	182	45	16	4.9	1.4	2.8
13	2.8	7.7	61	328	310	246	158	43	16	4.9	1.4	2.6
14	2.7	372	53	282	285	231	129	41	14	4.9	2.1	3.0
15	2.8	342	48	249	264	220	114	40	12	4.5	2.1	2.1
16	2.7	150	43	220	243	228	104	39	11	4.1	1.6	2.1
17	2.7	125	41	200	231	212	100	36	10	4.1	1.6	1.9
18	2.7	515	38	185	220	202	93	34	10	3.7	1.3	1.6
19	2.8	326	37	168	302	195	87	33	9.0	3.7	1.4	3.2
20	2.7	177	37	150	285	180	82	31	9.0	3.5	1.3	2.8
21	2.7	117	37	138	249	172	80	30	9.6	3.7	1.9	2.1
22	2.7	92	37	132	237	162	75	29	9.0	3.5	2.3	1.2
23	2.7	77	34	123	249	155	72	28	9.0	3.2	1.4	1.6
24	2.6	425	265	112	258	148	68	27	8.3	3.0	1.6	1.9
25	2.6	367	470	104	258	141	67	26	8.3	2.6	1.6	2.1
26	2.6	239	239	100	276	134	64	25	8.3	2.6	2.3	2.1
27	2.6	240	183	93	255	129	61	25	7.7	2.6	1.9	1.3
28	2.6	191	789	85	246	123	61	24	6.9	2.6	1.9	1.2
29	2.6	148	983	228	-----	119	60	24	6.9	2.3	2.6	1.2
30	2.6	125	625	635	-----	114	56	24	6.9	3.0	2.8	1.0
31	2.6	-----	543	372	-----	108	-----	23	-----	3.2	4.1	-----
TOTAL	84.5	4,070.4	5,379	26,371	13,570	5,963	2,763	1,180	415.9	138.1	61.4	61.0
MEAN	2.73	136	174	851	485	192	92.1	38.1	13.9	4.46	1.98	2.03
AC-FT	168	8,070	10,670	52,310	26,920	11,830	5,480	2,340	825	274	122	121

CALENDAR YEAR 1965 MAX 9,110 MIN 2.6 MEAN 221 AC-FT 159,900  
 WATER YEAR 1965-66 MAX 6,860 MIN 1.0 MEAN 165 AC-FT 119,100

Peak discharge (base, 3,500 cfs).--Jan. 4 (2145) 12,900 cfs (10.53ft).

Location.--Lat 39°56'35", long 122°20'40", in NE<sup>1</sup>/<sub>4</sub> 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.

Gage.--Digital water-stage recorder. Altitude of gage is 750 ft (from topographic map). Prior to Jan. 17, 1966, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 4,550 cfs Jan. 4 (gage height, 8.65 ft); minimum daily, 0.8 cfs Sept. 6. 1950-66: Maximum discharge, 9,720 cfs Jan. 5, 1965 (gage height, 11.93 ft); no flow July 25, 26, Aug. 20, 1960. Maximum stage known since 1955, 12.33 ft Feb. 24, 1958 (discharge, 9,350 cfs, revised).

Revisions.--1963 Report: 1962(M).

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	<u>1.2</u>	<u>1.6</u>	11	43	153	<u>44</u>	19	8.8	3.3	1.8	1.1	1.3
2	1.2	1.7	10	36	90	40	19	8.4	3.2	1.7	1.1	1.2
3	1.3	1.8	9.4	52	240	37	18	8.3	3.3	1.8	1.1	1.0
4	1.3	1.7	8.9	<u>1850</u>	<u>706</u>	36	17	8.0	3.4	1.8	1.1	1.0
5	1.5	1.7	8.2	<u>1410</u>	190	37	17	7.6	3.3	1.8	<u>1.0</u>	.90
6	1.5	1.8	7.7	289	122	38	17	7.6	3.5	1.7	1.0	<u>.80</u>
7	1.5	2.0	7.1	157	92	35	17	7.5	<u>4.0</u>	1.7	1.0	.90
8	1.6	2.4	7.2	119	79	33	16	<u>7.8</u>	<u>3.7</u>	1.7	1.0	1.1
9	1.6	2.6	7.3	95	68	35	17	8.0	3.3	1.8	1.0	1.2
10	1.5	2.1	7.0	83	62	40	<u>22</u>	<u>9.8</u>	3.0	<u>1.9</u>	1.0	1.2
11	1.7	2.1	7.0	71	55	36	21	9.3	2.8	1.8	1.0	1.2
12	1.7	2.1	11	64	53	33	20	8.2	2.9	1.8	1.0	1.2
13	1.6	3.0	11	59	48	32	18	7.9	2.6	1.8	1.0	1.3
14	1.7	34	9.1	54	48	31	16	5.9	2.5	1.8	1.0	1.4
15	<u>1.8</u>	41	7.6	51	46	30	16	5.2	2.7	1.8	1.0	1.4
16	1.7	20	6.9	46	43	30	16	4.7	2.6	1.7	1.0	1.3
17	1.5	16	6.3	42	42	27	15	4.3	2.4	1.6	1.0	1.3
18	1.5	<u>88</u>	5.8	41	<u>41</u>	27	14	4.1	2.2	1.6	1.0	1.3
19	1.6	50	5.7	39	105	27	13	4.0	2.1	1.6	1.0	1.5
20	1.6	23	<u>5.4</u>	36	72	26	12	3.9	2.0	1.5	1.0	<u>1.9</u>
21	1.6	15	5.7	35	50	25	12	3.8	2.0	1.5	1.0	1.6
22	1.6	11	6.0	35	47	25	11	3.9	2.3	1.4	1.0	1.4
23	1.5	9.0	5.4	34	54	24	9.5	3.8	2.2	1.4	1.0	1.2
24	1.6	71	20	32	61	24	9.1	3.8	2.3	1.3	1.0	1.2
25	1.6	72	84	31	53	24	8.9	3.7	2.1	1.3	1.0	1.3
26	1.7	30	27	31	66	23	8.6	3.5	1.9	1.3	1.0	1.3
27	1.7	21	18	30	48	23	7.9	<u>3.4</u>	1.9	1.2	1.0	1.3
28	1.7	17	<u>426</u>	<u>28</u>	44	22	8.9	3.6	1.8	1.2	1.0	1.0
29	1.7	15	283	73	-----	21	9.7	3.5	<u>1.7</u>	1.2	1.0	.90
30	1.7	13	105	235	-----	21	9.3	3.5	<u>1.7</u>	<u>1.1</u>	1.0	1.0
31	1.6	-----	84	82	-----	<u>20</u>	-----	3.5	-----	1.1	<u>1.3</u>	-----
Total	43.6	577.6	1,223.7	5,287	2,779	926	434.9	<u>1,793.3</u>	78.7	48.7	31.7	36.60
Mean	1.57	19.3	39.5	171	99.2	29.8	14.5	5.78	2.62	1.57	1.02	1.22
Ac-ft	96	1,150	2,430	10,490	5,510	1,840	863	356	156	97	63	73
Calendar year 1965	Max 4,380		Min 0.8	0.8	Mean 44.4	Ac-ft 32,140						
Water year 1965-66	Max 1,350		Min 0.8	0.8	Mean 31.9	Ac-ft 23,110						

## SACRAMENTO RIVER BASIN

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.--955 sq mi.

Records available.--October 1960 to September 1962. June 1965 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 480 ft (from topographic map). Prior to Jan. 17, 1966, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 23,600 cfs Jan. 4 (gage height, 15.65 ft); minimum daily, 8.7 cfs Nov. 3.

1960-62, 1965-66: Maximum discharge, that of Jan. 4, 1966; minimum, 3.1 cfs Oct. 29, 1960.

Flood of Jan. 5, 1965 (revised) reached a stage of 21.42 ft from floodmarks (discharge, 59,000 cfs, by slope-area measurement).

Remarks.--Flow partly regulated by Clear Lake beginning in 1915 (see sta. no. 11-4500). Records of water temperatures and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	9.3	135	583	830	1,360	177	574	410	544	407	317
2	83	9.1	116	441	754	1,350	209	590	408	559	403	263
3	74	8.7	102	505	1,200	1,180	223	653	403	547	389	231
4	71	8.9	94	7,500	5,920	331	219	671	404	536	389	217
5	72	9.4	86	11,600	4,490	308	215	668	406	495	407	220
6	72	9.5	81	3,730	4,000	304	238	662	445	503	416	257
7	71	9.4	77	2,460	3,700	291	255	641	439	555	417	314
8	69	12	74	2,570	3,500	280	307	629	389	554	425	160
9	69	14	73	3,350	3,400	291	312	577	344	536	465	306
10	69	13	68	3,000	3,240	405	245	519	405	518	452	253
11	68	11	69	2,830	2,740	411	324	502	459	518	461	252
12	69	11	87	2,460	605	369	367	487	461	518	432	223
13	69	23	93	1,480	512	352	322	516	466	517	431	206
14	71	333	84	1,460	475	334	281	475	492	516	427	221
15	70	475	74	1,230	449	1,250	292	433	480	514	414	218
16	70	273	69	407	415	1,350	281	433	496	511	433	218
17	55	201	66	340	390	1,840	306	455	498	495	446	205
18	53	615	63	305	375	2,930	317	456	511	479	444	202
19	52	547	60	280	560	2,840	357	484	544	467	443	206
20	52	280	52	260	500	2,070	398	503	561	497	435	203
21	58	171	60	245	405	987	431	474	563	485	401	186
22	61	126	60	230	380	333	452	440	568	512	391	179
23	60	105	60	220	390	245	466	430	524	510	417	155
24	59	379	211	215	400	234	472	497	501	502	399	153
25	60	552	818	205	535	226	476	529	463	471	384	153
26	55	327	376	200	1,380	217	531	533	435	455	392	151
27	39	264	267	193	1,380	209	543	521	430	456	359	126
28	27	237	1,410	183	1,360	202	538	486	441	469	310	119
29	14	189	1,960	302	-----	195	503	454	479	454	309	139
30	9.9	156	995	1,320	-----	189	509	472	526	444	329	141
31	9.4	-----	813	635	-----	184	-----	450	-----	439	349	-----
Total	1,812.3	5,378.3	8,660	50,739	44,285	23,067	10,566	16,214	13,951	15,576	12,576	6,393
Mean	58.5	179	279	1,637	1,582	744	352	523	465	502	405	213
Ac-ft	3,600	10,670	17,180	100,600	87,840	45,750	20,960	32,160	27,670	30,900	24,940	12,680
Calendar year 1965	Max	-	Min	-	Mean	-	Ac-ft	-				
Water year 1965-66	Max	11,600	Min	3.7	Mean	573	Ac-ft	415,000				

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.--1,044 sq mi (revised).

Records available.--May 1942 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 225 ft (from river-profile map). Prior to Dec. 2, 1963, graphic water stage recorder at same site and datum.

Average discharge.--24 years, 562 cfs (429,300 acre-ft per year); median of yearly mean discharges, 400 cfs (289,600 acre-ft per year).

Extremes.--Maximum discharge during year, 17,700 cfs Jan. 5 (gage height, 14.57 ft); minimum daily, 8.2 cfs Nov. 7.

1942-66: 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 fair. Flow partially regulated by Clear Lake beginning in 1915 (see sta. no. 11-4500). 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. Records of chemical analyses for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	81	16	144	677	824	1,380	157	520	435	493	364	310
2	79	14	129	487	922	1,370	163	539	424	483	354	274
3	77	12	114	413	898	1,350	177	598	419	473	344	240
4	71	11	106	3,510	6,330	520	181	630	415	463	341	221
5	69	9.4	99	12,300	4,810	369	180	642	409	453	350	212
6	69	8.8	92	4,820	4,070	353	183	639	444	443	361	220
7	69	8.2	88	2,890	3,650	341	202	624	447	495	361	254
8	65	10	85	2,770	3,390	329	233	619	403	511	361	302
9	67	10	81	3,410	3,200	315	252	582	353	500	391	289
10	67	10	77	3,110	3,070	330	242	521	370	482	390	240
11	67	13	77	2,920	2,890	380	229	502	429	475	392	225
12	67	12	81	2,790	863	370	292	477	441	472	376	213
13	67	17	92	1,790	538	330	296	510	442	469	369	196
14	66	124	88	1,700	482	320	253	487	466	463	371	197
15	65	413	79	1,590	444	600	245	453	457	463	359	197
16	63	354	73	628	411	1,250	247	444	467	460	365	191
17	61	173	69	458	387	1,350	252	458	466	446	375	186
18	53	493	67	411	370	2,500	276	456	480	434	379	185
19	51	643	63	377	474	2,900	296	479	507	416	385	185
20	51	352	61	344	564	2,800	336	501	527	436	381	182
21	49	189	61	320	421	1,500	365	494	534	426	365	176
22	54	131	60	302	383	850	385	460	550	447	347	159
23	54	105	58	289	385	400	403	435	510	452	366	152
24	53	141	63	273	385	300	421	484	484	451	363	140
25	53	667	707	258	407	250	423	526	444	425	346	138
26	53	385	410	243	1,210	220	469	541	416	412	356	136
27	49	258	243	234	1,370	200	488	542	394	408	343	127
28	42	246	710	222	1,370	190	497	512	396	411	304	112
29	35	196	2,460	222	-----	180	470	477	421	401	288	109
30	27	164	1,180	1,140	-----	170	460	490	471	395	299	117
31	20	-----	913	781	-----	160	-----	476	-----	393	326	-----
TOTAL	1,815	5,185.4	8,630	51,679	44,518	23,877	9,073	16,118	13,421	13,951	11,072	5,885
MEAN	58.5	173	278	1,667	1,590	770	302	520	447	450	357	196
AC-FT	3,600	10,290	17,120	102,500	88,300	47,360	18,000	31,970	26,620	27,670	21,960	11,670

CALENDAR YEAR 1965	MAX 20,100	MIN 8.2	MEAN 853	AC-FT 617,600
WATER YEAR 1965-66	MAX 12,300	MIN 8.2	MEAN 562	AC-FT 407,100

## SACRAMENTO RIVER BASIN

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.

Drainage area.--1,139 sq mi (revised).

Records available.--January 1903 to September 1966. Records for water year 1903 incomplete, yearly estimate published in WSP 1315-A.

Gage.--Digital water-stage recorder. Datum of gage is 50.27 ft above mean sea level, adjustment of 1929. Prior to summer of 1930, staff gage at datum 7.97 ft higher. Summer 1930 to June 11, 1954, graphic water-stage recorder, at datum 6.00 ft higher. June 11, 1954, to July 16, 1965, graphic water-stage recorder at datum 2.00 ft higher; July 16 to Nov. 16, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--4 years, 500 cfs (362,000 acre-ft per year).

Extremes.--Maximum discharge during year, 18,400 cfs Jan. 5 (gage height, 25.44 ft); no flow for several months.

1903-66: Maximum discharge, 41,400 cfs Feb. 25, 1958 (gage height, 35.11 ft, present datum); maximum stage observed, 36.2 ft Mar. 10, 1904; no flow at times each year.

Remarks.--Records good. Flow regulated by Clear Lake Beginning in 1915 (see sta. no. 11-4500). Diversions for irrigating up to about 30,000 acres between stations near Capay and at Yolo, from data furnished by Clear Lake Water Co. Records of suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	75	639	593	1260	20					
2		0	55	436	885	1250	5.1					
3		0	37	335	668	1240	.20					
4		0	21	1310	5190	760	0					
5		0	0	13600	5010	345	0					
6		0	1.6	5390	4100	295	0					
7		0	.40	2810	3660	273	0					
8		0	0	2510	3350	256	0					
9		0	0	3010	3150	246	0					
10		0	0	2880	3020	258	0					
11		0	0	2690	2860	349	0					
12		0	0	2340	1460	335	0					
13		0	0	1800	602	303	0					
14		0	0	1510	483	290	0					
15		0	0	1430	419	515	0					
16		0	0	830	370	1130	0					
17		29	0	434	330	1170	0					
18		107	0	365	291	2240	0					
19		440	0	324	298	2550	0					
20		302	0	269	548	2520	0					
21		138	0	232	399	1150	0					
22		68	0	212	328	752	0					
23		36	0	196	307	300	0					
24		28	0	180	313	228	0					
25		330	61	160	343	186	0					
26		340	417	155	803	158	0					
27		195	219	158	1240	143	0					
28		160	180	120	1270	128	0					
29		120	2140	115	-----	118	0					
30		100	1160	599	-----	103	0					
31		-----	801	822	-----	51	-----					
Total	0	2393	5168.00	48041	42290	20902	2530	0	0	0	0	0
Mean	0	79.8	167	1550	1510	674	.84	0	0	0	0	0
Ac-ft	0	4750	10250	95290	83880	41460	.50	0	0	0	0	0

Calendar year 1965 Max 24600 Min 0 Mean 644 Ac-ft 466400  
 Water year 1965-66 Max 13600 Min 0 Mean 326 Ac-ft 235700

11-4530. Yolo bypass near Woodland, Calif.

Location.--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.

Records available.--October 1939 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage.--Water-stage recorder. Gage is set to datum of Corps of Engineers which is 3.41 ft below mean sea level. Prior to Dec. 17, 1941, staff gage, and Dec. 18-31, 1941, water-stage recorder, at datum 0.73 ft higher. A supplementary water-stage recorder 7 miles downstream at different datum is used for records of low flow.

Average discharge.--27 years, 3,795 cfs (2,747,000 acre-ft per year).

Extremes.--Maximum discharge during year, 11,000 cfs Jan. 5 (gage height, 23.53 ft); no flow for many days.  
1939-66: Maximum discharge, 272,000 cfs Feb. 8, 1942 (gage height, 32.00 ft); no flow at times in 1939-40, 1963-66.

Remarks.--Records fair. Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont weir; during the summer months, the flow consists largely of return water from irrigation. There is some diversion for irrigation between the main and supplementary gage which affects the low flow record.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	3.0	189	1,260	1,170	1,220	38	6.0	31.0			0
2	25	3.3	122	1,100	1,300	1,210	35	0	29			3.8
3	26	3.7	83	875	1,610	1,190	25	0	27			22
4	27	3.3	58	694	2,800	1,120	24	0	30			25
5	29	3.3	40	5,910	7,360	626	25	0	42			27
6	30	3.3	27	9,260	7,510	370	30	0	54			27
7	38	3.3	21	6,360	6,700	294	22	0	51			27
8	50	3.7	21	4,920	6,100	254	19	0	34			24
9	54	4.6	29	3,870	5,300	231	20	0	7.2			18
10	52	5.1	31	4,050	4,520	220	17	4.7	2.7			12
11	51	4.6	40	3,570	3,810	233	21	12	3.0			15
12	50	4.6	44	3,360	3,150	280	38	14	3.0			24
13	48	3.7	44	2,970	1,730	279	40	16	1.2			30
14	46	6.1	46	2,260	1,130	257	34	20	2.5			26
15	40	12	54	2,040	852	250	21	21	2.6			40
16	29	9.6	58	1,820	660	615	18	17	.60			58
17	17	22	50	1,230	548	1,020	15	14	.10			44
18	14	418	45	960	448	1,290	22	14	0			52
19	12	673	42	825	438	2,270	21	13	0			45
20	8.4	968	39	742	476	2,440	15	10	0			27
21	7.8	1,100	36	648	548	2,120	12	17	0			25
22	6.6	939	35	586	458	1,150	9.6	14	0			19
23	5.1	545	31	562	404	672	12	5.6	0			16
24	4.1	230	26	526	376	584	12	1.2	0			15
25	3.7	120	29	490	373	269	9.6	1.5	0			16
26	3.7	154	25	466	420	219	11	1.8	0			16
27	3.7	252	138	442	910	138	29	3.0	0			17
28	3.3	241	193	414	1,160	115	21	22	0			18
29	3.3	261	354	416	-----	102	20	36	0			15
30	3.3	259	1,470	530	-----	85	19	27	0			11
31	3.3	-----	1,300	1,000	-----	56	-----	29	-----			-----
Total	718.3	6,259.2	4,720	64,256	62,261	20,979	655.2	319.8	320.90	0	0	714.8
Mean	23.2	208.6	152	2,073	2,224	677	21.8	10.3	10.7	0	0	23.8
Ac-ft	1,420	12,410	9,360	127,400	123,500	41,610	1,300	634	636	0	0	142.0

Calendar year 1965 Max 122,000 Min 0 Mean 3,426 Ac-ft 2,480,000  
Water year 1965-66 Max 9,260 Min 0 Mean 442 Ac-ft 319,700

## SACRAMENTO RIVER BASIN

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.--8.35 sq mi (revised).

Records available.--May 1959 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 1,172.15 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. Prior to Apr. 7, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--7 years, 25.3 cfs (18,320 acre-ft per year).

Extremes.--Maximum discharge during year, 2,040 cfs Jan. 5 (gage height, 8.63 ft, from high-water marks); no flow for many days. 1959-66: Maximum discharge, 3,470 cfs Feb. 8, 1960 (gage height, 9.90 ft); no flow for many days in each year.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion above station. Record of chemical analyses for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0.10	10	60	72	30	9.5	5.6	1.9	0.30		
2	0	.10	8.8	44	50	26	8.9	5.3	1.8	.30		
3	0	.10	8.0	110	71	24	8.1	5.0	1.8	.30		
4	0	.10	7.5	880	142	22	7.7	4.8	1.7	.30		
5	0	.10	7.0	1,300	98	20	7.4	5.0	1.6	.30		
6	.10	.10	6.6	205	68	19	7.1	4.9	1.8	.30		
7	0	.30	6.2	115	52	19	6.8	4.6	1.7	.30		
8	0	.90	5.8	82	43	17	6.6	4.3	1.6	.40		
9	0	3.9	5.5	60	36	52	23	4.5	1.4	.40		
10	.10	5.3	5.1	45	30	89	33	4.6	1.3	.40		
11	.10	5.0	7.5	39	26	44	50	4.3	1.2	.40		
12	.10	4.5	8.8	35	23	35	58	3.9	1.1	.40		
13	.10	52	7.0	31	20	40	30	3.7	1.0	.30		
14	.10	86	6.2	27	19	33	23	3.5	.90	.30		
15	.10	26	5.5	24	17	31	19	3.4	.90	.20		
16	.10	12	5.1	22	16	28	17	3.2	.80	.20		
17	.10	28	4.9	20	15	25	15	3.0	.80	.20		
18	.10	76	4.5	18	15	23	14	2.8	.80	.20		
19	.10	82	4.3	17	76	23	13	2.6	.70	.20		
20	.10	25	4.1	16	35	20	12	2.4	.60	.10		
21	.10	14	3.9	15	28	19	11	2.5	.60	.10		
22	.10	11	3.9	14	30	17	10	2.5	.70	.10		
23	.10	9.0	3.6	13	34	16	9.4	2.4	.70	.10		
24	.10	103	273	13	52	15	8.5	2.2	.60	.10		
25	.10	54	96	12	52	14	8.2	2.1	.50	0		
26	.10	25	40	12	49	13	7.6	2.0	.50	0		
27	.10	19	32	11	39	12	7.2	2.0	.50	0		
28	.10	16	370	11	34	11	6.8	2.0	.40	0		
29	.10	14	120	34	-----	11	6.3	2.1	.40	0		
30	.10	12	102	95	-----	10	5.9	2.1	.40	0		
31	.10	-----	90	40	-----	10	-----	2.0	-----	0		-----
TOTAL	2.30	684.50	1,262.8	3,420	1,242	768	450.0	105.3	30.70	6.20	0	0
MEAN	.07	22.8	40.7	110	44.4	24.8	15.0	3.40	1.02	.20	0	0
AC-FT	4.6	1,360	2,500	6,780	2,460	1,520	893	209	61	12	0	0

CALENDAR YEAR 1965 MAX 955 MIN 0 MEAN 23.4 AC-FT 16,930  
 WATER YEAR 1965-66 MAX 1,300 MIN 0 MEAN 21.8 AC-FT 15,800

Peak discharge (base, 600 cfs).--Dec. 28 (1015) 926 cfs (6.97 ft); Jan. 5 (time unknown) 2,040 cfs (8.63 ft).

Note.--No gage-height record Dec. 29 to Jan. 31.



11-4535. Putah Creek near Guenoc, Calif.

Location--Lat 38°46'45", long 122°31'00", in Guenoc 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.

Drainage area--112 sq mi.

Records available--February 1904 to September 1906, July 1930 to September 1966. Monthly discharge only for some periods, published in WSP 1315-A.

Gage--Water-stage recorder. Datum of gage is 914.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1960. February 1904 to September 1906, staff gage a quarter of a mile upstream at different datum.

Average discharge--38 years, 202 cfs (146,200 acre-ft per year); median of yearly mean discharges, 171 cfs (123,800 acre-ft per year).

Extremes--Maximum discharge during year, 15,300 cfs Jan. 4 (gage height, 16.45 ft); minimum daily, 0.10 cfs Sept. 10, 11, 16, 17, 22, 1904-6, 1930-66. Maximum discharge, 32,000 cfs Dec. 11, 1937 (gage height, 22.7 ft), from rating curve extended above 13,000 cfs; no flow for many days in August and September 1964.

Remarks--Records good. No regulation; diversions and ground-water withdrawals for irrigation of about 1,600 acres above station. Records of water temperatures and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.70	1.3	78	484	843	233	85	49	16	4.1	1.7	0.30
2	.70	.60	69	360	522	214	79	48	1.7	3.5	1.3	.30
3	1.3	.70	63	806	854	194	76	44	18	3.4	1.6	.40
4	1.1	.90	60	7,760	2,040	180	72	41	1.7	3.2	.90	.60
5	1.2	1.5	56	3,350	1,100	171	71	41	1.7	3.4	.90	.60
6	1.6	1.7	53	2,180	766	164	67	40	19	3.2	2.0	.20
7	1.4	2.1	49	1,180	572	158	67	38	20	3.2	1.0	.30
8	1.2	2.0	48	829	454	149	66	37	19	2.9	1.4	.30
9	1.1	1.8	45	635	371	171	72	37	18	2.7	1.4	.20
10	1.3	1.8	41	505	318	397	134	38	14	2.9	4.0	.10
11	.80	1.8	45	422	275	256	175	37	15	2.6	.30	.10
12	.50	2.2	62	362	247	210	233	34	14	2.6	1.3	.20
13	.60	.78	54	316	222	214	160	31	12	2.6	2.1	.30
14	1.0	.670	49	282	206	192	126	30	11	2.5	1.2	.20
15	1.4	208	46	254	188	180	109	30	9.8	2.4	.70	.20
16	1.0	.89	44	229	175	175	98	30	8.5	2.1	.60	.10
17	1.5	202	42	210	166	160	90	28	9.2	3.7	.30	.10
18	1.0	593	40	196	158	151	86	27	9.8	2.6	.30	.40
19	1.4	645	39	182	714	146	83	26	9.2	1.6	.20	.40
20	1.1	200	38	167	377	138	76	25	7.5	2.1	.20	.30
21	1.5	114	37	157	284	131	74	22	7.0	1.4	.20	.20
22	1.7	.82	36	151	251	125	69	24	5.8	1.3	.20	.10
23	1.8	.72	35	144	275	122	67	21	6.0	1.3	.30	.20
24	1.8	866	1,050	139	323	115	63	20	6.5	2.4	.20	.20
25	1.8	434	819	131	313	110	62	19	7.9	1.8	.20	.50
26	1.7	216	328	128	368	106	58	18	7.9	2.5	.20	.30
27	1.7	166	220	123	284	101	56	18	7.9	3.0	.20	.50
28	1.3	128	2,420	117	256	99	55	17	6.7	1.0	.20	.20
29	1.2	106	1,450	447	-----	95	53	18	6.2	1.2	.20	.30
30	1.3	90	824	1,040	-----	92	52	18	4.1	1.7	.20	.40
31	1.8	-----	818	441	-----	86	-----	16	-----	1.4	.30	-----
Total	39.50	4,977.40	9.058	28,727	12,922	5,035	2,634	922	347.0	76.3	22.20	8.50
Mean	1.27	166	292	927	462	162	87.8	29.7	11.6	2.46	.72	.28
Ac-ft	78	9,870	17,970	56,980	25,630	9,990	5,220	1,830	688	151	44	17

Calendar year 1965 Max 10,100 Min 0.30 Mean 202 Ac-ft 146,100

Water year 1965-66 Max 3,350 Min 0.10 Mean 177 Ac-ft 123,500

Peak discharge (base, 5,000 cfs)--Dec. 28 (1400) 5,350 cfs (10.51 ft); Jan. 4 (2200) 15,300 cfs (16.45 ft).

## SACRAMENTO RIVER BASIN

11-4539. Lake Berryessa near Winters, Calif.

Location.--Lat 38°30'50", long 122°06'15", in SE 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.--566 sq mi.

Records available.--January 1957 to September 1966.

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

Extremes.--Maximum contents during year, 1,617,000 acre-ft Feb. 26-28, Mar. 1 (elevation, 440.76 ft); minimum, 1,386,100 acre-ft Sept. 30 (elevation, 428.46 ft).

1957-66: Maximum contents, 1,686,100 acre-ft Jan. 6, 1965 (elevation, 444.30 ft); 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 ft (invert of outlet valves) and 440 ft (crest of glory-hole spillway) 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 46,000 acres in the lower Sacramento Valley. Total diverted during year was 188, 328 acre-feet. Releases for irrigation began in May 1959. Records including extremes show total contents at 2400 hours.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1423.1	1404.5	1421.9	1454.9	1580.5	1617.0	1609.6	1589.8	1550.7	1509.1	1464.0	1423.7
2	1427.0	1403.8	1421.7	1455.3	1583.0	1616.2	1609.2	1589.0	1549.2	1507.2	1462.9	1423.2
3	1426.1	1403.6	1421.5	1456.0	1588.8	1615.4	1609.0	1587.8	1547.5	1505.9	1461.6	1422.1
4	1425.0	1403.2	1421.5	1495.2	1599.0	1615.0	1608.7	1586.7	1546.4	1504.4	1460.1	1421.2
5	1424.3	1403.0	1421.2	1536.5	1604.2	1615.0	1608.5	1585.3	1545.0	1502.5	1458.8	1420.4
6	1423.4	1402.7	1421.3	1545.6	1606.3	1614.8	1608.3	1583.6	1544.1	1501.0	1457.7	1418.9
7	1422.6	1402.5	1421.3	1550.0	1608.5	1614.7	1607.5	1582.1	1543.1	1499.3	1456.4	1417.7
8	1421.9	1402.3	1421.2	1552.8	1609.2	1614.5	1606.9	1580.9	1542.2	1497.6	1455.1	1416.7
9	1421.2	1402.1	1421.5	1555.1	1610.6	1614.3	1607.3	1580.2	1541.2	1495.9	1453.6	1415.5
10	1420.2	1401.9	1421.5	1556.6	1610.8	1614.7	1606.9	1578.4	1540.3	1494.8	1452.1	1414.2
11	1419.3	1401.7	1421.7	1558.0	1611.6	1614.5	1606.9	1577.5	1539.0	1493.1	1450.3	1412.2
12	1418.6	1402.1	1422.3	1558.5	1611.8	1615.0	1606.9	1576.7	1537.8	1491.8	1448.6	1410.3
13	1417.7	1404.5	1422.3	1559.5	1611.8	1614.8	1606.5	1575.6	1537.1	1490.3	1447.1	1408.3
14	1417.3	1407.2	1422.1	1560.6	1611.8	1614.7	1605.8	1574.2	1535.5	1488.6	1445.8	1406.7
15	1416.2	1408.3	1421.7	1561.0	1611.8	1614.1	1605.2	1573.3	1533.6	1487.7	1444.5	1405.0
16	1414.9	1408.7	1421.3	1561.2	1611.8	1614.1	1604.6	1571.9	1531.9	1486.2	1443.3	1403.9
17	1414.2	1411.1	1421.3	1561.8	1611.9	1613.5	1603.4	1570.8	1530.4	1485.1	1441.6	1402.5
18	1413.3	1414.2	1421.2	1562.2	1611.9	1613.1	1602.5	1569.6	1529.3	1484.0	1440.5	1401.9
19	1412.9	1415.5	1421.0	1562.7	1614.8	1613.1	1601.5	1568.5	1527.6	1482.6	1438.8	1400.8
20	1412.3	1415.8	1420.8	1562.7	1615.6	1612.7	1600.7	1567.3	1525.9	1481.5	1437.5	1399.5
21	1411.4	1416.0	1420.6	1563.1	1615.8	1612.5	1599.8	1565.8	1524.2	1480.0	1436.2	1398.5
22	1410.7	1416.4	1420.4	1563.5	1616.2	1611.8	1598.8	1564.3	1522.7	1478.5	1435.1	1397.2
23	1409.8	1416.9	1420.2	1564.1	1616.2	1611.6	1597.9	1562.9	1520.8	1477.0	1433.2	1395.9
24	1409.2	1419.7	1423.5	1564.5	1616.4	1611.4	1597.5	1561.8	1519.9	1475.6	1432.2	1394.6
25	1408.5	1421.2	1426.5	1564.6	1616.6	1611.2	1596.7	1560.6	1517.8	1474.2	1430.9	1393.3
26	1408.0	1421.5	1427.4	1564.6	1617.0	1611.2	1595.5	1559.1	1516.4	1472.6	1429.4	1392.1
27	1406.9	1421.7	1427.4	1564.8	1617.0	1610.8	1594.0	1557.8	1515.1	1470.9	1428.5	1390.3
28	1406.3	1421.9	1440.1	1564.8	1617.0	1610.6	1593.2	1556.3	1513.6	1469.2	1427.4	1389.2
29	1405.4	1422.1	1446.4	1567.7	-----	1610.4	1592.1	1554.9	1511.9	1467.7	1426.1	1387.5
30	1405.0	1422.3	1450.1	1573.5	-----	1610.2	1590.3	1553.6	1510.6	1465.9	1425.6	1386.1
31	1404.5	-----	1453.8	1575.4	-----	1610.0	-----	1552.3	-----	1464.9	1424.6	-----
(†)	429.47	430.44	432.15	433.60	440.76	440.40	439.41	437.39	435.19	432.75	430.57	428.46
(‡)	-24,400	+17,300	+31,500	+121,600	+41,600	-7,000	-19,100	-38,600	-41,700	-45,700	-40,300	-38,500
(††)	6.722	2.166	1.275	1.822	2.237	5.024	8.450	10.495	13.761	14.577	14.654	10.403

Calendar year 1966..... ‡ - 113,900

Water year 1965-66..... ‡ - 42,800

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

11-4540. Puteh 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--574 sq mi.

Records available--July 1930 to September 1966.

Gage--Digital 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. Prior to Oct. 27, 1965, graphic water stage recorder at same site and datum.

Average discharge--36 years, 481 cfs (348,200 acre-ft per year). Adjusted for change in storage in and evaporation from Lake Berryessa.

Extremes--Maximum discharge during year, 788 cfs Sept. 11, 12; maximum gage height, 8.13 ft July 11; minimum daily 8.7 cfs Nov. 13, 1930-57 (prior to regulation by Monticello Dam): 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. 1958-66: Maximum discharge, 7,740 cfs Jan. 7, 1965 (gage height, 14.96 ft); minimum daily, 6.2 cfs Dec. 10, 1958. Maximum stage known since at least 1905, that of Feb. 27, 1940, on basis of records for station at Winters.

Remarks--Records good. Flow regulated by Lake Berryessa beginning January 1957 (see sta. no. 11-4539). Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	405	141	67	63	94	553	238	575	523	575	462	359
2	379	140	67	77	48	515	222	572	515	565	448	348
3	369	114	66	88	46	471	221	626	560	523	449	332
4	352	101	66	138	54	447	238	641	556	527	487	358
5	358	101	65	173	49	429	275	629	543	574	520	405
6	352	100	59	45	122	427	280	626	464	589	490	442
7	334	85	47	42	180	420	249	637	416	582	488	420
8	330	69	47	89	232	401	242	606	437	580	567	426
9	332	54	34	86	269	391	256	576	429	574	592	502
10	332	42	24	60	300	398	259	525	438	545	586	656
11	345	34	26	78	302	408	254	511	419	559	583	768
12	336	25	30	96	330	403	284	512	389	589	575	734
13	321	8.7	62	60	320	405	461	509	479	546	590	710
14	310	15	82	48	320	405	436	487	572	514	546	672
15	279	41	68	57	327	430	456	488	624	493	509	609
16	267	62	71	69	325	389	461	477	668	463	484	578
17	261	41	87	60	325	363	448	497	632	435	508	538
18	287	31	82	61	328	356	438	519	599	473	497	519
19	290	61	72	61	390	352	511	552	592	518	515	511
20	290	72	43	61	488	341	433	577	586	562	490	527
21	290	67	15	42	505	325	419	598	572	602	436	522
22	290	65	17	13	512	314	408	579	564	602	476	502
23	283	66	16	35	525	293	423	536	561	591	516	496
24	280	45	17	56	539	287	440	524	608	544	461	504
25	294	32	22	59	544	283	429	523	578	614	425	497
26	312	63	18	60	567	275	427	569	543	624	406	566
27	341	86	30	56	565	267	498	577	537	624	397	617
28	332	72	49	43	560	257	532	573	577	630	365	628
29	314	67	28	44	-----	249	580	541	625	591	371	611
30	170	67	50	43	-----	243	567	509	579	575	382	644
31	123	-----	66	80	-----	236	-----	524	-----	552	365	-----
TOTAL	9,558	1,967.7	1,500	2,043	9,166	11,333	11,385	17,195	16,185	17,345	14,986	16,008
MEAN	308	65.6	48.4	65.9	327	366	380	555	540	560	483	534
AC-FT	18,960	3,900	2,980	4,050	18,180	22,480	22,580	34,110	32,100	34,400	29,720	31,750
MEAN†	20.8	4.01	5.81	20.74	11.17	33.3	20.2	97.7	69.9	53.3	66.3	61.4
AC-FT†	1,280	23,870	35,760	127,500	62,020	20,500	12,020	6,000	4,160	3,280	4,070	3,650

Calendar year 1965 Max 7,530 Min 9.7 Mean 575 Ac-ft 416,300 Mean† 535 Ac-ft† 387,900  
 Water year 1965-66 Max 768 Min 8.7 Mean 353 Ac-ft 255,200 Mean† 420 Ac-ft† 304,100

† Adjusted for change in contents of and evaporation from Lake Berryessa.

## SACRAMENTO RIVER BASIN

11-4541. Pleasants Creek near Winters, Calif.

Location.--Lat 38°28'40", long 122°01'43", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  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 4.4 miles southwest of Winters.

Drainage area.--15.9 sq mi.

Records available.--October 1959 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 150.33 ft above mean sea level.

Average discharge.--7 years, 6.74 cfs (4,880 acre-ft per year).

Extremes.--Maximum discharge during year, 951 cfs Jan. 4 (gage height, 6.82 ft); no flow for many days.

1959-66: Maximum discharge, 3,780 cfs Jan. 31, 1963 (gage height, 12.36 ft), from rating curve extended above 2,200 cfs on basis of slope-area measurement at gage height 10.05 ft; no flow for many days 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 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.60	7.4	24	5.7	2.3	1.0	0.30			
2		0	.50	5.2	9.9	5.3	2.2	.90	.20			
3		0	.50	4.2	4.9	4.9	2.1	.80	.20			
4		0	.50	24.7	6.4	5.0	2.0	.80	.20			
5		0	.60	40.0	2.1	4.9	2.0	.80	.20			
6		0	.60	6.1	1.6	4.7	2.0	.80	.20			
7		0	.50	2.6	1.3	4.4	1.9	.80	.30			
8		0	.60	1.9	1.2	4.3	1.8	.80	.20			
9		0.10	.60	1.5	1.0	4.3	2.2	.80	.20			
10		0.10	.70	1.3	9.0	4.6	4.1	.90	.10			
11		.10	1.5	1.2	8.3	4.3	2.3	.90	.10			
12		.10	3.3	1.0	7.9	4.2	2.2	.80	.10			
13		.50	1.1	9.6	7.4	4.0	1.9	.70	.10			
14		8.50	.90	8.7	7.0	3.9	1.8	.60	.10			
15		1.1	.80	7.4	6.9	3.7	1.7	.60	0			
16		.50	.80	6.7	6.4	3.5	1.6	.60	0			
17		1.2	.80	6.3	6.4	3.5	1.5	.50	0			
18		7.1	.80	5.8	6.2	3.5	1.5	.40	0			
19		1.6	.70	5.3	2.4	3.4	1.3	.40	0			
20		.80	.80	4.6	9.7	3.3	1.4	.30	0			
21		.50	.90	4.3	7.5	3.1	1.4	.30	0			
22		.50	.90	4.3	7.2	3.0	1.3	.30	0			
23		.50	.80	4.0	7.4	3.0	1.2	.30	0			
24		1.2	6.6	3.7	7.0	3.0	1.2	.30	0			
25		4.6	9.6	3.5	6.6	2.8	1.2	.30	0			
26		1.5	2.7	3.6	6.6	2.8	1.2	.20	0			
27		1.0	2.0	3.3	5.8	2.7	1.0	.20	0			
28		.80	7.9	3.0	5.7	2.6	1.0	.20	0			
29		.70	2.8	1.6	-----	2.6	1.0	.20	0			
30		.70	1.6	1.3	-----	2.6	1.0	.20	0			
31		-----	1.7	7.2	-----	2.5	-----	.20	-----			
Total	0	55.40	180.70	945.1	371.9	116.1	51.3	16.90	2.50	0	0	0
Mean	0	1.85	5.83	30.5	13.3	3.75	1.71	0.55	0.08	0	0	0
Ac-ft	0	110	353	1,370	733	230	102	34	5	0	0	0
Calendar year 1965	Max	64.8	Min	0	Mean	84.8	Ac-ft	6,140				
Water year 1965-66	Max	400	Min	0	Mean	4.77	Ac-ft	3,450				

## Crest-stage partial-record stations

As explained on page 491, the California District publishes annual maxima on small streams at about 310 sites in a separate publication Floods From Small Drainage Areas. In addition, discharge measurements are generally made in times of drought or flood to give better coverage to those events. Those measurements, and others collected for some special reason, are called measurements at miscellaneous sites.

The following table contains annual maximum discharges for crest-stage stations not included in above-mentioned report. 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)	Dis-charge (cfs)
Eagle Lake basin							
10-3952.5	Pine Creek near Westwood	SE¼ sec.5, T.31 N., R.8 E., 1 mile southeast of Bogard Guard Station and 19 miles north of Westwood.	22.6	1950-61†	4- 7-66	3.50	66
Buena Vista Lake basin							
11-1951.5	Bitterwater Creek near Maricopa	W½ sec.11, T.11 N., R.24 W., 1.0 mile southwest of Maricopa.	18.5	1961-66	--	--	a0
11-1953	Santiago Creek near Maricopa	NW¼ sec.36, T.11 N., R.23 W., 8 miles southeast of Maricopa.	34.8	1961-66	11-24-65	--	42
11-1973.7	Bitterwater Creek near Lost Hills	NW¼SE¼ sec.21, T.27 S., R.18 E., 0.2 mile downstream from Cedar Canyon, 21 miles west of Lost Hills.	76.4	1961-66	--	--	a0
Tulare Lake basin							
11-2125	South Fork Kings River near Cedar Grove	NW¼ 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† 1959-62, 1964-66	--	10.0	2,740
11-2251	Los Gatos Creek below Jacalitos Creek, near Coalinga	At intersection of secs.22, 23, 26, 27, T.20 S., R.16 E., at bridge on El Dorado Ave., 8 miles west of Coalinga.	407	1959-66	11-15-65	7.59	745
11-2251.3	Zapato Chino Creek near Avenal	SE¼SW¼ sec.27, T.21 S., R.16 E., 7 miles northwest of Avenal.	44.5	1961-66	12-24-65	9.06	214
San Joaquin River basin							
11-2556.05	Little Panoche Creek near Panoche	NW¼ sec.22, T.13 S., R.11 E., 100 ft below road ford and 14 miles northeast of Panoche.	101	1959-66	11-23-65	3.26	159
11-2630.5	Garzas Creek near Gustine	SW¼ sec.18, T.8 S., R.8 E., above diversion weir 7.7 miles west of Gustine.	51.2	1959-66	--	1.73	20
11-3050	San Domingo Creek near San Andreas	NE¼ sec.14, T.3 N., R.12 E., 600 ft downstream from bridge on State Highway 49.	27.1	1950-62† 1963-66	12-29-65	1.99	50
11-3055	San Antonio Creek near San Andreas	NE¼ sec.10, T.3 N., R.12 E., 800 ft below highway bridge, 1.9 miles above mouth, and 5 miles southeast of San Andreas.	48.1	1950-59† 1961-66	11-24-65	3.06	456
11-3070	Esperanza Creek near Mokelumne Hill	NW¼ sec.6, T.5 N., R.13 E., 600 ft above mouth, 6 miles east of Mokelumne Hill.	16.6	1951-59† 1961-66	12-29-65	3.39	530
11-3075	Jesus Maria Creek near Mokelumne Hill	SE¼ sec.16, T.5 N., R.12 E., 0.6 mile above mouth, 3.2 miles southeast of Mokelumne Hill.	34.6	1950-59† 1961-66	12-29-65	3.20	345
11-3085	Murray Creek near San Andreas	SW¼ sec.8, T.4 N., R.12 E., 600 ft above bridge on old State Highway 49, 1.5 miles above mouth, and 1.1 miles north of San Andreas.	23.4	1950-59† 1961-66	12-29-65	2.39	55
Sacramento River basin							
11-4245	Dry Creek near Wheatland	Lat 39°01'35", long 121°26'10", in Johnston Rancho land grant, 2,300 ft upstream from bridge on U.S. Highway 99E, 1.3 miles northwest of Wheatland, and 5 miles upstream from mouth.	99.5	1946-62† 1965	--	6.93	1,240

a No flow all year.

† Operated as a continuous-record gaging station.

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## 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 1966

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Pyramid and Winnemucca Lakes basin						
Henry Canal	Little Truckee River	SW¼SE¼ sec.11, T.19 N., R.15 E., at State Highway 89, 7.4 miles southeast of Sierraville.	--	--	10-21-65	4.08
Tulare Lake basin						
East Fork Kaweah River	Kaweah River	NW¼ sec.15, T.17 S., R.31 E., 300 ft upstream from Mineral King Post Office, 0.3 mile upstream from Monarch Creek.	--	1965	8-19-66	5.83
North Fork Kaweah River	Kaweah River	SE¼ sec. 34, T.16 S., R.28 E., on left bank 1.2 miles upstream from Manniken Creek, 1.5 miles north of Kaweah.	128	1919-60±, 1963-65	4-28-66 8-15-66	108 3.62
South Fork Kings River	Kings River	NW¼ 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±, 1959-60, 1963-65	8-17-66	146
Cooper Creek	South Fork Kings River	S½ sec.11, T.13 S., R.31 E., 0.5 mile above South Fork Kings River and 5.9 miles northeast of Cedar Grove.	--	1965	10- 1-65 8-17-66	2.34 .89
Sheep Creek	South Fork Kings River	SE¼ sec.14, T.13 S., R.30 E., 0.7 mile above South Fork Kings River and 0.7 mile southwest of Cedar Grove.	--	1965	10- 1-65 8-17-66	2.10 .97
Lewis Creek	South Fork Kings River	SW¼ sec.11, T.13 S., R.30 E., 0.3 mile above South Fork Kings River and 1.5 miles northwest of Cedar Grove.	--	1965	10- 1-65 8-17-66	4.33 1.94
Dinkey Creek	North Fork Kings River	Sec.3, T.12 S., R.26 E., 0.5 mile above mouth and 0.5 mile northwest of Balch Camp.	136	1920-37±, 1959, 1961-65	8-25-66	8.06
San Joaquin River basin						
Soquel Ditch	North Fork Willow Creek	NE¼ sec.10, T.6 S., R.22 E., 12 ft below diversion dam and 6.5 miles northeast of Bass Lake.	--	--	1-13-66 6-14-66 9-30-66 8-18-66	1.58 13.0 1.72 *1.91
Tenaya Creek	Merced River	Lat 37°44'32", long 119°33'25", at bridge 0.7 mile above mouth and 1.7 miles east of Yosemite National Park Headquarters.	a47	1904-09±, 1912-58±, 1961	8-18-66	
Yosemite Creek	Merced River	Lat 37°44'45", long 119°35'40", 0.3 mile above mouth and 0.7 mile west of Yosemite National Park Headquarters.	43.2	1904-09±, 1912-26±, 1960	4-27-66 6- 9-66 6-30-66 8-18-66 9-19-66	300 73.2 *13.8 *.36 *.77
Crane Creek	Merced River	NW¼SW¼ sec.34, T.2 S., R.20 E., 100 ft above diversion and 3 miles northeast of El Portal.	--	1964-65		
Middle Fork Ditch	Licking Fork Mokelumne River	NW¼SE¼ sec.8, T.6 N., R.14 E., 1 mile above Forest Creek and 4 miles southeast of West Point.	--	1965	9- 7-66	3.02
Sacramento River basin						
Lost Creek	Hat Creek	NE¼SE¼ sec.33, T.32 N., R.4 E., 0.9 mile north of boundary of Lassen Volcanic National Park and 14.5 miles northeast of Mineral.	--	--	9-23-66	*2.93
Clover Creek	Cow Creek	NE¼NE¼ sec.28, T.33 N., R.1 W., 2.5 miles upstream from Coal Creek and 2.7 miles northeast of Oak Run.	19.0	1957-59±	9-12-66	*3.47
Mill Creek	Sacramento River	NE¼ sec.23, T.29 N., R.4 E., 200 ft above highway bridge on State Highway 36, 3.8 miles east of Mill Creek.	--	--	9-14-66	*30.0
Stony Creek	Sacramento River	SE¼ sec.35, T.18 N., R.7 W., 0.5 mile below East Park feed canal diversion dam and 3 miles west of Stonyford.	97.0	1913-14±, 1918-34±, 1961-62, 1964-65	8-17-66	32.2
Middle Fork Feather River	Feather River	SW¼ sec.8, T.23 N., R.11 E., on right bank 0.6 mile downstream from Bell Bar Creek and 2.2 miles west of Sloat.	819	1940-62±, 1964	9- 9-66	38.9
East Branch North Fork Feather River	North Fork Feather River	SW¼NE¼ sec.20, T.25 N., R.7 E., 0.5 mile upstream from mouth and 1.3 miles west of Rich Bar.	1,025	1950-61±	9- 9-66	62.1
Downie River	North Yuba River	NW¼ sec.35, T.20 N., R.10 E., 0.3 mile above mouth at Downieville.	72.7	1910-26±	9-15-66	*43.1

a Approximate.

\* Base flow.

† Operated as a continuous-record gaging station.

## Measurements at miscellaneous sites--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Sacramento River basin--Continued						
Rock Creek	North Yuba River	SW¼ sec.5, T.19 N., R.10 E., 600 ft above mouth at Goodyears Bar.	8.98	1910-33½, 1956, 1960-65	9-15-66	*0.55
Goodyear Creek	North Yuba River	NW¼ sec.5, T.19 N., R.10 E., 300 ft above mouth and 0.5 mile north of Goodyears Bar.	12.9	1910-33½, 1960-65	9-15-66	4.82
North Yuba River	Yuba River	SW¼ sec.9, T.19 N., R.8 E., 500 ft above Slate Creek and 2.8 miles southeast of Strawberry Valley.	351	--	9- 8-66	*134
Texas Creek	South Yuba River	SE¼ sec.19, T.18 N., R.12 E., 200 ft below mouth of Lindsey Creek and 4.4 miles southeast of Graniteville.	--	--	10- 6-65	42.2
Dry Creek	Yuba River	NW¼ sec.25, T.19 N., R.6 E., 0.2 mile downstream from New York Creek and 0.9 mile northeast of Brownsville.	20.4	1948-60½, 1961, 1964, 1965	5-18-66 8-18-66	9.06 5.10
Highland Creek	Little Rubicon River	NW¼ sec.8, T.13 N., R.16 E., 100 ft above Rockbound Lake and 6.8 miles southwest of Meeks Bay.	--	--	6-29-66	*5.70
South Fork Rubicon River	Rubicon River	NE¼ sec.27, T.13 N., R.14 E., 80 ft above bridge on Loon Lake Road, 5 miles southeast of Loon Lake, 12.3 miles northeast of Riverton.	--	1965	8-23-66	*.01
Tells Creek	Silver Creek	SE¼NE¼ sec.11, T.12 N., R.14 E., at bridge on Loon Lake Road and 10 miles northeast of Riverton.	--	1964-65	10-26-65 7-15-66 8-23-66	*.65 *1.11 *.13

\* Base flow.

‡ Operated as a continuous-record gaging station.

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